THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Planning Study Report

Application for Planning Permission
Under Section 16 of Town Planning Ordinance for
Underground Quarrying at Tsing Yi North

August 2026

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EXECUTIVE SUMMARY

1.1 This Section 16 Planning Application is submitted by the Civil Engineering and Development Department (CEDD) (the Applicant) to seek permission from the Town Planning Board (the TPB) for the implementation of the proposed Tsing Yi North Underground Quarry (TYNUQ) at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island (Application Site) in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North of the Cavern Master Plan (CMP).

1.2 Hong Kong's construction industry has long relied on rock, primarily as aggregates in concrete, for buildings and infrastructure. While local quarries have historically played a strategic role in supplying these materials, the evolving needs of the city now call for a broader vision.

1.3 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study ("Pilot Study") to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. As concluded under the Executive Summary of the Pilot Study, SCVA No. 10 at Tsing Yi North is proposed to be implemented by an underground quarrying-cum-cavern development approach.

1.4 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the proposed TYNUQ shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply.

1.5 As advocated in the 2025 Policy Address, the innovative "Underground quarry-cum-cavern development" model under this proposed development aims to enhance long-term land supply more efficiently while providing a sustainable local source of rock materials. Under this approach, excavated materials from the underground quarry will be reused as aggregates for the construction industry, directly supporting Hong Kong's economic growth and resource sustainability, while the formation of underground cavern spaces presents a unique opportunity to address land supply challenges.

1.6 The Application Site falls within areas zoned "GB", "OU(RTRU)", "OU(BMIU)" and an area shown as "Road" on the approved Tsing Yi Outline Zoning Plan ("the OZP") No. S/TY/32, while a small portion of land without OZP covered. Given that the proposed development is directly administered and managed by CEDD, and serves to create underground space for the Government, it is regarded as "Government Use" which is a Column 2 use under the above zones, and planning permission from the TPB under section 16 of the Town Planning Ordinance is required.

1.7 The proposed development will include underground quarry operation by formation of connection tunnels and production caverns. Surface ancillary activities will be carried out concurrently at Ngau Kok Wan and Wok Tai Wan to support quarry operation, including stockpiling, rock processing, concrete production and asphalt production, etc. Since Ngau Kok Wan and Wok Tai Wan fall within "OU(RTRU)", the concerned area for ancillary activities is subject to a maximum plot ratio of 0.4 and a building height restriction of +40mPD.

1.8 The proposed development under this application is considered in line with the policy directive as an innovative means of enhancing land supply. The proposed development also offers a new revenue stream for the Government as it will be implemented under a revenue-generating contract, which aligns with the Government's latest initiative to identify new sources of income.

1.9 Furthermore, the majority of the proposed development is underground and the ancillary operations will be located on already formed land with height restrictions. They are distant from residential areas and adjoining to the existing area with a similar nature of land use, which is considered compatible with the surrounding development and well-blended in with the surrounding context and green backdrop. Technical assessments have demonstrated that the proposed development would not cause insurmountable impacts on traffic, environmental, landscape and visual impact, drainage and sewerage, waterworks, or be subject to geotechnical impacts.

1.10 In view of the above planning merits, we sincerely seek favourable consideration from the TPB to give its support to this application.

行政摘要

1.1 根據城市規劃條例第 16 條，土木工程拓展署 (下稱「申請人」) 向城市規劃委員會 (下稱「城規會」) 呈交規劃申請 (下稱「申請」)。申請擬議在《岩洞總綱圖》中第 10 號策略性岩洞區青衣北的青衣島西北部的牛角灣、鑊底灣、担桿山路西南面以及石環山西北面的山體內 (下稱「申請地點」) 申請擬議青衣北地下採石場發展。

1.2 長久以來，香港的建築業高度依靠石料 (主要用作混凝土的骨料) 以進行房屋及基礎建設。雖然本地採石場在歷史上於物料供應方面一直扮演著策略性角色，但隨著城市不斷演變的發展需求，如今需要更宏大的願景。

1.3 於 2019 年，土木工程拓展署聯同規劃署共同進行了「策略性岩洞區發展規劃及工程先導研究 - 可行性研究」(下稱「先導研究」)，以協助政府預留土地進行岩洞發展，並促進岩洞發展計畫的落實。根據先導研究行政摘要的結論，第 10 號策略性岩洞區青衣北建議採用「地下採石暨岩洞發展」模式進行開發。

1.4 2020 年初內地採石場因疫情暫時停工，導致內地石料進口短缺，對香港建築業造成了重大影響，進一步突顯了本地採石場在供應鏈中的重要性。為加強應對危機的準備，擬議的青衣北地下採石場應及時推進，並配合其他與採石相關的措施，以穩定本地石料供應。

1.5 如 2025 年《施政報告》所提倡，本擬議發展項目採用的「地下採石暨岩洞發展」創新模式，旨在更有效率地增加長遠土地供應，同時提供可持續的本地石料來源。在此模式下，地下採石所挖掘出的物料將用作建築物料的骨料，直接支持香港的經濟增長及資源可持續性；而形成的地下岩洞空間，亦提供了解決土地供應挑戰的獨特契機。

1.6 申請地點座落於《青衣分區計劃大綱核准圖編號 S/TY/32》(下稱「大綱核准圖」) 的「綠化地帶」、「其他指定用途」註明「康樂及與旅遊業有關的用途」、「其他指定用途」註明「船廠及依靠海運之工業用途」及顯示為「道路」的區域內，亦有小部分土地未有大綱核准圖覆蓋。由於擬議發展項目由土木工程拓展署直接管理，旨在為政府創造地下空間，因此被視為上述分區附表第二欄用途下的「政府用途」，因此須根據城市規劃條例第 16 條向城市規劃委員會申請規劃許可。

1.7 擬議發展項目包括透過建造連接隧道及岩洞進行地下採石，而地面附屬作業將同時於牛角灣及鑊底灣進行以配合採石場營運，一般包括物料存放、石料加工、混凝土生產、瀝青生產等。由於牛角灣及鑊底灣座落於「其他指定用途」註明「康樂及與旅遊業有關的用途」地帶內，相關附屬作業運作區域受最大地積比率 0.4 及建築物高度主水平基準以上 40 米所限制。

1.8 本申請中擬議的發展與政府以創新方法增加土地供應的政策方向一致。此外，由於擬議發展項目將以收入合約方式推展，這能為政府提供新的收入來源，與政府尋求新收入來源的方向相符。

1.9 再者，考慮到擬議發展的主要部分將會於地下進行，而附屬作業將位於現有已設立高度限制的土地上，該等設施遠離住宅區並與具類似土地用途性質的區域相連，因此該項目可與周邊發展相協調，並與周圍環境及綠化背景相融合。同時，各項技術性評估結果均顯示，是次發展計劃將不會對交通、環境、景觀和視覺影響、排水排污及水務等造成負面影響，而擬議的發展亦不會受土力影響。

1.10 基於上述規劃優點及支持理據，懇請城規會委員對支持是項申請作出正面考慮。

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1 Summary of Application

Applicant	:	Civil Engineering and Development Department, Mines Division, the Government of the Hong Kong Special Administrative Region
Consultants	:	AECOM Asia Company Limited
Applied Use	:	Application Site – "Government Use"
Existing Use	:	Application Site – Majority is vegetated slopes, Ngau Kok Wan and Wok Tai Wan are works areas of the Government construction project for stockpile and rock processing
Location	:	Application Site – A Government land located at: (i) Caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North; (ii) Ngau Kok Wan and southwest of Tam Kon Shan Road; and (iii) Wok Tai Wan
Site Area	:	Application Site – About 393,000m^2 for the construction and operation of Tsing Yi North Underground Quarry (TYNUQ)
Statutory Plan	:	Tsing Yi Outline Zoning Plan No. S/TY/32 gazetted on 18 October 2022
Zoning	:	Application Site – About 307,000m^2 under "Green Belt" zone, 69,000 m^2 under "Other Specified Uses (Recreation and Tourism Related Uses)", 2,150m^2 under "Other Specified Uses (Boatyard and Marine-oriented Industrial Uses)", 14,200m^2 area shown as "Road", 650m^2 area outside OZP
Previous Application(s)	:	Application Site – Nil

2 Introduction

2.1 Purpose of the Application

2.1.1 This application is prepared by AECOM Asia Company Limited on behalf of the Applicant, Civil Engineering and Development Department (CEDD), to seek permission from the Town Planning Board (the TPB) for the implementation of the proposed Underground Quarrying at Tsing Yi North (the proposed development) under Agreement No. CE 79/2023 (GE).

2.1.2 The request for planning permission involved a piece of Government land located at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North. The tunnel portals will be located at Ngau Kok Wan and Tam Kon Shan Road, situated to the north and northeast of Shek Wan, respectively. The Application Site location plan is shown in **Figure 2.1**.

2.2 Structure of the Report

2.2.1 This Report is divided into 9 sections.

Section 1	Summary of Application
Sections 2 and 3	Discussion on the project background, details of the Application Site, including its location, existing and surrounding land uses, accessibility, land status
Section 4	Discussion on the planning context
Section 5	Summary of the development proposal
Section 6	Summary of the technical assessments
Section 7	Overview of the public consultation undertaken for the project
Section 8	Justifications in support of the planning proposal.
Section 9	Recommendations and the conclusion

2.3 Project Background

2.3.1 Hong Kong's construction industry has long relied on rock, primarily as aggregates in concrete, for buildings and infrastructure. While local quarries have historically played a strategic role in supplying these materials, the evolving needs of the city now call for a broader vision. In particular, the formation of underground cavern spaces presents a unique opportunity to address land supply challenges while also contributing to sustainable resource use.

2.3.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry. To ensure continuity in local rock supply and to support strategic land use planning, the Government has been exploring alternative approaches. Among these, the creation of cavern spaces through underground quarrying offers dual benefits: it supports rock supply in the short term and unlocks valuable underground land for future development. In this connection, underground quarrying, in this context, serves as an interim process only — a method to create cavern spaces that can be repurposed for long-term government use.

2.3.3 The quarrying process not only yields good quality rock but also facilitates the formation of these valuable underground assets. These caverns, formed through controlled underground quarrying, can be potentially repurposed for various uses or strategic facilities, which are subject to further review and refinement during the later stages, particularly near the completion of cavern formation. The after-use will be determined based on evolving government needs, technical feasibility, and stakeholder engagement. Therefore, this planning application is confined to the proposed underground quarrying process. The after-use in the future caverns would require a separate future study.

2.3.4 The concept of "underground quarry-cum-cavern development" is not unprecedented. It has proven to be commercially viable in countries like Switzerland, Norway, and the United States, where cavern spaces are used for cold storage, warehousing, and recreational complexes.

2.3.5 Preliminary reviews under a previous Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

2.3.6 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses, and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan jointly promulgated by CEDD and PlanD in 2017, was recommended to be taken forward.

2.3.7 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study ("Pilot Study") to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. As concluded under the Executive Summary of the Pilot Study, SCVA No. 10 at Tsing Yi North is proposed to be implemented by an underground quarrying-cum-cavern development approach. The cavern space formed could potentially serve as a land bank for storage/warehouse/logistics. The after-use will be further investigated and ascertained before the completion of the Tsing Yi North Underground Quarry (TYNUQ) quarry contract, based on the development need/potential in the area by that time. It is envisioned as an integral part of the long-term local quarry strategy.

2.3.8 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the scheme shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply.

2.3.9 AECOM Asia Company Limited was commissioned by CEDD in June 2024 to undertake an Investigation, Design and Construction (IDC) assignment for developing a new underground quarry at Tsing Yi North.

2.3.10 Development-by-stages approach is adopted for the proposed TYNUQ "underground quarry-cum-cavern development" to facilitate a phased implementation of the underground quarrying and subsequent cavern utilization. This approach comprises the following key stages:

- Stage 1 – Cavern Planning and Development: The Civil Engineering and Development Department (CEDD) will tender a revenue-earning contract for the entire cavern excavation in the form of underground quarrying.
- Stage 2 – Underground Quarrying: During cavern formation, the quarry operator will undertake underground quarrying operations for approximately 25 years. Ancillary operations, such as stockpiling, rock processing, concrete production and asphalt production, will be carried out concurrently. Revenues generated from the sale of aggregates, concrete, and/or asphalt products will support the cost of rock extraction to be borne by the quarry operator. Through recycling the surplus rocks excavated from other local construction sites, particularly the Government construction sites, the proposed development can also bring environmental benefits by relieving the burden of the public fill bank and landfill sites through recycling the excavated rocks. The underground quarrying contract will be directly administered by the CEDD.
- Stage 3 – Strategic Review and Land Use Study: Near the completion of the underground quarrying stage, a study may be conducted by the Government to ascertain the potential long-term land uses of the cavern space. This will be subject to various factors, including funding arrangements and policy direction at the time.
- Stage 4 – Cavern Handover and Future Utilization: Upon completion of the underground quarrying, the quarry operator will hand over the cavern space to the Government for the construction of public facilities, or may be disposed/leased to the private sector or through Public-Private Partnerships (PPP), depending on the confirmed future land use.

2.3.11 Stage 1 and Stage 2 as described under Section 2.3.10 would be implemented under this proposed development, while Stage 3 and Stage 4 would be subject to future separate study.

2.4 Description of the Project

2.4.1 The proposed TYNUQ (Application Site) falls within areas zoned “GB”, “OU(RTRU)”, “OU(BMIU)” and an area shown as “Road” on the approved Tsing Yi Outline Zoning Plan (“the OZP”) No. S/TY/32, while a small portion of land without OZP covered. According to the covering Notes of the OZP, in any area shown as ‘Road’, all uses or developments require permission from the Town Planning Board. Given that the proposed development is directly administered and managed by CEDD, and serves to create underground space for the Government, it is regarded as “Government Use” which is a Column 2 use under the above zones, and planning permission from the TPB is required (i.e. s.16 Planning Application for Planning Permission).

2.4.2 The works to be implemented under this proposed development comprise the following:

(a) Design and construction of the cavern spaces via underground quarrying;

(b) Design and carry out ancillary activities for quarry operation (i.e., stockpiling, rock processing, concrete production and asphalt production etc.); and

(c) Other associated works, including site formation works, utilities works, drainage works, landscaping works, etc.

3 Site Context

3.1 Location

3.1.1 The Application Site for the proposed TYNUQ is located at the northwestern portion of Tsing Yi Island, which is situated to the west of Kwai Chung and Tsuen Wan. Ngau Kok Wan is to the north of the proposed underground quarry site, Tam Kon Shan Road is to the northeast of the proposed underground quarry site, Fung Shue Wo is to the east, Shek Wan is to the south, and the coastal area facing Ma Wan Channel and Wok Tai Wan is to the west.

3.2 Existing Conditions

3.2.1 The Application Site covers an area of about 393,000m^2. The Site is located at Ngau Kok Wan, Wok Tai Wan, southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in the Strategic Cavern Area (SCVA) No. 10 – Tsing Yi North. The tunnel portals will be located at Ngau Kok Wan and Tam Kon Shan Road, situated to the north and northeast of Shek Wan, respectively.

3.2.2 Ngau Kok Wan with the existing access road is currently occupied by Contract No. DC/2020/05 – Relocation of Sha Tin Sewage Treatment Works to Caverns – Main Caverns Construction (STSTW – Main Caverns Construction) under TGLA No. GLA-TKT 1940 for stockpiling and rock processing. Wok Tai Wan is also currently occupied by STSTW – Main Caverns Construction under TGLA No. GLA-TKT 1939 for stockpiling. The surface land located between Wok Tai Wan and the existing access road is currently a green belt. Another surface land of the Application Site, Tam Kon Shan Portal, is slopes with vegetation. The existing site conditions and photos of the Application Site can be found in **Figure 3.1**.

3.2.3 As the planning proposal is intended to facilitate an underground quarry, existing underground facilities are also reviewed. As revealed from the utility undertakings' record, there is no major underground utility within the Application Site. Major public utilities (e.g. CLP cables, WSD pipes, DSD pipes, telecommunication cables etc.) are located at the northeast of the Application Site, along the Tam Kon Shan Road.

3.3 Land Uses

Surface Land

3.3.1 Under the proposed development, the surface land consists of Ngau Kok Wan, Wok Tai Wan, and the southwest of Tam Kon Shan Road to facilitate quarry operation and transportation. The surface land also covers the portion of the main access tunnels and its associated portals of proposed TYNUQ.

Underground Stratum

3.3.2 Under the proposed development, the underground stratum consists of the underground quarry for the excavation of main access tunnels, connection tunnels, and production caverns of the proposed TYNUQ.

Surrounding Area

3.3.3 The Application Site is surrounded by infrastructure, industrial activities, and steep natural terrain. Residential and GIC uses are located further northeast and east of the Application Site.

3.3.4 To the north and northeast of Application Site are areas zoned "Other Specified Uses" annotated "Cement Plant" ("OU(Cement Plant)") and "Other Specified Uses" annotated "Boatyard and Marine Oriented Industrial Uses" ("OU(BMIU)") with an area of about 0.9 ha and 7.7 ha respectively. The area zoned "OU(Cement Plant)" accommodates a cement plant while the area zoned "OU(BMIU)" accommodates several workshops and shipyards along the north shore of Tsing Yi Island, and a Portable Emission Measurement System Laboratory operated by the Environmental Protection Department (EPD). A site, with an area of 4,335 m^2 and falling within the "OU(BMIU)" zone, area shown as "Road" and occupying a small portion of area not covered by any statutory plan is under s.16 planning application (No. A/TY/150) for a proposed temporary concrete batching plant for a period of 5 years. The application was approved with conditions on a temporary basis by the TPB on 4 July 2025.

3.3.5 To the further northeast along the northern waterfront is Tsing Yi Northeast Park, which occupies an area of about 6.2 ha and is zoned "Open Space" ("O"). To the east of Tsing Yi Northeast Park are a cluster of public housing developments zoned "Residential (Group A)" ("R(A)") and with a total area of about 20.2 ha, including Queen's College Old Boys'

Association Secondary School, Cheung On Estate, Cheung Fat Estate, and Ching Wang Court.

3.3.6 To the east and southeast of the Application Site are another cluster of public housing developments zoned "Residential (Group A)" ("R(A)") and occupying a total area of about 13.9 ha, which includes Cheung Wang Estate and Cheung Hang Estate. They are entwined with areas zoned "G/IC", which have a total site area of about 4.2 ha and mainly accommodate fresh water reservoirs serving the needs of the wider district of Tsing Yi Island. To the south of the public housing developments is Mount Haven, a private housing development zoned "Residential (Group B)" ("R(B)") and with a site area of about 2.9 ha.

3.3.7 To the immediate north of Wok Tai Wan are the existing Lantau Link Visitors Centre and Lantau Link Viewing Platform zoned "Other Specified Uses" annotated "Viewing Platform" ("OU(VP)") for public enjoyment of the scenic view of Tsing Ma Bridge. Furthermore, the Northwest Tsing Yi Interchange and Cheung Tsing Highway flank the western coast of Tsing Yi Island between Wok Tai Wan and Ngau Kok Wan.

3.3.8 To the southwest of the Application Site lies an industrial belt along the southern and western shores of Tsing Yi Island, zoned "Industrial" ("I") and with a site area of about 10.2 ha. It provides land for dockyards, boatyards, oil storage, chemical industries, and other industries requiring direct marine access.

3.3.9 To the south of the Application Site is a large extent of natural slopes of Tsing Yi Liu To Shan, zoned "GB" and with a land area of about 17.7 ha. It serves as a physical barrier separating the aforementioned industrial belt at the southwest from the aforementioned residential developments at the southeast. Within the "GB" zone, a network of natural pathways has been established leading to the hilltop of Liu To Shan in Tsing Yi Area 28, providing the public with a panoramic view for leisure and recreational activities.

3.4 Accessibility

3.4.1 The Application Site is served by two existing access roads which will be managed by the quarry operator. One is an existing access road connecting the North West Tsing Yi Interchange (NWTYI) northbound to Ngau Kok Wan. Another access is at the off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road connecting to the proposed Tam Kon Shan Portal.

3.4.2 Site access would be provided at these two locations to facilitate vehicle access during the construction and operation of the proposed development.

3.4.3 Barging points are available at Ngau Kok Wan and Wok Tai Wan, which could facilitate marine access to the site during the construction and operation of the proposed development.

3.5 Land Status

3.5.1 The Application Site, including both surface land and underground stratum as described in Section 3.3, is on the government land.

3.5.2 Wok Tai Wan and Ngau Kok Wan, with the associated existing access road, are located within an existing TGLA No. GLA-TKT 1939 and TGLA No. GLA-TKT 1940, respectively. The Drainage Services Department (DSD) will hand back to the Lands Department (LandsD) on 31 December 2026, tentatively.

3.5.3 There will be a potential interface at Wok Tai Wan surface land with the Tsing Yi- Lantau Link project (TYLL) as it will be used as a works area by TYLL during its construction stage. Subject to the actual implementation programme of TYLL, the quarry operator will take over the Wok Tai Wan surface land before the commencement of construction of TYLL. Upon receiving the TYLL construction notice, the quarry operator will vacate part of the sea access to Wok Tai Wan surface land and the concerned surface land area to the Highways Department (HyD) in due course.

3.5.4 The remaining part of the Application Site is unallocated Government land.

3.5.5 **Figure 3.2** shows the land status of the Application Site and the surrounding land lots.

4 Planning Context

4.1 Statutory Plan

4.1.1 The Application Site is highlighted in a red line as shown in **Figure 2.1** and its existing zoning can be seen in **Figure 4.1**. The Application Site consists of four components.

4.1.2 Firstly, there is the underground area beneath Yau Kom Tau, currently zoned "Green Belt" ("GB") and area shown as "Road" on the approved Tsing Yi Outline Zoning Plan No. S/TY/32 ("the OZP"). The underground area is located within the Strategic Cavern Area No.10 (SCVA No.10) – Tsing Yi North.

4.1.3 Secondly, there are two proposed portal areas for access to the underground area, namely 1) the proposed Tam Kon Shan Portal at the north-eastern corner under "Other Specified Uses" annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)"), "GB" and area shown as 'Road'; and 2) the proposed Ngau Kok Wan Portal including areas for surface ancillary operations (e.g. stockpiling, rock processing, concrete production, asphalt production, etc.) located at the northwest currently zoned "Other Specified Uses" annotated "Recreation and Tourism Related Uses" ("OU(RTRU)"), "GB" and the area shown as "Road". The Ngau Kok Wan Portal is connected to North West Tsing Yi Interchange via the associated existing access road of TGLA No. GLA-TKT 1940, which is zoned "GB" and the area shown as "Road" on the OZP.

4.1.4 Thirdly, there is a works area (currently zoned "GB" and "OU(RTRU)") for the installation of a conveyor belt system connecting the existing access road to the existing surface land at Wok Tai Wan for rock transportation.

4.1.5 Lastly, the Wok Tai Wan Surface Land for stockpiling is currently zoned "Other Specified Uses" annotated "Recreation and Tourism Related Uses" ("OU(RTRU)"), and with a minor portion extending beyond the OZP boundary to the west.

4.1.6 The proposed development falls within "GB", "OU(RTRU)", "OU(BMIU)" and the area shown as "Road" on the approved Tsing Yi Outline Zoning Plan ("the OZP") No. S/TY/32. According to the covering Notes of the OZP, in any area shown as 'Road', all uses or developments require permission from the Town Planning Board. Since underground quarrying and its ancillary operations are administered and managed by CEDD, it can be regarded as "Government Use" which is a Column 2 use under the above zones, and planning permission from the TPB is required (i.e. s.16 Planning Application for Planning Permission).

4.1.7 With reference to the Definition of Terms (DoT), 'Government Use' is defined as any place, structure or premises used directly in connection with or in support of Government administration, or the provision of Government services and facilities for use by and for the benefit of the public. As underground quarrying and its ancillary operations are part of the cavern works to be directly administered and managed by the CEDD as an employer by a Government revenue-earning contract under construction and operation phases and with the intention of land bank creation (i.e. creating caverns). Moreover, through recycling the surplus rocks excavated from other local construction sites, particularly the Government construction sites, the proposed development can also bring environmental benefits by relieving the burden of the public fill bank and landfill sites through recycling the excavated rocks. Therefore, the proposed development is regarded as a construction site developed for the benefit of the public and hence is reasonable to be considered as 'Government Use'. **Table 4.1** presents a summary of the proposed use of TYNUQ under each zoning and their respective permitted use to be applied under the Schedule of Uses in the OZP.

4.1.8 This s.16 application for planning permission only confines to the proposed TYNUQ. The after-use in the future caverns is subject to future study and therefore not covered under this s.16 application.

Table 4.1 Proposed Use by Zoning and Suggested Applied Use

Land Use Zonings	Proposed Use Based on Initial Layout	Suggested Applied Use	Other OZP Restrictions that Need to be Applied
"Green Belt" ("GB") Approx. Area: 307,000m^2 (78.1%)	• Mainly the cavern portion, including rock extraction/ processing/ stockpiling within caverns • Ancillary operations and access road (existing) in the surface area at Ngau Kok Wan • Access road (existing)/ tunnels/ portals • Conveyor belt system at Wok Tai Wan	'Government Use (not elsewhere specified)'	Nil
Area shown as "Road" Approx. Area: 14,200m^2 (3.6%)	• Minor portion, mainly involving cavern, access tunnels/ portals and access road (existing)	'Government Use'	Nil
"Other Specified Use (Recreation and Tourism Related Uses)" ("OU(RTRU)") Approx. Area: 69,000m^2 (17.6%)	• Ancillary operations and access road (existing) in the surface area at Ngau Kok Wan • Stockpiling area at Wok Tai Wan	'Government Use'	• Maximum Plot Ratio: 0.4 • Building Height Restriction: +40mPD
"Other Specified Use (Boatyard and Marine-oriented Industrial Uses)" ("OU(BMIU)") Approx. Area: 2,150m^2 (0.5%)	• Mainly access tunnels/portals	'Government Use'	Nil

4.2 Previous Application

4.2.1 There is a previous planning application involving the Application Site. The proposed Ngau Kok Wan works area zoned "OU(RTRU)" on the OZP partially falls within the site boundary of Application No. A/TY/87 for a proposed concrete batching plant which was rejected by the Metro Planning Committee of the Town Planning Board on 29 April 2005.

4.2.2 The Wok Tai Wan portion is the subject of an ongoing rezoning application No. Y/TY/2. The application proposes to rezone 19.9 ha of land from "Industrial", "OU(RTRU)" and "GB" to "Residential (Group A)6", "Residential (Group A)7" and area shown as 'Road'; and to incorporate an area currently not covered by the approved Tsing Yi Outline Zoning Plan No. S/TY/32 (the OZP) into the OZP and rezone it to "Residential (Group A)6" and "Other Specified Uses" annotated "Marina Club" and amend the Notes of the zone applicable to the site. The application will be considered by the Metro Planning Committee of the Town Planning Board on 11.9.2026 (tentative).

5 Development Proposal

5.1 Layout Plan

5.1.1 To facilitate the Town Planning Board (TPB)'s consideration of the planning permission, a schematic development proposal is prepared for the Application Site. The area of the Application Site is about 393,000m^2. The schematic layout plan is shown in **Figure 5.1**.

5.1.2 The development schedule for the proposed TYNUQ's ancillary activities at Ngau Kok Wan and Wok Tai Wan is shown in **Table 5.1**. The existing ground level is approximately +5mPD. The proposed ancillary activities that support quarry operation generally include stockpiling, rock processing, concrete production and asphalt production, etc. Since Ngau Kok Wan and Wok Tai Wan fall within "OU(RTRU)", the concerned area for ancillary activities is subject to a maximum plot ratio of 0.4 (i.e. Ngau Kok Wan maximum GFA: 8,520m^2) and a building height restriction of +40mPD. The schematic layout arrangement of the ancillary activities at Ngau Kok Wan and Wok Tai Wan is indicative only. The detailed arrangement and layout of the ancillary activities at Ngau Kok Wan and Wok Tai Wan shall be prepared by the quarry operator, bounded by these requirements.

Table 5.1 Development Schedule for the Proposed Ancillary Activities at Ngau Kok Wan and Wok Tai Wan

Ngau Kok Wan Site Area	About 21,300m^2 (maximum GFA: 8,520m^2)
Wok Tai Wan Site Area	About 50,000m^2 (GFA is not applicable to Wok Tai Wan since no building is proposed)
Maximum Plot Ratio	0.4
Building Height Restriction	40mPD

5.1.3 The underground quarry is formed by the proposed connection tunnels and production caverns. Connection tunnels will be built around the perimeter of the underground quarry. The minimum dimensions of the underground openings as proposed under the Pilot Study are maintained to satisfy the spatial requirement of the potential after-use.

5.1.4 There are three portals proposed at two portal areas, two at Ngau Kok Wan and one at Tam Kon Shan. They are necessary for the operation of the underground quarry. The site formation of the proposed portals will require cutting of existing slopes. The proposed main access tunnels will be constructed to connect the proposed portals and the underground quarry for ancillary operation. There are two main access tunnels for the Ngau Kok Wan Portal and one main access tunnel for the Tam Kon Shan Portal.

5.1.5 Subject to the need of the quarry operator, the underground quarry is allowed for stockpiling the excavated rocks / aggregates, storage of construction materials, rock processing and concrete production.

5.1.6 The arrangement of the proposed main access tunnels, connection tunnels, and production caverns of the underground quarry will be developed within the underground strata of the Application Site. **Table 5.2** presents the proposed excavation dimensions of the underground openings.

Table 5.2 Proposed Dimensions of Tunnels and Caverns

Type of Tunnel/Cavern	Typical Span (m)	Typical Height (m)
Main Access Tunnel	16	10 to 22
Connection Tunnel	16	22
Production Cavern	20	20

5.1.7 Unlike other capital works cavern development projects, one of the primary aims of the underground quarry is to extract good-quality rock. The programme of excavation/quarrying will be dependent on the demand for rock products in the local market. During the operation phase, with the approval by the CEDD, the quarry operator can propose to alter tunnel / cavern opening locations within the underground quarry footprint if a substantial underground section with poor geological conditions is anticipated. This will also help safeguard the stability of production caverns for the after-use.

5.1.8 Ancillary activities will include stockpiling, rock processing, and associated activities such as concrete production and asphalt production. Blasted rocks will undergo on-site crushing to achieve suitable aggregate sizes. Some aggregates will be further processed for concrete production or asphalt production at Ngau Kok Wan before being transported off-site to construction sites. Indicative dimensions of the ancillary structures are presented in **Table 5.3** and illustrated in **Figure 5.2** and **5.3**. The ancillary operation arrangements at Ngau Kok Wan and conveyor belt arrangement at Wok Tai Wan are subject to the contractor's design.

Table 5.3 Indicative Dimensions of typical ancillary structures

Type of ancillary structures	Length (m)	Width (m)	Height (m)
Rock Processing	45	10	35
Concrete Production	55	45	35
Asphalt Production	55	10	35
Conveyor Belt	140	6	9

5.1.9 TYNUQ will also serve as one of the major centralised locations to recycle surplus good quality rock from local construction projects. Subject to the capacity of TYNUQ, surplus rocks from other projects will be imported to Ngau Kok Wan either by trucks via the existing access road, by barge via an existing barging point at Ngau Kok Wan, or by barge via an existing barging point at Wok Tai Wan through the proposed conveyor belt at Wok Tai Wan and then by trucks through the existing access road to Ngau Kok Wan. In the event that the stockpile capacity at Ngau Kok Wan is insufficient, the surplus rock (generated from this project or other construction projects) would be delivered to Wok Tai Wan for stockpile via the existing access road by truck and then through the proposed conveyor belt, or by barge via the existing barging points at Ngau Kok Wan and Wok Tai Wan. In the absence of current vehicular access to Wok Tai Wan, the proposed conveyor belt would provide a logistical link between Ngau Kok Wan and Wok Tai Wan, complementing marine transport and enhancing the overall attractiveness of the project.

5.2 Landscape and Visual Proposal

5.2.1 Potential landscape and visual impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The landscape impact assessment covers an area within 500 m of the site. The visual envelope extends to Tuen Mun Road to the north, Ma Wan to the west, the natural hillside backdrop to the south, and industrial and shipyard areas along Tam Kon Shan Road to the east.

5.2.2 Although the proposed underground quarry is primarily implemented deep below the existing ground surface, a relatively small portion of aboveground works is still unavoidable, such as site formation works for the tunnel portals and ancillary operations. Approximately 765 trees, including some undesirable trees, are anticipated to be affected by the proposed site formation works at Ngau Kok Wan and Tam Kon Shan. The tree felling locations are generally within Ngau Kok Wan Surface Land, Ngau Kok Wan Portals, Tam Kon Shan Portal, and Wok Tai Wan Works Area. No Old and Valuable Trees have been identified within the assessment area. The tree compensation strategy is included in **Appendix G**.

5.2.3 The potentially affected landscape resources (LRs) and landscape character areas (LCAs) are Hillside Vegetation along Tsing Yi North Coastal Road (LR1), Coastal Landscape along Wok Tai Wan and Cheung Shue Tau (LR3), and Transportation Corridor Landscape (LCA2) as shown in **Figure 5.4**. Upon full implementation of all proposed mitigation measures, the

residual landscape impacts on LRs and LCAs are anticipated to be negligible during the operation phase.

5.2.4 The most affected public viewers are recreational users of the beaches along Castle Peak Road – New Ting Kau and Ting Kau (RE1 and RE2, respectively) (**Figure 5.5, 5.6, and 5.8**) and travelers at Cheung Shue Tau (T1) (**Figure 5.7**). With the implementation of mitigation measures, the residual visual impacts on public viewers during the operation phase are anticipated to be slight to negligible.

5.2.5 Mitigation measures, such as tree preservation and the erection of decorative screen hoarding during the construction phase, as well as sensitive and aesthetically pleasing design and compensatory planting, where appropriate, during the operation phase, are recommended. Nevertheless, to further soften the visual impact of the industrial buildings and facilities, both hard and soft landscape mitigation measures have been explored. These include implementing a sensitive and aesthetically pleasing design tailored for the structures, as well as examining the technical feasibility of installing epiphytic wall-mounting planters on the walls of suitable structures to enhance vertical greening. Photomontages are produced to illustrate the acceptability of the visual effects of the proposed development (**Figures 5.5 to 5.8**).

5.3 Environmental Considerations

Air Quality Impact

5.3.1 Potential air quality impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as within 500m of the Application Site.

5.3.2 During the construction phase, potential dust emissions may arise from limited portal formation works, excavation, spoil handling, and vehicle movement. Mitigation measures in accordance with the Air Pollution Control (Construction Dust) Regulation, including watering, covered stockpiles, paved haul roads and wheel-washing facilities, will be implemented. Emissions from construction plants will be controlled through the use of ultra-low sulphur fuel, avoidance of exempted NRMMs and adoption of electric alternatives where practicable. With these measures, no adverse construction air quality impact on nearby air sensitive receivers is anticipated.

5.3.3 During the operation phase, quarrying activities will be predominantly conducted within underground caverns, with dust emissions largely confined and controlled through blasting doors, wet suppression, and dust collection systems as far as practicable. Ancillary operations will be enclosed and fitted with appropriate emission control systems. With the implementation of recommended mitigation measures, all predicted air pollutant concentrations comply with relevant standards, and no adverse air quality impact on nearby air sensitive receivers is anticipated.

Noise Impact

5.3.4 Potential noise impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as 300m within the Application Site.

5.3.5 No noise sensitive receivers are located within the 300 m assessment area, with the nearest representative receivers situated approximately 350 m to 900 m away from the Application Site and largely screened by intervening natural terrain. During the construction phase, works will include portal site formation and mechanical breaking for the initial sections of the main access tunnel. Given the localized scale of surface works, the use of non-blasting methods at the early stage, substantial separation distances to receivers, and terrain screening, construction noise impacts are anticipated to be insignificant. During the operation phase, quarrying by drill-and-blast method will be conducted underground and outside restricted hours. With the implementation of good site practices and recommended mitigation measures, noise impacts from both construction and operation phases are expected to be insignificant.

Water Quality Impact

5.3.6 Potential water impacts associated with the construction and operation of the proposed development have been assessed under the preliminary environmental review report. The assessment area is defined as 500m within the Application Site.

5.3.7 During the construction phase, key potential sources include construction site runoff,

wastewater from site activities such as wheel washing and dust suppression, accidental spillage of fuels and chemicals, and sewage from the construction workforce. Mitigation measures, including effective site drainage, silt and sediment control, proper storage and handling of chemicals, and the provision of chemical toilets with licensed servicing, will be implemented. With the adoption of good site practices and recommended mitigation measures, construction-phase water quality impacts are anticipated to be minimal.

5.3.8 During the operation phase, potential water quality impacts may arise from quarrying and ancillary operations, surface runoff from portal areas and existing access roads, and marine vessel activities associated with material transport. Process water and drilling water will be treated and recycled as far as practicable, while surface runoff will be managed through a designed drainage system incorporating appropriate erosion and silt control measures. Marine operations will comply with relevant statutory requirements and good practice to prevent water pollution. With the implementation of these measures, water quality impacts during the operation phase are anticipated to be minimal and acceptable.

5.4 Drainage and Sewerage Proposal

5.4.1 The proposed development will not interfere with the existing drainage system, which collects the surface runoff. With a minor change in site topography due to the proposed site formation works, drainage channels are proposed to collect surface runoff and groundwater seepage, and connect to the existing drainage system. Due to the coastal location of the proposed development, the majority of groundwater seepage from the caverns during the construction and operation phases would be diverted to sea via the existing outfall through the existing nullah at Ngau Kok Wan, while some of the groundwater seepage would be diverted to the existing culvert at Tam Kon Shan Road.

5.4.2 Surface runoff from the sites will be discharged into the existing drainage system via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sandbag barriers would be required to be provided on site during construction works to properly direct stormwater to such silt removal facilities. Perimeter channels will be provided on site boundaries where necessary to intercept storm runoff from outside the site so that it will not wash across the site. Catchpits and perimeter channels will be constructed in advance of site formation works and earthworks.

5.4.3 During the construction and operation phase, the workforce on site is anticipated to generate sewage effluent. Adequate and sufficient chemical toilets will be provided in the works area to handle sewage from the construction workforce and a licensed collector is to be employed to clean and maintain the chemical toilets on a regular basis. No discharge of sewage to the inland water is allowed.

5.4.4 The sewage generated by the proposed development would not be directly discharged to the existing sewerage network. Sewage is required to be treated by the on-site sewage treatment facility with discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO), or tanked away by a registered waste collector.

5.5 Traffic Arrangement

5.5.1 Two vehicle site accesses will be provided to access the Application Site. One is an existing access road connecting the North West Tsing Yi Interchange (NWTYI) northbound to Ngau Kok Wan. Another access is at the off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road connecting to the proposed Tam Kon Shan Portal.

5.5.2 To avoid illegal entrance to the underground quarry, access control is required at the portals to guard against unauthorized access.

5.5.3 Since no pedestrian access is available for both site accesses, all staff and visitors would be required to access the site solely by vehicles / shuttles during both construction and operation of the proposed development.

5.5.4 In consideration of ancillary parking and loading / unloading (L/UL) spaces, there is no parking standard specifically for quarrying in the Hong Kong Planning Standards and Guidelines (HKPSG). Therefore, the proposed provision of ancillary parking and loading/unloading facilities for ancillary operation at Ngau Kok Wan is referred to the standards for Industrial Use (I) under General Industrial Use (GIU). **Table 5.4** summarizes the proposed number of parking and L/UL spaces for ancillary operation at Ngau Kok Wan.

Table 5.4 Provision of Parking and L/UL Facilities for Ancillary Operation at Ngau Kok Wan

Parking and L/UL Facilities	Proposed Number of Parking and L/UL Provision
Parking Facilities:	
Motorcycle	5
Private Car (PC)	10
Light Goods Vehicle (LGV)	5
Heavy Goods Vehicle (HGV)	3
L/UL Facilities:	
Goods Vehicle	7
Container Vehicle Loading / Unloading Bay	1

5.5.5 Barging points are available at Ngau Kok Wan and Wok Tai Wan for marine access to the Application Site. During the construction phase, it is expected to generate marine traffic, primarily due to the transportation of construction materials, including construction machinery, equipment, and ancillary facilities. During the operation phase, the concrete and asphalt production activities will require a consistent supply of raw material (e.g. aggregates and cement etc.) for production. These materials will be delivered primarily by marine transportation from suppliers to alleviate traffic pressures on the road network. In addition, an internal marine transfer between Wok Tai Wan and Ngau Kok Wan will be established for the transport of stockpiled rock. This includes the delivery of excavated or processed rock from Ngau Kok Wan to Wok Tai Wan for storage, and the transfer of stockpiled rock from Wok Tai Wan to Ngau Kok Wan for further processing.

5.6 Utilities Requirement

5.6.1 To facilitate the construction and operation of the proposed development, power and water supply to the Application Site would be required, in particular, to support the operation of the ancillary facilities at Ngau Kok Wan.

5.6.2 Based on the available information and confirmation from the relevant utility undertakings, the existing power and water supply at Ngau Kok Wan and Wok Tai Wan are insufficient to support the operation of the ancillary facilities. Accordingly, it has been agreed with CLP and WSD that a new power and water supply source could be provided near the proposed Tam Kon Shan Portal, where spare capacity for the proposed development is available along Tam Kon Shan Road.

5.6.3 The quarry operator will be responsible for coordinating with the relevant utility undertakings on the detailed arrangement and carrying out the laying of power cables and water pipes from the new supply source near Tam Kon Shan Portal to Ngau Kok Wan to support the proposed development. This includes all associated equipment and facilities, and shall be carried out at the operator's own cost and time.

6 Technical Assessments

6.1 Geotechnical Assessment

6.1.1 A geotechnical assessment has been conducted to review and assess the geotechnical constraints of establishing the proposed development. This has been conducted through a comprehensive review of available geological maps, geological memoirs, aerial photographs, and ground investigation (GI) records.

6.1.2 Due to limited existing GI information in the vicinity of the proposed development, project-specific GI works have been carried out. The geotechnical properties and parameters, discontinuous orientation, and rock mass quality have been reviewed with reference to the results of project-specific GI works.

6.1.3 Site formation works in the form of cut slopes are proposed for Ngau Kok Wan Portals and Tam Kon Shan Portal. As the surface land at Ngau Kok Wan is considered to be small and irregular in shape, site formation works in the form of retaining structures will be allowed on the west to enlarge the surface land at Ngau Kok Wan. However, the implementation of this expansion depends on the quarry operator's decision on whether the existing surface land at Ngau Kok Wan is sufficient to support his ancillary operations.

6.1.4 All registered man-made features that may affect or be affected by the proposed development have been classified by considering either the debris travel distance and angle in accordance with GEO TGN No. 15, or their locations within the blasting influence zone. The existing features no. 6SE-D/C 544, 6SE-D/C 554, 6SE-D/F252, and 6SE-D/F253 will be modified by the proposed site formation works at the Tam Kon Shan Portal and Ngau Kok Wan Portals. For the remaining parts of these features, further assessment on the features shall be conducted with due consideration of the extent of the Tam Kon Shan Portal and Ngau Kok Wan Portals formation works. Upgrading works may be required to ensure that the features are up to the current geotechnical standard. The existing features no. 6SE-D/C 485, 6SE-D/C 192, and 6SE-D/F88 will be removed by the proposed site formation works at Tam Kon Shan Portal, Ngau Kok Wan Portals, and Ngau Kok Wan surface land expansion. No modification works are anticipated to the existing features along Wok Tai Wan and the existing access road to Ngau Kok Wan.

6.1.5 It is considered that catchments TY-NT1, TY-NT2, TY-NT3, and TY-NT4a may pose potential natural terrain hazards to the proposed developments downslope at Ngau Kok Wan. The assessment results show that none of the debris can reach beyond a 10-meter buffer zone. A 10-meter no-manned facility zone along the surface land boundary at Ngau Kok Wan is proposed during the Amber rainstorm signal or above is in force as a plausible mitigation measure for the catchments as part of the holistic risk mitigation strategy.

6.1.6 Depending on the ground condition, drill-and-blast and mechanical excavation are anticipated to be adopted for the excavation of the underground quarry. Underground quarry excavation will be carried out in an enclosed underground space with blast door(s) at portals. With careful control of maximum instantaneous chargeweight (MIC) of the explosives, coupled with the implementation of necessary monitoring and mitigation measures in place, no adverse impact to nearby sensitive receivers would result due to blasting-induced vibration, flyrock, and air overpressure.

6.1.7 The excavated material from tunnels / caverns is mainly rock. These rocks would be further processed on-site for the production of construction materials. Soil and low-quality rock would be sent to public fill reception facilities for reuse as filling material, where appropriate.

6.1.8 The proposed development is considered technically feasible from the geotechnical perspective.

6.1.9 The extract of the geotechnical assessment report is enclosed in **Appendix A**.

6.2 Traffic Impact Assessment

6.2.1 A traffic impact assessment has been conducted to assess the potential traffic impact on the surrounding road networks due to the potential traffic generated from the proposed development.

6.2.2 Vehicular accesses provided at NWTYI and off-slip of Tsing Yi North Coastal Road westbound near the southwest of Tam Kon Shan Road are considered acceptable from a traffic

engineering point of view in terms of location and access arrangement.

6.2.3 Since no pedestrian access is available for both site accesses, all staff and visitors would be required to access the site solely by vehicle during both the construction and operation of the proposed development. As such, the impact on the existing public transport operations is not anticipated.

6.2.4 Construction vehicles are expected to travel to the site during the construction phase. The performance of all junctions and road links along construction traffic routings would be operating within capacity during AM, PM, and logistic peak hours on normal weekdays for the construction peak year 2028. Nevertheless, it is considered that the traffic impact induced by the construction traffic at the concerned road links is insignificant, given that the V/C ratio remains unchanged compared to the reference case scenario.

6.2.5 During the operation phase, the performance of all the study junctions and road links would be operating within capacity during AM and PM peak hours on weekdays for the design year 2031.

6.2.6 Nevertheless, it is considered that the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal and the road links would still operate in a manageable degree (V/C ratio < 1.2).

6.2.7 Following the implementation of the tunnel to the Tam Kon Shan Portal, development traffic would be able to access the site alternatively from the Tam Kon Shan Portal as well.

6.2.8 To mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange, the development traffic would be prohibited from traveling through these two interchanges during AM and PM peaks.

6.2.9 In view of the minimal effect on the critical road links and sufficient capacity of all other study junctions and road links during both the operation and construction phases of the proposed development, the traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.

6.2.10 The traffic and transport impact assessment report is enclosed in **Appendix B**.

6.3 Marine Traffic Impact Assessment

6.3.1 A marine traffic impact assessment has been conducted to assess and evaluate potential marine traffic impacts and cumulative effects arising from the proposed development within the study area during the construction and operation.

6.3.2 The primary marine activity during construction and operation phases is the transportation of material. There are no marine construction works proposed under the proposed development.

6.3.3 It is not anticipated that the construction and operation of the proposed development will be impacted by metocean conditions or have a significant interface with any existing or planned marine facilities. It is also identified that the annual collision and grounding incident level or risk level would not significantly increase with the implementation of the proposed development.

6.3.4 It is identified that the risk values for all undesirable scenarios are within the as low as reasonably practicable (ALARP) region. To ensure risks are minimised and managed, further risk control measures are recommended for the construction and operation of the proposed development, including site survey, general marine traffic management measures, marine traffic control and a contingency plan for adverse weather and emergency conditions. A new risk value is calculated to evaluate the effectiveness of the proposed risk control measures. It is identified that the recommended risk control measures have further reduced risk values.

6.3.5 The marine traffic impact assessment report is enclosed in **Appendix C**.

6.4 Environmental Review

6.4.1 A preliminary environmental review (PER) has been conducted for the proposed development to examine key environmental aspects related to the construction and operation, including air quality, noise, water quality, waste management, land contamination, terrestrial ecology, landscape and visual impact, cultural heritage, and hazards to life.

6.4.2 Literature reviews are conducted to establish baseline environmental conditions. Major

environmental elements and sensitive receivers in the vicinity of the Application Site have been identified and considered. While vegetation removal has been minimized through careful design, the recorded biodiversity in the potentially affected small areas is low. It is identified that these areas are generally under constant anthropogenic disturbance, such as human activities and heavy vehicle traffic. The direct ecological impact resulting from habitat loss is considered minor.

6.4.3 Potential impacts on sensitive receivers are identified, and a preliminary assessment was carried out based on the best available engineering information. Standard environmental practices and mitigation measures will be enforced to minimize these potential impacts. It is concluded that the proposed development would not lead to adverse environmental impacts with the implementation of the recommended mitigation measures and incorporation of appropriate design.

6.4.4 The preliminary environmental review report is enclosed in **Appendix D**.

6.5 Drainage and Sewerage Impact Assessment

6.5.1 A drainage and sewerage impact assessment has been conducted to assess the potential drainage and sewerage impact on the existing systems due to the proposed development.

6.5.2 The proposed development would not interfere with the existing drainage system, which collects the surface runoff. In general, the flow path and catchments after development will be similar to those before development. The catchment areas and drainage characteristics of the concerned catchments have no change. Albeit no change of the surface drainage characteristics is anticipated, groundwater seepage into the underground quarry shall generate additional drainage flow. Based on the drainage impact assessment, the groundwater seepage to be discharged from the cavern during the construction and operation phase is anticipated to be insignificant, with only <1% increase compared with the existing surface runoff from the catchment to the existing drainage system. With the proposed drainage channels in place, no potential drainage impacts arising from the proposed development are expected to affect the existing drainage system.

6.5.3 The average daily sewage generated from the proposed development is minimal. Domestic sewage will be tanked away by registered waste collector(s). Industrial wastewater from concrete production will be treated by the on-site wastewater treatment plant and then reused for production. If necessary, discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO) shall be obtained. Therefore, the sewage generated by the proposed development would not be directly discharged to the existing sewerage network. Based on the sewerage impact assessment, no adverse sewerage impact is anticipated from the proposed development.

6.5.4 The drainage and sewerage impact assessment report is enclosed in **Appendix E**.

6.6 Waterworks Impact Assessment

6.6.1 A waterworks impact assessment has been conducted to assess the potential impact on the existing waterwork facilities due to the proposed development.

6.6.2 The proposed development is located at the most downstream water mains network of the Tsing Yi water supply zone. After considering the system supply capacity and the convenience of connection to the existing water supply systems, connection to the water mains to the east of the proposed development near Tam Kon Shan Portal supplied by Tsing Yi North Low Level Fresh Water Service Reservoir (TYNLLFWSR) is proposed.

6.6.3 It is proposed that the waterworks connecting to the proposed development from the existing network will be undertaken by the quarry operator as part of the quarry contract. The details of the new connection and its alignment are subject to further discussion with WSD by the quarry operator, so that the actual water demand and the alignment of the new water pipe could fulfil the operational requirements.

6.6.4 Based on the assessment results, the proposed development would require an additional water demand, which is approximately 7.9% of and does not exceed the capacity of the TYNLLFWSR.

6.6.5 It is envisaged that the waterworks impact arising from the proposed development on the existing water supply system is acceptable.

6.6.6 The waterworks impact assessment report is enclosed in **Appendix F**.

6.7 Landscape Assessment

6.7.1 Landscape Assessment has been conducted to assess the impact on the landscape due to the proposed development.

6.7.2 Recognizing that natural terrain is a precious and irreplaceable resource, the project has been designed with the principle of minimal disturbance wherever possible. The underground quarry itself will not disturb the natural terrain above. Surface works are limited to the functional minimum required, such as the portals and ancillary operation area required to support the underground quarry. Though the Contractor will be allowed to slightly enlarge the surface land to the west at Ngau Kok Wan, this proposed expansion area is not entirely a “natural” slope. Instead, its majority would be formed by a registered man-made fill slope (Slope no. 6SE-D/F88) where anthropogenic disturbance has been documented and observed.

6.7.3 A broad-brush survey on the landscape resources, such as the approximate number of trees/tree groups within the site (including information on Old and Valuable Trees, trees of particular interest, rare and precious species, protected species scheduled under Cap. 96 and 586, mature trees) has been conducted. The survey estimates the approximate number of trees/tree groups that will be affected due to the proposed development, and the assessment also outlines the compensatory planting strategy.

6.7.4 A 1:1 compensatory ratio may not be achieved for the slope works due to site constraints, including the absence of suitable flat land, steep slope gradients, anticipated low survival rates, and the poor adaptability of heavy standard trees on slopes. Suitable compensatory planting will be adopted, with consideration of feasibility and biodiversity. For instance, woodland shrubs and climber mix will be deployed on the steep portal slopes. Additionally, the opportunity of off-site tree compensation has also been explored. It is agreed that off-site tree compensation of not less than 75 nos. of trees will be carried out in the area designated by Tsing Ma Control Area (TMCA) of HyD.

6.7.5 The schematic landscape design and landscape treatments/mitigation measures have been proposed to minimize the potential impacts. The Landscape Assessment can be referred to **Appendix G**.

7 Public Consultation

7.1 Kwai Tsing District Council

7.1.1 CEDD has consulted the District Facilities and Works Committee of the Kwai Tsing District Council (KTDC) on the proposed development on 8 April 2026 and a follow-up meeting on 7 May 2026. CEDD introduced and highlighted the importance of the proposed development. The assessment findings and the proposed mitigation measures to minimize the impacts are also elaborated as substantiation.

7.1.2 During the District Council (DC) consultation, DC members primarily expressed their concern about the potential traffic impact and communication channels with the project team throughout the implementation period.

7.1.3 In response to the concerns raised by DC members, the restricted period for using Tam Kon Shan Interchange and Tsuen Tsing Interchange at AM peak by site traffic is extended. In addition, two accesses (i.e. existing access road connecting NWTYI to Ngau Kok Wan and the off-slip of Tsing Yi North Coastal Road) shall be maintained throughout the project period to access the Application Site, thereby further reducing the use of Tam Kon Shan Interchange by site traffic. Shuttle bus service or meal arrangement shall also be provided by the quarry operator to facilitate site staff during mealtimes. To maintain close communication with stakeholders, the quarry operator would set up dedicated hotlines for receiving enquiries from DC members and the public throughout the project period.

7.2 Harbourfront Commission

7.2.1 CEDD has consulted the committee members of the Task Force on Harbourfront Developments in Kowloon, Tsuen Wan and Kwai Tsing (KTF) on the proposed development in July 2026.

7.2.2 According to the feedback from the committee members, they primarily expressed their concern about the potential visual impact on the coastal landscape, the disturbance to natural terrain, and the compatibility with the recreation and tourism planning intention of the “OU(RTRU)” zoning.

7.2.3 In response to the concerns raised by the committee members, the design has adopted an avoidance-first approach, limiting surface works to the functional minimum required for safe operations while keeping the natural terrain above the quarry largely undisturbed. In addition, landscaping and architectural mitigation measures will be implemented. Importantly, the use is not permanent in nature which the site will be reinstated upon project completion. Therefore, the long-term recreation and tourism potential of the area will not be prejudiced.

8 Justifications

8.1 Alignment with Government Policy on Long-term Strategy for Cavern Development

8.1.1 Land supply is always limited in Hong Kong. A key priority of the current-term Government is to increase land supply. Given Hong Kong's hilly terrain and strong rock formations, cavern development by means of underground quarrying is a practical solution, especially in urban fringe areas, for enhancing long-term land availability and supporting sustainable growth and stability. This proposed underground quarrying delivers substantial long-term public benefits to Hong Kong by generating valuable future cavern space and contributing significantly to the city's strategic land bank.

8.1.2 Upon completion of the underground quarry, the cavern space created can be used for housing various facilities. Relocation of existing facilities to the cavern space could release any prime surface land for other value-added developments. Alternatively, the cavern space could be arranged for developing other facilities. The exact after-use will be determined based on the evolving government needs in the future, serving as a flexible and resilient component of Hong Kong's long-term land strategy.

8.2 Sustainable Use of Local Resources

8.2.1 Shortage of rock import from Chinese Mainland due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, the proposed TYNUQ shall be proceeded timely, along with other quarry-related initiatives to maintain local rock supply. As advocated in the 2025 Policy Address, the innovative "Underground quarry-cum-cavern development" model under this proposed development aims to enhance long-term land supply more efficiently while providing a sustainable local source of rock materials. Under this approach, excavated materials from the underground quarry will be reused as aggregates for the construction industry, directly supporting Hong Kong's economic growth and resource sustainability.

8.2.2 The underground quarry will receive surplus rock generated from other local construction projects for further processing into valuable rock products, such as concrete and asphalt. The proposed development not only offers a sustainable way out for the surplus rock, but also largely relieves the operational pressure on public fill reception facilities and landfill sites.

8.2.3 Tsing Yi is located at the central hub of Hong Kong, with a superior geographical position. Establishing an underground quarry in Tsing Yi not only stabilizes the local supply of rock materials but also strengthens the supply chain for local concrete and/or asphalt production, particularly in support of the development of the Northern Metropolis.

8.3 Creation of Revenue Source for the Government

8.3.1 The proposed development offers a new revenue stream for the Government, as it will be implemented under a revenue-generating contract.

8.3.2 In alignment with the Government's latest initiative to identify new sources of income, this proposed development presents a viable opportunity to support this direction.

8.4 Compatible with Surrounding Context

8.4.1 The Application Site is on Government land and no insurmountable constraints on land ownership are envisaged for the proposed development. The Application Site is distant from residential areas and adjoining to the existing area with a similar nature of land use (i.e. industrial operations and mix of boatyards and workshops). This indicates that the proposed development is compatible with the surroundings.

8.4.2 The Application Site is surrounded by hilly terrain. The project has been designed from the outset with the principle of minimal disturbance to the natural terrain wherever possible. More importantly, the underground quarry itself will generally not disturb the natural terrain above through confining surface works strictly to the portals and ancillary operation area required to support the underground quarry. This spatial relationship between the underground quarry and the undisturbed natural terrain above is clearly illustrated in the typical longitudinal section provided in **Figure 8.1**. With the surface works restricted to the ancillary operations at Ngau

Kok Wan as well as Wok Tai Wan and the implementation of height restrictions for ancillary activities, the proposed development is considered compatible with the rural character of the area.

8.4.3 It is fully acknowledged that the GB is a statutory zoning intended for natural environment conservation and ecosystem protection. The project's intersection with the Green Belt has been carefully managed through the principle of avoidance-first, resulting in a minimal site formation footprint confined to Ngau Kok Wan and Tam Kon Shan. As the majority of the proposed development is underground and the ancillary operation will be located on already formed land (i.e. Ngau Kok Wan and Wok Tai Wan), the proposed development aligns with the planning intention of the “GB” zone, which aims to conserve the existing natural environment. While minimal site formation works at the portals will necessitate the removal of some trees and vegetation, compensatory planting, such as woodland shrubs and climber mix, will be deployed on the steep portal slopes as a mitigation measure to restore the green buffer with the surrounding environment and maintain the visual integrity of the Green Belt. Together with other mitigation measures, such as erection of decorative screen hoarding, sensitive and aesthetically pleasing design, the modified landform could be blended into the surrounding landscape, effectively reducing visual and environmental impacts and ensuring that residual impacts are insignificant.

8.5 Not Prejudice the Long-term Planning Intention of the "OU(RTRU)" Zone

8.5.1 The underground quarrying is an interim process to create underground space and can be regarded as temporary in nature. Upon completion of the underground quarrying works, the surface land as well as the newly created underground space will be handed back to the Lands Department (LandsD) as a valuable land bank for the Government's future development. Therefore, the proposed use remains transitional, ensuring it will not prejudice the long-term planning intention of the "OU(RTRU)” zoning.

8.5.2 Furthermore, the Tourism Commission (TC) has recently advised that there is currently no concrete or immediate project planned for the piece of land zoned as "OU(RTRU)". Since the Site will be reinstated in accordance with the requirements of relevant government departments and handed back to the Government for future comprehensive planning and development, the temporary utilization of the Site by this project will not permanently alter or compromise its future potential for recreation and tourism activities.

8.6 No Adverse Environmental and Engineering Impact

8.6.1 As discussed in Section 6, comprehensive technical assessments are conducted on geotechnical, traffic, environmental, landscape and visual, drainage and sewerage, and waterworks impacts.

8.6.2 With the incorporation of appropriate design, implementation of control and mitigation measures, no adverse environmental and engineering impact is anticipated from the proposed development.

9 Conclusion and Recommendations

9.1.1 This supporting planning statement is submitted under Section 16 of TPO to seek approval for the implementation of the proposed development (TYNUQ). The request for planning permission involved a piece of Government land located at Ngau Kok Wan, Wok Tai Wan, and southwest of Tam Kon Shan Road, and at caverns in the hillsides northwest to Shek Wan at the northwestern portion of Tsing Yi Island in SCVA No. 10 – Tsing Yi North.

9.1.2 The proposed development is regarded as “Government Use” which falls under Column 2 of the Schedule of Uses in “GB”, “OU(RTRU)”, “OU(BMIU)” requiring planning permission from the Town Planning Board. According to the covering Notes of the OZP, in any area shown as “Road”, all uses or developments require permission from the Town Planning Board.

9.1.3 Technical assessments on geotechnical, traffic, environmental, landscape and visual impact, drainage and sewerage, and waterworks impacts have been conducted to ascertain the technical suitability of the proposed development. The conclusion of the technical assessments revealed that no adverse impact would be generated from the proposed development with the implementation of appropriate mitigation measures.

9.1.4 The proposed development would bring significant social, economic, and environmental benefits to Hong Kong. Implementation of TYNUQ is fully in line with the government policy on the creation of revenue sources, sustainable use of local resources, cavern development, and land supply. Underground quarrying is merely an interim process for creating an underground space. The initiative of “Underground quarry-cum-cavern development” supports rock supply in the short term and unlocks valuable underground land for future development. In particular, rock caverns are suitable for Hong Kong's long-term development from a geological perspective.

9.1.5 The proposed development takes into account the implementation programme of proposed developments in Hong Kong, such as the Northern Metropolis, and contributes toward enhancing the synergy effect by supplying sufficient concrete and/or asphalt.

9.1.6 In light of the abovementioned justifications and merits, the proposed development is considered acceptable for approval by the TPB. We sincerely seek the favourable consideration from the TPB to give support to this Application.

END OF TEXT

Figures

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

PROPOSED DEVELOPMENT LAYOUT

APPLICATION SITE

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTAL

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

FUNG SHUE WO

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

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SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 合約編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
APPLICATION SITE LOCATION PLAN

SHEET NUMBER
圖紙編號
60733229/PA/FIGURE 2.1

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



P3

824300 N

823900 N

826800 E

827200 E

P1

P2

P3

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTAL

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

LEGEND:

PROPOSED DEVELOPMENT LAYOUT

APPLICATION SITE

VIEW POINT

N



P1



P2

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SCALE
比例

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DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
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PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE PLAN SHOWING THE EXISTING SITE CONDITIONS

SHEET NUMBER
圖紙編號

60733229/PA/FIGURE 3.1

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Approved:

Checked:

Designer:

Project Management Initials:

826700 E

827100 E

824300 N

823900 N

LEGEND:

- PROPOSED DEVELOPMENT LAYOUT
- APPLICATION SITE
- LOT BOUNDARY (PRIVATE)
- LOT BOUNDARY (GOVERNMENT)
- EXISTING MTRC RAILWAY
- PLANNING APPLICATION NO. Y/TY/2
- PLANNED TSING YI-LANTAU LINK
- TSING MA CONTROL AREA (TMCA)

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN

GLA-TKT 1940

GLA-TKT 1936

TAM KON SHAN PORTAL

TING KAU BRIDGE

NORTHWEST TSING YI INTERCHANGE

GLA-KT 1143

GLA-TKT 1955

Viewing Platform

WOK TAI WAN

WOK TAI WAN WORKS AREA

GLA-TKT 1939

PLANNED ROAD OF TSING YI - LANTAU LINK

WOK TAI WAN SURFACE LAND

LANTAU LINK AND WOK TAI WAN ROAD

GLA-TW 108

GLA-TKT 1869

MTR PROTECTION BDY

MTRC MTR-RAP No. 251to32

R.O.W. OF MTRC 2 RP

Pier 碼頭

Jetty 渡頭

Seawall 海堤

Cement Works 水泥廠

Tank 缸

Shipyard 船廠

HWM

青衣北交匯處

青嶼幹線

Seawall

LANTAU LINK

油柑頭

TYTL 102

TYTL 119

TYTL 155

TYTL 153

TYTL 150

TYTL 149

TYTL 147

TYTL 157

KTM121

STT3825K&T195

STTTK0067

STT3197K&T195

DLO/KT/WWA2672

KT37204

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PROJECT

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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KEY PLAN

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AGREEMENT NO. CE 79/2023 (GE)

SHEET TITLE

LAND STATUS PLAN

SHEET NUMBER

60733229/PA/FIGURE 3.2

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Approved:

Checked:

Designer:

Project Management Initials:

825500 E

826500 E

827500 E

825200 N

824200 N

823200 N

N

LEGEND:

	PROPOSED DEVELOPMENT LAYOUT	GB	GREEN BELT
	APPLICATION SITE	R(A)	RESIDENTIAL (GROUP A)
OU	OTHER SPECIFIED USES	R(B)	RESIDENTIAL (GROUP B)
I	INDUSTRIAL	R(C)	RESIDENTIAL (GROUP C)
CDA	COMPREHENSIVE DEVELOPMENT AREA		AREA SHOWN AS ROAD
O	OPEN SPACE		
V	VILLAGE TYPE DEVELOPMENT		
G/IC	GOVERNMENT, INSTITUTION OR COMMUNITY		

NGAU KOK WAN SURFACE LAND

OU (RTRU)

OU (CEMENT PLANT)

OU (BMIU)

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTAL

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

OU (VP)

WOK TAI WAN

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

OU (VENTILATION BUILDING)

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

CHEUNG ON ESTATE

CHEUNG WANG ESTATE

FUNG SHUE WO

OU (PETROL FILLING STATION)

OU (TBA FOR TSING YI VILLAGER)

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

GB, I, O, V, G/IC, R(A), R(A)3, R(B)

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SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

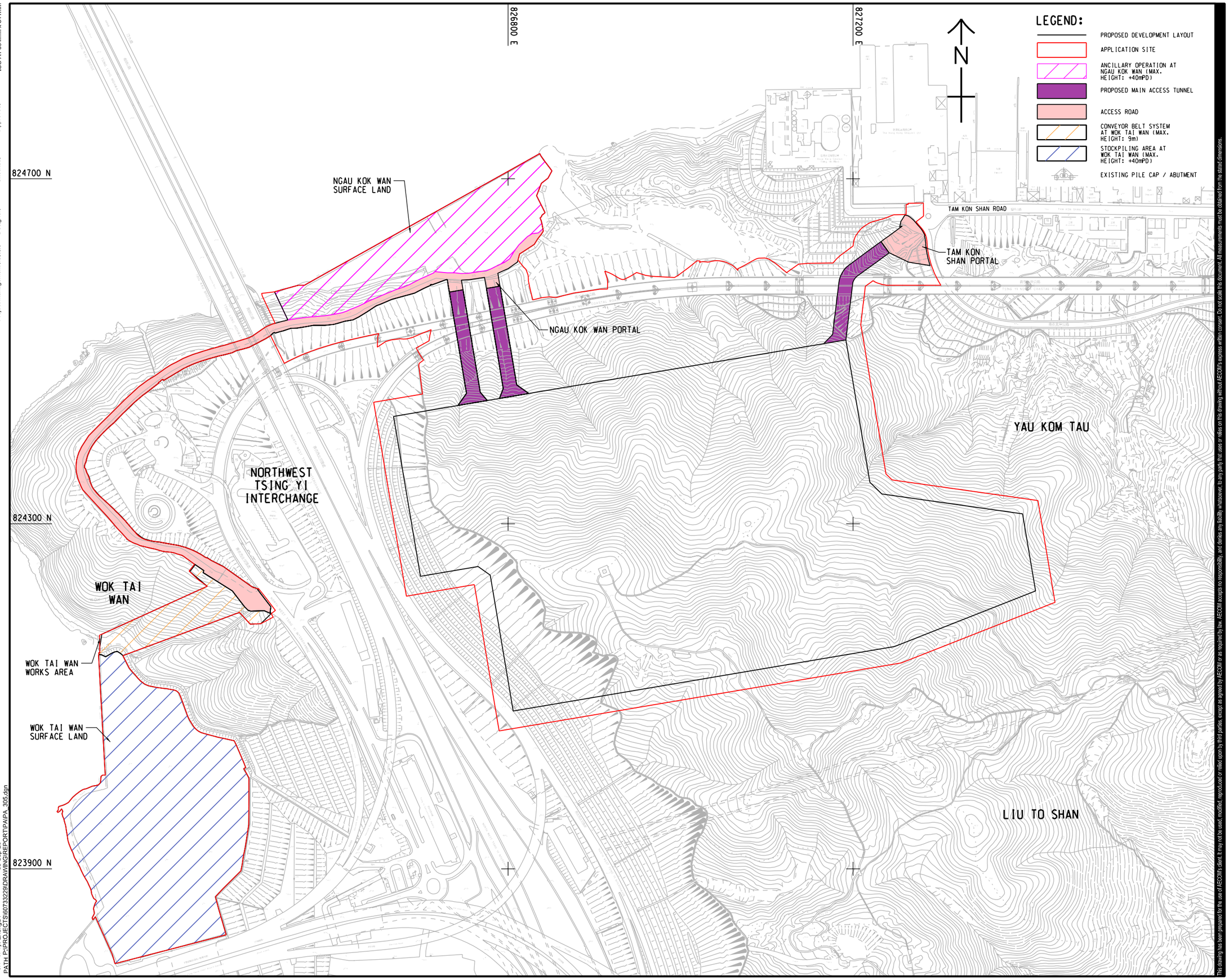
PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LAND USE ZONING PLAN

SHEET NUMBER
圖紙編號

60733229/PA/FIGURE 4.1



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DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
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PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
LAYOUT PLAN

SHEET NUMBER
圖紙編號
60733229/PA/FIGURE 5.1

826600 E

826700 E

824700 N

824600 N

N

LEGEND:

- INDICATIVE AREA FOR CONCRETE BATCHING OPERATIONS
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE AREA FOR ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS
- INDICATIVE STRUCTURE
- INDICATIVE INTERNAL CIRCULATION
- INDICATIVE AREA FOR ROCK PROCESSING OPERATIONS
- INDICATIVE RETAINING STRUCTURE
- PROPOSED MAIN ACCESS TUNNEL
- INDICATIVE CONVEYOR BELT SYSTEM

* THE SCHEMATIC LAYOUT ARRANGEMENTS OF THE ANCILLARY OPERATIONS AT NGAU KOK WAN SURFACE LAND ARE INDICATIVE ONLY, SUBJECT TO THE CONTRACTOR'S DESIGN IN THE CONSTRUCTION / OPERATION PHASES

INDICATIVE ARRANGEMENT OF ROCK CRUSHING COMPLEX (R1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

ROCK PROCESSING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF ASPHALT/CONCRETE PRODUCTION COMPLEX (A1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

RETAINING WALL (APPROX. 10m HIGH)

RETAINING WALL (APPROX. 20m HIGH)

NGAU KOK WAN PORTAL

MAIN ACCESS TUNNEL OF 10m (H) x 16m (W)

TSING YI NORTH COASTAL ROAD

R1 C1 A1 CUL HWM Nullah Road Elevated Road 海堤 Seawall 道路 高架道路 慕地

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主
土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 1000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
INDICATIVE LAYOUT AT NGAU KOK WAN PORTAL

SHEET NUMBER
圖紙編號
60733229/PA/FIGURE 5.2

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

826200 E

826400 E

824200 N

824000 N

WOK TAI WAN

鑊尾灣

WOK TAI WAN

NORTH WEST TSING YI INTERCHANGE

CONVEYOR BELT SYSTEM
(APPROX. 140m (L),
6m (W) AND 9m (H))

WTW SURFACE LAND
FOR STOCKPILING
MAX. HEIGHT +40mPD

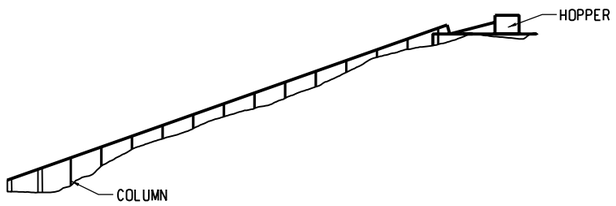
N

NOTE:

1. THE SCHEMATIC LAYOUT ARRANGEMENT OF THE CONVEYOR BELT SYSTEM AT WOK TAI WAN WORKS AREA ARE INDICATIVE ONLY, SUBJECT TO THE CONTRACTOR'S DESIGN IN THE CONSTRUCTION / OPERATION PHASES.

LEGEND:

STOCKPILE



NOT TO SCALE

SCHEMATIC LONGITUDINAL SECTION FOR CONVEYOR BELT SYSTEM IN WOK TAI WAN WORKS AREA

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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SCALE 比例
A3 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

INDICATIVE LAYOUT AT WOK TAI WAN

SHEET NUMBER
圖紙編號

60733229/PA/FIGURE 5.3

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

N

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

NGAU KOK WAN WORKS AREA

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

TAM KON SHAN PORTAL

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

CHEUNG WANG ESTATE

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

KAM CHUK KOK

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL

LANDSCAPE RESOURCES

- HILLSIDE VEGETATION ALONG TSING YI NORTH COASTAL ROAD
- RAMBLER CHANNEL SEA WATERBODY
- COASTAL LANDSCAPE ALONG WOK TAI WAN AND CHEUNG SHUE TAU

LANDSCAPE CHARACTER AREAS

- STRAIT LANDSCAPE
- TRANSPORTATION CORRIDOR LANDSCAPE
- INDUSTRIAL URBAN LANDSCAPE
- UPLAND AND HILLSIDE LANDSCAPE

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
LANDSCAPE RESOURCES & LANDSCAPE CHARACTER AREA PLAN

SHEET NUMBER
圖紙編號
60733229/PA/FIGURE 5.4

ISO A1 594mm x 841mm

Approved:

Checked:

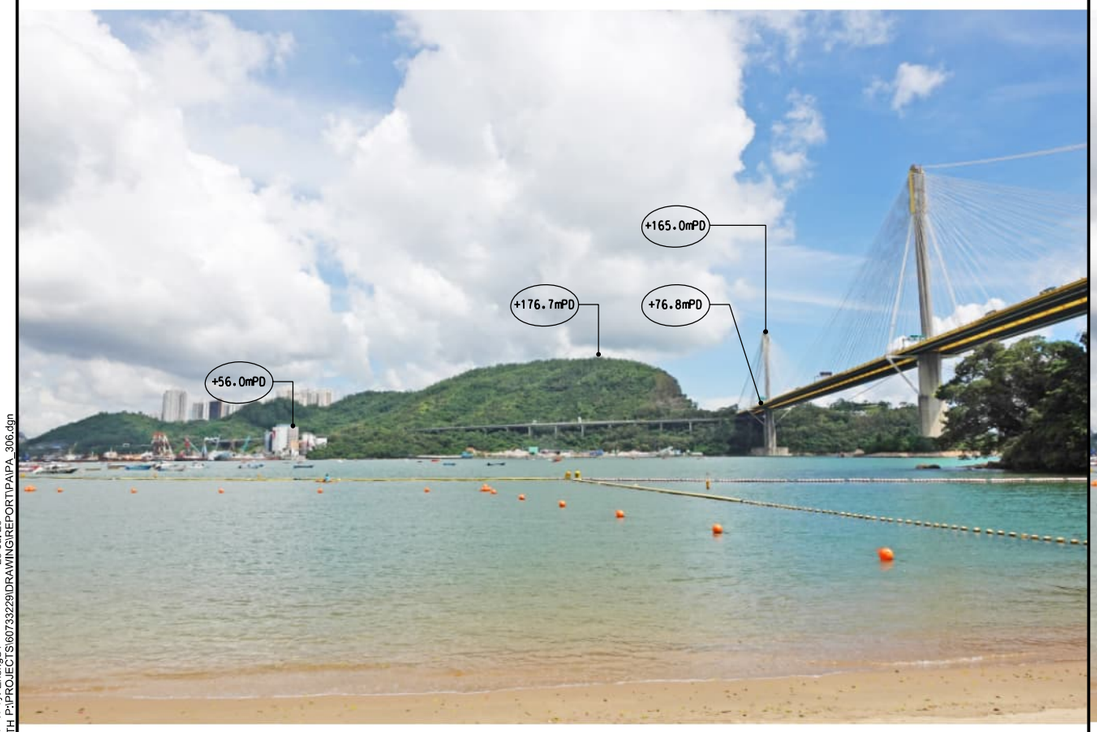
Designer:

Project Management Initials:

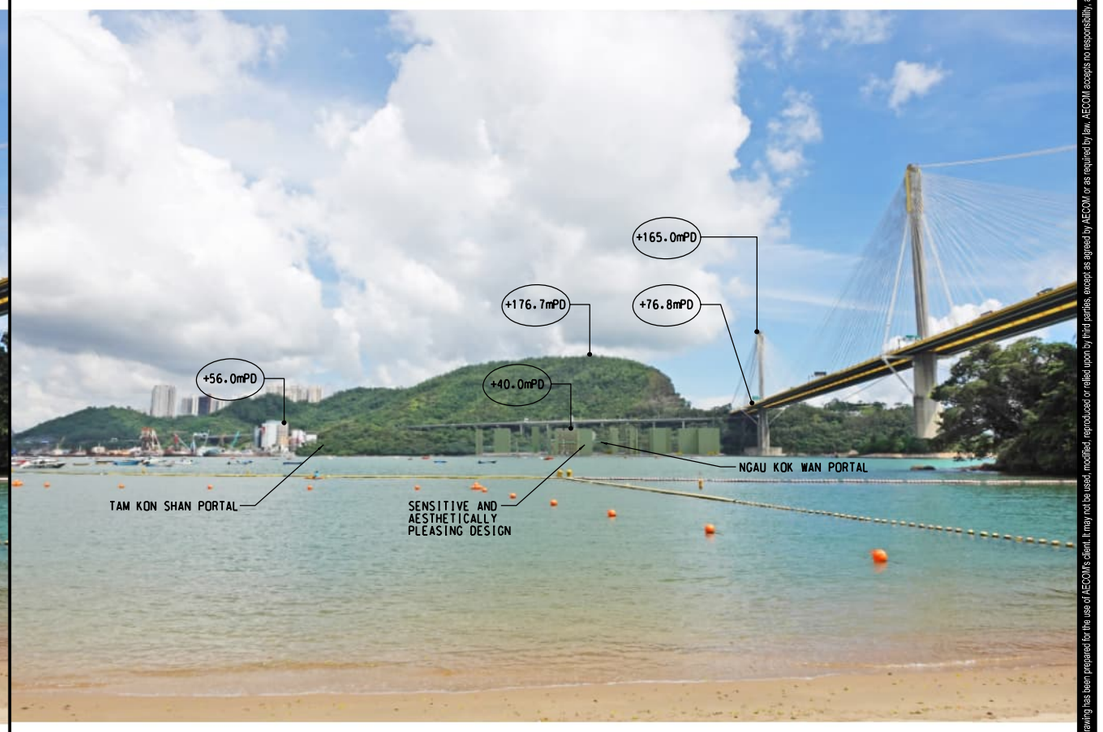
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 1 - BASELINE SCENARIO



VIEWPOINT 1 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

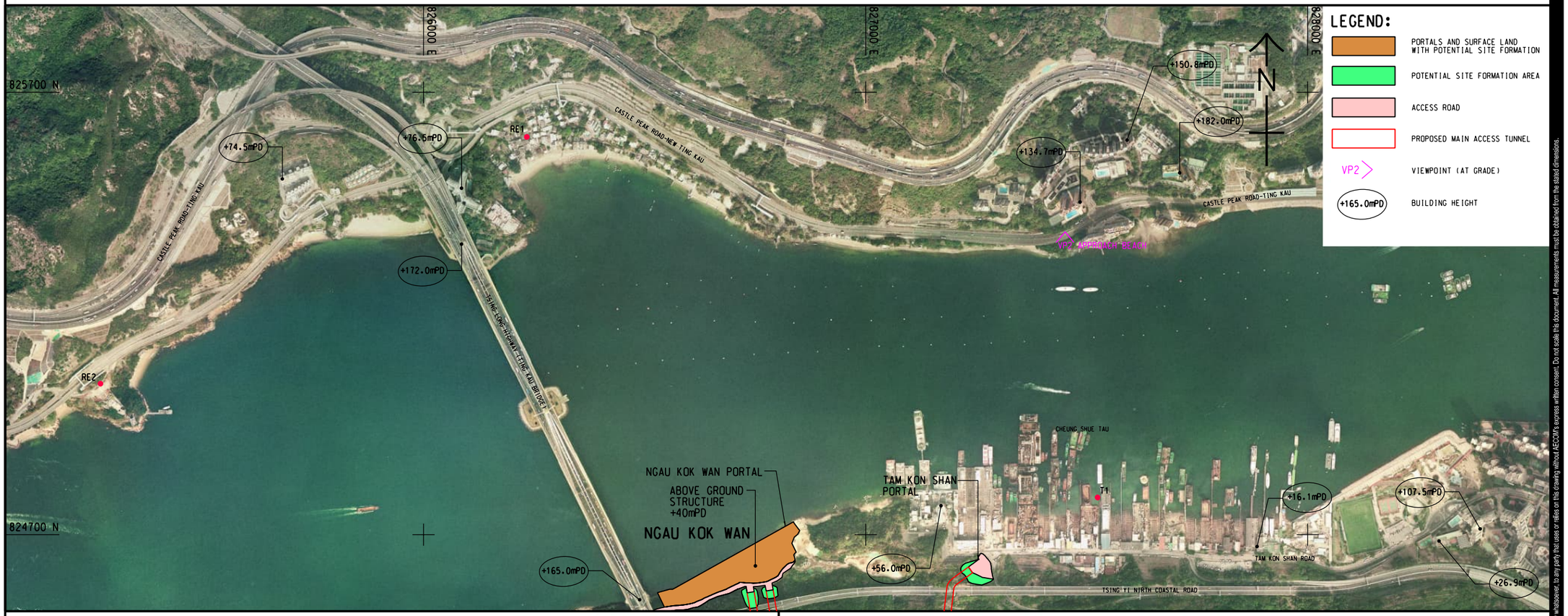
(SHEET 1 OF 4)

SHEET NUMBER
圖紙編號

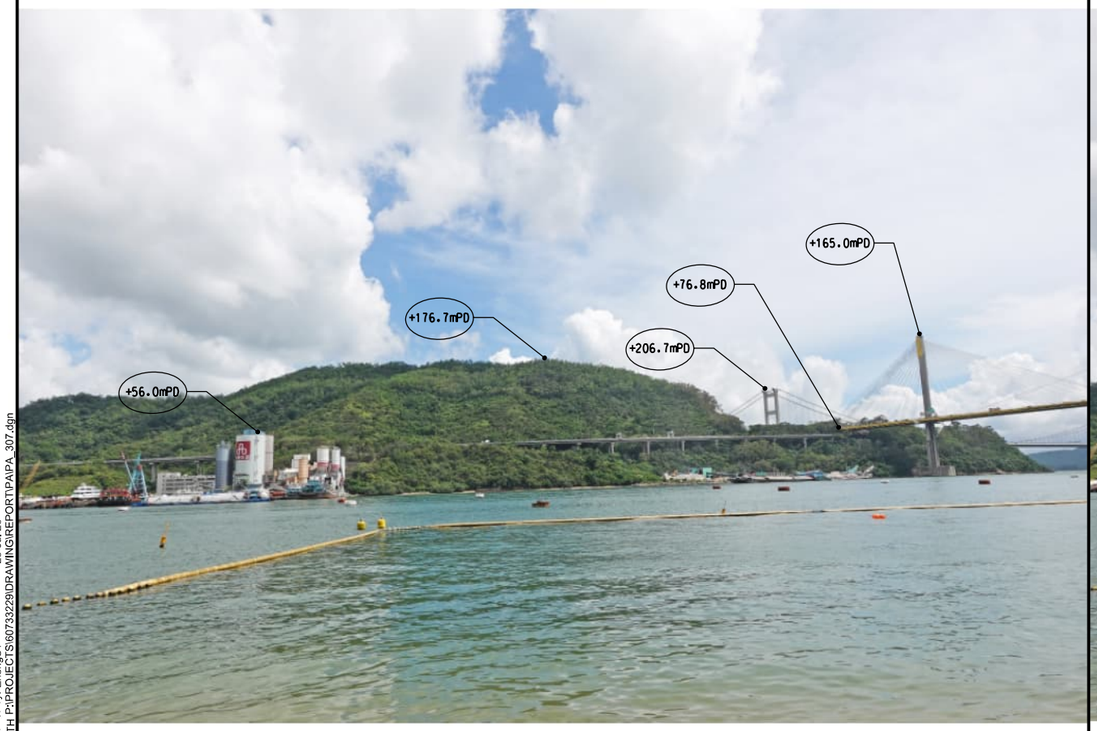
60733229/PA/FIGURE 5.5

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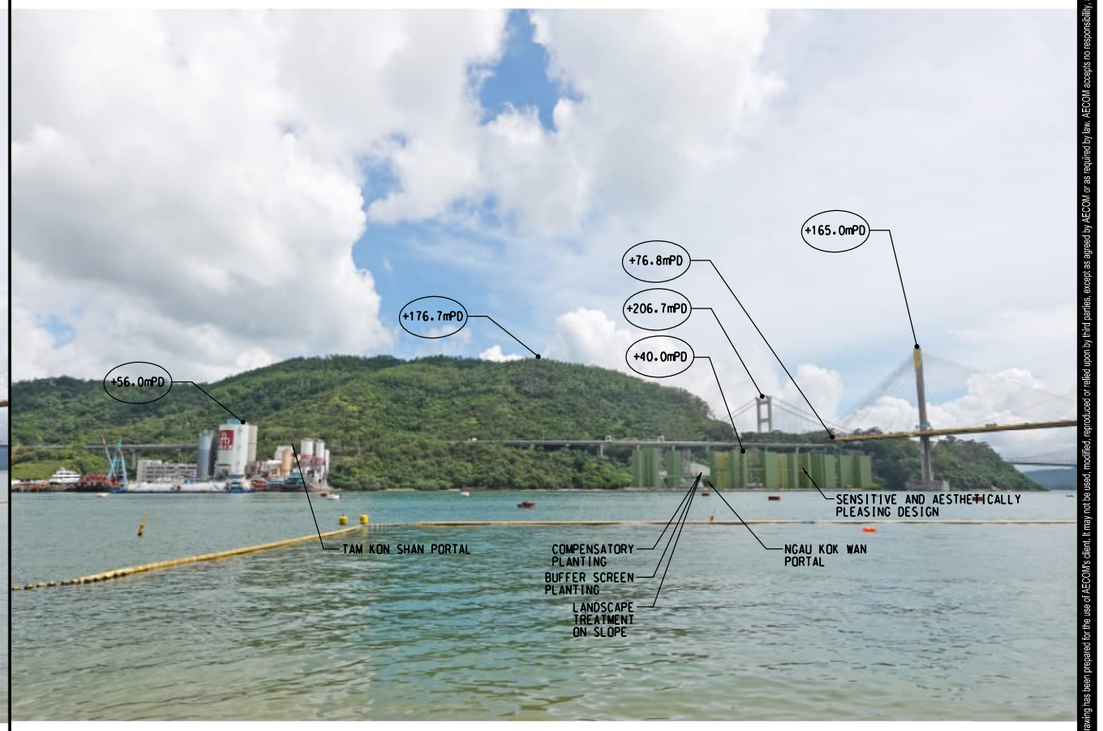
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 2 - BASELINE SCENARIO



VIEWPOINT 2 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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SCALE 比例: A3 1 : 10000
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
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PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 2 OF 4)

SHEET NUMBER
圖紙編號
60733229/PA/FIGURE 5.6

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

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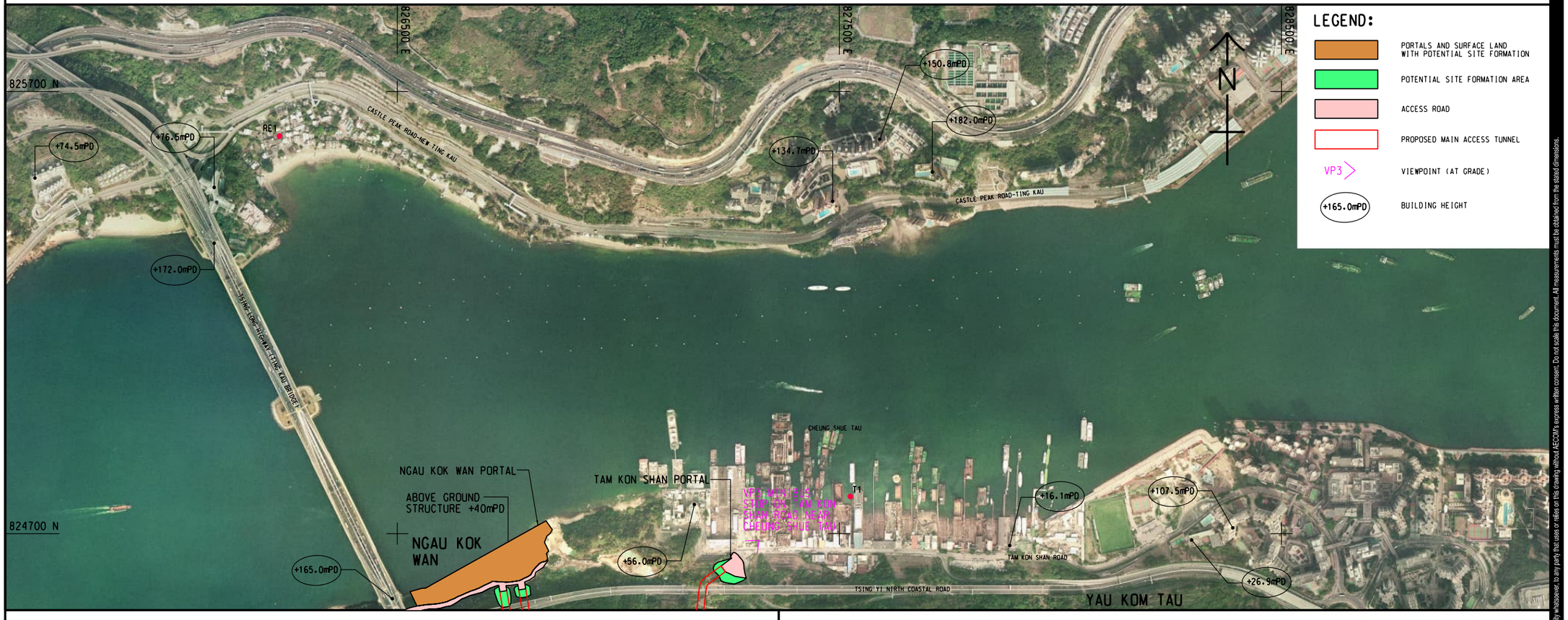
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Project Management Initials:

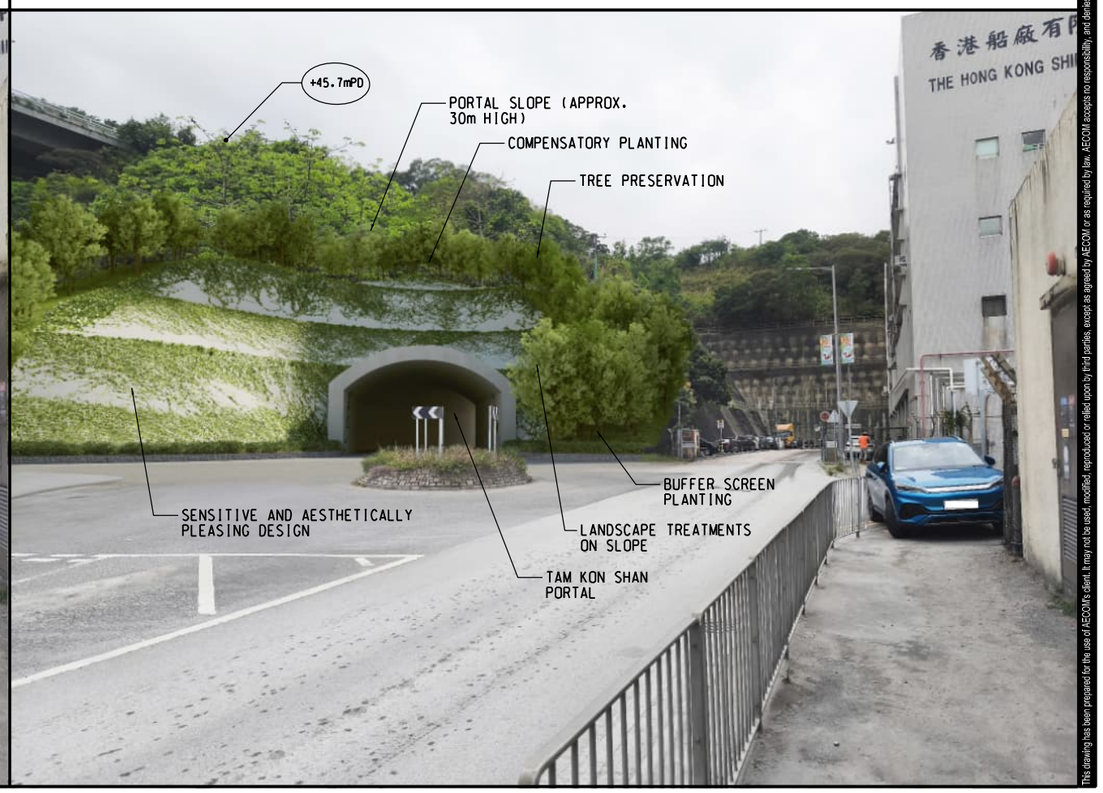
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 3 - BASELINE SCENARIO



VIEWPOINT 3 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 3 OF 4)

SHEET NUMBER
圖紙編號

60733229/PA/FIGURE 5.7

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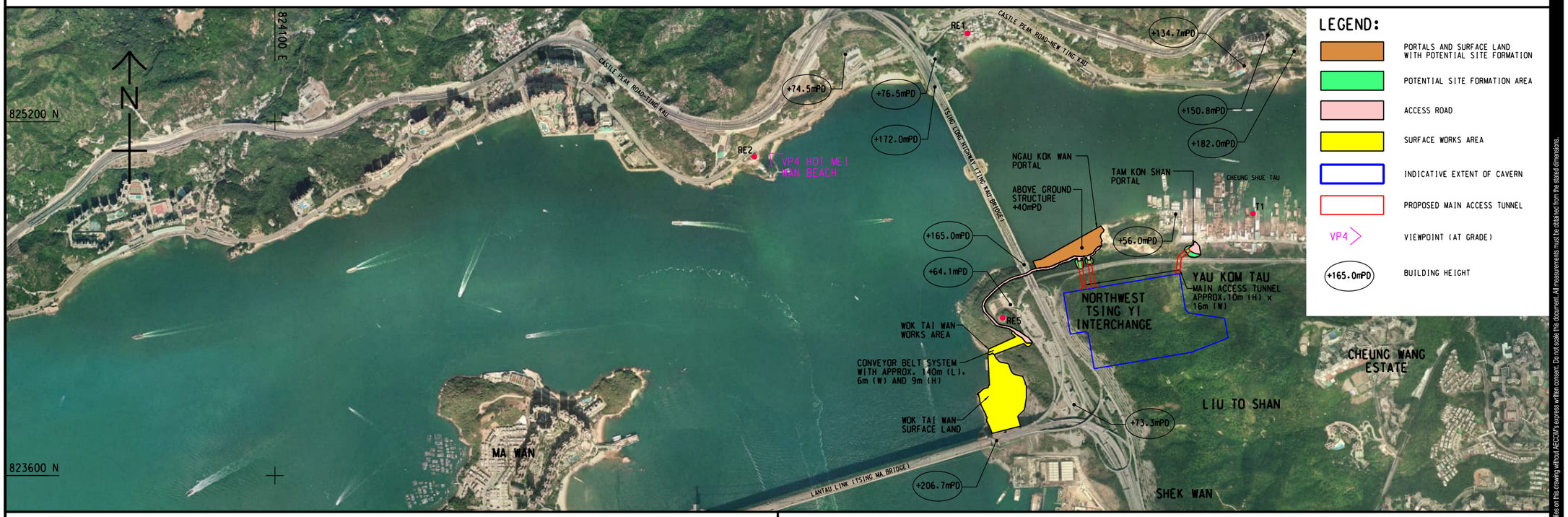
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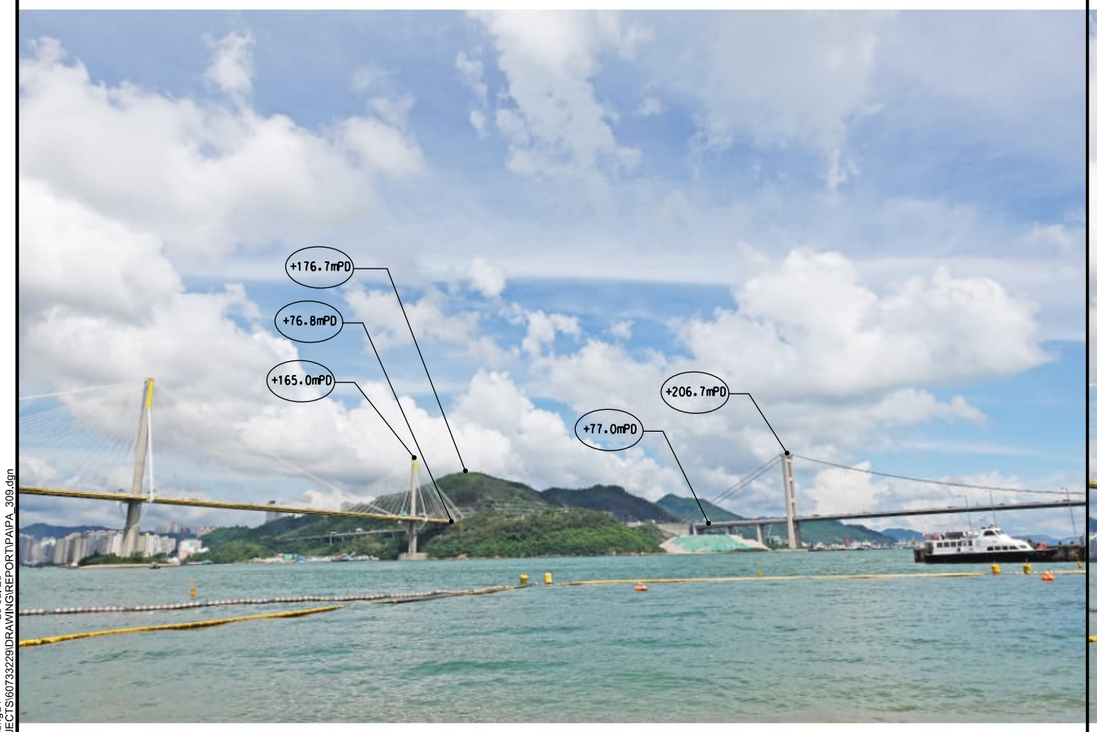
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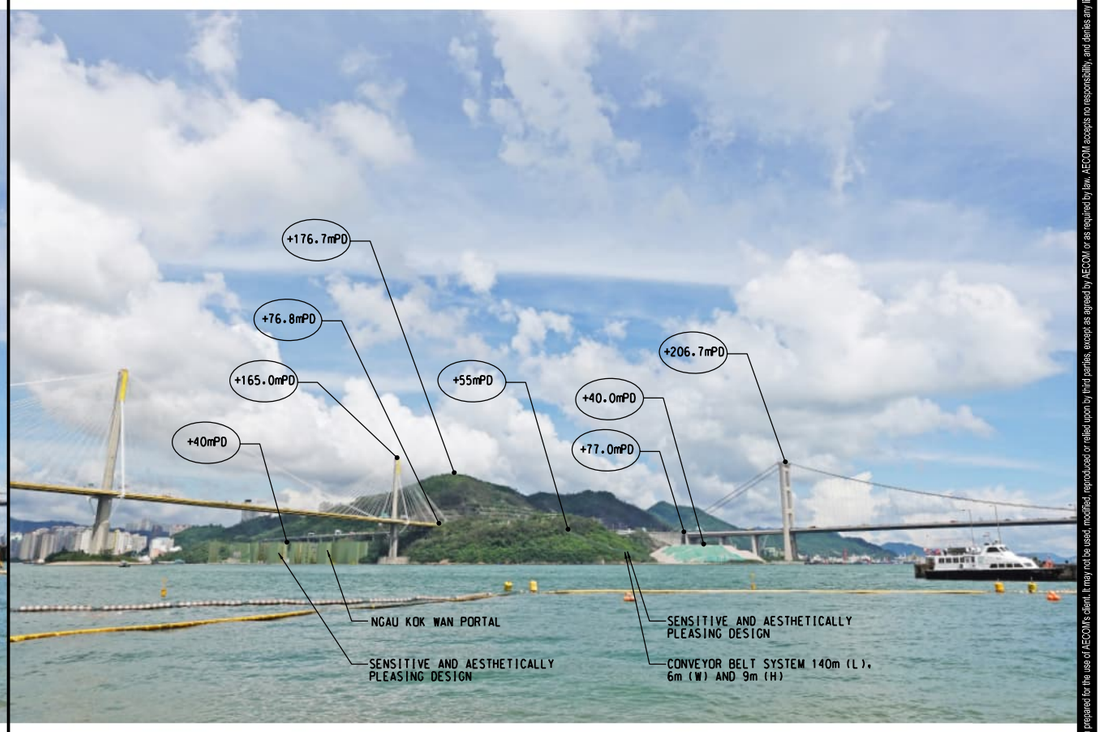
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 4 - BASELINE SCENARIO



VIEWPOINT 4 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

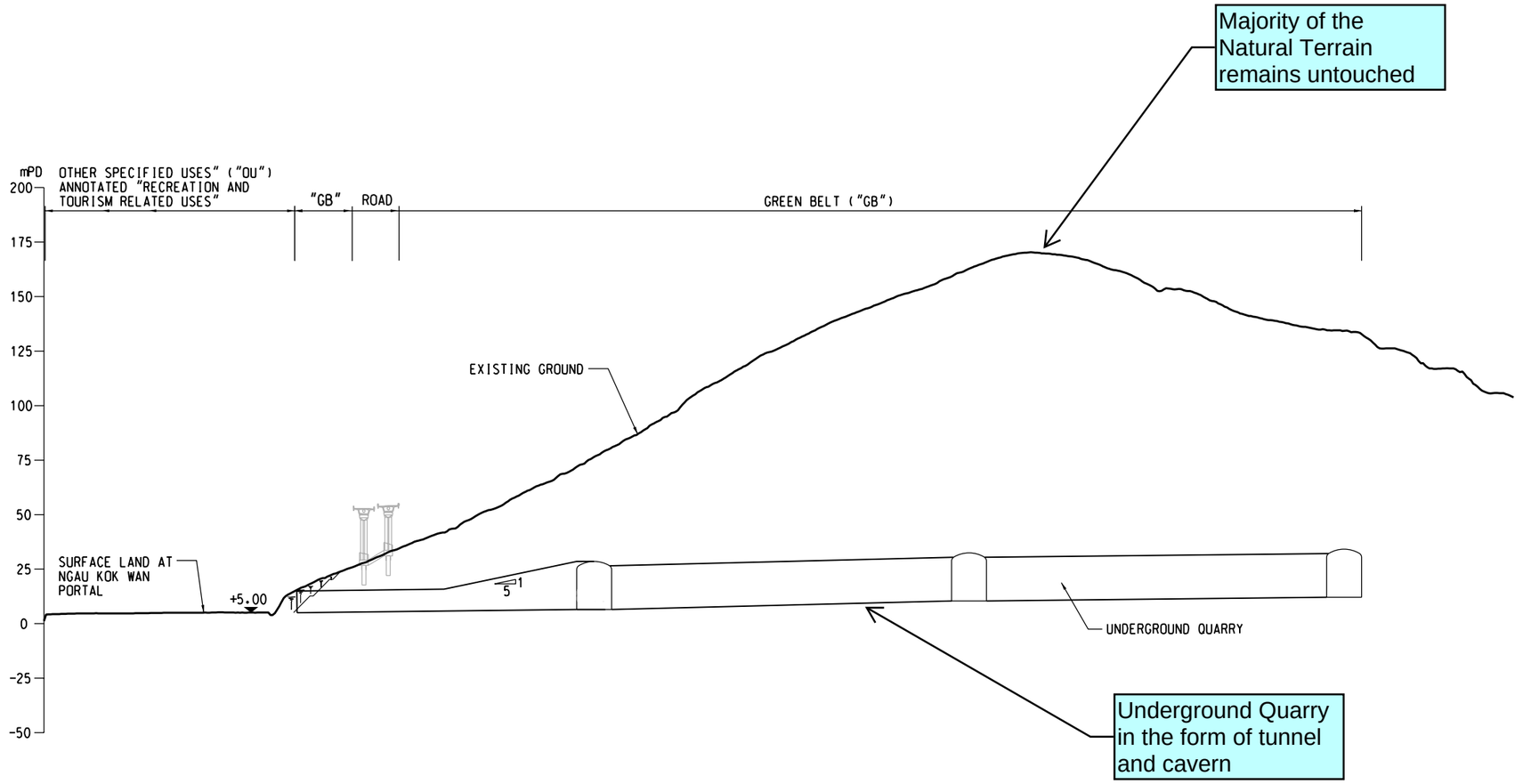
PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 4 OF 4)

SHEET NUMBER
圖紙編號

60733229/PA/FIGURE 5.8

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TYPICAL LONGITUDINAL SECTION

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SCALE 比例: A3 1 : 2500
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
TYPICAL LONGITUDINAL SECTION

SHEET NUMBER
圖紙編號
60733229/PA/Figure 8.1

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

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Appendix A

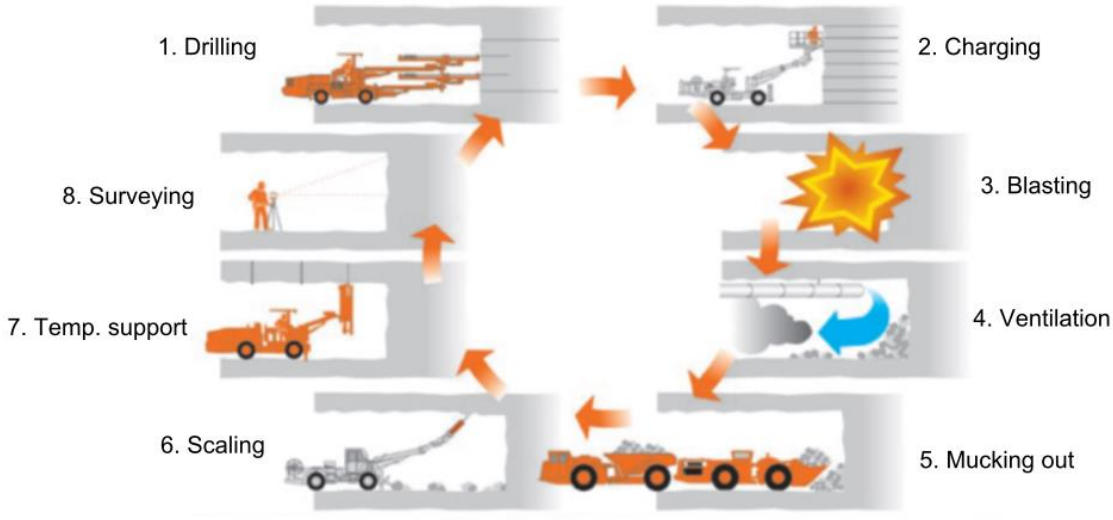
Extract of Geotechnical Assessment Report

8 Preliminary Blasting Assessment

8.1 General

8.1.1 The underground quarry is proposed to be excavated by drill and blast method, which follows a cyclic procedure. Each cycle commences with drilling the blastholes, charging the face with explosives, firing the blast, ventilating the fumes, scaling and mucking out the blasted rock, and installing any necessary temporary support. The cycle is then repeated. The time required to complete one full cycle will be largely dependent on the size of the tunnel/cavern and advance length. The typical blasting cycle is shown in **Plate 8.1**.

Plate 8.1 Typical Blasting Cycle



8.1.2 A project-specific blasting assessment report (BAR) will be submitted as part of the geotechnical submission to the GEO for comments and agreement. The BAR will further identify the constraints affecting the storage, explore transportation and use of explosives and confirm the feasibility of the proposed blasting works in detail.

8.2 Overview of Sensitive Receivers

8.2.1 The blasting influence zone is defined as the area subject to vibration, measured in Peak Particle Velocity (PPV) larger than 5 mm/s. This value corresponds with the vibration limit typically applied to historic buildings, buildings in poor condition, or of unknown design quality. It has therefore been determined that any sensitive receivers subjected to less than 5 mm/s do not require detailed assessment unless the preliminary inspection suggests the feature may be unusually sensitive to blasting vibrations.

8.2.2 The assessment has included a general review of all sensitive receivers within 169.6 m true distance of the blasting area. This is in accordance with 10 kg per delay MIC for the MAT, CT and PC, which gives an initial blasting influence zone with 169.6 m true distance, beyond which the ground vibrations will be less than 5 mm/s. A review of all historic buildings within 300 m of the blast area has also been carried out.

8.2.3 The sensitive receivers identified within the blasting influence zone includes:

- Existing man-made features;
- Existing natural terrain slopes and boulders;
- Newly formed man-made features at tunnel portals;
- CLP - Substation, transformer and underground cables;
- DSD - Water Pipes
- MTR - Tung Chung Line and Airport Express Line railway structures and ventilation building;

- WSD - Salt and fresh water pipes
- HyD - Tsing Yi North Coastal Road Foundation, Northwest Tsing Yi Interchange Foundation, Tsing Sha Highway Foundation, Ting Kau Bridge Foundation, Tsing Yi Administration Building, Storage Building and Garage;
- Hong Kong Shipyard Limited - Existing Building and Structure at TYTL Lot 102;
- Tsing Yi Nature Trails Pavilion;
- Tsing Yi - Lantau Link – Construction site, tunnel, newly formed slopes and permanent structures; and
- Underground cables of i-Cable Communication Limited, TraxComm Limited, SmarTone Mobile Communications Limited, Hong Kong Broadband Network Limited, PCCW – HKT Telephone Limited and Hutchison Global Communications Limited.

8.3 Blasting Risk Analysis

8.3.1 The use of blasting can cause three main environmental effects: ground vibration, air overpressure and flyrock.

Ground Vibration

8.3.2 Ground vibration induced by blasting generally occurs as a cyclic wave motion within the ground. This creates movement of the ground that can be measured as velocity, acceleration or displacement, and these will be related depending on the frequency of the motion.

8.3.3 The magnitude of vibration induced by blasting is generally dependent on the maximum instantaneous explosive charge rate per delay and the distance from the blast. The induced vibration, in terms of peak particle velocity (PPV), is estimated by the following equation:

$$PPV = K\left(\frac{R}{\sqrt{W}}\right)^{-B} \qquad \textbf{Equation (1)}$$

Where

PPV	-	Peak Particle Velocity (mm/s)
K	-	rock transmission constant
R	-	distance between blasting point and measuring point (m)
W	-	maximum charge weight per delay (kg)
B	-	attenuation exponent

8.3.4 Studies carried out by Mines Division of the CEDD (Li and Ng, 1992), have identified typical values for the constants K and B. The constants at the 84 % confidence level for blasting induced ground vibrations recommended by Li and Ng are:

K = 644 B = 1.22

8.3.5 The allowable charge weight per delay is calculated considering the allowable PPVs of the various sensitive receivers within the blasting zone of influence. The controlling charge weight per delay is the allowable charge weight due to limitations from all controlling sensitive receivers and is called the maximum instantaneous charge (MIC).

8.3.6 According to preliminary blasting impact assessment under the Pilot Study, underground quarry blasting operations at the maximum MIC of 10kg/ delay are generally feasible in TYNUQ. Reduction in the maximum MIC may be required near the portal areas or near sensitive receivers for blasting works, subject to detailed assessment. The preliminary blasting influence zone is presented in **Figure 9.1**.

Air Overpressure

8.3.7 Air overpressure is a product of all blasting operations, and is the term used to describe the dynamic atmospheric pressure fluctuations created in the air due to blasting. This term is used in preference to "noise" since it also includes frequencies of disturbance which are inaudible. For higher frequencies above 20Hz, this will be audible as noise, but below 20Hz is typically inaudible to humans.

8.3.8 The level of air overpressure depends on the charge weight and distance from the blast source.

$$P = K(d/\sqrt[3]{W})^a$$ **Equation (2)**

Where P - Pressure (kPa)
d - Distance between blasting point and measuring point (m)
w - Explosives charge weight per delay (kg)
K - Site constant
a - Site exponent

8.3.9 With reference to the GEO Report No. 232, GEO suggested that a site exponent of -1.2 and a site constant of 3.17 would be applied to a fully confined charge. The modified equation is listed as follow:

$$dBL = 164 - 24 \log d/(\sqrt[3]{w})$$ **Equation (3)**

Where d - distance between blasting point and measuring point (m)
w - maximum charge weight per delay (kg)

8.3.10 These constants have been used in many recent similar blasting projects in the initial blasting assessment. They may be modified during operation phase to obtain more accurate site-specific ground condition to then optimize the blasting design.

8.4 Protective and Mitigation Measures

8.4.1 Several examples of protective and mitigation measures are listed as follows. It will be further reviewed and confirmed in the blasting method statement.

Air Overpressure

8.4.2 The pressure wave generated by explosion propagates through air as an airborne vibration in the form of concussion or air overpressure. Blast doors with sound proofing shall be provided at each tunnel portal as a noise mitigation measure. The details of the blast doors will be presented in the contractor's Blasting Method Statement. Air overpressure can also be reduced by stemming blast holes with cartridges of stemming materials.

Flyrock

8.4.3 Flyrock is the uncontrolled throwing of rock through the air as a result of blasting. This can be very hazardous for surface blasting, but for underground blasting the tunnel walls provide natural protection. Provision of steel blast doors at any tunnel portal will effectively confine any possible flyrock within the blast area. By evacuating underground works in the vicinity of the blast, all potential risk from flyrock for underground blasting can be effectively managed. As the MAT is advanced and blasting moves further from the portal, it may be possible to relocate the blast doors to a position inside the MAT or even CT.

8.4.4 A no-blasting zone adjacent to any blast doors has been adopted and the length of the no-blasting zone shall be subjected to the appropriate assessment.

Dust

8.4.5 General dust control measures are identical to site formation works by other excavation methods – wetting down of roads, covering offloads and maintenance of vegetative cover where possible. Due to the blasting being carried out within a tunnel environment, dust can be effectively controlled with the use of adequate ventilation systems which include dust filters. To control the dust generated from the shot itself, the blasthole stemming should consist of appropriate granular material and not the fine drill chips from the drilling of the holes. A fine mist of water will be sprayed after blasting to settle dust and fumes and the blasted rock will also be sprayed with water prior mucking.

Fumes

8.4.6 Blasting creates various noxious gases as part of the chemical reactions which take place, including carbon monoxide and the various oxides of nitrogen. Adequate ventilation of the working area would be provided before workmen re-enter after blasting. A procedure for checking that the air is respirable by the use of a gas detector shall be proposed in the contractor's Blasting Method Statement. Watering down of the muckpile will also mitigate the effect of blast fumes.

8.5 Instrumentation and Monitoring

8.5.1 In order to eliminate any uncertainties and to justify suitability and validity of the parameters adopted in estimating blasting-induced vibrations, blast monitoring will be carried out.

8.5.2 A vibrograph (velocity seismograph) is normally proposed for each vibration monitoring station to measure and record PPVs and amplitudes of ground motion in three mutually perpendicular directions. The purpose of vibration monitoring is to validate the design assumptions, and to ensure that the permitted PPVs are not exceeded. Vibration monitoring should be conducted throughout the influence zone as required and not necessarily limited to the critical or particularly sensitive receivers. In general, for each blast, a minimum of six sensor locations (including the three highest ranked controlling sensitive receivers for that blast, with the locations of the other three monitoring points to be agreed with the Supervising Officer's Representative) shall be carried out for each blast.

8.5.3 Air overpressure monitoring will be carried out at locations around the perimeter of the site close to the portal, in order to ensure that air overpressure does not exceed the limits as specified by Mines Division. In addition, air overpressure experienced by the sensitive receivers adjacent to the blasting sites should also be monitored.

8.5.4 Monitoring will be required for every blast carried out. The monitoring plans shall be agreed with Mines Division. Alert, Action and Alarm (AAA) levels should be assigned to all monitoring locations.

8.5.5 For ground vibration, levels will be related to a proportion of the actual limit for the sensor location as tabulated in **Table 8.1.**

Table 8.1 Alert, Action and Alarm (AAA) Levels for Ground Vibration

Control Level	Vibration Level	Procedures/Requirements
Alert	90% of the specified limit	- Inform the Supervising Officer's Representative, Blasting Engineer, BCS of occurrence. - Review monitoring data and recording equipment for accuracy. - Check secure placement of transducers. - Review blast pattern and parameters. - Inspect sensitive receivers affected. - Prepare action plan. - Continue blasting.
Action	95% of the specified limit	- Inform the Supervising Officer's Representative, Blasting Engineer, BCS, GEO Mines Division immediately. - Review / modify blast pattern and blast parameters - Review and implement action plan if necessary.

Control Level	Vibration Level	Procedures/Requirements
		- Detailed inspection of all affected sensitive receivers. - Plan and prepare remedial works if necessary. - Seek approval from the Supervising Officer's Representative to resume blasting.
Alarm	100% of the specified limit	- Blasting work shall cease. - Inform the RSS, the Engineer and Mines Division. - Detailed investigation of the cause of the occurrence. - Detailed Inspection of affected sensitive receivers. - Geological inspection of blast area to determine if there was unexpected influence due to geological conditions. - Implement remedial works if required. - Modify blast design and vibration assessment parameters to reduce PPV. - Blasting to continue only after approval from the Engineer and Mines Division.

For air overpressure, the AAA levels are tabulated in **Table 8.2.**

Table 8.2 - Alert, Action and Alarm (AAA) Levels for Air Overpressure

Control Level	Air Overpressure Level	Procedures/Requirements
Alert	118dBL	- Inform the Supervising Officer's Representative, Blasting Engineer, BCS of the occurrence. - Review monitoring data and recording equipment for accuracy. - Check placement of microphone. - Check microphone is wind shielded. - Measure background wind dBL level. - Continue blasting.
Action	119 dBL	- Report occurrence to the Supervising Officer's Representative, Blasting Engineer, BCS and GEO Mines Division immediately - Carry out all alert actions. - Review / modify blast pattern and blast direction. - Prepare action plan. - Resume blasting.
Alarm	120dBL	- Blasting work shall cease. - Inform the RSS, the Engineer and Mines Division. - Geological inspection of blast area to determine if there was unexpected influence due to geological conditions. - Stop blasting if public complaints are received. - Implement Action Plan if required. - Modify blast design and direction. - Prepare plan of trial blasting for approval to resume blasting, if required.

8.6 Arrangement for Explosives Delivery

8.6.1 Excavation by drill and blast requires delivery of explosives that are classified as Schedule 1 Dangerous Goods. Explosives are currently anticipated to be delivered to TYNUQ by GEO Mines Division, with one daytime delivery each day, except for Sundays, public holidays, whenever typhoon Signal No. 3 or higher is hoisted and whenever the Red or Black Rainstorm is in force.

8.6.2 All explosives will be taken to the blast face and loaded into the blastholes immediately after arriving on site. Any unused explosives shall be destroyed immediately upon the completion of blasting. It shall be destroyed in a proper place and a safe manner recommended by the manufacturer of the explosive product. The details shall be provided in the contractor's Blasting Method Statement. No on-site storage shall be allowed.

8.6.3 As blasting is anticipated to be once per day, no explosive magazine is necessary. The explosives will be transported overland by the government vehicle normally once a day, subjected to the available resources, arriving on site between 12.00 pm and 3.00 pm, allowing for a blast time in the afternoon. The exact arrangement will require further liaison between GEO Mines Division and the contractor.

8.7 Site Evacuation and Clearance Requirements

8.7.1 It is envisaged that all personnel would be evacuated from the underground quarry, prior to firing the blast.

8.7.2 The typical evacuation procedures for tunnel blasting are listed below:

- Initially, all workers within the Main Access Tunnel, Connection Tunnel and Production Cavern shall be evacuated prior to firing the blast.
- Before the initiation of a tunnel blast, affected underground and portal site personnel will be relocated to a designated safe location. The exact designated safe location will be indicated in the contractor's Blasting Method Statement.
- After each blast, the Shotfirer(s) shall check the blast faces and confirm the blasts are successful. Ventilation shall be carried out until air monitoring indicates that the blast fumes have been cleared and it is safe to re-enter the Main Access Tunnel, Connection Tunnel and Production Cavern. Personnel may then be allowed to enter the evacuated portion of the Main Access Tunnel, Connection Tunnel and Production Cavern.
- As the Main Access Tunnel, Connection Tunnel and Production Cavern are advanced, and if a suitable blast screen / shelter is installed within the Main Access Tunnel, Connection Tunnel and Production Cavern, personnel may remain within the protected portion of the Main Access Tunnel, Connection Tunnel and Production Cavern during blasting, subject to approval by Mines Division and the Blasting Competent Supervisor (BCS).

8.8 Impacts on Tsing Yi Coastal Road Structures

8.8.1 The allowable PPV of the Tsing Ma Control Area is set as 25mm/s, and this has been agreed with the Highways Department in April 2025.

8.8.2 During the operation phase of the underground quarry, careful blast design by controlling the maximum instantaneous chargeweight (MIC) will be implemented. Necessary monitoring for every blast, as described in **Section 8.5**, will be planned for all nearby sensitive receivers to ensure the actual vibration does not exceed the allowable vibration limit. By implementing these measures, the structural integrity of the highway structures is not anticipated to be adversely affected by the blasting works.

9 Review on the Existing Man-made Slopes

9.1 General

9.1.1 Preliminary stability assessment shall be carried out for all existing and new man-made slopes and retaining walls which may affect or be affected by the proposed development in accordance with ETWB TC(W) Nos. 29/2002.

9.1.2 If there are any newly proposed water-carrying services close to the man-made slopes, measures to prevent water leakage with reference to "Code of Practice on Monitoring and Maintenance of Water-carrying Services Affecting Slopes" shall be considered and provided, where necessary.

9.2 Existing Registered Man-Made Slopes and Retaining Walls

9.2.1 A total of 57 existing registered man-made features, including 34 cut slopes, 1 cut slope with retaining structures, 15 fill slopes and 7 retaining walls were registered within or in the vicinity of the TYNUQ as presented in **Figure 9.1**. All registered man-made features that may affect or be affected by the TYNUQ have been classified by considering either the debris travel distance and angle in accordance with GEO TGN No. 15, or their location within the blasting influence zone. The existing slope features can be classified into the following three types:

Feature to be removed or modified

9.2.2 Seven features will be modified or removed by the proposed works and the feature boundary will be updated in the Slope Information System upon completion of works.

9.2.3 The existing features no. 6SE-D/C 544, 6SE-D/C 554, 6SE-D/F252 and 6SE-D/F253 will be modified by the proposed site formation works at the Tam Kon Shan Portal and Ngau Kok Wan Portal. For the remaining parts of these features, further assessment on the features will be conducted and submitted separately, if necessary, with due consideration of the extent of Tam Kon Shan Portal and Ngau Kok Wan Portal formation works. Upgrading works may be required to ensure that the features are up to current geotechnical standard.

9.2.4 The existing features no. 6SE-D/C 485, 6SE-D/C 192 and 6SE-D/F88 will be removed by the proposed site formation works at Tam Kon Shan Portal, Ngau Kok Wan Portal and surface land.

Feature to be further assessed

9.2.5 There are 48 existing features located inside the blasting influence zone or where the proposed development falls within the crest/toe influence zone of the feature in the event of failure. The existing features would affect or be affected by the surface development and underground blasting.

9.2.6 According to memo ref. GCMW 2/E1/6SE-D/C552 issued by the Mainland West Division, GEO to LandsD, on 22 June 2010, unauthorized slope cutting was reported at Sub-division No. 3 of slope no. 6SE-D/C552. The principal cut was approximately 20 m in length and 5 m in height with a depth of 1 m. An additional cut was identified immediately east of this location, extending about 20 m in length and up to 1.5 m in height. Given the presence of these unauthorized works, particular attention will need to be paid to slope stability and potential impacts during the detailed design and construction phases.

Feature not affecting or being affected

9.2.7 The existing features nos. 6SE-D/C 188 and 6SE-D/F 87 are located outside the blasting influence zone. In addition, the access road lies beyond both the anticipated travel distance of potential landslide debris and the expected crest influence zone in the event of failure. Therefore, this feature will neither affect nor be affected by TYNUQ.

Summary

9.2.8 The screening result of these features are summarized in the following table. Detailed assessment is provided in **Table D1** of **Appendix D** and the location of these features are shown in **Figure 9.1**.

Table 9.1 – Summary of Action on Existing Features

Action on Existing Feature	Number of Feature
Feature to be removed or modified	7
Feature to be further assessed	48
Feature not affecting or being affected	2

9.3 Existing Unregistered Man-Made Slopes

9.3.1 There are five unregistered slopes located within the blasting influence zone. The locations of these unregistered man-made slopes are shown in **Figure 9.1**. The existing features U1, U3 and U5 would affect or be affected by surface development or underground blasting. The slopes U2 and U4 will be modified by the proposed site formation works at the Ngau Kok Wan Portal and Tam Kon Shan Portal respectively. The screening result of these features is summarized in **Table D2** of **Appendix D**.

10 Preliminary Natural Terrain Hazard Assessment

10.1 Approach to Natural Terrain Hazard Study (NTHS)

10.1.1 Design Event Approach (DEA) has been adopted in accordance with GEO Report No. 138 (2nd Edition) (GEO, 2016) for the natural terrain hazard assessment under this study. According to the guidelines, the design requirements for the hillside catchments are based on a 'Design Event', which is a sufficiently conservative estimate of the credible failure volume at a notional return period of 100 years. As there are no recent landslides recorded and observed within the natural terrain hillside catchments, the credible failure volume is estimated based on the verified relict landslides that occurred within the study catchments or in the relevant vicinity.

10.1.2 Within hillside catchments, three relict landslides, i.e. RL1, RL2, and RL3 (**Figure 10.1**), have been verified with estimated source volumes ranging from approximately 23.6m^3 to 71.4m^3, which all belong to Class B1 ENTLI. RL1 has the largest estimated source volume of 71.4 m^3 with an estimated 1.5 m depth within catchment TY-NT1.

10.1.3 According to GEO Report No. 138 (2nd Edition) Section 4.7.4 "Concurrent occurrence of failures at different landslide source locations should be considered, where there is evidence of such occurrence in the catchment in past rainstorm(s) within the aerial photograph record or based on obvious field evidence". Based on aerial photograph interpretation and field mapping, there is no evidence for the occurrence of concurrent failures.

10.1.4 Hence, using the largest past landslide volume with a moderate degree of certainty in the validated database as the design event source volume would be sufficiently conservative. A design source volume of 72 m^3 is, thus, adopted.

10.1.5 A sensitivity analysis is carried out to evaluate the influence of key input parameters. The depth of the design source volume has been assumed as 2 m, and the largest design source volume is calculated to be 95.2 m^3, which is rounded up to 100 m^3 for assessment.

10.2 Open Hillslope Landslide (OHL)

10.2.1 For the OH catchment TY-NT1, a minor relict landslide has been verified and no failure occurred during the 1-in-500 historic rainstorm event in September 2023. It indicates that the catchment may not be active, but the possibility of relict landslide reactivation cannot be ruled out. Therefore, the landslide susceptibility of this terrain unit is considered to be moderate.

10.2.2 Based on the gradient distribution map in **Figure 3.2**, most of the hillside catchment is inclined at 25 to 35° and locally over 40°. The verified ENTLI feature is located at terrain above 40°, therefore, the steep terrain of the catchment may pose a higher chance to initiate open hillside failure.

10.3 Channelised Debris Flow (CDF)

10.3.1 Catchments TY-NT2, TY-NT4, and TY-NT4a are considered CD catchments, where open hillslope failures initiated from the catchments would run into the distinct drainage lines DL2, DL4, DL4a, and DL5 (**Figure 10.1**), and discharge at the mouth of the incised drainage lines. These three catchments contain continuous and well-developed drainage lines with two minor relict landslide features RL2 and RL3 verified at the flanks of the drainage lines, but no failure occurred during the 1-in-500 historic rainstorm event in September 2023. It indicates that the hillside catchment may be susceptible to failure and generation of CDF hazards if relict landslide reactivation occurs at the flanks of drainage lines as an active erosion front. The sharp convex break-in-slope at the flanks of the drainage lines is considered to act as a potential active erosion front, where failure is likely to occur and become channelised.

10.4 Debris Flow (DF)

10.4.1 Catchment TY-NT3 consists of obvious depressions at the toe and is considered a TD catchment, where open hillslope failures initiated from this catchment would run into the drainage lines and converge at the mouth of the drainage lines DL3, DL3a and DL3b. No landslide features are identified and verified within the catchment. Given the similarity of the terrain unit TU3 as in catchments TY-NT2 and TY-NT4, the sharp convex break-in-slope at the flanks of drainage lines may be an active erosion front if relict landslide reactivation occurs. Any failure from the catchment is likely to become confined in the TD catchment.

10.5 Rock Fall/ Boulder Fall

10.5.1 Based on the desk study, no records of rock fall or boulder fall incidents are found. Rock outcrops are mainly observed along the drainage lines. No extensive rock outcrop/ cliff is located within the catchments. Therefore, the potential for initiation of rock fall is considered to be low.

10.5.2 Boulders observed from detailed API and field mapping are mostly embedded in the ground or deposited at valley floors with no signs of distress or hazardous movement. It is confirmed that no immediate and obvious signs of danger near the natural terrain hillslope toe. Therefore, the hillside catchments is considered to have low susceptibility for boulder fall hazard.

10.5.3 Thus, in accordance with GEO Report No. 138 (2nd Edition) (Ho and Roberts, 2016), no preventive action is required and no detailed systematic evaluation of boulder instability is undertaken.

10.6 Deep-seated Failure

10.6.1 Evidence for deep-seated failure, such as tension cracking and bulging of the hillside, is not identified in detailed API or during the field mapping. The hillside catchments also do not contain prominent topographic depression which may indicate previous deep-seated failure. Therefore, the susceptibility for deep-seated failure occurring within the hillside catchments is considered to be low.

10.7 Run-out Analysis

10.7.1 DAN-W (Release 10) has been used to predict the extent of debris runout and mitigation design parameters for potential CDF, DF and OHL hazards.

10.7.2 The debris parameters used in the analysis are based on the recommendation in GEO Technical Guidance Note No. 29 (TGN 29) (GEO, 2011) and GEO Technical Guidance Note No. 38 (TGN 38) (GEO, 2013). The parameters adopted are listed below:

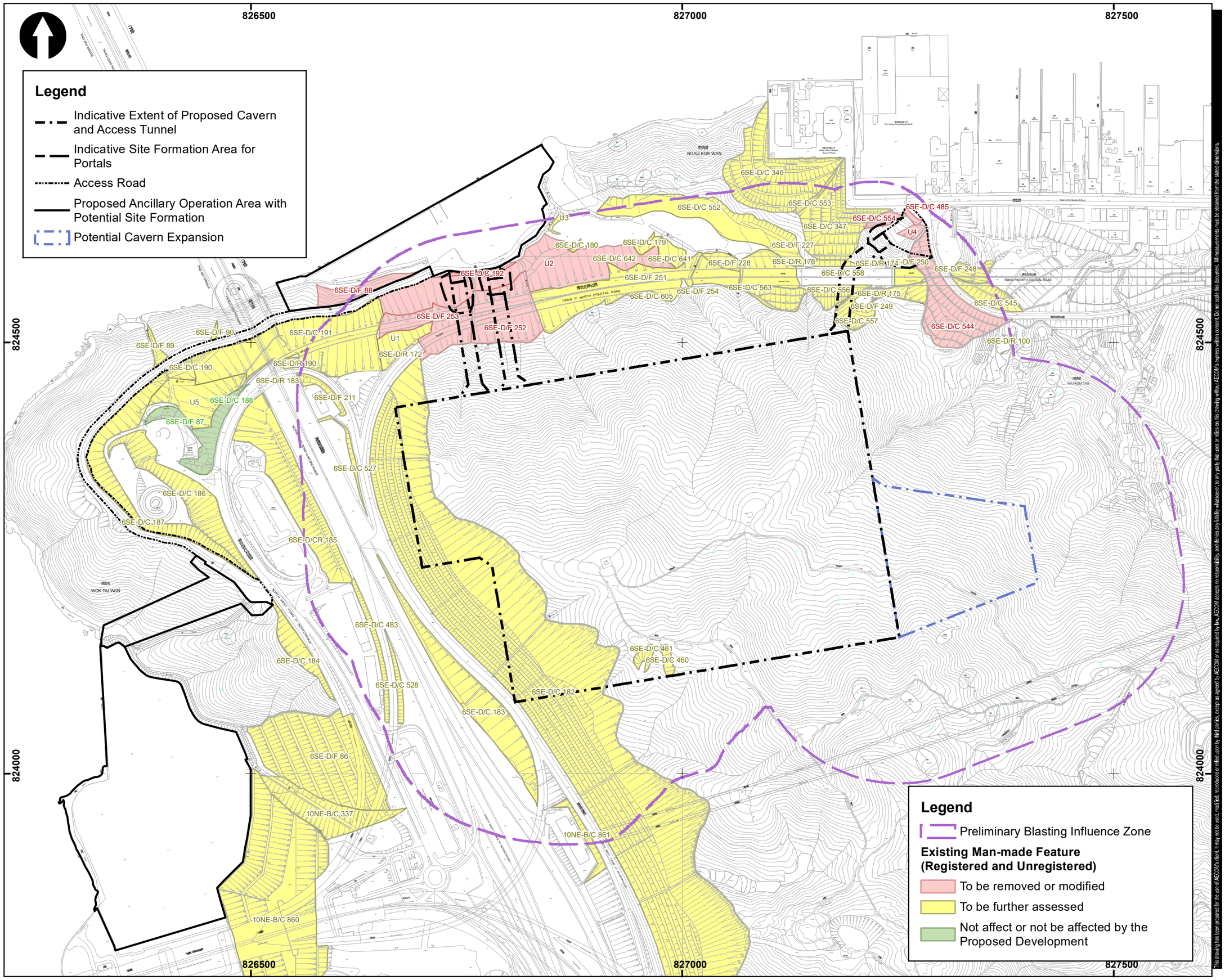
Hazard Type	Debris Flow Path	Rheological Model	Apparent friction (Φ_a)	Turbulence coefficient (ξ)
CDF	FP2, FP4, FP5	Voellmy	11°	500 m/s^2
DF	FP3	Voellmy	18°	1000 m/s^2
OHL	FP1	Frictional	25°	-

10.7.3 Five debris flow paths (FP1 to FP5) have been assessed for the run-out analysis. These flow paths and assessment results are shown in **Figure 10.1**.

10.8 Hazard Mitigation Approach

10.8.1 As a preliminary design, a passive mitigation strategy will be proposed as a conceptual mitigation measure. A 10 m buffer zone measured from the surface land boundary at Ngau Kok Wan will be designated as a no-manned facility zone during the Amber rainstorm signal or above is in force. The schematic configuration of the proposed mitigation measure is shown in **Figure 10.2**.

Figures



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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH - INVESTIGATION, DESIGN AND CONSTRUCTION

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
種類

SCALE 比例
A3 1:4,000

DIMENSION UNIT 尺寸單位
METERS

KEY PLAN
索引圖



PROJECT NO. 項目編號
60733229

CONTRACT NO. 合約編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

Categorization of Existing Man-made Features

SHEET NUMBER
圖紙編號

60733229/B15/FIGURE 9.1

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826750

827000

824500

824250

青衣北岸公路

TSING YI NORTH COASTAL ROAD

Elevated Road

Nullah

FP1 FP2 FP3 FP4 FP5

DL1 DL2 DL3 DL3a DL3b DL4 DL5

RL1 RL2 RL3

Legend

- Indicative Extent of Proposed Cavern and Access Tunnel (Underground)
- Indicative Site Formation Area for Portals
- Access Road
- Proposed Ancillary Operation Area with Potential Site Formation
- Study Area
- Hillside Catchments
- Convex Break-in-slope
- Concave Break-in-slope
- Incised Drainage Line
- Verified Relict Landslide
- Design Event Source Area
- Design Flow Path
- Design Flow Path Chainage
- Debris Front (Source volume 72 m³)
- Debris Front (Source volume 100 m³)

Landslide Susceptibility

- Moderate

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UNDERGROUND QUARRYING AT TSING YI NORTH - INVESTIGATION, DESIGN AND CONSTRUCTION

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例: A3 1:1,500

DIMENSION UNIT 尺寸單位: METERS

KEY PLAN
索引圖



PROJECT NO. 項目編號: 60733229

CONTRACT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

Natural Terrain Hazard Plan

SHEET NUMBER
圖紙編號

60733229/B15/FIGURE 10.1

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826750

827000

824500

824250

青衣北岸公路

TSING YI NORTH COASTAL ROAD

Elevated Road

Nullah

FP1

FP2

FP3

FP4

FP5

DI.1

DI.2

DI.3

DI.3a

DI.3b

DI.4

DI.5

Legend

- Indicative Extent of Proposed Cavern and Access Tunnel (Underground)
- Indicative Site Formation Area for Portals
- Access Road
- Proposed Ancillary Operation Area with Potential Site Formation
- Study Area
- Hillside Catchments
- Convex Break-in-slope
- Concave Break-in-slope
- Incised Drainage Line
- Design Event Source Area
- Design Flow Path
- Design Flow Path Chainage
- Debris Front (Source volume 72 m³)
- Debris Front (Source volume 100 m³)
- 10m No-manned Facility Zone when the Amber rainstorm signal or above is in force

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UNDERGROUND QUARRYING AT TSING YI NORTH - INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例: A3 1:1,500

DIMENSION UNIT 尺寸單位: METERS

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

CONTRACT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

Proposed Mitigation Measures

SHEET NUMBER
圖紙編號

60733229/B15/FIGURE 10.2

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Appendices

Appendix D1 - Summary of Existing Registered Geotechnical Features

Feature No.	Feature Type	Coordinates		Location	Crest Facility	Toe Facility	Existing Consequence - to - Life	Geometry			Maintenance Responsibility	Within Blasting Influence Zone*	Evaluation [according to GEO TGN No.15]					Risk or impact on the proposed development (1) Feature to be removed or modified (2) Feature to be further assessed* (3) Feature not affect or not be affected	Remarks
		Easting	Northing					Max. Height H (m)	Length L (m)	Gradient (deg.)			Total slope height greater than 10 m?	Assumed Travel Angle (deg.)	Extreme travel Angle Reach / Crest Influence Zone (m)	Distance of proposed facility from Existing Features (m)	Projected travel distance reaches proposed development?		
10NE-B/C 861	Soil & Rock Cut Slope	826891	823927	Behind Mtr Ventilation Building, Cheung Tsing Road, Tsing Yi.	Road/footpath with moderate traffic density	Manned substation	1	10	147	75	MTRL2	Y	N	30	17	398.5	N	(2)	-
6SE-D/F 211	Fill Slope	826584	824447	Tsing Ma Control Area (Tmca) - Northwest Tsing Yi Interchange	Other non-crowded built-up facilities	Road/footpath with low traffic density	2	4	71	30	HyD (TMCA)	Y	N	20	11	73.6	N	(2)	-
6SE-D/C 527	Soil & Rock Cut Slope	826619	824367	Tsing Ma Control Area (Tmca) - Northwest Tsing Yi Intercharge	Lightly-used open area/facilities	Road/footpath with moderate traffic density	2	3	124	40	HyD (TMCA)	Y	N	30	5	125.4	N	(2)	-
6SE-D/C 528	Soil & Rock Cut Slope	826672	824107	Tsing Ma Control Area (Tmca) - Northwest Tsing Yi Interchange	Road/footpath with low traffic density	Road/footpath with heavy traffic density	2	7	110	65	HyD (TMCA)	Y	N	30	12	129.9	N	(2)	-
6SE-D/C 563	Soil Cut Slope	827116	824550	Tsing Yi North Coastal Road, Kts	Undeveloped green belt	Flyover	2	22	75	40	HyD (TMCA)	Y	Y	20	60	110.3	N	(2)	-
6SE-D/C 179	Soil Cut Slope	826957	824616	East Of Ting Kau Bridge Abutment Near Ngau Kok Wan, Tsing Yi.	Undeveloped green belt	Remote area or abandoned facilities	3	5	27	40	LandsD	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/C 460	Soil Cut Slope	826984	824136	East Of Junction Of Tsing Ma & Ting Kau Bridges, Tsing Yi	Undeveloped green belt	Undeveloped green belt	3	5	30	30	LandsD	Y	N	30	9	453.0	N	(2)	-
6SE-D/C 461	Soil Cut Slope	826958	824142	East Of Junction Of Tsing Ma / Ting Kau Bridges, Tsing Yi	Undeveloped green belt	Undeveloped green belt	3	3	30	25	LandsD	Y	N	30	5	423.6	N	(2)	-
6SE-D/C 556	Soil Cut Slope	827173	824555	Westbound Of Tsing Yi North Coastal Road, Yau Kom Tau, Tsing Yi	Undeveloped green belt	Road/footpath with moderate traffic density	2	20	53	43	HyD (TMCA)	Y	Y	20	55	52.5	Y	(2)	-
6SE-D/R 172	Retaining wall	826675	824488	Westbound Of Tsing Yi North Coastal Road, Ngau Kok Wan, Tsing Yi	Road/footpath with moderate traffic density	Undeveloped green belt	2	6	41	89	HyD	Y	N	30	10	73.8	N	(2)	-
6SE-D/R 174	Retaining wall	827224	824589	Eastbound Of Tsing Yi North Coastal Road, Yau Kom Tau, Tsing Yi	Road/footpath with moderate traffic density	Undeveloped green belt	2	4	13	89	HyD (TMCA)	Y	N	30	7	28.0	N	(2)	-
6SE-D/R 175	Retaining wall	827227	824564	Westbound Of Tsing Yi North Coastal Road, Yau Kom Tau, Tsing Yi	Road/footpath with moderate traffic density	Road/footpath with low traffic density	2	5.5	15	89	HyD (TMCA)	Y	N	30	10	49.1	N	(2)	-
6SE-D/R 176	Retaining wall	827148	824587	Eastbound Of Tsing Yi North Coastal Road, Ngau Kok Wan, Tsing Yi	Road/footpath with moderate traffic density	Remote area or abandoned facilities	2	5	10	89	HyD (TMCA)	Y	N	30	9	91.5	N	(2)	-
6SE-D/C 347	Soil & Rock Cut Slope	827185	824644	Nr. Hong Kong Cement Company, Tam Kon Shan Road, Tsing Yi	Road/footpath with very heavy traffic density	Factory	1	46.3	110	49	LandsD	Y	Y	20	127	19.3	Y	(2)	-
6SE-D/C 553	Soil Cut Slope	827167	824683	Hong Kong Cement Company, Tam Kon Shan Road, Tsing Yi	Undeveloped green belt	Other crowded built-up area	1	21	75	30	TYTL119	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/C 558	Soil Cut Slope	827173	824589	Tsing Yi North Coastal Road	Remote area or abandoned facilities	Road/footpath with moderate traffic density	2	6	50	38	HyD (TMCA)	Y	N	30	10	44.7	N	(2)	-
6SE-D/R 183	Retaining wall	826512	824470	Eastbound Of Tsing Yi North Coastal Road, Underneath Ting Kau Bridge, Ngau Kok Wan, Tsing Yi	Road/footpath with moderate traffic density	Lightly-used open area/facilities	2	8.5	52	89	HyD (TMCA)	Y	N	30	15	60.8	N	(2)	-
6SE-D/R 100	Retaining wall	827381	824494	Yau Kom Tau, Tsing Yi	Remote area or abandoned facilities	Remote area or abandoned facilities	3	3.1	30	75	DD438 Lot13RP, LandsD	Y	N	30	5	135.8	N	(2)	-
6SE-D/C 346	Soil & Rock Cut Slope	827105	824694	Inside Hong Kong Cement Co. Ngau Kok Wan, Tsing Yi	Undeveloped green belt	Factory	1	45	150	37	LandsD	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/C 182	Soil & Rock Cut Slope	826772	824209	Junction Of Tsing Ma Bridge And Ting Kau Bridge	Undeveloped green belt	Road/footpath with heavy traffic density	2	90	760	45	HyD (TMCA)	Y	Y	20	247	90.2	Y	(2)	-
6SE-D/C 184	Soil Cut Slope	826564	824134	Tsing Ma/Ting Kau Bridges Intersection, Tsing Yi	Undeveloped green belt	Road/footpath with moderate traffic density	2	12	140	30	HyD (TMCA)	Y	Y	20	33	0.0	Y	(2)	-
6SE-D/C 483	Rock Cut Slope	826648	824166	Tsing Ma & Ting Kau Bridge Intersection, Tsing Yi	Road/footpath with heavy traffic density	Other crowded built-up area	1	7	170	70	HyD (TMCA)	Y	N	30	12	94.3	N	(2)	-
6SE-D/C 183	Soil Cut Slope	826748	824105	Tsing Ma/Ting Kau Bridges Intersection, Tsing Yi	Road/footpath with moderate traffic density	Road/footpath with heavy traffic density	2	11	350	30	HyD (TMCA)	Y	Y	20	30	133.0	N	(2)	-
6SE-D/C 180	Soil Cut Slope	826874	824608	East Of Ting Kau Bridge Abutment Near Ngau Kok Wan, Tsing Yi	Undeveloped green belt	Remote area or abandoned facilities	3	4.5	20	35	LandsD	Y	N	30	8	39.0	N	(2)	-
6SE-D/C 191	Soil & Rock Cut Slope	826546	824493	Tsing Yi North Coastal Road, Kwai Tsing	Road/footpath with moderate traffic density	Road/footpath with very low traffic density	2	42	226	32	HyD (TMCA)	Y	Y	20	157	0.0	Y	(2)	-
6SE-D/C 545	Soil Cut Slope	827355	824557	Adjacent To Link Road Of Tsing Yi North Coastal Road, Yau Kom Tau, Tsing Yi	Flyover	Road/footpath with moderate traffic density	2	15	100	33	HyD (TMCA)	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/F 248	Fill Slope	827336	824576	Yau Kom Tau, Tsing Yi	Lightly-used open area/facilities	Road/footpath with moderate traffic density	2	10.5	20	24	HyD (TMCA)	Y	Y	10	60	38.7	Y	(2)	-
6SE-D/F 250	Fill Slope	827262	824577	Yau Kom Tau, Tsing Yi	Flyover	Road/footpath with moderate traffic density	2	16	35	25	HyD (TMCA)	Y	Y	10	91	27.9	Y	(2)	-
6SE-D/F 251	Fill Slope	826925	824562	Ngau Kok Wan, Tsing Yi	Undeveloped green belt	Undeveloped green belt	3	30	240	24	HyD (TMCA)	Y	Y	10	170	50.1	Y	(2)	-
6SE-D/F 227	Fill Slope	827098	824588	Tsing Yi North Coastal Road, Kts	Flyover	District open space	2	18	60	30	HyD (TMCA)	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/F 228	Fill Slope	827048	824591	Ngau Kok Wan, Tsing Yi	Flyover	Catchwater-Group 5 facilities	2	12	50	30	HyD (TMCA)	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/C 557	Soil Cut Slope	827196	824532	Westbound Of Tsing Yi North Coastal Road, Yau Kom Tau, Tsing Yi	Undeveloped green belt	Road/footpath with moderate traffic density	2	26	40	40	HyD (TMCA)	Y	Y	20	71	56.5	Y	(2)	-
6SE-D/F 254	Fill Slope	827037	824577	Ngau Kok Wan, Tsing Yi	Flyover	Road/footpath with very low traffic density	2	19	50	28	HyD (TMCA)	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/R 190	Retaining wall	826546	824476	Underneath Ting Kau Bridge, Ngau Kok Wan, Tsing Yi	Road/footpath with moderate traffic density	Remote area or abandoned facilities	2	7	20	63	HyD (TMCA)	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/F 249	Fill Slope	827251	824560	Yau Kom Tau, Tsing Yi	Undeveloped green belt	Flyover	2	24	65	25	HyD (TMCA)	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/C 605	Soil Cut Slope	826944	824556	Natural Slope Immediate Above Slope No. 6SE-D/F251	Undeveloped green belt	Lightly-used open area/facilities	3	3	12	50	LandsD	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/CR 185	Soil Cut Slope and Retaining wall	826553	824334	Adjoining To Toilet Block At The Viewing Platform Near Tsing Ma Bridge	Road/footpath with heavy traffic density	Other thinly populated buildings	1	12	240	30	HyD (TMCA)	Y	Y	20	33	71.4	N	(2)	-
6SE-D/C 552	Soil Cut Slope	827042	824657	Near Hong Kong Cement Company, Ngau Kok Wan, Tsing Yi	Undeveloped green belt	Construction sites	2	15	240	40	DD438 LOT46	Y	Y	20	41	50.6	N	(2)	According to memo ref. GCMW 2/E1/6SE-D/C552 issued by the Mainland West Division, GEO to LandsD, on 22 June 2010, unauthorized slope cutting was reported at Sub-division No. 3 of slope no. 6SE-D/C552.
6SE-D/C 641	Soil Cut Slope	826986	824603	Adjoining Tsing Yi North Coastal Road, Tmc	Undeveloped green belt	Road/footpath with very low traffic density	3	12	45	30	HyD (TMCA)	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/C 642	Soil Cut Slope	826959	824611	Tsing Yi North Coastal Road, Tmc	Remote area or abandoned facilities	Remote area or abandoned facilities	3	9	30	25	LandsD	Y	-	-	-	-	N	(2)	In the event of a failure, landslide debris is not expected to travel toward the proposed facilities, and therefore will not impact the proposed development.
6SE-D/C 186	Soil & Rock Cut Slope	826422	824331	Junction of Tsing Ma/Ting Kau Bridges Construction Site	Road/footpath with low traffic density	Road/footpath with moderate traffic density	2	15	200	30	HAD	N	-	-	6	0.0	Y	(2)	The expected crest influence zone is conservatively assumed be 0.4 times the slope height.
6SE-D/C 187	Soil Cut Slope	826328	824340	Lantau Link Visitors Centre, Tsing Yi	Other densely populated buildings	Road/footpath with low traffic density	1	15	390	40	ArchSD, DSD	N	Y	20	41	0.0	Y	(2)	-

Appendix D1 - Summary of Existing Registered Geotechnical Features

Feature No.	Feature Type	Coordinates		Location	Crest Facility	Toe Facility	Existing Consequence - to - Life	Geometry			Maintenance Responsibility	Within Blasting Influence Zone*	Evaluation [according to GEO TGN No.15]					Risk or impact on the proposed development (1) Feature to be removed or modified (2) Feature to be further assessed* (3) Feature not affect or not be affected	Remarks
		Easting	Northing					Max. Height H (m)	Length L (m)	Gradient (deg.)			Total slope height greater than 10 m?	Assumed Travel Angle (deg.)	Extreme travel Angle Reach / Crest Influence Zone (m)	Distance of proposed facility from Existing Features (m)	Projected travel distance reaches proposed development?		
6SE-D/F 90	Fill Slope	826457	824505	Tsing Ma/Ting Kau Bridges Intersection, Tsing Yi	Road/footpath with very low traffic density	Undeveloped green belt	3	11	24	35	LandsD	N	-	-	4	0.0	Y	(2)	The expected crest influence zone is conservatively assumed be 0.4 times the slope height.
6SE-D/F 89	Fill Slope	826392	824488	To the North of GLA-TKT1716	Road/footpath with low traffic density	Remote area or abandoned facilities	3	24	10	40	DSD	N	-	-	10	0.0	Y	(2)	
6SE-D/C 190	Soil & Rock Cut Slope	826422	824462	To the North of GLA-TKT1716	Remote area or abandoned facilities	Road/footpath with low traffic density	3	10	35	37	DSD	N	N	30	17	0.0	Y	(2)	-
6SE-D/F 86	Fill Slope	826572	824028	Near End of Tsing Ma Bridge, Tsing Yi	Road/footpath with moderate traffic density	District open space	2	53	120	30	HyD (TMCA)	N	Y	10	301	12.4	Y	(2)	-
10NE-B/C 337	Soil & Rock Cut Slope	826595	823961	Tsing Ma Bridge exit, near administration building, Tsing Yi	Lightly-used open area/facilities	Remote area or abandoned facilities	3	52	140	25	HyD (TMCA)	N	-	-	21	11.0	Y	(2)	The expected crest influence zone is conservatively assumed be 0.4 times the slope height.
10NE-B/C 860	Soil & Rock Cut Slope	826532	823836	Under the Beginning of Tsing Ma Bridge, Tsing Yi	Flyover	Remote area or abandoned facilities	2	52	300	30	HyD (TMCA)	N	Y	20	143	0.0	Y	(2)	-

Remarks: * Those features within the blasting influence zone will be assessed in deliverable B17 - Blasting Assessment Report and the features outside the blasting influence zone will be assessed in another deliverable B28 - Report on Review of Preliminary Design.

Appendix D2 - Summary of Existing Unregistered Geotechnical Features

Feature No.	Feature Type	Coordinates		Location	Crest Facility	Toe Facility	Existing Consequence to - Life	Geometry			Maintenance Responsibility	Within Blasting Influence Zone*	Evaluation [according to GEO TGN No.15]					Risk or impact on the proposed development (1) Feature to be removed or modified (2) Feature to be further assessed* (3) Feature not affect or not be affected	Remarks
		Easting	Northing					Max. Height H (m)	Length L (m)	Grad. (deg)			Total slope height greater than 10 m?	Assumed Travel Angle (°)	Extreme travel Angle Reach (m)	Distance of proposed facility from Existing Features (m)	Projected travel distance reaches proposed development?		
U1	Slope	826670	824500	Ngau Kok Wan, Tsing Yi	Road/footpath with moderate traffic density	Remote area or abandoned facilities	2	18	70	26	N/A	Y	Y	10	102	53.0	Y	(2)	-
U2	Slope	826700	824560	Ngau Kok Wan, Tsing Yi	Undeveloped green belt	Road/footpath with very low traffic density	3	25	370	35	N/A	Y	-	-	-	-	-	(1)	To be modified by proposed Ngau Kok Wan Portal Formation works
U3	Slope	826850	824640	Ngau Kok Wan, Tsing Yi	Remote area or abandoned facilities	Construction sites	3	4	35	40	N/A	Y	N	20	11	8.0	Y	(2)	-
U4	Slope	827270	824630	Adjoining Tam Kon Shan Road, Tsing Yi.	Undeveloped green belt	Road/footpath with moderate traffic density	2	9	16	20	N/A	Y	-	-	-	-	-	(1)	To be modified by proposed Tam Kon Shan Portal Formation works
U5	Slope	826420	824440	Lantau Link Visitors Centre, Tsing Yi	Road/footpath with moderate traffic density	Road/footpath with low traffic density	2	14	140	20	N/A	N	Y	20	38	10.0	Y	(2)	-

Remarks: * Those features within the blasting influence zone will be assessed in deliverable B17 - Blasting Assessment Report and the features outside the blasting influence zone will be assessed in another deliverable B28 - Report on Review of Preliminary Design.

Appendix B

Traffic and Transport Impact Assessment Report

Agreement No. CE 79/2023 (GE)

**Underground Quarrying at Tsing Yi North –
Investigation, Design and Construction**

**Traffic and Transport Impact Assessment Report (Final)
(Ref. B20b-03)**

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1 INTRODUCTION

1.1 Project Background

1.1.1 Rock, principally as aggregates in concrete, is the most predominately used construction material for buildings and infrastructure developments in Hong Kong. Local quarries, where rock is sourced for such uses, are strategically important to the construction industry in Hong Kong. Apart from extraction of virgin rock, surplus rock generated from local construction projects can be processed and recycled at quarries for beneficial reuse. In addition, the quarries are suitable sites for housing manufacturing plants of rock-derived construction materials such as ready-mixed concrete and asphalt. Historically, rock has been quarried in Hong Kong by way of surface quarrying – open/pit extraction at the ground surface. By doing this, the quarries have been operating as self-financing business entities rather than government-funded facilities.

1.1.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry, for which the current quarry contract is scheduled for completion in 2025. Recognising the importance of local quarries in minimizing the risk of irregularities in the supply of imported rock, the Government has been searching for suitable sites to set up new surface quarries in order to maintain local rock supply, with a view to having at least one new quarry to dovetail with the closure of Lam Tei Quarry.

1.1.3 Apart from rock materials, Hong Kong is also desperately in need of developable land to meet socio-economic needs. Creating spaces in underground rock caverns is one of the solutions in boosting land supply in the medium to long terms. To create land in this manner, the cavern formation will not only generate a large amount of good quality rock, but this process is also a source of rock materials which could be an integral part of the local rock supply in future. This is the underlying concept of the initiative of underground quarry-cum-cavern development, which is unprecedented in Hong Kong. There are, nevertheless, successful examples of this approach in other countries, e.g. Switzerland, Norway and the United States of America, where the entire operation combining quarrying and subsequent uses of the cavern spaces created (e.g. cold storage, data centres, warehousing and recreational complexes) is confirmed to be commercially viable.

1.1.4 Preliminary reviews under the Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

1.1.5 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan (CMP) jointly promulgated by CEDD and PlanD in 2017, was recommended to take forward.

1.1.6 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study ("Pilot Study") to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. The study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North. It is envisioned as an integral part of the long-term local quarry strategy. Shortage of rock import from the mainland China due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, it is timely to proceed with the scheme, along with other quarry related initiatives to maintain local rock supply.

1.1.7 Following the commencement of the IDC assignment for developing and designing the pilot underground quarry at Lam Tei, Tuen Mun in 2021, CEDD launched an IDC assignment for developing a new underground quarry at Tsing Yi North in 2023.

1.1.8 To implement the proposed underground quarry-cum-cavern development at Tsing Yi North, it is necessary to conduct a site-specific investigation and design for the scheme, building on the work completed under the Underground Quarry Study and the pilot study.

1.1.9 This Assignment aims to complete all the tasks necessary and sufficient to undertake the assignments including statutory procedures, public consultation, detailed technical assessments, broad design for potential facilities, formulation of implementation arrangement etc. at the investigation, design and early construction stages, in order to enable commencement of the underground quarrying tentatively targeted in 2027. These include various impact assessments, reference design of caverns and the underground quarrying-related activities (e.g. the materials processing/manufacturing plants and their operations) coordinated or implemented by the Government, business case analyses, implementation strategy and procurement arrangements. Consultation within the Government and with public and relevant stakeholders/industry players will also be carried out.

1.1.10 This Assignment will also look into any works potentially required by the quarry operators during the operation stage of the proposed underground quarrying. Given its pilot nature, the underground quarrying operation will be subject to the prevailing and/or new implementation mechanisms such as contract form, site supervision and any independent audits required. These will be examined and tailor-designed under this Assignment. Depending on the findings, it may call for work or tasks for which the Government may procure consultancy services separately during the operation stage.

1.1.11 AECOM Asia Co. Ltd. has been commissioned by the Civil Engineering and Development Department (CEDD) on 13 June 2024 to undertake Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction. It is targeted to commence construction in Year 2027.

1.2 Objectives of the Traffic and Transport Impact Assessment

1.2.1 According to Clause 6.15.1 of the Brief, a detailed Traffic and Transport Impact Assessment (TTIA) shall be carried out for the Development, with a view to forecasting future traffic and transport demand, identifying any adverse impacts on the existing, committed and planned road networks in the vicinity during construction and operation stages, and proposing improvement measures at the problematic areas identified, examining the adequacy of the existing and planned transport system, and the requirement for new road connections, capacity improvements or enhancement arising from quarrying and the ancillary operations.

1.2.2 The objectives of the TTIA are as follows:

a) to review the findings and conclusions from the preliminary traffic and transport impact assessment (PTTIA) under the Underground Quarry Study such as temporary traffic arrangement, permanent changes (e.g. new roads, road diversions, road improvements, etc.) and mitigation/improvement measures for the Tsing Yi North Underground Quarry (TYNUQ);

b) to identify the elements of the community, existing traffic characteristics, possible interfacing projects, known transport proposals and future developments adjacent to TYNUQ which may also affect the surrounding traffic conditions during the span of the operation of the TYNUQ.

c) to incorporate any suggestions and address concerns from the relevant stakeholders/public obtained during the public consultation exercise;

d) to review and propose any necessary road widening and/or improvement measures in order to mitigate any traffic and transport impact on the existing/committed/planned road networks arising from the development and operation of the quarry with the consideration of other cumulative traffic effect from other planned/committed projects in the vicinity of the site;

e) to review whether there are other alternative access routes and propose such alternatives, if applicable, which may be in form of roads or new access road to be

constructed by-passing heavily trafficked roads/areas, residential areas, in order to avoid or minimise the traffic and transport impact arising during the development and operation of the quarry;

f) to introduce a structured and systematic approach to identify, assess and mitigate potential adverse traffic and transport impacts, which might arise from the development and operation of the quarry;

g) to identify, assess and specify methods, measures and standards to be included in the reference design of the quarry and its subsequent operation, which are necessary to mitigate these impacts and reduce them to acceptable levels;

h) to propose and implement suitable traffic diversion, temporary traffic arrangement schemes and other mitigation/improvement measures to accommodate the additional traffic flow at the time of development and operation of the quarry so that any adverse traffic and transport impacts can be kept minimum and mitigated to acceptable levels;

i) to enable an agreement in principle to be reached amongst the relevant government departments on the traffic diversion and arrangement schemes and road improvement proposal(s) for the development and operation of the quarry;

j) to identify the anticipated public transport demand raised from the site and suggest transport mode for those demand, and needs for public transport facilities; and

k) to demonstrate all mitigation/improvement measures to be introduced.

1.3 Purpose of this Report

1.3.1 The main purpose of this Traffic and Transport Impact Assessment (TTIA) Report is to assess the traffic impact to the nearby road network within the proposed area of influence (AOI) due to the proposed development, and the structure of this Report is outlined below.

1.4 Purpose of this Report

1.4.1 This Report is organized into 7 sections including this introductory section:-

- Section 1 - outlines the background, and sets out the objectives, purpose and structure of this Report;
- Section 2 - reviews the existing traffic conditions within the area of influence including the site location, junction and road link capacity assessment;
- Section 3 - describes the development proposal, requirements of parking and loading/unloading provision and public transport arrangement;
- Section 4 - presents the approach, methodology and results of vehicular traffic demand forecasts, and junction and road link capacity assessment for the scenario of “Without” and “With” the proposed development for the design year during operation stage;
- Section 5 - presents the sensitivity test scenario for alternative site access arrangements during operation stage;
- Section 6 - presents the potential construction traffic impact due to the proposed development and traffic management measures to minimize the construction traffic impact if necessary; and
- Section 7 - presents the summary of findings.

1.5 Nomenclature and Abbreviations

1.5.1 The following table lists out the abbreviations for expressions adopted in this Report.

Table 1.1 Abbreviations Adopted in this Report

Abbreviation	Full Expression
AOI	Area of Influence
ATC	Annual Traffic Census
BDTM	Base District Traffic Model
CEDD	Civil Engineering and Development Department
DEVB	Development Bureau
DFC	Design Flow/Capacity
FS	Feasibility Study
FSD	Fire Services Department
GIU	General Industrial Use
GMB	Green Minibus
GV	Goods Vehicle
HD	Housing Department
HKPSG	Hong Kong Planning Standards and Guidelines
HKSAR	Hong Kong Special Administrative Region
J/O	Junction
LATM	Local Area Traffic Model
L/UL	Loading/Unloading
NKW	Ngau Kok Wan
TPDEM	Territorial Population and Employment Data Matrix
TTIA	Traffic and Transport Impact Assessment
NMDS	Northern Metropolis Development Strategy
NWTYI	North West Tsing Yi Interchange
PCU	Passenger Car Units
PlanD	Planning Department
PLB	Public Light Bus
PT	Public Transport
PV	Private Vehicle
RC	Reserve Capacity
STM	Strategic Transport Model
TD	Transport Department
TFPD	Task Force Planning Dataset
TKSR	Tam Kon Shan Road
TPDM	Transport Planning and Design Manual
TPU	Tertiary Planning Unit
TGS2006	Trip Generation Survey 2006
TTA	Temporary Traffic Arrangement
TYNCR	Tsing Yi North Coastal Road
VC	Volume-to-Capacity Ratio
VOC	Vehicle Operating Cost
VOT	Value of Time
WENT	West New Territories

2 EXISTING TRAFFIC CONDITIONS

2.1 Existing Road Network

2.1.1 The Site is located in the northwest of Tsing Yi. It is bounded by Tsing Yi North Coastal Road (TYNCR) to the north, North West Tsing Yi Interchange (NWTYI) to the west, MTR Airport Express and Tung Chung Line to the south, and near Tam Kon Shan Interchange to the east. The existing road network surrounding the Site is shown in **Figure 2.1** and the existing junction layouts are illustrated from **Figure 2.2** to **Figure 2.4**.

2.1.2 Tsing Ma Bridge is a dual-3 expressway connecting the Cheung Tsing Highway to the east and Lantau Link to the west. This expressway is currently acting as the major corridor connecting the western end of Tsing Yi Island and Ma Wan / Lantau Island.

2.1.3 Tsing Long Highway (including Ting Kau Bridge) is a dual-3 expressway connecting Cheung Tsing Highway to the south and Tai Lam Tunnel to the north. It acts as the major north-south corridor connecting Tsing Yi Island and Shum Tseng via Ting Kau Bridge.

2.1.4 Cheung Tsing Highway is a dual 1/2 expressway near Tsing Yi Road West with increasing of traffic lanes after merging with Tsing Sha Highway which become a dual-4/5 carriageway near NWTYI to the west. It is an important corridor for the middle and southern parts of Tsing Yi Island connecting Kwai Chung via Cheung Tsing Tunnel and Lai Chi Kok via Nam Wan Tunnel to the east.

2.1.5 Tsing Yi North Coastal Road is a dual-2 district distributor connecting Tsing Tsuen Road to the east and Tsing Long Highway to the west. It serves as an important east west corridor for the northern part of Tsing Yi Island.

2.1.6 Tam Kon Shan Road (TKSR) is currently a single-2 carriageway and is classified as local distributor without stopping restrictions along the south side of the carriageway between the roundabout at the western end of the road and the slip road to TYNCR. Parking and loading/unloading activities of concrete trucks and heavy vehicles were observed.

2.1.7 Fung Shue Wo Road is in general a dual-2 local distributor connecting TKSR to the west and Tsing Yi Heung Sze Wui Road to the east which mainly serve the residential developments and schools along the carriageway.

2.1.8 Tsing Yi Road West is a single-4 district distributor (except for sections with central reserve near Fung Shue Wo Road, Ching Hong Road and Tsing Yi Road) which is a major north-south corridor stretching Fung Shue Wo Road to the north and Tsing Yi Road to the south in the middle of Tsing Yi Island.

2.1.9 Ching Hong Road is classified as a local distributor. It is a single-2 carriageway at the western section between Tsing Yi Road West and Ching Hong Road and becomes a dual-2 carriageway between Ching Hong Road and Tsing Yi Road at the eastern section of the road.

2.2 Area of Influence and Traffic Surveys

2.2.1 The proposed Area of Influence (AOI) of the development Site covers the surrounding road network with major road links connected to the development, as shown in **Figure 2.1**. With reference made to the Pilot Study within the proposed AOI, all key junctions (except free-flow junctions) and road links are included for assessment along the major ingress and egress routes from/to the site during operation phase, as shown in **Table 2.1** and **Table 2.2.**

Table 2.1 Identified Study Junctions

Index	Junction	Type
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority
J5	Tam Kon Shan Interchange	Roundabout
J6	Fung Shue Wo Road / Tsing Yi Road West	Signal

Index	Junction	Type
J7	Liu To Road / Tsing Yi Road West	Signal
J8	Ching Hong Road / Tsing Yi Road West	Signal
J9	Ching Hong Road / Chung Mei Road	Signal
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal

Table 2.2 Identified Study Road Links

Link Name	Direction	Capacity (pcu/hr)
L1 – Tsing Ma Bridge	EB	6,100
	WB	6,100
L2 – Ting Kau Bridge	NB	6,100
	SB	6,100
L3 - Unnamed access road near Lantau Link Visitors Centre	NB	500
	SB	500
L4 – Tam Kon Shan Road	EB	900
	WB	900
L5 - Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800
L6 - Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800
L7 – Tsing Yi North Coastal Road	EB	5,600
	WB	3,600
L8 – Cheung Tsing Tunnel	EB	5,400
	WB	5,400
L9 – Nam Wan Tunnel	EB	5,400
	WB	5,400
L10 – Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050
	SB	4,850
L11 - Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050
	SB	3,050
L12 - Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800
	SB	2,800
L13 – Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920
	WB	920
L14 - Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250
	WB	1,250
LL1 - NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000
LL2 - NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800
LL3 - NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800
LL4 - NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800
LL5 - NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700

Link Name	Direction	Capacity (pcu/hr)
LL6 - NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100
LL7 – NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600
LL8 - Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800
LL9 - NWTYI – Tsing Long Highway southbound	SB	1,900
LL10 - NWTYI - Slip Road connecting LL9 to LL1	SB	3,600
LL11 - NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100
LL12 - NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900
LL13 - NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900
LL 14(a) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200
LL 14(b) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000
LL 14(c) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	SB	4,000
LL 14(d) - Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	SB	8,200

2.2.2 Classified vehicular counts were conducted at road links and/or classified vehicular turning movement counts were carried out at junctions, in which both the above two types of vehicular counts were recorded in 15-minute interval. The volume of different types of vehicles recorded during the surveys were converted into passenger car unit (pcu) factors which are stipulated in Volume 2 of Transport Planning and Design Manual (TPDM) for traffic model development and assessment purposes. The highest consecutive 15-minute hourly pcu volumes were adopted as the peak hour traffic flows.

2.2.3 In order to identify the survey periods, a pilot site survey was conducted from 07:00 to 20:00 on 11 March 2025. Tsing Tuen Road (near Maritime Square) and Tsing Yi Road West (near Liu To Road) were selected as the locations for the pilot site survey since these locations connect both the strategic and local road network and also connect all the proposed study junctions and road links within the AOI.

2.2.4 Based on the results of the pilot site survey, an hourly traffic flow variation is produced in the below table throughout the survey period.

Table 2.3 Results of Pilot Site Survey

Time	2025 Observed Traffic Flows (pcu/hr)						
	Tsing Tsuen Road (near Maritime Square)			Tsing Yi Road West (near Liu To Road)			Tsing Tsuen Road and Tsing Yi Road West
	EB	WB	Total	NB	SB	Total	Grand Total
0700 – 0800	2,154	2,051	4,205	965	785	1,750	5,955
0715 – 0815	2,397	2,238	4,635	**1,007**	836	1,843	6,478
0730 – 0830	2,300	**2,429**	4,729	1,003	**863**	**1,866**	**6,595**
0745 – 0845	2,316	2,348	4,664	925	792	1,717	6,381
0800 – 0900	**2,399**	2,382	**4,781**	909	741	1,650	6,431
0815 – 0915	2,366	2,255	4,621	846	715	1,561	6,182
0830 – 0930	2,359	2,171	4,530	857	673	1,530	6,060
0845 – 0945	2,281	2,066	4,347	874	646	1,520	5,867
0900 – 1000	2,003	2,011	4,014	834	602	1,436	5,450

Time	2025 Observed Traffic Flows (pcu/hr)						
	Tsing Tsuen Road (near Maritime Square)			Tsing Yi Road West (near Liu To Road)			Tsing Tsuen Road and Tsing Yi Road West
	EB	WB	Total	NB	SB	Total	Grand Total
0915 – 1015	1,889	2,040	3,929	819	587	1,406	5,335
0930 – 1030	1,915	2,018	3,933	794	565	1,359	5,292
0945 – 1045	1,892	2,026	3,918	756	530	1,286	5,204
1000 – 1100	1,921	2,022	3,943	731	555	1,286	5,229
1015 – 1115	1,926	2,014	3,940	709	556	1,265	5,205
1030 – 1130	1,978	1,996	3,974	701	593	1,294	5,268
1045 – 1145	1,960	1,925	3,885	723	608	1,331	5,216
1100 – 1200	1,997	**2,025**	**4,022**	731	570	1,301	**5,323**
1115 – 1215	**2,040**	1,875	3,915	753	563	1,316	5,231
1130 – 1230	1,886	1,872	3,758	764	534	1,298	5,056
1145 – 1245	1,792	1,853	3,645	**771**	500	1,271	4,916
1200 – 1300	1,727	1,859	3,586	751	550	1,301	4,887
1215 – 1315	1,604	1,838	3,442	735	597	1,332	4,774
1230 – 1330	1,669	1,852	3,521	694	645	**1,339**	4,860
1245 – 1345	1,751	1,862	3,613	639	**654**	1,293	4,906
1300 – 1400	1,705	1,856	3,561	632	624	1,256	4,817
1315 – 1415	1,675	1,857	3,532	585	624	1,209	4,741
1330 – 1430	1,658	1,815	3,473	601	598	1,199	4,672
1345 – 1445	1,748	1,808	3,556	623	581	1,204	4,760
1400 – 1500	1,831	1,843	3,674	615	594	1,209	4,883
1415 – 1515	1,779	1,853	3,632	663	599	1,262	4,894
1430 – 1530	1,753	1,876	3,629	700	621	1,321	4,950
1445 – 1545	1,681	1,852	3,533	708	605	1,313	4,846
1500 – 1600	1,732	1,854	3,586	736	599	1,335	4,921
1515 – 1615	1,873	1,848	3,721	781	585	1,366	5,087
1530 – 1630	1,964	1,839	3,803	768	625	1,393	5,196
1545 – 1645	2,065	1,876	3,941	814	625	1,439	5,380
1600 – 1700	2,086	1,843	3,929	809	626	1,435	5,364
1615 – 1715	2,090	1,875	3,965	803	641	1,444	5,409
1630 – 1730	2,241	1,886	4,127	803	601	1,404	5,531
1645 – 1745	2,256	1,897	4,153	805	614	1,419	5,572
1700 – 1800	2,257	**1,899**	**4,156**	**810**	637	**1,447**	**5,603**
1715 – 1815	**2,258**	1,875	4,133	790	645	1,435	5,568
1730 – 1830	2,127	1,862	3,989	784	656	1,440	5,429
1745 – 1845	2,141	1,822	3,963	771	653	1,424	5,387
1800 – 1900	2,151	1,805	3,956	765	**660**	1,425	5,381
1815 – 1915	2,064	1,803	3,867	764	654	1,418	5,285
1830 – 1930	1,962	1,745	3,707	747	648	1,395	5,102
1845 – 1945	1,746	1,749	3,495	693	643	1,336	4,831
1900 – 2000	1,668	1,645	3,313	644	640	1,284	4,597

2.2.5 As shown in the above table, the AM peak, logistic peak and PM peak of Tsing Tsuen Road and Tsing Yi Road West range between 07:15 – 09:00, 11:00 – 13:45 and 17:00 – 19:00 respectively.

2.2.6 Supplemented with the findings of the survey results from the pilot site survey, vehicular traffic count surveys were conducted in April 2025 from 07:15 to 09:15, 11:00 to 14:00 and 17:00 to 19:00 on normal weekday(s). The locations of vehicular traffic count survey are the same as the location of study junctions and road links in **Figure 2.1**. The survey results indicated that the AM peak hour is between 07:30 and 08:30, the logistic peak hour is between 11:15 and 12:15 and the PM peak hour is between 17:00 and 18:00.

2.3 Assessment of Study Junctions and Road Links for Existing Year 2025

2.3.1 This TIA includes assessment of existing junction and road link performance by means of capacity analysis.

2.3.2 The performances of road links are evaluated with the volume to capacity ratio (V/C). The V/C ratio compares the peak hour flow of a road link with its design flows, with a V/C ratio up to 0.3 represents free-flow conditions. A V/C ratio between 0.3 and 0.5 means an easy flow conditions, with travel speeds close to free-flow speed. V/C ratio between 0.5 and 0.75 represents generally easy flow condition, with the travel speeds of the road link begins to be restricted by the traffic conditions. V/C ratio between 0.75 and 1.0 means well used flow conditions, with travel speeds reduced by increasing traffic volumes. V/C ratio between 1.0 and 1.2 means unstable flow conditions, with travel speeds substantially reduced and are highly variable and unpredictable. For new roads, it should be designed to attain the target performance at the design years with V/C <=0.85 wherever possible to allow adequate spare capacities catering for fluctuations during peak hours, natural growth of traffic demand and further developments in future years.

2.3.3 The performance of a signalised road junction is indicated by its reserve capacity (RC). A positive RC indicates that the junction is operating with spare capacity. A negative RC indicates that the junction is overloaded, resulting in traffic queues and longer delay time. For new junctions, a minimum provision of 25% RC should be provided wherever possible. For existing junctions, it is desirable to achieve an RC of ≥ 15% as far as possible.

2.3.4 The performance of a roundabout and a priority junction is indicated by the design flow/capacity (DFC) ratio. A DFC ratio less than 1.0 indicates that the junction is operating within design capacity, while 0.85 is the acceptance criteria of DFC. A DFC ratio greater than 1.0 indicates that the junction is overloaded, resulting in traffic queues and longer delay time to the minor arm traffic. For existing roundabout and priority junction, DFC of ≤ 0.85 should be provided whenever possible, which indicates that queuing would theoretically be avoided in 85% of cases. For new roundabout and priority junction, DFC of ≤ 0.75 should be provided.

2.3.5 The study junctions and road links have been identified (**Figure 2.1** refers) and the existing performance of study junctions and road links were assessed based on the junction flow diagrams in **Figure 2.5**. The results are presented in **Table 2.4** and **Table 2.5** below and the details of the junction calculations are presented in **Appendix A**.

Table 2.4 Junction Capacity Assessment for Existing Year (2025)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logistic Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.42	0.37	0.39
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.26	0.32	0.31
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.18	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.21	0.13
J5	Tam Kon Shan Interchange	Roundabout	0.59	0.59	0.47
J6	Fung Shue Wo Road / Tsing Yi Road West	Signal	**11%**	**13%**	40%
J7	Liu To Road / Tsing Yi Road West	Signal	28%	30%	55%

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logistic Peak
J8	Ching Hong Road / Tsing Yi Road West	Signal	69%	95%	86%
J9	Ching Hong Road / Chung Mei Road	Signal	>100%	>100%	>100%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	66%	51%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	47%	69%	49%

2.3.6 The results in **Table 2.4** above show that the performance of all the study junctions is currently operating within sufficient capacity (i.e. RC≥15%, DFC≤0.85) during AM, logistic peak and PM peak hours on weekday, expect J6 during the commuting peak periods.

Table 2.5 Road Link Capacity Assessment for Existing Year (2025)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,370	0.55	4,460	0.73	3,780	0.62
		WB	6,100	4,445	0.73	3,175	0.52	3,430	0.56
L2	Ting Kau Bridge	NB	6,100	3,160	0.52	4,690	0.77	3,735	0.61
		SB	6,100	6,840	**1.12**	3,650	0.60	5,190	0.85
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	195	0.39	190	0.38	275	0.55
		SB	500	125	0.25	140	0.28	140	0.28
L4	Tam Kon Shan Road	EB	900	325	0.36	335	0.37	190	0.21
		WB	900	105	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	220	0.12	195	0.11	170	0.09
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	155	0.09	170	0.09	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,200	0.21	1,115	0.20	1,230	0.22
		WB	3,600	1,600	0.44	1,045	0.29	1,175	0.33
L8	Cheung Tsing Tunnel	EB	5,400	4,360	0.81	3,540	0.66	3,325	0.62
		WB	5,400	2,930	0.54	2,930	0.54	2,360	0.44
L9	Nam Wan Tunnel	EB	5,400	2,910	0.54	1,755	0.33	2,985	0.55
		WB	5,400	1,795	0.33	2,345	0.43	2,565	0.48
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,360	0.45	1,365	0.45	1,095	0.36
		SB	4,850	1,230	0.25	1,010	0.21	885	0.18
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,000	0.33	945	0.31	760	0.25
		SB	3,050	805	0.26	710	0.23	570	0.19
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	675	0.24	715	0.26	715	0.26
		SB	2,800	750	0.27	570	0.20	590	0.21
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	615	0.67	510	0.55	575	0.63
		WB	920	625	0.68	550	0.60	530	0.58
L14	Sai Tso Wan Road between Tsing Yi Road West and local	EB	1,250	490	0.39	615	0.49	805	0.64
		WB	1,250	790	0.63	575	0.46	710	0.57

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	access for Yiu Lian Dockyards Limited								
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	1,865	0.47	1,315	0.33	1,260	0.32
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	545	0.30	450	0.25	365	0.20
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	565	0.31	65	0.04	230	0.13
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,030	0.57	1,120	0.62	1,110	0.62
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	370	0.22	330	0.19	365	0.21
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	2,985	0.49	4,285	0.70	3,515	0.58
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,300	0.36	1,380	0.38	1,340	0.37
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	260	0.14	435	0.24	215	0.12
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,035	0.54	600	0.32	690	0.36
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,635	0.45	1,285	0.36	1,220	0.34
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,670	0.44	1,890	0.31	1,905	0.31
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	805	0.42	575	0.30	650	0.34
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	125	0.07	285	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,340	0.53	4,975	0.61	4,295	0.52

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,180	0.30	1,130	0.28	1,435	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,135	0.28	1,540	0.39	1,265	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,095	0.87	4,570	0.56	5,975	0.73

2.3.7 The assessment results in the above table show that the performance of all study road links are currently operating within its capacity, with the exception of Ting Kau Bridge southbound (L2) during AM peak hour, which indicates that this road link operates in unstable flow condition on weekday AM peak (v/c ratio between 1.0 and 1.2).

3 DEVELOPMENT PROPOSAL

3.1 Development Parameters

3.1.1 The Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (FS) was commissioned by CEDD and PlanD in 2019. The pilot study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North and it is envisioned as an integral part of the long-term local quarry strategy. The preliminary layout of the proposed underground quarrying-cum-cavern development is shown in **Figure 3.1**.

3.1.2 Below table summarizes the proposed development parameter of the Site.

Table 3.1 Proposed Development Parameters

Parameter	Description
Estimated Population during Operation Phase	Approximate 100 persons
Target Commission Year	2028(1)

Remark:
(1) Tunnel to TKSR portal is anticipated to be commenced by 2031 tentatively

3.2 Site Assess Arrangement

3.2.1 The Site would only be accessible by private vehicles, as illustrated in **Figure 3.1**. Since the tunnel to TKSR portal and the Site access road connecting NWTYI would not permit pedestrians access, all staff and visitors would be required to access the Site solely by private vehicles during both construction and operation phases. As such, the impact on the existing public transport operations is not anticipated.

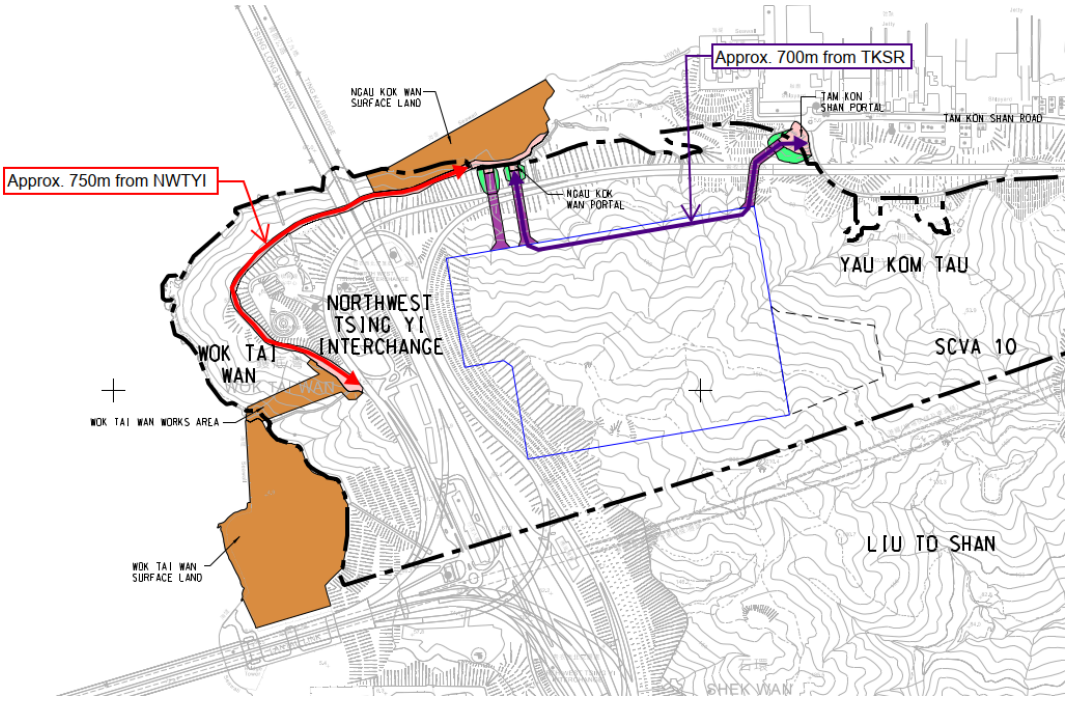
3.2.2 Concerning the junction at NWTYI (J2) where the site access connects to (Ngau Kok Wan portal), it is anticipated that the site traffic entering or leaving the unnamed access road would interfere with the traffic on the mainline of NWTYI. To mitigate this impact, a Temporary Traffic Arrangement (TTA) has been proposed at the intersection of the unnamed access road and NWTYI, as presented in **Figure 3.2**. “No objection in principle with conditions” on the schematic TTA at NWTYI access has been sought from TD and no adverse comments from other stakeholder. The contractor shall take these conditions into account and address any issues raised in the subsequent construction/operation phase. In addition, the TTA shall be modified after the tunnel to TKSR portal is implemented to facilitate the one-way outbound arrangement at the NKW (Ngau Kok Wan) portal, subject to the contractor’s operational need, if necessary.

3.2.3 Subsequent to the implementation of the tunnel to TKSR portal at the northeast of the Site in 2031, site access would be provided to the south of the existing roundabout (J3) at the western end of TKSR. The vehicular access, in term of run-in, leading to the tunnel to TKSR portal is proposed to be located at the off-slip of Tsing Yi North Coastal Road (TYNCR) WB. Furthermore, to further disperse the traffic demand generated by the development onto the nearby road network, the access near TKSR would serve ingress only, as the TKSR portal would operate as a one-way inbound route for private cars and goods vehicles accessing the Site. Meanwhile, the unnamed access road at NWTYI would also be converted into a one-way outbound road, with all development traffic entering via the TKSR portal and exiting via the NKW portal. Consequently, development traffic would no longer be permitted to access the Site via the NKW portal. The proposed run-in located at the off-slip of TYNCR WB is shown in **Figure 3.3**. The run-in would be operated under a TTA during construction and operation phases after the implementation of tunnel to TKSR portal, as presented in **Figure 3.3** and **Figure 3.4**. “No objection in principle” on the schematic TTA at TYNCR access has been sought from TD and no adverse comments from other stakeholder. Nevertheless, the detailed design of the TTA would subject to further investigation in subsequent construction/operation phases.

3.2.4 Given that there are approx. 750m and 700m (including tunnel section) of internal access road adjoining the NKW portal and TKSR portal respectively (see in-text drawing below), which could accommodate vehicle waiting and queuing without disrupting development operations,

it is deemed that any traffic queues from the Site extending to the public road (i.e. NWTYI and TKSR) is not anticipated.

Drawing 1 Possible Vehicle Waiting and Queuing Area



3.3 Trip generation and Attraction of Proposed Underground Quarrying Site

3.3.1 The anticipated trip generation and attraction assumptions on the proposed Underground Quarrying Site is presented in **Table 3.2**.

Table 3.2 Trip Generations and Attractions

Vehicle Type	Trip End (in pcu/hr)					
	AM Peak		PM Peak		Logistic Peak	
	Gen.	Att.	Gen.	Att.	Gen.	Att.
HGV-Concrete Truck(1)	125	125	125	125	125	125
HGV-Asphalt Truck(2)	40	40	40	40	40	40
Private Car	4	4	4	4	4	4
LGV	3	3	3	3	3	3
HGV-Others(3)/Shuttle Service	5	5	5	5	5	5
Total	177	177	177	177	177	177

Remark:
(1) Assuming the peak production of concrete
(2) Assuming the peak production of asphalt
(3) To facilitate operation such as tanker and waste disposal truck

3.3.2 It has been coordinated with the existing occupant of Ngau Kok Wan - Relocation of Sha Tin Sewage Treatment Works to Cavern Project that their existing rock processing facilities at Ngau Kok Wan would cease operation and they will hand over the site to this project upon commencement of the construction of TYNUQ. Consequently, no operational traffic from the existing facilities is anticipated during the construction and operation phases of this project.

3.4 Routing for Proposed Underground Quarrying Site Traffic

Routing for Operational Traffic in 2028-2031

(before the implementation of tunnel at TKSR portal)

3.4.1 The end-users of the rock products are distributed across various regions of Hong Kong, including Hong Kong Island, Kowloon, New Territories and Lantau Island. For the purpose of assessment, the traffic routings proposed for travel to these regions are detailed in the table below. As the tunnel to TKSR portal would be implemented in phases, operational traffic would continue to use the site access at NWTYI until the commissioning of the tunnel at TKSR portal.

Table 3.3 Routing for Operational Traffic in 2028-2031

Route	Outbound Traffic	Inbound Traffic
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → NWTYI SB → NWTYI NB → Site Access at NWTYI
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB→ Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB→ NWTYI NB → Site Access at NWTYI

3.4.2 Routings for the operational traffic in 2028-2031 are also presented in **Figure 3.5** to **Figure 3.8**.

3.4.3 In addition, the percentage split and trip generation of the proposed Underground Quarrying Site presented in **Table 3.4** are adopted for the operation phase of design year 2031 before the implementation of TKSR portal.

Table 3.4 Trip Generation and Percentage Split of Traffic Operation Traffic in 2028-2031

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)
Route A1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route A2 (Ting Kau Bridge)	106	60%	106	60%
Route A3 (Tsing Tsuen Road)	35	20%	35	20%
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

Routing for Operation Traffic in 2031 and onward

(After the implementation of tunnel to TKSR portal)

3.4.4 Following the implementation of the tunnel to TKSR portal, ingress traffic would be directed to the off-slip of TYNCR WB for access, while the egress would be maintained at TYNCR. In addition, inbound of Routes B1, B2 and B4 shall be prohibited during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00) to mitigate further deterioration of traffic conditions at Tam

Kon Shan Interchange, which experiences heavy traffic during the commuting peak traffic periods. Under this restriction, inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel shall be rerouted via Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover to access the site. The proposed routing details are presented in the following table.

Table 3.5 Routing for Operational Traffic from 2031 and onwards

Route	Outbound Traffic	Inbound Traffic
Route B1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB→ Cheung Tsing Tunnel EB	Cheung Tsing Tunnel / Nam Wan Tunnel → Cheung Tsing Highway → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tam Kon Shan Interchange → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR

3.4.5 Routings for the operation traffic from 2031 and onwards are also presented in **Figure 3.9** to **Figure 3.12**.

3.4.6 In addition, the percentage split and traffic demand of the proposed Underground Quarrying Site traffic presented in **Table 3.6** and **Table 3.7** are adopted for design year 2031 after the implementation of TKSR access.

Table 3.6 Trip Generation and Percentage Split of Traffic from 2031 and onwards (AM peak and PM peak)

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow (in pcu/hr)	Split of Route (in %)	Traffic Flow (in pcu/hr)	Split of Route (in %)
Route B1 (Tsing Ma Bridge Bound)[1]	18	10%	0	0
Route B2 (Ting Kau Bridge) [1]	106	60%	0	0
Route B3 (Tsing Tsuen Road)	35	20%	177	100%
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel) [1]	18	10%	0	0

Remark:
(1) Prohibition for inbound is proposed during AM and PM peaks, with the assumption that the traffic demand of the corresponding routes would be zero during these periods

Table 3.7 Trip Generation and Percentage Split of Traffic from 2031 and onwards (outside AM and PM peaks)

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow (in pcu/hr)	Split of Route (in %)	Traffic Flow (in pcu/hr)	Split of Route (in %)
Route B1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route B2 (Ting Kau Bridge)	106	60%	106	60%
Route B3 (Tsing Tsuen Road)	35	20%	35	20%
Route B4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

3.5 Traffic Management Plan to the Site Traffic

3.5.1 The Traffic Management Plan and traffic control proposals shall be prepared and submitted by the Contractor to minimize traffic impacts during both construction and operation phases.

3.5.2 The Contractor shall prepare and submit swept path analysis at critical turning locations to demonstrate sufficient space for vehicles maneuvering of the types of vehicles allowed within the development in the Traffic Management Plan.

3.5.3 In response to the public concern about traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange during peak hours, site traffic should be prohibited from accessing the Site via Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00). Site traffic would be rerouted to Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover. The details of the routing arrangement are provided in **Section 3.4**.

3.5.4 The percentage split of site traffic during construction and operation phases (presented in **Table 3.4** and **Table 3.6**) should be reviewed regularly by the Contractor. Traffic distributions and diversions involving Tsing Ma Bridge, Ting Kau Bridge, Tsing Tsuen Road and Cheung Tsing Tunnel / Nam Wan Tunnel should be monitored and adjusted based on prevailing traffic conditions. The Contractor shall monitor (i.e. GPS tracking, on-site random checking etc.) site traffic in real time and ensure strict adherence to the designated ingress and egress routes.

3.5.5 The Contractor shall submit a detailed Traffic Management Plan and traffic control proposals during construction/operation phases for review and approval. The Traffic Management Plan shall contain traffic control proposals on operation procedure, real-time positioning, site traffic queue and junction restriction measures.

3.6 Contingency Plan for Facilities Failure and Associated Mitigation Measures

3.6.1 The Contractor shall prepare a Contingency Plan for facilities failure, together with mitigation measures to minimize disruption and ensure safety. During the failure, excess site traffic shall be diverted to temporary waiting areas to maintain a controlled and efficient flow of operations.

3.6.2 The plan shall include the following elements:

- Activation criteria and procedures for the contingency plan
- Temporary reassignment procedures for excess site traffic
- Safety and traffic management measures, including traffic rerouting, continuous monitoring and communication protocols
- Maintenance and repair response procedures
- Evaluation of consequences and mitigation measures
- Recovery procedures and resume normal operations

3.7 Non-Conformance, Incident Investigation and Auditing Mechanism for Traffic Management Plan and Traffic Control Requirements

3.7.1 The Contractor shall establish procedures to manage non-conformance, investigate incidents and conduct audits to ensure continuous compliance with the Traffic Management Plan and Contingency Plan.

Non-Conformance Management

3.7.2 Any deviation from established procedures shall be treated as a non-conformance and documented immediately using a standardized report form. The control center shall review reports, assign corrective actions, and ensure recurring issues are addressed through procedural updates or additional staff training.

3.7.3 Enforcement measures shall be applied for significant non-conformances or traffic violations to strengthen compliance and deter recurrence. In-house measures may include fines, contract penalty clauses, and other disciplinary actions as appropriate.

3.7.4 The enforcement mechanism leaves no ambiguity about the consequences of non-compliance and encourages all personnel and contractors to adhere strictly to the traffic rules in place.

Incident Investigation

3.7.5 In the event of an incident (e.g. near-miss, collision, or other safety-related events), the investigation process shall be initiated without delay. The investigation shall include immediate response, data collection, root cause analysis, implementation of corrective actions, and reporting.

Auditing Mechanism

3.7.6 Regular audits shall be conducted to ensure ongoing compliance and continuous improvement. Audit activities shall include scheduled audits, random inspections, audit reporting, feedback loops, and enforcement reviews.

3.8 Provision of Parking and Loading/Unloading Facilities

3.8.1 In consideration of ancillary parking and loading / unloading (L/UL) spaces, it should be in general provided as much as possible unless deemed infeasible by site constraints. In Hong Kong Planning Standards and Guidelines (HKPSG), there is no parking standard specifically for quarrying. Therefore, the proposed provision of ancillary parking and loading/unloading facilities on the Site referred to the standards for Industrial Use (I) under General Industrial Use (GIU).

3.8.2 **Table 3.8** summarizes the required number of parking and L/UL spaces with respect to the GFA of the Site.

Table 3.8 Provision of Parking and Loading/Unloading Facilities

Parking and L/UL Facilities	Standard[(1)]	Required Number of Parking and L/UL Provision	Proposed Number of Parking and L/UL Provision
Quarrying with concrete batching and asphalt production			
Parking Facilities			
Motorcycle	-	Nil	5[(2)]
Private Car (PC)	1 space per 1000 - 1200m² GFA	8-10	10
Light Goods Vehicle (LGV)[2]	1 goods vehicle bay per 700-900m2 GFA, 50% of which should be for parking of goods vehicles	4-5	5
Heavy Goods Vehicle (HGV)[(3)]		2-3	3
L/UL Facilities			
Goods Vehicle	1 goods vehicle bay per 700-900m2 GFA, 50% of which should be for parking of goods vehicles	6-7	7
Container Vehicle Loading / Unloading Bay	1 container vehicle loading/unloading bay with turning circle of 11.6m outer radius should be provided for a site with dimensions not less than 45m x 40m	1	1

Remark:
(1) Parking standard refers to Industrial Use (I) under General Industrial Use (GIU) in Chapter 8, HKPSG (January 2024 Edition)
(2) Additional provisions of motorcycle parking due to the remote location of the Site
(3) Goods vehicle parking and loading/unloading provision is divided into 65% light goods vehicle and 35% medium/heavy goods vehicle

3.8.3 In addition to the above, parking and loading/unloading facilities for employee shuttle services (i.e. coach) are offered within the Site for delivery of an estimated 100 workers. With the above arrangement, no significant impact is anticipated on public transport services.

3.9 Public Transport Arrangement

3.9.1 Currently, only one GMB route (i.e. 88A) serves the area within a 500m catchment of the Site, operating from 09:00 to 19:00 on normal weekdays with additional morning service from 06:30 to 09:00. Since pedestrian access to the Site would not be permitted and employee shuttle services are anticipated to be provided, PT service is not considered necessary for the development. Nevertheless, the details and arrangement of shuttle services for employees are subject to operational needs of the contractor.

4 TRAFFIC IMPACT ASSESSMENT DURING OPERATION PHASE

4.1 Design Year

4.1.1 The commission year of the development is tentatively targeted in Year 2028. With reference to TD's TIA Guidelines of Department Circular 1/2011, the design year for the traffic forecast is proposed to be set at least 3 years after the planned commission of the development. Therefore, the proposed design year is 2031 for the TTIA.

4.2 Assessment Scenario

4.2.1 In view of the development nature (i.e. quarry), it is proposed the assessment scenario consists of AM peak, logistic peak and PM peak on normal Weekday, including:-

- Reference Case (without the proposed development);
- **Design Case Scenario A** (with the proposed development, before implementation of the tunnel to TKSR portal); and
- **Design Case Scenario B** (with the proposed development, after implementation of the tunnel to TKSR portal)

4.3 Vehicular Traffic Demand Forecasts

4.3.1 With reference to Clause 6.15 of the Brief, a traffic model has been developed. In order to produce robust traffic forecasts that would be responsive to dynamic changes in future land use and infrastructure development, a two-tier modelling approach is proposed. The two-tier model structure comprises a Strategic Transport Model (STM) in the upper tier and a Local Area Traffic Model (LATM) in the lower tier. The upper tier STM follows a 4-stage multi-modal modelling process to produce the vehicular cordoned matrices for input into the lower tier LATM.

Model Structure and Coverage

Strategic Transport Model (STM)

4.3.2 AECOM's in-house STM (in EMME platform) that covers the entire Hong Kong Special Administrative Region (HKSAR) has been applied. This model has the architecture of a conventional 4-stage transport model that involves the four basic stages of Trip Generation, Trip Distribution, Modal Split and Assignment.

4.3.3 For this Study, the STM incorporated the Task Force Planning Dataset (TFPD) consolidated by TD complying the proposed township developments under the Northern Metropolis Development Strategy (NMDS) and Kau Yi Chau Artificial Island development. The STM was validated to year 2023 traffic conditions based on Annual Traffic Census (ATC) 2023 for forecasting different scenarios in different design years. For future year traffic forecasting, the planning data, highway and railway network assumptions and other strategic planning assumptions were incorporated into the STM.

Local Area Traffic Model (LATM)

4.3.4 The latest NTW2 2019 Base District Traffic Model (BDTM) was adopted as a starting point to develop a modified LATM for this project. The zoning system primarily adopted the BDTM zoning system, but suitably adjusted and refined to reflect the newly planned developments in the vicinity. Subject to the model validation results and specific local requirements, the zoning system within the AOI was reviewed and refined to better replicate the local traffic movements and to improve the accuracy of the modelled results within the AOI. The traffic route choice patterns and any congestion or access issues in the relevant area were accounted for in the traffic assignment process.

4.3.5 The LATM was developed to validate the traffic conditions in base year and forecast the traffic conditions in design years representing the morning peak (AM) and afternoon peak (PM) in relation to the proposed AOI.

4.3.6 It is worth noting that BDTM only models traffic conditions in AM peak and PM peak on Weekday and therefore LATM also model AM peak and PM peak only. In this connection, the traffic forecast for logistic peak was estimated by growth factor method based on the traffic growth of the study road links from LATM.

Base Year Modelling Development

4.3.7 The STM was validated to year 2023 conditions as base year on the latest available input data, including land use and planning data, transport infrastructure, road network assumptions, socio-economic data, and other transport policy assumptions. For LATM development, year of traffic surveys (i.e. 2025) was adopted as the base year. The overall process for developing the base year model involves the following key steps:

- Collection of relevant data;
- Validation of the STM for the year 2023;
- Model run of the STM for the base year to obtain vehicular cordoned matrices for the LATM;
- Aggregation of the cordoned matrices into two vehicle classes, i.e. private vehicles and goods vehicles, for LATM;
- Disaggregation of matrices from STM zoning system (i.e. same as PDZ system) to LATM zoning system;
- Update and refinement of LATM Network; and
- Validation of the LATM for the base year.

Design Year Modelling Development

4.3.8 The STM was run to project the future transport demand for design years. Similarly, the initial vehicular cordoned matrices were prepared for inputted to LATM. The main tasks are summarized as follows:

- Updating STM highway and railway networks for design years by incorporating committed/planned new highway and railway infrastructure;
- Preparation and full STM runs for design years;
- Checking of STM assignments and results including whether it has selected the reasonable route choice and whether the amount of traffic volume on the major road links is within a reasonable range between various modelled scenarios;
- Preparation of vehicular cordoned matrices from the respective design years of STMs for derivation of zone-to-zone traffic changes by user class (PV and GV) between base / design years;
- Application of “changes” derived above to the validated LATM base year/design year matrices;
- Preparation of LATM highway networks for design years by incorporating committed/planned new highway infrastructure and local traffic improvement schemes; and
- Checking of LATM traffic assignments and results.

Model Validation Criteria

Strategic Transport Model (STM)

4.3.9 The base year STM has been validated to year 2023 observed vehicular flows across the major Annual Traffic Census (ATC) screenlines for the AM and PM peak periods as well as daily basis, see **Appendix C**. The validation of STM covers the ATC screenlines as listed below:

- Hong Kong External Cordon
- Hong Kong Internal Cordon
- Kowloon External Cordon
- Tsing Yi External Cordon
- Lantau External Cordon
- Shatin External Cordon
- Ma On Shan External Cordon
- TKO External Cordon
- Screenline A-A
- Screenline C-C
- Screenline F-F
- Screenline G-G
- Screenline H-H
- Screenline I-I
- Screenline K-K
- Screenline R-R
- Screenline S-S
- Screenline T-T
- Screenline Y-Y
- Cross Harbour

4.3.10 The 2023 validation data was based on the ATC traffic count data. The ATC count data provides breakdowns of total vehicle flows by direction, by hour and by vehicle classification. The validation guidelines for the STM are shown in **Table 4.1**.

Table 4.1 Validation Guidelines for Strategic Transport Model

Validation Parameter at Screenline	Mean Error		80% Error(1)		Max Error	
	1-way	2-way	1-way	2-way	1-way	2-way
Daily Total Vehicles	N/A(2)	3%	N/A(2)	8%	N/A(2)	15%
AM Peak Total Vehicles	10%	5%	15%	10%	30%	20%
AM Peak Car	15%	10%	25%	15%	50%	30%
AM Peak Taxi	15%	10%	25%	15%	50%	30%
AM Peak GV(3)	15%	10%	25%	15%	50%	30%
PM Peak Total Vehicles	10%	5%	15%	10%	30%	20%
PM Peak Car	15%	10%	25%	15%	50%	30%
PM Peak Taxi	15%	10%	25%	15%	50%	30%
PM Peak GV(3)	15%	10%	25%	15%	50%	30%

Remark:
(1) - "80% error" - the difference of observed and synthesized volume of each screen line should be achieved within the specified value. The number of successful screen lines should achieve 80% of total number of screenline.
(2) - N/A stands for "not applicable"
(3) - GV include Light Van, Light Goods Vehicle, Medium Goods Vehicle, Heavy Goods Vehicle and Tractor Unit.

4.3.11 The STM synthesized PT passenger flows were also compared against major PT passenger statistics available to check that the model reasonably represents the overall trip generation and modal choice characteristics within the AOI. The validation guidelines for total daily boarding by broad PT mode and passenger screen line flows are shown in **Table 4.2** and **Table 4.3**.

Table 4.2 Validation Guidelines for Total Daily Boarding by Broad PT Mode

Public Transport Mode	Maximum Allowable Variation
Heavy Rail	±20%
Light Rail Transit / Tram	±20%
Bus (Franchised Bus and Residential Coach Service)	±20%
PLB (RMB and GMB)	±20%
Ferry	±20%
Total PT	**±20%**

Table 4.3 Validation Guidelines for Passenger Screen line Flows

Daily Screenline Flows	Mean Error	80% Error(1)	Maximum Error
Rail	±8%	±10%	±20%
Bus	±5%	±15%	±30%
PLB	±10%	±25%	±50%
PT	±3%	±8%	±15%

Note:
(1) - "80% error" - the difference of observed and synthesized volume of each screen line should be achieved within the specified value. The number of successful screen lines should achieve 80% of total number of screenline.

4.3.12 The 2023 validation performance of STM has been presented in the following **Tables 4.4** to **4.6**. It shows that the STM has fulfilled the validation criteria as specified in **Table 4.1** to **Table 4.3**. Detailed validation results of STM are presented in **Appendix C**.

Table 4.4 STM Validation Performance

Validation Parameter at Screenline	Mean Error		80% Error		Max Error	
	1-way(1)	2-way(1)	1-way(2)	2-way(2)	1-way(3)	2-way(3)
Daily Total Vehicles		1%		85%		13%
AM Peak Total Vehicles	3%	3%	88%	90%	18%	14%
AM Peak Car	3%	3%	98%	100%	31%	15%
AM Peak Taxi	8%	7%	93%	80%	34%	29%
AM Peak GV	4%	3%	98%	90%	33%	17%
PM Peak Total Vehicles	3%	3%	95%	90%	21%	12%
PM Peak Car	5%	4%	98%	100%	28%	13%
PM Peak Taxi	6%	5%	93%	90%	29%	25%
PM Peak GV	5%	4%	93%	80%	34%	25%

Note:
(1) The numbers presented represent the mean difference between observed and synthesized screenline volumes.
(2) The numbers presented represent the percentages of screenlines satisfying the respective criteria.
(3) The numbers presented represent the maximum difference between observed and synthesized screenline volumes.

Table 4.5 Validation Performance for Total Daily Boarding by Broad PT Mode

Public Transport Mode	Daily Boardings (1,000)			
	Observed	Modelled	Mod/Obs	Accepted
Rail	4,918	4,944	1.01	Y
LRT/ Tram	580	638	1.10	Y
Ferry	113	121	1.07	Y
PLB	1,540	1,659	1.08	Y
Bus	4,297	4,438	1.03	Y
Total PT	11,448	11,800	1.03	Y

Table 4.6 Validation Performance for Passenger Screen Line Flows

Parameters	Daily Validation Performance								
	Mean Error			80% Error			Maximum Error		
	Target	(Mod-Obs)/Obs	Accepted?	Target	(Mod-Obs)/Obs	Accepted?	Target	(Mod-Obs)/Obs	Accepted?
Daily Rail Passengers	±8%	+1%	Y	±10%	95%	Y	±20	+11%	Y
Daily Bus Passengers	±5%	+4%	Y	±15%	85%	Y	±30	+21%	Y
Daily PLB Passengers	±10%	+5%	Y	±25%	90%	Y	±50	+28%	Y
Daily Total Passengers	±3%	+1%	Y	±8%	85%	Y	±15	+10%	Y

Note:
(1) The numbers presented represent the percentages of screenlines satisfying the respective criteria.

Local Area Traffic Model (LATM)

4.3.13 The LATM serves to facilitate the detailed traffic forecasts and assessments in the proposed AOI to be carried out under this Assignment. Hence, the base year LATM has to be validated against the observed traffic data comprising screenlines, road link and junction flows within AOI in two distinctive AM and PM peak hours.

4.3.14 The LATM validation guidelines adopted the same as the BDTM, as set out in **Table 4.7**. A combination of percentage difference and Geoffrey E. Havers (GEH) statistics is suggested for use to assess model validation. Validation summary is presented in **Table 4.8** and detailed results are attached in **Appendix C**.

Table 4.7 Validation Guidelines for Local Area Traffic Model

Validation Criteria	Validation Target
1. Screenline Link Flows	85% within ± 10% 100% within ± 20%
2. All Count Locations (including key road links and key junction entry/exit arm flows)	GEH of 5 or less on 85% of links GEH of 10 or less on 100% of links

4.3.15 Recognizing that percentage difference between the observed and modelled link flows only assesses relative error and can often be misleading due to numbers of relatively small magnitude, the GEH statistic is primarily employed to assess validation. GEH is a modified form of chi-square statistic defined as:

$$\sqrt{\frac{(V_2 - V_1)^2}{\frac{1}{2}(V_1 + V_2)}}$$

where V1 and V2 are the observed and modelled flows on a specific link. It is used in order to reflect importance of a difference based on the total volume on a link. If percentages alone are examined, then there is a risk of very large percentage differences in small flow volumes appearing important when they are not. Use of the GEH statistic would remove this risk by reducing the significance of relatively large percentage differences between two small numbers.

Table 4.8 Validation Summary for Local Area Traffic Model

Validation Criteria	Target Values	Percentage satisfying the Criteria	
		AM Peak	PM Peak
		Total (PV + GV +PT) (1)	
Percentage Difference between Observed and Modelled Screenline Link Flows			
% of links within ± 10%	85%	100%	99%
% of links within ± 20%	100%	100%	100%
Percentage of GEH Statistics for key road links and key junction entry/exit arm flows			
% of links with GEH 5 or less	85%	100%	99%
% of links with GEH 10 or less	100%	100%	100%

Note:
(1) PV stands for private vehicles, GV stands for goods vehicles, PT stands for public transport services.

Planning Data Assumptions

4.3.16 The TFPD was taken as the basis of the territorial planning data assumptions in the various design years for this Study. The TFPD has considered the major committed/planned developments near the development including:

- Public Housing Development at Ching Hong Road North;
- Public Housing Development at Tsing Yi Road West.

4.3.17 Apart from the above, advice has been sought from PlanD for the other committed/planned developments within and near the AOI (i.e. not included in the TFPD) as listed below, to facilitate a conservative forecast of traffic flows for 2031 design year.

- Agreement No. CE 85/2017 (GE) – Technical Study on the Potential Quarry Sites at Tsing Yi Southwest – Feasibility Study (commissioned by CEDD)
- Agreement No. CE 14/2016 (CE) – Study on Multi-Storey Complex for Container Storage and Cargo Handling in Tsing Yi – Feasibility Study (commissioned by CEDD)
- Agreement No. CE WQ/216/22 – Traffic Impact Assessment (TIA) (Proposed Advanced Construction Industry Building commissioned by Development Bureau (DEVB))
- Agreement No. FSD/ DLS/22 (70) – Traffic Impact Assessment (TIA) (Proposed Government Dangerous Goods Warehouse and a Government Owned Rental Dangerous Goods Warehouse to the Fire Services Department (FSD) commissioned by FSD)

Trip Generation/Attraction

4.3.18 The trip generation/attraction of planned/committed developments not included in the TFPD within and near the AOI followed TIA/traffic study reports of each project. In case such reports are not available, the additional traffic flows were estimated from the trip rates in TPDM, BDTM or Trip Generation Survey 2006 (TGS2006) by TD.

4.3.19 For the development itself, the main operation traffic of the Tsing Yi North Underground Quarry was suggested to be estimated by considering the hourly maximum daily production capacity of the ancillary operation and the capacity of truck (e.g. concrete truck and dump truck for concrete batching facilities and asphalt production facilities respectively).

4.3.20 Apart from the above, other operation traffic (e.g. private cars and light goods vehicles) was considered with reference to quarry site(s) with similar nature in terms of production scale and number of staff (e.g. Lam Tei Underground Quarry).

Planned and Committed Road and Rail Infrastructure Projects in the Vicinity Highway Project

4.3.21 The highway network assumptions adopted are shown in **Table 4.9** below.

Table 4.9 Road Network Assumptions

Road Network Assumptions (in addition to 2023 network)	Configuration	To be Incorporated in Transport Model of Design Year in
Kowloon		
Route 6 – Central Kowloon Route	D3	2031
Route 6 – Trunk Road T2 (Kai Tak – Cha Kwo Ling Link)	D2	2031
New Territories		
Widening of section of Lin Ma Hang Road between Tsung Yuen Ha and Lin Ma Hang	S2	2031
Widening of Castle Peak Road (Castle Peak Bay Section)	D2	2031
Widening of Fuk Hang Tsuen Road	S2	2031
Improvement of Fan Kam Road	S2	2031
Widening of Tai Po Road (Sha Tin Section)	D3	2031
Fanling Bypass Eastern Section (under Fanling North NDA)	D2	2031
Flyover from Kwai Tsing Interchange Up Ramp to Kwai Chung Road	S1	2031
Upgrading of remaining sections of Kam Tin Road and Lam Kam Road	S2	2031
North Lantau Road P1 (Tung Chung east to Tai Ho Section)	D2	2031
Revised Trunk Road T4 in Sha Tin	D2	2031
Dualling of Hiram's Highway between Marina Cove and Sai Kung Town (Hiram's Highway Improvement Stage 2)	D2	2031
Fanling Bypass Western Section (under Fanling North NDA)	S2	2031
Improvement of Tai Tau Leng Roundabout and Fanling Highway (Kwu Tung Section)	D4	2031
North-South Link(s) as Alternative to So Kwun Po (Kai Leng) Roundabout	S1	2031
Slip Road connecting Lok Ma Chau Road to Fanling Highway Eastbound	S1	2031
Flyover connecting Lok Ma Chau Road to San Tin Highway Westbound	S1	2031
Road P2 for Kwu Tung North New Development Area	D2	2031
Road D2 for Kwu Tung North New Development Area	S4/S2	2031
Road D3 for Kwu Tung North New Development Area	S4/S2	2031
Road Improvement Works in Hung Shui Kiu New Development Area	Various	2031
Road Improvement Works in Yuen Long South Development	Various	2031
Widening of T6 Bridge of Tate's Cairn Highway	D3	2031
Lantau Road P1 between Tai Ho Interchange and Sunny Bay	D2	2031

Railway Project

4.3.22 The railway network assumptions adopted are shown in **Table 4.10** below.

Table 4.10 Railway Network Assumptions

Railway network assumptions (in addition to 2023 network)	To be Incorporated in Transport Model of Design Year in
Northern Link (NOL) Phase 1 Kwu Tung (KTU) Station	2031
Tung Chung Line (TCL) Extension	2031
Oyster Bay (OYB) Station	2031
Hung Shui Kiu (HSK) Station	2031
Tuen Mun South (TMS) Extension	2031

Traffic Growth of Study Road Link

4.3.23 As discussed in **para. 4.3.6**, the traffic forecast for logistic peak was estimated using the growth factor method based on the traffic growth of the study road links from LATM. The forecasted traffic flows of study road links for the design year 2031 are extracted from LATM and presented in the following table.

Table 4.11 Growth Factor of Study Road Links

Link Index	Link Name	Direction	AM Peak			PM Peak		
			2025 Obs[(1)]	2031 Mod[(1)]	Grow Factor	2025 Obs[(1)]	2031 Mod[(1)]	Grow Factor
			Flow (pcu/hr)		p.a.	Flow (pcu/hr)		p.a.
L1	Tsing Ma Bridge	EB	3,370	4,560	+5.2%	4,460	6,285	+5.9%
		WB	4,445	6,370	+6.2%	3,175	4,855	+7.3%
L2	Ting Kau Bridge	NB	3,160	4,480	+6.0%	4,690	5,660	+3.2%
		SB	6,840	7,175	+0.8%	3,650	4,325	+2.9%
L3	Unnamed access road near Lantau Link Visitors Centre	NB	195	0	-	190	0	-
		SB	125	0	-	140	0	-
L4	Tam Kon Shan Road	EB	325	450	+5.6%	335	460	+5.4%
		WB	105	105	0%	105	105	0%
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	220	345	+7.8%	195	320	+8.6%
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	155	280	+10.4%	170	295	+9.6%
L7	Tsing Yi North Coastal Road	EB	1,200	1,435	+3.0%	1,115	1,385	+3.7%
		WB	1,600	2,435	+7.3%	1,045	1,420	+5.2%
L8	Cheung Tsing Tunnel	EB	4,360	4,940	+2.1%	3,540	4,375	+3.6%
		WB	2,930	3,545	+3.2%	2,930	3,645	+3.7%
L9	Nam Wan Tunnel	EB	2,910	3,935	+5.2%	1,755	3,005	+9.2%
		WB	1,795	3,765	+13.1%	2,345	3,745	+8.1%
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	1,360	1,330	-0.4%	1,365	1,375	+0.1%
		SB	1,230	1,275	+0.6%	1,010	970	-0.7%
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	1,000	1,005	+0.1%	945	950	+0.1%
		SB	805	825	+0.4%	710	660	-1.2%

Link Index	Link Name	Direction	AM Peak			PM Peak		
			2025 Obs(1)	2031 Mod(1)	Grow Factor	2025 Obs(1)	2031 Mod(1)	Grow Factor
			Flow (pcu/hr)		p.a.	Flow (pcu/hr)		p.a.
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	675	660	-0.4%	715	720	+0.1%
		SB	750	805	+1.2%	570	560	-0.3%
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	615	625	+0.3%	510	515	+0.2%
		WB	625	685	+1.5%	550	570	+0.6%
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	490	470	-0.7%	615	585	-0.8%
		WB	790	780	-0.2%	575	570	-0.2%
Total Traffic Flow			42,075	52,280	+3.7%	37,405	47,355	+4.0%

Remark:
(1) – "Obs" denotes as observed flow, while "Mod" demotes as modelled flow extracted from LATM

4.3.24 **Table 4.11** details the growth factors for the study road links during the AM and PM peak periods respectively based on the LATM. The data reveal variable annual growth rates among the links. Collectively, the overall annual growth rate indicates an increase of 3.7% and 4.0% for AM and PM peak periods respectively.

4.3.25 Apart from the traffic growth of the study road links from LATM in AM and PM peak periods, reference has also been made to the TFPD to establish the growth rate. The average annual growth rates in terms of population and employment from 2019 to 2031 are tabulated in **Table 4.12**.

Table 4.12 Population and Employment of PDZ within AOI in TFPD

PDZ	Projection Year					
	2019		2026		2031	
	Population	Employment	Population	Employment	Population	Employment
152	25,450	2,200	25,400	2,300	25,427	3,377
153	37,250	7,950	35,500	7,400	34,392	7,236
155	50	3,250	50	2,600	52	2,103
359	3,050	600	2,700	650	2,307	542
428	50,400	5,350	49,750	5,500	50,016	7,177
450	33,450	5,850	34,750	5,600	35,126	6,293
Total	**149,650**	**25,200**	**148,150**	**24,050**	**147,320**	**26,728**
Annual Growth Rate			From 2019 to 2026: -0.22%		From 2026 to 2031: +0.21%	

4.3.26 As shown in **Table 4.12**, the projection planning data in TFPD suggest that the annual growth rates between 2019 and 2026 is -0.22% and between 2026 and 2031 is +0.21%.

4.3.27 For a conservative approach, it is recommended that a growth factor of +4.0% be applied to the logistic peak traffic flows observed in 2025 to forecast the corresponding flows for the 2031 design year.

4.3.28 Results of traffic forecast for the scenario of "Without" and "With" the proposed development are shown from **Figure 4.1** to **Figure 4.5** respectively.

Planned / Committed Traffic Improvement Scheme

4.3.29 The reference scenarios also considered the planned/ committed local traffic improvement schemes within the Study Area. The planned/ committed traffic improvement scheme is listed below whilst the scheme layout plan is provided in **Appendix D**.

- J6 - Fung Shue Wo Road / Tsing Yi Road West under Infrastructure Works for Public Housing developments at Ching Hong Road North, Tsing Yi

4.3.30 The above-mentioned traffic improvement scheme was included in the traffic impact assessment and the results are summarized in the following section.

4.4 Assessment of Study Junctions and Road Links for Design Year 2031

4.4.1 To gauge the traffic impact due to the development, performance of the study junctions and road links is assessed for design year 2031 according to the criteria from **paragraphs 2.3.2** to **2.3.4**. The results are summarized from **Table 4.13** to **Table 4.18** below.

Table 4.13 Junction Capacity Assessment for Design Year (2031) – Reference Case

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.36	0.30	0.36
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	-(1)	-(1)	-(1)
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.29	0.27	0.18
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.64
J6(2)	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
(2) Taking into account the proposed junction improvement works under other projects.

Table 4.14 Road Link Capacity Assessment for Design Year (2031) - Reference Case

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,560	0.75	6,285	**1.03**	4,620	0.76
		WB	6,100	6,370	**1.04**	4,855	0.80	4,350	0.71
L2	Ting Kau Bridge	NB	6,100	4,480	0.73	5,660	0.93	4,740	0.78
		SB	6,100	7,175	**1.18**	4,325	0.71	6,405	**1.05**
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	-(1)	-(1)	-(1)	-(1)	0	0.00
		SB	500	-(1)	-(1)	-(1)	-(1)	0	0.00
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,435	0.26	1,385	0.25	1,385	0.25
		WB	3,600	2,435	0.68	1,420	0.39	1,490	0.41
L8	Cheung Tsing Tunnel	EB	5,400	4,940	0.91	4,375	0.81	4,220	0.78
		WB	5,400	3,545	0.66	3,645	0.68	2,990	0.55
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,765	0.70	3,745	0.69	3,250	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,005	0.33	950	0.31	965	0.32
		SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,560	0.64	1,660	0.42	1,665	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	335	0.19	340	0.19	210	0.12
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	165	0.09	65	0.04	290	0.16
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,100	0.61	1,275	0.71	1,240	0.69
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road	NB	1,700	330	0.19	240	0.14	285	0.17

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	near Lantau Link Visitors Centre								
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,230	0.69	5,020	0.82	4,460	0.73
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,400	0.39	1,500	0.42	1,525	0.42
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	250	0.14	415	0.23	270	0.15
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,040	0.55	615	0.32	695	0.37
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,330	0.65	1,520	0.42	1,545	0.43
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,370	0.55	2,130	0.35	2,235	0.37
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	810	0.43	470	0.25	575	0.30
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	475	0.25	130	0.07	360	0.19
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,755	0.70	6,070	0.74	5,445	0.66
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,900	0.96	5,660	0.69	7,575	0.92

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.

Design Case Scenario A

Table 4.15 Junction Capacity Assessment for Design Year (2031) – Design Case Scenario A

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.55	0.49	0.56

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.42	0.49	0.48
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.29	0.27	0.18
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.64
J6(2)	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100 %	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
(2) Taking into account the proposed junction improvement works under other projects.

Table 4.16 Road Link Capacity Assessment for Design Year (2031) – Design Case Scenario A

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,575	0.75	6,305	**1.03**	4,640	0.76
		WB	6,100	6,385	**1.05**	4,870	0.80	4,365	0.72
L2	Ting Kau Bridge	NB	6,100	4,585	0.75	5,765	0.95	4,845	0.79
		SB	6,100	7,285	**1.19**	4,430	0.73	6,510	**1.07**
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	175	0.35	175	0.35	175	0.35
		SB	500	175	0.35	175	0.35	175	0.35
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,470	0.26	1,420	0.25	1,420	0.25
		WB	3,600	2,470	0.69	1,455	0.40	1,525	0.42
L8	Cheung Tsing Tunnel	EB	5,400	4,960	0.92	4,395	0.81	4,235	0.78
		WB	5,400	3,555	0.66	3,655	0.68	3,000	0.56
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,775	0.70	3,755	0.70	3,260	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11		NB	3,050	1,005	0.33	950	0.31	965	0.32

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,580	0.65	1,680	0.42	1,680	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	585	0.33	590	0.33	460	0.26
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	180	0.10	85	0.05	305	0.17
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,120	0.62	1,295	0.72	1,255	0.70
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	485	0.29	400	0.24	445	0.26
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,335	0.71	5,125	0.84	4,565	0.75
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,580	0.44	1,675	0.47	1,700	0.47
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	395	0.22	555	0.31	410	0.23
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,150	0.61	720	0.38	800	0.42
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,505	0.70	1,695	0.47	1,720	0.48

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,655	0.60	2,415	0.40	2,520	0.41
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	1,075	0.57	735	0.39	840	0.44
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	490	0.26	150	0.08	380	0.20
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,770	0.70	6,090	0.74	5,460	0.67
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,920	0.97	5,675	0.69	7,590	0.93

Design Case Scenario B

Table 4.17 Junction Capacity Assessment for Design Year (2031) – Design Case Scenario B

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.44	0.37	0.53
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.40	0.46	0.45
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.43	0.42	0.33
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.17
J5	Tam Kon Shan Interchange	Roundabout	0.64	0.58	0.75
J6[(2)]	Fung Shue Wo Road / Tsing Yi Road West	Signal	42%	50%	44%
J7	Liu To Road / Tsing Yi Road West	Signal	30%	34%	21%
J8	Ching Hong Road / Tsing Yi Road West	Signal	63%	91%	46%
J9	Ching Hong Road / Chung Mei Road	Signal	91%	>100%	87%
J10	Cheung Tsing Highway / Tsing Yi Road West	Signal	64%	64%	19%
J11	Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road	Signal	52%	73%	17%

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.
(2) Taking into account the proposed junction improvement works under other projects.

Table 4.18 Road Link Capacity Assessment for Design Year (2031) – Design Case Scenario B

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	4,560	0.75	6,285	**1.03**	4,640	0.76
		WB	6,100	6,385	**1.05**	4,870	0.80	4,365	0.72
L2	Ting Kau Bridge	NB	6,100	4,585	0.75	5,765	0.95	4,845	0.79
		SB	6,100	7,175	**1.18**	4,325	0.71	6,510	**1.07**
L3	Unnamed access road near Lantau Link Visitors Centre	SB	500	175	0.35	175	0.35	175	0.35
L4	Tam Kon Shan Road	EB	900	450	0.50	460	0.51	240	0.27
		WB	900	105	0.12	105	0.12	80	0.09
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	345	0.19	320	0.18	220	0.12
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	280	0.16	295	0.16	130	0.07
L7	Tsing Yi North Coastal Road	EB	5,600	1,470	0.26	1,420	0.25	1,560	0.28
		WB	3,600	2,610	0.73	1,600	0.44	1,670	0.46
L8	Cheung Tsing Tunnel	EB	5,400	4,960	0.92	4,395	0.81	4,235	0.78
		WB	5,400	3,545	0.66	3,645	0.68	3,000	0.56
L9	Nam Wan Tunnel	EB	5,400	3,935	0.73	3,005	0.56	3,785	0.70
		WB	5,400	3,765	0.70	3,745	0.69	3,260	0.60
L10	Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West	NB	3,050	1,330	0.44	1,375	0.45	1,390	0.46
		SB	4,850	1,275	0.26	970	0.20	1,120	0.23
L11	Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road	NB	3,050	1,005	0.33	950	0.31	965	0.32
		SB	3,050	825	0.27	660	0.22	720	0.24
L12	Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road	NB	2,800	660	0.24	720	0.26	910	0.33
		SB	2,800	805	0.29	560	0.20	745	0.27
L13	Ching Hong Road between Tsing Yi Road West and Chung Mei Road	EB	920	625	0.68	515	0.56	730	0.79
		WB	920	685	0.74	570	0.62	675	0.73
L14	Sai Tso Wan Road between Tsing Yi Road West and local access for Yiu Lian Dockyards Limited	EB	1,250	470	0.38	585	0.47	1,020	0.82
		WB	1,250	780	0.62	570	0.46	900	0.72
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,580	0.65	1,680	0.42	1,680	0.42
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	440	0.24	445	0.25	425	0.24
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway	NB	1,800	165	0.09	65	0.04	305	0.17

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	northbound to Tsing Yi Administration Building northbound								
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	1,100	0.61	1,275	0.71	1,255	0.70
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	330	0.19	240	0.14	410	0.24
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	4,335	0.71	5,125	0.84	4,565	0.75
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,580	0.44	1,675	0.47	1,845	0.51
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	395	0.22	555	0.31	410	0.23
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	1,040	0.55	615	0.32	800	0.42
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	2,470	0.69	1,660	0.46	1,685	0.47
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	3,515	0.58	2,275	0.37	2,485	0.41
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	935	0.49	595	0.31	805	0.42
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	490	0.26	150	0.08	380	0.20
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	5,755	0.70	6,070	0.74	5,460	0.67
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	2,405	0.60	2,120	0.53	1,820	0.46
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,915	0.48	2,550	0.64	1,605	0.40
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,920	0.97	5,675	0.69	7,590	0.93

4.4.2 The results in **Table 4.13** to **Table 4.18** above show that the performance of all study junctions and road links in Scenarios A and B would operate within capacity during AM, PM and logistic peak hours on weekdays for design year 2031, with the exceptions of Tsing Ma Bridge (L1) eastbound during PM peak hour, westbound during AM peak hour and Ting Kau Bridge southbound (L2) during both AM and logistic peak hours. Nevertheless, it is considered the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal (i.e. at most 0.02 increase of V/C ratio) and the road links would still operate with V/C ratio below 1.2. In addition, it is anticipated that the completion of Tsing Yi - Lantau Link would further improve the traffic conditions at L1 and L2. The details of the junction capacity calculation can be found in **Appendix A**.

4.4.3 Since the traffic impact on J1 and J5 is considered to be most significant due to the location close to the access of the Site, the anticipated traffic queue at the approach arms of J1 and J5 were analysed. The extent of the queues for the commuting peaks and logistic peak under scenarios of 2031 reference, 2031 design case Scenario A and 2031 design case Scenario B are presented in **Table 4.19** to **4.22**.

Table 4.19 Queue Length Analysis for NWTYI Roundabout (J1) – Design Case Scenario A

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
NWTYI SB	145m	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)
NWTYI NB	70m	4	3	4	8	6	8

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.
(2) The average queuing length is negligible.

Table 4.20 Queue Length Analysis for NWTYI Roundabout (J1) – Design Case Scenario B

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario B)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
NWTYI SB	145m	0(2)	0(2)	0(2)	0(2)	0(2)	0(2)
NWTYI NB	70m	4	3	4	5	7	4

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.
(2) The average queuing length is negligible.

Table 4.21 Queue Length Analysis for Tam Kon Shan Interchange (J5)–Design Case Scenario A

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
Tan Kon Shan Road SB	100m	7	4	8	7	4	8
Tsing King Road SB	165m	6	4	5	6	4	5
TYNCR WB	260m	4	3	6	4	3	6
Fung Shue Wo Road NB	180m	9	9	11	9	9	11

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario A)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
TYNCR EB	135m	11	5	8	11	5	8

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.

Table 4.22 Queue Length Analysis for Tam Kon Shan Interchange (J5)–Design Case Scenario B

Junction Arm	Approx. Buffer Distance (1)	Year 2031 (Reference Case)			Year 2031 (Design Case Scenario B)		
		Average Queue Length (meter)					
		AM	PM	Log	AM	PM	Log
Tan Kon Shan Road SB	100m	7	4	8	7	4	8
Tsing King Road SB	165m	6	4	5	6	4	6
TYNCR WB	260m	4	3	6	4	3	6
Fung Shue Wo Road NB	180m	9	9	11	9	9	12
TYNCR EB	135m	11	5	8	11	5	18

Notes:
(1) Buffer distance refers to road distance to the upstream junction / mainline.

4.4.4 Based on the above, there is a low chance of traffic tailing back to the upstream junctions during both commuting peak and logistic peak hours at J1 and J5 in design case scenarios.

5 SENSITIVITY TEST SCENARIO

5.1 Alternative Site Access Arrangements

5.1.1 As noted in **para. 3.2.3**, the proposed site access would be relocated from NWTYI to the slip road of TYNCR near the existing TKSR roundabout (J3) once the tunnel to the TKSR portal is implemented in 2031 tentatively. Concurrently, the unnamed access road at NWTYI would be converted into a one-way outbound road, requiring all development traffic to reroute to the TKSR portal to enter the Site.

5.1.2 Relocating vehicular access to the TKSR portal forces inbound traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel to detour. Outside of AM and PM peak periods, these traffic must route via Tsing Yi North Coastal Road and turn around at Tam Kon Shan Interchange before reaching the TKSR portal. Moreover, during the commuting peaks, inbound traffic from these bounds shall be rerouted to Tsuen Kam Interchange, Texaco Road, Tsing Tsuen Road flyover and Tsing Yi North Coastal Road flyover due to proposed access restriction for site traffic at Tam Kon Shan Interchange and Tsuen Tsing Interchange. While these routings (under Design Case Scenario B) are technically acceptable regarding road link and junction performances as presented in **Section 4.4**, the longer travel distance may reduce operational efficiency. Therefore, subject to the contractor's operational needs, an alternative site access arrangement in operation phase is explored. This alternative maintains both ingress and egress at the NKW portal, even after the tunnel leading to TKSR portal is implemented, to minimize the traffic detours.

5.1.3 A sensitivity test scenario was developed to evaluate traffic conditions using this alternative site access arrangement for the design year 2031.

5.1.4 Under this alternative site access arrangement, the ingress and egress at NWTYI would remain open and the new run-in near TKSR roundabout would operate simultaneously to further disperse traffic demand. The anticipated routing details are summarized in **Table 5.1** below.

Table 5.1 Routing for Alternative Site Access Arrangement

Route	Outbound Traffic	Inbound Traffic	Reference Figure
Route A1 (Tsing Ma Bridge Bound)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Tsing Ma Bridge WB	Tsing Ma Bridge EB → NWTYI NB → Site Access at NWTYI	Figure 3.1
Route A2 (Ting Kau Bridge)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Ting Kau Bridge NB	Ting Kau Bridge SB → NWTYI SB → NWTYI NB → Site Access at NWTYI	Figure 3.2
Route B3 (Tsing Tsuen Road)	Site Access at NWTYI → NWTYI NB → TYNCR EB → Tam Kon Shan Interchange Flyover EB → Tsing Tsuen Road EB	Tsing Tsuen Road WB → Tam Kon Shan Interchange Flyover WB → TYNCR WB → Slip Road to TKSR → Site Access at the off-slip of TYNCR	Figure 3.11
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	Site Access at NWTYI → NWTYI NB → NWTYI SB → Cheung Tsing Highway SB → Cheung Tsing Tunnel EB	Cheung Tsing Tunnel WB / Nam Wan Tunnel WB → Cheung Tsing Highway NB → NWTYI NB → Site Access at NWTYI	Figure 3.4

5.1.5 As shown in **Table 5.1,** the alternative access routings are primarily based on Design Case Scenario A. Because the NKW portal provides shorter ingress routes, traffic from Tsing Ma Bridge, Ting Kau Bridge and Cheung Tsing Tunnel / Nam Wan Tunnel bounds would likely utilize the NKW portal for accessing the Site (Route A1, Route A2 and Route A4). Nevertheless, traffic from Tsing Tsuen Road benefits from a more direct path via the TKSR portal, therefore, it is anticipated to use the TKSR portal access and its associated route (Route B3).

5.1.6 Trip generation and percentage splits for each route remain identical to Design Cases Scenarios A and B, as the end-user origins/destinations and total traffic volumes are unchanged. These assumptions are detailed in **Table 5.2**.

Table 5.2 Trip Generation and Percentage Split of Routing for Alternative Site Access Arrangement

Route	Outbound Traffic		Inbound Traffic	
	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)	Traffic Flow in peak (in pcu/hr)	Split of Route (in %)
Route A1 (Tsing Ma Bridge Bound)	18	10%	18	10%
Route A2 (Ting Kau Bridge)	106	60%	106	60%
Route B3 (Tsing Tsuen Road)	35	20%	35	20%
Route A4 (Cheung Tsing Tunnel / Nam Wan Tunnel)	18	10%	18	10%

5.1.7 Compared to Design Case Scenario A, the only routing deviation is inbound traffic from Tsing Tsuen Road. This traffic will shift to Route B3 (entering via the TKSR portal run-in) instead of using Route A3 (entering via the NKW portal). Routes and traffic volumes for all other approaches (Routes A1, A2 and A4) remain exactly as modeled in Design Case Scenario A. Thus, the traffic impact of this sensitivity test can be evaluated solely by swapping Route A3 for Route B3.

5.1.8 Shifting Tsing Tsuen Road bound traffic to Route B3 eliminates its need to traverse NWTYI and NWTYI Roundabout (J1), providing direct access from TYNCR instead. This could reduce traffic loads at NWTYI and its roundabout, positively impacting their performance. Since all other routes (Routes A1, A2 and A4) are unchanged, no other assessed junctions or road links from Design Case Scenario A would be affected.

5.1.9 Based on this analysis, the alternative access arrangement will not degrade traffic conditions at any study junctions or road links compared to Design Case Scenario A.

5.1.10 Nevertheless, in order to address public concerns regarding congestion, peak period access restrictions (i.e. 07:00 to 09:30 and 17:00 to 19:00) for development traffic at Tam Kon Shan and Tsuen Tsing Interchanges should be maintained under this alternative site access arrangement.

5.1.11 Consistent with the arrangements in **Section 3.4**, the Contractor shall regularly review site traffic percentage splits. Traffic distributions and diversion across Tsing Ma Bridge, Ting Kau Bridge, Tsing Tsuen Road and Cheung Tsing Tunnel / Nam Wan Tunnel should be monitored and adjusted based on prevailing traffic conditions. These proposed routing arrangements should be explicitly detailed in the Traffic Management Plan and traffic control proposals for review and approval.

6 CONSTRUCTION TRAFFIC IMPACT ASSESSMENT

6.1 Peak Construction Year and Estimation of Construction Traffic

6.1.1 Construction vehicles are expected to travel to the development via the unnamed local access road and NWTYI during the construction phase. To be conservative, peak construction year (i.e. 2028) was adopted for subsequent road links and junction capacity assessment.

6.1.2 With reference to the construction works and preliminary construction programme, the estimation of construction traffic during the peak construction year (i.e. 2028) is shown in **Table 6.1** below.

Table 6.1 Estimation of Construction Traffic

Construction Traffic Routings	Number of Vehicles	
	Generation	Attraction
Via Tsing Ma Bridge	2	2
Via Ting Kau Bridge	2	2
Via Tsing Tsuen Road	4	4

Remark:
(1) Assuming 25% of traffic to/from Tuen Mun Area 38 Fill Bank or NENT via Tsing Ma Bridge
(2) Assuming 25% of traffic to/from Tuen Mun Area 38 Fill Bank or NENT via Ting Kau Bridge
(3) Assuming 50% of excavated material from TKS Portal Site Formation

6.1.3 Based on the latest information, it is proposed that the excavated materials would generally be transported to North East New Territories (NENT) Landfill and Tuen Mun Area 38 Fill Bank via Lantau Link, Tsing Long Highway and Tsing Tsuen Road. Construction materials (e.g. concrete and steel) are also assumed using Lantau Link, Tsing Long Highway and Tsing Tsuen Road to be transported to the Site.

6.1.4 As for vehicular traffic demand forecast for construction traffic impact assessment, it is expected that future traffic condition (i.e. 2028) of local road network surrounding the development would not explicate dynamic changes due to no major transport infrastructure works is anticipated to be completed within and near Tsing Yi. Therefore, the background traffic forecasts for 2028 design year were derived by applying a traffic growth rate to the surveyed traffic flows, excluding PT flows which considered to be operated on the same schedule, to project the traffic flows for reference case scenario (i.e. without construction traffic). With reference to the population and employment projection of TFPD, a total growth rate of 1.51% (from 11,771,500 in Year 2025 to 11,949,800 in Year 2028) is proposed. Construction traffic was then be assigned on top of the reference traffic flows according to the routings in **Table 5.1** to produce the traffic flows for design case scenario (i.e. with construction traffic).

6.2 Assessment of Study Junctions and Road Links for Design Year 2028

6.2.1 To gauge the construction traffic impact due to the development, performance of the concerned junctions and road links along the construction traffic routings has been assessed for peak construction year 2028 according to the criteria from **paragraphs 2.3.2** to **2.3.4**.

6.2.2 Assessment results of junctions and road links along the construction traffic routings are presented in **Tables 6.2** to **6.5** below.

Table 6.2 Junction Capacity Assessment for Design Year (2028) – Reference Case (Without Construction Traffic)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.36	0.32	0.29
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	-(1)	-(1)	-(1)
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.19	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.13

Remark:
(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist.

Table 6.3 Road Link Capacity Assessment for Design Year (2028) – Reference Case (Without Construction Traffic)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,300	0.54	4,415	0.72	3,700	0.61
		WB	6,100	4,505	0.74	3,195	0.52	3,480	0.57
L2	Ting Kau Bridge	NB	6,100	3,205	0.53	4,760	0.78	3,790	0.62
		SB	6,100	6,865	**1.13**	3,630	0.60	5,125	0.84
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	-(1)	-(1)	-(1)	-(1)	-(1)	-(1)
		SB	500	-(1)	-(1)	-(1)	-(1)	-(1)	-(1)
L4	Tam Kon Shan Road	EB	900	330	0.37	340	0.38	195	0.22
		WB	900	110	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	225	0.13	200	0.11	175	0.10
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	160	0.09	175	0.10	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,100	0.20	1,020	0.18	1,105	0.20
		WB	3,600	1,625	0.45	1,065	0.30	1,195	0.33
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,025	0.51	1,320	0.33	1,330	0.33
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	335	0.19	365	0.20	170	0.09
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi	NB	1,800	165	0.09	70	0.04	230	0.13

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
	Administration Building northbound								
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	930	0.52	1,025	0.57	990	0.55
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	300	0.18	255	0.15	230	0.14
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	3,030	0.50	4,350	0.71	3,570	0.59
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,195	0.33	1,260	0.35	1,220	0.34
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	255	0.14	415	0.23	215	0.12
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	970	0.51	535	0.28	555	0.29
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,650	0.46	1,280	0.36	1,235	0.34
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,625	0.43	1,815	0.30	1,790	0.29
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	600	0.32	495	0.26	460	0.24
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	130	0.07	290	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,405	0.54	5,050	0.62	4,360	0.53
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,200	0.30	1,145	0.29	1,455	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,155	0.29	1,565	0.39	1,285	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,205	0.88	4,635	0.57	6,065	0.74

Remark:

(1) Existing rock processing facilities at Ngau Kok Wan would cease operation and the related traffic will no longer exist

Table 6.4 Junction Capacity Assessment for Design Year (2028) – Design Case (With Construction Traffic)

Index	Junction	Type	RC/DFC		
			AM Peak	PM Peak	Logis Peak
J1	North West Tsing Yi Interchange (NWTYI) Roundabout	Roundabout	0.38	0.33	0.31
J2	NWTYI / unnamed access road near Lantau Link Visitors Centre	Priority	0.04	0.04	0.04
J3	Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road	Roundabout	0.19	0.17	0.14
J4	Tam Kon Shan Road / Slip Road to Tsing Yi North Coastal Road	Priority	0.20	0.22	0.13

Table 6.5 Road Link Capacity Assessment for Design Year (2028) – Design Case (With Construction Traffic)

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
L1	Tsing Ma Bridge	EB	6,100	3,305	0.54	4,420	0.72	3,705	0.61
		WB	6,100	4,510	0.74	3,200	0.52	3,485	0.57
L2	Ting Kau Bridge	NB	6,100	3,210	0.53	4,765	0.78	3,795	0.62
		SB	6,100	6,870	**1.13**	3,635	0.60	5,130	0.84
L3	Unnamed access road near Lantau Link Visitors Centre	NB	500	20	0.04	20	0.04	20	0.04
		SB	500	20	0.04	20	0.04	20	0.04
L4	Tam Kon Shan Road	EB	900	330	0.37	340	0.38	195	0.22
		WB	900	110	0.12	105	0.12	65	0.07
L5	Slip Road Connecting Tsing Yi North Coastal Road westbound to Tam Kon Shan Road	WB	1,800	225	0.13	200	0.11	175	0.10
L6	Slip Road Connecting Tam Kon Shan Road to Tsing Yi North Coastal Road eastbound	EB	1,800	160	0.09	175	0.10	100	0.06
L7	Tsing Yi North Coastal Road	EB	5,600	1,110	0.20	1,030	0.18	1,115	0.20
		WB	3,600	1,635	0.45	1,075	0.30	1,205	0.33
LL1	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Ma Bridge westbound	WB	4,000	2,030	0.51	1,325	0.33	1,335	0.33
LL2	NWTYI – Slip Road connecting Tsing Long Highway southbound to Tsing Yi Administration Building northbound	NB	1,800	355	0.20	385	0.21	190	0.11
LL3	NWTYI – Slip Road connecting Cheung Tsing Highway northbound to Tsing Yi Administration Building northbound	NB	1,800	165	0.09	70	0.04	230	0.13
LL4	NWTYI – Slip Road connecting Tsing Ma Bridge eastbound near Wok Tai Wan	NB	1,800	935	0.52	1,030	0.57	995	0.55

Link Index	Link Name	Direction	Capacity (pcu/hr)	V/C Ratio					
				AM Peak		PM Peak		Logistic Peak	
				Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio	Flow (pcu/hr)	v/c ratio
LL5	NWTYI – Slip Road connecting Tsing Yi Administration Building and unnamed access road near Lantau Link Visitors Centre	NB	1,700	315	0.19	270	0.16	245	0.14
LL6	NWTYI – Slip Road connecting Tsing Sha Highway northbound to Tsing Long Highway northbound	NB	6,100	3,035	0.50	4,355	0.71	3,575	0.59
LL7	NWTYI – Slip Road connecting unnamed access road near Lantau Link Visitors Centre to Tsing Yi North Coastal Road eastbound	NB	3,600	1,215	0.34	1,280	0.36	1,240	0.34
LL8	Slip Road connecting Tsing Yi North Coastal Road eastbound and westbound	SB	1,800	265	0.15	425	0.24	225	0.13
LL9	NWTYI – Tsing Long Highway southbound	SB	1,900	975	0.51	540	0.28	560	0.29
LL10	NWTYI - Slip Road connecting LL9 to LL1	SB	3,600	1,670	0.46	1,300	0.36	1,255	0.35
LL11	NWTYI – Slip Road connecting Tsing Long Highway southbound to LL1 and LL12	SB	6,100	2,650	0.43	1,840	0.30	1,815	0.30
LL12	NWTYI – Slip Road connecting LL11 to LL2 and LL13	SB	1,900	620	0.33	515	0.27	480	0.25
LL13	NWTYI – Slip Road connecting LL12 to Cheung Tsing Highway southbound	SB	1,900	260	0.14	130	0.07	290	0.15
LL14	(a) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	4,405	0.54	5,050	0.62	4,360	0.53
	(b) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,200	0.30	1,145	0.29	1,455	0.36
	(c) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – farside carriageway	NB	4,000	1,155	0.29	1,565	0.39	1,285	0.32
	(d) Cheung Tsing Highway between Tsing Ma Bridge and Cheung Tsing Tunnel – nearside carriageway	NB	8,200	7,205	0.88	4,635	0.57	6,065	0.74

6.2.3 The results in **Table 6.2** to **Table 6.5** above show that the performance of all study junctions and road links along construction traffic routings would be operating within capacity during AM, PM and logistic peak hours on normal weekdays for construction peak year 2028, with the exception of Ting Kau Bridge southbound (L2) during AM peak. Nevertheless, it is considered the traffic impact induced by the construction traffic at the concerned road link is insignificant given that the V/C ratio remains unchanged compared to the reference case scenario.

7 SUMMARY OF FINDINGS

7.1.1 This Assignment presents the findings of a Traffic and Transport Impact Assessment (TTIA) for the proposed underground quarry at Tsing Yi North.

7.1.2 At present, the performance of all the study junctions and road links are currently operating within sufficient capacity during AM, PM and logistic peak hours on weekdays, with the exception of J/O Fung Shue Wo Road / Tsing Yi Road West (J6) and Ting Kau Bridge southbound (L2). The V/C ratio between 1.0 to 1.2 indicates that L2 SB operates in unstable flow condition during AM peak hour on weekday.

7.1.3 The proposed development would be an underground quarry. Vehicular access to the portal area would be provided at NWTYI or the off-slip of TYNCR WB which is considered acceptable from traffic engineering point of view in terms of location and access arrangement.

7.1.4 Since there are no parking standards specifically for quarrying in HKPSG, the provision of the ancillary parking and L/UL facilities is proposed to follow the requirements for Industrial Use development stipulated in HKPSG (January 2024 Edition).

7.1.5 Since the tunnel to TKSR portal and the Site access road connecting NWTYI would not permit pedestrians access, all staffs and visitors would be required to access the Site solely by private vehicles during both construction and operation phases. As such, the impact on the existing public transport operations is not anticipated.

7.1.6 A TTA has been proposed at the intersection of the unnamed access road and NWTYI to facilitate the development traffic entering and leaving the Site. In addition, the proposed run-in leading to TKSR portal will be relocated to the off-slip of TYNCR WB after the implementation of the tunnel to TKSR portal. Meanwhile, the unnamed access road at NWTYI would be converted into a one-way outbound road, with all development traffic entering via the TKSR portal and exiting via the NKW portal. Following the implementation of the tunnel to TKSR portal, development traffic would be directed to the off-slip of TYNCR WB for access.

7.1.7 To mitigate further deterioration of traffic conditions at Tam Kon Shan Interchange and Tsuen Tsing Interchange, the site traffic would be prohibited from traveling through Tam Kon Shan Interchange and Tsuen Tsing Interchange during AM and PM peaks (i.e. 07:00 to 09:30 and 17:00 to 19:00).

7.1.8 The Traffic Management Plan and traffic control proposals shall be prepared to minimize traffic impacts during both construction and operation phases. The contractor shall submit a detailed Traffic Management Plan, Contingency Plan, and Non-Conformance, Incident Investigation and Auditing Mechanism during construction/operation phases to TD for review and approval.

7.1.9 Future year traffic conditions have been forecasted for the scenario of “With” and “Without” the development during operation and construction phases. The traffic forecast results have been used for the assessment of the traffic impacts arising from the development of the Site.

7.1.10 During operation phase, the performance of all the study junctions and road links would be operating within capacity during AM and PM peak hours on Weekday for design year 2031, with the exceptions of Tsing Ma Bridge (L1) eastbound during PM peak hour, westbound during AM peak hour and Ting Kau Bridge southbound (L2) during both AM and logistic peak hours.

7.1.11 Nevertheless, it is considered the traffic impact induced by the development at the concerned road links is insignificant since the change of V/C ratio is minimal (i.e. at most 0.02 increase of V/C ratio) and the road links would still operate with V/C ratio below 1.2. In addition, it is anticipated that the completion of Tsing Yi - Lantau Link would further improve the traffic conditions at Tsing Ma Bridge and Ting Kau Bridge.

7.1.12 The results of queue length assessment illustrated that there is a low chance of traffic tailing back to the upstream junctions during both commuting peak and logistic peak hours at J1 and J5 in design case scenarios.

7.1.13 Subject to the contractor’s operational needs, alternative site access arrangement was explored to further minimize traffic detours due to the relocation of vehicular access to the TKSR portal upon the implementation of tunnel leading to the TKSR portal. Under this alternative arrangement, the ingress and egress at NWTYI would remain open, while the new run-in near TKSR roundabout would operate simultaneously to disperse the development traffic.

7.1.14 The sensitivity test scenario for the alternative site access arrangement demonstrated that, compared to Design Case Scenario A, the only routing deviation is inbound traffic from Tsing Tsuen Road. This traffic will shift to Route B3 (entering via the TKSR portal run-in) instead of using Route A3 (entering via the NKW portal). Hence, this arrangement could reduce traffic loads at NWTYI and its roundabout. Since all other routes are unchanged, the alternative access arrangement will not degrade traffic conditions at any study junctions or road links compared to Design Case Scenario A.

7.1.15 Construction vehicles are expected to travel to the Site during the construction phase. The performance of all junctions and road links along construction traffic routings would be operating within capacity during AM, PM and logistic peak hours on normal weekdays for construction peak year 2028, with the exception of Ting Kau Bridge southbound (L2) during AM peak. Nevertheless, it is considered the traffic impact induced by the construction traffic at the concerned road links are insignificant given that the V/C ratio remains unchanged compared to the reference case scenario.

7.1.16 In view of the minimal effect on the critical road links and sufficient capacity of all other study junctions and road links during both the operation and construction phases of the proposed underground quarry at Tsing Yi North, the traffic impact is considered insignificant. In this regard, the proposed development is acceptable from a traffic perspective.

Figures

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- PROPOSED AREA OF INFLUENCE
- J1 PROPOSED STUDY JUNCTION
- L1 PROPOSED STUDY ROAD LINK

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

WOK TAI WAN

YAU KOM TAU SCVA 10

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

SAI TSO WAN

NAM WAN

TSING YI

MA WAN CHANNEL

L1 TSING MA BRIDGE

L2 TING KAU BRIDGE

L3

L4 TAM KON SHAN ROAD

L5

L6

L7

L8 CHEUNG CHING TUNNEL

L9

L10 FUNG SHUE WO ROAD

L11 LIU TO ROAD

L12 TSING YI ROAD WEST

L13 CHING HONG ROAD

L14

J1

J2

J3

J4

J5 TAM KON SHAN INTERCHANGE

J6

J7

J8

J9

J10

J11

LL1

LL2

LL3

LL4

LL5

LL6

LL7

LL8

LL9

LL10 NORTHWEST TSING YI INTERCHANGE

LL11

LL12

LL13

LL14a

LL14b

LL14c

LL14d

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

NAM WAN TUNNEL

SAI TSO WAN ROAD

N

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PROJECT

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT

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PROJECT NO.: 60733229

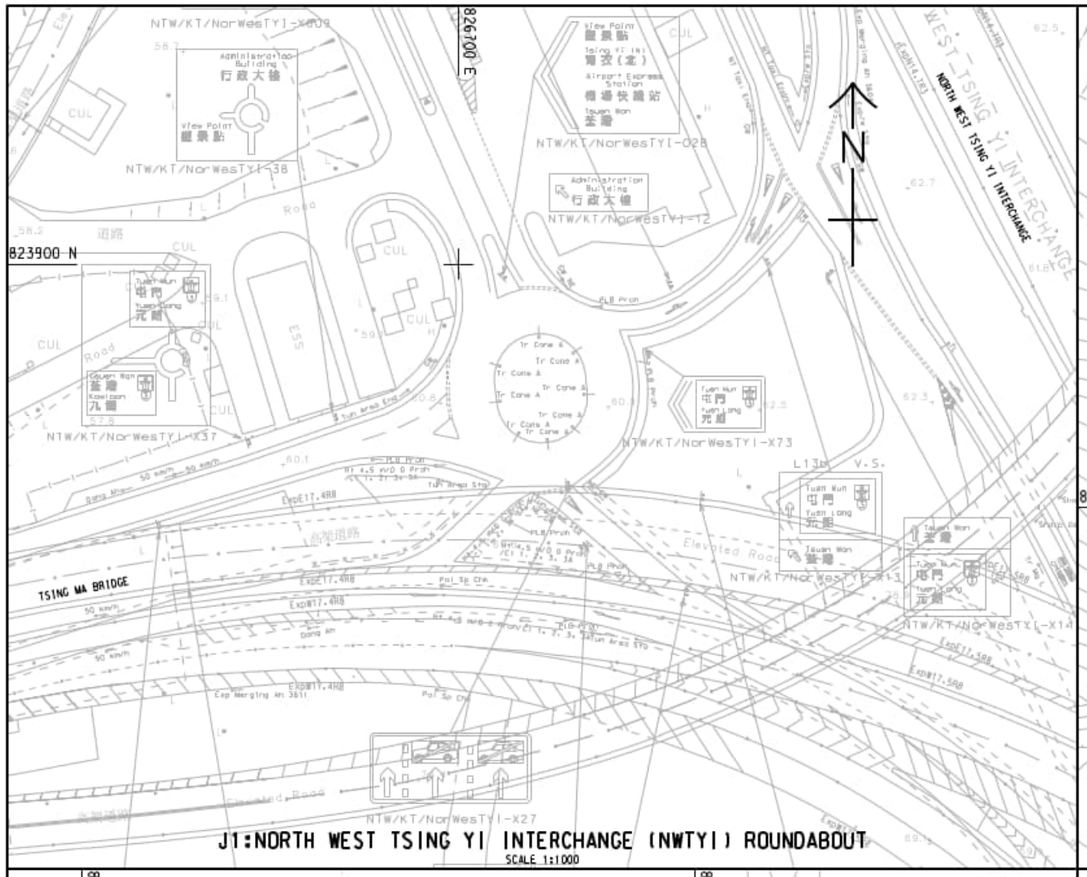
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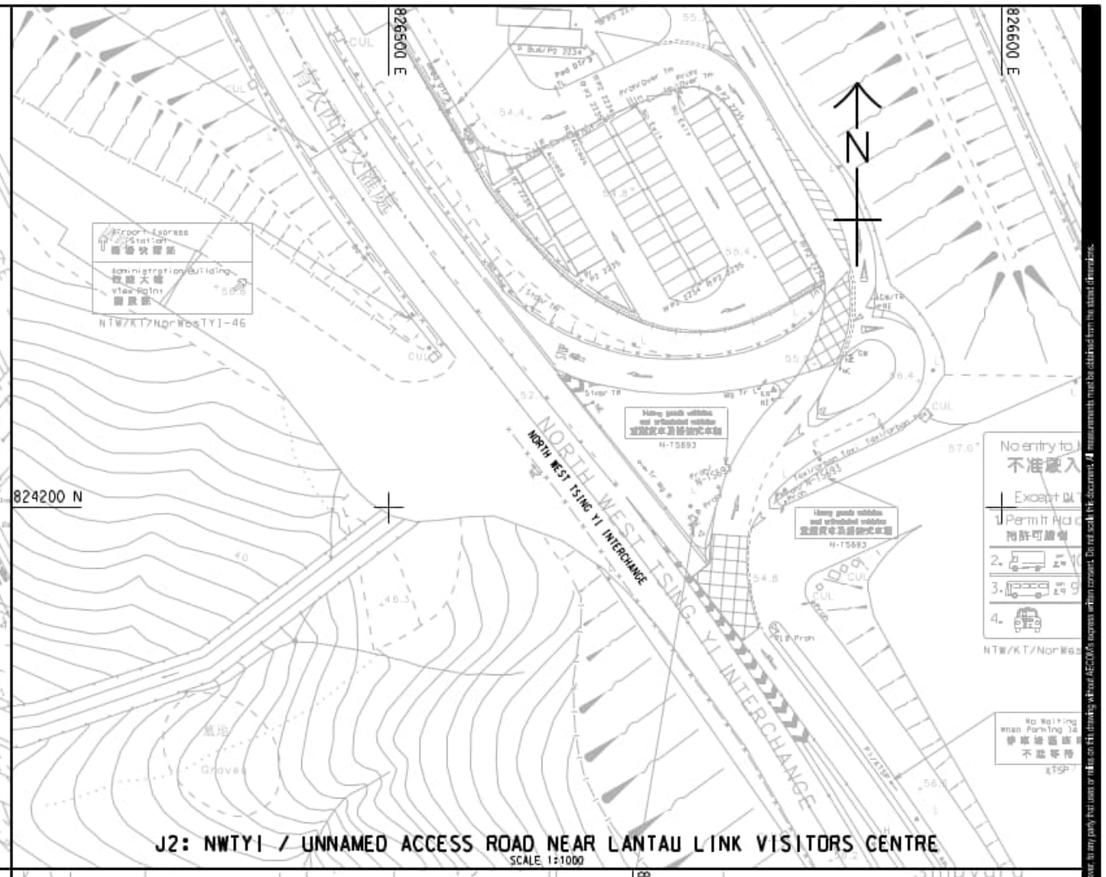
SHEET NUMBER

60733229/A20/Figure 2.1



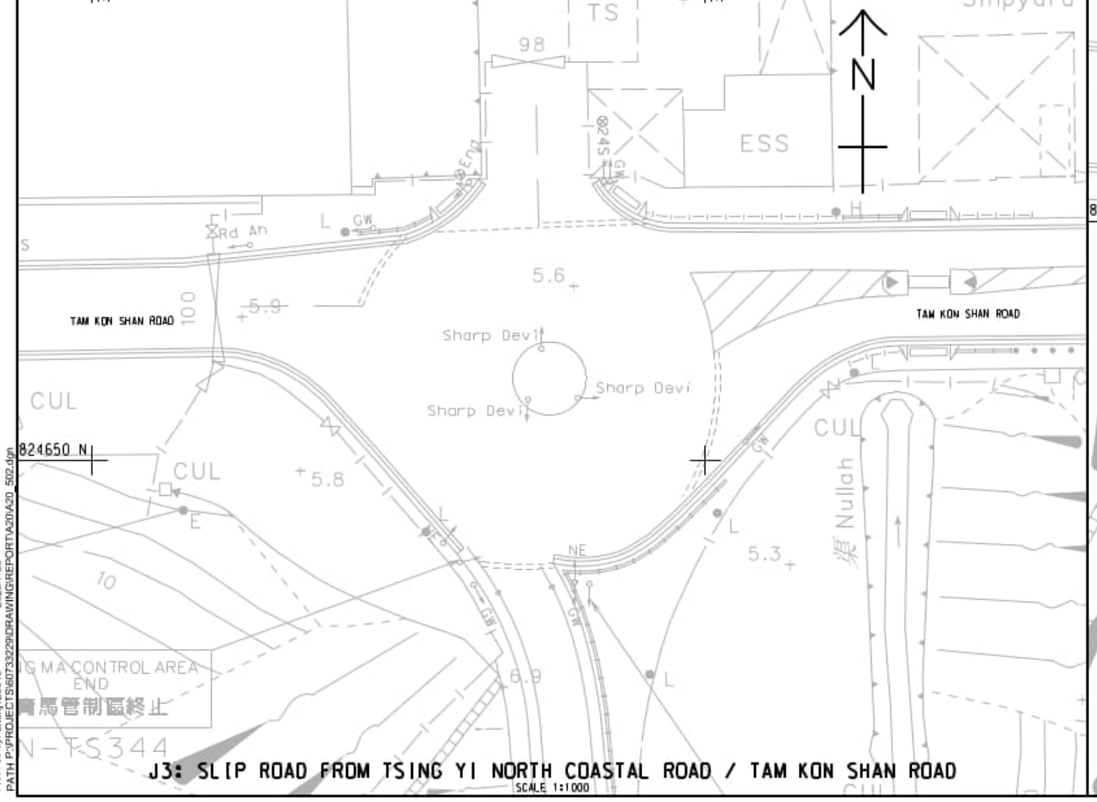
J1:NORTH WEST TSING YI INTERCHANGE (NWTYI) ROUNDABOUT

SCALE 1:1000



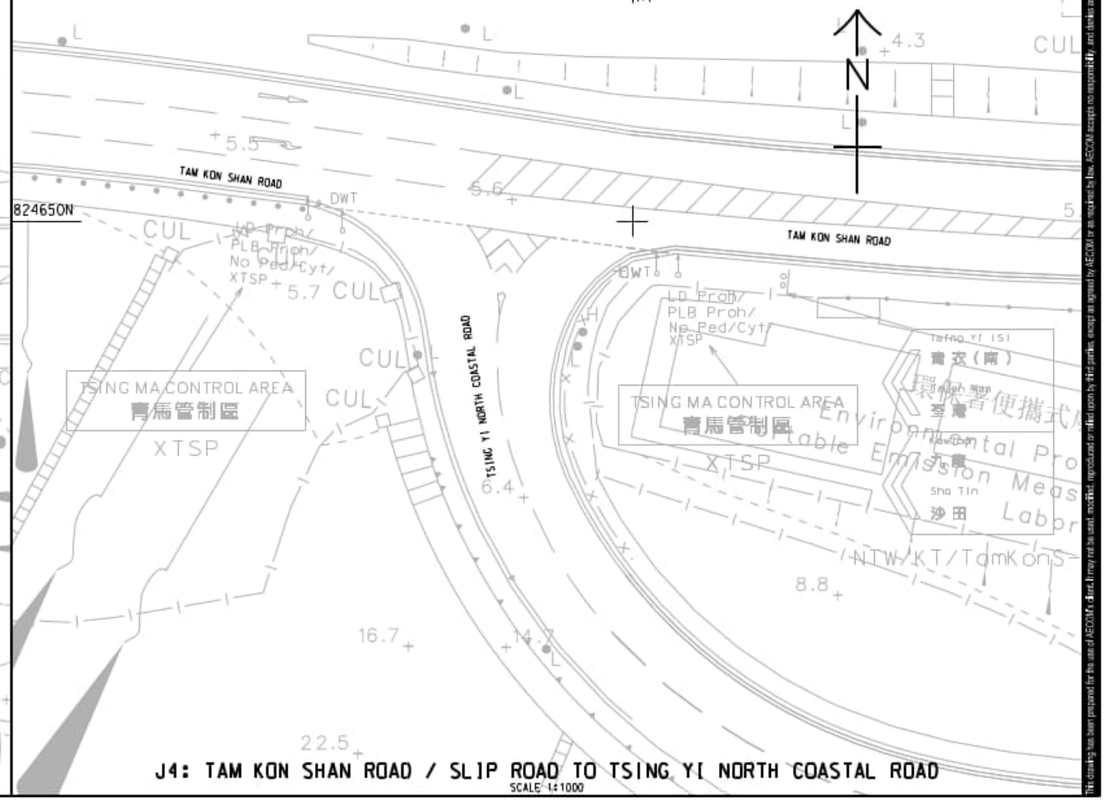
J2: NWTYI / UNNAMED ACCESS ROAD NEAR LANTAU LINK VISITORS CENTRE

SCALE 1:1000



J3: SLIP ROAD FROM TSING YI NORTH COASTAL ROAD / TAM KON SHAN ROAD

SCALE 1:1000



J4: TAM KON SHAN ROAD / SLIP ROAD TO TSING YI NORTH COASTAL ROAD

SCALE 1:1000

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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SHEET TITLE

EXISTING JUNCTION LAYOUTS

Sheet 1 of 3

SHEET NUMBER

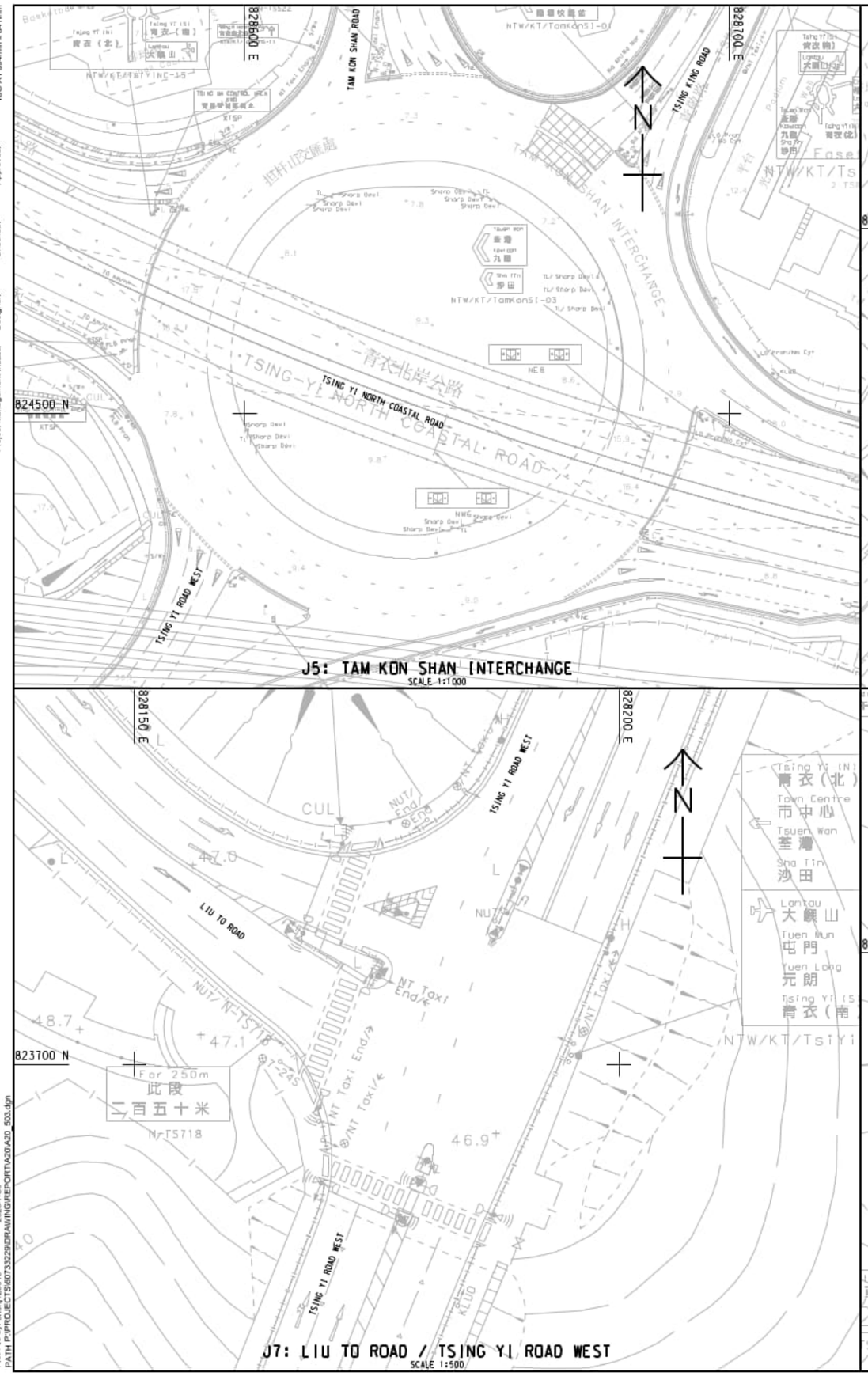
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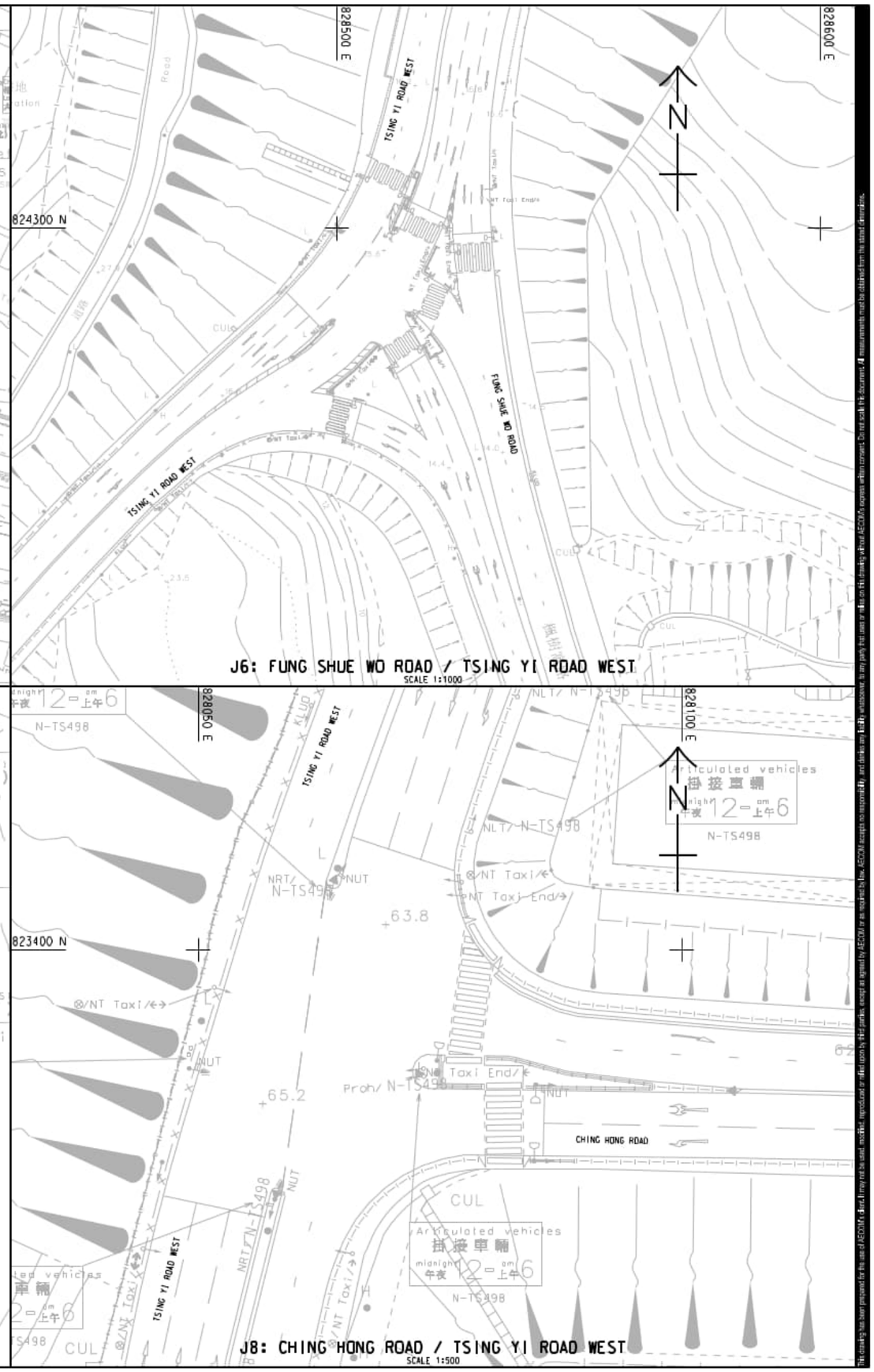
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J5: TAM KON SHAN INTERCHANGE
SCALE 1:1000



J6: FUNG SHUE WO ROAD / TSING YI ROAD WEST
SCALE 1:1000

J7: LIU TO ROAD / TSING YI ROAD WEST
SCALE 1:500

J8: CHING HONG ROAD / TSING YI ROAD WEST
SCALE 1:500

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DIMENSION UNIT: METRES

KEY PLAN

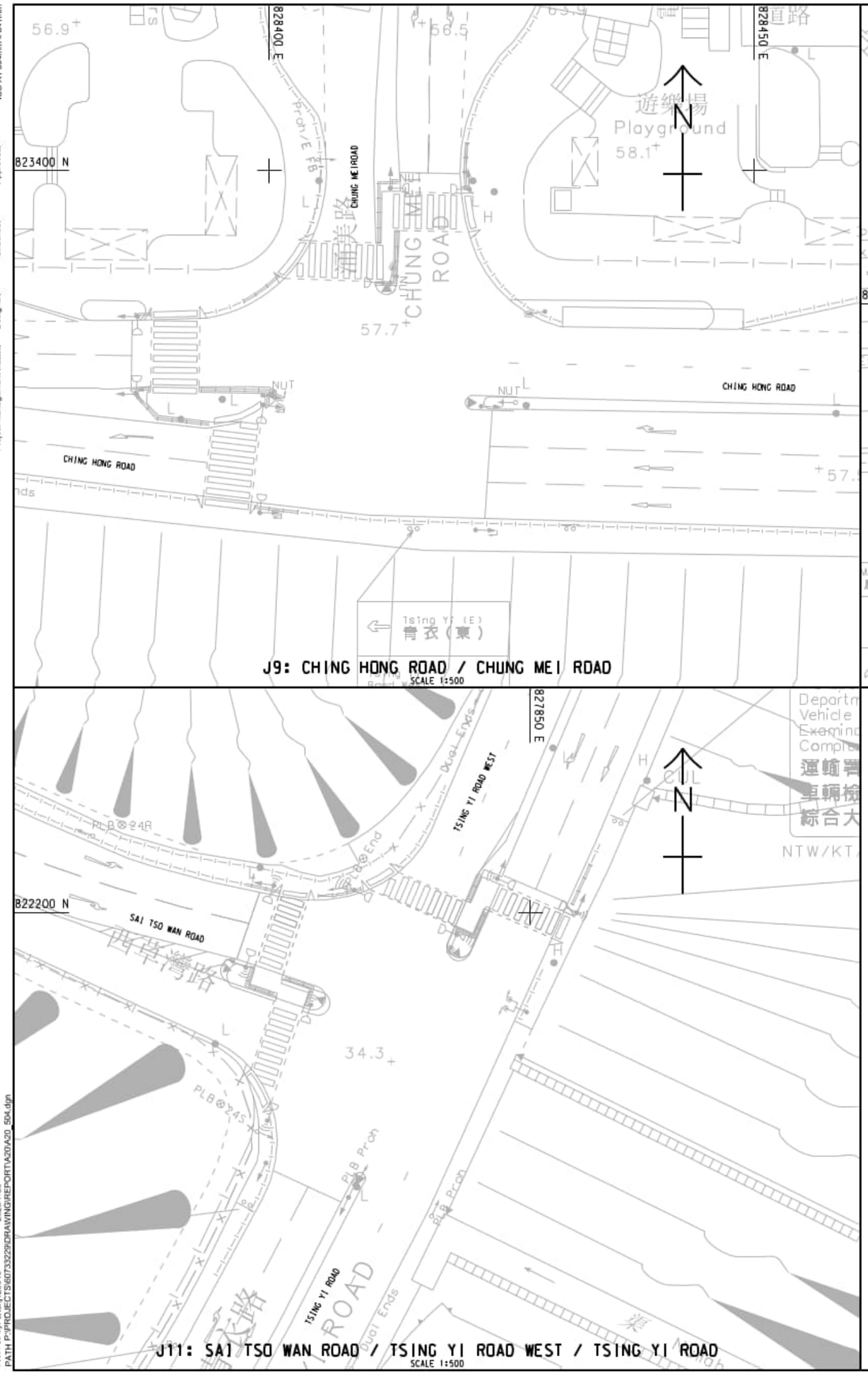
PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
EXISTING JUNCTION LAYOUTS

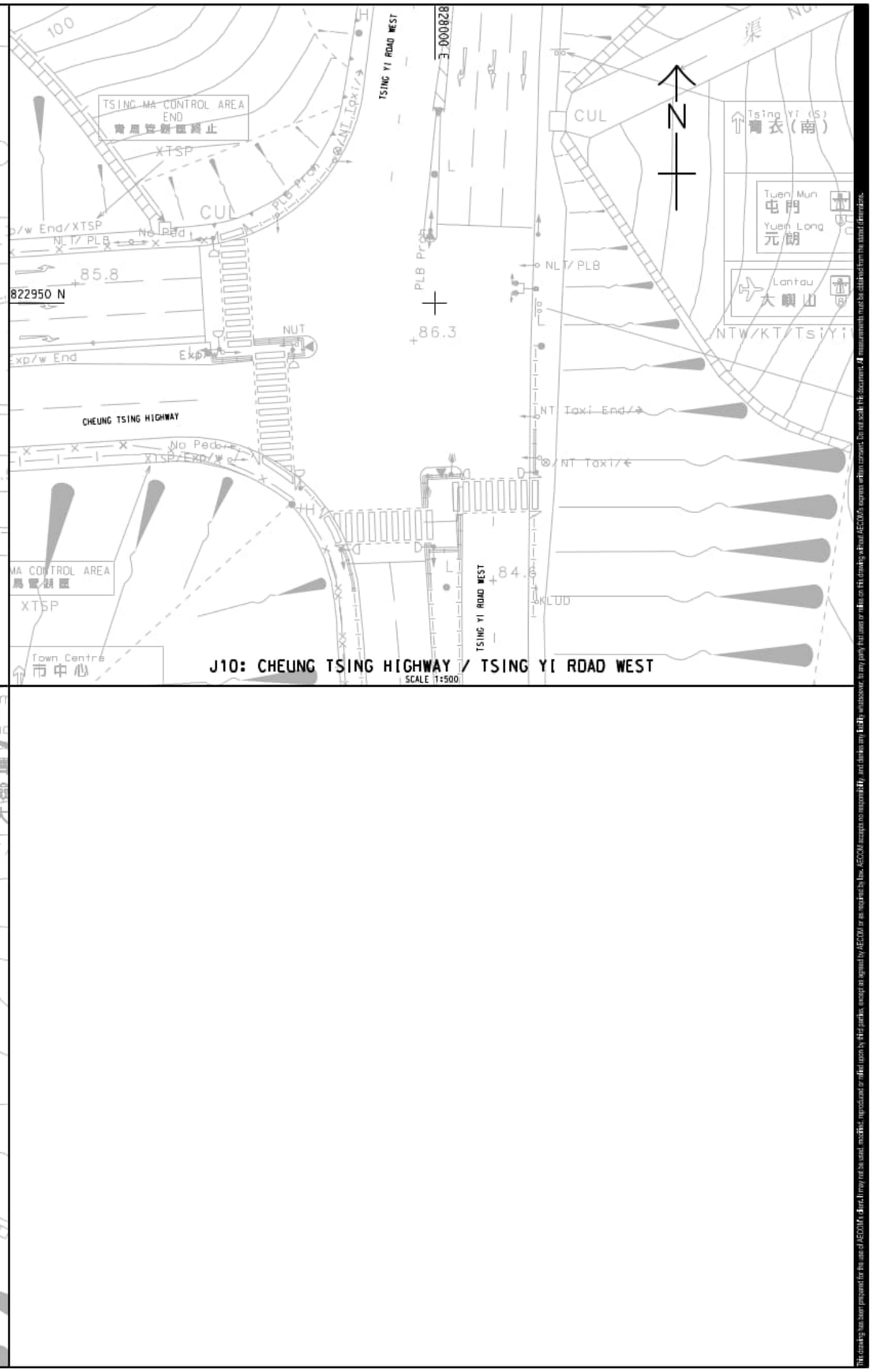
Sheet 2 of 3

SHEET NUMBER
60733229/A20/Figure 2.3

V:\BAKUS\65-BAKCS\WP\plotsrv\Create Plt file\new\CSWP-75\color.pltPlot File by: cheng1256348 2025/7/30
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\A20\A20_503.dgn



J9: CHING HONG ROAD / CHUNG MEI ROAD
SCALE 1:500



J10: CHEUNG TSING HIGHWAY / TSING YI ROAD WEST
SCALE 1:500

J11: SAI TSO WAN ROAD / TSING YI ROAD WEST / TSING YI ROAD
SCALE 1:500

V:\BAK\US95-BAK\CS\WP\plotsrv\Create Ph II\new\ACSWP-75(color).plt
Plot File by: chenj1229046 2025/7/30
PATH P:\PROJECTS\60733229\DRAWING\REP\ORTA20\A20_504.dgn

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PROJECT
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE: A3 AS SHOWN
DIMENSION UNIT: METRES

KEY PLAN

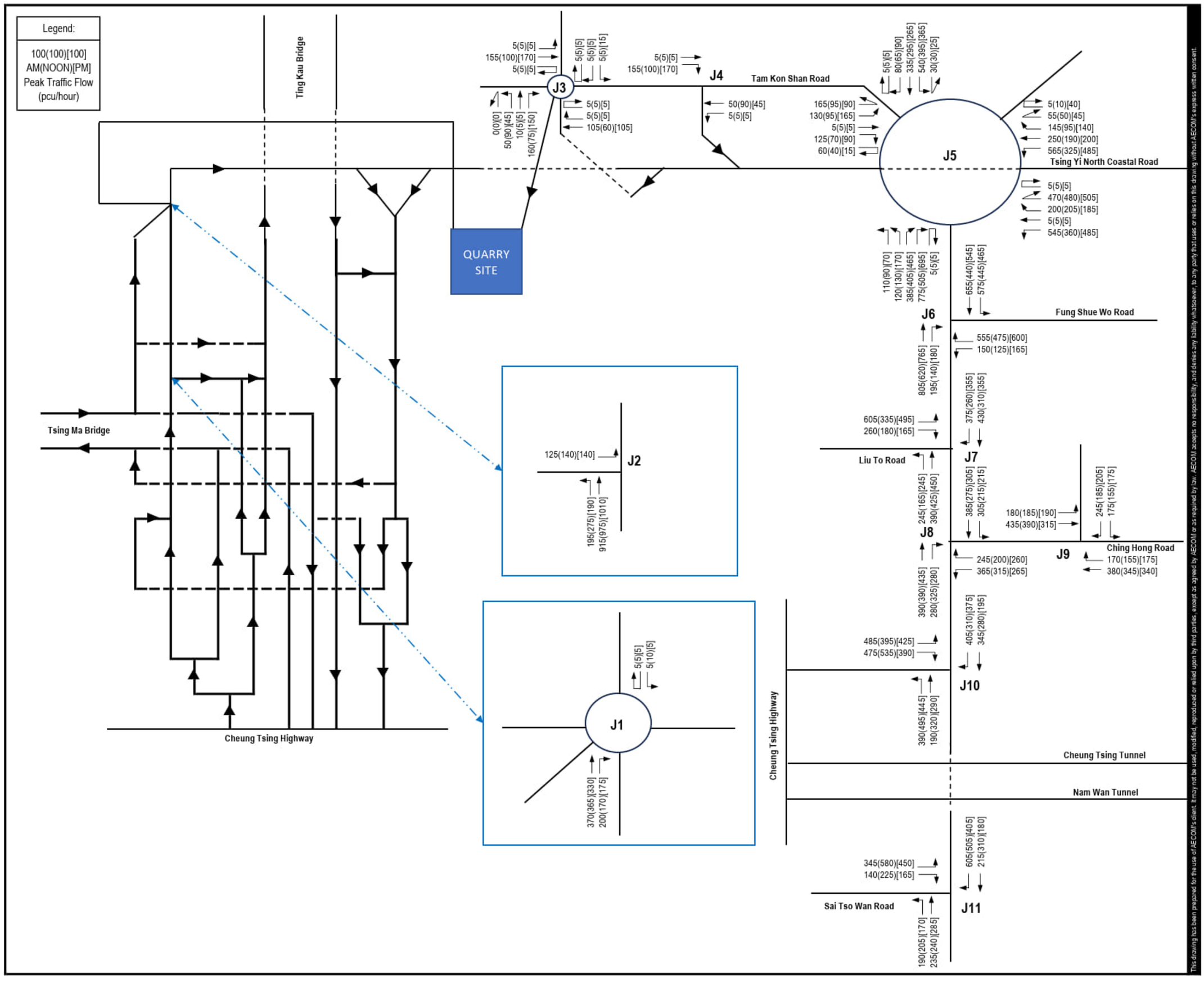
PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
EXISTING JUNCTION LAYOUTS

Sheet 3 of 3

SHEET NUMBER
60733229/A20/Figure 2.4

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

STATUS

SCALE **DIMENSION UNIT**
Not to Scale

KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2025 OBSERVED TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 2.5

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826100 E

827100 E

828100 E

N

825200 N

824200 N

823200 N

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- MAIN ACCESS TUNNEL
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- POTENTIAL CAVERN EXPANSION

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTAL

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

SCVA 10

FUNG SHUE WO

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

V:\BAK\US86-BAK\CSWP\plotdir\Create Plt file\new\CSWP-75(color).pit
11/3/2025
Plot File by: Wang02
PATH P:\PROJECTS\60733229\DRAWING\REPORT\B13\B13_321.dgn

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE	DIMENSION UNIT
A3 1 : 10000	METRES

KEY PLAN

PROJECT NO.	AGREEMENT NO.
60733229	CE 79/2023 (GE)

SHEET TITLE

PRELIMINARY CAVERN LAYOUT

SHEET NUMBER

60733229/A20/Figure 3.1

ISO A3 297mm x 420mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

WATER-FILLED/BEAM BARRIERS

N

TS101 STOP 停

TS107

NTW/KT/NorWesTYI-46

RM1106 RM1107 RM1138 RM1104 RM1102 RM1105

NORTH WEST TSING YI INTERCHANGE

N-TS693

No entry to Ma Wan
不准駛入馬灣
Except 以下除外：
1. Permit Holder 持許可證者
2. 上午10=下午4
3. 上午9=下午9
4.

NTW/KT/NorWesTYI-X41G

NORTH WEST TSING YI INTERCHANGE

SLOW 慢駛 WORKS ACCESS 工地出入口

TS517

TS422

SLOW 慢駛 WORKS ACCESS 工地出入口

TS517

No Waiting When Parking is Full 停車場滿座時不准等候

XTSP7

VARIABLE INFORMATORY SIGN

NT 4816

View Point 觀景點
Tsing Yi 青衣
Tsuen Wan 荃灣
Kowloon 九龍
Lantau 大嶼山

NTW/KT/NorWesTYI-15A

View Point 觀景點

VARIABLE INFORMATORY SIGN

NTW/KT/NorWesTYI-75

REDUCE SPEED NOW 開始減速

TS737

Administration Building 行政大樓

NTW/KTX/NorWesTYI-21

Nullah

Graves 墓地

$DATES

$PLTDRVLS
Plot Filed by: $USERS
PATH: $FILES

AECOM

PROJECT 項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

土木工程拓展署 Civil Engineering and Development Department

CONSULTANT 顧問公司

AECOM Asia Company Ltd.
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ISSUE/REVISION 修訂

VR 修訂	DATE 日期	DESCRIPTION 修訂說明	CHK 核對

STATUS 狀況

SCALE 比例

A3 1 : 800

DIMENSION UNIT 尺寸單位

METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號

60733229

AGREEMENT NO. 合約編號

CE 79/2023 (GE)

SHEET TITLE 圖則名稱

TEMPORY TRAFFIC ARRANGMENT FOR SITE ACCESS AT J/O NWTYI / UNNAMED ACCESS ROAD NEAR LANTAU LINK VISITORS CENTRE (J2)

SHEET NUMBER 圖則編號

60733229/A20/Figure 3.2

ISO A3 297mm x 420mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

PROPOSED RUN-IN/OUT

TS101 STOP 停

TS107

TS517 SLOW 慢駛 WORKS ACCESS 工地出入口

TS422 SLOW 慢駛 WORKS ACCESS 工地出入口

TS737 REDUCE SPEED NOW 開始減速

TSING MA CONTROL AREA END 青馬管制區終止 N-TS344

TUNNEL TO TKS PORTAL

TSING YI NORTH COASTAL ROAD

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

青衣北岸公路

高架道路

船廠 Shipyard

工場 Workshop

Nullah

34m

14.0m

SWEPT PATH ANALYSIS FOR of 11m LONG VEHICLE

$DATE$

$PLTDRV$ Plot Filed by $USER$ PATH SPACES

AECOM

PROJECT

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT

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CONSULTANT

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STATUS

SCALE: A3 1 : 800

DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229

AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE

TEMPORY TRAFFIC ARRANGEMENT FOR SITE ACCESS AT SLIP ROAD FROM TSING YI NORTH COASTAL ROAD (CONSTRUCTION PHASE OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER

60733229/A20/Figure 3.3

ISO A3 297mm x 420mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

PROPOSED RUN-IN

TAM KON SHAN ROAD

TSING MA CONTROL AREA END 青屿管制區終止 N-TS344

TS115

34m

8.0m

WATER FILLED BARRIER

TUNNEL TO TKS PORTAL

TSING YI NORTH COASTAL ROAD

Elevated Road

TS517

TS422

SLOW 慢駛 WORKS ACCESS 工地出入口

REDUCE SPEED NOW 開始減速

TS737

Nullah

Sharp Devl

Shipyard 船廠

Workshop 工場

青衣北岸公路

SWEPT PATH ANALYSIS FOR of 16m LONG VEHICLE

$DATE$

$PLTDRV$ $USER$
Plot File by
PATH $FILES

AECOM

PROJECT

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT

土木工程拓展署 Civil Engineering and Development Department

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STATUS

SCALE: A3 1 : 800

DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229

AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE

TEMPORY TRAFFIC ARRANGEMENT FOR SITE ACCESS AT SLIP ROAD FROM TSING YI NORTH COASTAL ROAD (AFTER THE IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER

60733229/A20/Figure 3.4

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE A1)
- VEHICULAR EGRESS (ROUTE A1)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

WOK TAI WAN

YAU KOM TAU SCVA 10

LIU TO SHAN

SHEK WAN

SAI TSO WAN

KAM CHUK KOK

NAM WAN

TSING YI

TSING KAU BRIDGE

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

TAM KON SHAN INTERCHANGE

NORTHWEST TSING YI INTERCHANGE

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO ROAD

CHING HONG ROAD

CHEUNG TSING HIGHWAY

CHEUNG CHING TUNNEL

NAM WAN TUNNEL

SAI TSO WAN ROAD

MA WAN CHANNEL

N

AECOM

PROJECT
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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STATUS

SCALE: A3 1 : 10000
DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE A1)

SHEET NUMBER
60733229/A20/Figure 3.5

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2025/4/2
PATH: P:\PROJECTS\60733229\DRAWING\REF\CRT\87\87_593.dgn

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE A2)
- VEHICULAR EGRESS (ROUTE A2)

827000 E
828000 E
824200 N
823200 N
822200 N
NGAU KOK WAN
WOK TAI WAN
YAU KOM TAU SCVA 10
LIU TO SHAN
SHEK WAN
KAM CHUK KOK
SAI TSO WAN
NAM WAN
TSING YI
CHUN FAT OK
TSING KAU BRIDGE
TSING YI NORTH COASTAL ROAD
TAM KON SHAN ROAD
TAM KON SHAN INTERCHANGE
NORTHWEST TSING YI INTERCHANGE
FUNG SHUE WO ROAD
TSING YI ROAD WEST
LIU TO ROAD
CHING HONG ROAD
TSING MA BRIDGE
CHEUNG TSING HIGHWAY
CHEUNG CHING TUNNEL
NAM WAN TUNNEL
SAI TSO WAN ROAD
MA WAN CHANNEL
N

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE A2)

SHEET NUMBER
60733229/A20/Figure 3.6

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

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2025/4/2
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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE A3)
- VEHICULAR EGRESS (ROUTE A3)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

WOK TAT WAN

YAU KOM TAU SCVA 10

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

SAI TSO WAN

NAM WAN

TSING YI

TSING KAU BRIDGE

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

TAM KON SHAN INTERCHANGE

NORTHWEST TSING YI INTERCHANGE

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO ROAD

CHING HONG ROAD

CHEUNG TSING HIGHWAY

CHEUNG CHING TUNNEL

NAM WAN TUNNEL

SAI TSO WAN ROAD

MA WAN CHANNEL

N

V:\BAKU\S95-BAK\CS\WP\plotdrv\Create Pit file\new\ICSWP-75(color).pit
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CONSULTANT
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DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE A3)

SHEET NUMBER
60733229/A20/Figure 3.7

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE A4)
- VEHICULAR EGRESS (ROUTE A4)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

WOK TAT WAN

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU SCVA 10

TAM KON SHAN INTERCHANGE

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

MA WAN CHANNEL

CHING HONG ROAD

KAM CHUK KOK

CHEUNG TSING HIGHWAY

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN PAK KOK

N

V:\BAKU\S95-BAK\CS\WP\plotdrv\Create Pit file\new\CSWP-75(color).pit
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS

SCALE: A3 1 : 10000
DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE A4)

SHEET NUMBER
60733229/A20/Figure 3.8

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B1)
- VEHICULAR EGRESS (ROUTE B1)

NOTE:
The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

827000 E

828000 E

824200 N

823200 N

822200 N

N

NGAU KOK WAN

TSING KAU BRIDGE

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

TAM KON SHAN INTERCHANGE

YAU KOM TAU SCVA 10

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

MA WAN CHANNEL

CHING HONG ROAD

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI OK

V:\BA\CUS95-BA4\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
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STATUS

SCALE: A3 1 : 10000
DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE B1)

SHEET NUMBER
60733229/A20/Figure 3.9

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B2)
- VEHICULAR EGRESS (ROUTE B2)

NOTE:
The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

827000 E

828000 E

824200 N

823200 N

822200 N

N

TSING KAU BRIDGE

NGAU KOK WAN

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

TAM KON SHAN INTERCHANGE

YAU KOM TAU SCVA 10

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

MA WAN CHANNEL

CHING HONG ROAD

KAM CHUK KOK

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI ROAD

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2025/4/2

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE: A3 1 : 10000
DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE B2)

SHEET NUMBER
60733229/A20/Figure 3.10

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B3)
- VEHICULAR EGRESS (ROUTE B3)

NOTE:
The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

WOK TAI WAN

YAU KOM TAU SCVA 10

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

SAI TSO WAN

NAM WAN

TSING YI

FUNG SHUE WO

CHUN FAI OK

MA WAN CHANNEL

TSING MA BRIDGE

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

NORTHWEST TSING YI INTERCHANGE

TAM KON SHAN INTERCHANGE

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO ROAD

CHING HONG ROAD

CHEUNG TSING HIGHWAY

CHEUNG CHING TUNNEL

NAM WAN TUNNEL

SAI TSO WAN ROAD

N

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I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE: A3 1 : 10000
DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE B3)

SHEET NUMBER
60733229/A20/Figure 3.11

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- VEHICULAR INGRESS (ROUTE B4)
- VEHICULAR EGRESS (ROUTE B4)

NOTE:
The use of Inbound Routes B1, B2 and B4, together with Tusen Tsing Interchange, is prohibited during AM and PM peak periods (i.e. 07:00 to 09:30 and 17:00 to 19:00)

827000 E

828000 E

824200 N

823200 N

822200 N

NGAU KOK WAN

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

TAM KON SHAN INTERCHANGE

YAU KOM TAU SCVA 10

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO ROAD

TSING YI ROAD WEST

LIU TO SHAN

LIU TO ROAD

SHEK WAN

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

MA WAN CHANNEL

KAM CHUK KOK

CHING HONG ROAD

CHEUNG CHING TUNNEL

SAI TSO WAN

NAM WAN TUNNEL

SAI TSO WAN ROAD

TSING YI

NAM WAN

CHUN FAI OK

N

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I/R	DATE	DESCRIPTION	CHK.

STATUS

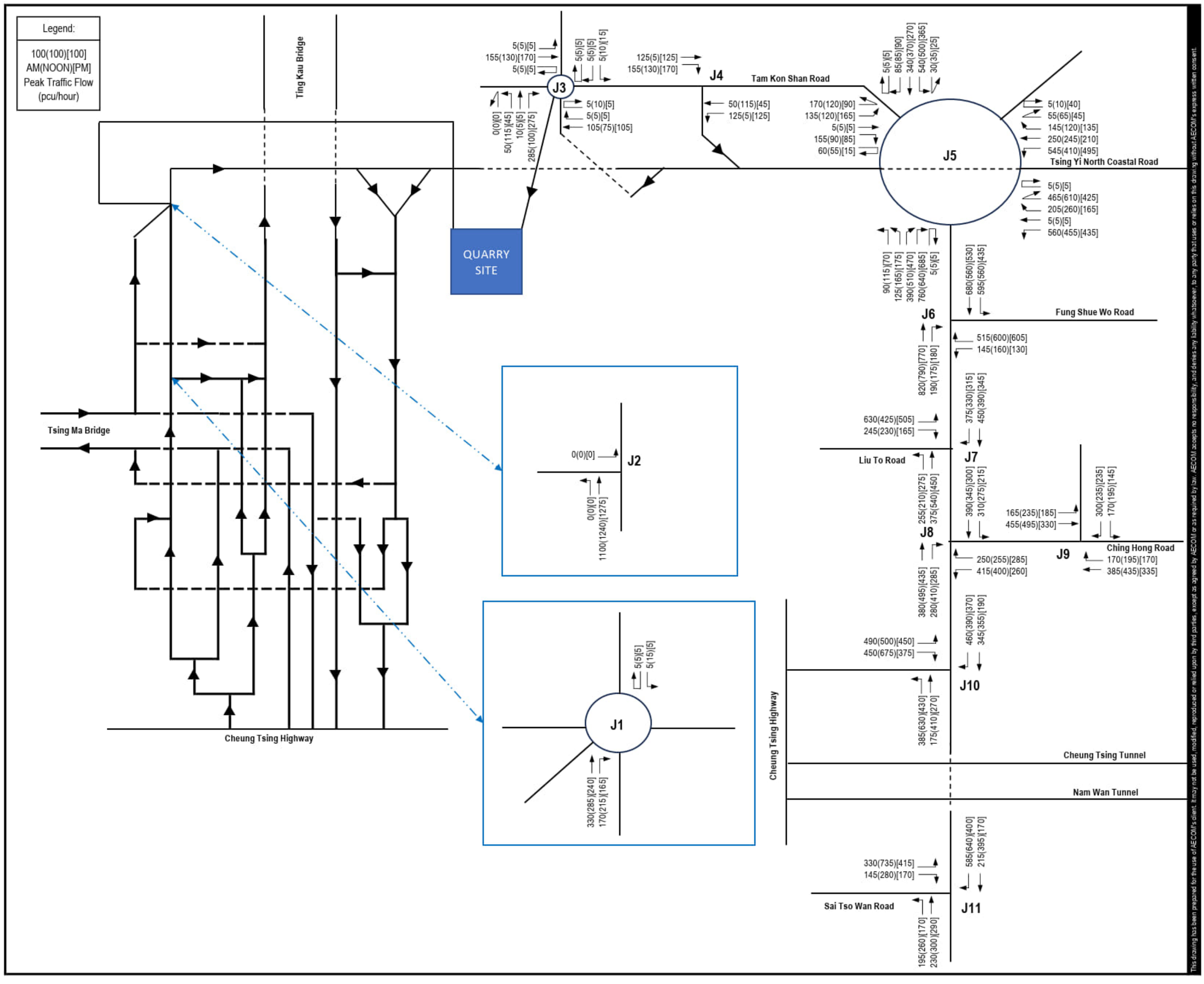
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DIMENSION UNIT: METRES

KEY PLAN

PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
SITE ACCESS ARRANGEMENT (ROUTE B4)

SHEET NUMBER
60733229/A20/Figure 3.12



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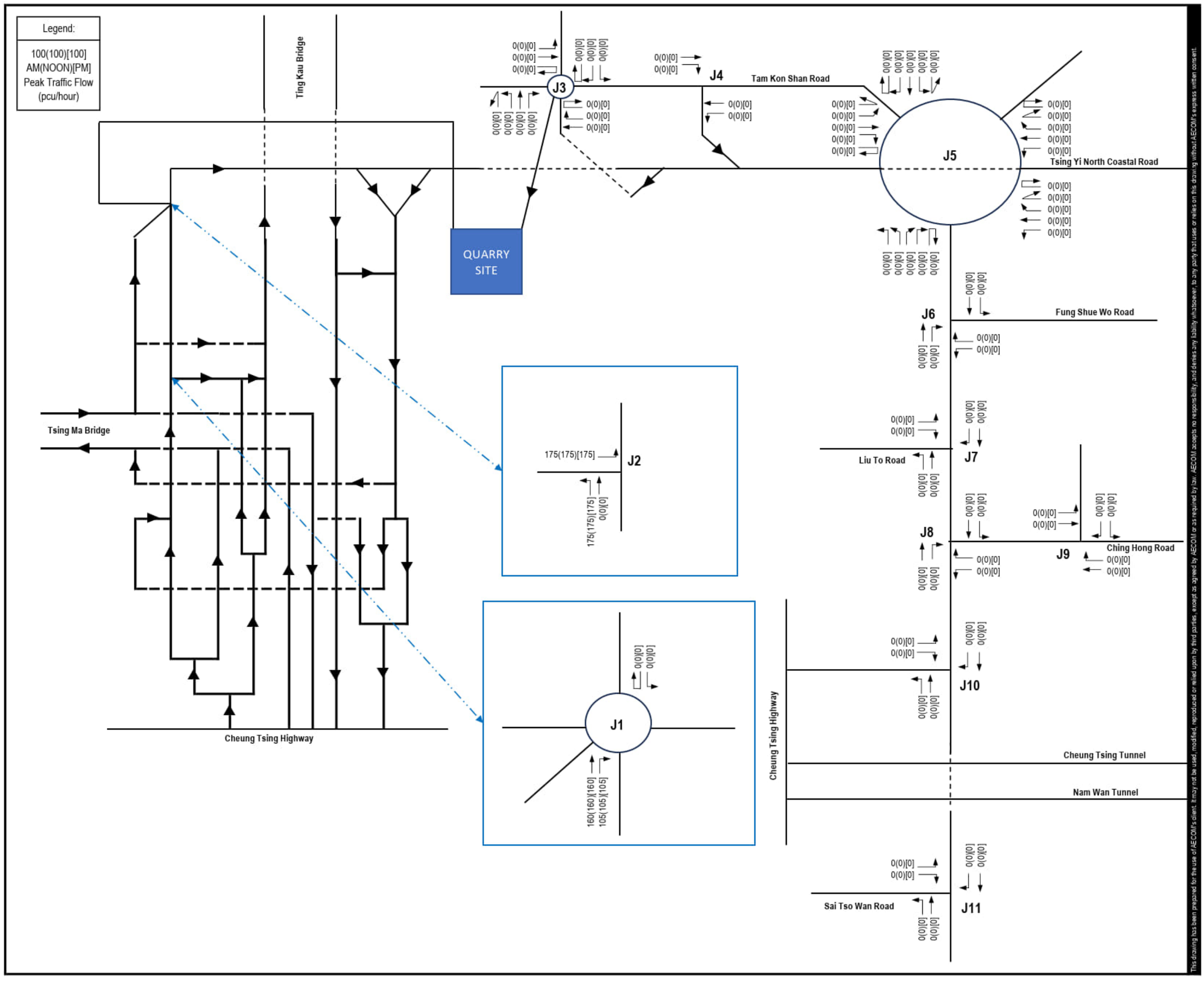
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 REFERENCE SCENARIO TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 4.1



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SCALE **DIMENSION UNIT**
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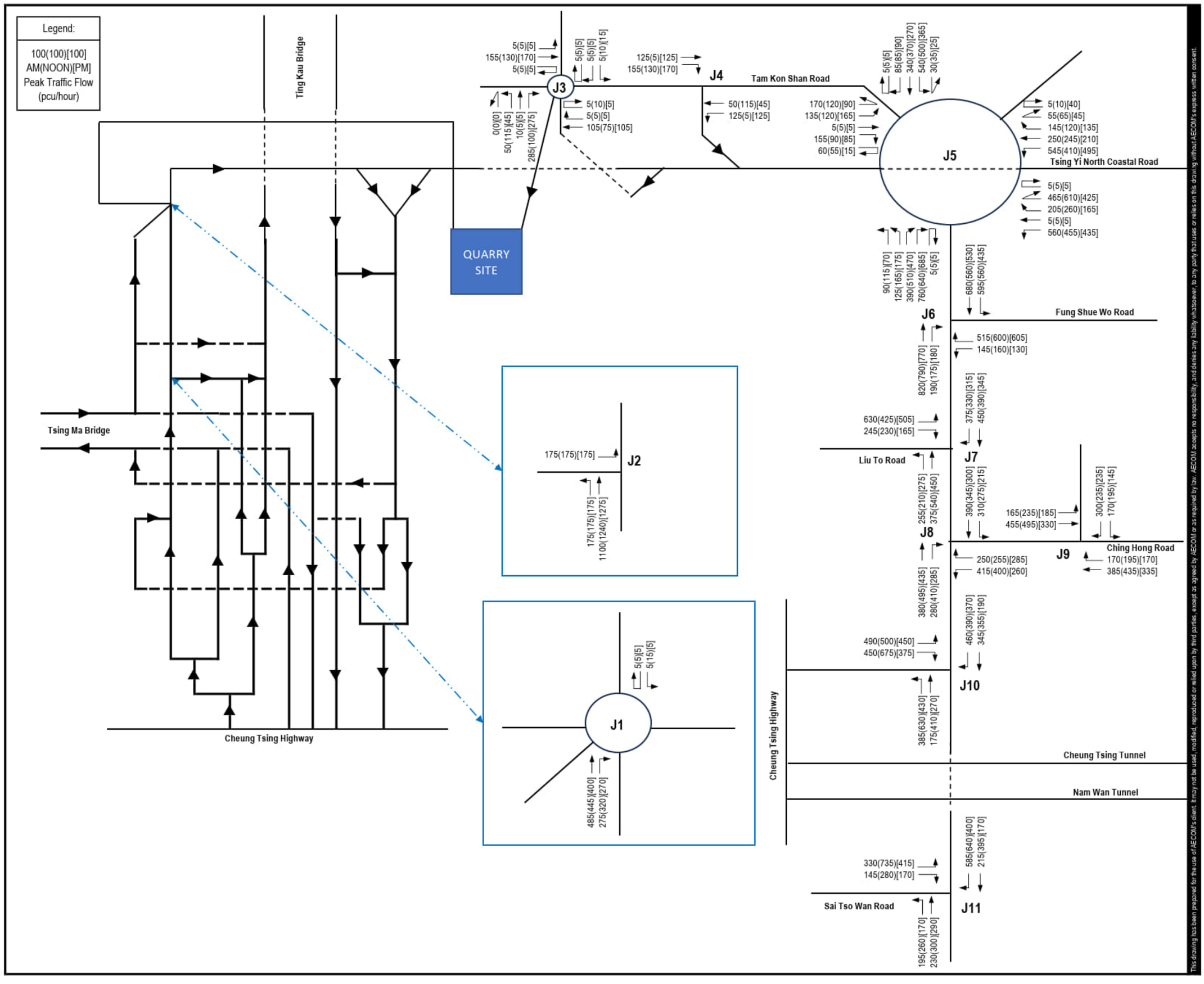
KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 DEVELOPMENT TRAFFIC FLOWS – SCENARION A (BEFORE IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER
60733229/A20/Figure 4.2

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KEY PLAN

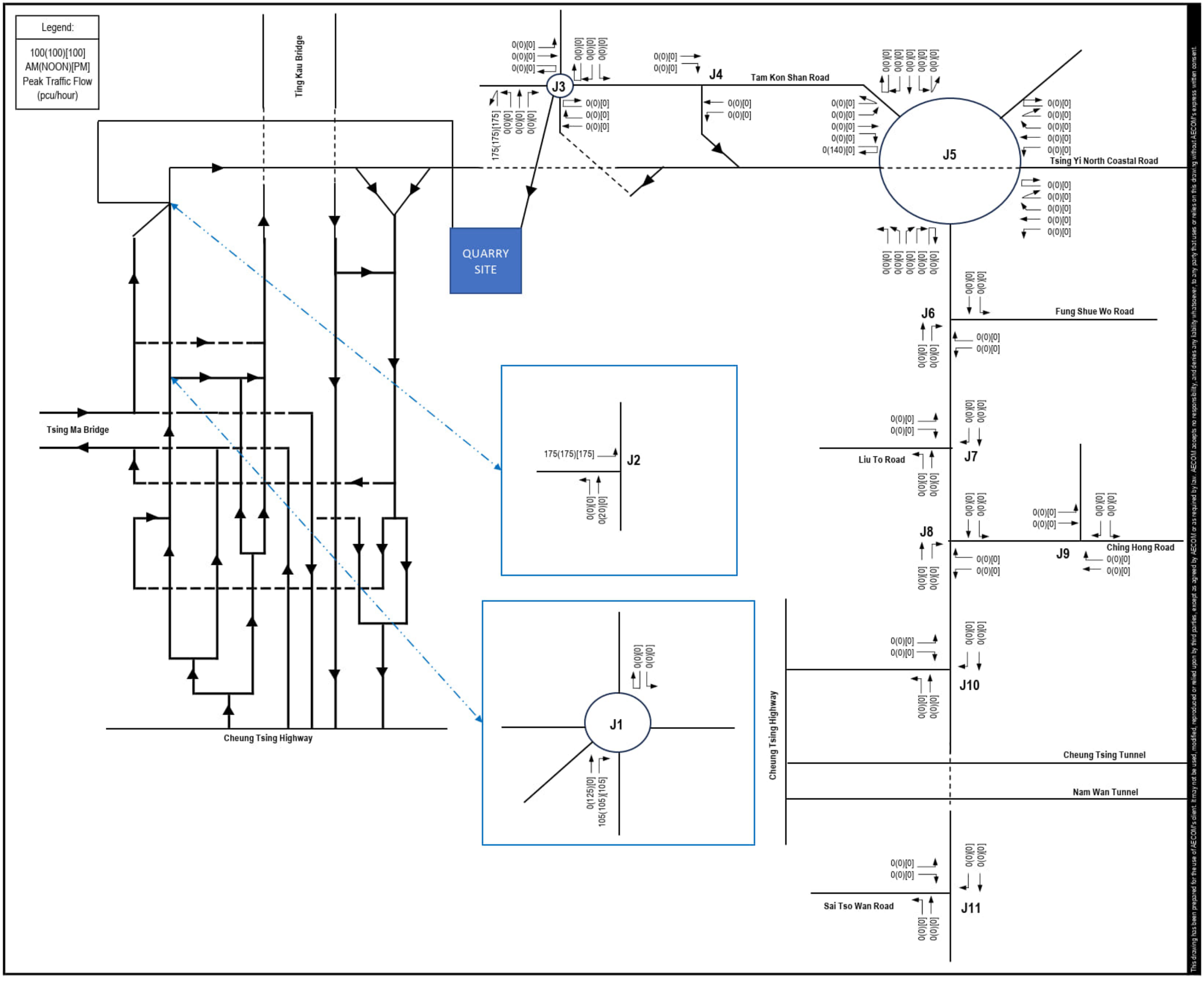
PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 DESIGN SCENARIO TRAFFIC FLOWS – SCENARION A (BEFORE IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER
60733229/A20/Figure 4.3

Legend:

100(100)[100]
AM(NOON)[PM]
Peak Traffic Flow
(pcu/hour)



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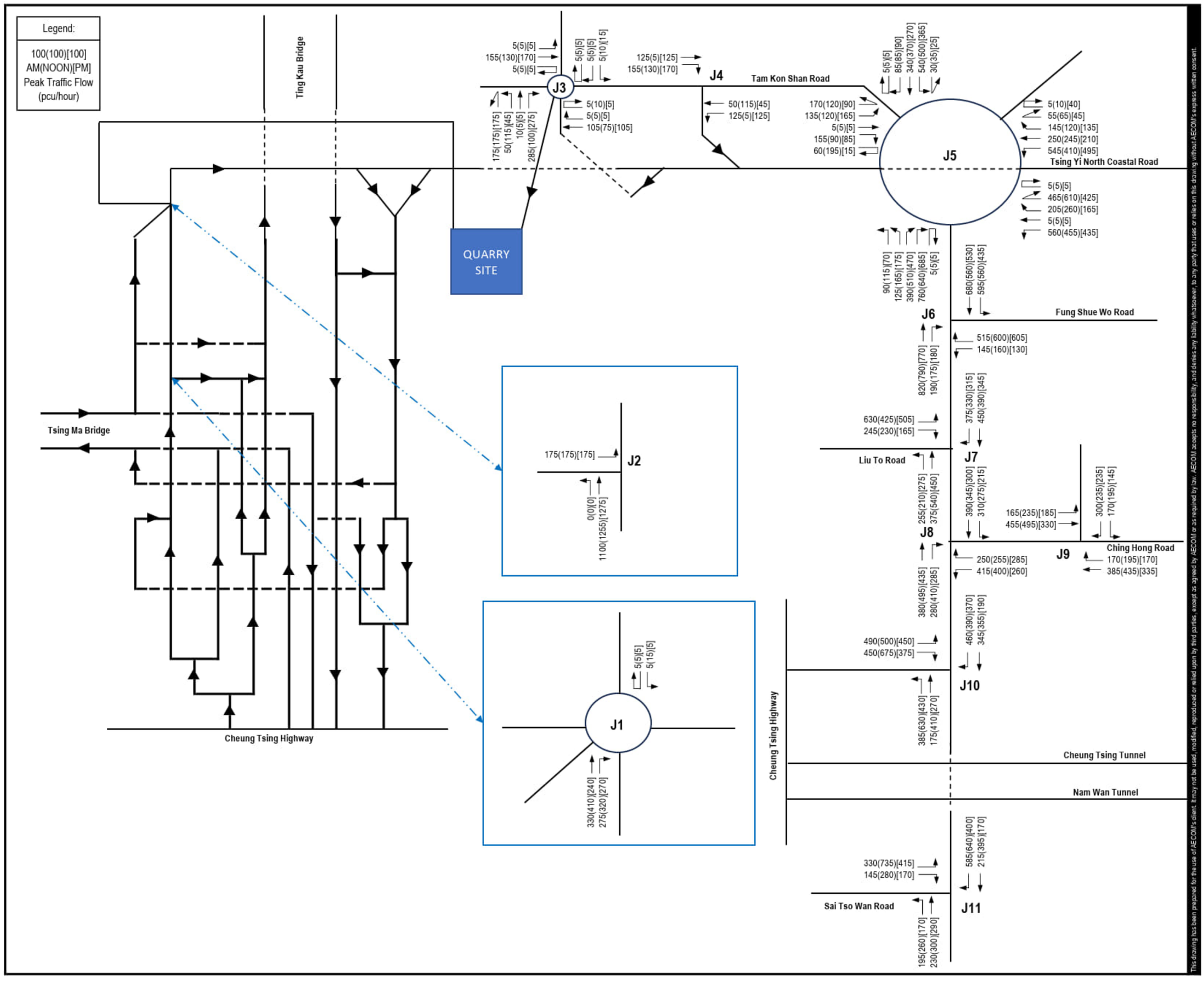
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KEY PLAN

PROJECT NO. 60733229
CONTRACT NO. CE 79/2023 (GE)

SHEET TITLE
2031 DEVELOPMENT TRAFFIC FLOWS – SCENARION B (AFTER IMPLEMENTATION OF TUNNEL TO TKSR PORTAL)

SHEET NUMBER
60733229/A20/Figure 4.4



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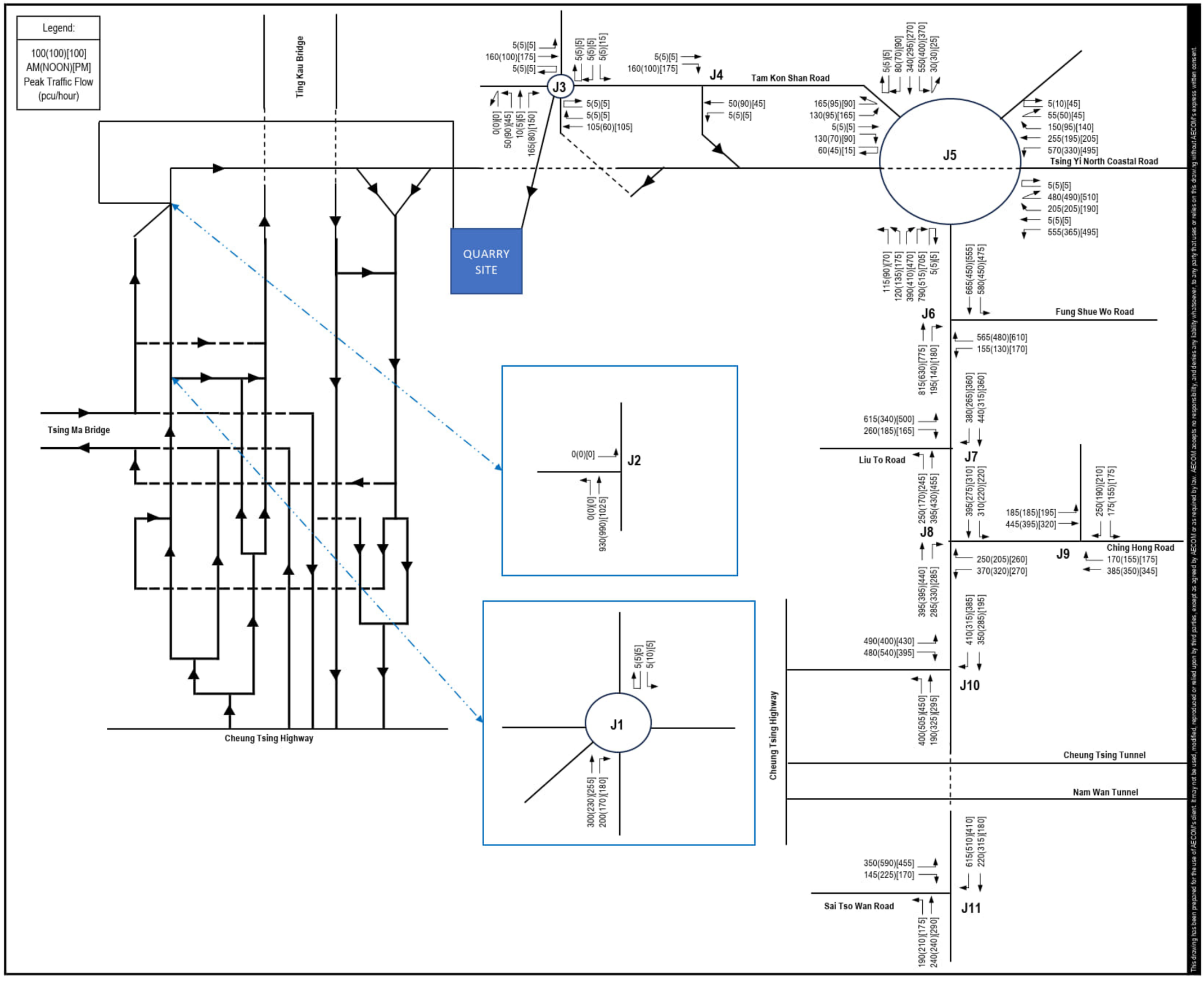
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Not to Scale

KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2031 DESIGN SCENARIO TRAFFIC FLOWS – SCENARION B (AFTER IMPLEMENTATION OF TUNNEL TO TKSR PORTA)

SHEET NUMBER
60733229/A20/Figure 4.5



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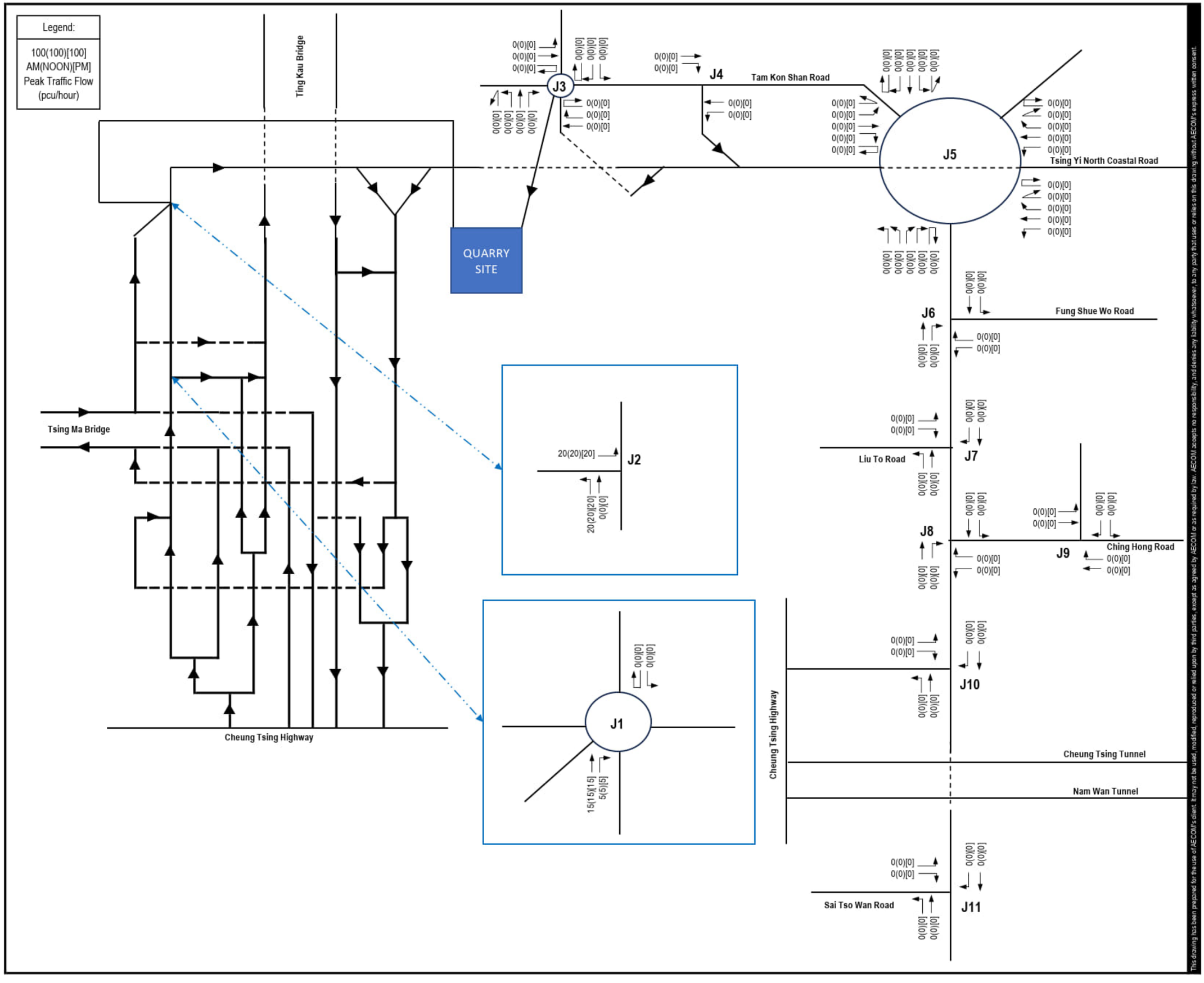
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 REFERENCE SCENARIO TRAFFIC FLOWS (WITHOUT CONSTRUCTION TRAFFIC)

SHEET NUMBER
60733229/A20/Figure 5.1



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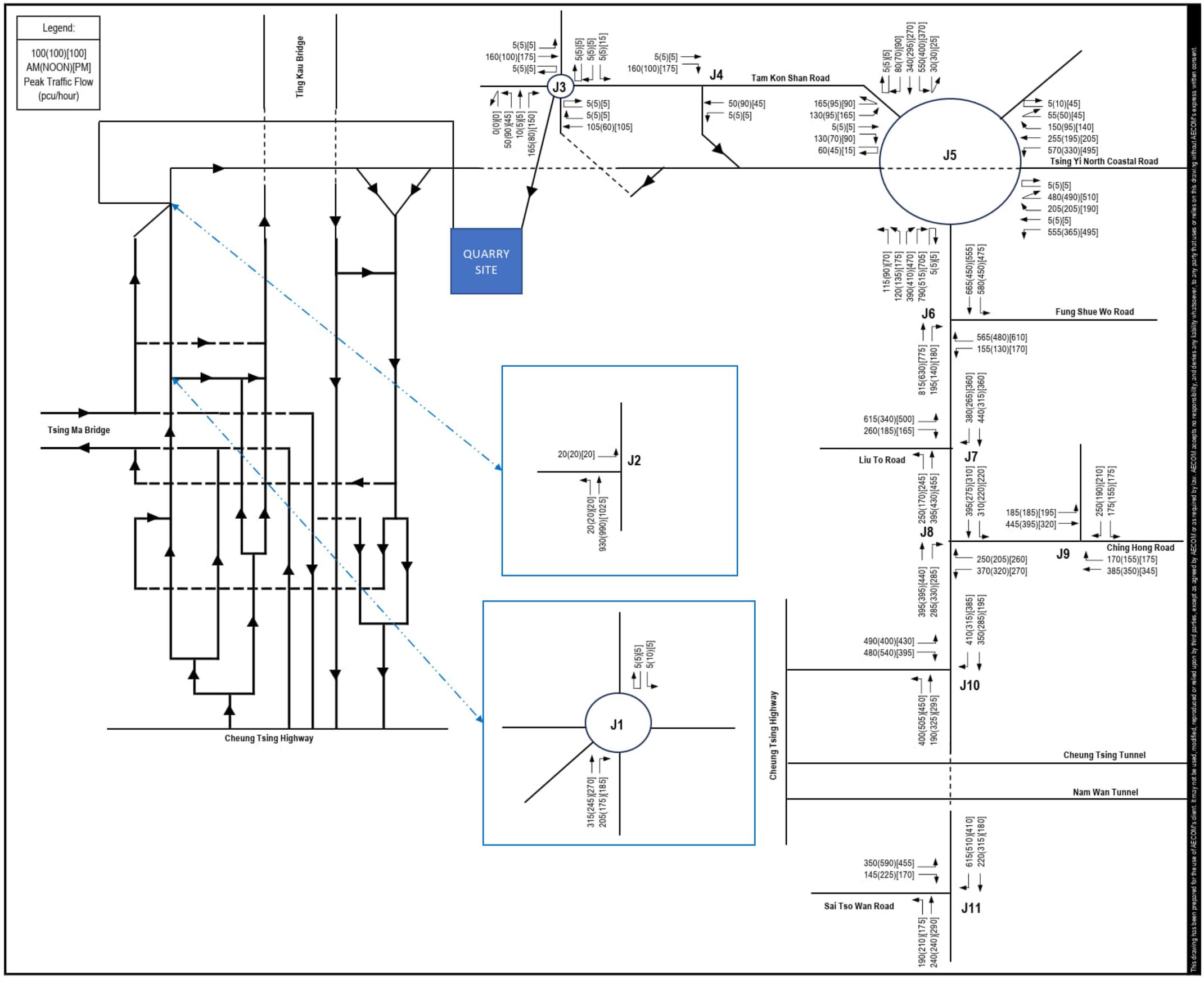
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 CONSTRUCTION TRAFFIC FLOWS

SHEET NUMBER
60733229/A20/Figure 5.2



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SCALE **DIMENSION UNIT**
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KEY PLAN

PROJECT NO. **CONTRACT NO.**
60733229 CE 79/2023 (GE)

SHEET TITLE
2028 DESIGN SCENARIO TRAFFIC FLOWS (WITH CONSTRUCTION TRAFFIC)

SHEET NUMBER
60733229/A20/Figure 5.3

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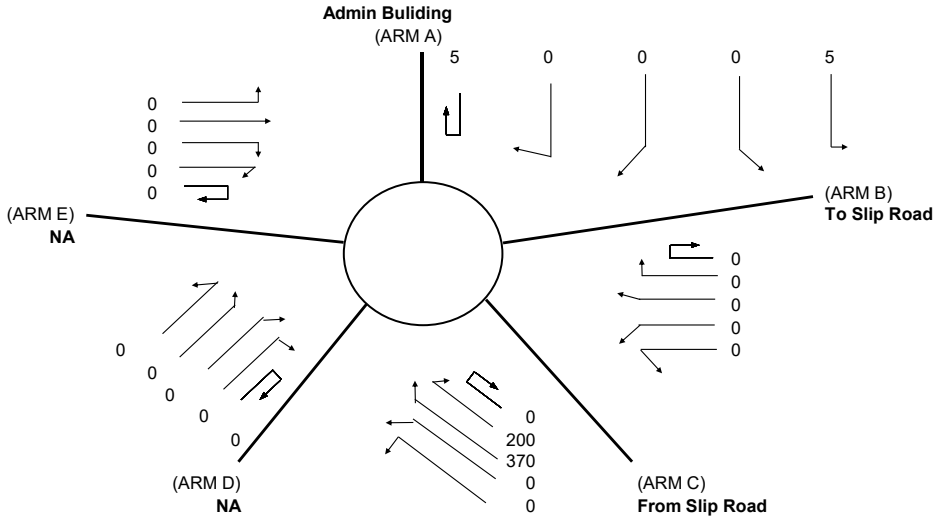
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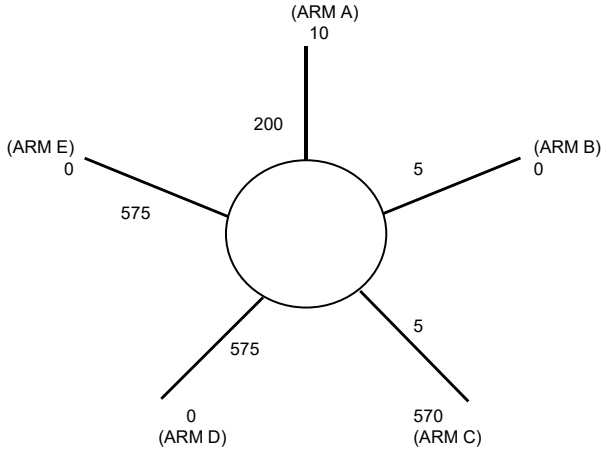
Appendix A
Junction Capacity Calculation Spreadsheets

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		570		
Qc= Circulating flow across entry (pcu/h)	200		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1078		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.42		

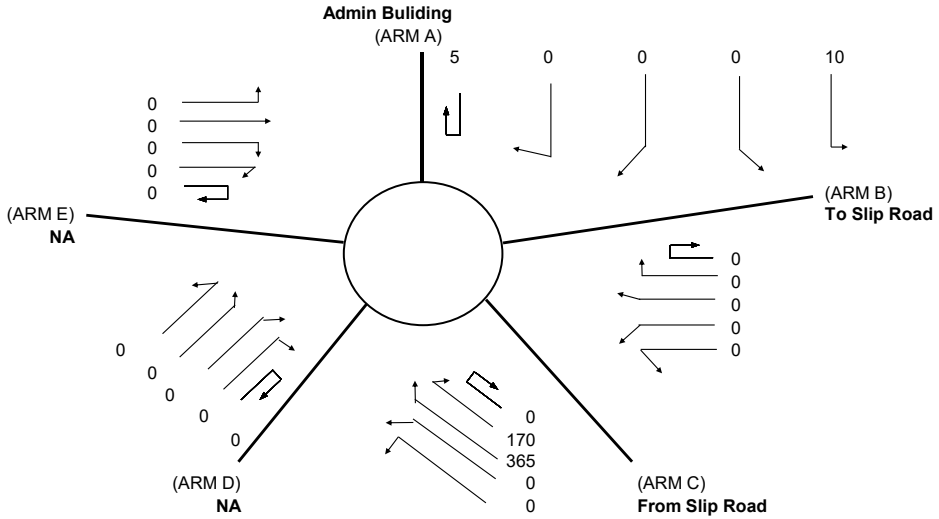
TOTAL ENTRY FLOWS = 580 PCU

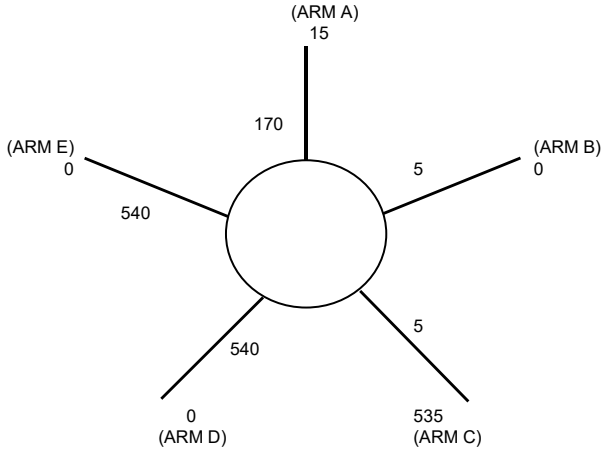
CRITICAL DFC = 0.42

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	15		535		
Qc= Circulating flow across entry (pcu/h)	170		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1095		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.39		

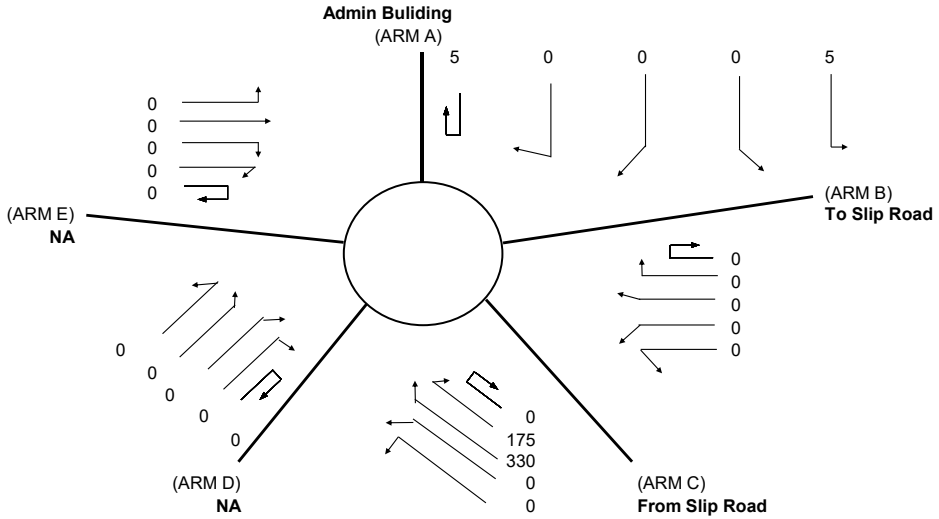
TOTAL ENTRY FLOWS = 550 PCU

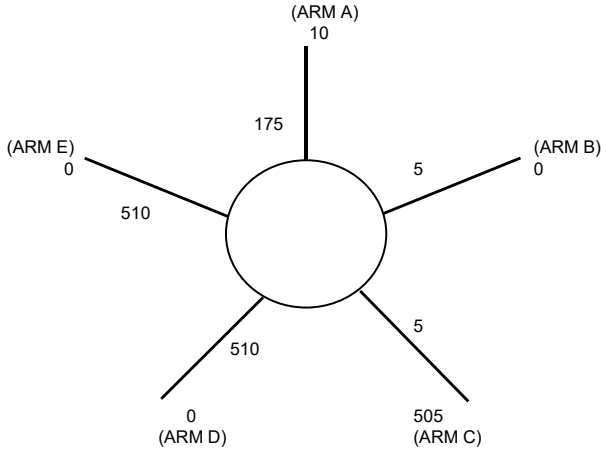
CRITICAL DFC = 0.39

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		505		
Qc= Circulating flow across entry (pcu/h)	175		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1092		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.37		

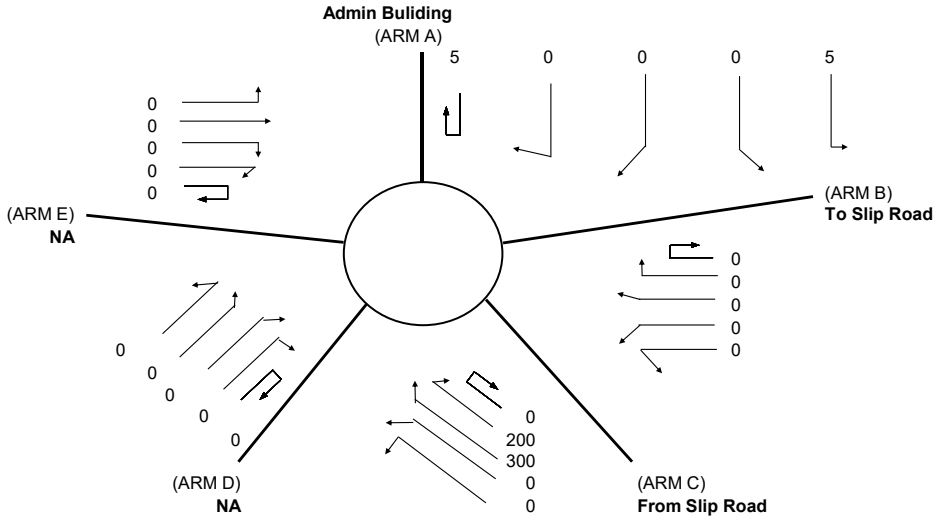
TOTAL ENTRY FLOWS = 515 PCU

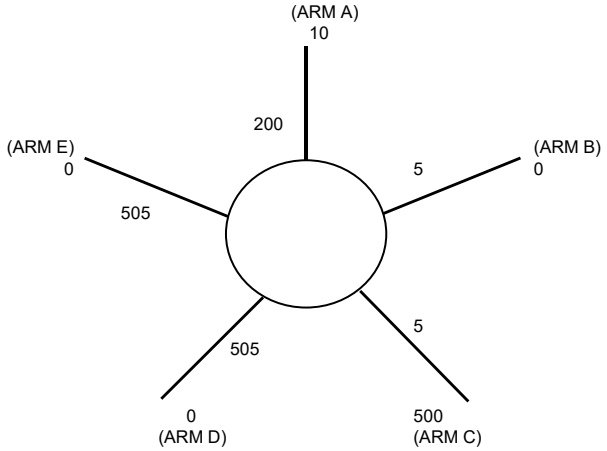
CRITICAL DFC = 0.37

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		500		
Qc= Circulating flow across entry (pcu/h)	200		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1078		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.36		

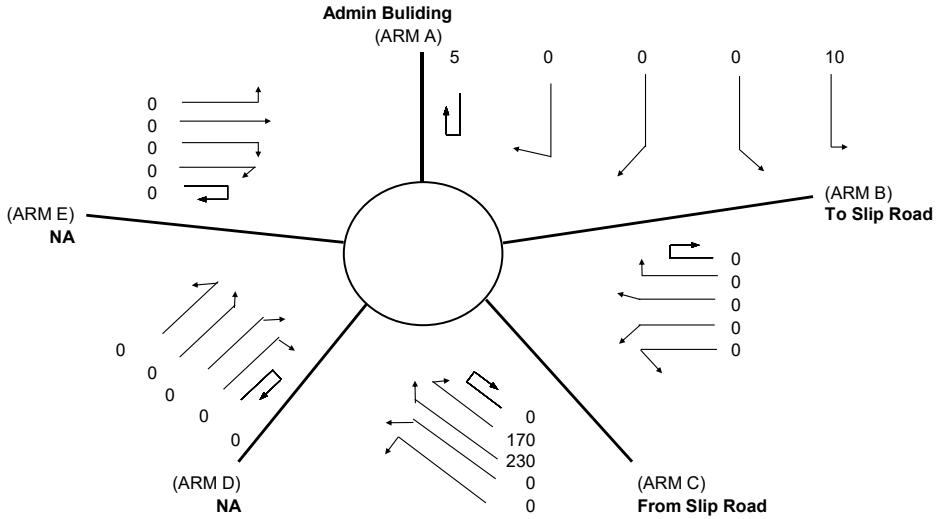
TOTAL ENTRY FLOWS = 510 PCU

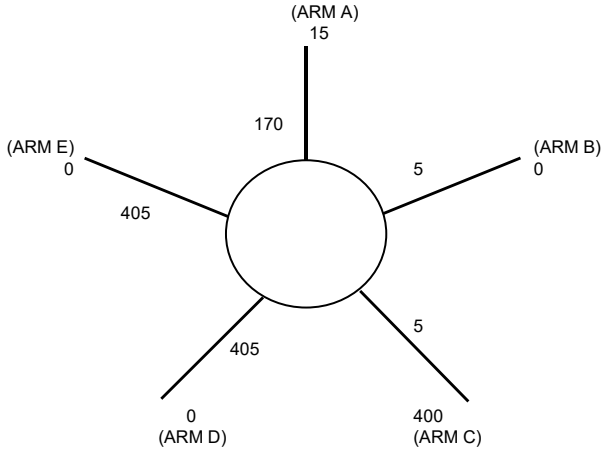
CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	15		400		
Qc= Circulating flow across entry (pcu/h)	170		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1095		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.29		

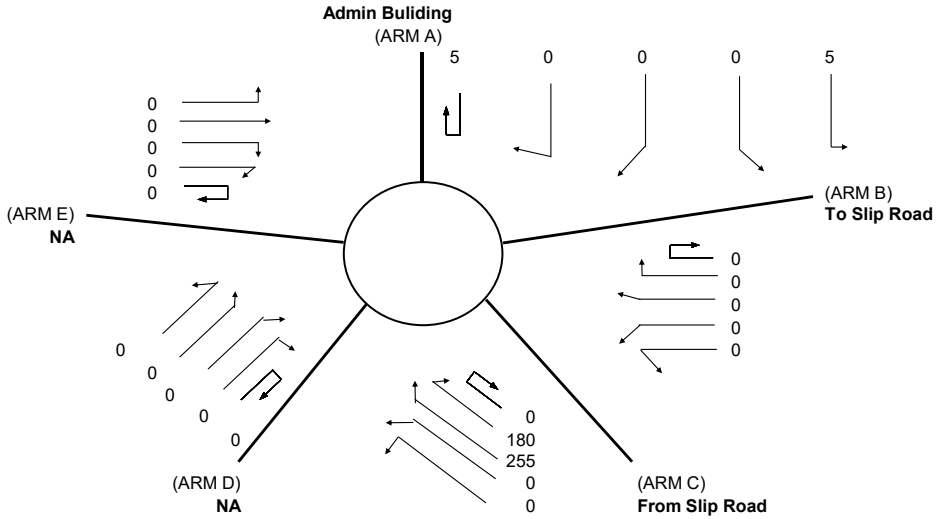
TOTAL ENTRY FLOWS = 415 PCU

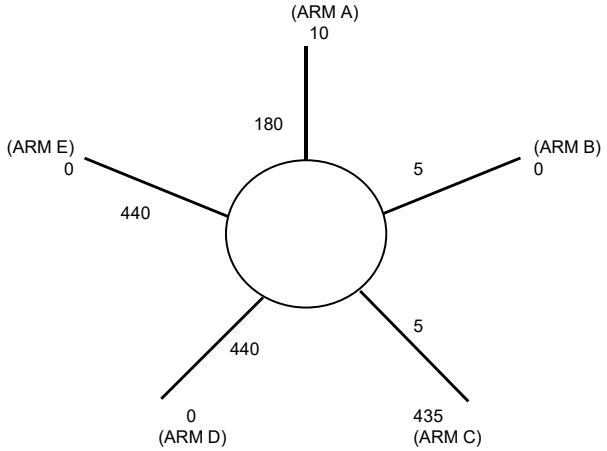
CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		435		
Qc= Circulating flow across entry (pcu/h)	180		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1090		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.32		

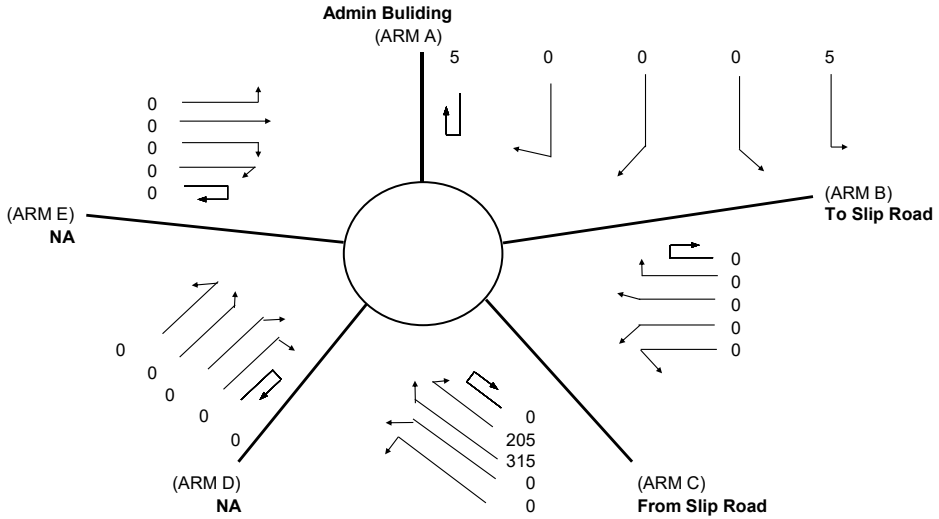
TOTAL ENTRY FLOWS = 445 PCU

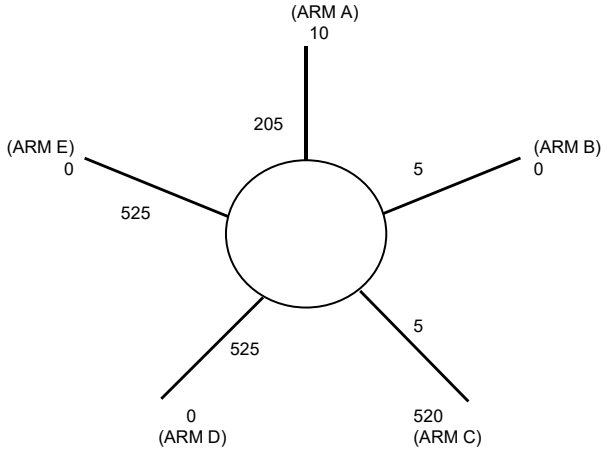
CRITICAL DFC = 0.32

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		520		
Qc= Circulating flow across entry (pcu/h)	205		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1075		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.38		

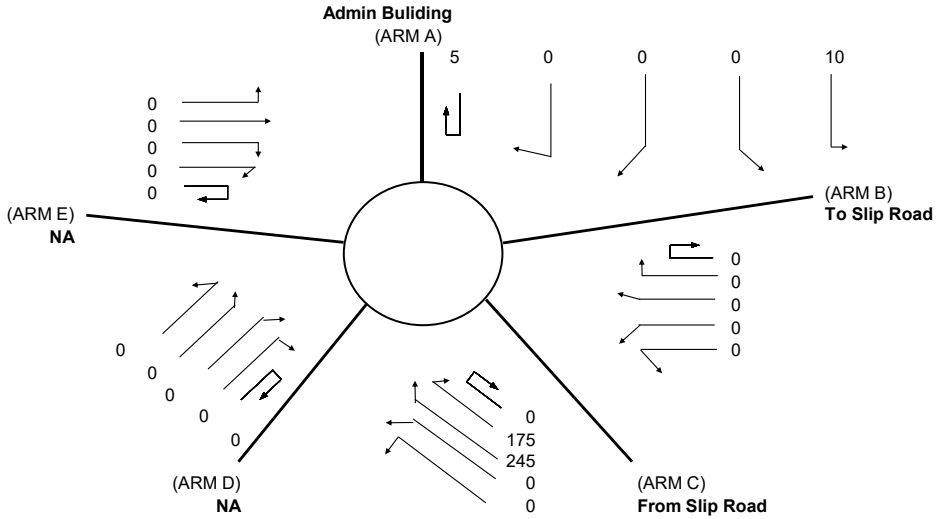
TOTAL ENTRY FLOWS = 530 PCU

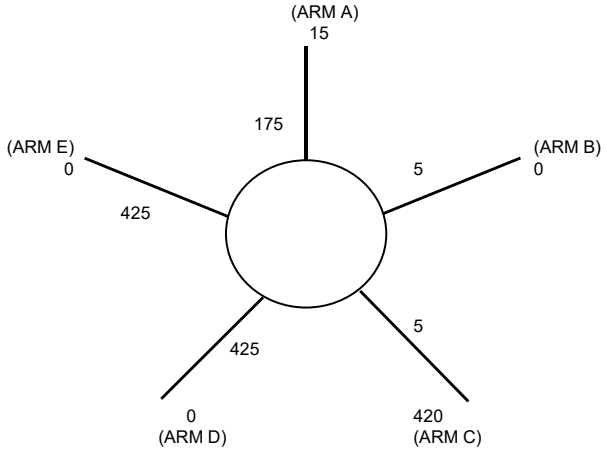
CRITICAL DFC = 0.38

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	15		420		
Qc= Circulating flow across entry (pcu/h)	175		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1092		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.31		

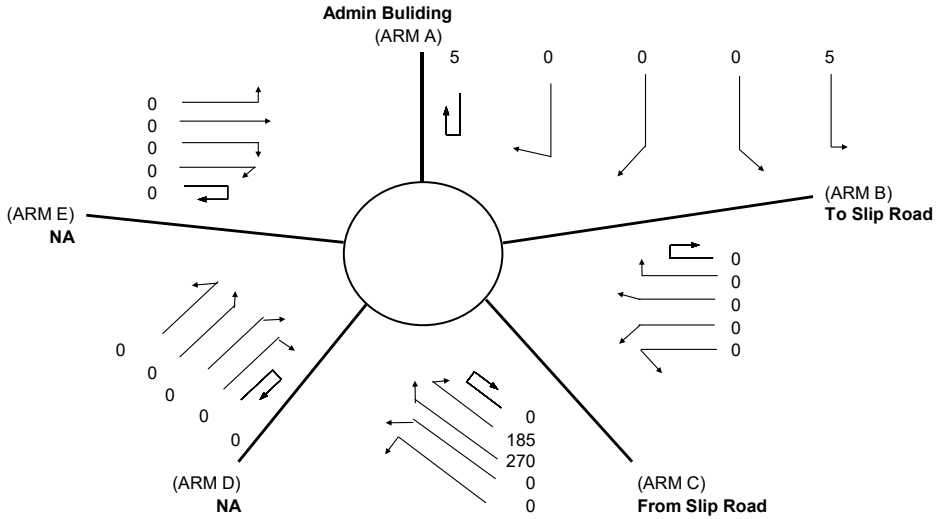
TOTAL ENTRY FLOWS = 435 PCU

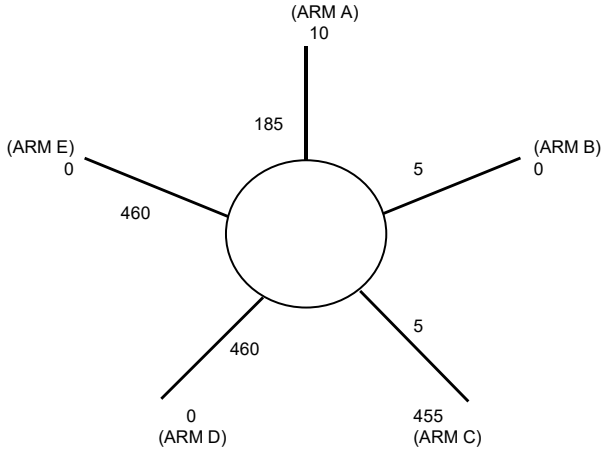
CRITICAL DFC = 0.31

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		455		
Qc= Circulating flow across entry (pcu/h)	185		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1087		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.33		

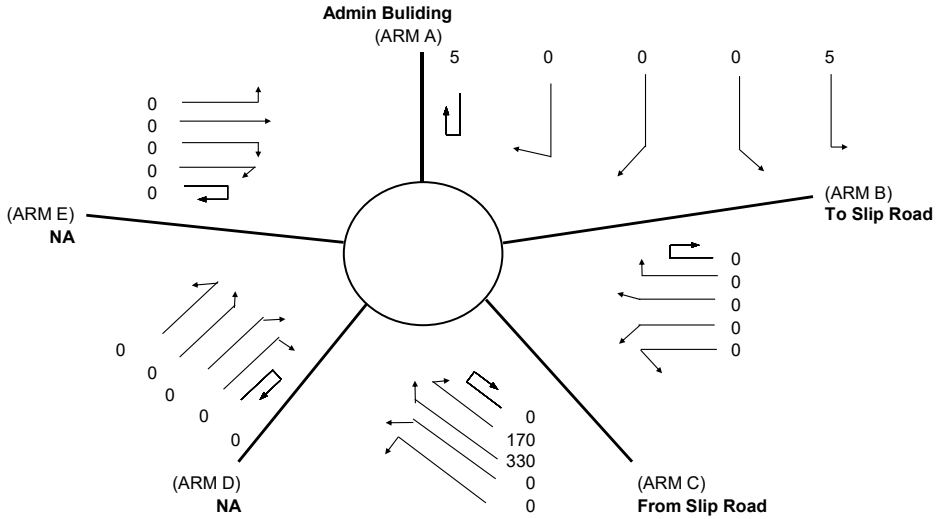
TOTAL ENTRY FLOWS = 465 PCU

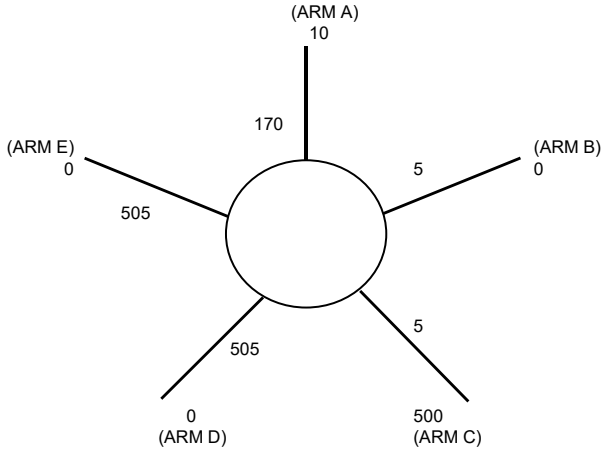
CRITICAL DFC = 0.33

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		500		
Qc= Circulating flow across entry (pcu/h)	170		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1095		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.36		

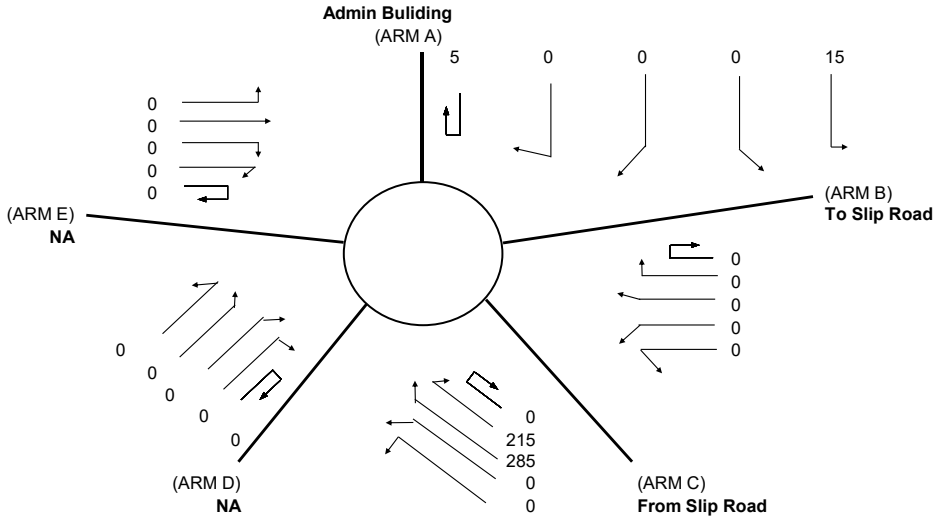
TOTAL ENTRY FLOWS = 510 PCU

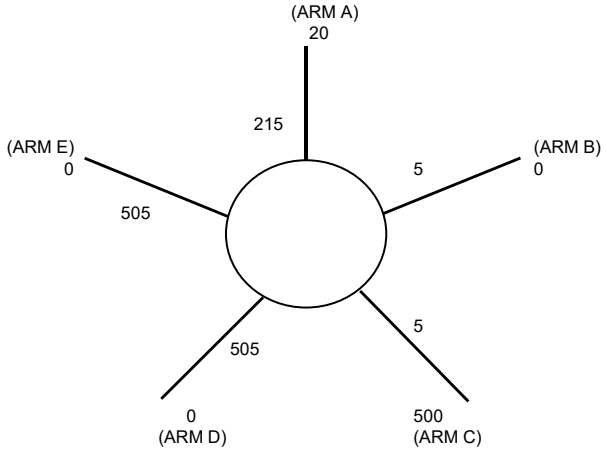
CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	20		500		
Qc= Circulating flow across entry (pcu/h)	215		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1069		1370		
DFC = Design flow/Capacity = Q/Qe	0.02		0.36		

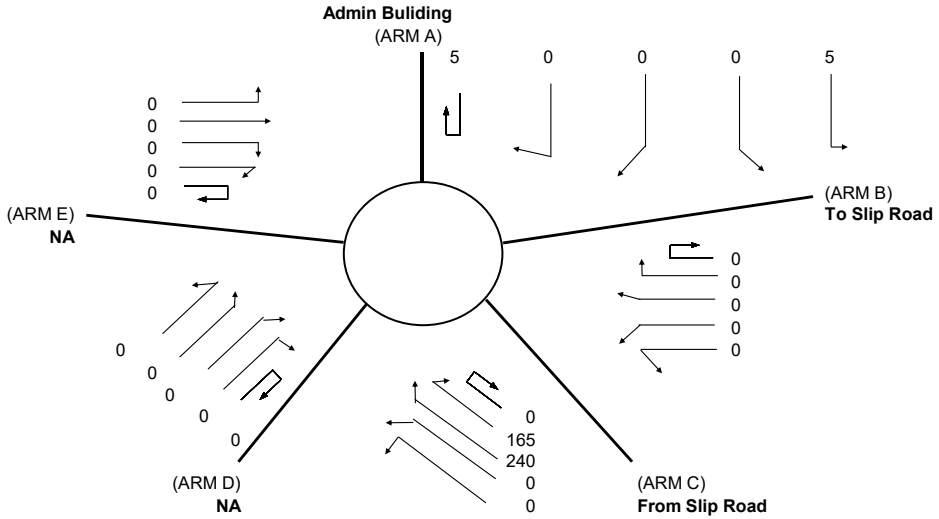
TOTAL ENTRY FLOWS = 520 PCU

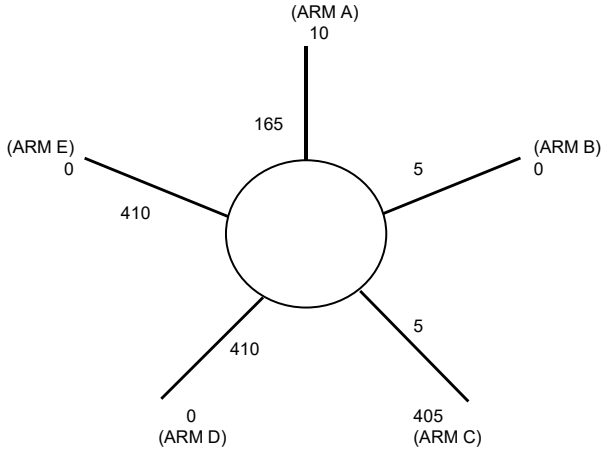
CRITICAL DFC = 0.36

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		405		
Qc= Circulating flow across entry (pcu/h)	165		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1098		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.30		

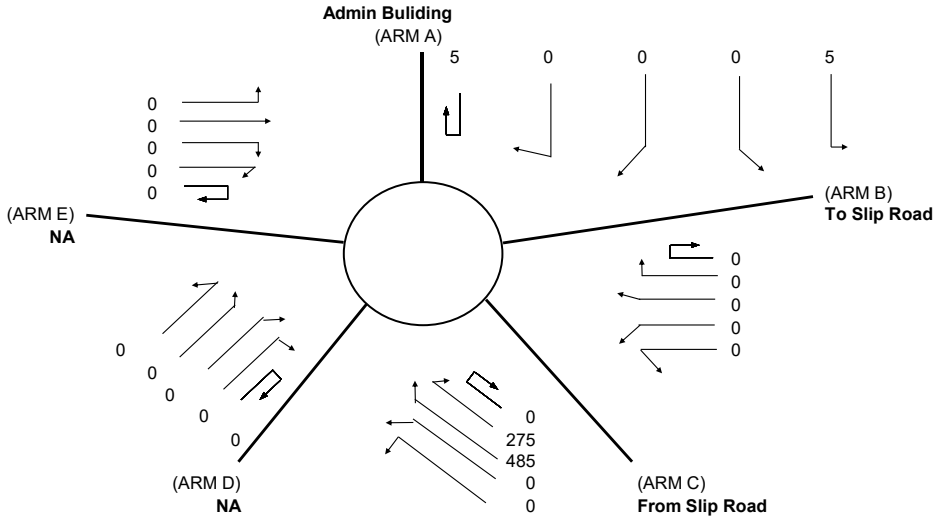
TOTAL ENTRY FLOWS = 415 PCU

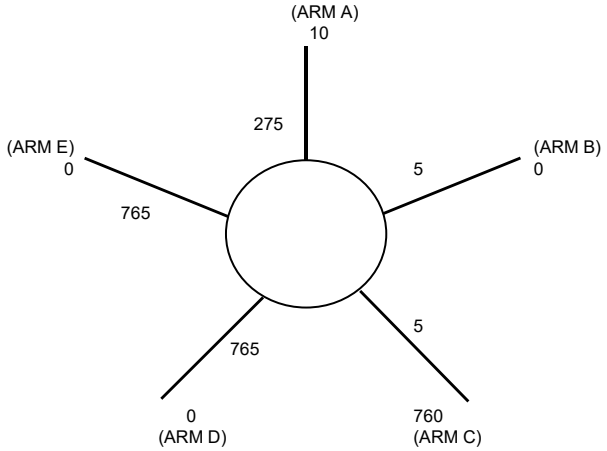
CRITICAL DFC = 0.30

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		760		
Qc= Circulating flow across entry (pcu/h)	275		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1035		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.55		

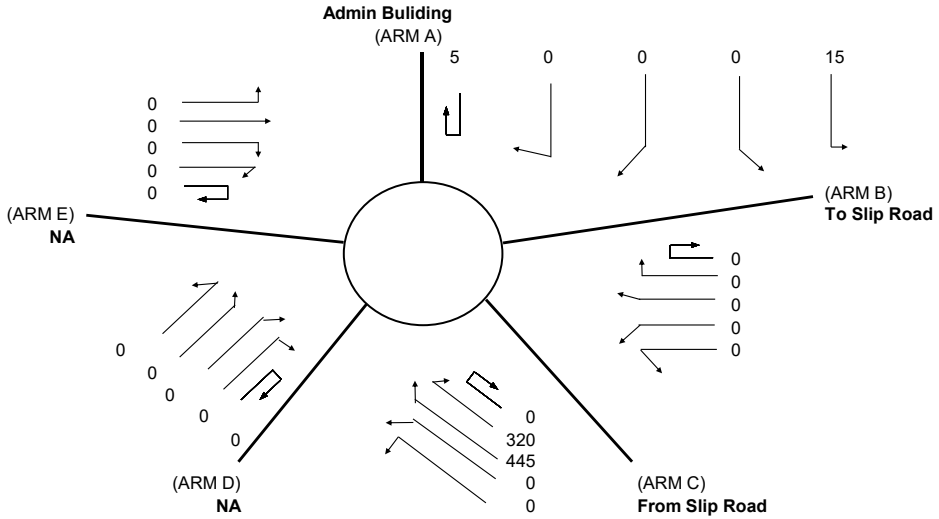
TOTAL ENTRY FLOWS = 770 PCU

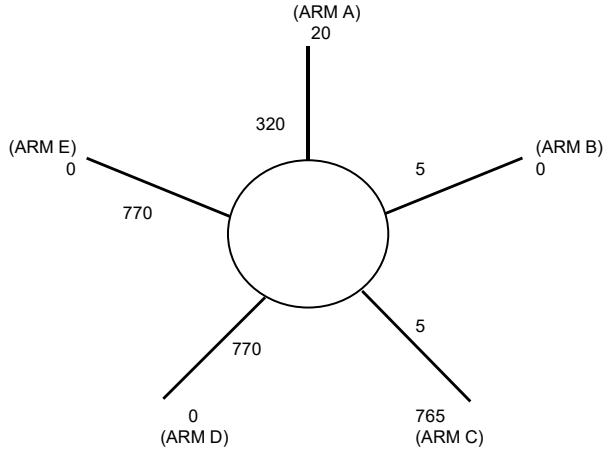
CRITICAL DFC = 0.55

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	20		765		
Qc= Circulating flow across entry (pcu/h)	320		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1009		1370		
DFC = Design flow/Capacity = Q/Qe	0.02		0.56		

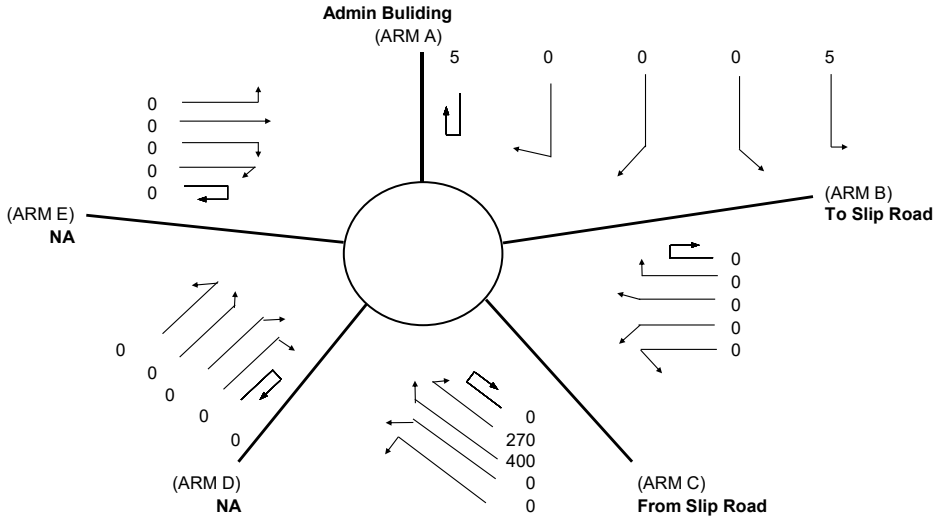
TOTAL ENTRY FLOWS = 785 PCU

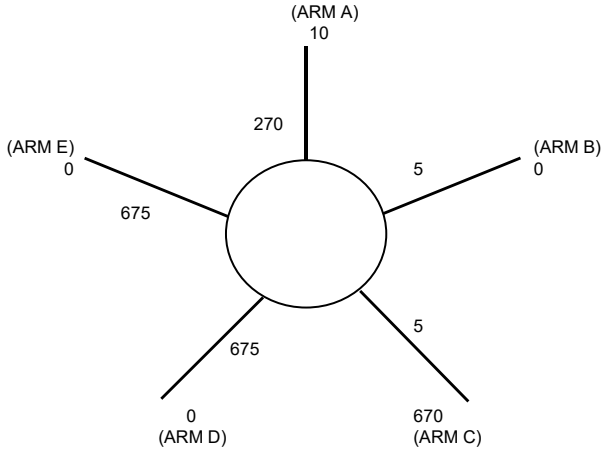
CRITICAL DFC = 0.56

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario A PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		670		
Qc= Circulating flow across entry (pcu/h)	270		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1037		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.49		

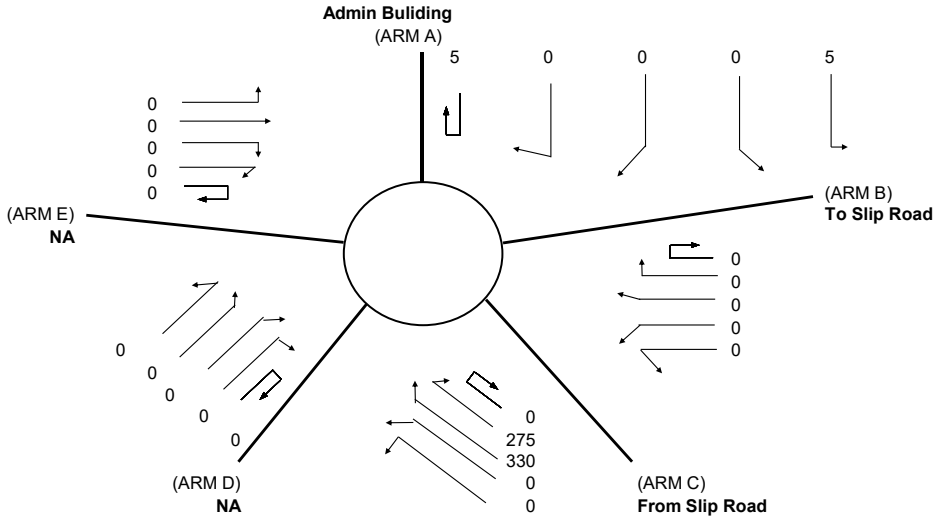
TOTAL ENTRY FLOWS = 680 PCU

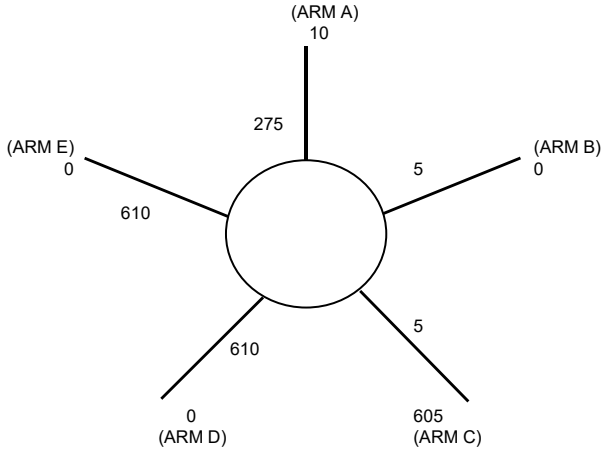
CRITICAL DFC = 0.49

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		605		
Qc= Circulating flow across entry (pcu/h)	275		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1035		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.44		

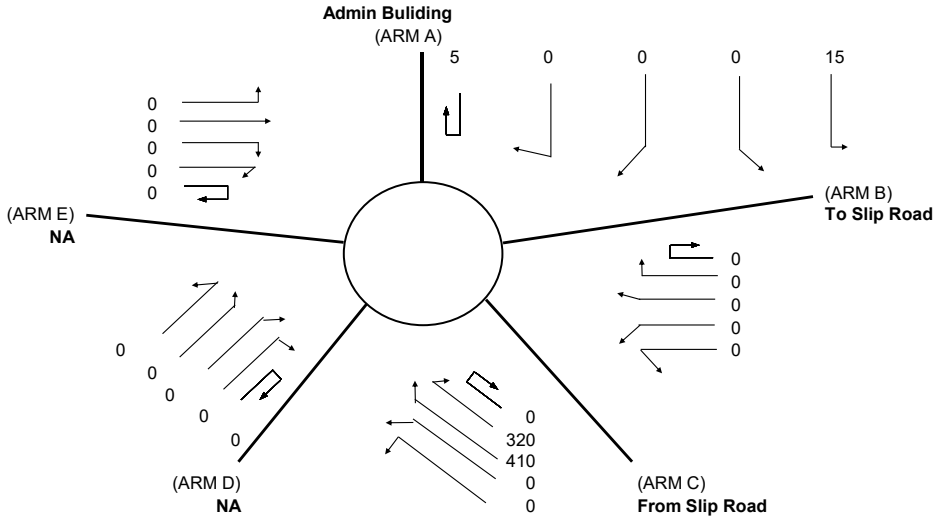
TOTAL ENTRY FLOWS = 615 PCU

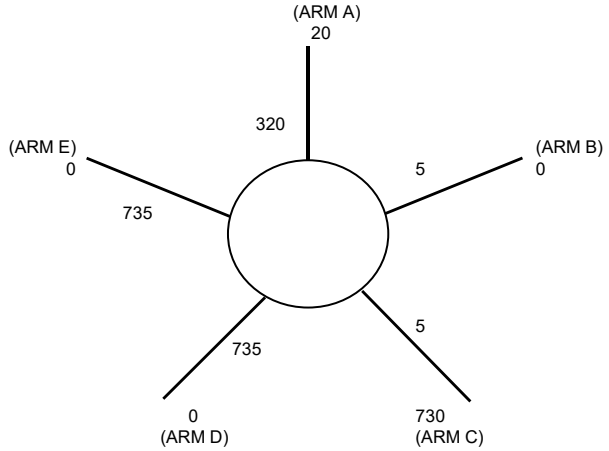
CRITICAL DFC = 0.44

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	20		730		
Qc= Circulating flow across entry (pcu/h)	320		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1009		1370		
DFC = Design flow/Capacity = Q/Qe	0.02		0.53		

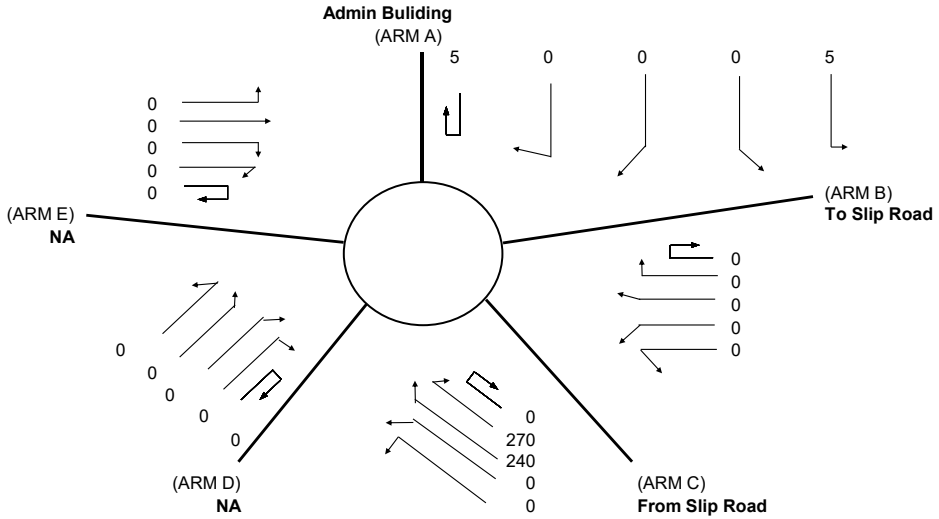
TOTAL ENTRY FLOWS = 750 PCU

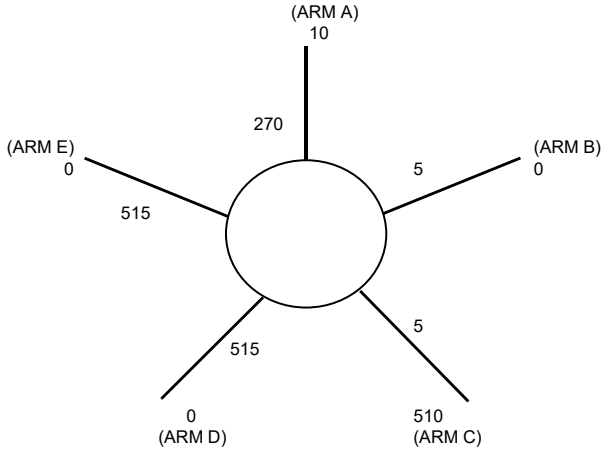
CRITICAL DFC = 0.53

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J1 - North West Tsing Yi Interchange	Scenario	2031 Scenario B PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A		C		
INPUT PARAMETERS:					
V = Approach half width (m)	3.65		4.20		
E = Entry width (m)	3.65		4.20		
L = Effective length of flare (m)	1.00		1.00		
R = Entry radius (m)	25.00		25.00		
D = Inscribed circle diameter (m)	31.00		31.00		
A = Entry angle (degree)	10.00		10.00		
Q = Entry flow (pcu/h)	10		510		
Qc= Circulating flow across entry (pcu/h)	270		5		
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.00		0.00		
K = 1-0.00347(A-30)-0.978(1/R-0.05)	1.08		1.08		
X2= V + ((E-V)/(1+2S))	3.65		4.20		
M = EXP((D-60)/10)	0.06		0.06		
F = 303*X2	1106		1273		
Td= 1+(0.5/(1+M))	1.47		1.47		
Fc= 0.21*Td(1+0.2*X2)	0.54		0.57		
Qe= K(F-Fc*Qc)	1037		1370		
DFC = Design flow/Capacity = Q/Qe	0.01		0.37		

TOTAL ENTRY FLOWS = 520 PCU

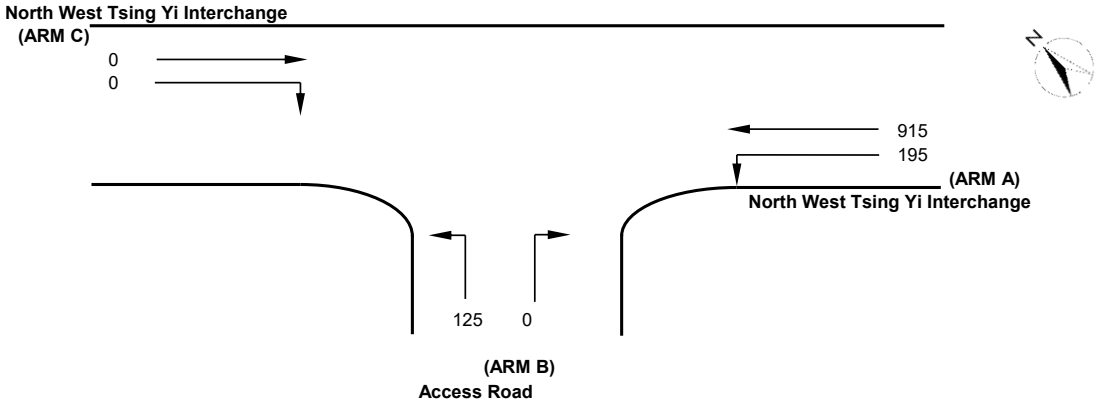
CRITICAL DFC = 0.37

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2025 Survey Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	195 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	915 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	125 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	168
Q b-c	=	477
Q c-b	=	232
Q b-ac	=	477

CRITICAL DFC = 0.26

COMPARISION OF DESIGN FLOW TO CAPACITY :

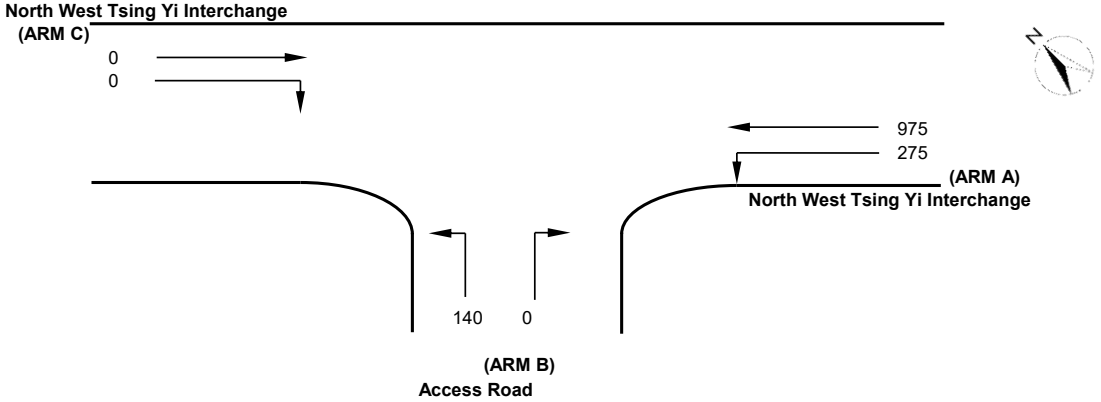
DFC b-a	=	0.00
DFC b-c	=	0.26
DFC c-b	=	0.00
DFC b-ac	=	0.26

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2025 Survey Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	275 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	975 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	140 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	153
Q b-c	=	445
Q c-b	=	207
Q b-ac	=	445

CRITICAL DFC = 0.31

COMPARISION OF DESIGN FLOW TO CAPACITY :

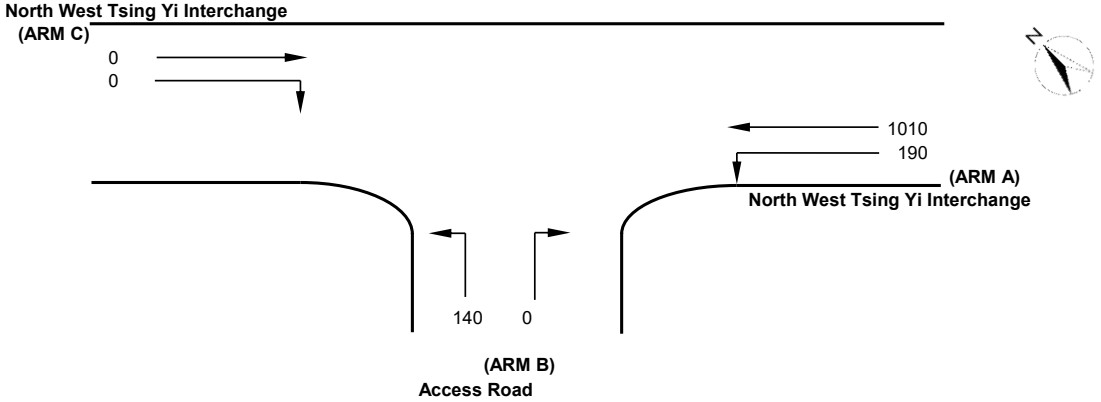
DFC b-a	=	0.00
DFC b-c	=	0.31
DFC c-b	=	0.00
DFC b-ac	=	0.31

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2025 Survey Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	190 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1010 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	140 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	153
Q b-c	=	444
Q c-b	=	216
Q b-ac	=	444

CRITICAL DFC = 0.32

COMPARISION OF DESIGN FLOW TO CAPACITY :

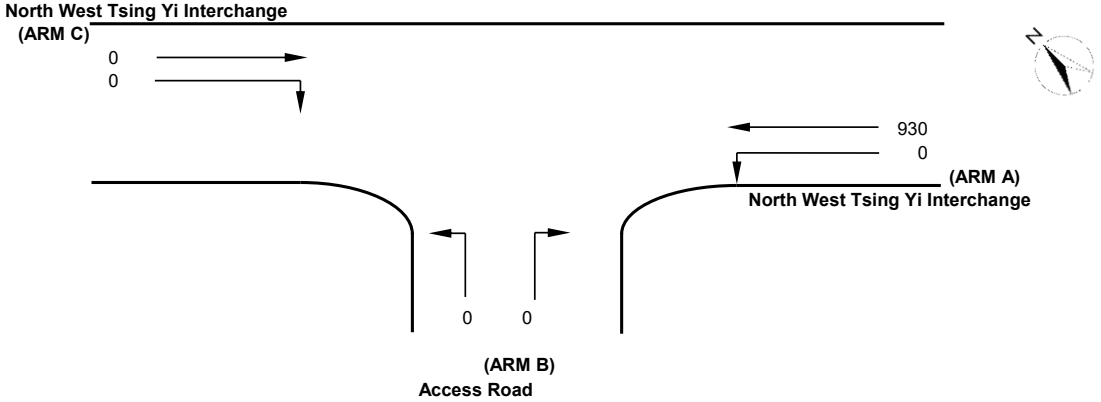
DFC b-a	=	0.00
DFC b-c	=	0.32
DFC c-b	=	0.00
DFC b-ac	=	0.32

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	930 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	179
Q b-c	=	498
Q c-b	=	266
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

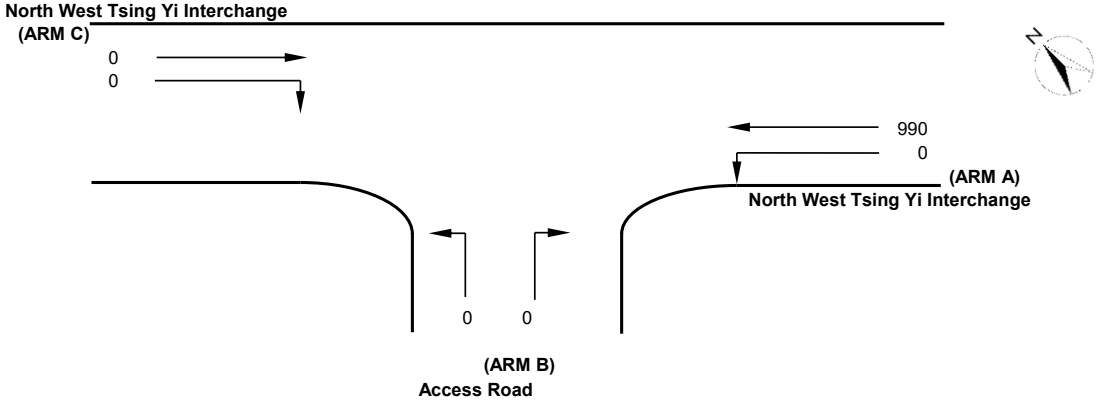
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	990 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	169
Q b-c	=	477
Q c-b	=	255
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

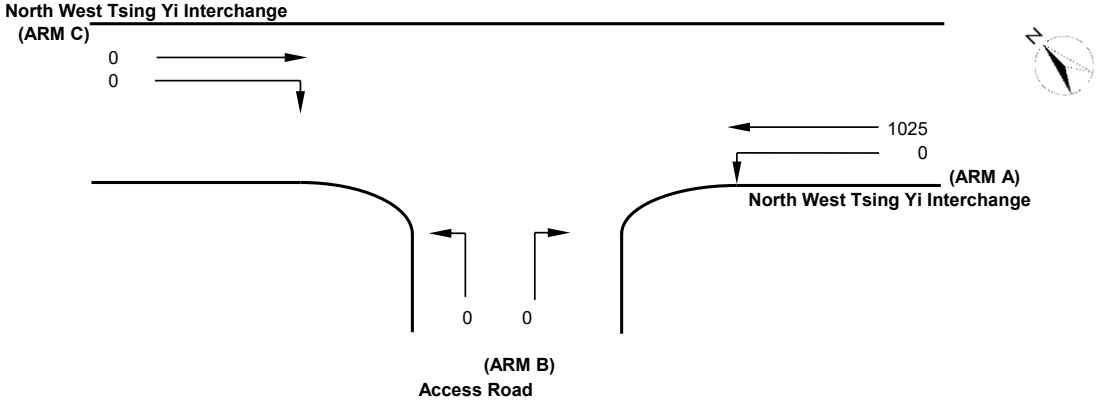
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1025 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	163
Q b-c	=	465
Q c-b	=	248
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

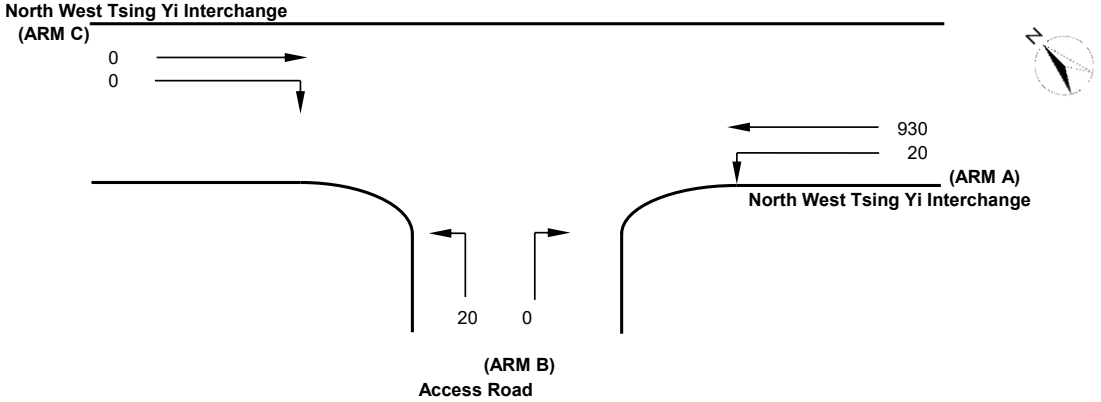
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Design Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	4.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	20	(pcu/hour)
q a-c	=	930	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hour)
q c-b	=	0	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	4.70	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	120	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	20	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	177
Q b-c	=	495
Q c-b	=	262
Q b-ac	=	495

CRITICAL DFC = 0.04

COMPARISION OF DESIGN FLOW TO CAPACITY :

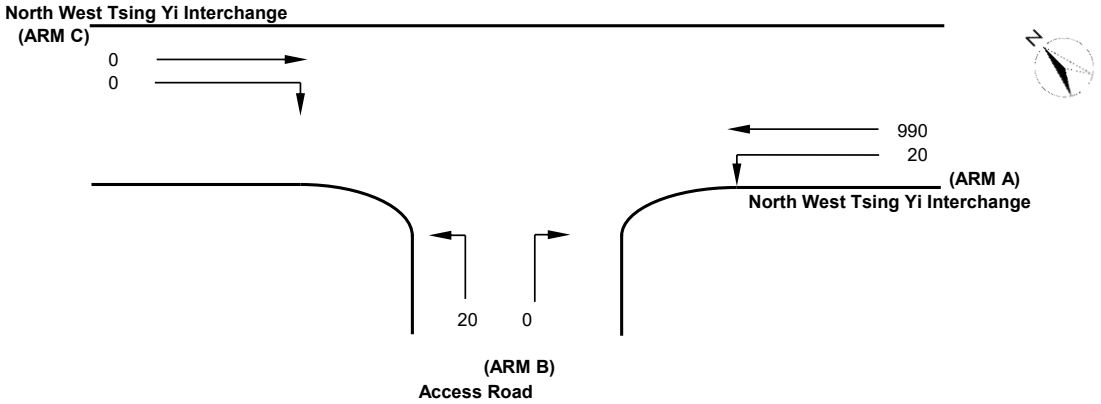
DFC b-a	=	0.00
DFC b-c	=	0.04
DFC c-b	=	0.00
DFC b-ac	=	0.04

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Design Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	20 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	990 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	20 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	167
Q b-c	=	475
Q c-b	=	251
Q b-ac	=	475

CRITICAL DFC = 0.04

COMPARISION OF DESIGN FLOW TO CAPACITY :

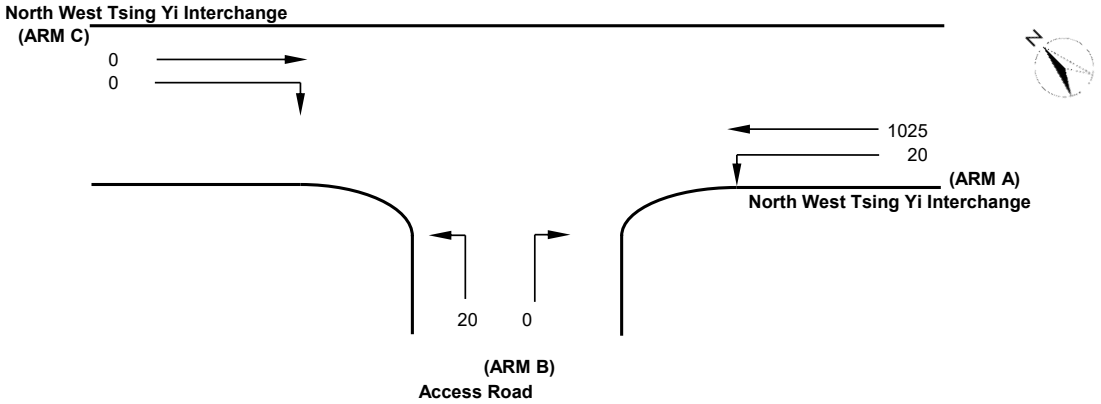
DFC b-a	=	0.00
DFC b-c	=	0.04
DFC c-b	=	0.00
DFC b-ac	=	0.04

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2028 Design Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	20 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1025 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	20 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	162
Q b-c	=	462
Q c-b	=	244
Q b-ac	=	462

CRITICAL DFC = 0.04

COMPARISION OF DESIGN FLOW TO CAPACITY :

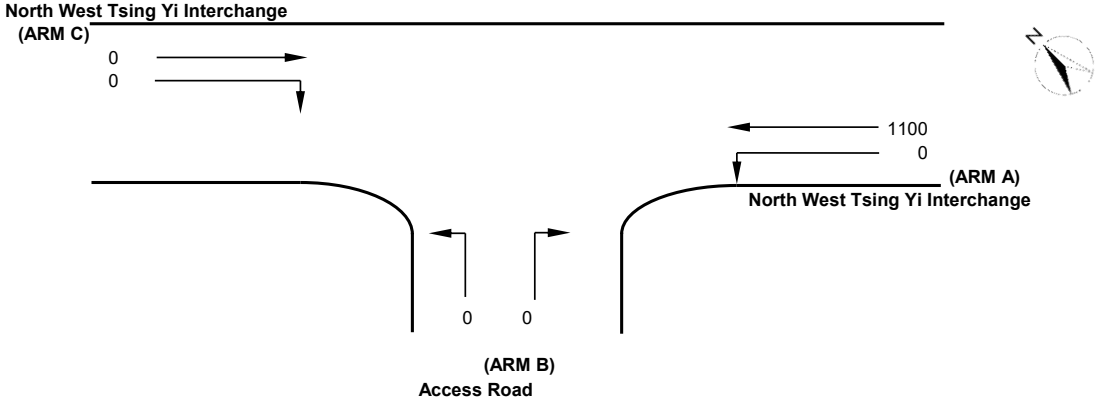
DFC b-a	=	0.00
DFC b-c	=	0.04
DFC c-b	=	0.00
DFC b-ac	=	0.04

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1100 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	150
Q b-c	=	439
Q c-b	=	234
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

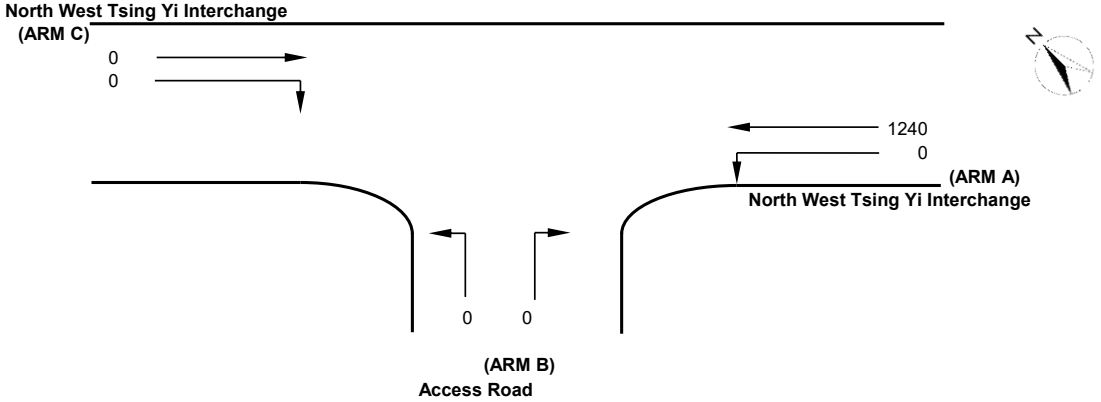
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1240 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	127
Q b-c	=	391
Q c-b	=	209
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

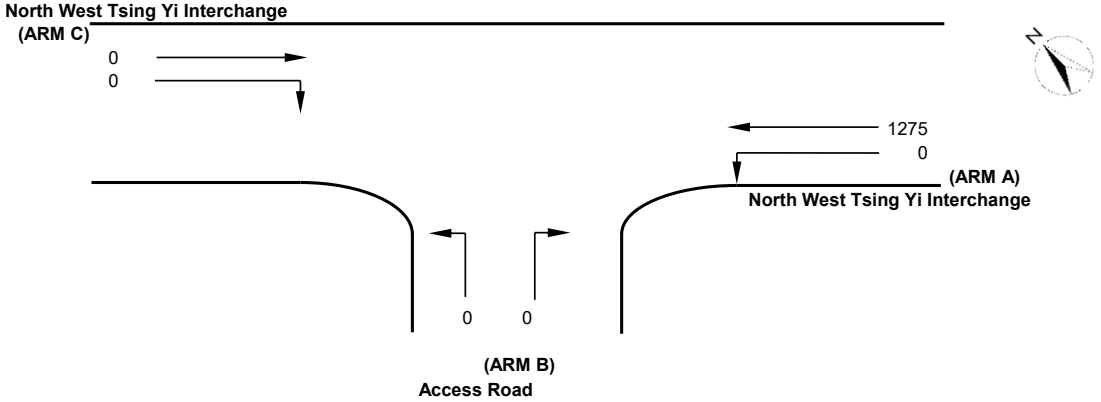
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1275 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	121
Q b-c	=	379
Q c-b	=	202
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.00

COMPARISION OF DESIGN FLOW TO CAPACITY :

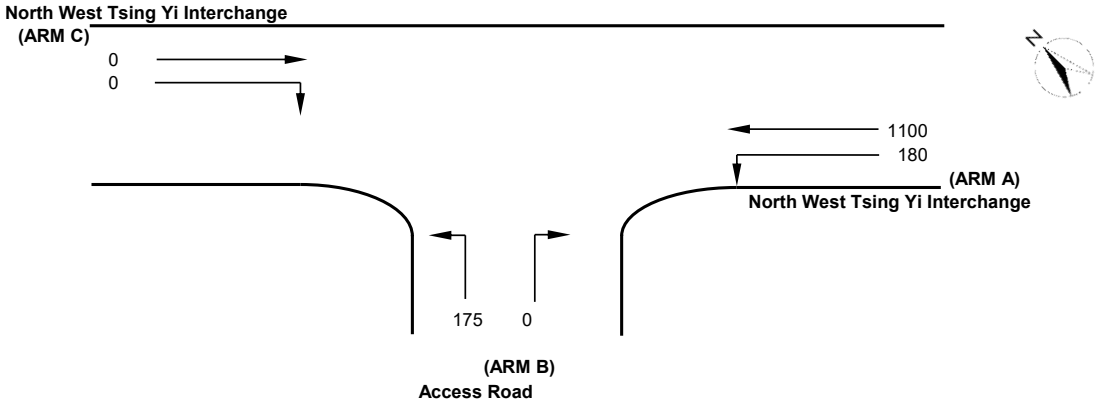
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.00
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario A AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	4.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	180	(pcu/hour)
q a-c	=	1100	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hour)
q c-b	=	0	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	4.70	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	120	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	175	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	138
Q b-c	=	415
Q c-b	=	201
Q b-ac	=	415

CRITICAL DFC = 0.42

COMPARISION OF DESIGN FLOW TO CAPACITY :

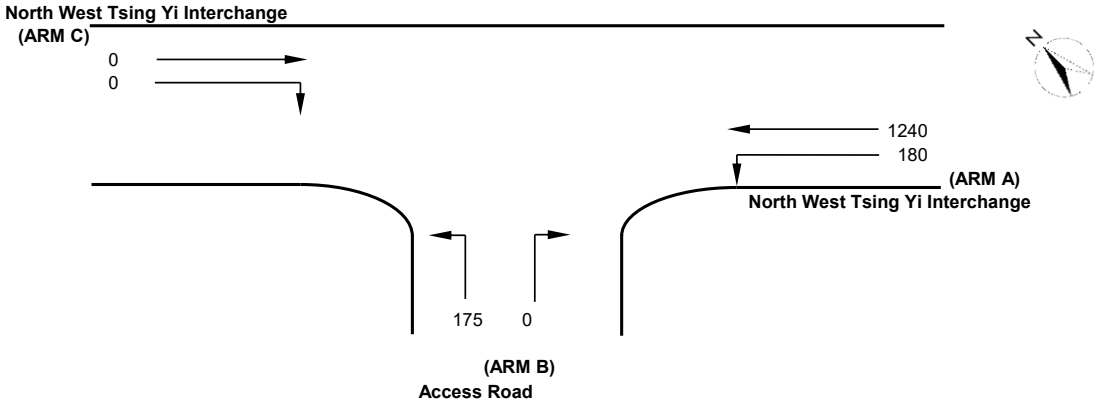
DFC b-a	=	0.00
DFC b-c	=	0.42
DFC c-b	=	0.00
DFC b-ac	=	0.42

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario A NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	180 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1240 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	175 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	115
Q b-c	=	367
Q c-b	=	175
Q b-ac	=	367

CRITICAL DFC = 0.48

COMPARISION OF DESIGN FLOW TO CAPACITY :

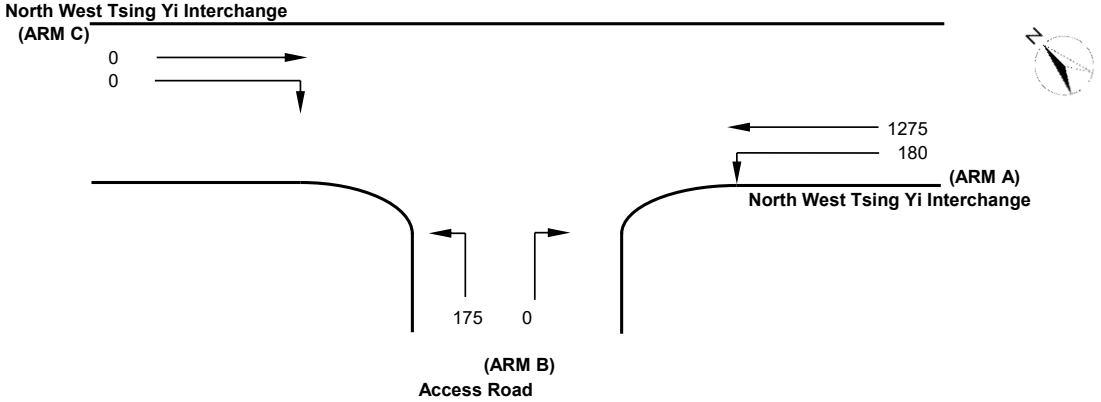
DFC b-a	=	0.00
DFC b-c	=	0.48
DFC c-b	=	0.00
DFC b-ac	=	0.48

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario A PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

J2

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)				*MAJOR ROAD (ARM C)*				*MINOR ROAD (ARM B)*			
W	=	4.00	(metres)	W c-b	=	0.00	(metres)	W b-a	=	0.00	(metres)
W cr	=	0.00	(metres)	Vr c-b	=	0	(metres)	W b-c	=	4.70	(metres)
q a-b	=	180	(pcu/hour)	q c-a	=	0	(pcu/hour)	Vl b-a	=	0	(metres)
q a-c	=	1275	(pcu/hour)	q c-b	=	0	(pcu/hour)	Vr b-a	=	0	(metres)
								Vr b-c	=	120	(metres)
								q b-a	=	0	(pcu/hour)
								q b-c	=	175	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	109
Q b-c	=	354
Q c-b	=	169
Q b-ac	=	354

CRITICAL DFC = 0.49

COMPARISION OF DESIGN FLOW TO CAPACITY :

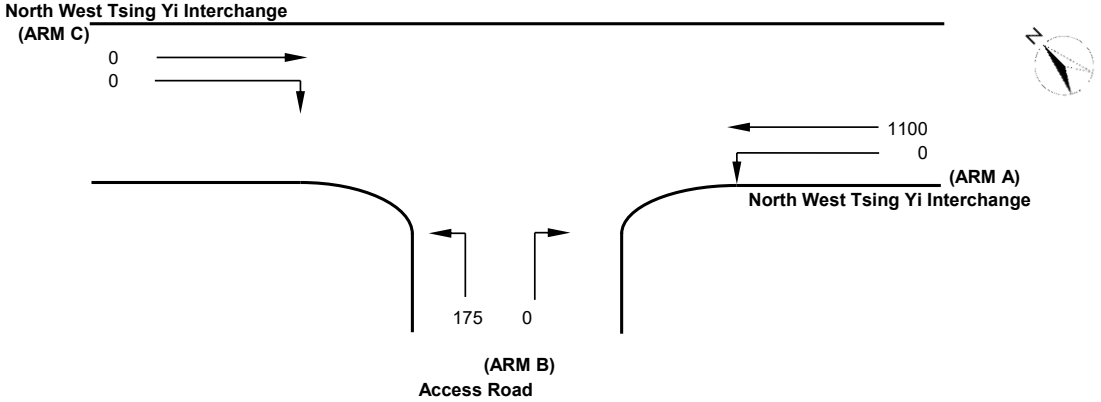
DFC b-a	=	0.00
DFC b-c	=	0.49
DFC c-b	=	0.00
DFC b-ac	=	0.49

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario B AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	4.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	0	(pcu/hour)
q a-c	=	1100	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	0.00	(metres)
Vr c-b	=	0	(metres)
q c-a	=	0	(pcu/hour)
q c-b	=	0	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	4.70	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	120	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	175	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	150
Q b-c	=	439
Q c-b	=	234
Q b-ac	=	439

CRITICAL DFC = 0.40

COMPARISION OF DESIGN FLOW TO CAPACITY :

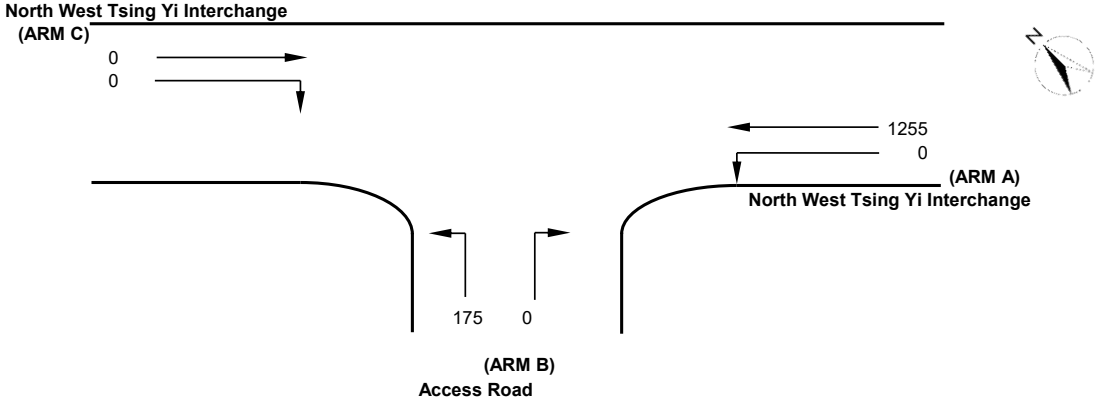
DFC b-a	=	0.00
DFC b-c	=	0.40
DFC c-b	=	0.00
DFC b-ac	=	0.40

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario B NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1255 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	175 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	124
Q b-c	=	386
Q c-b	=	206
Q b-ac	=	386

CRITICAL DFC = 0.45

COMPARISION OF DESIGN FLOW TO CAPACITY :

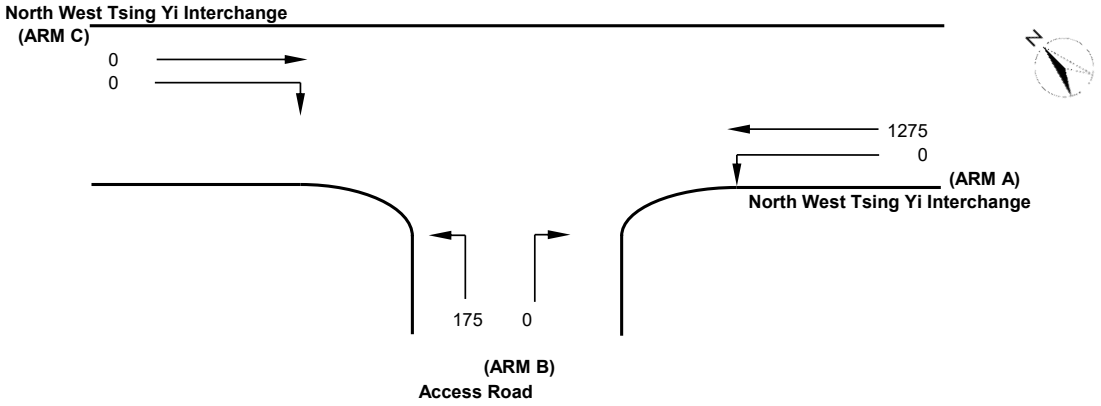
DFC b-a	=	0.00
DFC b-c	=	0.45
DFC c-b	=	0.00
DFC b-ac	=	0.45

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J2 - North West Tsing Yi Interchange / Access Road	2031 Scenario B PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J2



NOTES : (GEOMETRIC INPUT DATA)

J2

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	4.00 (metres)	W c-b	=	0.00 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	0 (metres)	W b-c	=	4.70 (metres)
q a-b	=	0 (pcu/hour)	q c-a	=	0 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	1275 (pcu/hour)	q c-b	=	0 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	120 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	175 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	1.10
F	=	0.59
Y	=	0.86

THE CAPACITY OF MOVEMENT :

Q b-a	=	121
Q b-c	=	379
Q c-b	=	202
Q b-ac	=	379

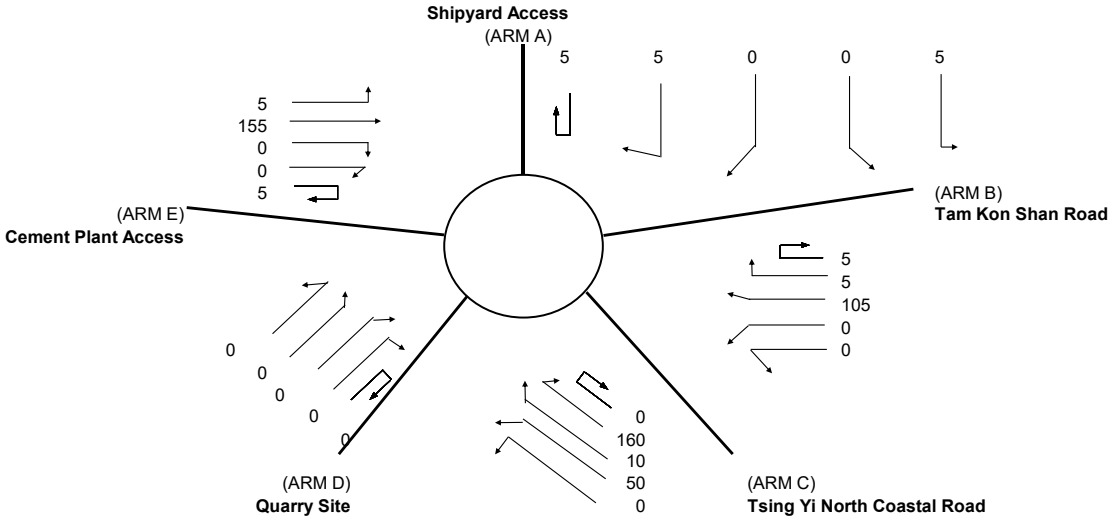
CRITICAL DFC = 0.46

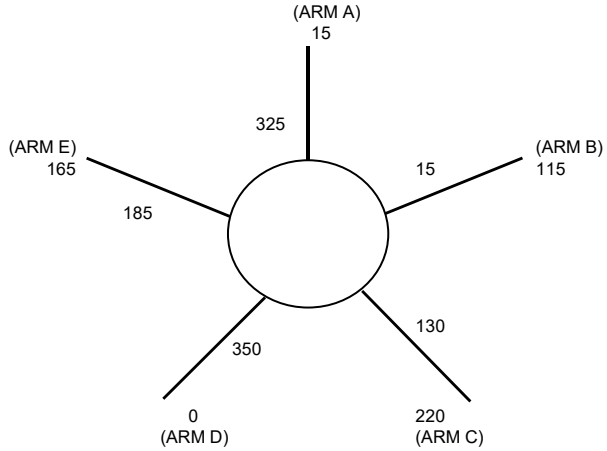
COMPARISION OF DESIGN FLOW TO CAPACITY :

DFC b-a	=	0.00
DFC b-c	=	0.46
DFC c-b	=	0.00
DFC b-ac	=	0.46

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





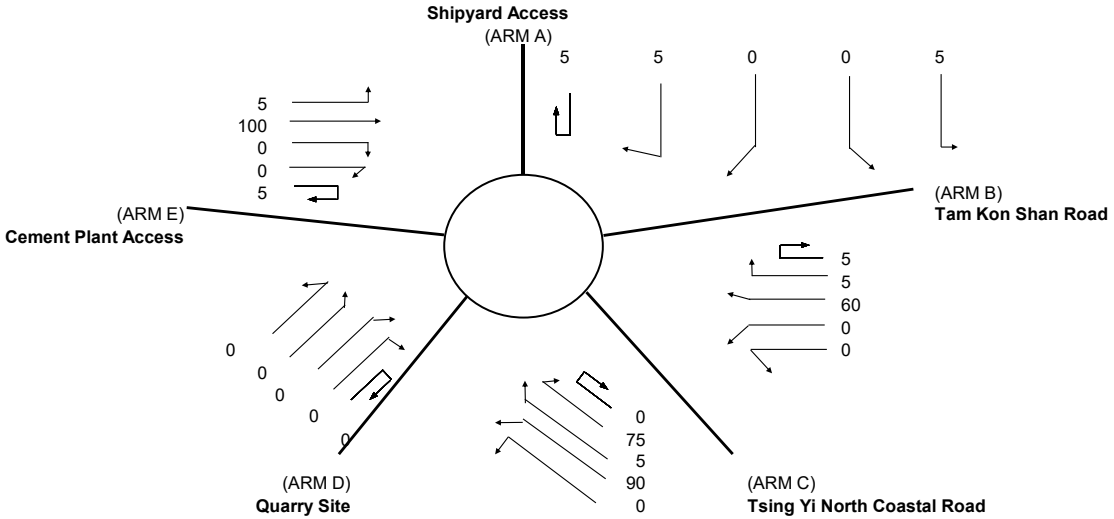
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	220	0	165
Qc= Circulating flow across entry (pcu/h)	325	15	130	350	185
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1265	1781	1196	1715	1345
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.18	0.00	0.12

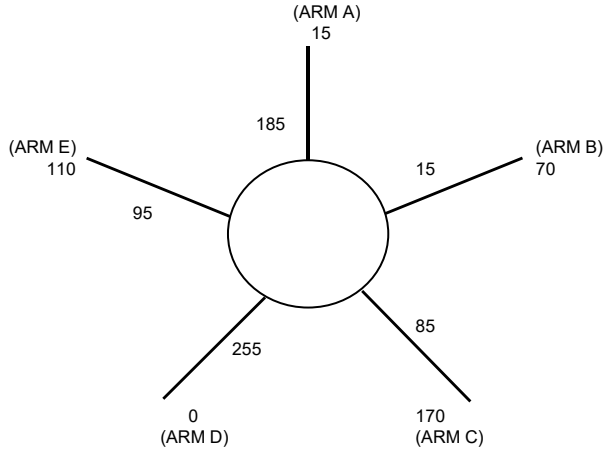
TOTAL ENTRY FLOWS = 515 PCU

CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	70	170	0	110
Qc= Circulating flow across entry (pcu/h)	185	15	85	255	95
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1348	1781	1223	1779	1400
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.00	0.08

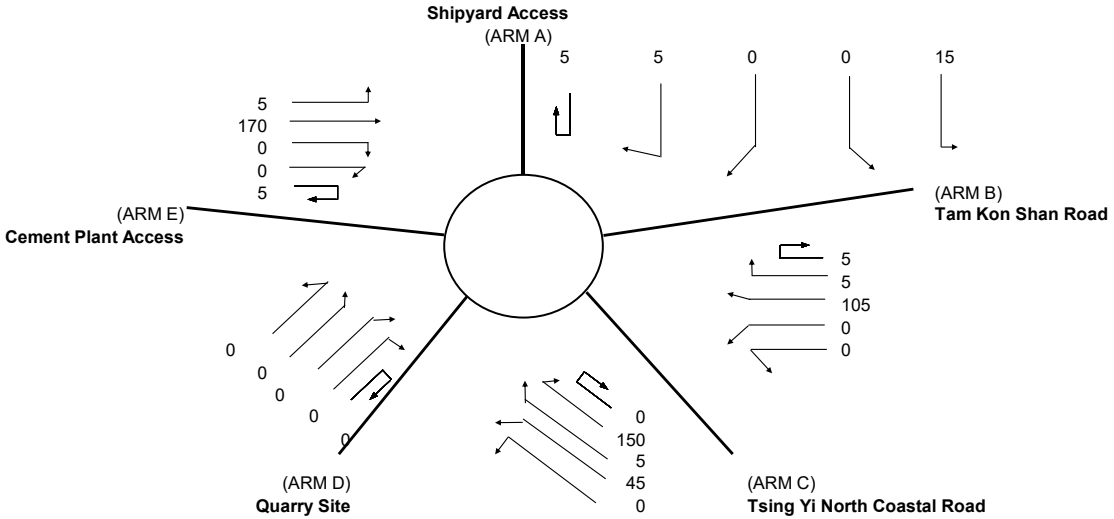
TOTAL ENTRY FLOWS = 365 PCU

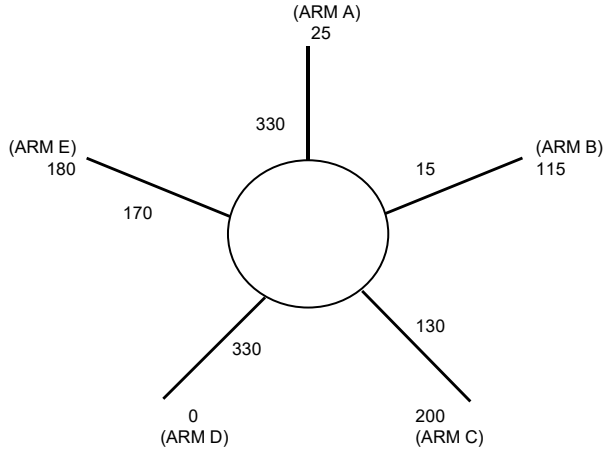
CRITICAL DFC = 0.14

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





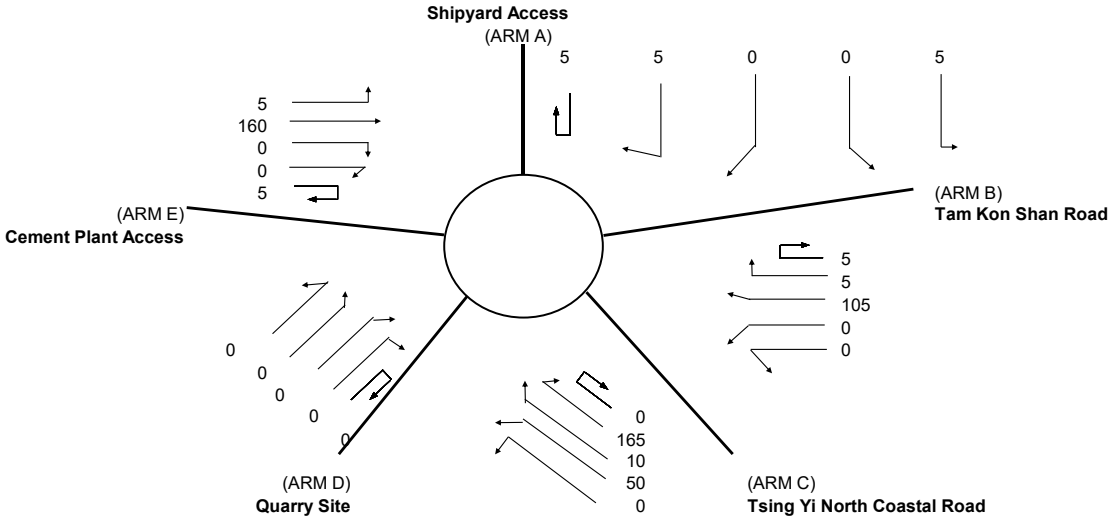
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	200	0	180
Qc= Circulating flow across entry (pcu/h)	330	15	130	330	170
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1262	1781	1196	1728	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.00	0.13

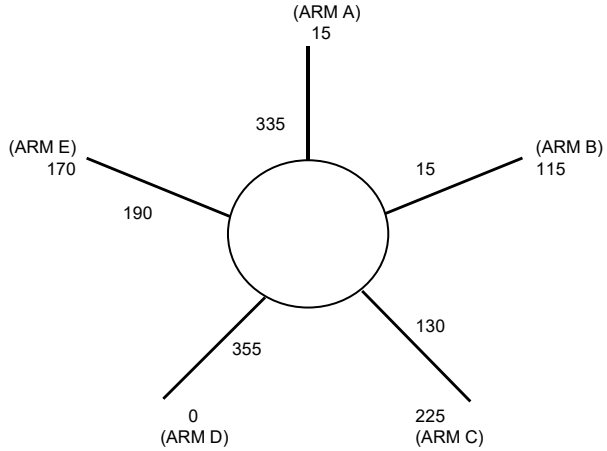
TOTAL ENTRY FLOWS = 520 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	225	0	170
Qc= Circulating flow across entry (pcu/h)	335	15	130	355	190
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1711	1341
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.19	0.00	0.13

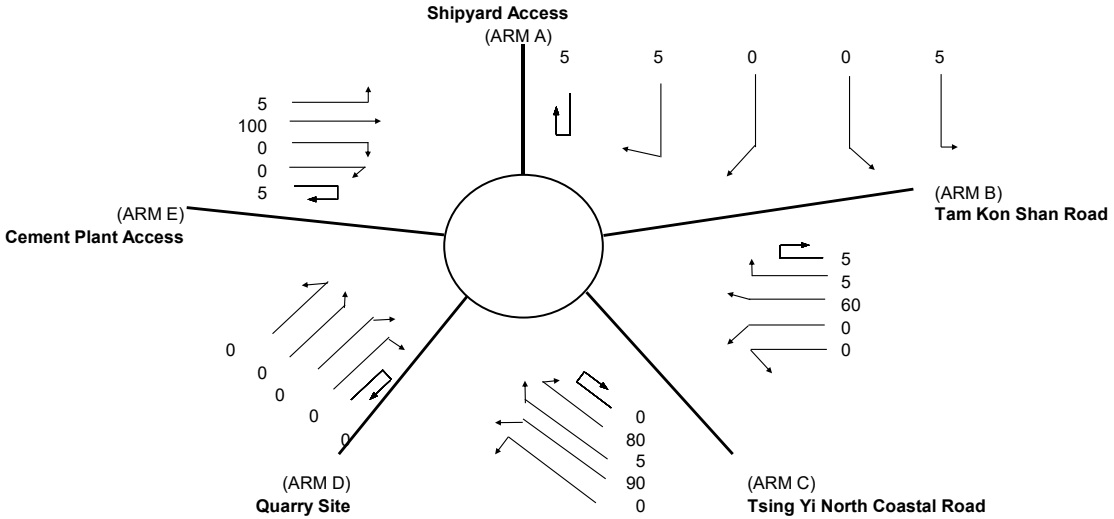
TOTAL ENTRY FLOWS = 525 PCU

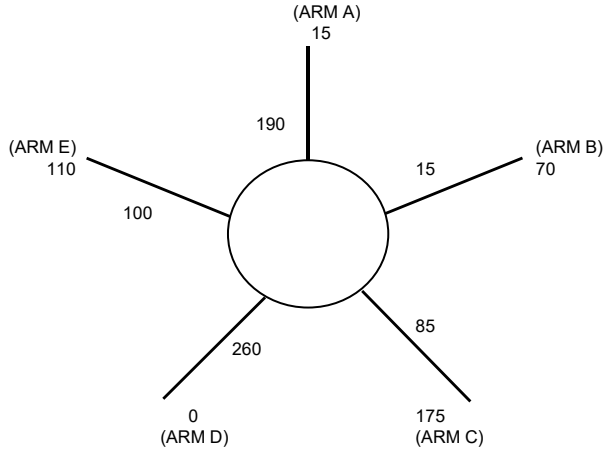
CRITICAL DFC = 0.19

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





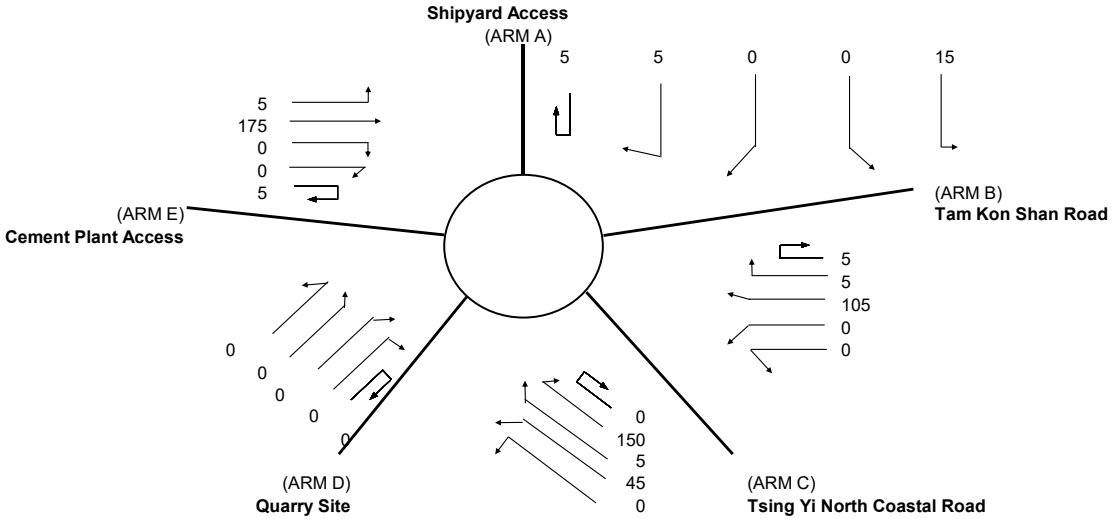
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	70	175	0	110
Qc= Circulating flow across entry (pcu/h)	190	15	85	260	100
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1345	1781	1223	1775	1397
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.00	0.08

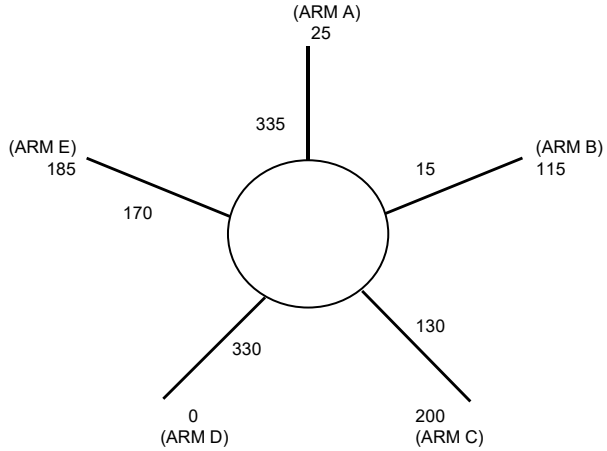
TOTAL ENTRY FLOWS = 370 PCU

CRITICAL DFC = 0.14

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





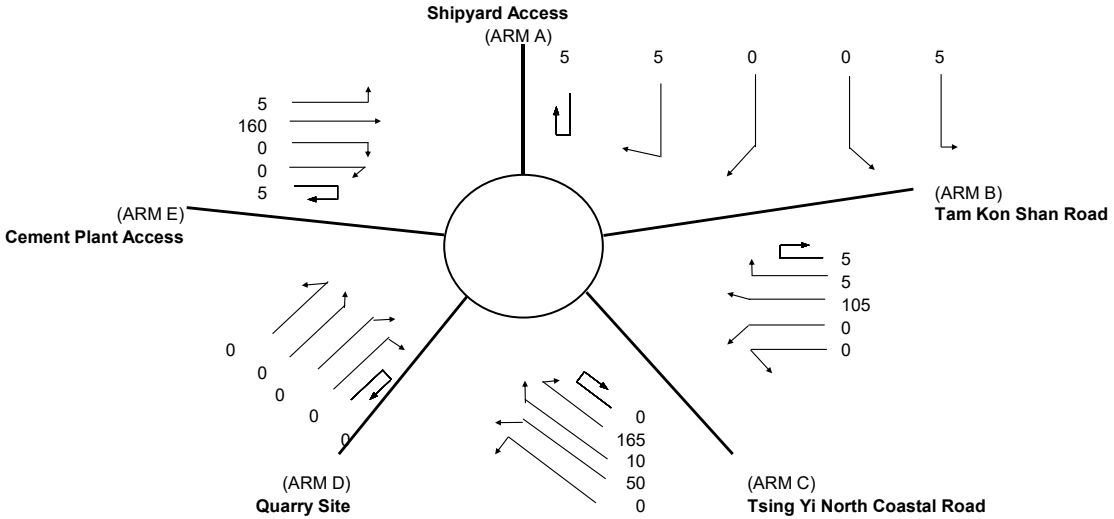
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	200	0	185
Qc= Circulating flow across entry (pcu/h)	335	15	130	330	170
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1728	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.00	0.14

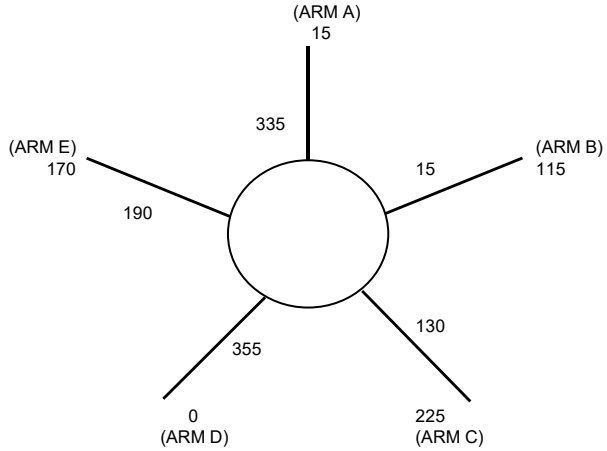
TOTAL ENTRY FLOWS = 525 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	225	0	170
Qc= Circulating flow across entry (pcu/h)	335	15	130	355	190
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1711	1341
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.19	0.00	0.13

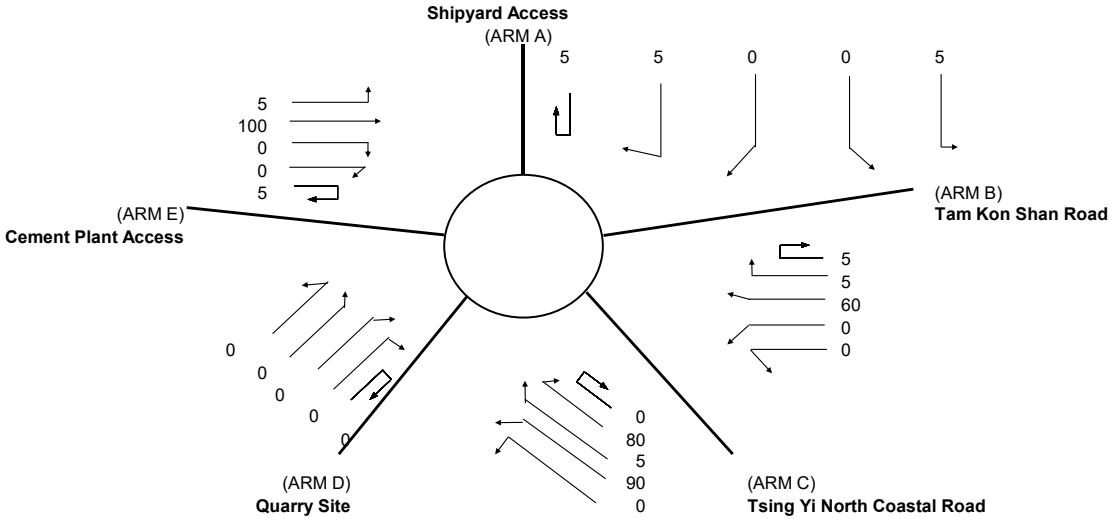
TOTAL ENTRY FLOWS = 525 PCU

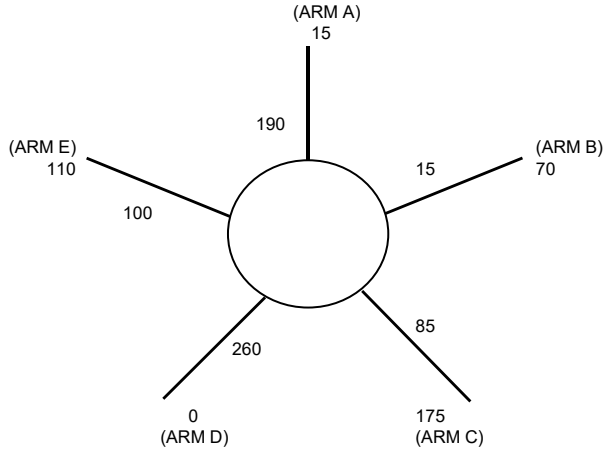
CRITICAL DFC = 0.19

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





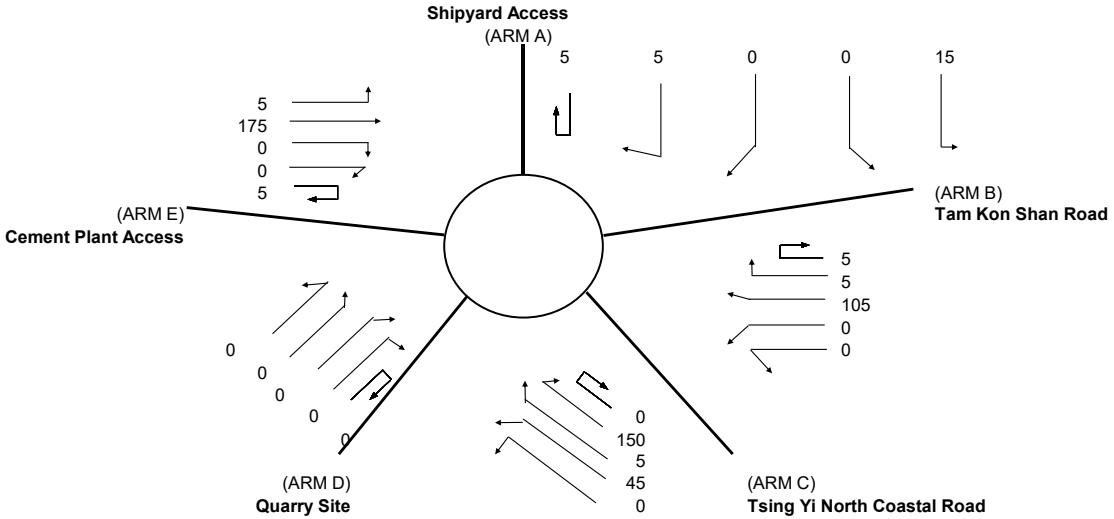
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	70	175	0	110
Qc= Circulating flow across entry (pcu/h)	190	15	85	260	100
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1345	1781	1223	1775	1397
DFC = Design flow/Capacity = Q/Qe	0.01	0.04	0.14	0.00	0.08

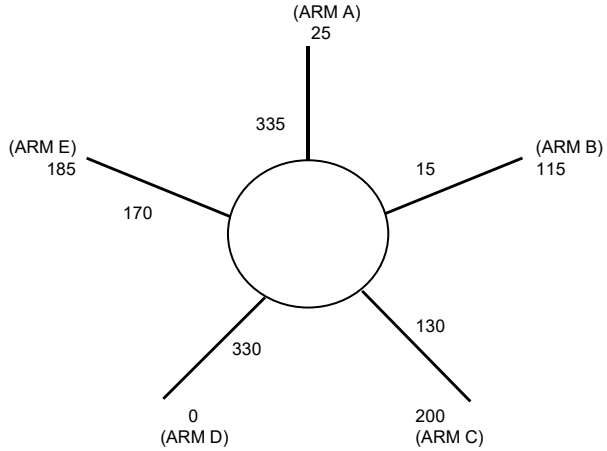
TOTAL ENTRY FLOWS = 370 PCU

CRITICAL DFC = 0.14

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





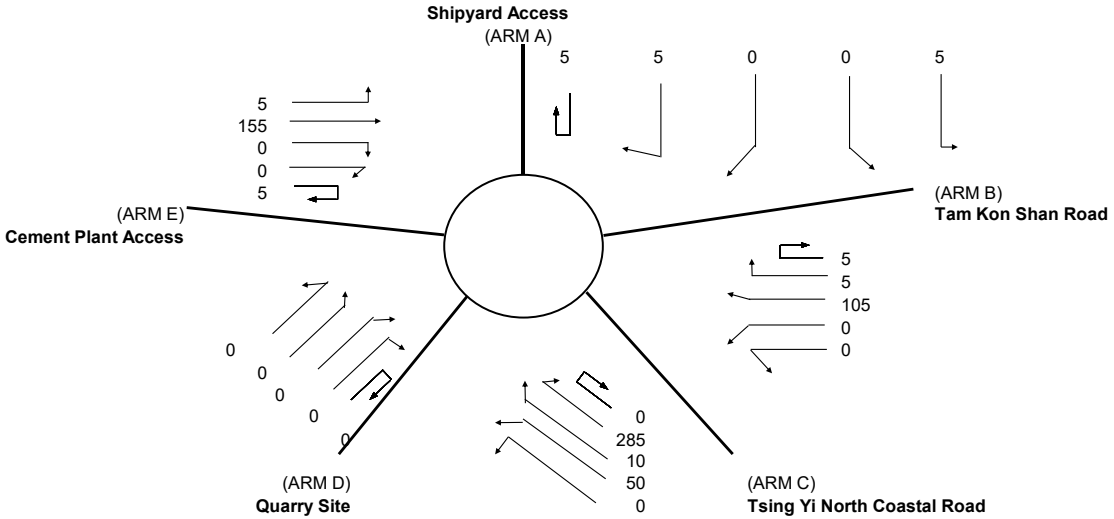
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	200	0	185
Qc= Circulating flow across entry (pcu/h)	335	15	130	330	170
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1259	1781	1196	1728	1354
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.17	0.00	0.14

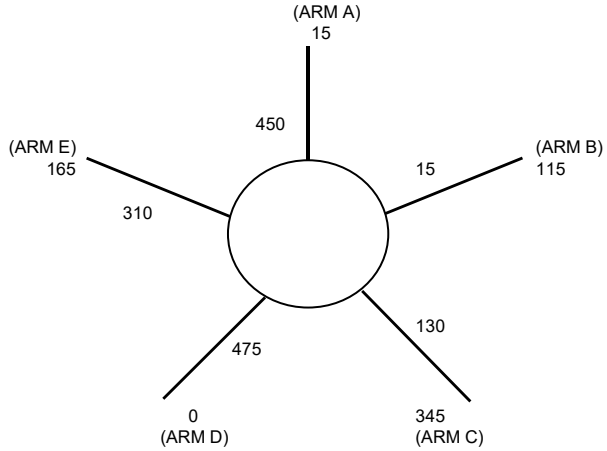
TOTAL ENTRY FLOWS = 525 PCU

CRITICAL DFC = 0.17

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	345	0	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	475	310
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1630	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.29	0.00	0.13

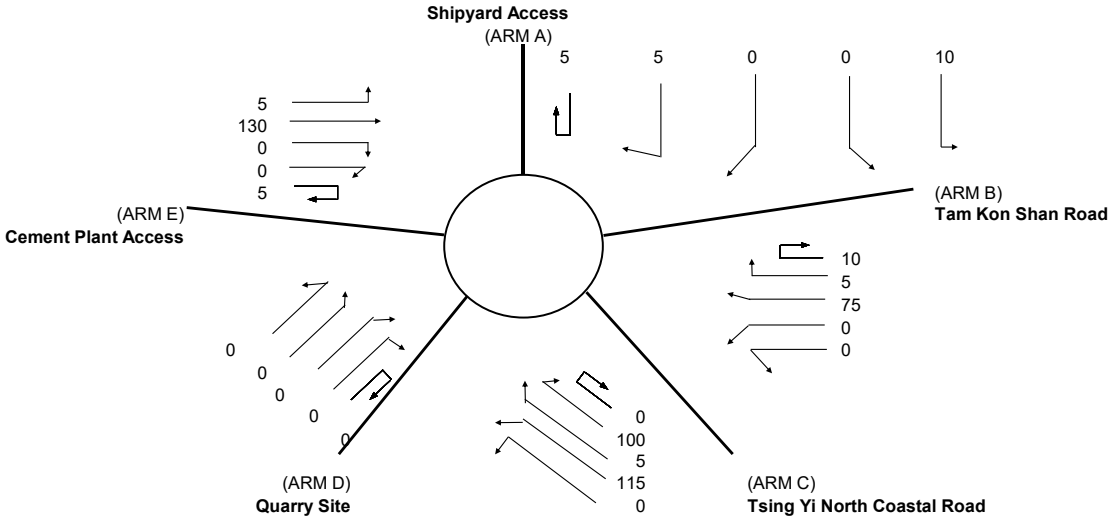
TOTAL ENTRY FLOWS = 640 PCU

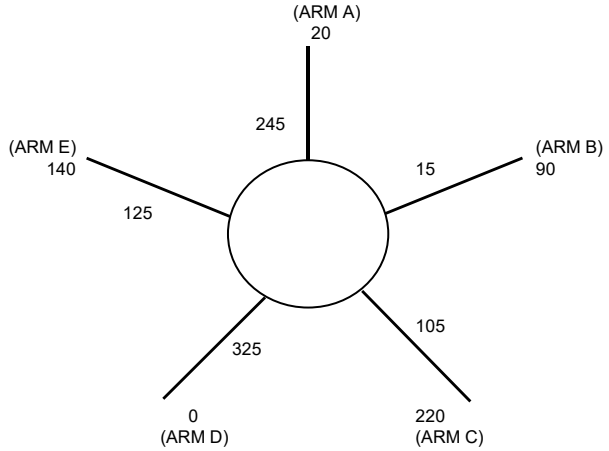
CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	20	90	220	0	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	325	125
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1731	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.18	0.00	0.10

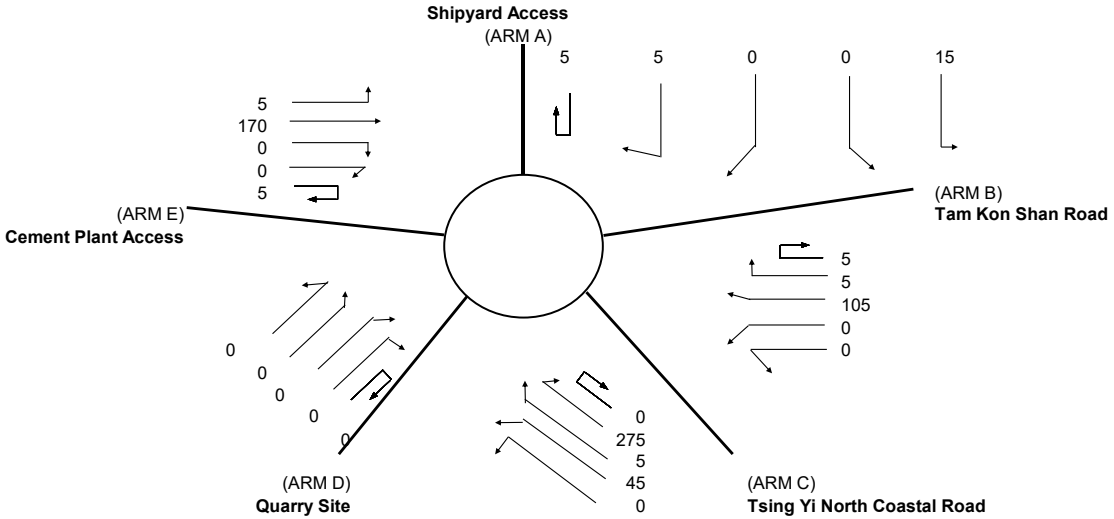
TOTAL ENTRY FLOWS = 470 PCU

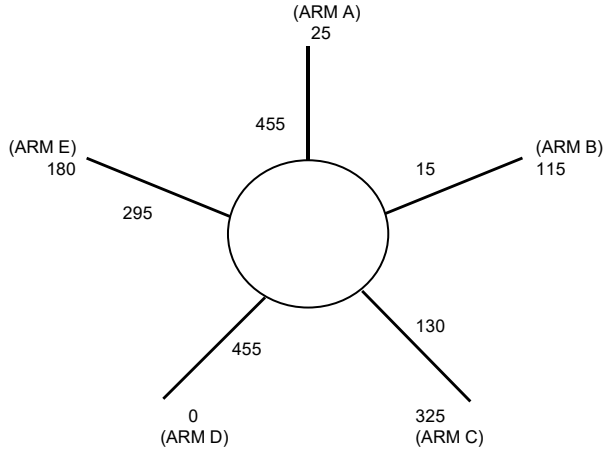
CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	325	0	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	455	295
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1644	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.27	0.00	0.14

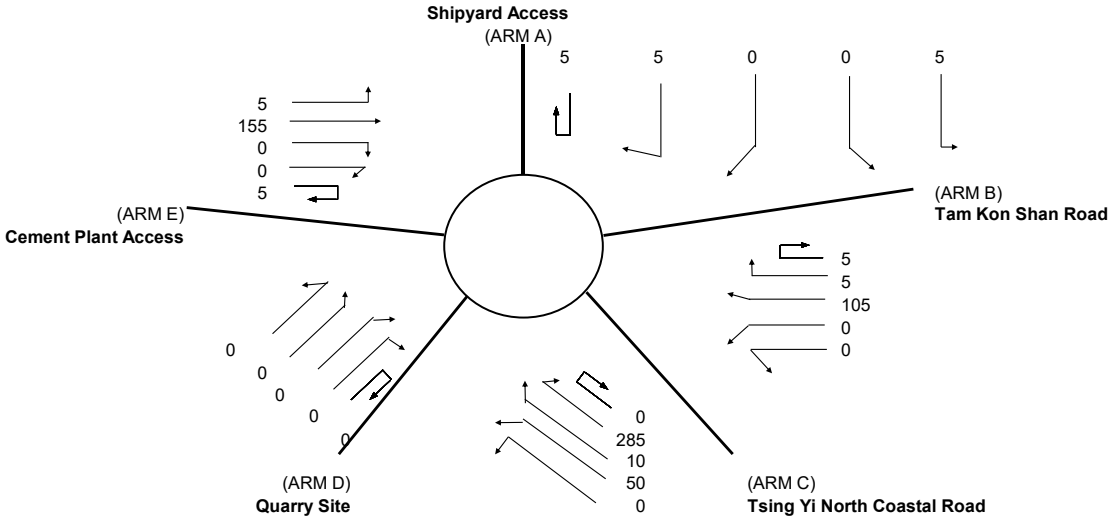
TOTAL ENTRY FLOWS = 645 PCU

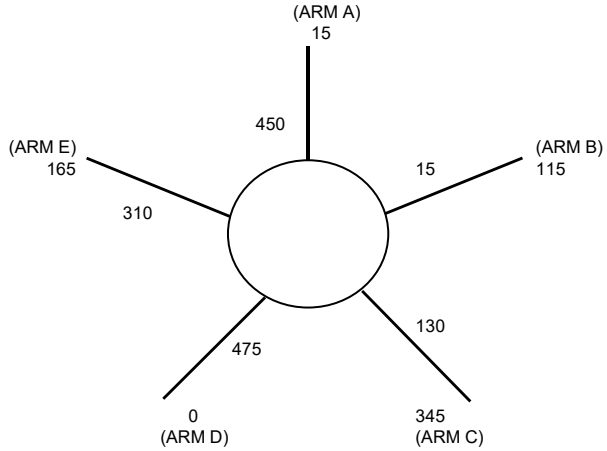
CRITICAL DFC = 0.27

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	345	0	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	475	310
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1630	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.29	0.00	0.13

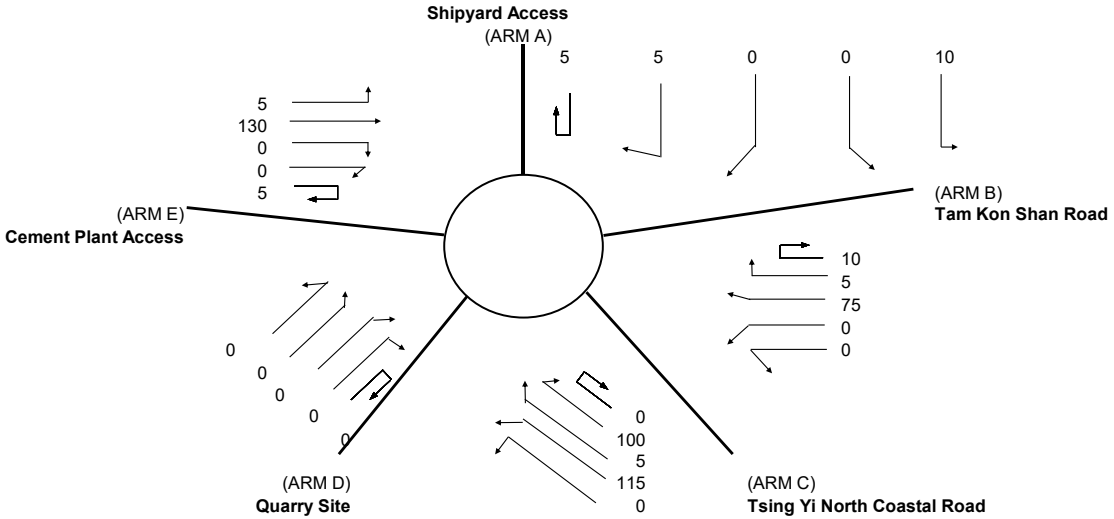
TOTAL ENTRY FLOWS = 640 PCU

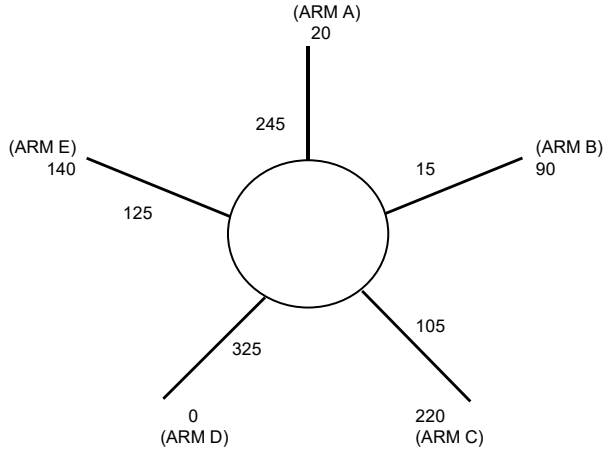
CRITICAL DFC = 0.29

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	20	90	220	0	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	325	125
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1731	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.18	0.00	0.10

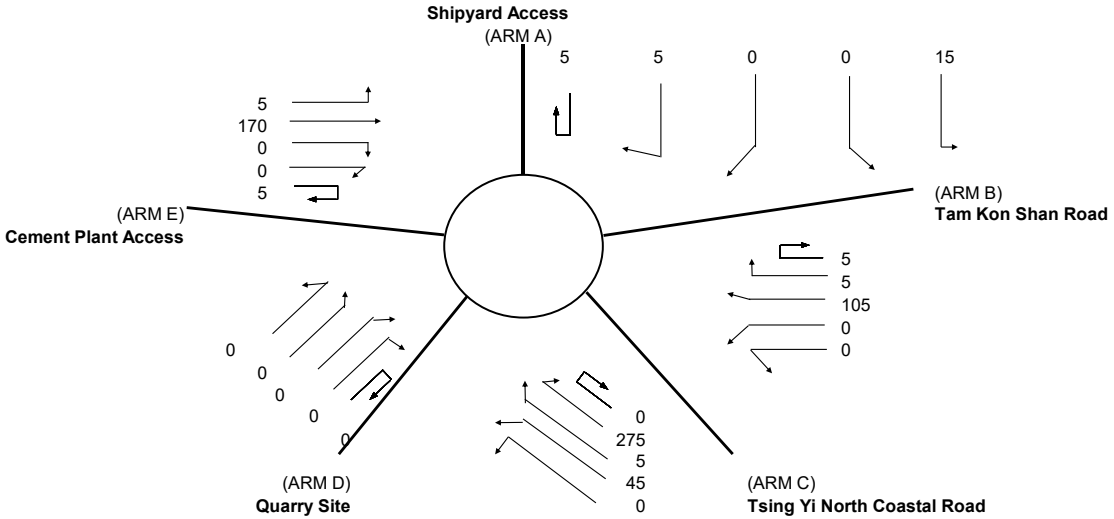
TOTAL ENTRY FLOWS = 470 PCU

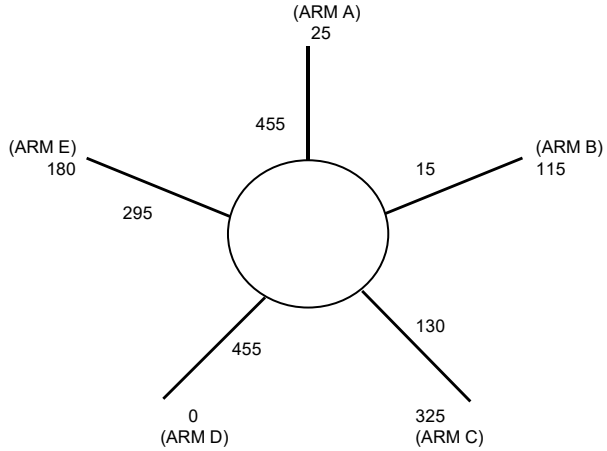
CRITICAL DFC = 0.18

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario A PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	325	0	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	455	295
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1644	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.27	0.00	0.14

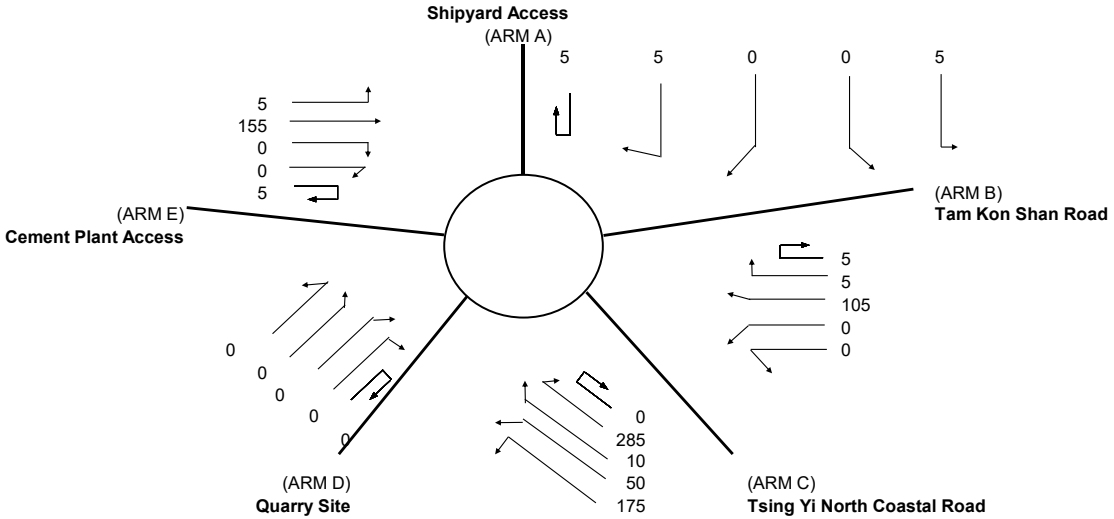
TOTAL ENTRY FLOWS = 645 PCU

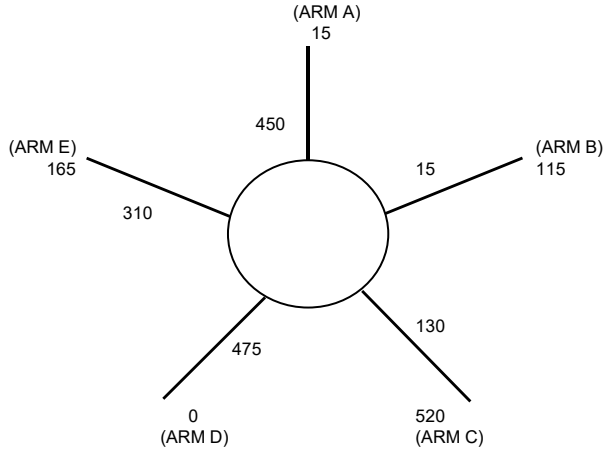
CRITICAL DFC = 0.27

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	15	115	520	0	165
Qc= Circulating flow across entry (pcu/h)	450	15	130	475	310
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1191	1781	1196	1630	1268
DFC = Design flow/Capacity = Q/Qe	0.01	0.06	0.43	0.00	0.13

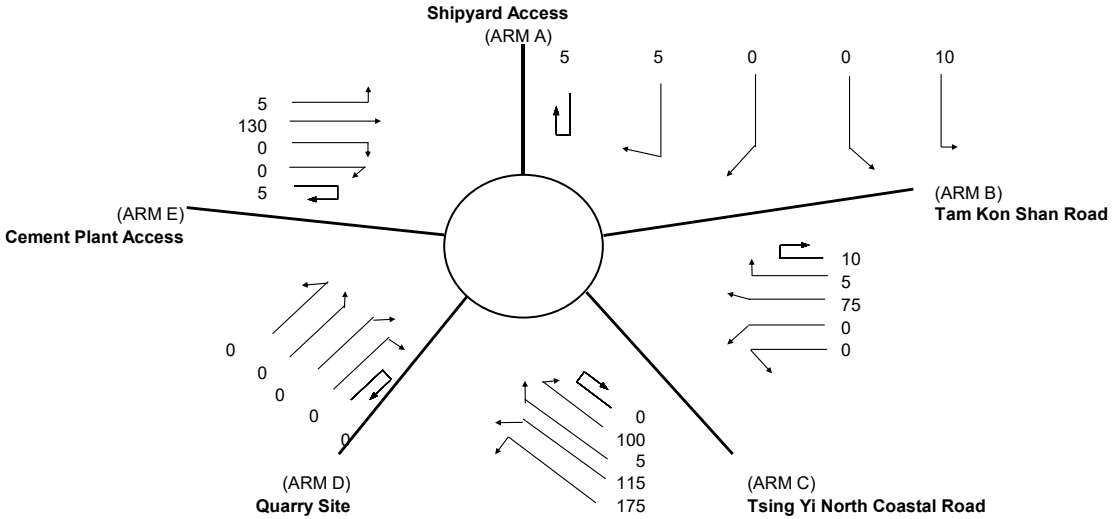
TOTAL ENTRY FLOWS = 815 PCU

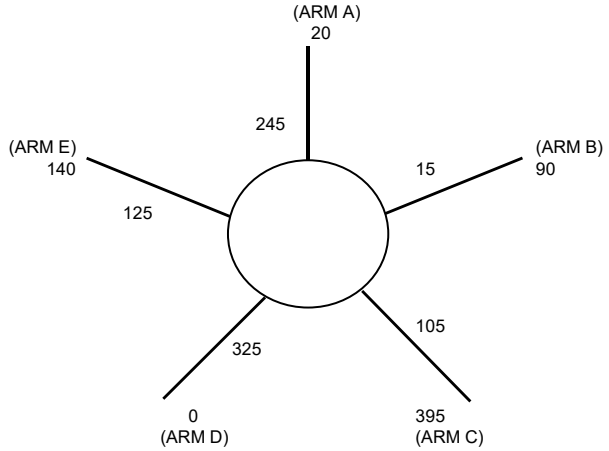
CRITICAL DFC = 0.43

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





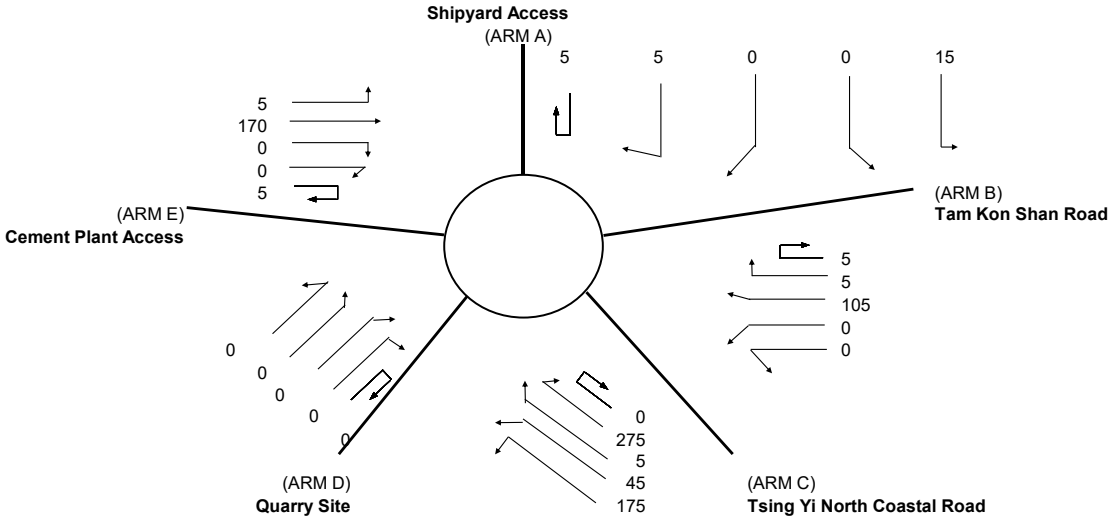
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	20	90	395	0	140
Qc= Circulating flow across entry (pcu/h)	245	15	105	325	125
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1313	1781	1211	1731	1381
DFC = Design flow/Capacity = Q/Qe	0.02	0.05	0.33	0.00	0.10

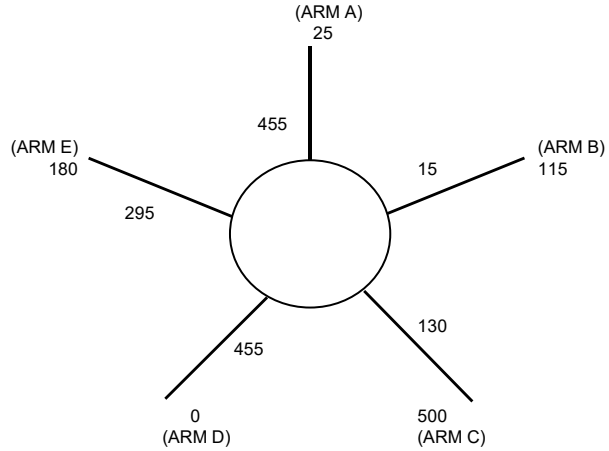
TOTAL ENTRY FLOWS = 645 PCU

CRITICAL DFC = 0.33

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J3 - Tsing Yi North Coastal Road / Tam Kon Shan Road	Scenario	2031 Scenario B PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	4.20	4.10	4.00	7.30	4.00
E = Entry width (m)	6.20	7.20	4.00	7.30	5.35
L = Effective length of flare (m)	5.00	10.00	10.00	10.00	5.00
R = Entry radius (m)	7.20	290.00	29.00	10.00	11.90
D = Inscribed circle diameter (m)	29.00	29.00	29.00	29.00	29.00
A = Entry angle (degree)	20.00	30.00	20.00	50.00	15.00
Q = Entry flow (pcu/h)	25	115	500	0	180
Qc= Circulating flow across entry (pcu/h)	455	15	130	455	295
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.64	0.50	0.00	0.00	0.43
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.95	1.05	1.05	0.88	1.02
X2= V + ((E-V)/(1+2S))	5.08	5.66	4.00	7.30	4.72
M = EXP((D-60)/10)	0.05	0.05	0.05	0.05	0.05
F = 303*X2	1538	1714	1212	2212	1431
Td= 1+(0.5/(1+M))	1.48	1.48	1.48	1.48	1.48
Fc= 0.21*Td(1+0.2*X2)	0.63	0.66	0.56	0.76	0.60
Qe= K(F-Fc*Qc)	1188	1781	1196	1644	1277
DFC = Design flow/Capacity = Q/Qe	0.02	0.06	0.42	0.00	0.14

TOTAL ENTRY FLOWS = 820 PCU

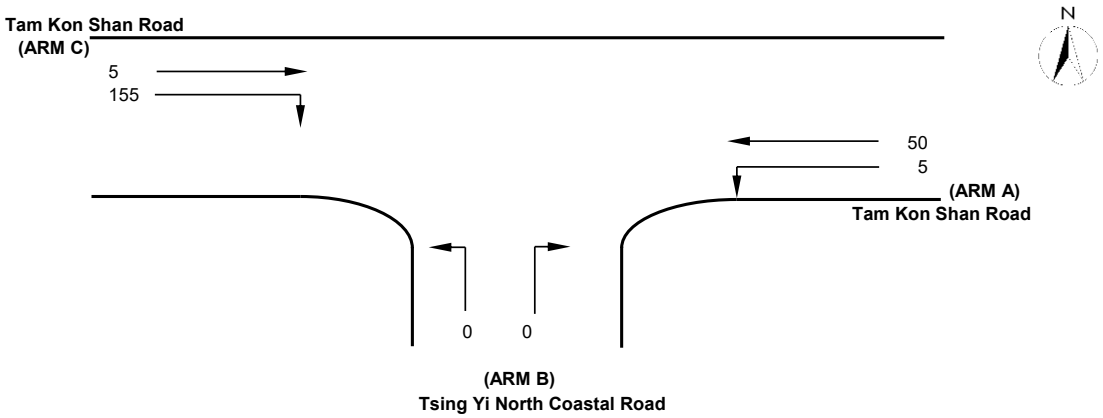
CRITICAL DFC = 0.42

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2025 Survey Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	50	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	155	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	299
Q b-c	=	429
Q c-b	=	791
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

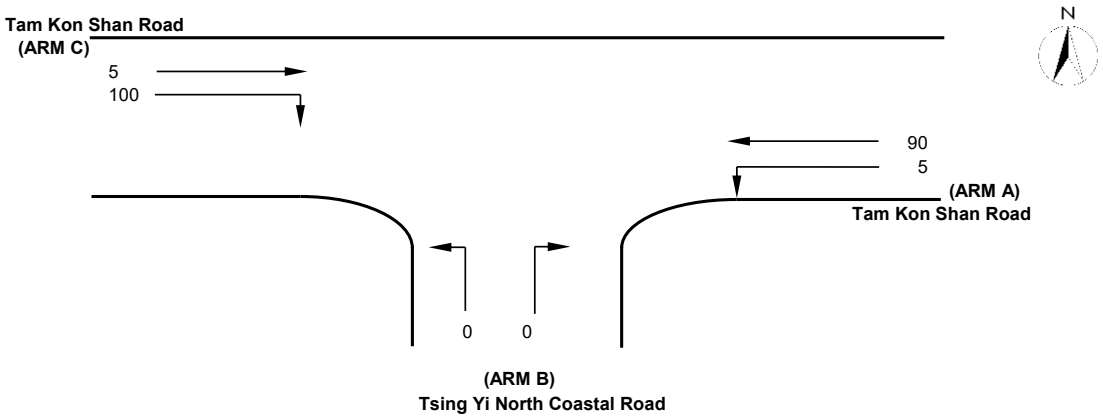
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2025 Survey Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	5 (pcu/hour)	q c-a	=	5 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	90 (pcu/hour)	q c-b	=	100 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	304
Q b-c	=	424
Q c-b	=	780
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.13

COMPARISION OF DESIGN FLOW TO CAPACITY :

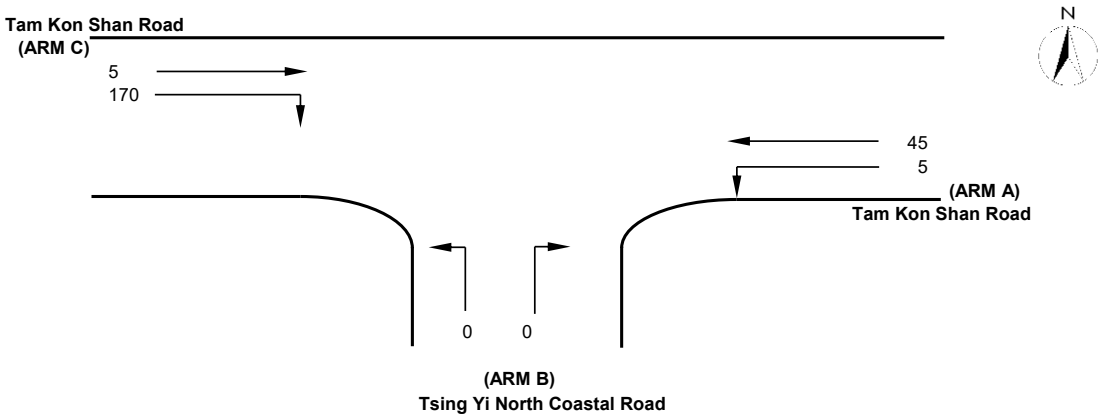
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.13
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2025 Survey Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	170	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	297
Q b-c	=	430
Q c-b	=	792
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.21

COMPARISION OF DESIGN FLOW TO CAPACITY :

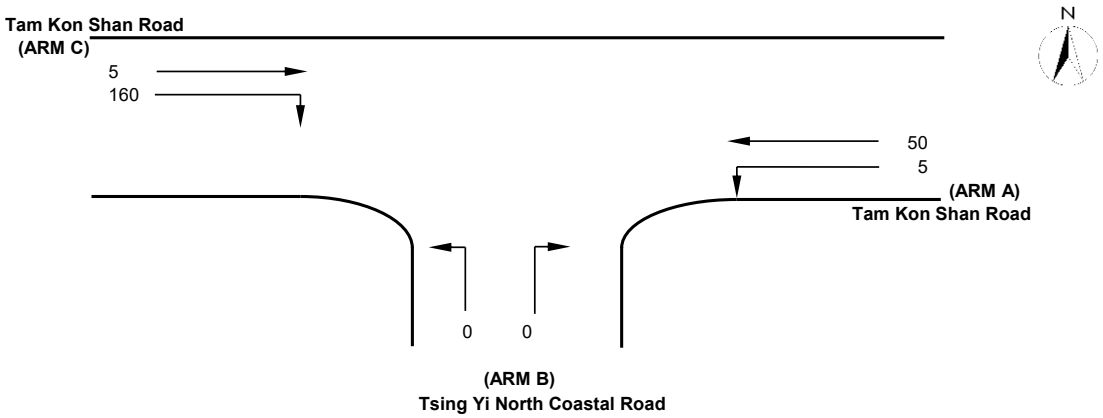
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.21
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)				*MAJOR ROAD (ARM C)*				*MINOR ROAD (ARM B)*			
W	=	10.00	(metres)	W c-b	=	3.30	(metres)	W b-a	=	0.00	(metres)
W cr	=	0.00	(metres)	Vr c-b	=	250	(metres)	W b-c	=	0.00	(metres)
q a-b	=	5	(pcu/hour)	q c-a	=	5	(pcu/hour)	Vl b-a	=	0	(metres)
q a-c	=	50	(pcu/hour)	q c-b	=	160	(pcu/hour)	Vr b-a	=	0	(metres)
								Vr b-c	=	0	(metres)
								q b-a	=	0	(pcu/hour)
								q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	298
Q b-c	=	429
Q c-b	=	791
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

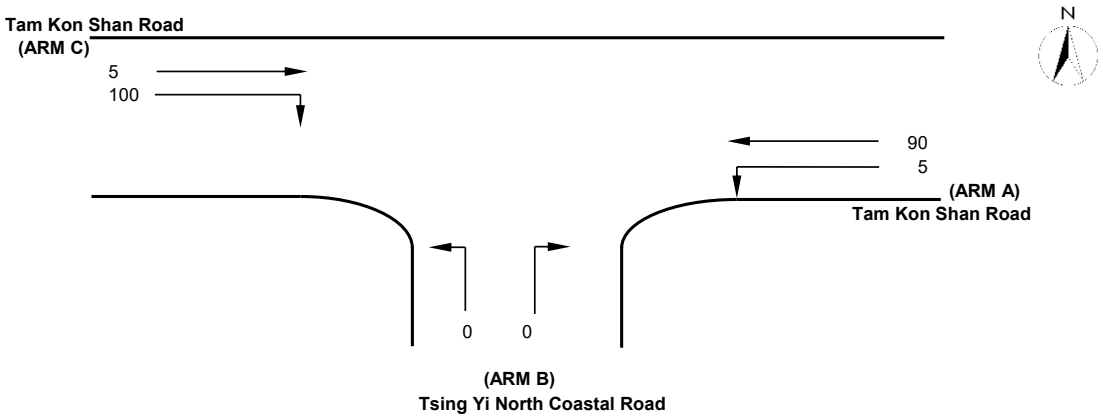
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)				*MAJOR ROAD (ARM C)*				*MINOR ROAD (ARM B)*			
W	=	10.00	(metres)	W c-b	=	3.30	(metres)	W b-a	=	0.00	(metres)
W cr	=	0.00	(metres)	Vr c-b	=	250	(metres)	W b-c	=	0.00	(metres)
q a-b	=	5	(pcu/hour)	q c-a	=	5	(pcu/hour)	Vl b-a	=	0	(metres)
q a-c	=	90	(pcu/hour)	q c-b	=	100	(pcu/hour)	Vr b-a	=	0	(metres)
								Vr b-c	=	0	(metres)
								q b-a	=	0	(pcu/hour)
								q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	304
Q b-c	=	424
Q c-b	=	780
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.13

COMPARISION OF DESIGN FLOW TO CAPACITY :

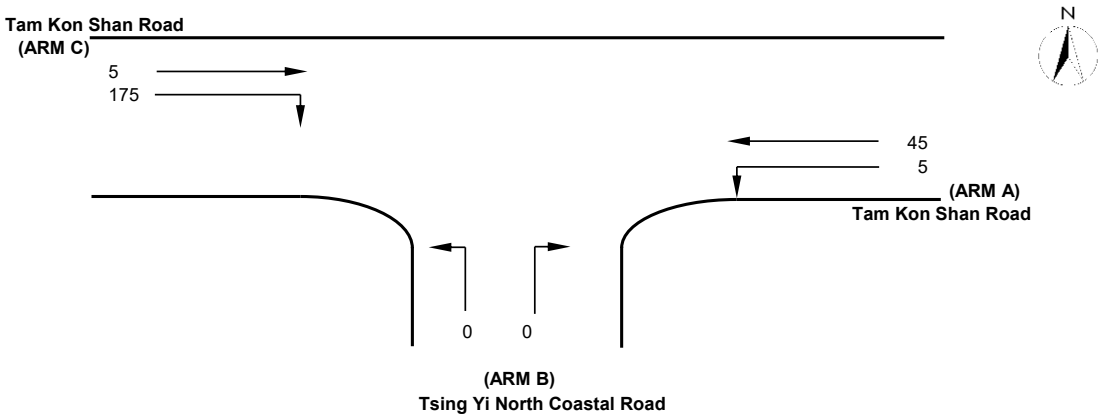
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.13
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	175	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	296
Q b-c	=	430
Q c-b	=	792
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

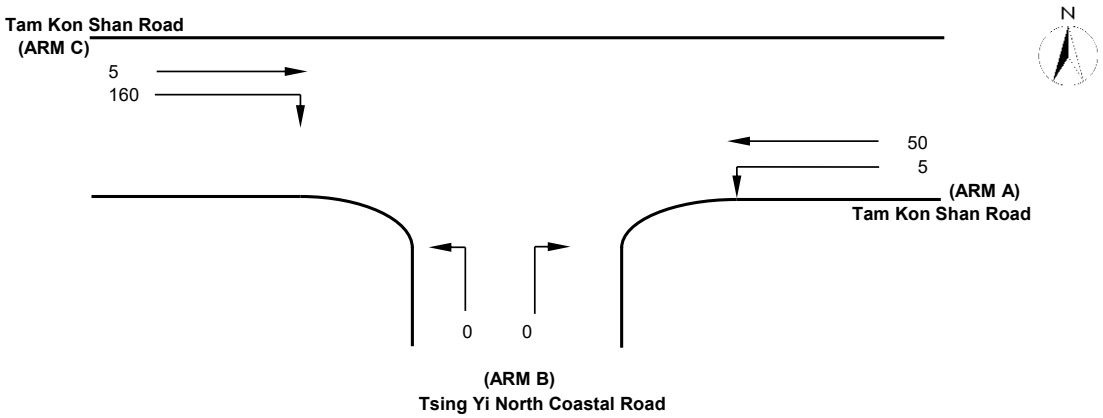
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Design Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)				*MAJOR ROAD (ARM C)*				*MINOR ROAD (ARM B)*			
W	=	10.00	(metres)	W c-b	=	3.30	(metres)	W b-a	=	0.00	(metres)
W cr	=	0.00	(metres)	Vr c-b	=	250	(metres)	W b-c	=	0.00	(metres)
q a-b	=	5	(pcu/hour)	q c-a	=	5	(pcu/hour)	Vl b-a	=	0	(metres)
q a-c	=	50	(pcu/hour)	q c-b	=	160	(pcu/hour)	Vr b-a	=	0	(metres)
								Vr b-c	=	0	(metres)
								q b-a	=	0	(pcu/hour)
								q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	298
Q b-c	=	429
Q c-b	=	791
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

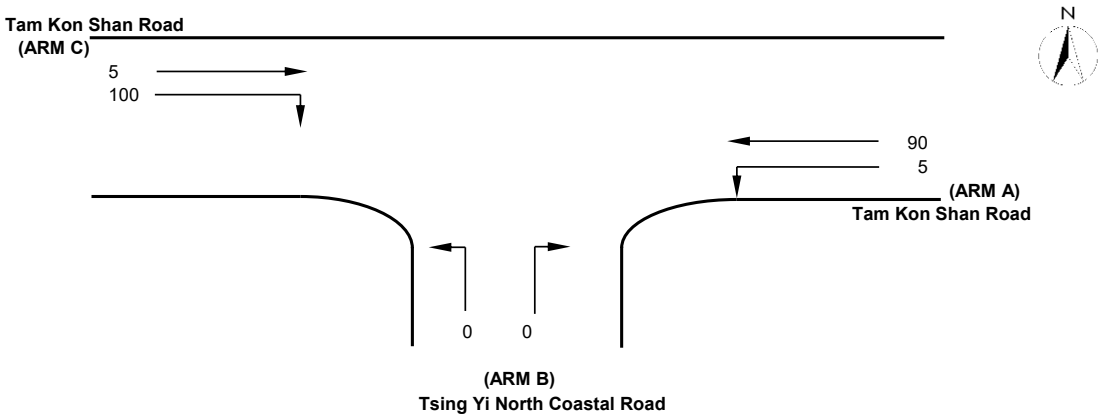
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Design Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	90	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	100	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	304
Q b-c	=	424
Q c-b	=	780
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.13

COMPARISION OF DESIGN FLOW TO CAPACITY :

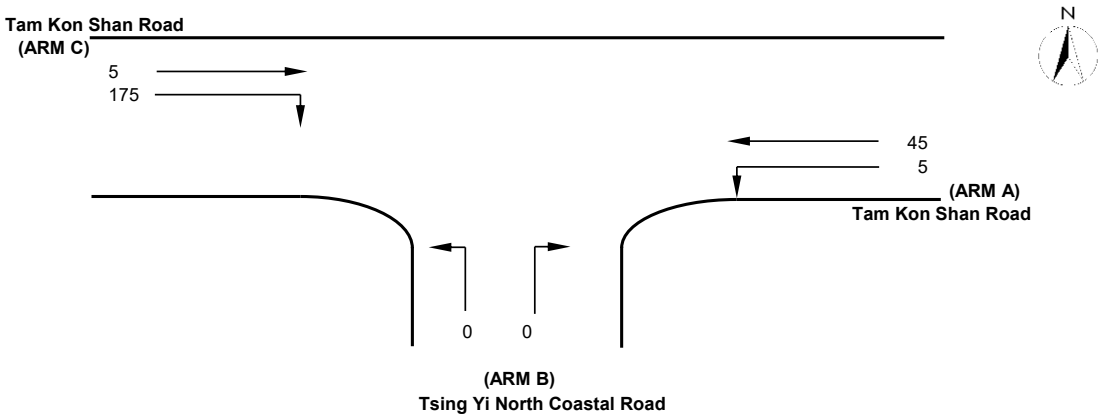
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.13
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2028 Design Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	175	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	296
Q b-c	=	430
Q c-b	=	792
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

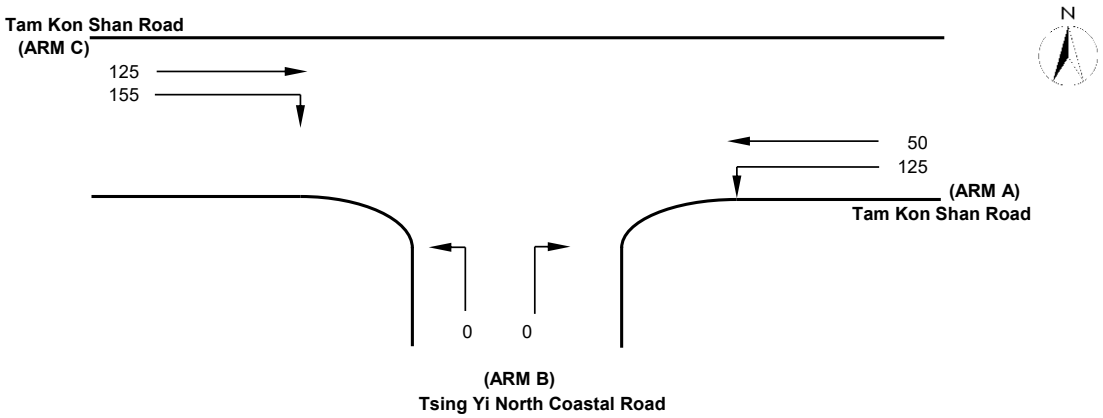
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Reference Case AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	125 (pcu/hour)	q c-a	=	125 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	50 (pcu/hour)	q c-b	=	155 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	284
Q b-c	=	423
Q c-b	=	760
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

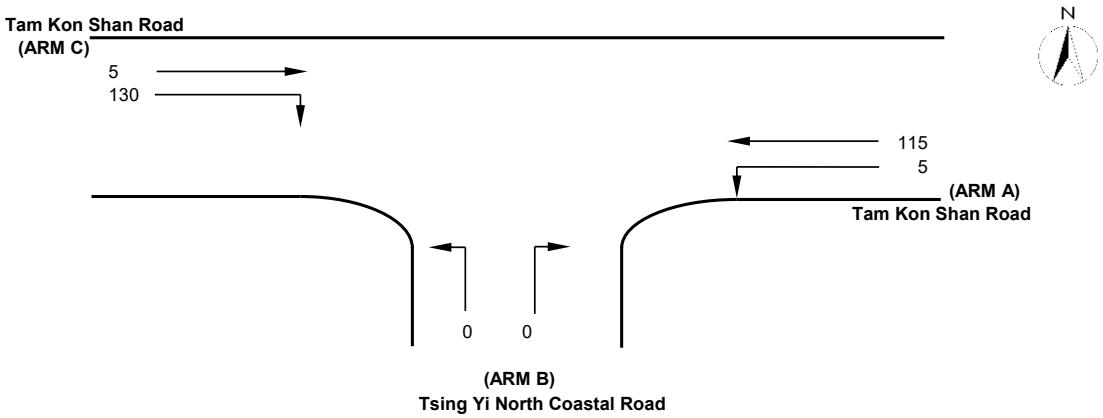
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Reference Case NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	115	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	130	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	295
Q b-c	=	420
Q c-b	=	774
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.17

COMPARISION OF DESIGN FLOW TO CAPACITY :

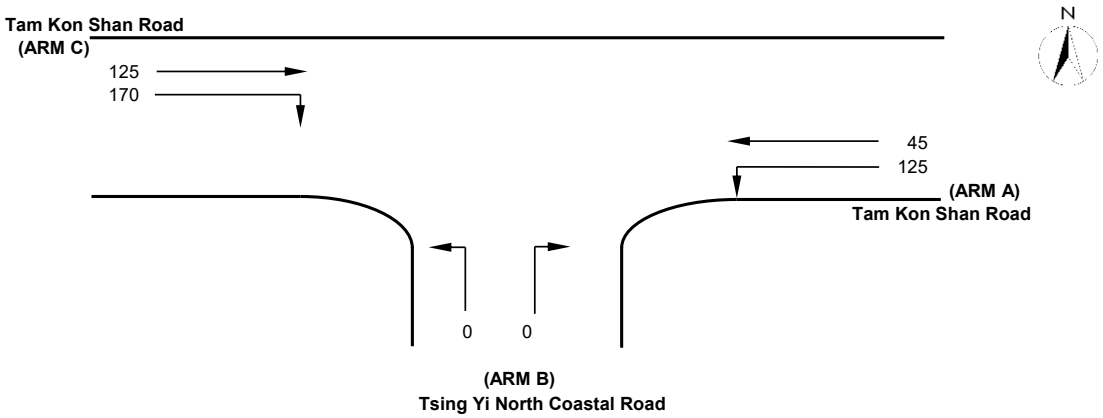
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.17
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Reference Case PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	125 (pcu/hour)	q c-a	=	125 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	45 (pcu/hour)	q c-b	=	170 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	423
Q c-b	=	761
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

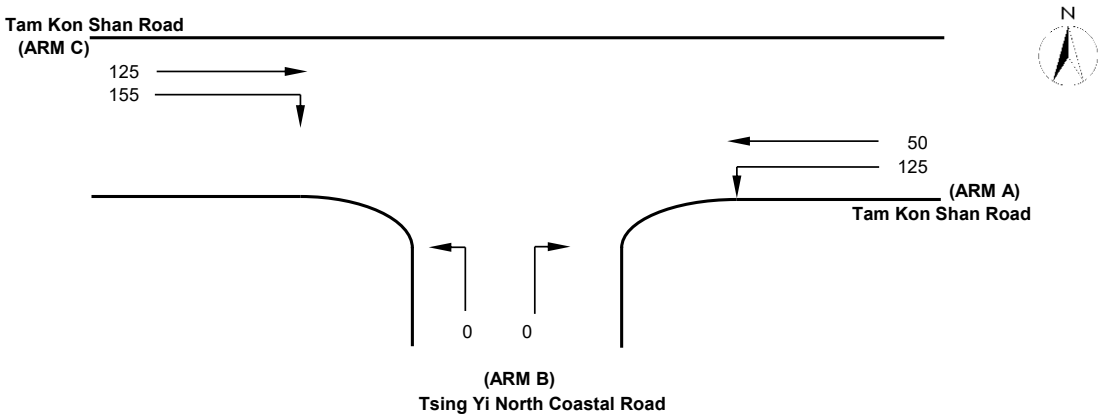
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario A AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	125	(pcu/hour)
q a-c	=	50	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	125	(pcu/hour)
q c-b	=	155	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	284
Q b-c	=	423
Q c-b	=	760
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

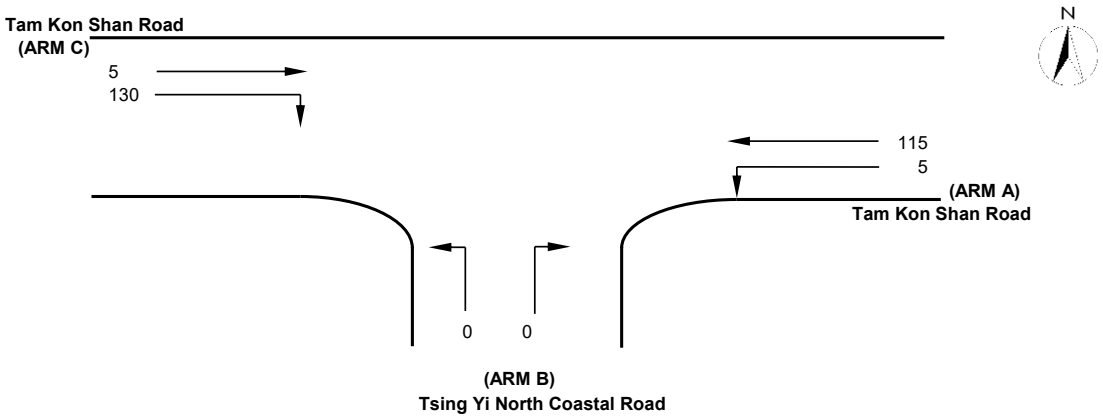
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario A NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	115	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	130	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	295
Q b-c	=	420
Q c-b	=	774
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.17

COMPARISION OF DESIGN FLOW TO CAPACITY :

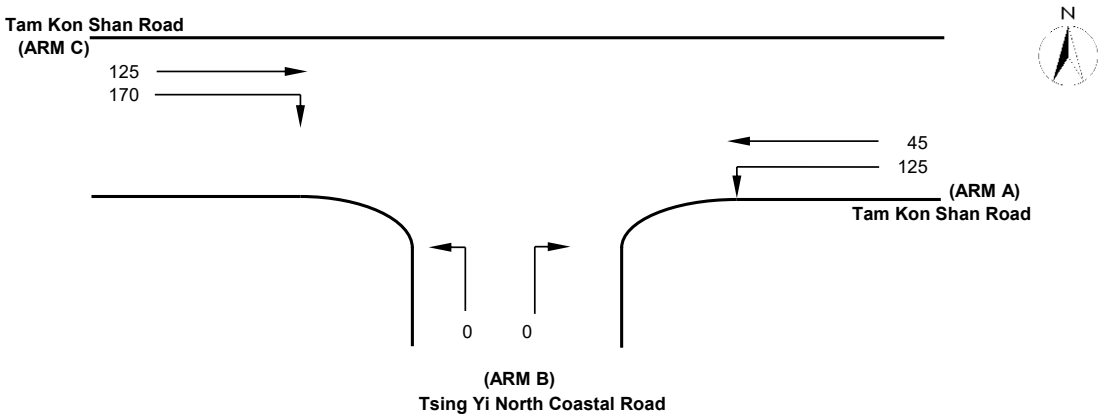
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.17
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario A PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)			*MAJOR ROAD (ARM C)*			*MINOR ROAD (ARM B)*		
W	=	10.00 (metres)	W c-b	=	3.30 (metres)	W b-a	=	0.00 (metres)
W cr	=	0.00 (metres)	Vr c-b	=	250 (metres)	W b-c	=	0.00 (metres)
q a-b	=	125 (pcu/hour)	q c-a	=	125 (pcu/hour)	Vl b-a	=	0 (metres)
q a-c	=	45 (pcu/hour)	q c-b	=	170 (pcu/hour)	Vr b-a	=	0 (metres)
						Vr b-c	=	0 (metres)
						q b-a	=	0 (pcu/hour)
						q b-c	=	0 (pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	423
Q c-b	=	761
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.22

COMPARISION OF DESIGN FLOW TO CAPACITY :

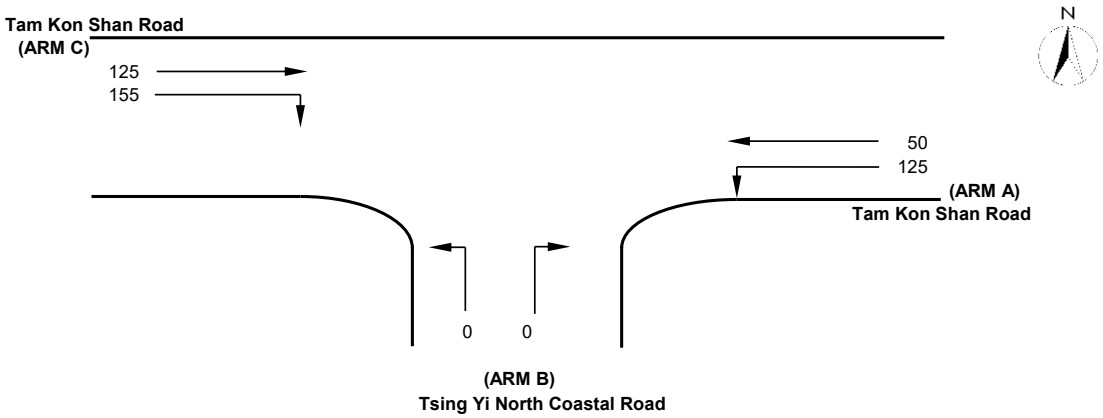
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario B AM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	125	(pcu/hour)
q a-c	=	50	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	125	(pcu/hour)
q c-b	=	155	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	284
Q b-c	=	423
Q c-b	=	760
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.20

COMPARISION OF DESIGN FLOW TO CAPACITY :

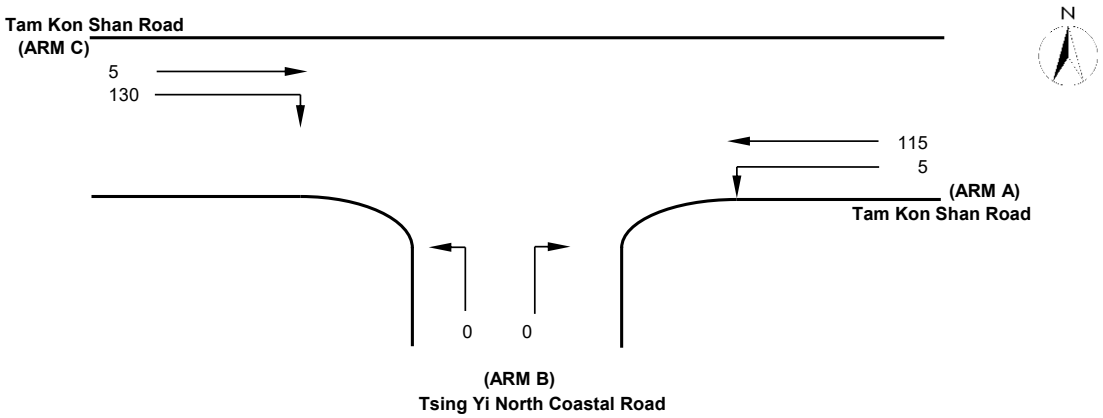
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.20
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario B NN	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	5	(pcu/hour)
q a-c	=	115	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	5	(pcu/hour)
q c-b	=	130	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	295
Q b-c	=	420
Q c-b	=	774
Q b-ac	=	#DIV/0!

CRITICAL DFC = 0.17

COMPARISION OF DESIGN FLOW TO CAPACITY :

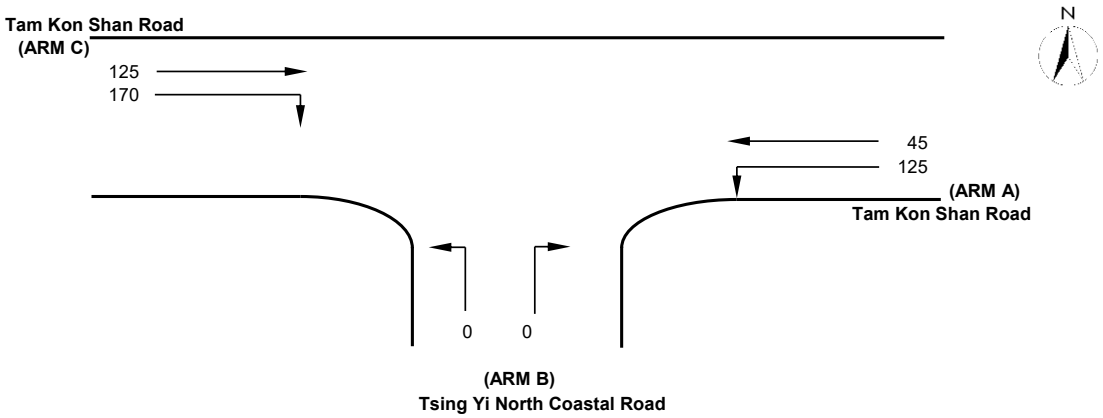
DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.17
DFC b-ac	=	#DIV/0!

PRIORITY JUNCTION CAPACITY CALCULATION

AECOM

Junction J4 - Tam Kon Shan Road / Tsing Yi North Coastal Road	2031 Scenario B PM	Designed By : MKC	Checked By : LC	Job No. : 60733229	Date : Nov 2025

J4



NOTES : (GEOMETRIC INPUT DATA)

J4

W	= Major Road Width (6.4 - 20.0)
W cr	= Central Reserve width (1.2 - 9.0, kerbed central reserve only)
W b-a	= Lane width available to vehicle waiting in stream b-a (2.05 - 4.70)
W b-c	= Lane width available to vehicle waiting in stream b-c (2.05 - 4.70)
W c-b	= Lane width available to vehicle waiting in stream c-b (2.05 - 4.70)
Vl b-a	= Visibility to the left for vehicles waiting in stream b-a (22.0 - 250.0)
Vr b-a	= Visibility to the right for vehicles waiting in stream b-a (17.0 - 250.0)
Vr b-c	= Visibility to the right for vehicles waiting in stream b-c (17.0 - 250.0)
Vr c-b	= Visibility to the right for vehicles waiting in stream c-b (17.0 - 250.0)
D	= Stream-specific B-A
E	= Stream-specific B-C
F	= Stream-specific C-B
Y	= (1-0.0345W)

GEOMETRIC DETAILS:

MAJOR ROAD (ARM A)

W	=	10.00	(metres)
W cr	=	0.00	(metres)
q a-b	=	125	(pcu/hour)
q a-c	=	45	(pcu/hour)

MAJOR ROAD (ARM C)

W c-b	=	3.30	(metres)
Vr c-b	=	250	(metres)
q c-a	=	125	(pcu/hour)
q c-b	=	170	(pcu/hour)

MINOR ROAD (ARM B)

W b-a	=	0.00	(metres)
W b-c	=	0.00	(metres)
Vl b-a	=	0	(metres)
Vr b-a	=	0	(metres)
Vr b-c	=	0	(metres)
q b-a	=	0	(pcu/hour)
q b-c	=	0	(pcu/hour)

GEOMETRIC FACTORS :

D	=	0.53
E	=	0.59
F	=	1.08
Y	=	0.66

THE CAPACITY OF MOVEMENT :

Q b-a	=	281
Q b-c	=	423
Q c-b	=	761
Q b-ac	=	#DIV/0!

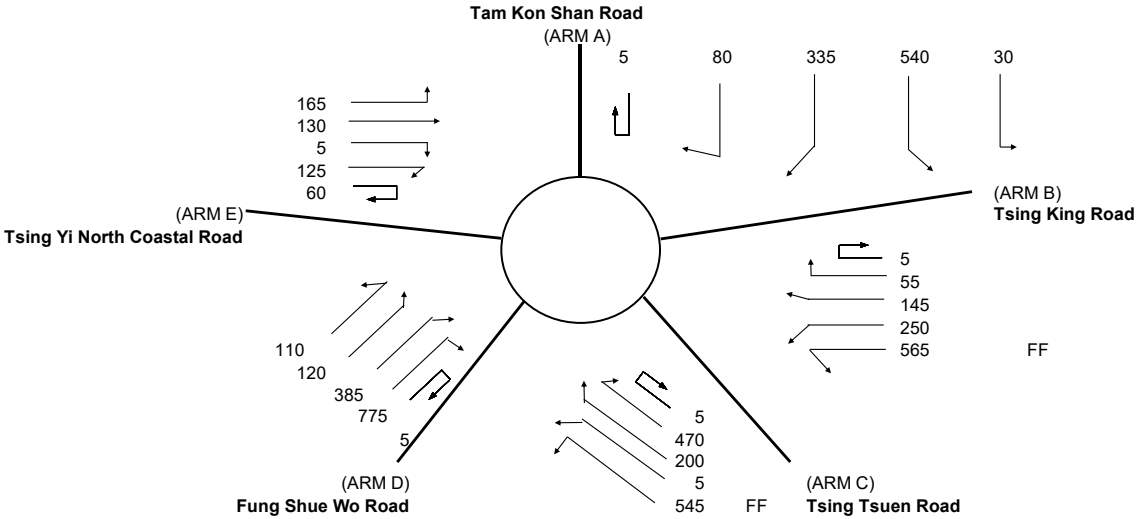
CRITICAL DFC = 0.22

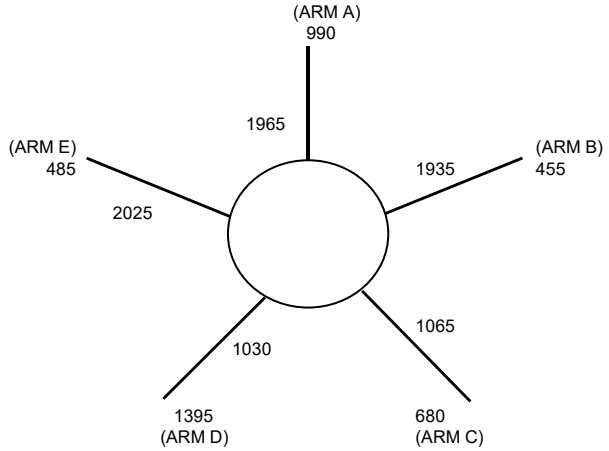
COMPARISION OF DESIGN FLOW TO CAPACITY :

DFC b-a	=	0.00
DFC b-c	=	0.00
DFC c-b	=	0.22
DFC b-ac	=	#DIV/0!

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	990	455	680	1395	485
Qc= Circulating flow across entry (pcu/h)	1965	1935	1065	1030	2025
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1897	904	1898	2377	824
DFC = Design flow/Capacity = Q/Qe	0.52	0.50	0.36	0.59	0.59

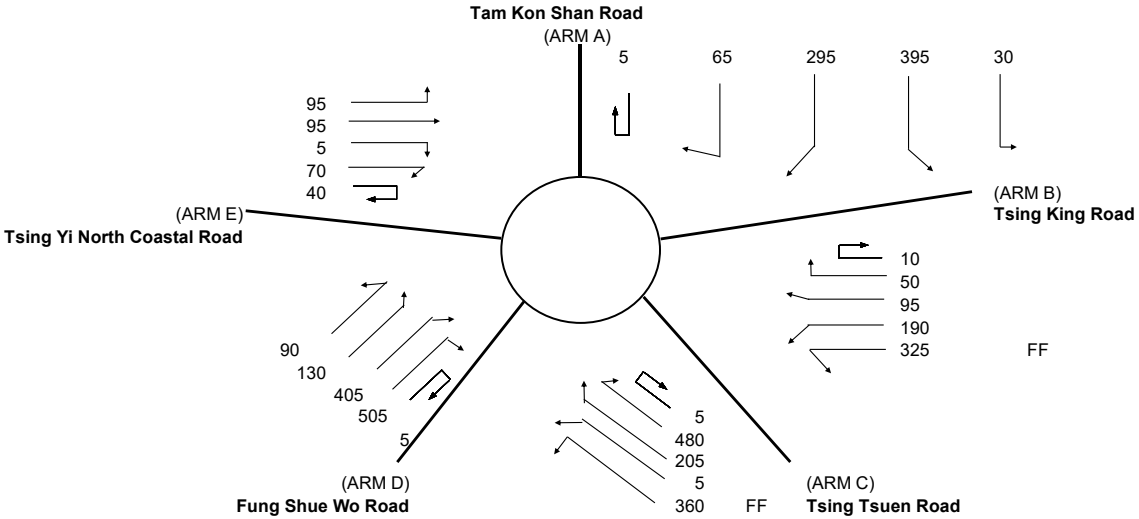
TOTAL ENTRY FLOWS = 4005 PCU

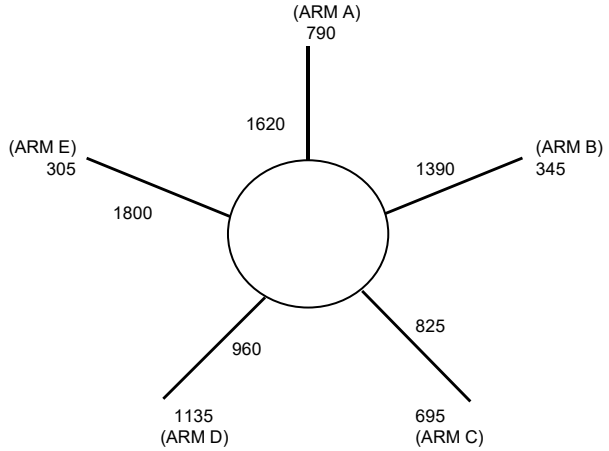
CRITICAL DFC = 0.59

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





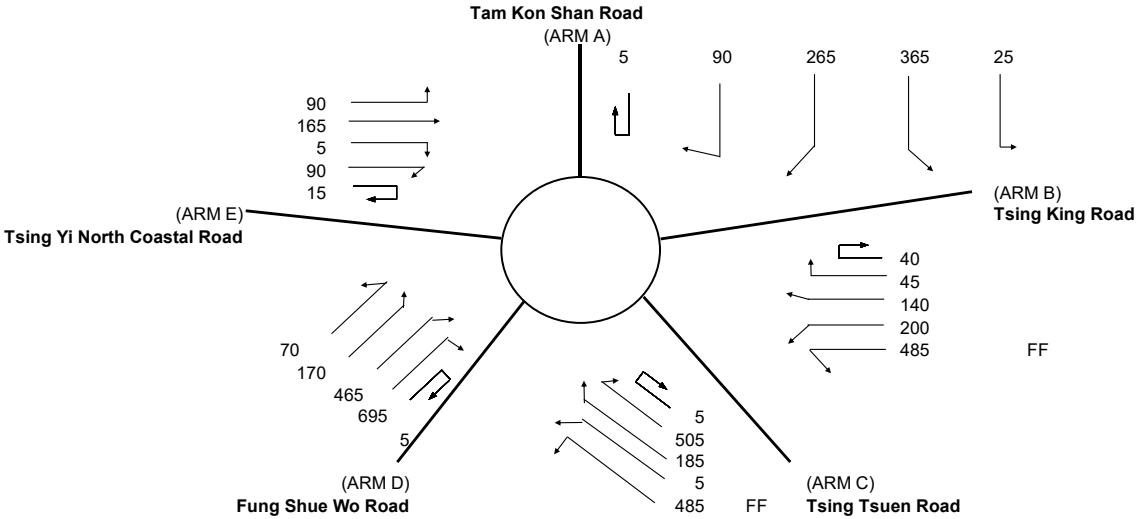
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	790	345	695	1135	305
Qc= Circulating flow across entry (pcu/h)	1620	1390	825	960	1800
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	2120	1156	2038	2421	928
DFC = Design flow/Capacity = Q/Qe	0.37	0.30	0.34	0.47	0.33

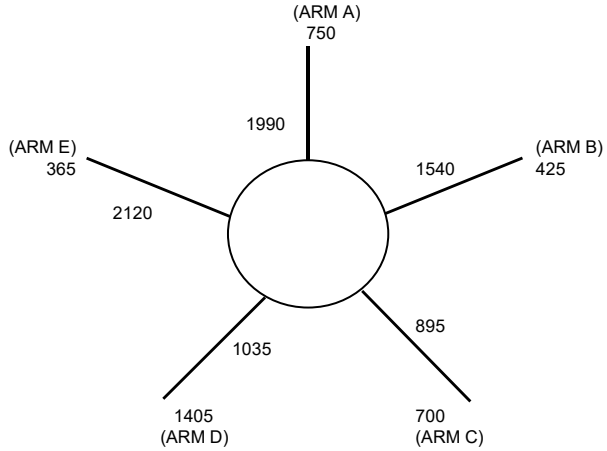
TOTAL ENTRY FLOWS = 3270 PCU

CRITICAL DFC = 0.47

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2025 Survey Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





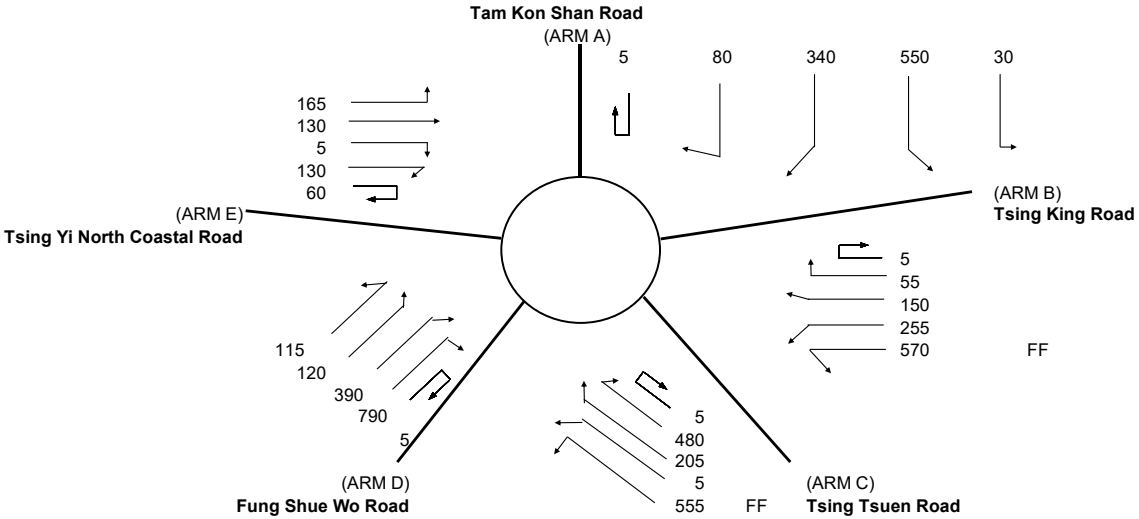
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	750	425	700	1405	365
Qc= Circulating flow across entry (pcu/h)	1990	1540	895	1035	2120
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1881	1087	1997	2374	780
DFC = Design flow/Capacity = Q/Qe	0.40	0.39	0.35	0.59	0.47

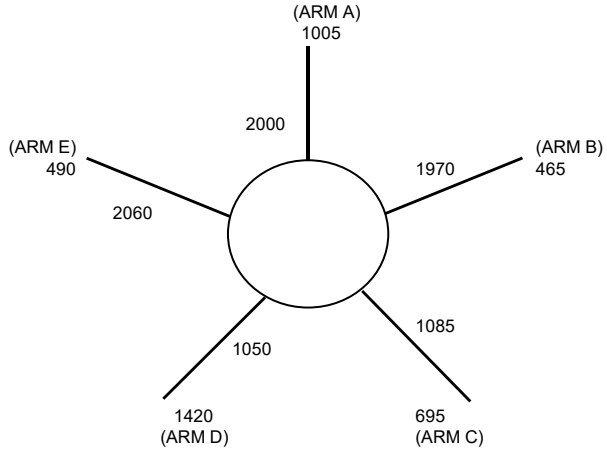
TOTAL ENTRY FLOWS = 3645 PCU

CRITICAL DFC = 0.59

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1005	465	695	1420	490
Qc= Circulating flow across entry (pcu/h)	2000	1970	1085	1050	2060
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1875	888	1887	2365	808
DFC = Design flow/Capacity = Q/Qe	0.54	0.52	0.37	0.60	0.61

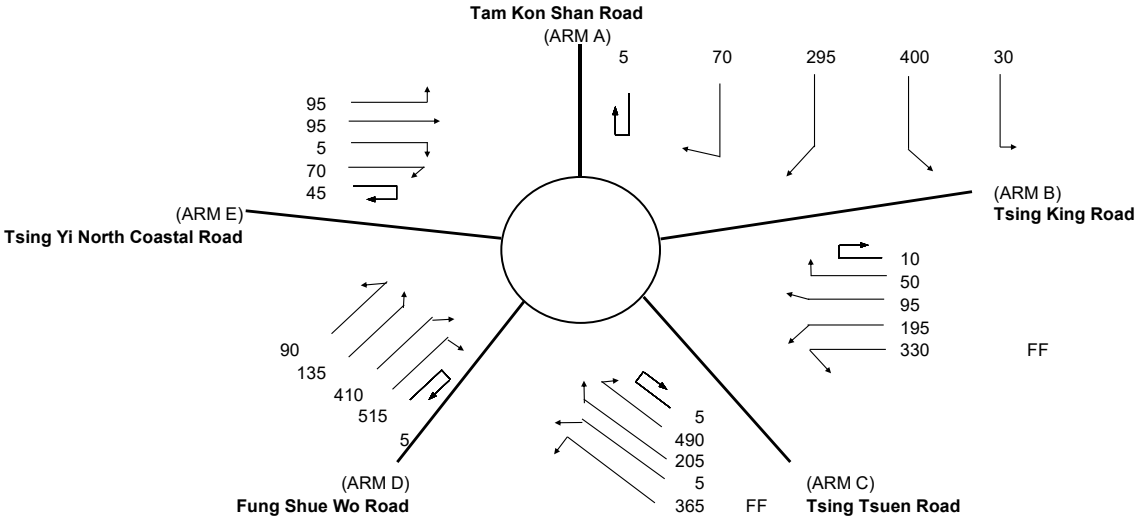
TOTAL ENTRY FLOWS = 4075 PCU

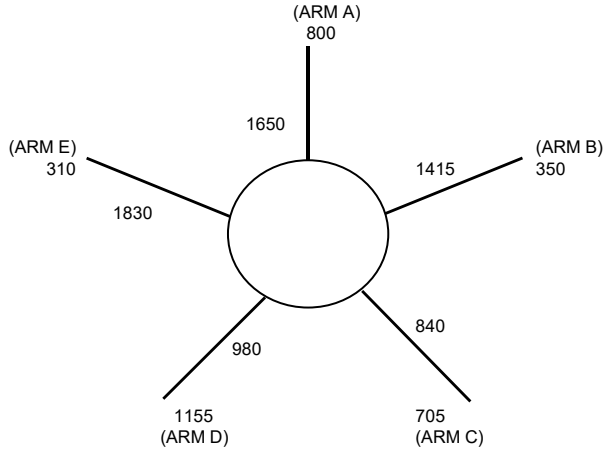
CRITICAL DFC = 0.61

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	800	350	705	1155	310
Qc= Circulating flow across entry (pcu/h)	1650	1415	840	980	1830
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	2101	1144	2029	2408	914
DFC = Design flow/Capacity = Q/Qe	0.38	0.31	0.35	0.48	0.34

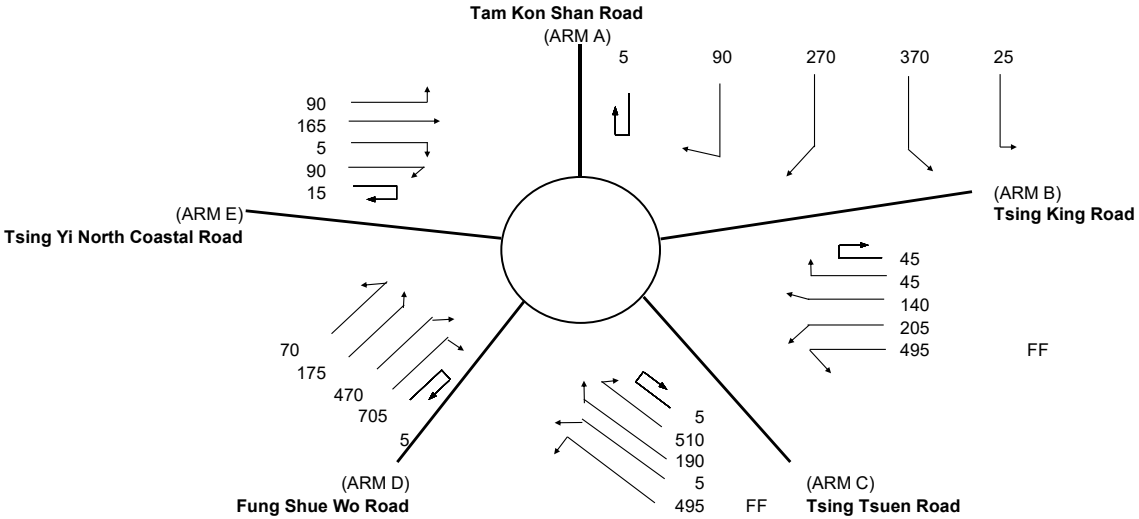
TOTAL ENTRY FLOWS = 3320 PCU

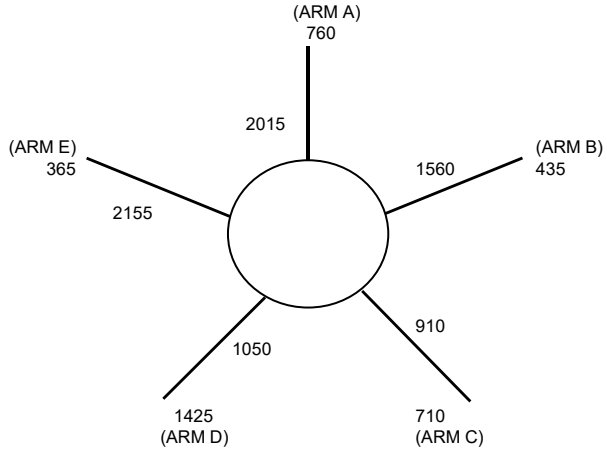
CRITICAL DFC = 0.48

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





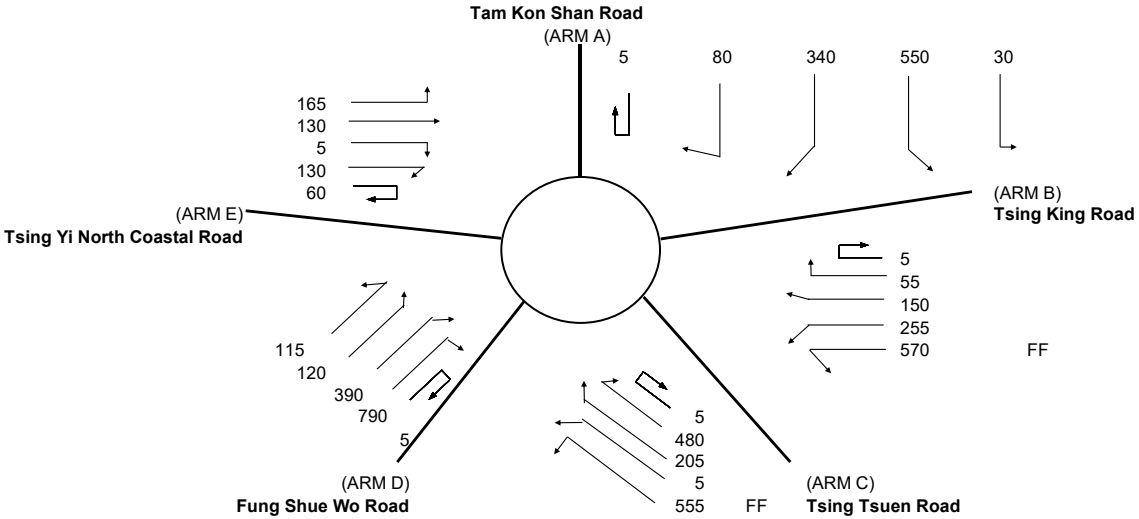
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	760	435	710	1425	365
Qc= Circulating flow across entry (pcu/h)	2015	1560	910	1050	2155
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1865	1077	1988	2365	764
DFC = Design flow/Capacity = Q/Qe	0.41	0.40	0.36	0.60	0.48

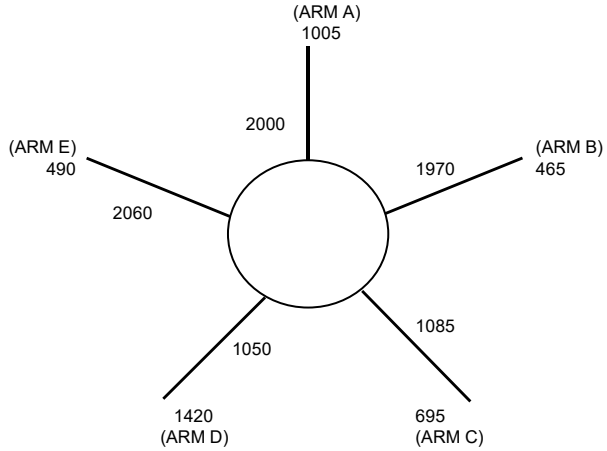
TOTAL ENTRY FLOWS = 3695 PCU

CRITICAL DFC = 0.60

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





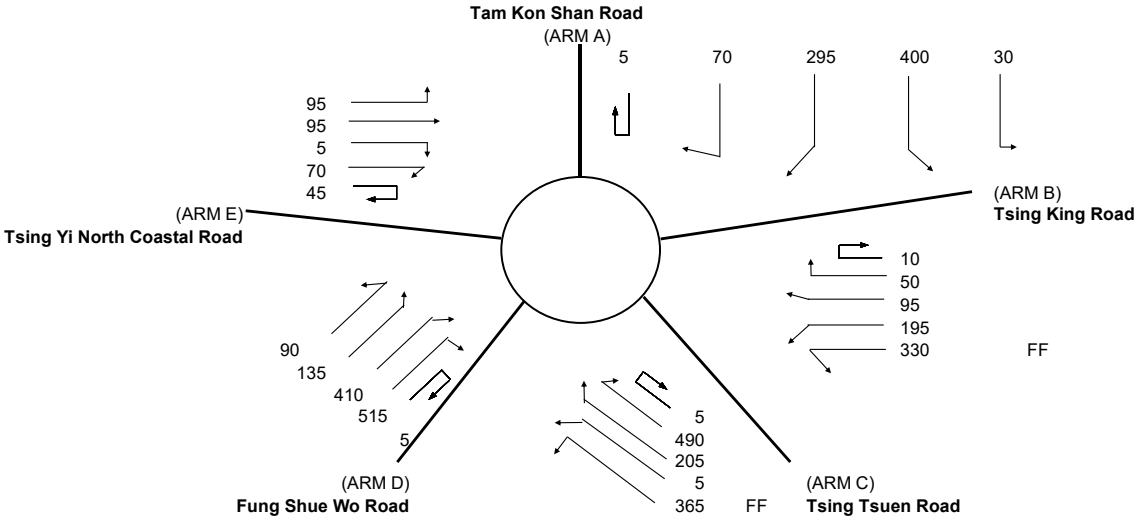
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1005	465	695	1420	490
Qc= Circulating flow across entry (pcu/h)	2000	1970	1085	1050	2060
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1875	888	1887	2365	808
DFC = Design flow/Capacity = Q/Qe	0.54	0.52	0.37	0.60	0.61

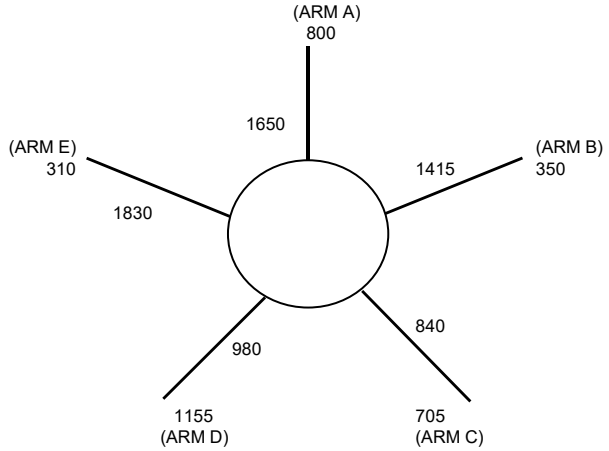
TOTAL ENTRY FLOWS = 4075 PCU

CRITICAL DFC = 0.61

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	800	350	705	1155	310
Qc= Circulating flow across entry (pcu/h)	1650	1415	840	980	1830
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	2101	1144	2029	2408	914
DFC = Design flow/Capacity = Q/Qe	0.38	0.31	0.35	0.48	0.34

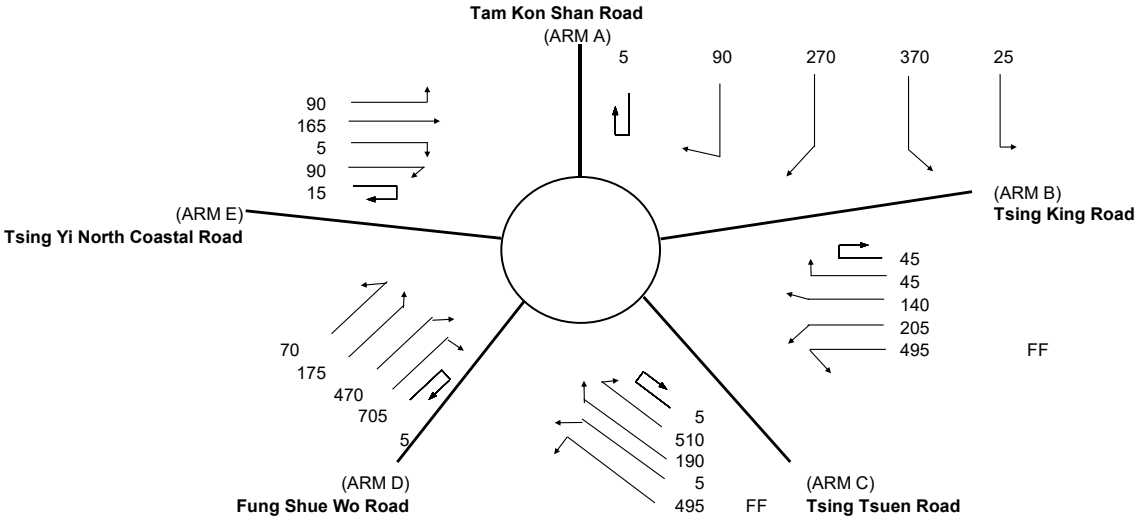
TOTAL ENTRY FLOWS = 3320 PCU

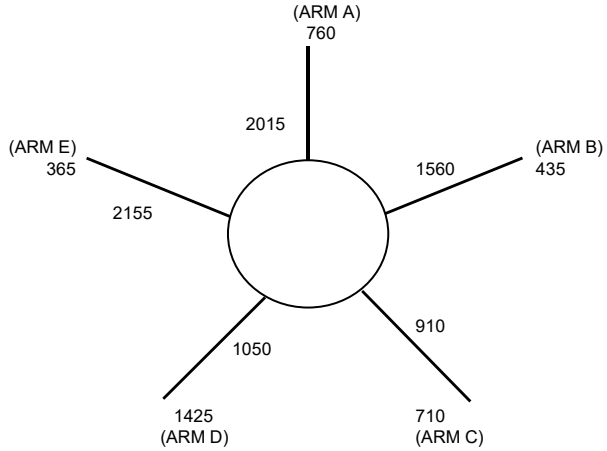
CRITICAL DFC = 0.48

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2028 Design Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





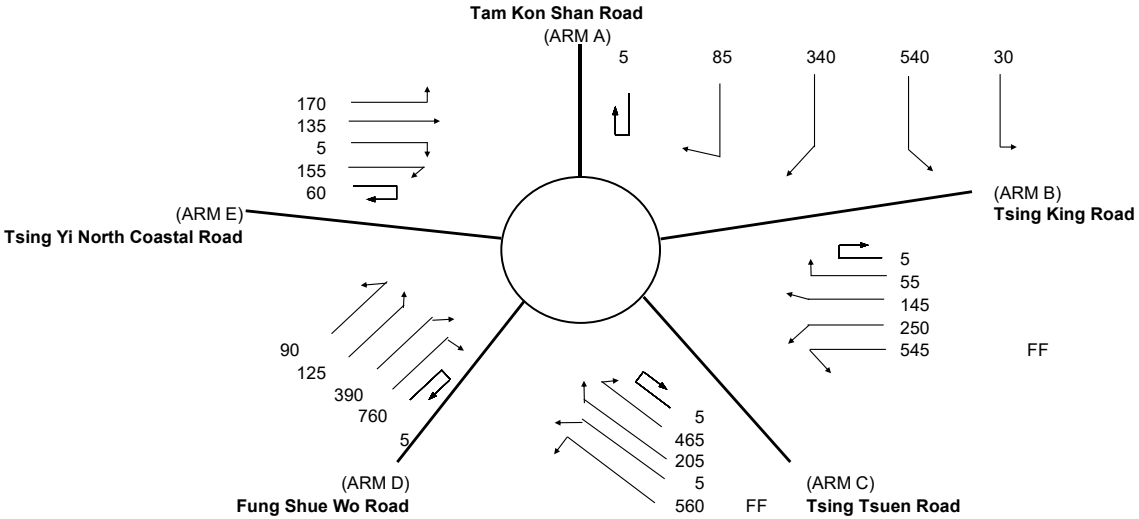
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	760	435	710	1425	365
Qc= Circulating flow across entry (pcu/h)	2015	1560	910	1050	2155
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1865	1077	1988	2365	764
DFC = Design flow/Capacity = Q/Qe	0.41	0.40	0.36	0.60	0.48

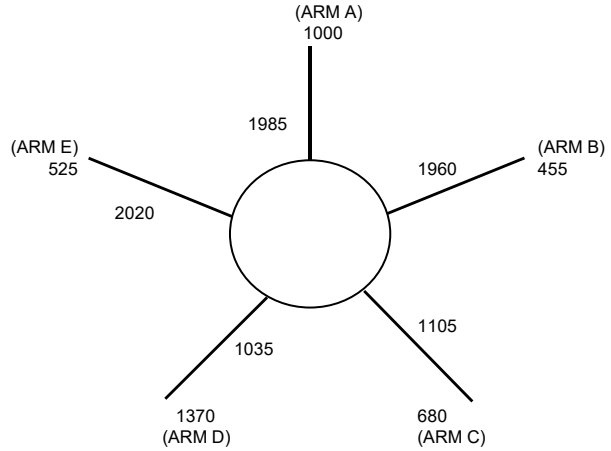
TOTAL ENTRY FLOWS = 3695 PCU

CRITICAL DFC = 0.60

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1000	455	680	1370	525
Qc= Circulating flow across entry (pcu/h)	1985	1960	1105	1035	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1884	892	1875	2374	826
DFC = Design flow/Capacity = Q/Qe	0.53	0.51	0.36	0.58	0.64

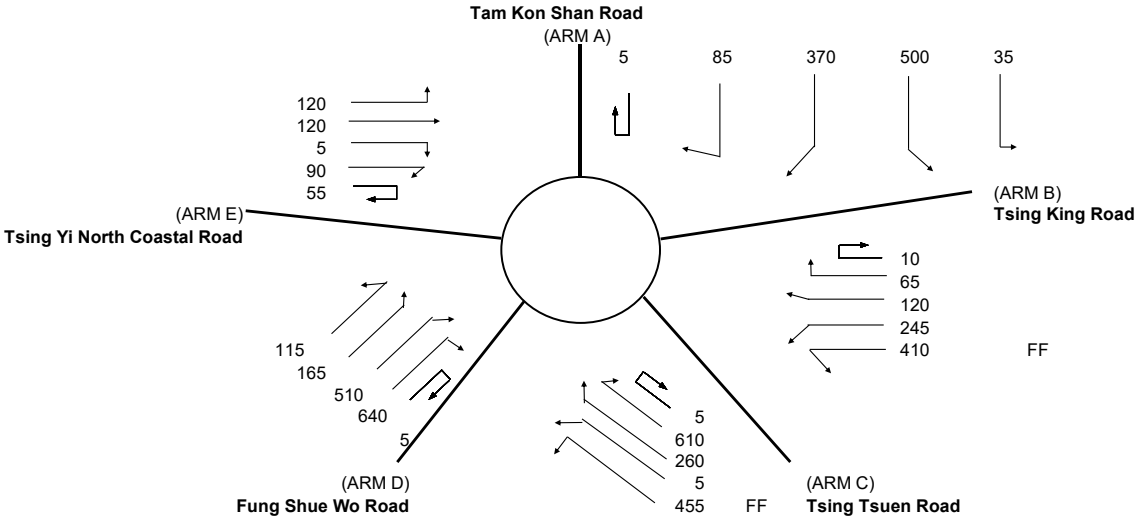
TOTAL ENTRY FLOWS = 4030 PCU

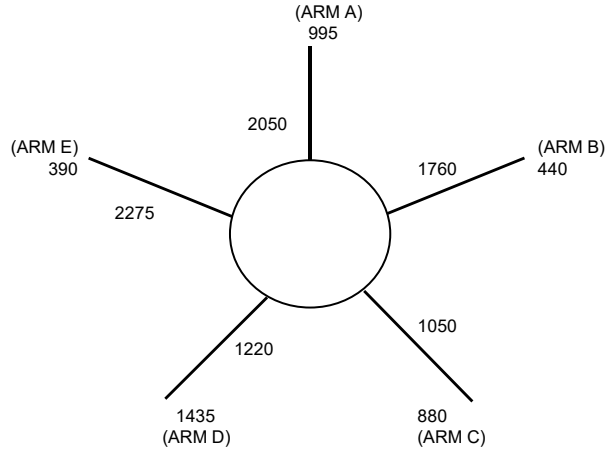
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	995	440	880	1435	390
Qc= Circulating flow across entry (pcu/h)	2050	1760	1050	1220	2275
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1842	985	1907	2258	708
DFC = Design flow/Capacity = Q/Qe	0.54	0.45	0.46	0.64	0.55

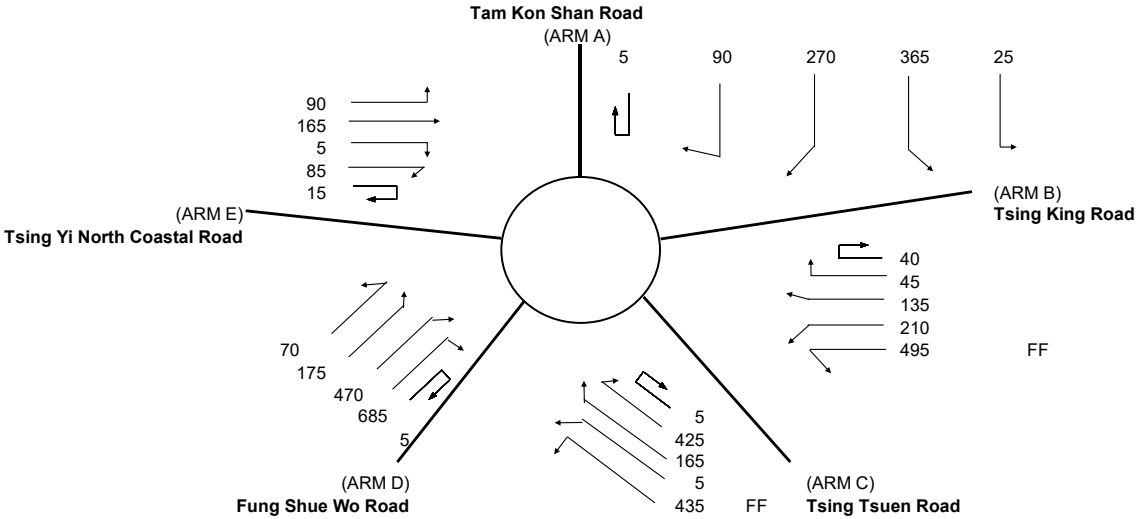
TOTAL ENTRY FLOWS = 4140 PCU

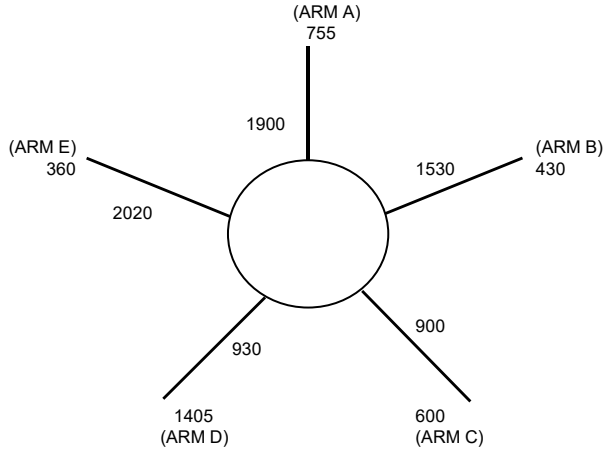
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Reference Case PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





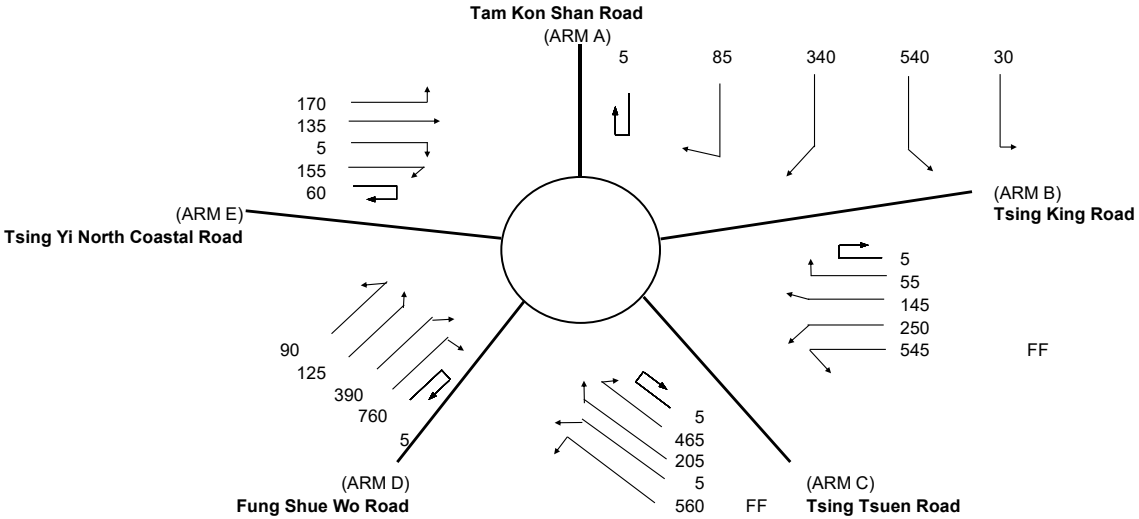
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	755	430	600	1405	360
Qc= Circulating flow across entry (pcu/h)	1900	1530	900	930	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1939	1091	1994	2440	826
DFC = Design flow/Capacity = Q/Qe	0.39	0.39	0.30	0.58	0.44

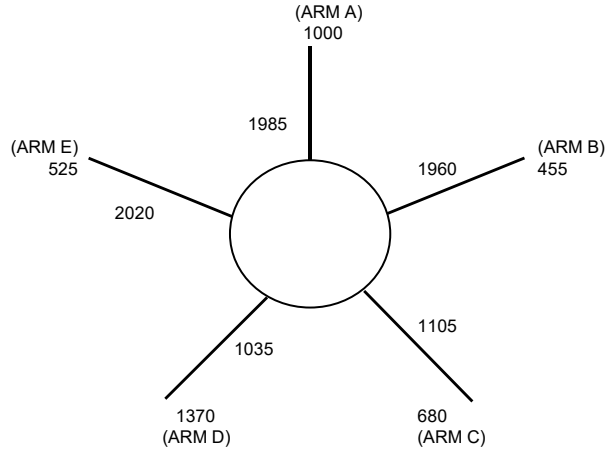
TOTAL ENTRY FLOWS = 3550 PCU

CRITICAL DFC = 0.58

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1000	455	680	1370	525
Qc= Circulating flow across entry (pcu/h)	1985	1960	1105	1035	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1884	892	1875	2374	826
DFC = Design flow/Capacity = Q/Qe	0.53	0.51	0.36	0.58	0.64

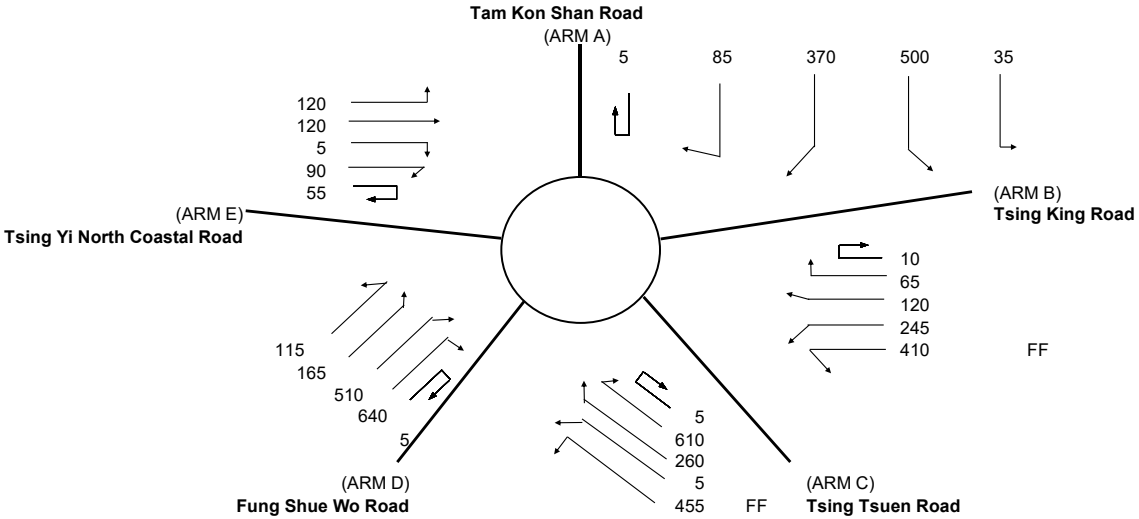
TOTAL ENTRY FLOWS = 4030 PCU

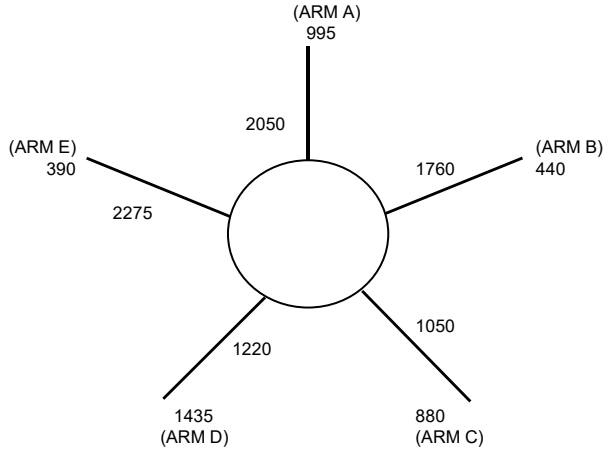
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





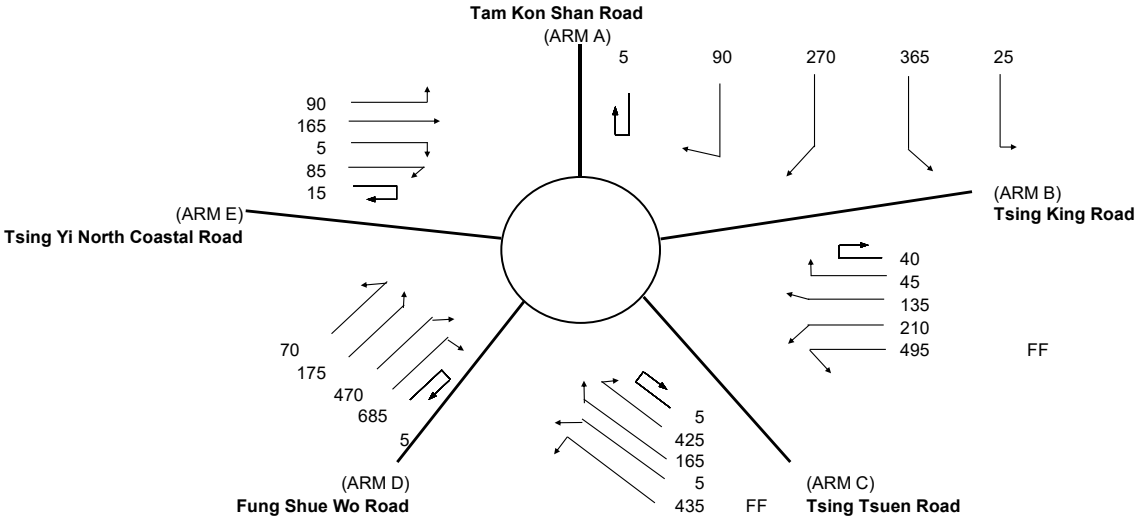
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	995	440	880	1435	390
Qc= Circulating flow across entry (pcu/h)	2050	1760	1050	1220	2275
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1842	985	1907	2258	708
DFC = Design flow/Capacity = Q/Qe	0.54	0.45	0.46	0.64	0.55

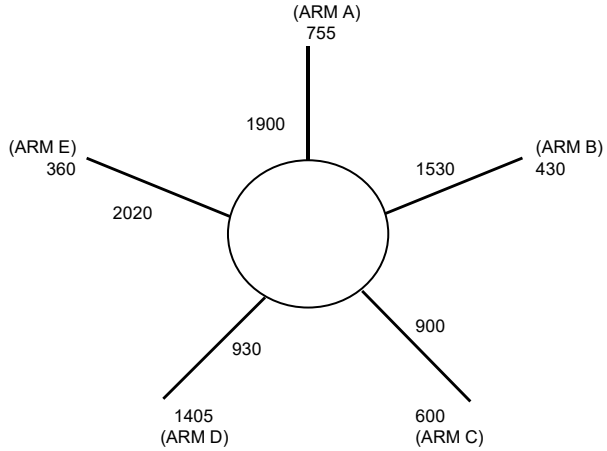
TOTAL ENTRY FLOWS = 4140 PCU

CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario A PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





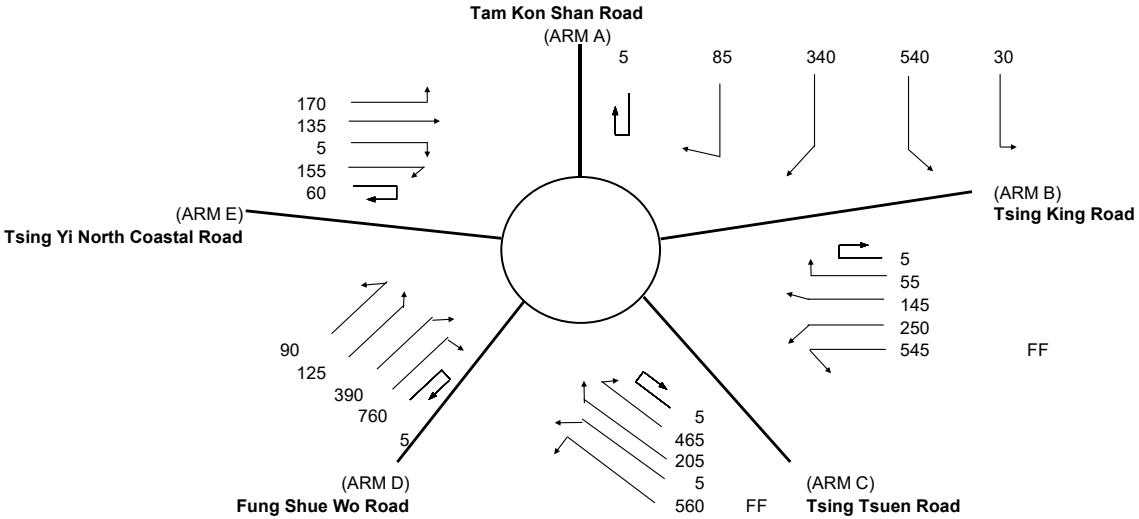
ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	755	430	600	1405	360
Qc= Circulating flow across entry (pcu/h)	1900	1530	900	930	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1939	1091	1994	2440	826
DFC = Design flow/Capacity = Q/Qe	0.39	0.39	0.30	0.58	0.44

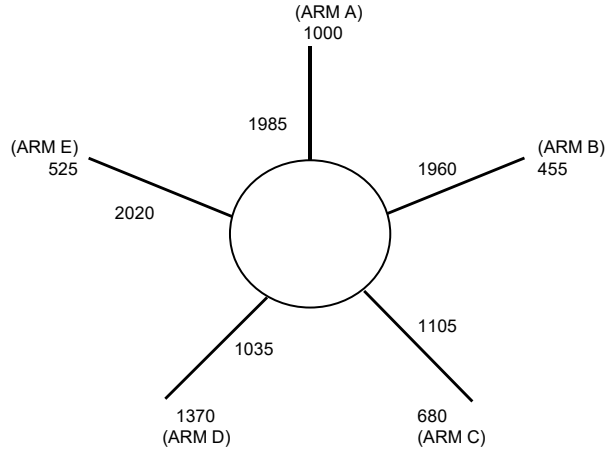
TOTAL ENTRY FLOWS = 3550 PCU

CRITICAL DFC = 0.58

ROUNDABOUT CAPACITY CALCULATION **AECOM**

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B AM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	1000	455	680	1370	525
Qc= Circulating flow across entry (pcu/h)	1985	1960	1105	1035	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1884	892	1875	2374	826
DFC = Design flow/Capacity = Q/Qe	0.53	0.51	0.36	0.58	0.64

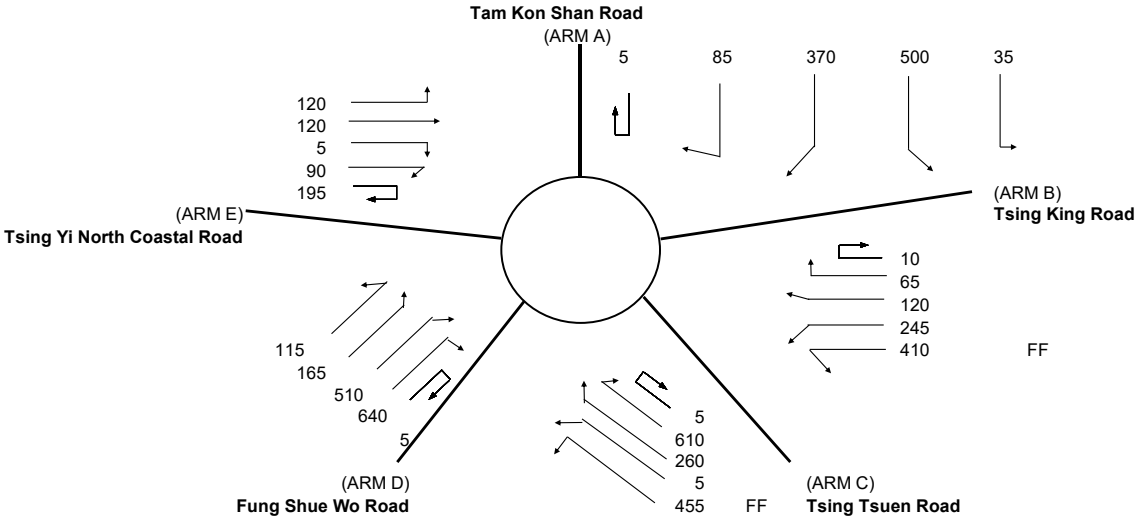
TOTAL ENTRY FLOWS = 4030 PCU

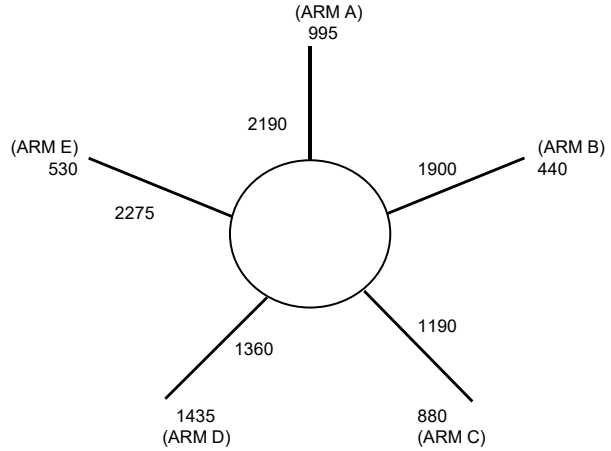
CRITICAL DFC = 0.64

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B NN	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	995	440	880	1435	530
Qc= Circulating flow across entry (pcu/h)	2190	1900	1190	1360	2275
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1752	920	1826	2171	708
DFC = Design flow/Capacity = Q/Qe	0.57	0.48	0.48	0.66	0.75

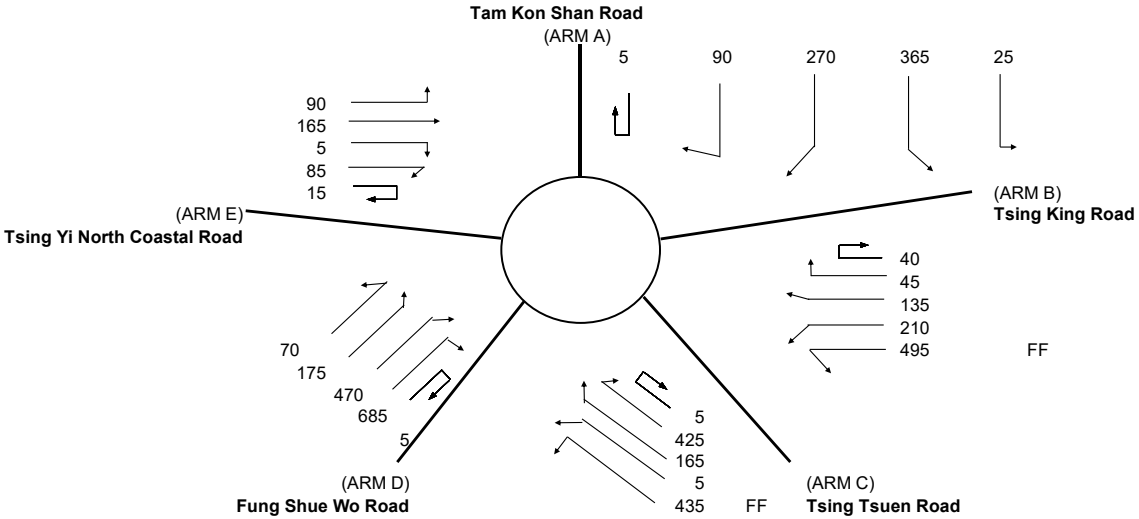
TOTAL ENTRY FLOWS = 4280 PCU

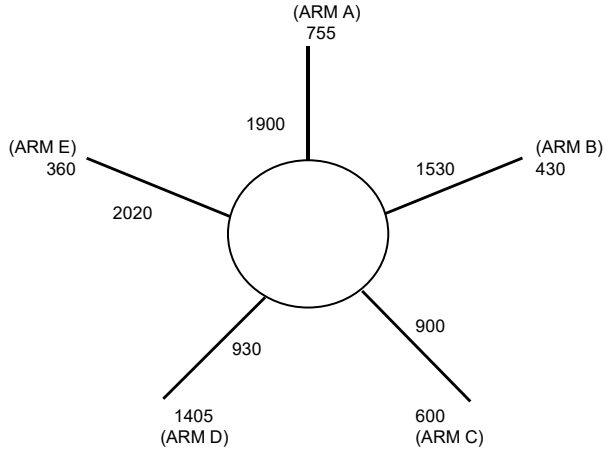
CRITICAL DFC = 0.75

ROUNDABOUT CAPACITY CALCULATION

AECOM

Junction	J5 - Tam Kon Shan Interchange	Scenario	2031 Scenario B PM	Project No.	Prepared By	Checked By	Date
				60733229	MKC	LC	Nov 2025





ARM	A	B	C	D	E
INPUT PARAMETERS:					
V = Approach half width (m)	6.70	3.65	7.40	7.70	4.00
E = Entry width (m)	14.25	7.70	8.25	13.75	6.35
L = Effective length of flare (m)	26.60	15.90	0.70	13.80	15.70
R = Entry radius (m)	33.00	38.00	45.00	20.00	35.00
D = Inscribed circle diameter (m)	114.00	114.00	114.00	114.00	114.00
A = Entry angle (degree)	41.00	34.00	10.00	37.00	24.00
Q = Entry flow (pcu/h)	755	430	600	1405	360
Qc= Circulating flow across entry (pcu/h)	1900	1530	900	930	2020
OUTPUT PARAMETERS:					
S = Sharpness of flare = 1.6(E-V)/L	0.45	0.41	1.94	0.70	0.24
K = 1-0.00347(A-30)-0.978(1/R-0.05)	0.98	1.01	1.10	0.98	1.04
X2= V + ((E-V)/(1+2S))	10.66	5.88	7.57	10.22	5.59
M = EXP((D-60)/10)	221.41	221.41	221.41	221.41	221.41
F = 303*X2	3229	1782	2295	3096	1693
Td= 1+(0.5/(1+M))	1.00	1.00	1.00	1.00	1.00
Fc= 0.21*Td(1+0.2*X2)	0.66	0.46	0.53	0.64	0.45
Qe= K(F-Fc*Qc)	1939	1091	1994	2440	826
DFC = Design flow/Capacity = Q/Qe	0.39	0.39	0.30	0.58	0.44

TOTAL ENTRY FLOWS = 3550 PCU

CRITICAL DFC = 0.58

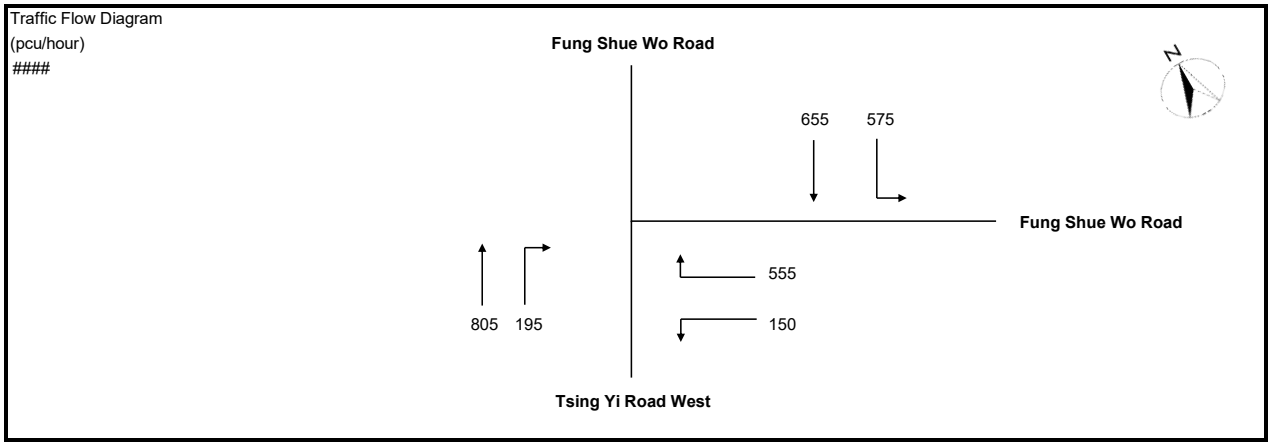
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

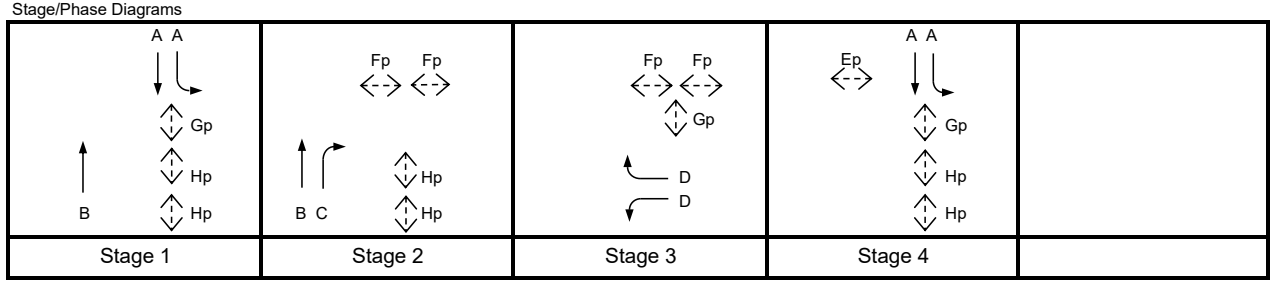
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	100	sec
Sum(y)	Y =	0.582	
Lost time	L =	28	sec
Total Flow	=	2,935	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		112	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	67	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.690	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	18.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	79	sec
Y_{max}	$= 1-L/C$	=	0.720	

Stage/Phase Diagrams



I/G = 5 I/G = 10 I/G = 8 G = 5 I/G = 2

Critical Case : B,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 11%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	B	1,2	3.410	1				1		0		1956		805		805			1956	0.412	0.412
↱	C	2	3.410	1		17	0	0		0		2096			195	195		100%	1926	0.101	
↑	D	3	4.035	1	35	35	0	1		0	180	2018.5	150		209	359	42%	58%	2108	0.170	0.170
↱	D	3	3.615	1		35	0	0		0		2116.5			346	346		100%	2030	0.170	
↳	A	1,4	4.015	1	150			1		0	54	2016.5	575			575	100%		2050	0.280	
↓	A	1,4	3.955	2				0		0		4301		655		655			4301	0.152	
Pedestrain Crossing				GM		FGM		Total													
	Ep	4	min.	5	+	8	=	13	sec												*
	Fp	2,3	min.	5	+	8	=	13	sec												
	Gp	1,3,4	min.	5	+	8	=	13	sec												
	Hp	1,2,4	min.	5	+	7	=	12	sec												

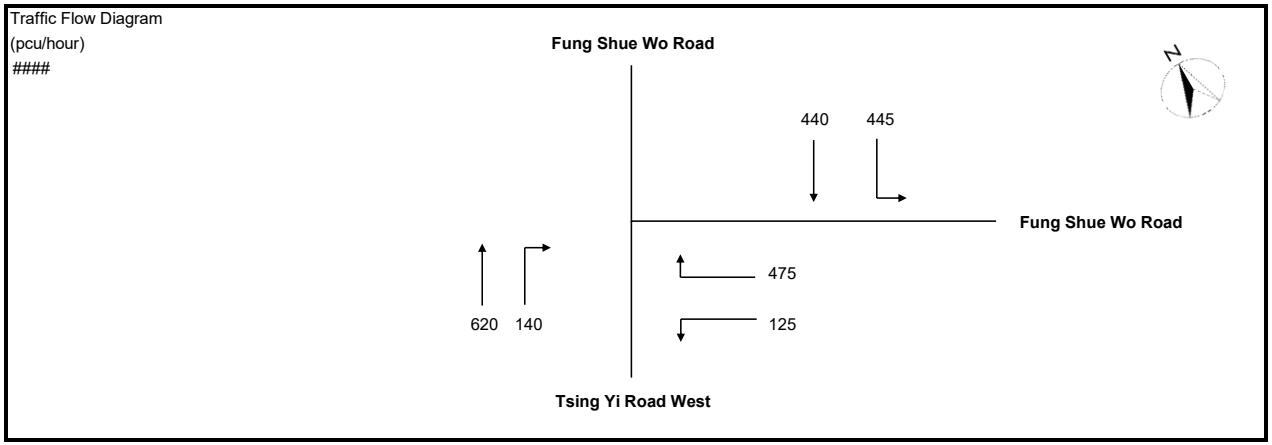
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

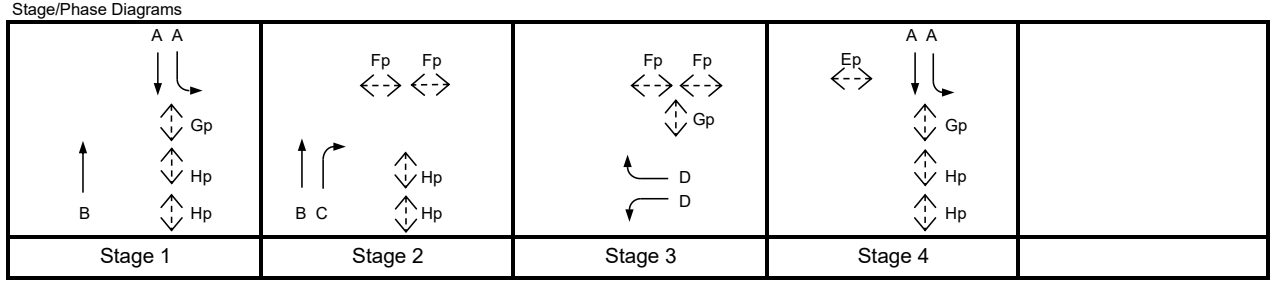
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	100	sec
Sum(y)	Y =	0.462	
Lost time	L =	28	sec
Total Flow	=	2,245	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		87	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	52	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.690	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	58	sec
Y_{max}	$= 1-L/C$	=	0.720	

Stage/Phase Diagrams



I/G = 5 I/G = 10 I/G = 8 G = 5 I/G = 2

Critical Case : B,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 40%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	B	1,2	3.410	1				1		0		1956		620		620			1956	0.317	0.317
↱	C	2	3.410	1		17	0	0		0		2096			140	140		100%	1926	0.073	
↑ ↱	D	3	4.035	1	35	35	0	1		0	180	2018.5	125		181	306	41%	59%	2108	0.145	
↱	D	3	3.615	1		35	0	0		0		2116.5			294	294		100%	2030	0.145	0.145
↳	A	1,4	4.015	1	150			1		0	54	2016.5	445			445	100%		2050	0.217	
↓	A	1,4	3.955	2				0		0		4301		440		440			4301	0.102	
Pedestrain Crossing				GM		FGM		Total													
	Ep	4	min.	5	+	8	=	13	sec												*
	Fp	2,3	min.	5	+	8	=	13	sec												
	Gp	1,3,4	min.	5	+	8	=	13	sec												
	Hp	1,2,4	min.	5	+	7	=	12	sec												

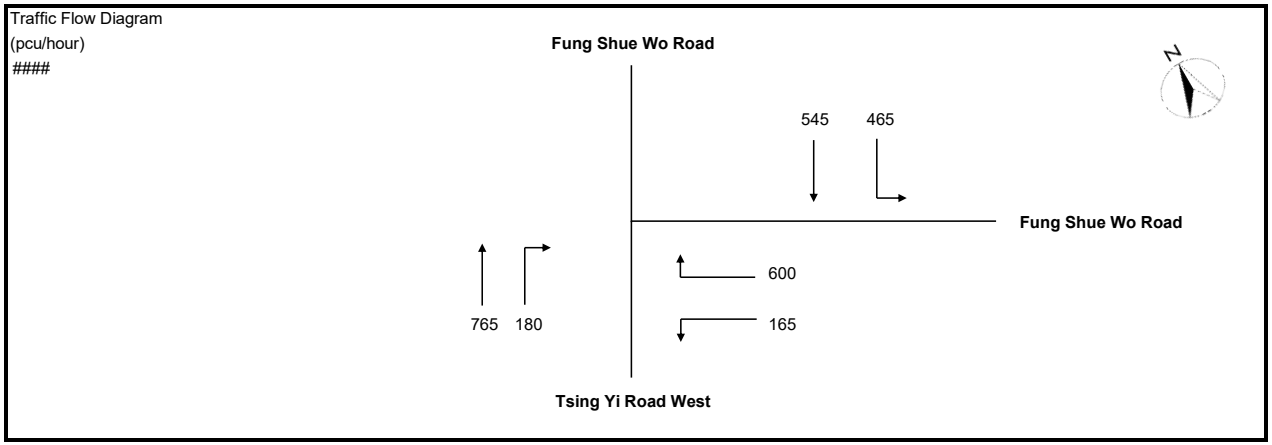
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

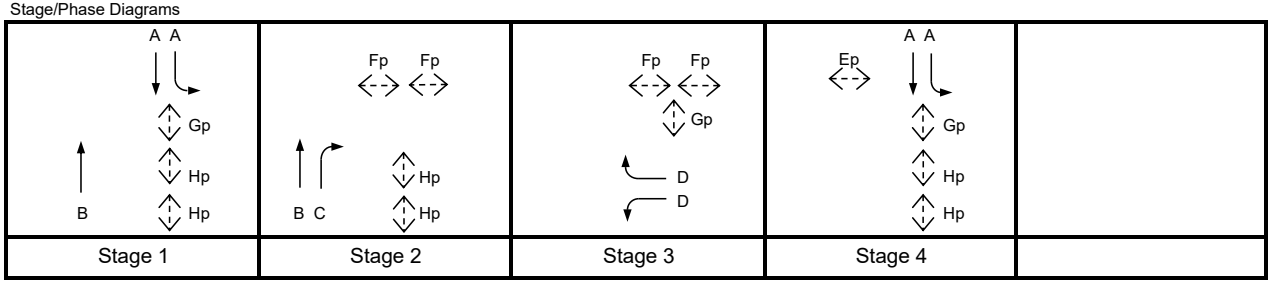
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	100	sec
Sum(y)	Y =	0.576	
Lost time	L =	28	sec
Total Flow	=	2,720	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		111	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	66	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.690	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	19.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	78	sec
Y_{max}	$= 1-L/C$	=	0.720	

Stage/Phase Diagrams



I/G = 5 I/G = 10 I/G = 8 G = 5 I/G = 2

Critical Case : B,D,Ep

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 13%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	B	1,2	3.410	1				1		0		1956		765		765			1956	0.391	0.391
↱	C	2	3.410	1		17	0	0		0		2096			180	180		100%	1926	0.093	
↑ ↓	D	3	4.035	1	35	35	0	1		0	180	2018.5	165		225	390	42%	58%	2108	0.185	0.185
↱	D	3	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	
↳	A	1,4	4.015	1	150			1		0	54	2016.5	465			465	100%		2050	0.227	
↓	A	1,4	3.955	2				0		0		4301		545		545			4301	0.127	
Pedestrain Crossing				GM		FGM		Total													
	Ep	4	min.	5	+	8	=	13	sec												*
	Fp	2,3	min.	5	+	8	=	13	sec												
	Gp	1,3,4	min.	5	+	8	=	13	sec												
	Hp	1,2,4	min.	5	+	7	=	12	sec												

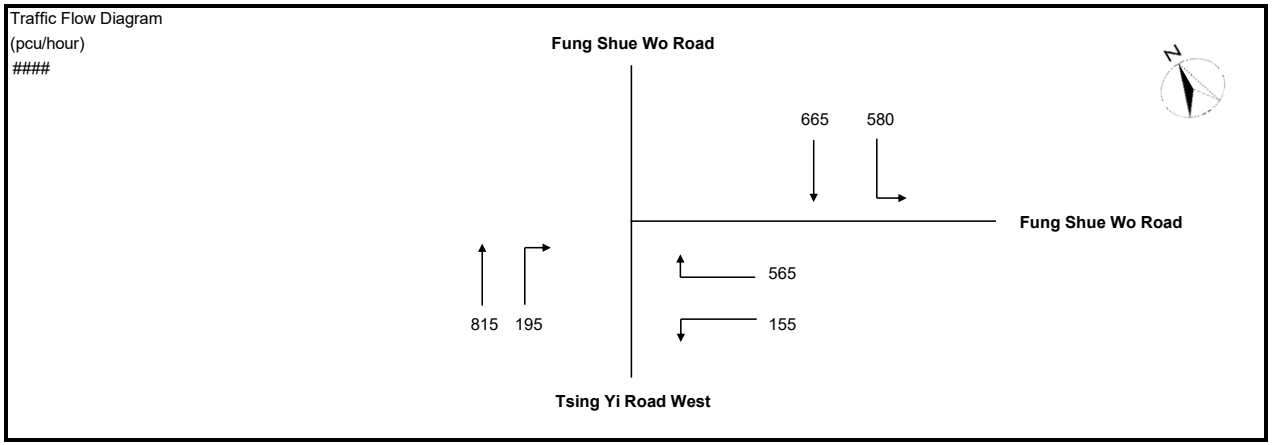
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

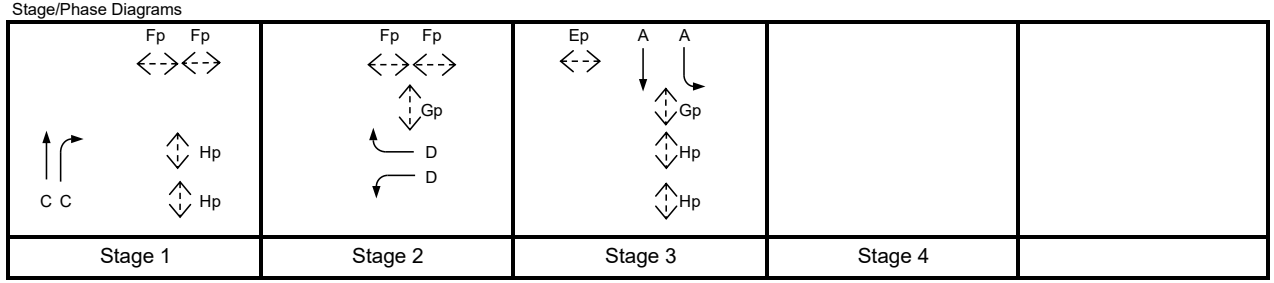
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.583	
Lost time	L =	12	sec
Total Flow	=	2,975	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		55	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	29	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	38.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	34	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 39%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.254	0.254
↱	C	1	3.410	1		17	0	0		0		2096		319	195	514		38%	2028	0.254	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	155		209	364	43%	57%	2079	0.175	0.175
↱	D	2	3.615	1		35	0	0		0		2116.5			356	356		100%	2030	0.175	
↳	A	3	4.015	2	150			1		0		4173	580			580	100%		4132	0.140	
↓	A	3	3.955	2				0		0		4301		665		665			4301	0.155	0.155
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

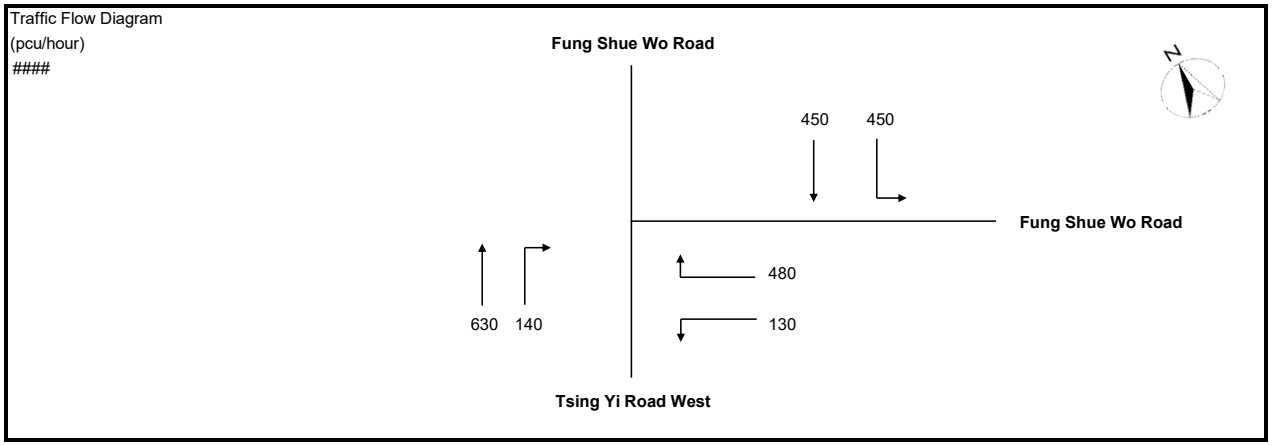
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

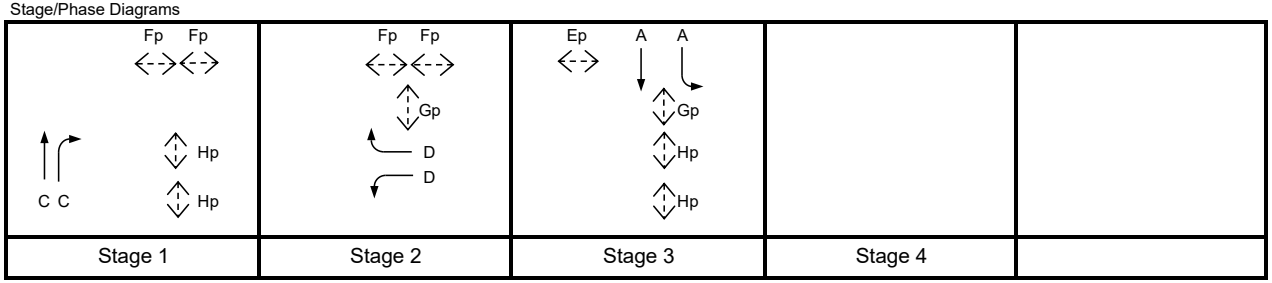
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.450	
Lost time	L =	12	sec
Total Flow	=	2,280	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	79.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 80%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		378		378			1956	0.193	
↱	C	1	3.410	1		17	0	0		0		2096		252	140	392		36%	2032	0.193	0.193
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		179	309	42%	58%	2079	0.148	0.148
↱	D	2	3.615	1		35	0	0		0		2116.5			301	301		100%	2030	0.148	
↳	A	3	4.015	2	150			1		0		4173	450			450	100%		4132	0.109	0.109
↓	A	3	3.955	2				0		0		4301		450		450			4301	0.105	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

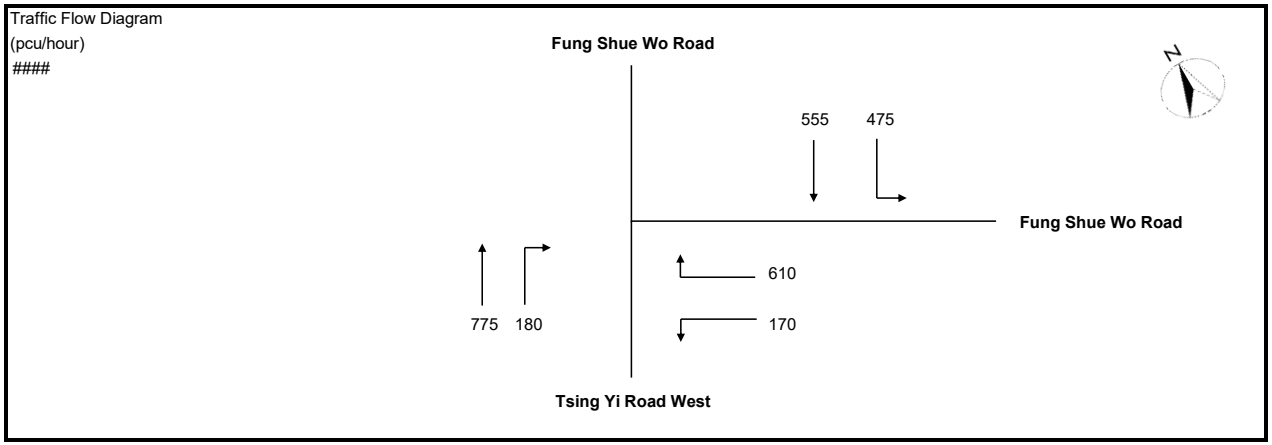
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

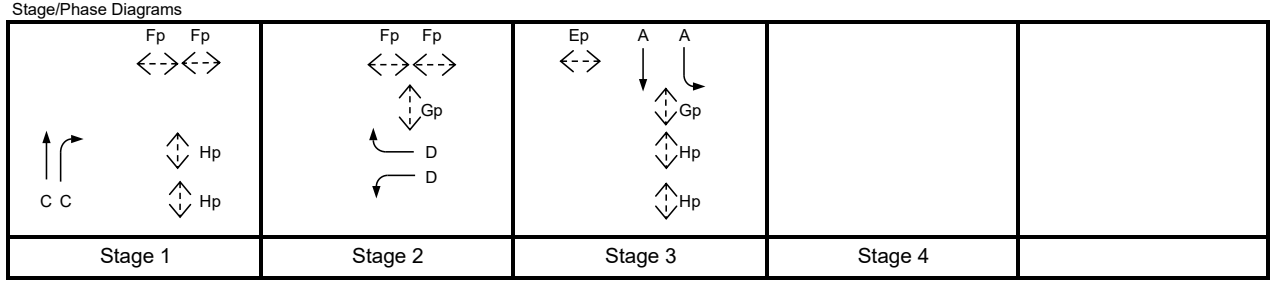
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.558	
Lost time	L =	12	sec
Total Flow	=	2,765	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		52	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	45.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 45%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		469		469			1956	0.240	0.240
↱	C	1	3.410	1		17	0	0		0		2096		306	180	486		37%	2030	0.240	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	170		225	395	43%	57%	2079	0.190	0.190
↱	D	2	3.615	1		35	0	0		0		2116.5			385	385		100%	2030	0.190	
↳	A	3	4.015	2	150			1		0		4173	475			475	100%		4132	0.115	
↓	A	3	3.955	2				0		0		4301		555		555			4301	0.129	0.129

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

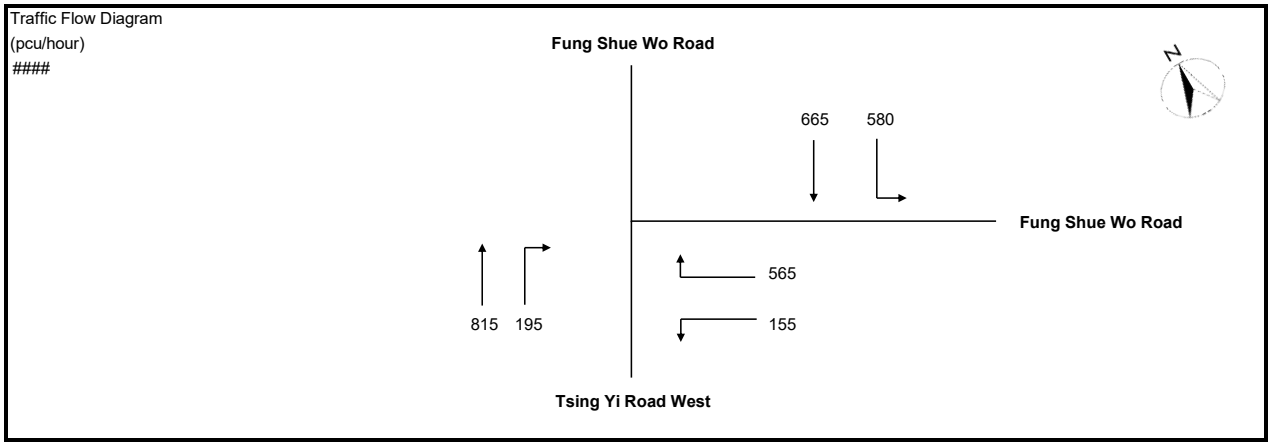
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

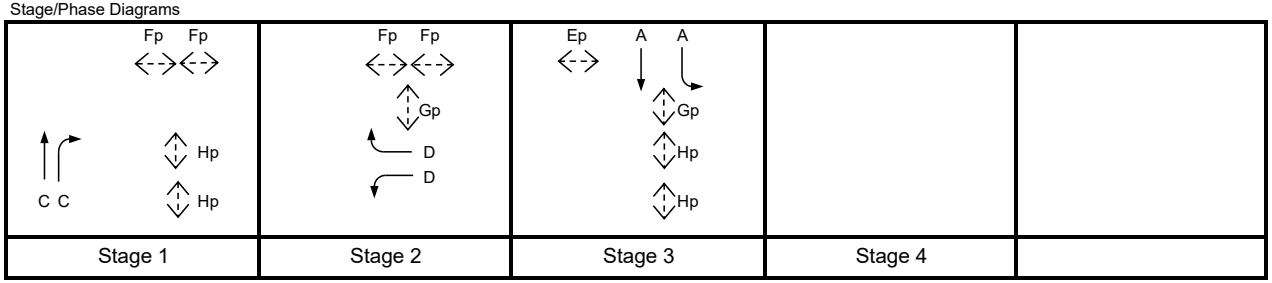
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.583	
Lost time	L =	12	sec
Total Flow	=	2,975	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		55	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	29	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	38.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	34	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 39%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.254	0.254
↱	C	1	3.410	1		17	0	0		0		2096		319	195	514		38%	2028	0.254	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	155		209	364	43%	57%	2079	0.175	0.175
↱	D	2	3.615	1		35	0	0		0		2116.5			356	356		100%	2030	0.175	
↳	A	3	4.015	2	150			1		0		4173	580			580	100%		4132	0.140	
↓	A	3	3.955	2				0		0		4301		665		665			4301	0.155	0.155
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

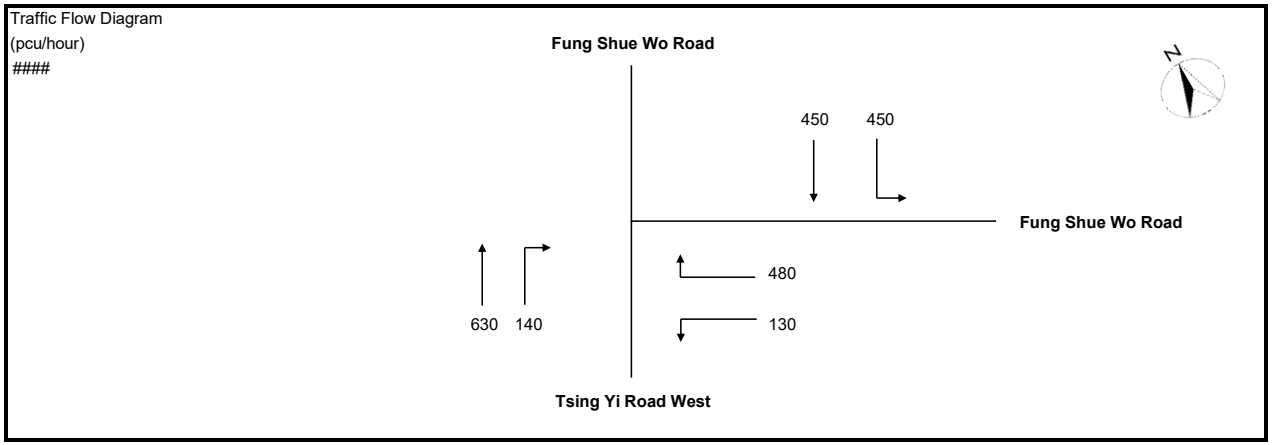
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

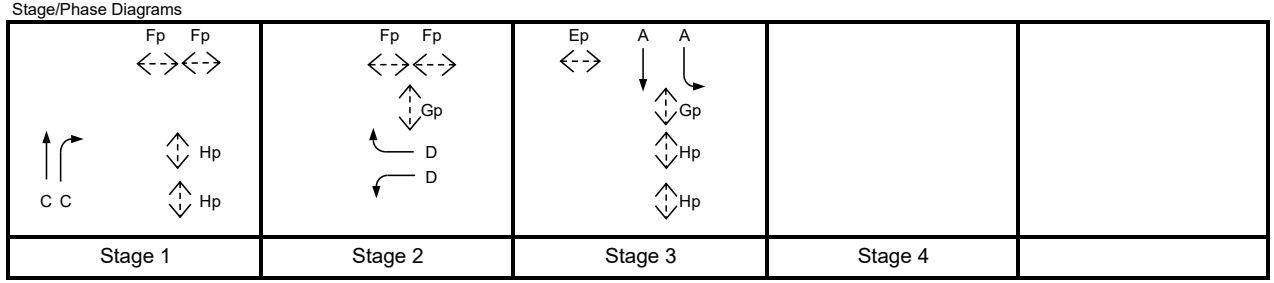
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.450	
Lost time	L =	12	sec
Total Flow	=	2,280	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	79.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 80%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		378		378			1956	0.193	
↱	C	1	3.410	1		17	0	0		0		2096		252	140	392		36%	2032	0.193	0.193
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		179	309	42%	58%	2079	0.148	0.148
↱	D	2	3.615	1		35	0	0		0		2116.5			301	301		100%	2030	0.148	
↳	A	3	4.015	2	150			1		0		4173	450			450	100%		4132	0.109	0.109
↓	A	3	3.955	2				0		0		4301		450		450			4301	0.105	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

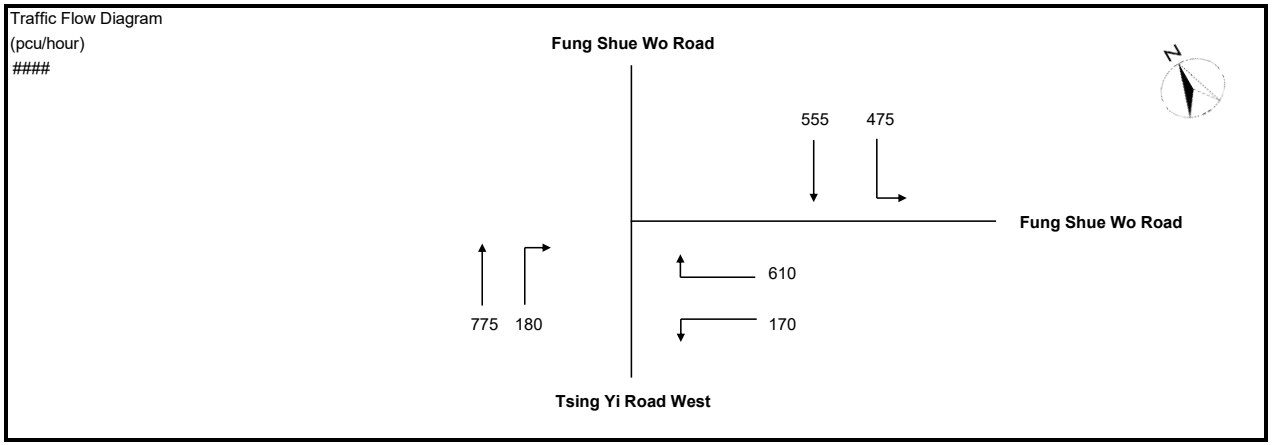
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

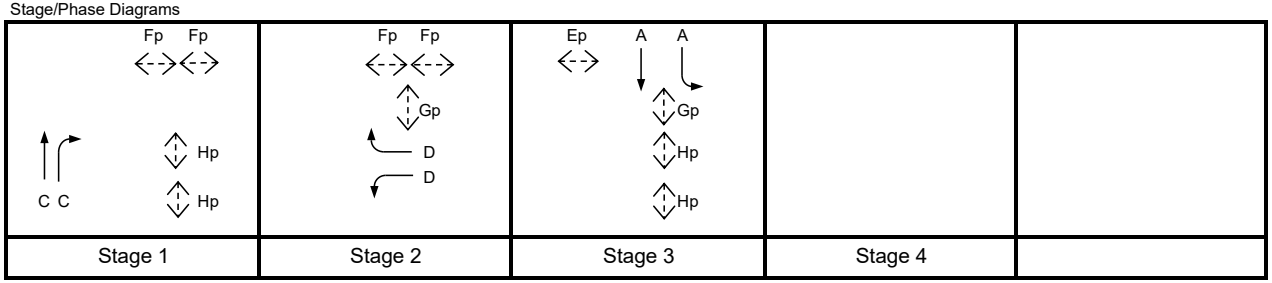
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.558	
Lost time	L =	12	sec
Total Flow	=	2,765	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		52	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	45.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 45%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		469		469			1956	0.240	0.240
↑↱	C	1	3.410	1		17	0	0		0		2096		306	180	486		37%	2030	0.240	
↑↓	D	2	4.035	1	35	35	0	1		0	150	2018.5	170		225	395	43%	57%	2079	0.190	0.190
↑	D	2	3.615	1		35	0	0		0		2116.5			385	385		100%	2030	0.190	
↳	A	3	4.015	2	150			1		0		4173	475			475	100%		4132	0.115	
↓	A	3	3.955	2				0		0		4301		555		555			4301	0.129	0.129

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

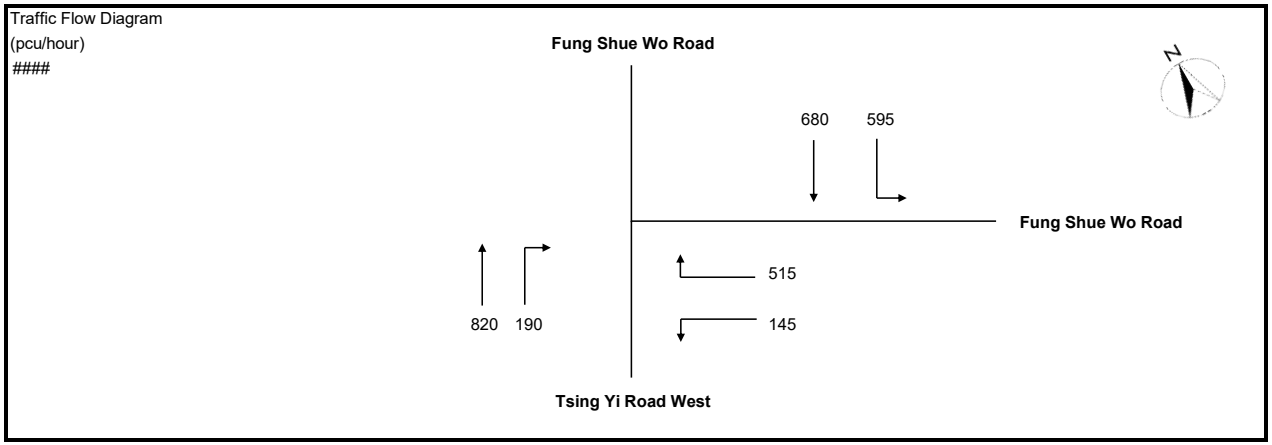
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

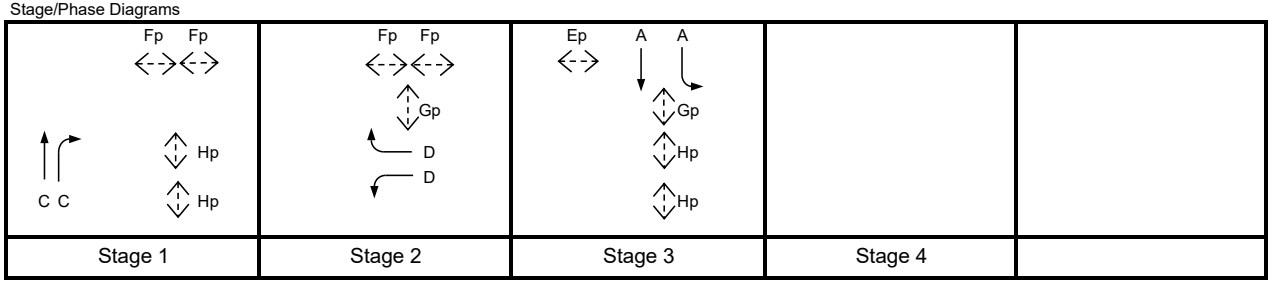
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.572	
Lost time	L =	12	sec
Total Flow	=	2,945	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		54	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	41.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	33	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 42%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.253	0.253
↱	C	1	3.410	1		17	0	0		0		2096		324	190	514		37%	2030	0.253	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	145		189	334	43%	57%	2079	0.161	
↱	D	2	3.615	1		35	0	0		0		2116.5			326	326		100%	2030	0.161	0.161
↳	A	3	4.015	2	150			1		0		4173	595			595	100%		4132	0.144	
↓	A	3	3.955	2				0		0		4301		680		680			4301	0.158	0.158
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

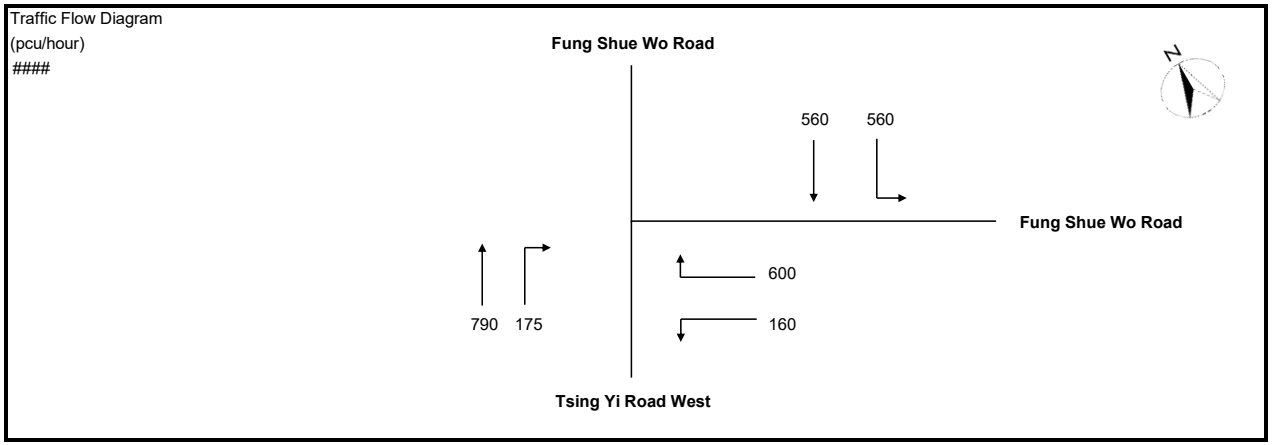
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

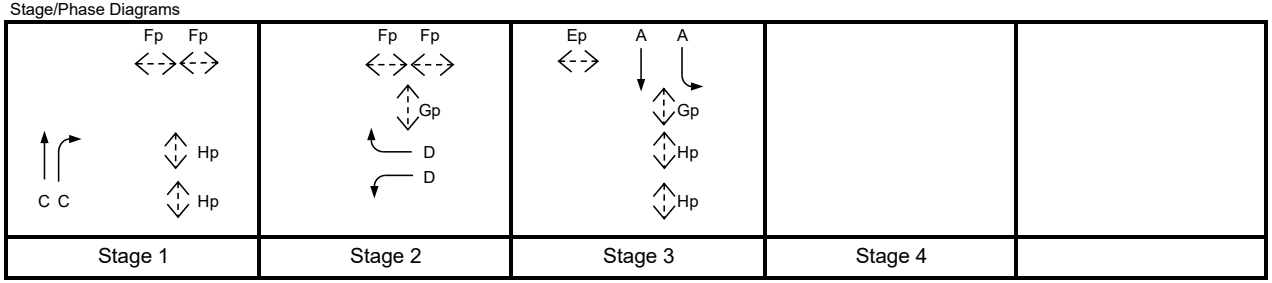
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.562	
Lost time	L =	12	sec
Total Flow	=	2,845	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		53	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	44.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		473		473			1956	0.242	0.242
↱	C	1	3.410	1		17	0	0		0		2096		317	175	492		36%	2032	0.242	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	160		225	385	42%	58%	2079	0.185	
↱	D	2	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	0.185
↳	A	3	4.015	2	150			1		0		4173	560			560	100%		4132	0.136	0.136
↓	A	3	3.955	2				0		0		4301		560		560			4301	0.130	

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

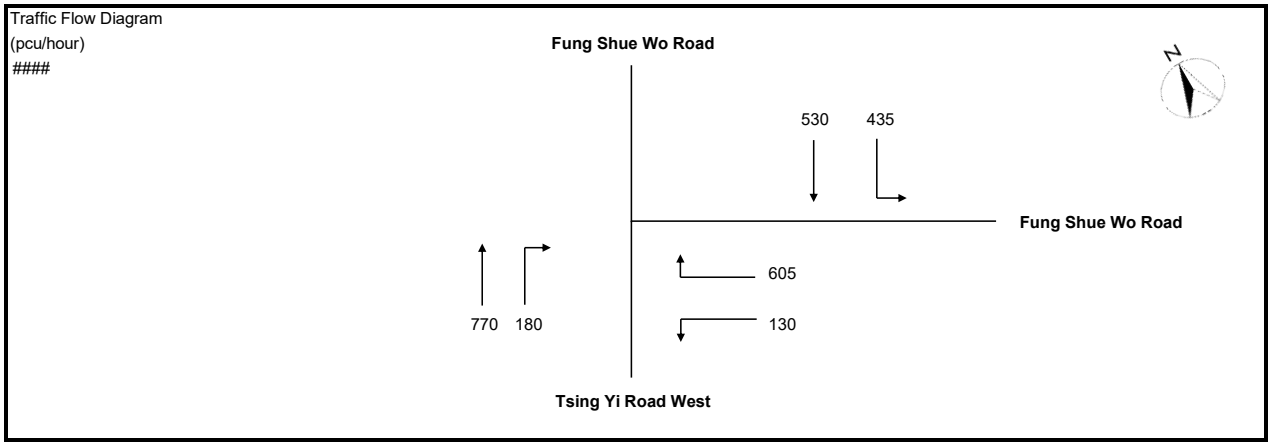
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

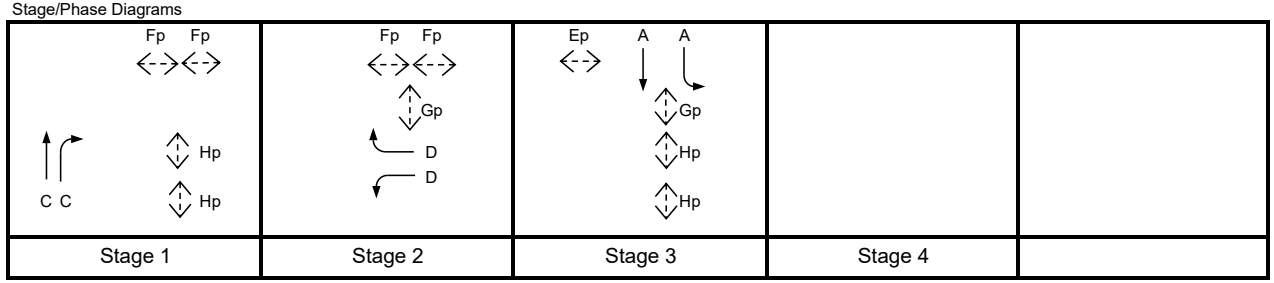
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.540	
Lost time	L =	12	sec
Total Flow	=	2,650	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		50	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	26	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	30	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 50%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		466		466			1956	0.238	
↱	C	1	3.410	1		17	0	0		0		2096		304	180	484		37%	2029	0.238	0.238
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		242	372	35%	65%	2079	0.179	0.179
↑	D	2	3.615	1		35	0	0		0		2116.5			363	363		100%	2030	0.179	
↳	A	3	4.015	2	150			1		0		4173	435			435	100%		4132	0.105	
↓	A	3	3.955	2				0		0		4301		530		530			4301	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

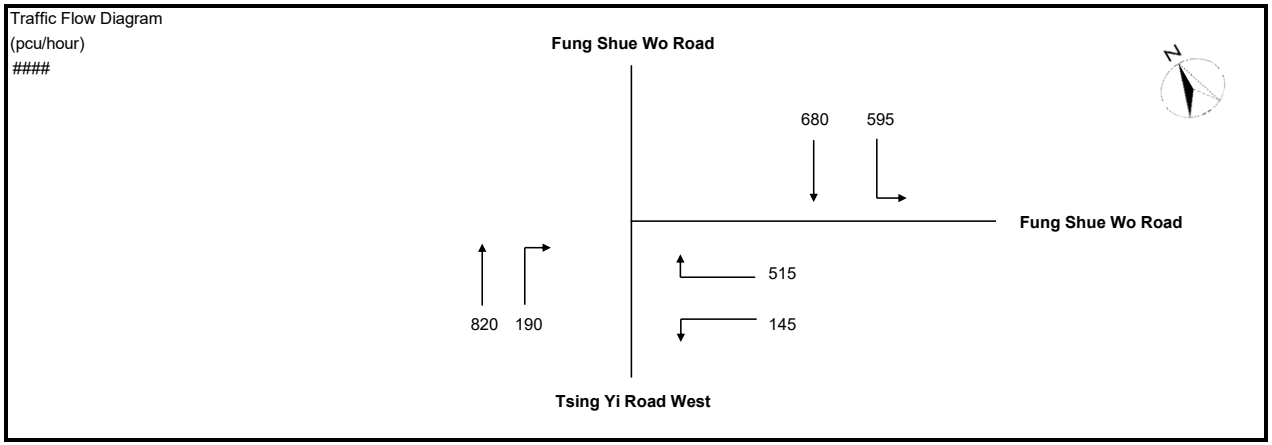
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

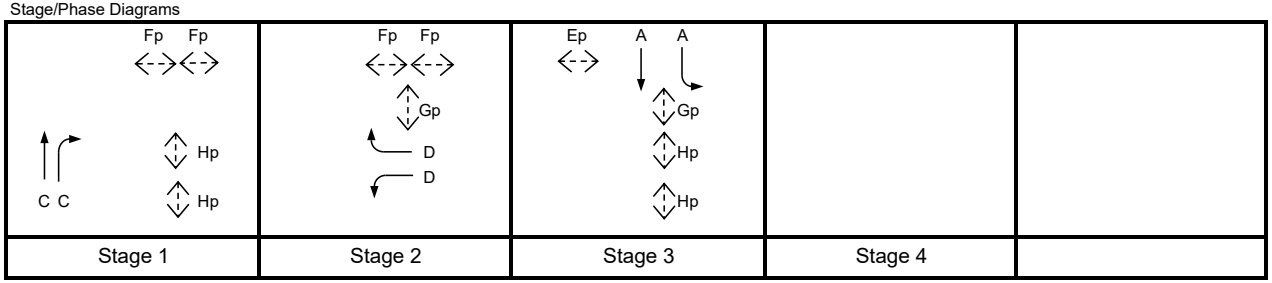
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.572	
Lost time	L =	12	sec
Total Flow	=	2,945	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		54	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	41.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	33	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 42%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.253	0.253
↱	C	1	3.410	1		17	0	0		0		2096		324	190	514		37%	2030	0.253	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	145		189	334	43%	57%	2079	0.161	
↱	D	2	3.615	1		35	0	0		0		2116.5			326	326		100%	2030	0.161	0.161
↳	A	3	4.015	2	150			1		0		4173	595			595	100%		4132	0.144	
↓	A	3	3.955	2				0		0		4301		680		680			4301	0.158	0.158

Pedestrain Crossing			GM		FGM		Total														
Ep	3	min.	5	+	8	=	13	sec													
Fp	1,2	min.	5	+	8	=	13	sec													
Gp	2,3	min.	5	+	8	=	13	sec													
Hp	1,3	min.	5	+	7	=	12	sec													

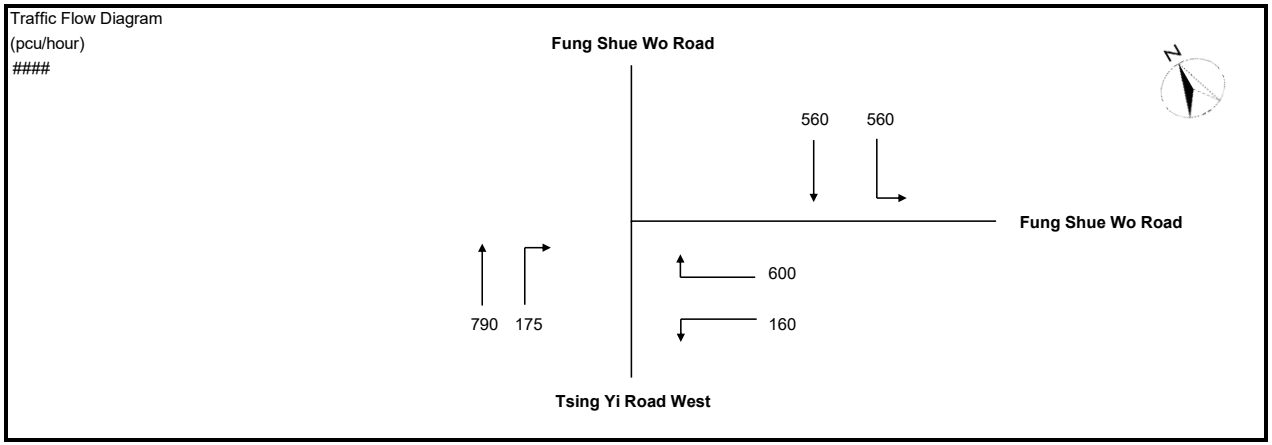
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

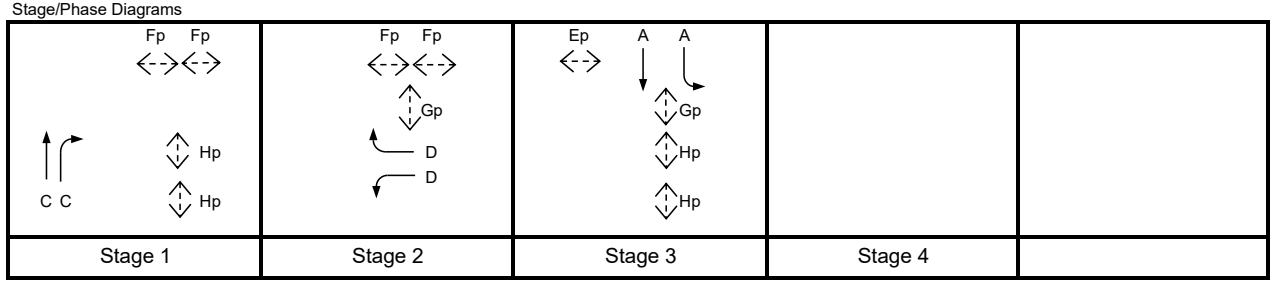
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.562	
Lost time	L =	12	sec
Total Flow	=	2,845	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		53	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	44.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		473		473			1956	0.242	0.242
↱	C	1	3.410	1		17	0	0		0		2096		317	175	492		36%	2032	0.242	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	160		225	385	42%	58%	2079	0.185	
↱	D	2	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	0.185
↳	A	3	4.015	2	150			1		0		4173	560			560	100%		4132	0.136	0.136
↓	A	3	3.955	2				0		0		4301		560		560			4301	0.130	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	8	=	13	sec												
	Fp	1,2	min.	5	+	8	=	13	sec												
	Gp	2,3	min.	5	+	8	=	13	sec												
	Hp	1,3	min.	5	+	7	=	12	sec												

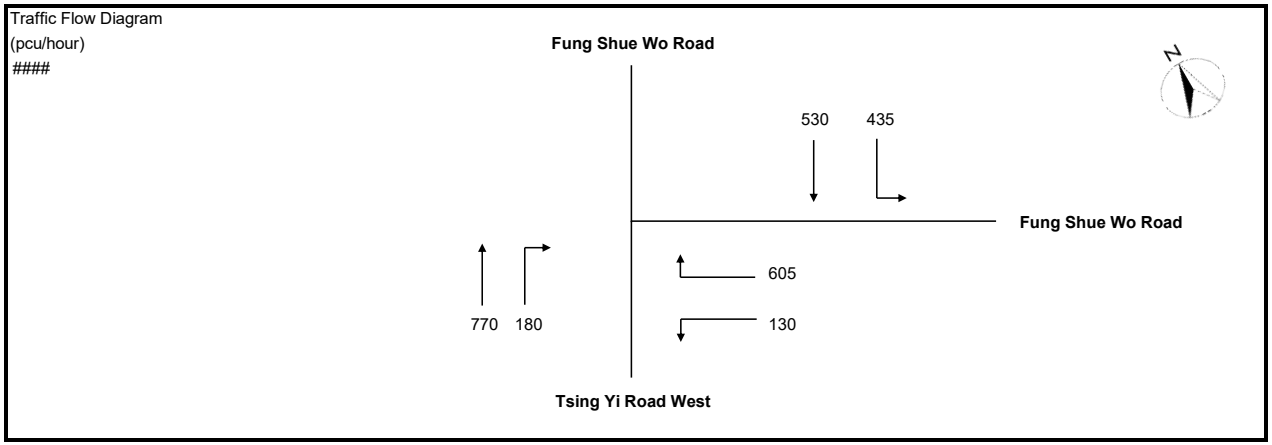
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

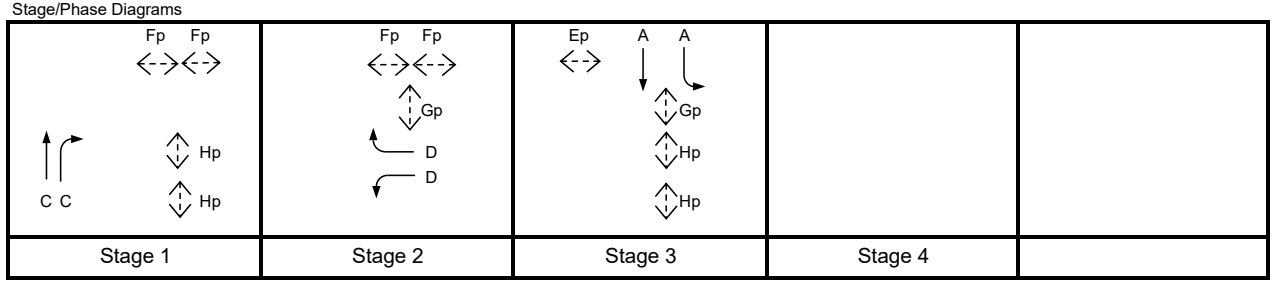
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.540	
Lost time	L =	12	sec
Total Flow	=	2,650	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		50	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	26	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	30	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 50%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		466		466			1956	0.238	
↱	C	1	3.410	1		17	0	0		0		2096		304	180	484		37%	2029	0.238	0.238
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		242	372	35%	65%	2079	0.179	0.179
↱	D	2	3.615	1		35	0	0		0		2116.5			363	363		100%	2030	0.179	
↳	A	3	4.015	2	150			1		0		4173	435			435	100%		4132	0.105	
↓	A	3	3.955	2				0		0		4301		530		530			4301	0.123	0.123

Pedestrain Crossing			GM		FGM		Total							
Ep	3	min.	5	+	8	=	13	sec						
Fp	1,2	min.	5	+	8	=	13	sec						
Gp	2,3	min.	5	+	8	=	13	sec						
Hp	1,3	min.	5	+	7	=	12	sec						

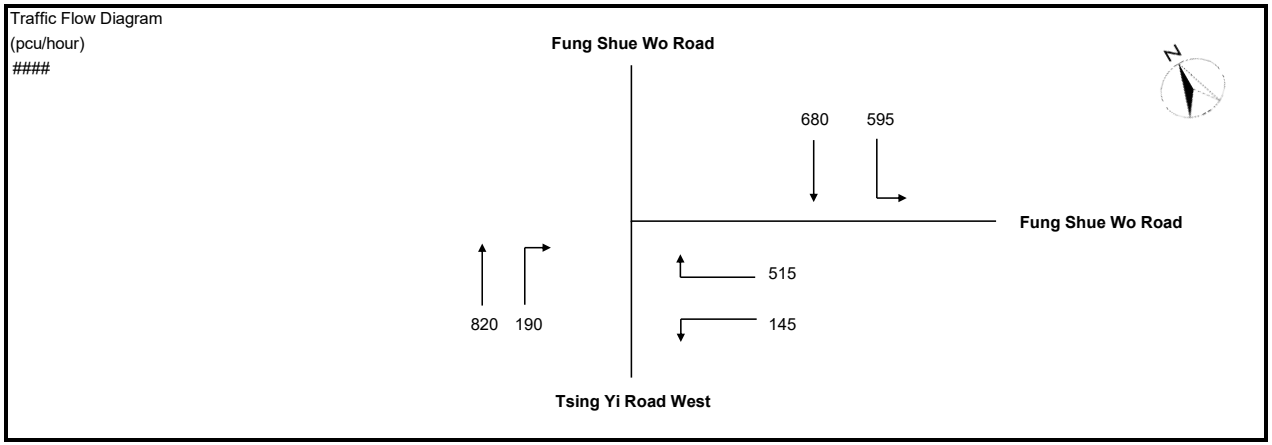
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

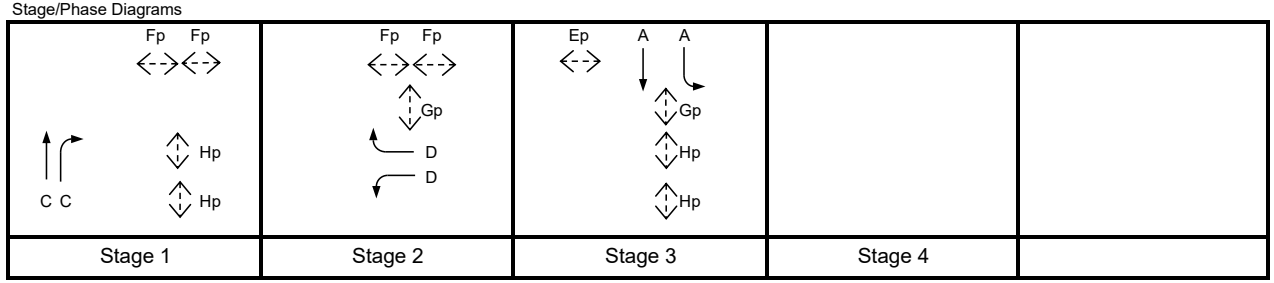
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.572	
Lost time	L =	12	sec
Total Flow	=	2,945	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	54	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	41.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	33	sec
Y_{max}	$= 1-L/C$ =	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 42%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		496		496			1956	0.253	0.253
↱	C	1	3.410	1		17	0	0		0		2096		324	190	514		37%	2030	0.253	
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	145		189	334	43%	57%	2079	0.161	
↱	D	2	3.615	1		35	0	0		0		2116.5			326	326		100%	2030	0.161	0.161
↳	A	3	4.015	2	150			1		0		4173	595			595	100%		4132	0.144	
↓	A	3	3.955	2				0		0		4301		680		680			4301	0.158	0.158

Pedestrain Crossing			GM		FGM		Total														
Ep	3	min.	5	+	8	=	13	sec													
Fp	1,2	min.	5	+	8	=	13	sec													
Gp	2,3	min.	5	+	8	=	13	sec													
Hp	1,3	min.	5	+	7	=	12	sec													

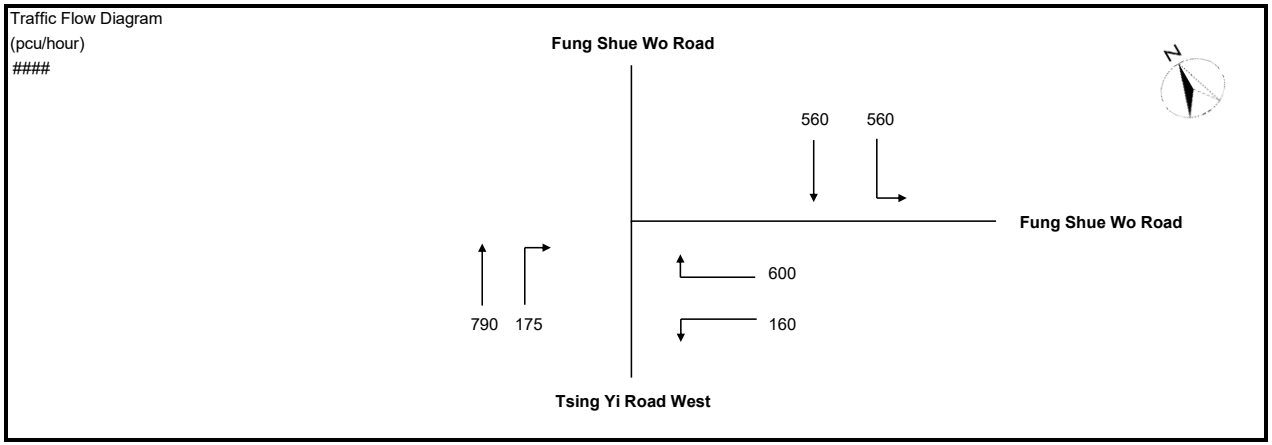
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

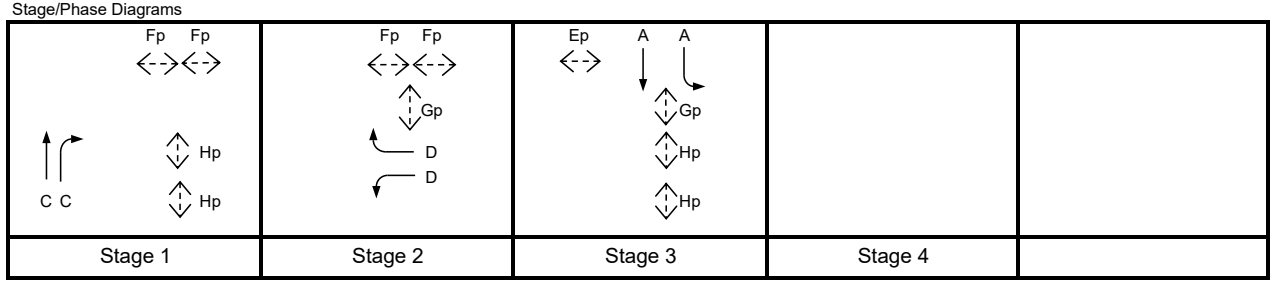
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.562	
Lost time	L =	12	sec
Total Flow	=	2,845	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		53	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	44.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	32	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 3 I/G = 2

Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		473		473			1956	0.242	0.242
↱	C	1	3.410	1		17	0	0		0		2096		317	175	492		36%	2032	0.242	
↰↓	D	2	4.035	1	35	35	0	1		0	150	2018.5	160		225	385	42%	58%	2079	0.185	
↰	D	2	3.615	1		35	0	0		0		2116.5			375	375		100%	2030	0.185	0.185
↳	A	3	4.015	2	150			1		0		4173	560			560	100%		4132	0.136	0.136
↓	A	3	3.955	2				0		0		4301		560		560			4301	0.130	

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

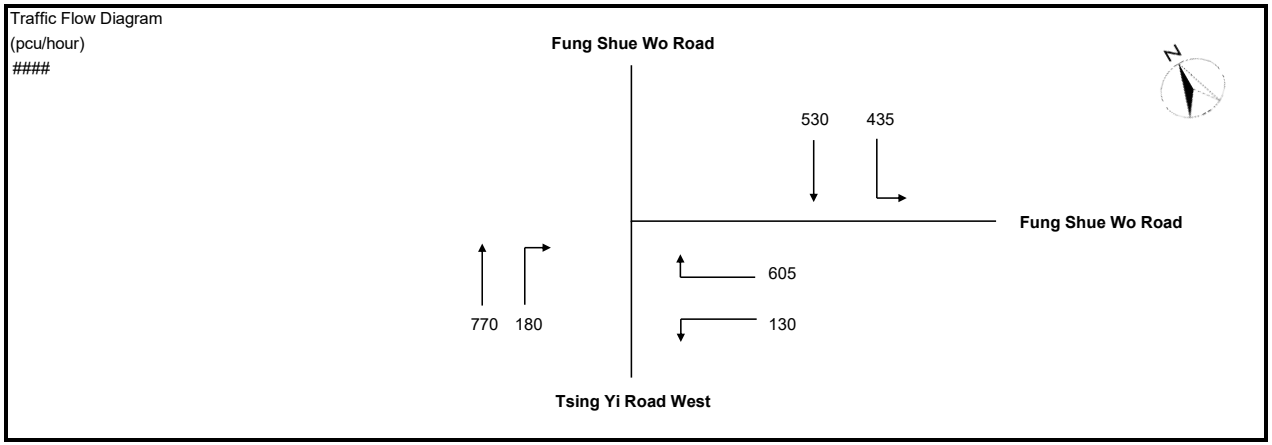
JUNCTION CAPACITY CALCULATION

AECOM

Junction J6 - Tsing Yi Road West / Fung Shue Wo Road	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J6

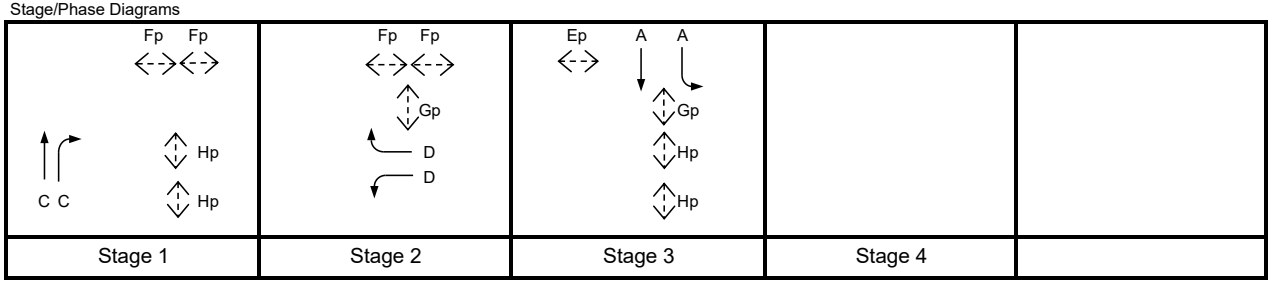
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.540	
Lost time	L =	12	sec
Total Flow	=	2,650	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		50	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	26	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.810	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	49.9	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	30	sec
Y_{max}	$= 1-L/C$	=	0.900	

Stage/Phase Diagrams



Critical Case : C,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 50%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
↑	C	1	3.410	1				1		0		1956		466		466			1956	0.238	
↱	C	1	3.410	1		17	0	0		0		2096		304	180	484		37%	2029	0.238	0.238
↑	D	2	4.035	1	35	35	0	1		0	150	2018.5	130		242	372	35%	65%	2079	0.179	0.179
↑	D	2	3.615	1		35	0	0		0		2116.5			363	363		100%	2030	0.179	
↳	A	3	4.015	2	150			1		0		4173	435			435	100%		4132	0.105	
↓	A	3	3.955	2				0		0		4301		530		530			4301	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Ep	3	min.	5	+	8	=	13	sec												
Fp	1,2	min.	5	+	8	=	13	sec												
Gp	2,3	min.	5	+	8	=	13	sec												
Hp	1,3	min.	5	+	7	=	12	sec												

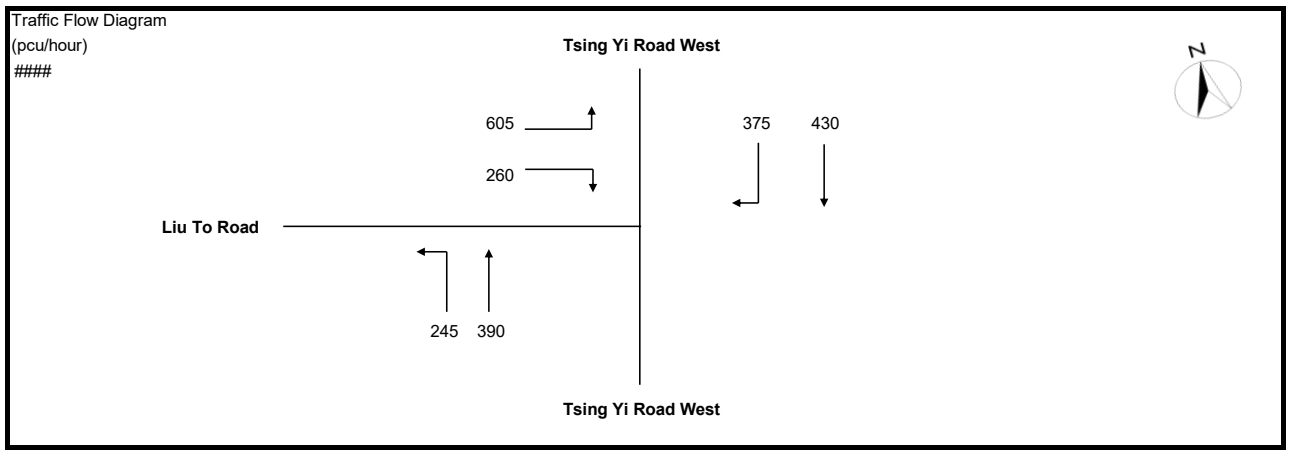
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

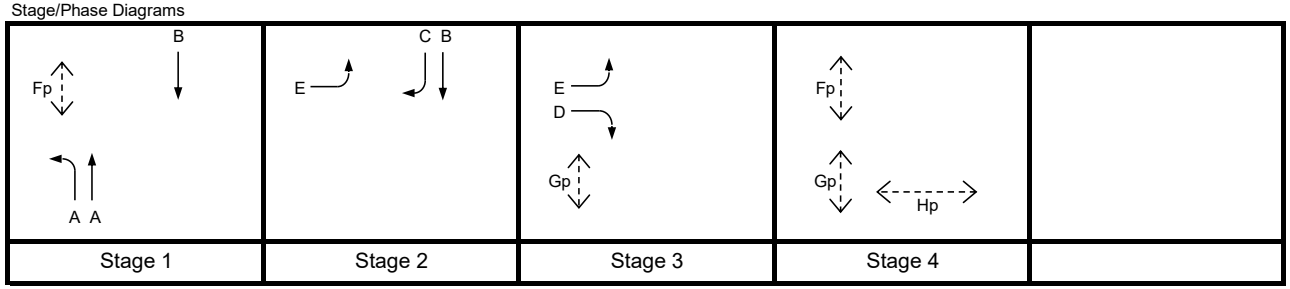
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.498	
Lost time	L =	38	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	123	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	76	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	23.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	85	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 28%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	605			605	100%		1845	0.328	
D	D	3	3.790	1		17	0	0		0		2134			260	260		100%	1961	0.133	0.133
A	A	1	3.310	1	15			1		0		1946	245	43		288	85%		1793	0.161	0.161
A	A	1	4.060	1				0		0		2161		347		347			2161	0.161	
B	B	1,2	3.290	2				1		0		4028		430		430			4028	0.107	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

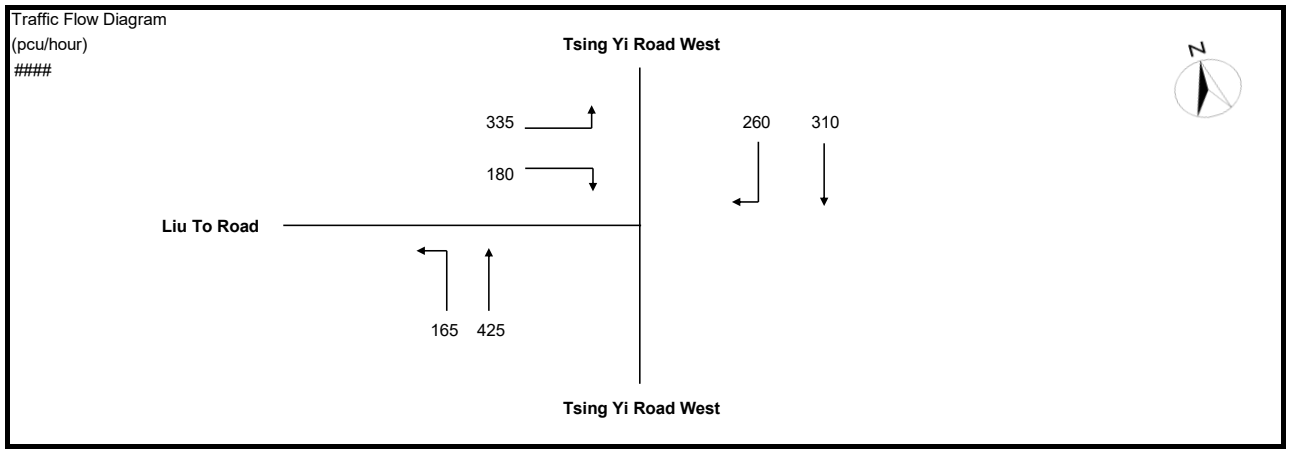
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

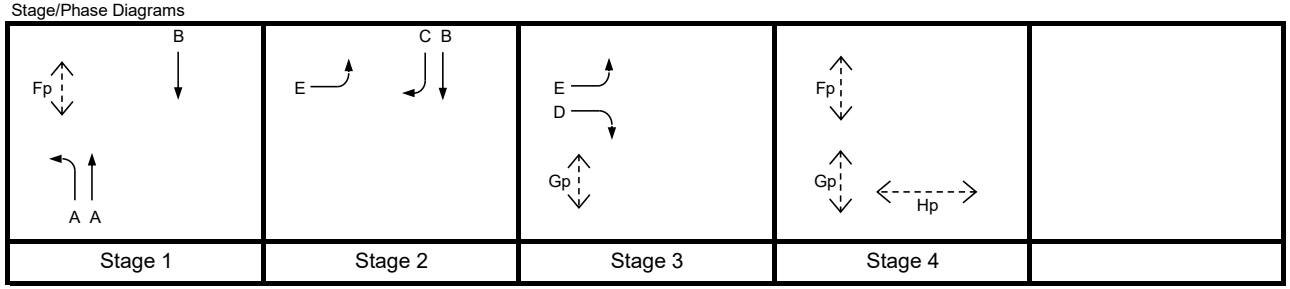
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.381	
Lost time	L =	38	sec
Total Flow	=	1,675	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	100	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	61	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	61.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	66	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 55%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	335			335	100%		1845	0.182	
D	D	3	3.790	1		17	0	0		0		2134			180	180		100%	1961	0.092	0.092
A	A	1	3.310	1	15			1		0		1946	165	106		271	61%		1834	0.148	
A	A	1	4.060	1				0		0		2161		319		319			2161	0.148	0.148
B	B	1,2	3.290	2				1		0		4028		310		310			4028	0.077	
C	C	2	3.290	1		11	0	0		0		2084			260	260		100%	1834	0.142	0.142
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

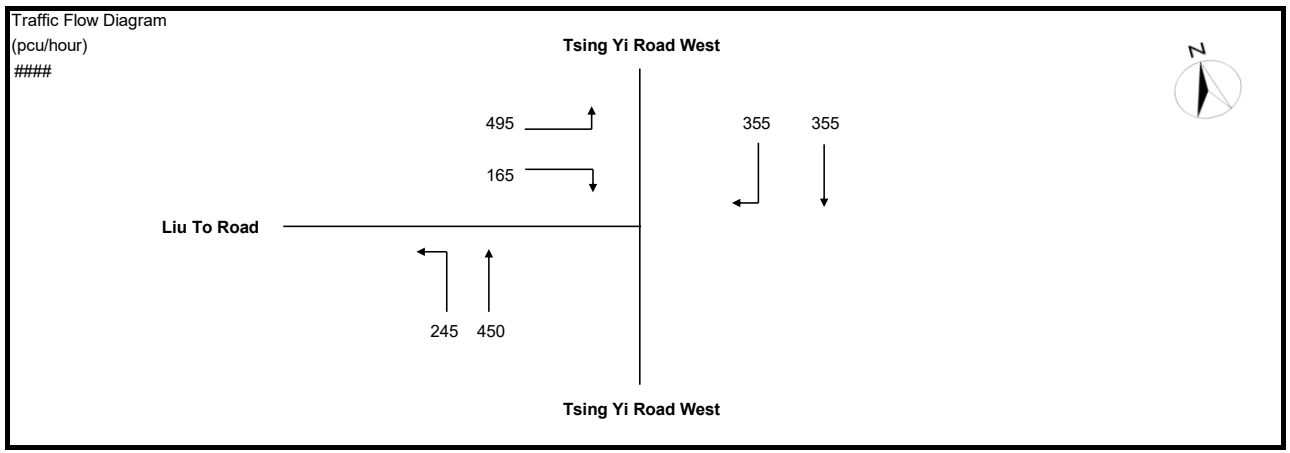
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

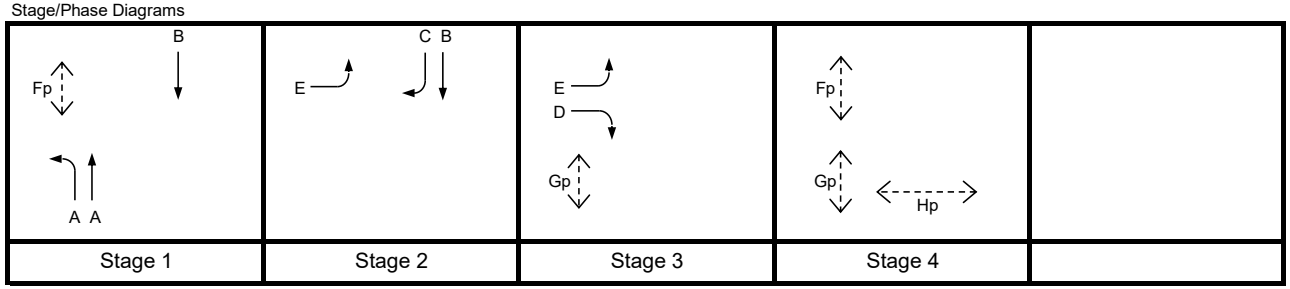
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.453	
Lost time	L =	38	sec
Total Flow	=	2,065	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	113	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	69	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	35.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	76	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	495			495	100%		1845	0.268	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	245	71		316	77%		1806	0.175	0.175
A	A	1	4.060	1				0		0		2161		379		379			2161	0.175	
B	B	1,2	3.290	2				1		0		4028		355		355			4028	0.088	
C	C	2	3.290	1		11	0	0		0		2084			355	355		100%	1834	0.194	0.194

Pedestrain Crossing		GM		FGM		Total												
Fp	1,4	min.	5	+	9	=	14	sec										
Gp	3,4	min.	5	+	13	=	18	sec										
Hp	4	min.	5	+	8	=	13	sec										*

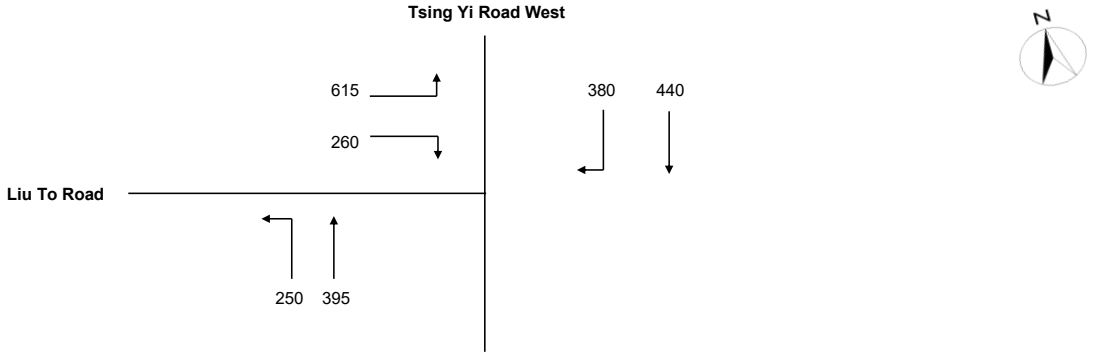
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

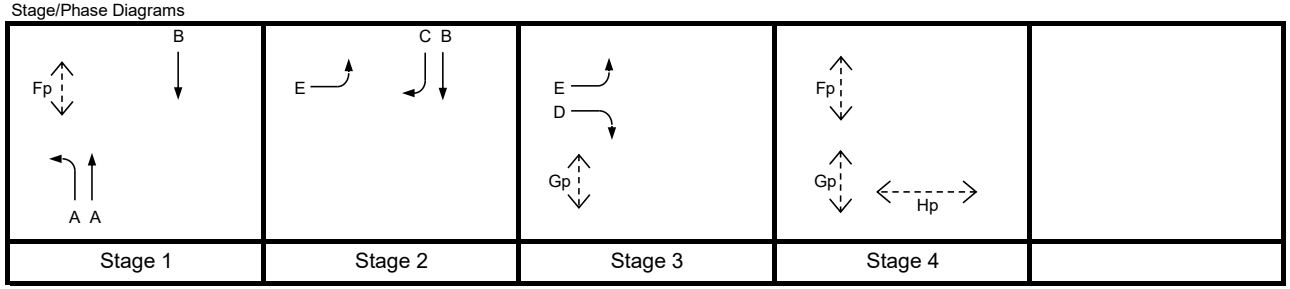
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.503	
Lost time	L =	38	sec
Total Flow	=	2,340	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	125	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	76	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	86	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 27%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	615			615	100%		1845	0.333	
D	D	3	3.790	1		17	0	0		0		2134			260	260		100%	1961	0.133	0.133
A	A	1	3.310	1	15			1		0		1946	250	42		292	85%		1793	0.163	0.163
A	A	1	4.060	1				0		0		2161		353		353			2161	0.163	
B	B	1,2	3.290	2				1		0		4028		440		440			4028	0.109	
C	C	2	3.290	1		11	0	0		0		2084			380	380		100%	1834	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

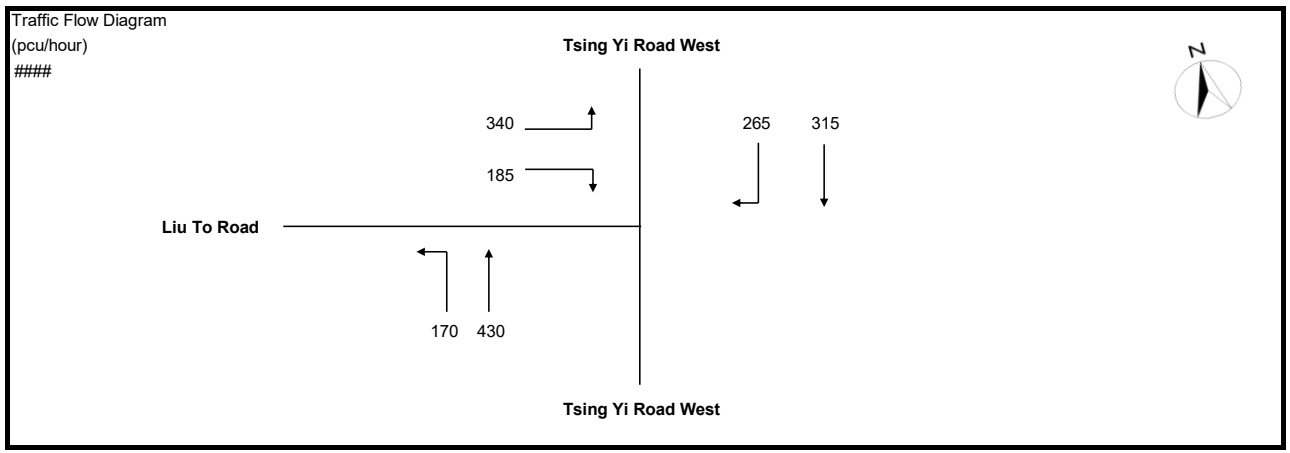
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

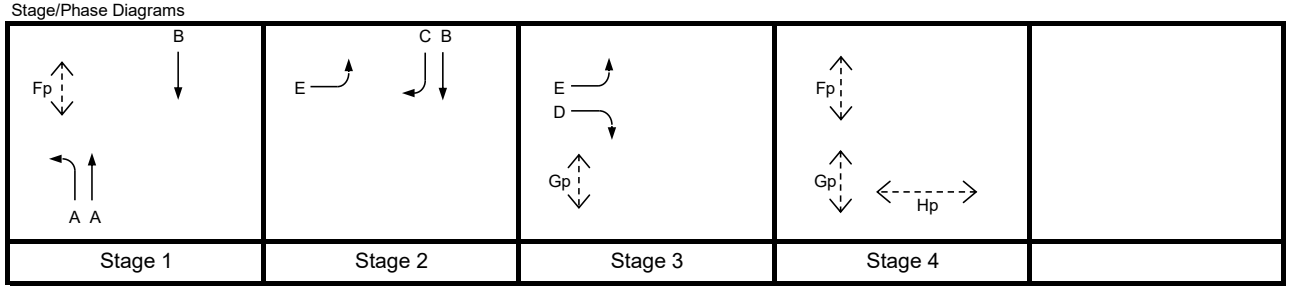
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.389	
Lost time	L =	38	sec
Total Flow	=	1,705	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	101	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	62	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	58.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	67	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



I/G = 7 I/G = 5 I/G = 11 G = 5 I/G = 11 2

Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 51%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	340			340	100%		1845	0.184	
D	D	3	3.790	1		17	0	0		0		2134			185	185		100%	1961	0.094	0.094
A	A	1	3.310	1	15			1		0		1946	170	105		275	62%		1833	0.150	0.150
A	A	1	4.060	1				0		0		2161		325		325			2161	0.150	
B	B	1,2	3.290	2				1		0		4028		315		315			4028	0.078	
C	C	2	3.290	1		11	0	0		0		2084			265	265		100%	1834	0.144	0.144
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

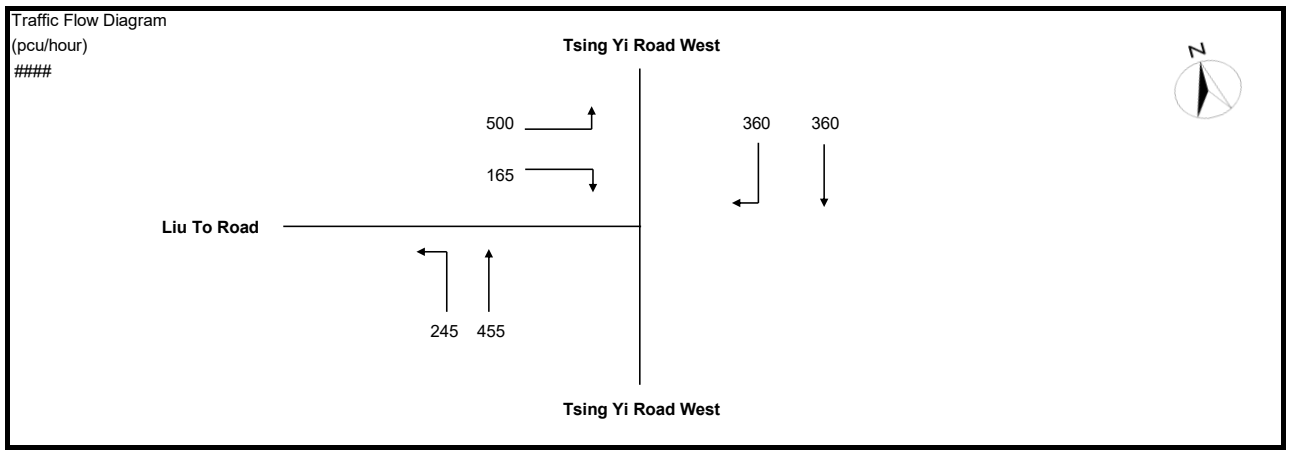
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

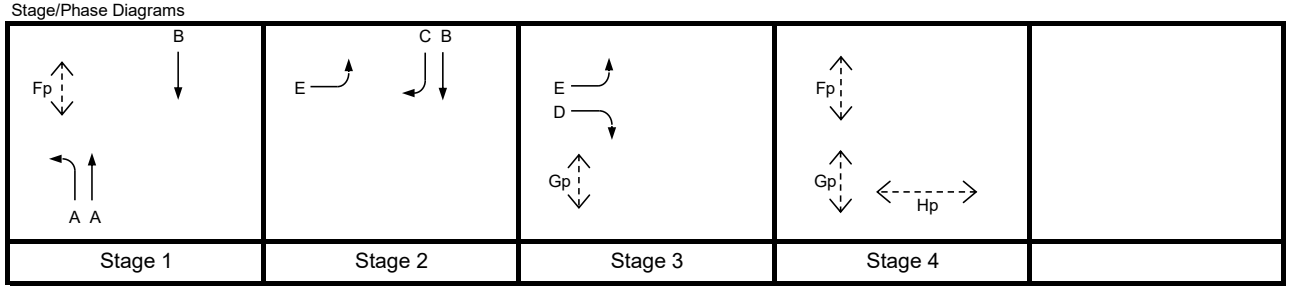
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.457	
Lost time	L =	38	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	114	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	70	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	34.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	77	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 29%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	500			500	100%		1845	0.271	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	245	74		319	77%		1807	0.176	0.176
A	A	1	4.060	1				0		0		2161		381		381			2161	0.176	
B	B	1,2	3.290	2				1		0		4028		360		360			4028	0.089	
C	C	2	3.290	1		11	0	0		0		2084			360	360		100%	1834	0.196	0.196
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

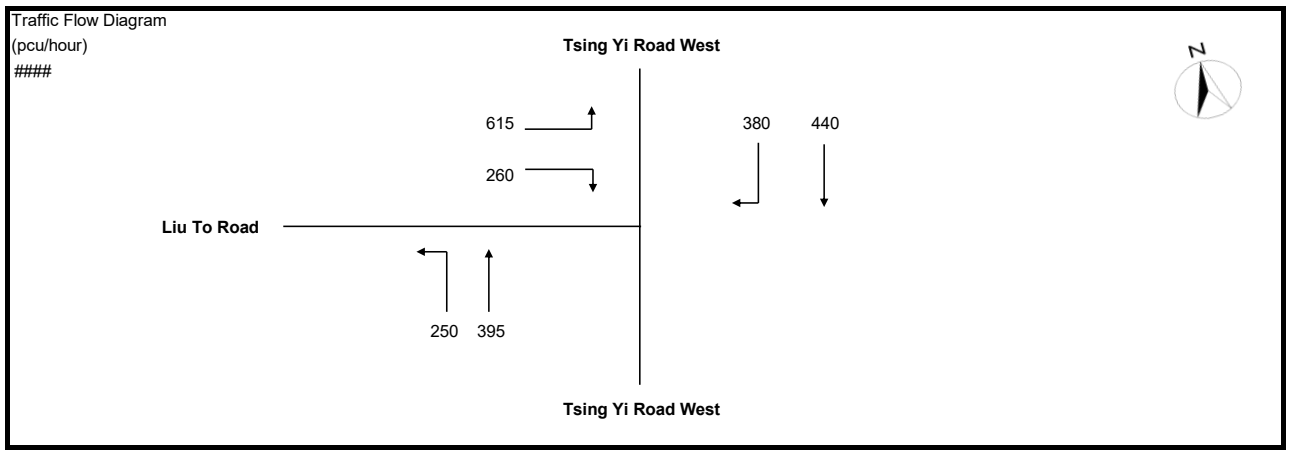
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

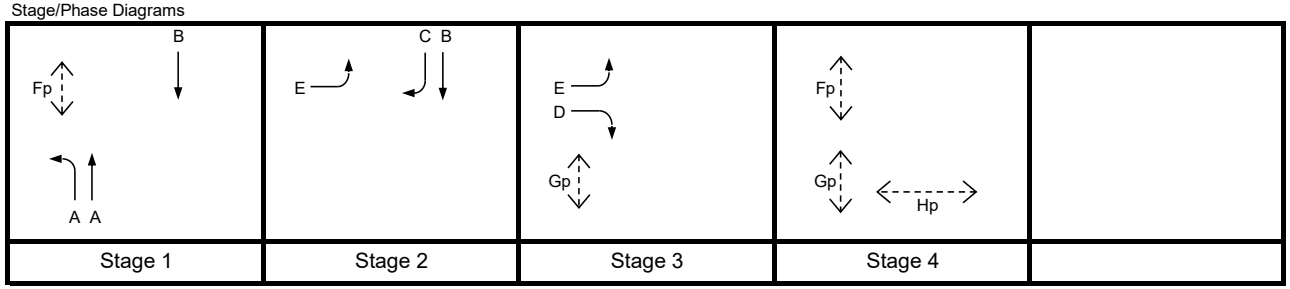
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.503	
Lost time	L =	38	sec
Total Flow	=	2,340	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	125	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	76	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	86	sec
Y_{max}	$= 1-L/C$	=	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 27%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	615			615	100%		1845	0.333	
D	D	3	3.790	1		17	0	0		0		2134			260	260		100%	1961	0.133	0.133
A	A	1	3.310	1	15			1		0		1946	250	42		292	85%		1793	0.163	0.163
A	A	1	4.060	1				0		0		2161		353		353			2161	0.163	
B	B	1,2	3.290	2				1		0		4028		440		440			4028	0.109	
C	C	2	3.290	1		11	0	0		0		2084			380	380		100%	1834	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

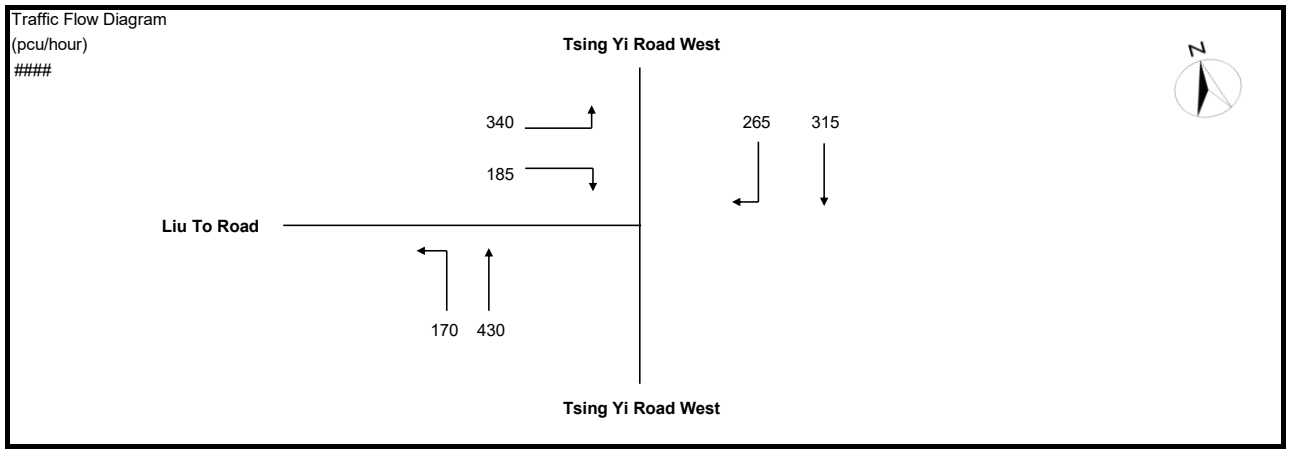
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

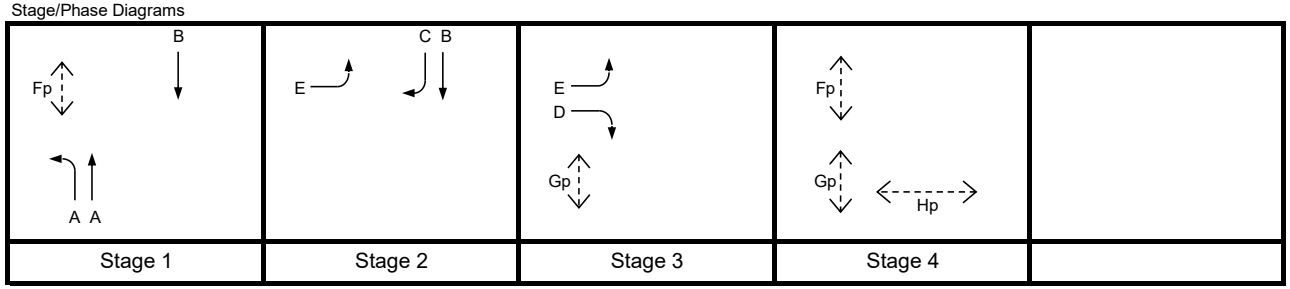
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.389	
Lost time	L =	38	sec
Total Flow	=	1,705	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	101	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	62	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	58.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	67	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 51%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	340			340	100%		1845	0.184	
D	D	3	3.790	1		17	0	0		0		2134			185	185		100%	1961	0.094	0.094
A	A	1	3.310	1	15			1		0		1946	170	105		275	62%		1833	0.150	0.150
A	A	1	4.060	1				0		0		2161		325		325			2161	0.150	
B	B	1,2	3.290	2				1		0		4028		315		315			4028	0.078	
C	C	2	3.290	1		11	0	0		0		2084			265	265		100%	1834	0.144	0.144
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

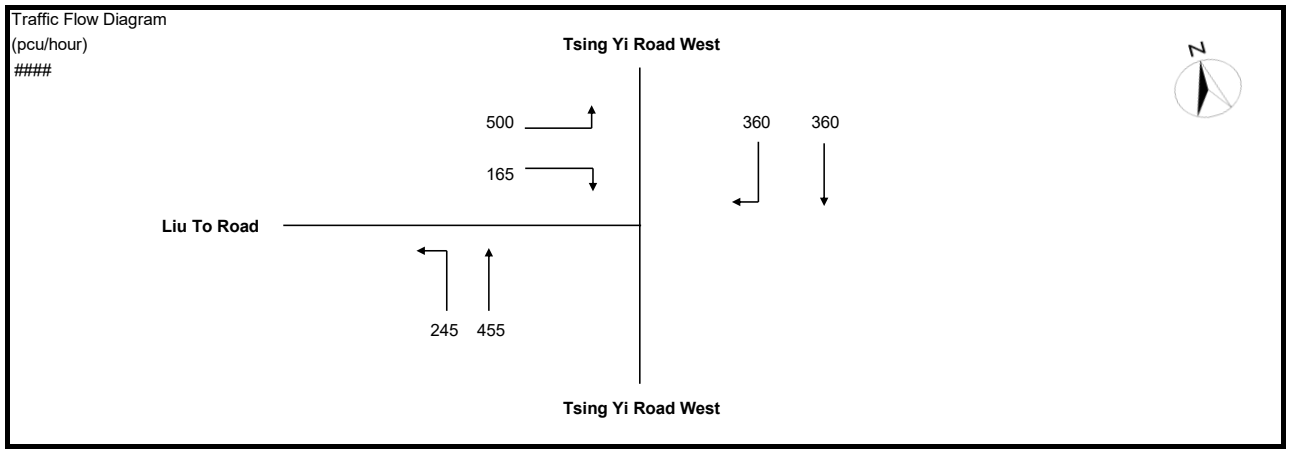
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

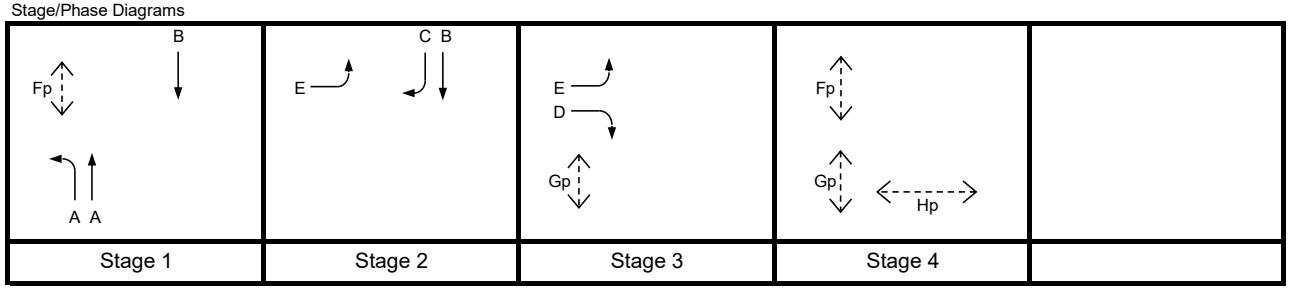
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.457	
Lost time	L =	38	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	114	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	70	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	34.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	77	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 29%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	500			500	100%		1845	0.271	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	245	74		319	77%		1807	0.176	0.176
A	A	1	4.060	1				0		0		2161		381		381			2161	0.176	
B	B	1,2	3.290	2				1		0		4028		360		360			4028	0.089	
C	C	2	3.290	1		11	0	0		0		2084			360	360		100%	1834	0.196	0.196
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

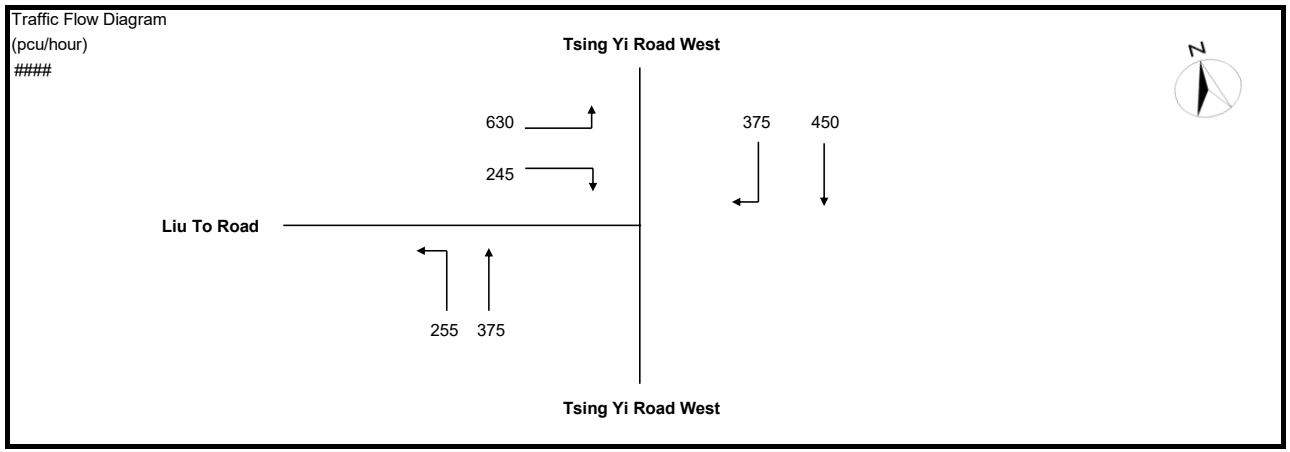
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

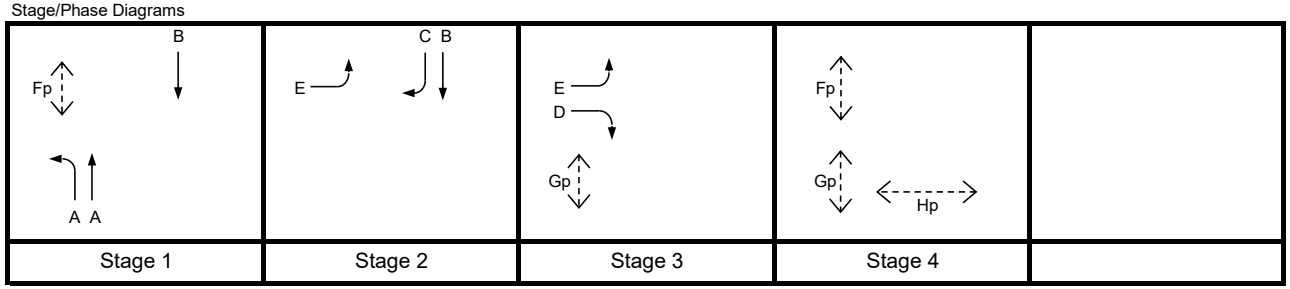
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.489	
Lost time	L =	38	sec
Total Flow	=	2,330	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	121	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	25.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	83	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	630			630	100%		1845	0.341	
D	D	3	3.790	1		17	0	0		0		2134			245	245		100%	1961	0.125	0.125
A	A	1	3.310	1	15			1		0		1946	255	30		285	89%		1786	0.160	0.160
A	A	1	4.060	1				0		0		2161		345		345			2161	0.160	
B	B	1,2	3.290	2				1		0		4028		450		450			4028	0.112	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

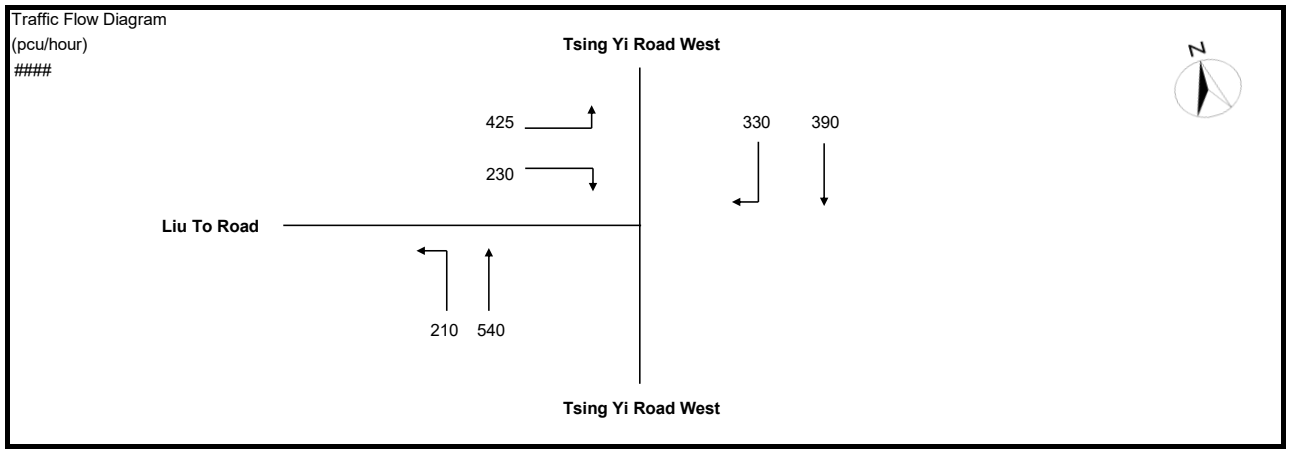
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

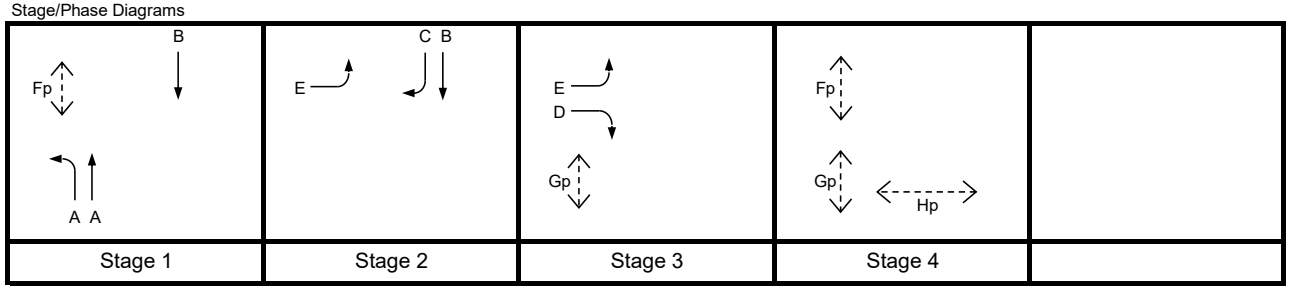
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.485	
Lost time	L =	38	sec
Total Flow	=	2,125	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	120	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	26.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	82	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 21%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	425			425	100%		1845	0.230	
D	D	3	3.790	1		17	0	0		0		2134			230	230		100%	1961	0.117	0.117
A	A	1	3.310	1	15			1		0		1946	210	134		344	61%		1834	0.188	
A	A	1	4.060	1				0		0		2161		406		406			2161	0.188	0.188
B	B	1,2	3.290	2				1		0		4028		390		390			4028	0.097	
C	C	2	3.290	1		11	0	0		0		2084			330	330		100%	1834	0.180	0.180
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

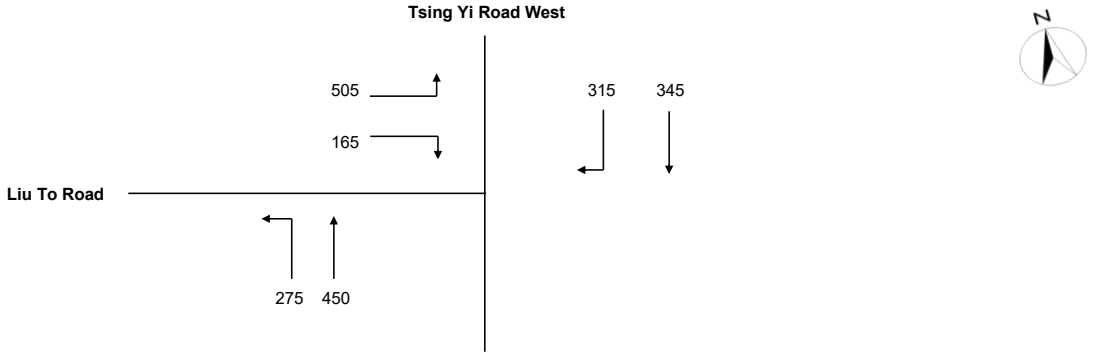
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

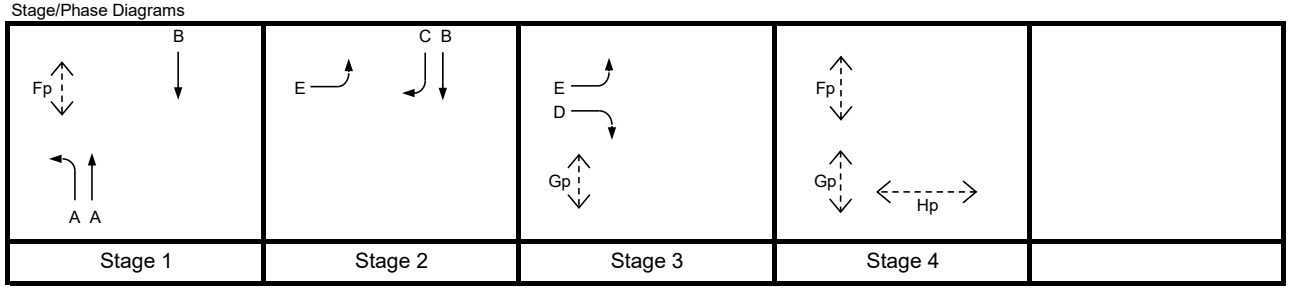
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.439	
Lost time	L =	38	sec
Total Flow	=	2,055	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	111	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	40.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	74	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 34%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	505			505	100%		1845	0.274	
D	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	A	1	3.310	1	15			1		0		1946	275	54		329	84%		1796	0.183	0.183
A	A	1	4.060	1				0		0		2161		396		396			2161	0.183	
B	B	1,2	3.290	2				1		0		4028		345		345			4028	0.086	
C	C	2	3.290	1		11	0	0		0		2084			315	315		100%	1834	0.172	0.172
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

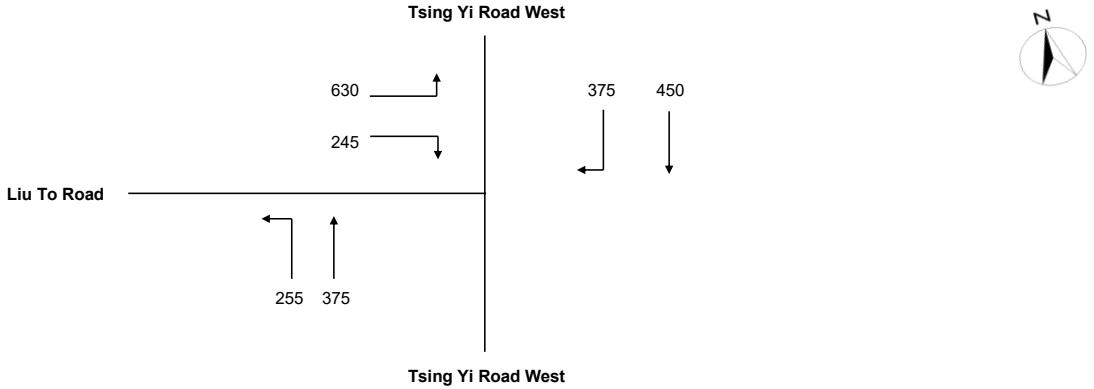
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

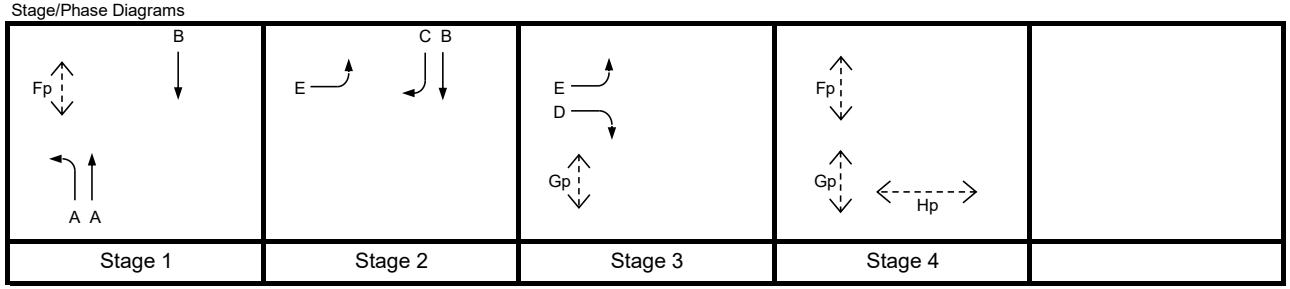
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.489	
Lost time	L =	38	sec
Total Flow	=	2,330	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	121	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	25.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	83	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	630			630	100%		1845	0.341	
D	D	3	3.790	1		17	0	0		0		2134			245	245		100%	1961	0.125	0.125
A	A	1	3.310	1	15			1		0		1946	255	30		285	89%		1786	0.160	0.160
A	A	1	4.060	1				0		0		2161		345		345			2161	0.160	
B	B	1,2	3.290	2				1		0		4028		450		450			4028	0.112	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

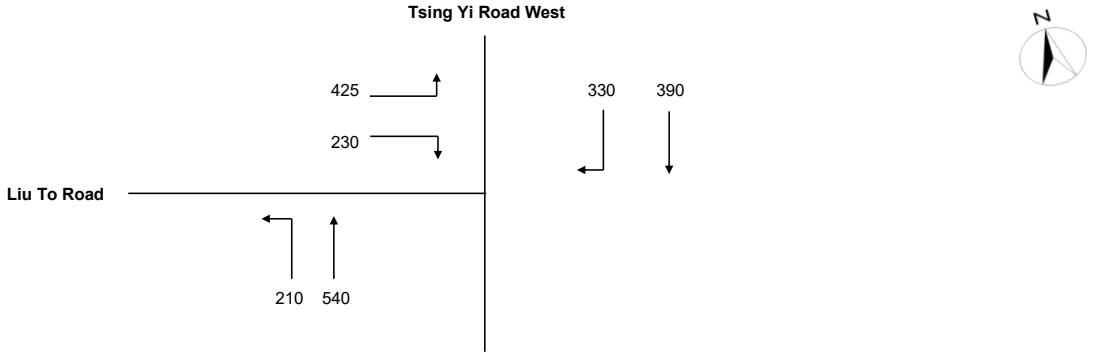
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

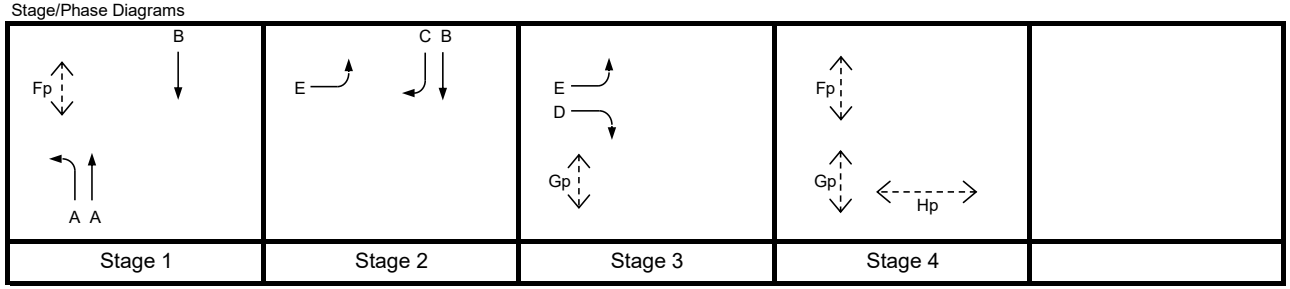
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.485	
Lost time	L =	38	sec
Total Flow	=	2,125	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	120	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	26.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	82	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 21%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	E	2,3	3.840	1	18			1		0		1999	425			425	100%		1845	0.230	
	D	3	3.790	1		17	0	0		0		2134			230	230		100%	1961	0.117	0.117
	A	1	3.310	1	15			1		0		1946	210	134		344	61%		1834	0.188	
	A	1	4.060	1				0		0		2161		406		406			2161	0.188	0.188
	B	1,2	3.290	2				1		0		4028		390		390			4028	0.097	
	C	2	3.290	1		11	0	0		0		2084			330	330		100%	1834	0.180	0.180
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

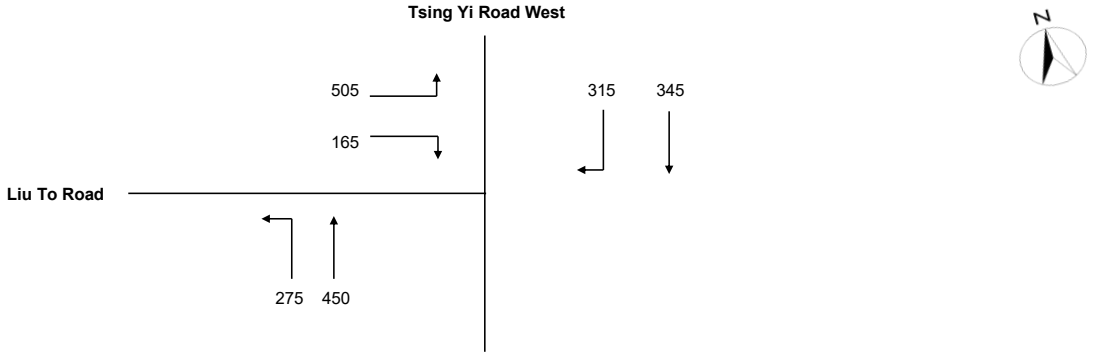
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

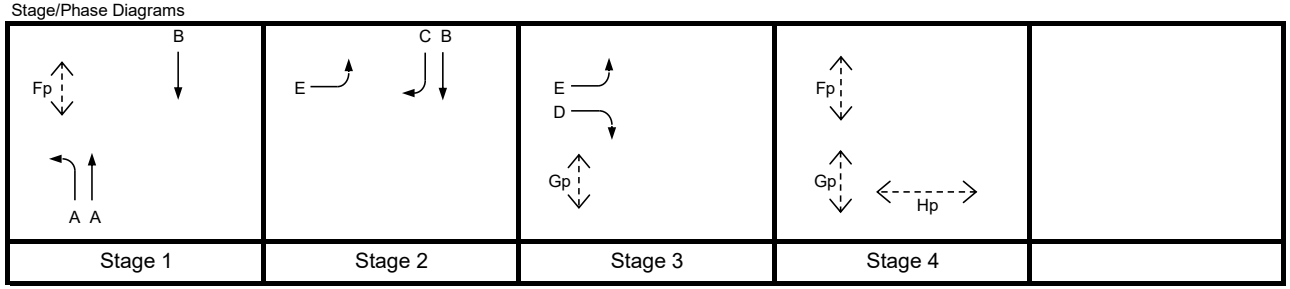
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.439	
Lost time	L =	38	sec
Total Flow	=	2,055	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	111	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	40.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	74	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 34%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	E	2,3	3.840	1	18			1		0		1999	505			505	100%		1845	0.274	
	D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
	A	1	3.310	1	15			1		0		1946	275	54		329	84%		1796	0.183	0.183
	A	1	4.060	1				0		0		2161		396		396			2161	0.183	
	B	1,2	3.290	2				1		0		4028		345		345			4028	0.086	
	C	2	3.290	1		11	0	0		0		2084			315	315		100%	1834	0.172	0.172
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

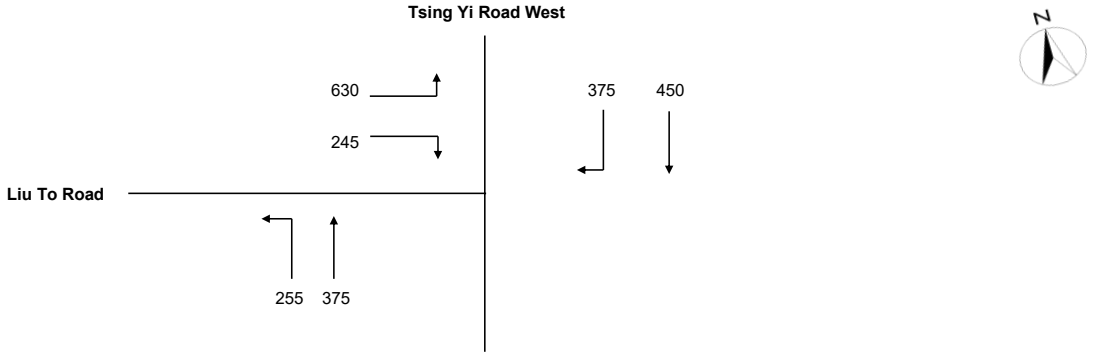
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

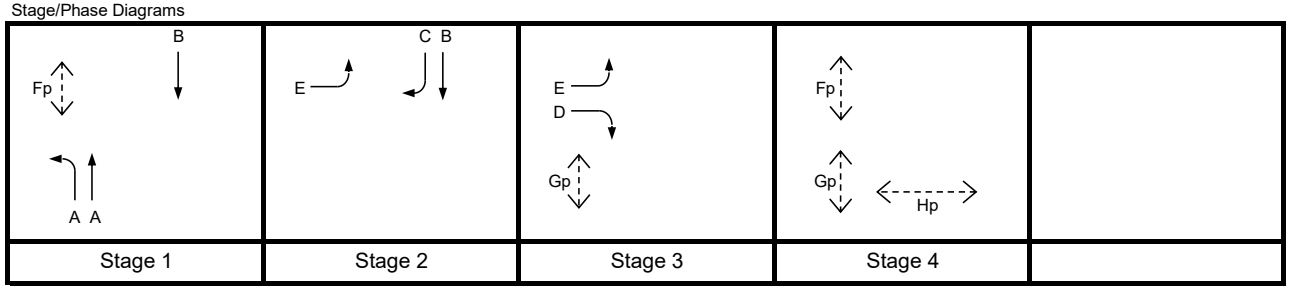
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	130	sec
Sum(y)	Y =	0.489	
Lost time	L =	38	sec
Total Flow	=	2,330	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	121	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	25.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	83	sec
Y_{max}	$= 1-L/C$ =	0.708	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 30%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	630			630	100%		1845	0.341	
D	D	3	3.790	1		17	0	0		0		2134			245	245		100%	1961	0.125	0.125
A	A	1	3.310	1	15			1		0		1946	255	30		285	89%		1786	0.160	0.160
A	A	1	4.060	1				0		0		2161		345		345			2161	0.160	
B	B	1,2	3.290	2				1		0		4028		450		450			4028	0.112	
C	C	2	3.290	1		11	0	0		0		2084			375	375		100%	1834	0.204	0.204
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

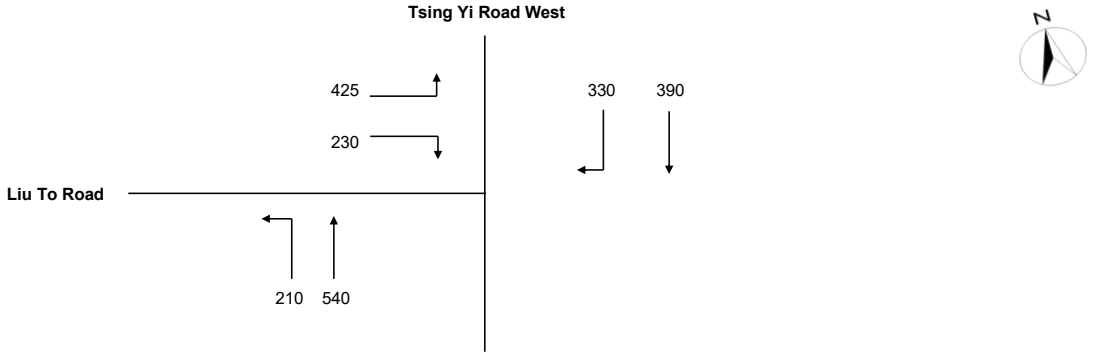
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

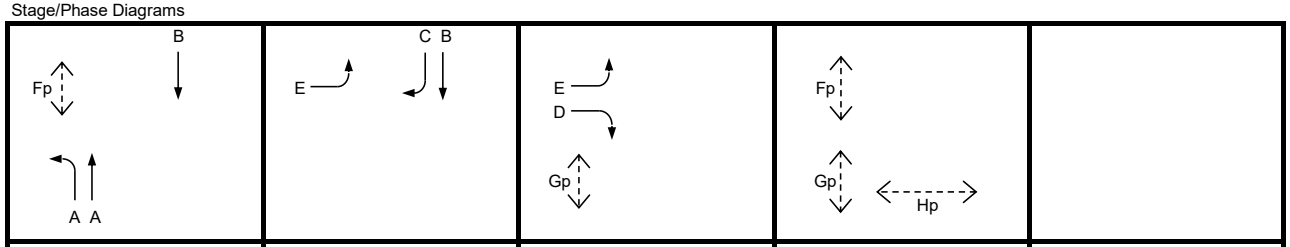
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.485	
Lost time	L =	38	sec
Total Flow	=	2,125	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	120	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	74	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.615	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	26.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	82	sec
Y_{max}	$= 1-L/C$	=	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 21%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	E	2,3	3.840	1	18			1		0		1999	425			425	100%		1845	0.230	
D	D	3	3.790	1		17	0	0		0		2134			230	230		100%	1961	0.117	0.117
A	A	1	3.310	1	15			1		0		1946	210	134		344	61%		1834	0.188	
A	A	1	4.060	1				0		0		2161		406		406			2161	0.188	0.188
B	B	1,2	3.290	2				1		0		4028		390		390			4028	0.097	
C	C	2	3.290	1		11	0	0		0		2084			330	330		100%	1834	0.180	0.180
Pedestrain Crossing				GM		FGM		Total													
	Fp	1,4	min.	5	+	9	=	14	sec												
	Gp	3,4	min.	5	+	13	=	18	sec												
	Hp	4	min.	5	+	8	=	13	sec												*

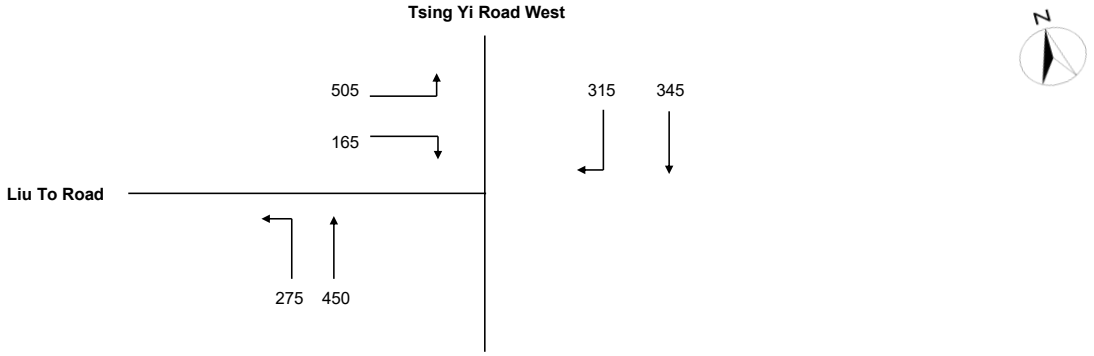
JUNCTION CAPACITY CALCULATION

AECOM

Junction J7 - Liu To Road / Tsing Yi Road West	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J7

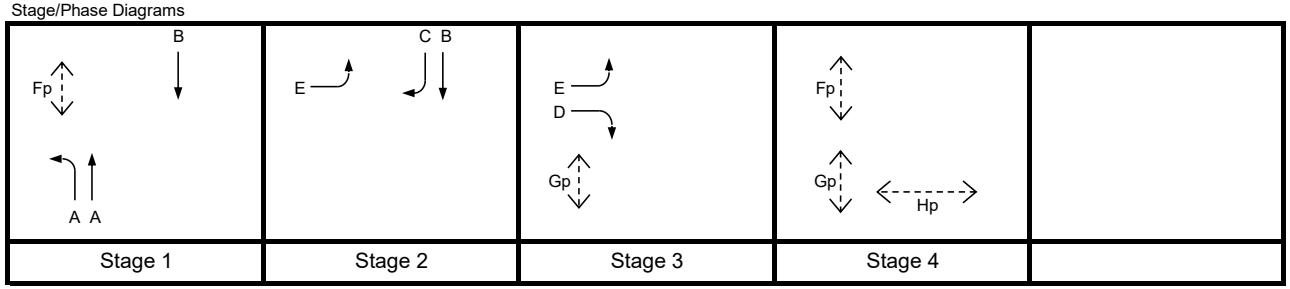
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.439	
Lost time	L =	38	sec
Total Flow	=	2,055	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	111	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.615	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	40.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	74	sec
Y_{max}	$= 1-L/C$ =	0.655	

Stage/Phase Diagrams



Critical Case : A,C,D,Hp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 34%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
E	2,3	3.840	1	18		1			0		1999	505			505	100%		1845	0.274	
D	3	3.790	1		17	0	0		0		2134			165	165		100%	1961	0.084	0.084
A	1	3.310	1	15			1		0		1946	275	54		329	84%		1796	0.183	0.183
A	1	4.060	1				0		0		2161		396		396			2161	0.183	
B	1,2	3.290	2				1		0		4028		345		345			4028	0.086	
C	2	3.290	1		11	0	0		0		2084			315	315		100%	1834	0.172	0.172
Pedestrain Crossing				GM		FGM		Total												
	Fp	1,4	min.	5	+	9	=	14	sec											
	Gp	3,4	min.	5	+	13	=	18	sec											
	Hp	4	min.	5	+	8	=	13	sec											*

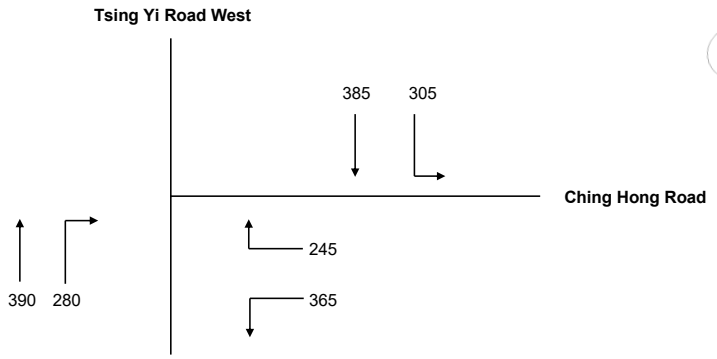
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

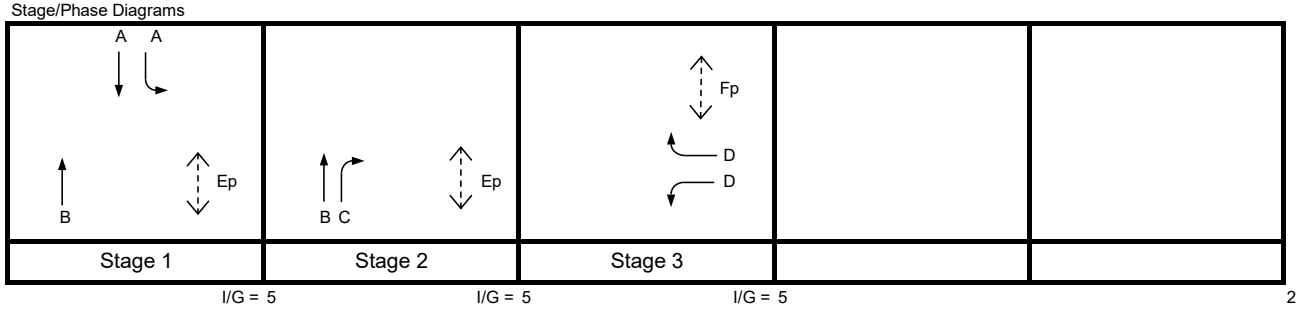
J8

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle		N = 3	
Cycle time		C = 130	sec
Sum(y)		Y = 0.476	
Lost time		L = 14	sec
Total Flow		= 1,970	pcu
Optimum Cycle C_o	= (1.5×L+5)/(1-Y)	= 50	sec
Min. Cycle Time C_m	= L/(1-Y)	= 27	sec
Y_{ult}	= 0.9-0.0075×L	= 0.795	
R.C.$_{ult}$	= (Y_{ult}-Y)/Yx100%	= 67.0	%
Practical Cycle Time C_p	= 0.9×L/(0.9-Y)	= 30	sec
Y_{max}	= 1-L/C	= 0.892	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) = (0.9xY_{max}-Y)/Yx100% = 69%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		390		390			4072	0.096	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	294			294	100%		1795	0.164	
	D	3	3.380	1	17	18	0	0		0		2093	71		245	316	22%	78%	1930	0.164	0.164
	A	1	3.690	1	13			1		0		1984	305			305	100%		1779	0.171	0.171
	A	1	3.745	2				0		0		4259		385		385			4259	0.090	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

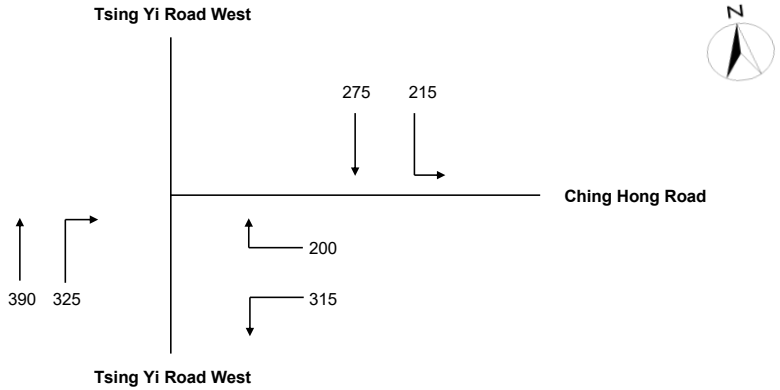
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

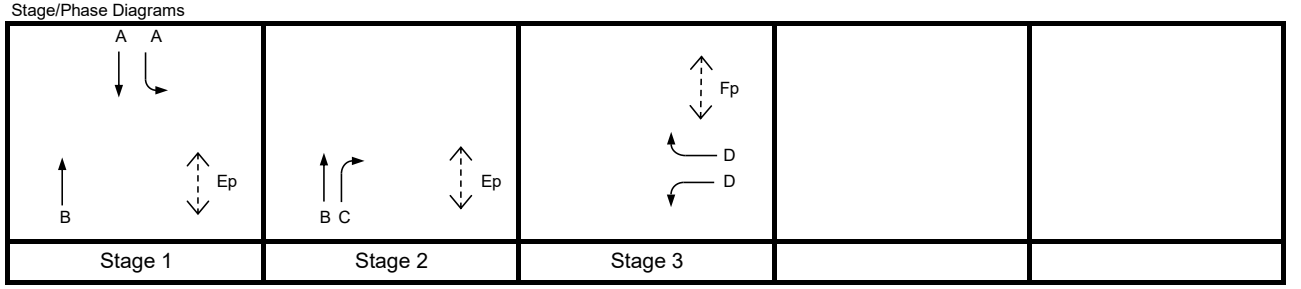
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.423	
Lost time	L =	14	sec
Total Flow	=	1,720	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	45	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	88.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 86%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		390		390			4072	0.096	
	C	2	3.700	1		22	0	0		0		2125			325	325		100%	1989	0.163	0.163
	D	3	3.380	1	17			1		0		1953	248			248	100%		1795	0.138	0.138
	D	3	3.380	1	17	18	0	0		0		2093	67		200	267	25%	75%	1930	0.138	
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		275		275			4259	0.065	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

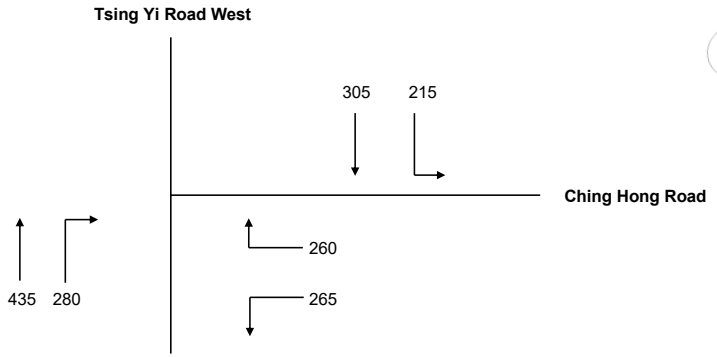
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

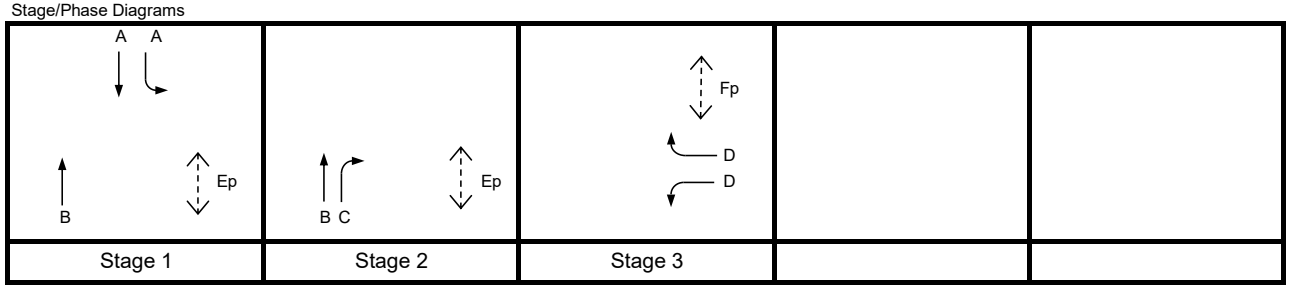
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.403	
Lost time	L =	14	sec
Total Flow	=	1,760	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	97.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	25	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 95%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	253			253	100%		1795	0.141	
	D	3	3.380	1	17	18	0	0		0		2093	12		260	272	4%	96%	1932	0.141	0.141
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		305		305			4259	0.072	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

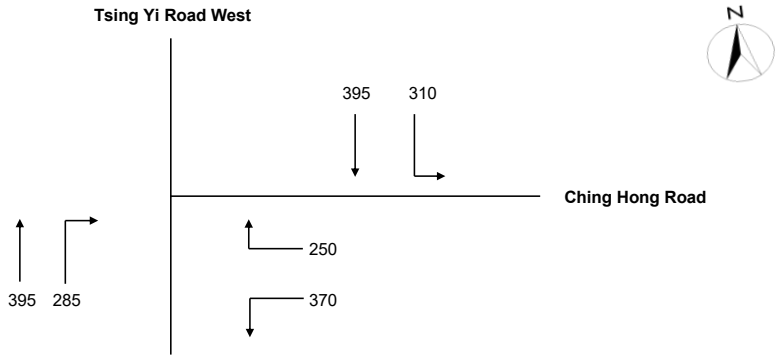
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

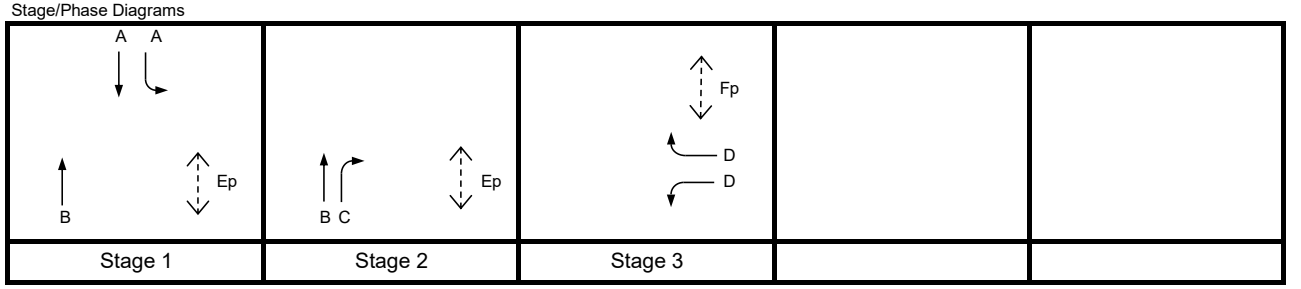
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.484	
Lost time	L =	14	sec
Total Flow	=	2,005	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	50	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	64.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	30	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 66%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	299			299	100%		1795	0.166	0.166
	D	3	3.380	1	17	18	0	0		0		2093	71		250	321	22%	78%	1930	0.166	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		395		395			4259	0.093	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

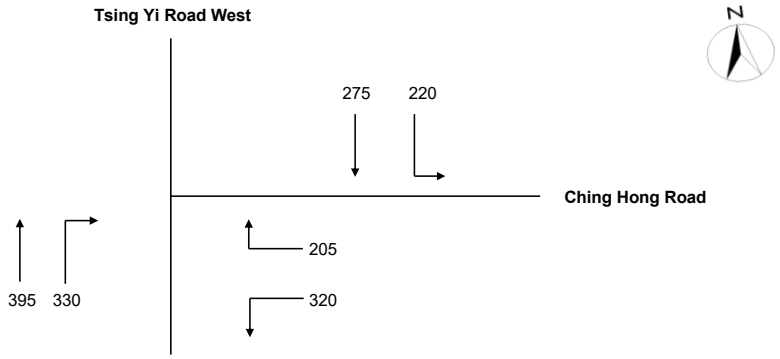
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

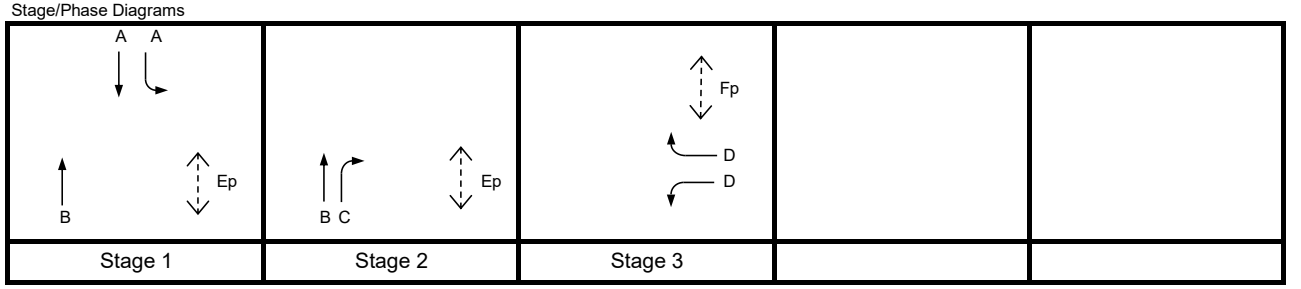
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	14	sec
Total Flow	=	1,745	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	46	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	84.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

$R.C._{(C)} = (0.9xY_{max}-Y)/Yx100\% =$ 82%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			330	330		100%	1989	0.166	0.166
	D	3	3.380	1	17			1		0		1953	253			253	100%		1795	0.141	
	D	3	3.380	1	17	18	0	0		0		2093	67		205	272	25%	75%	1930	0.141	0.141
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		275		275			4259	0.065	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

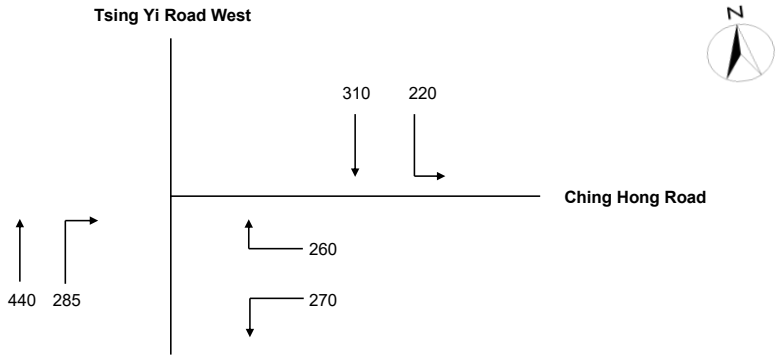
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

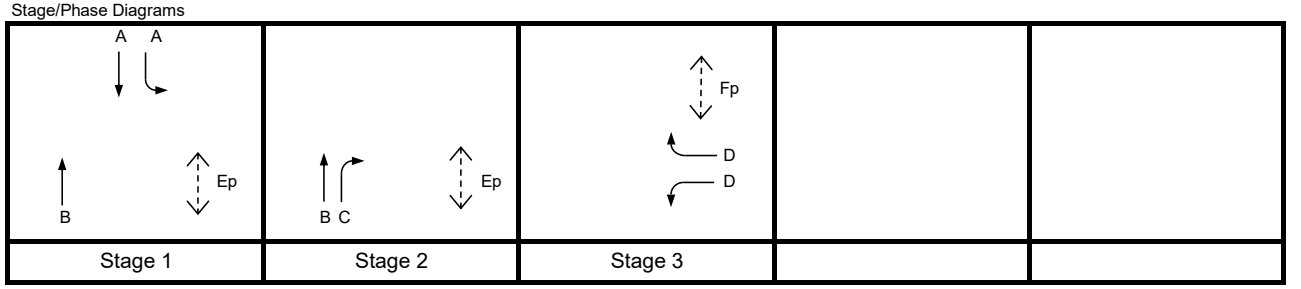
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.409	
Lost time	L =	14	sec
Total Flow	=	1,785	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	94.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 92%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		440		440			4072	0.108	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	255			255	100%		1795	0.142	
	D	3	3.380	1	17	18	0	0		0		2093	15		260	275	5%	95%	1932	0.142	0.142
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		310		310			4259	0.073	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

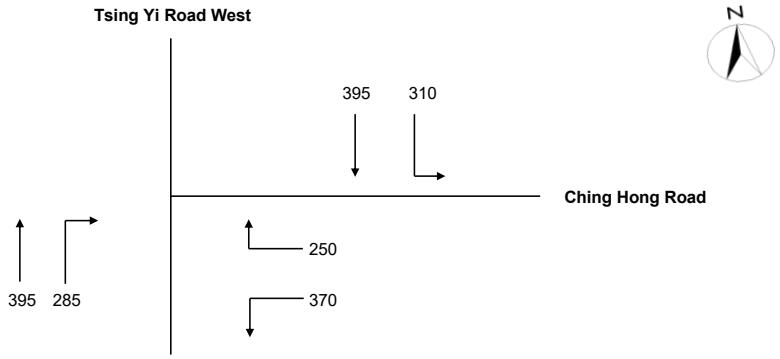
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

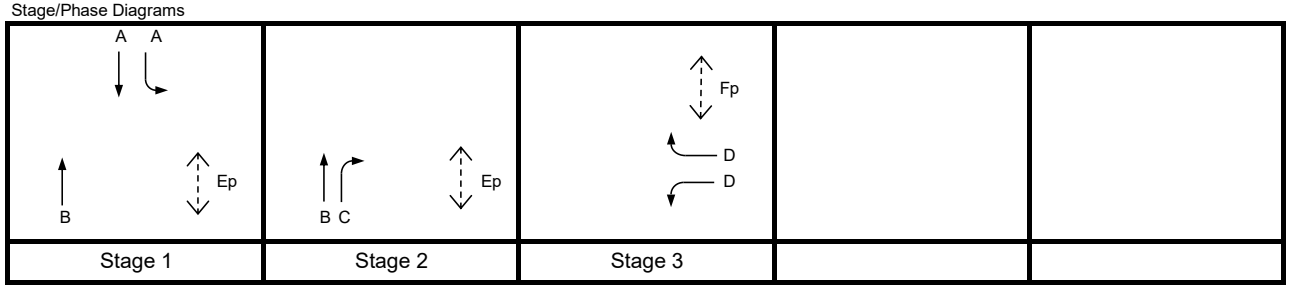
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.484	
Lost time	L =	14	sec
Total Flow	=	2,005	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	50	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	64.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	30	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 66%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	299			299	100%		1795	0.166	0.166
	D	3	3.380	1	17	18	0	0		0		2093	71		250	321	22%	78%	1930	0.166	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		395		395			4259	0.093	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

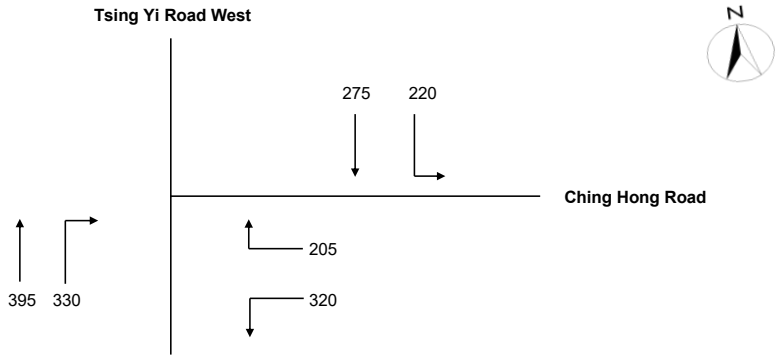
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

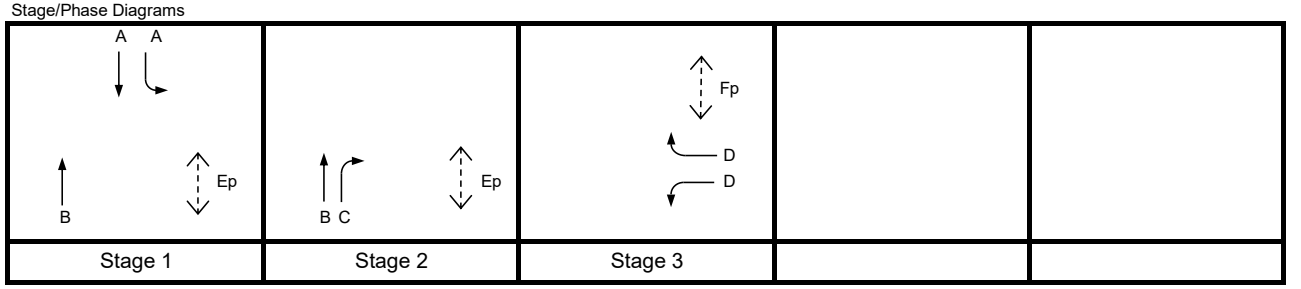
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	14	sec
Total Flow	=	1,745	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	46	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	84.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	27	sec
Y_{max}	$= 1-L/C$	=	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 82%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		395		395			4072	0.097	
	C	2	3.700	1		22	0	0		0		2125			330	330		100%	1989	0.166	0.166
	D	3	3.380	1	17			1		0		1953	253			253	100%		1795	0.141	
	D	3	3.380	1	17	18	0	0		0		2093	67		205	272	25%	75%	1930	0.141	0.141
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		275		275			4259	0.065	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

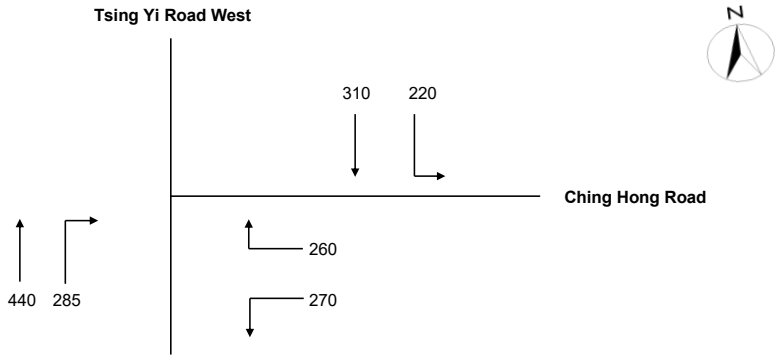
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

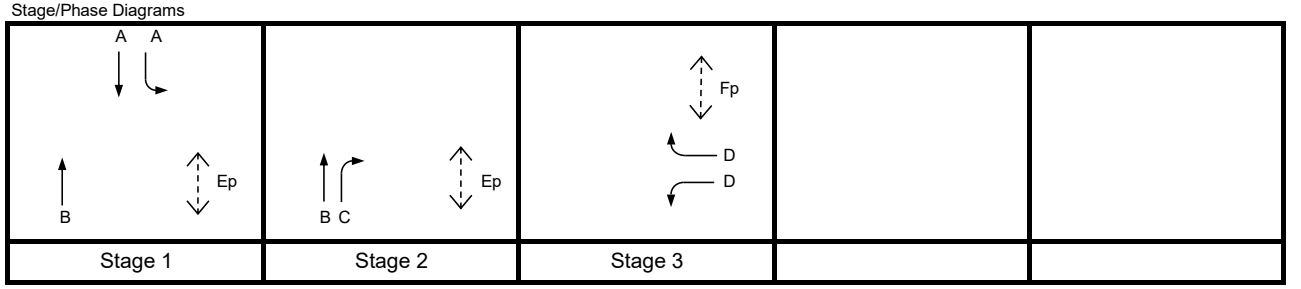
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.409	
Lost time	L =	14	sec
Total Flow	=	1,785	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	94.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 92%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		440		440			4072	0.108	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	255			255	100%		1795	0.142	
	D	3	3.380	1	17	18	0	0		0		2093	15		260	275	5%	95%	1932	0.142	0.142
	A	1	3.690	1	13			1		0		1984	220			220	100%		1779	0.124	0.124
	A	1	3.745	2				0		0		4259		310		310			4259	0.073	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

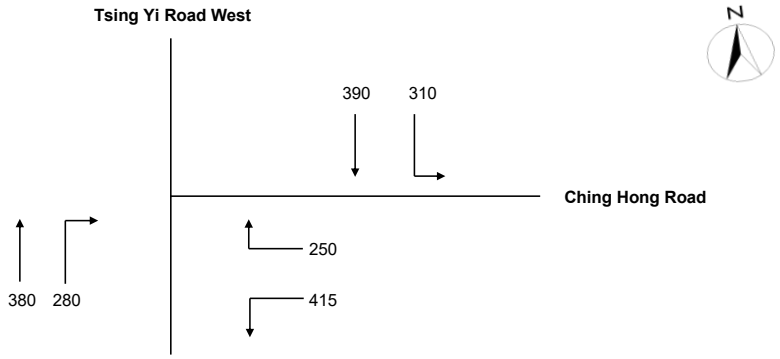
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

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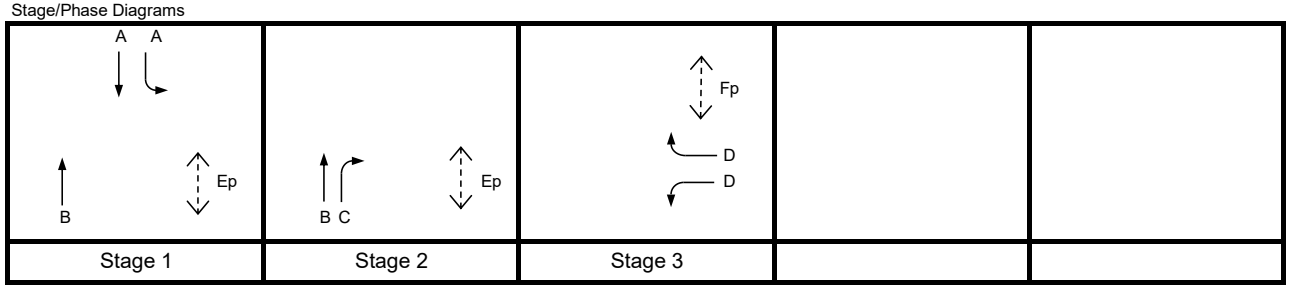
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.494	
Lost time	L =	14	sec
Total Flow	=	2,025	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	61.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 63%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		380		380			4072	0.093	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	320			320	100%		1795	0.179	0.179
	D	3	3.380	1	17	18	0	0		0		2093	95		250	345	27%	73%	1930	0.179	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		390		390			4259	0.092	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

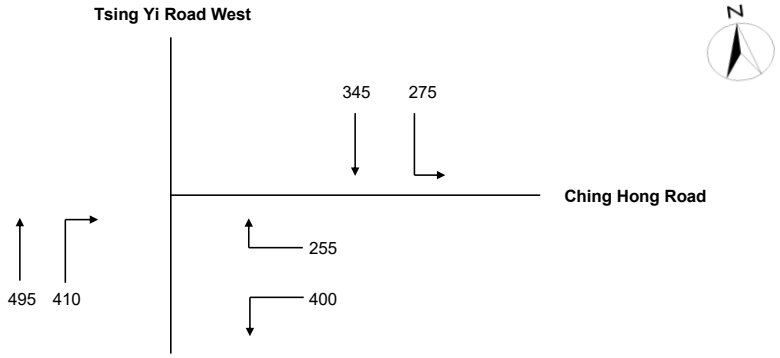
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

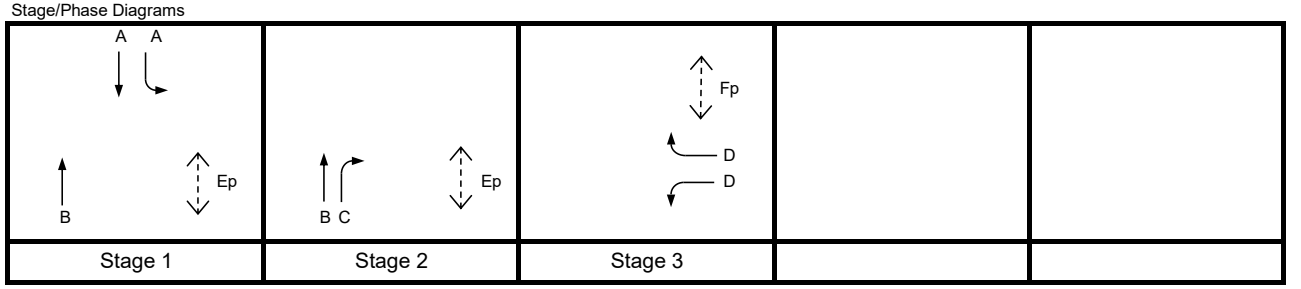
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.537	
Lost time	L =	14	sec
Total Flow	=	2,180	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	56	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	30	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	48.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	35	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		495		495			4072	0.122	
	C	2	3.700	1		22	0	0		0		2125			410	410		100%	1989	0.206	0.206
	D	3	3.380	1	17			1		0		1953	316			316	100%		1795	0.176	
	D	3	3.380	1	17	18	0	0		0		2093	84		255	339	25%	75%	1930	0.176	0.176
	A	1	3.690	1	13			1		0		1984	275			275	100%		1779	0.155	0.155
	A	1	3.745	2				0		0		4259		345		345			4259	0.081	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

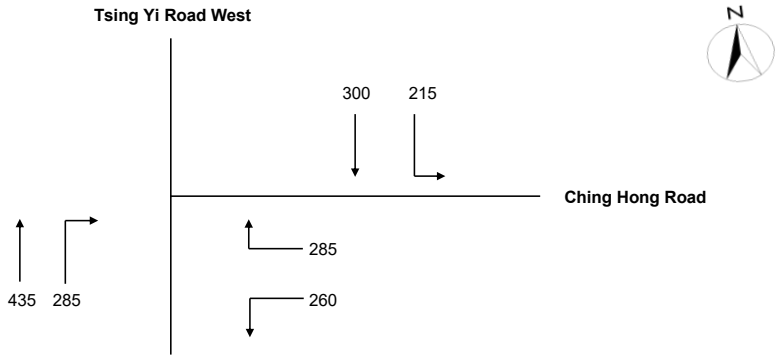
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

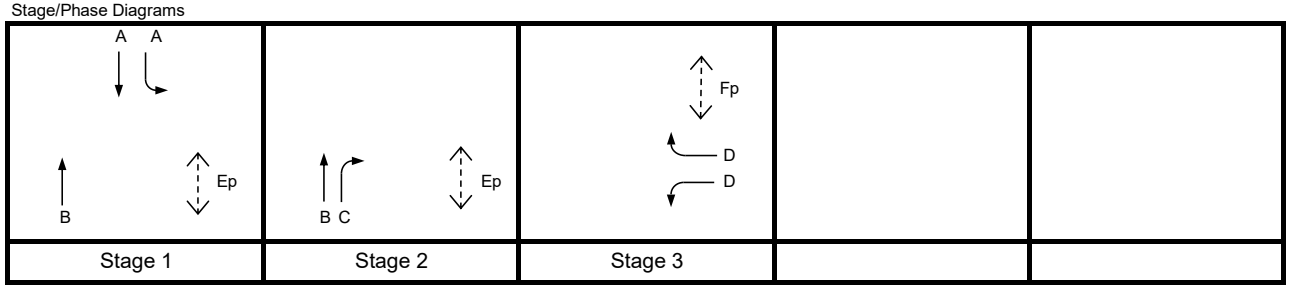
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.412	
Lost time	L =	14	sec
Total Flow	=	1,780	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	93.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	260			260	100%		1795	0.145	
	D	3	3.380	1	17	18	0	0		0		2093	0		285	285	0%	100%	1932	0.148	0.148
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		300		300			4259	0.070	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

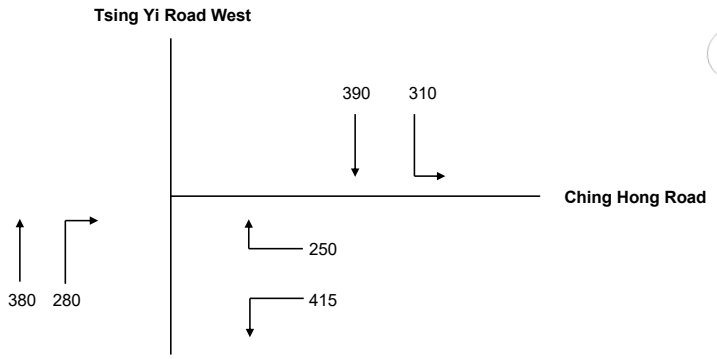
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

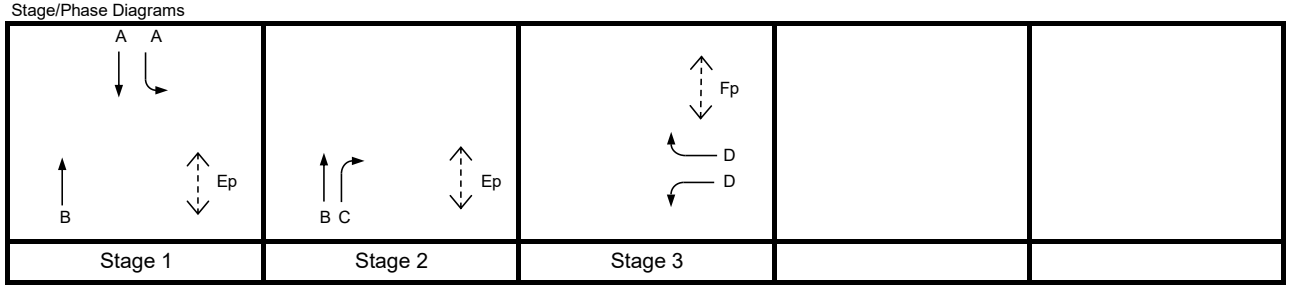
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.494	
Lost time	L =	14	sec
Total Flow	=	2,025	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	61.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	31	sec
Y_{max}	$= 1-L/C$	=	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 63%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		380		380			4072	0.093	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	320			320	100%		1795	0.179	0.179
	D	3	3.380	1	17	18	0	0		0		2093	95		250	345	27%	73%	1930	0.179	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		390		390			4259	0.092	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

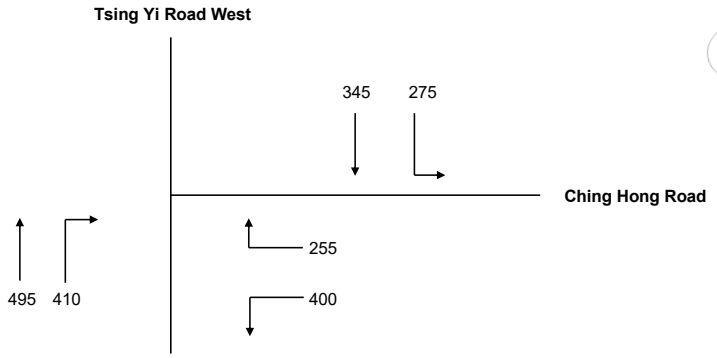
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

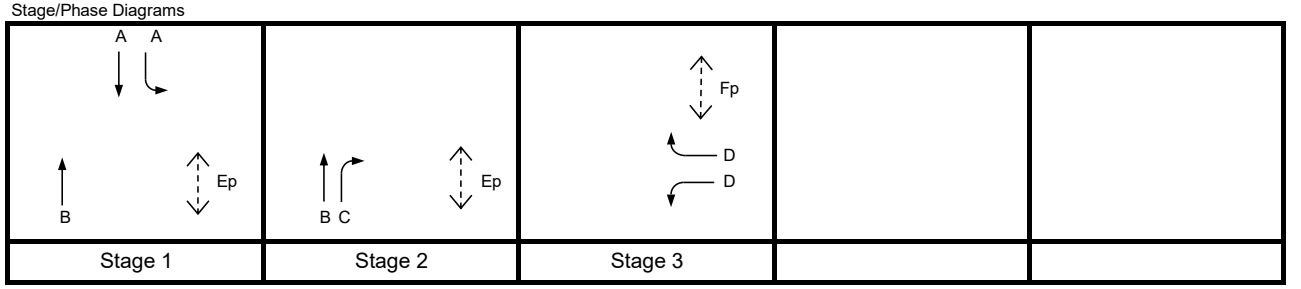
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.537	
Lost time	L =	14	sec
Total Flow	=	2,180	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	56	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	30	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	48.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	35	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		495		495			4072	0.122	
	C	2	3.700	1		22	0	0		0		2125			410	410		100%	1989	0.206	0.206
	D	3	3.380	1	17			1		0		1953	316			316	100%		1795	0.176	
	D	3	3.380	1	17	18	0	0		0		2093	84		255	339	25%	75%	1930	0.176	0.176
	A	1	3.690	1	13			1		0		1984	275			275	100%		1779	0.155	0.155
	A	1	3.745	2				0		0		4259		345		345			4259	0.081	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

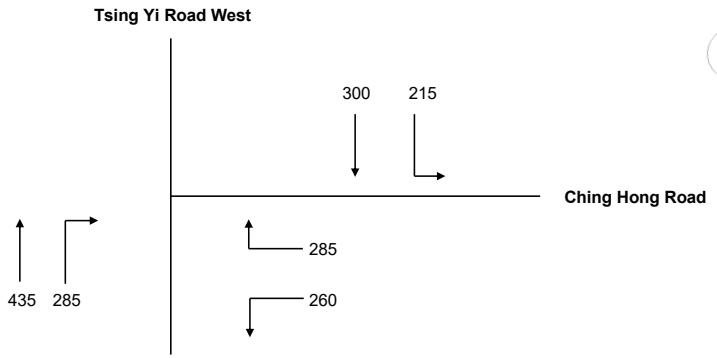
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

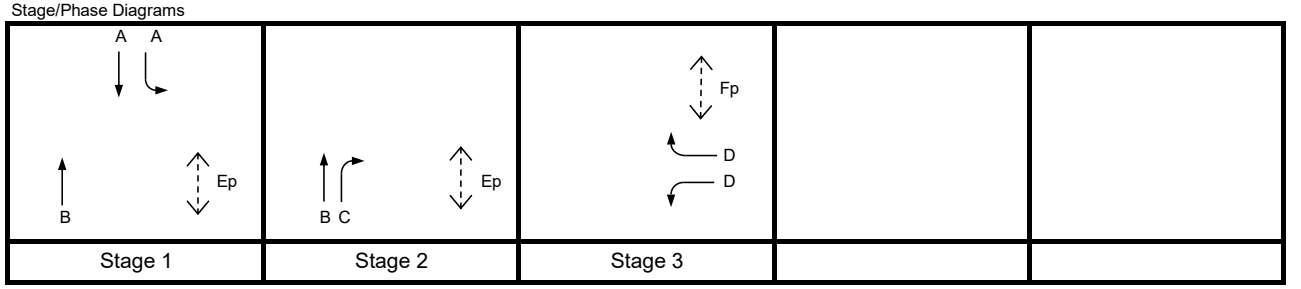
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.412	
Lost time	L =	14	sec
Total Flow	=	1,780	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	93.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	260			260	100%		1795	0.145	
	D	3	3.380	1	17	18	0	0		0		2093	0		285	285	0%	100%	1932	0.148	0.148
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		300		300			4259	0.070	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

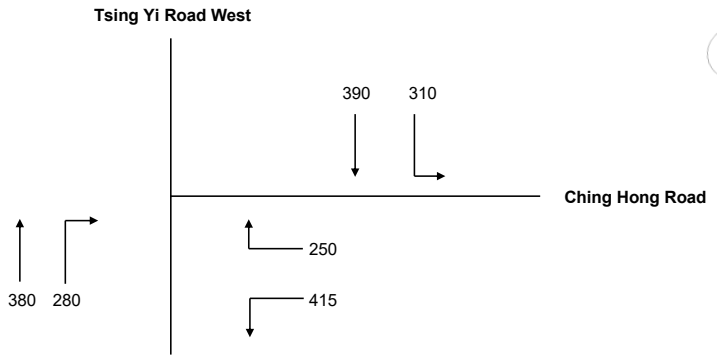
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

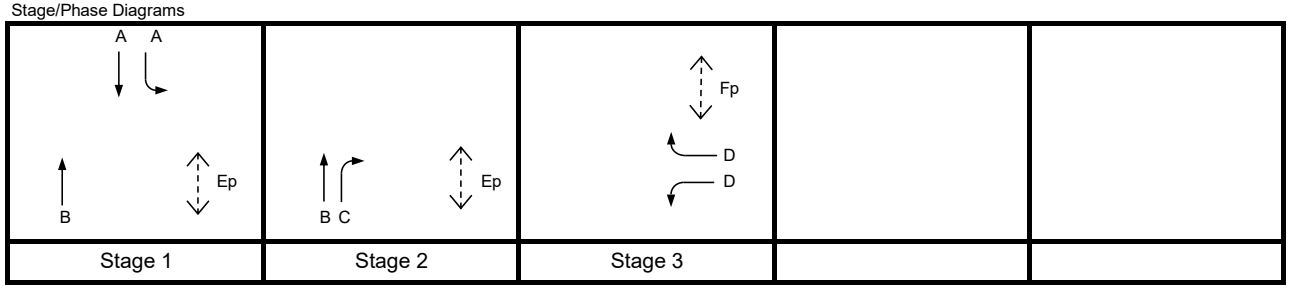
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	130	sec
Sum(y)	Y =	0.494	
Lost time	L =	14	sec
Total Flow	=	2,025	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	28	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	61.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.892	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 63%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		380		380			4072	0.093	
	C	2	3.700	1		22	0	0		0		2125			280	280		100%	1989	0.141	0.141
	D	3	3.380	1	17			1		0		1953	320			320	100%		1795	0.179	0.179
	D	3	3.380	1	17	18	0	0		0		2093	95		250	345	27%	73%	1930	0.179	
	A	1	3.690	1	13			1		0		1984	310			310	100%		1779	0.174	0.174
	A	1	3.745	2				0		0		4259		390		390			4259	0.092	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

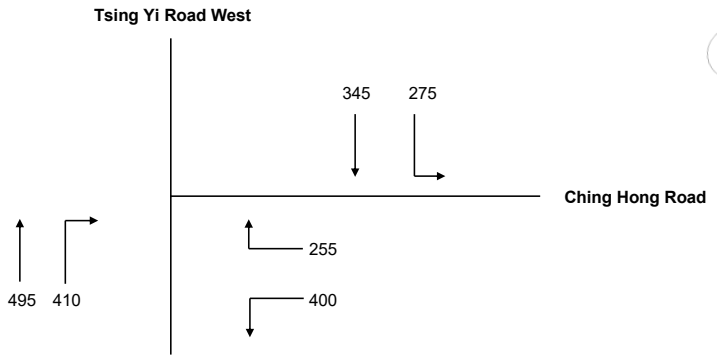
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

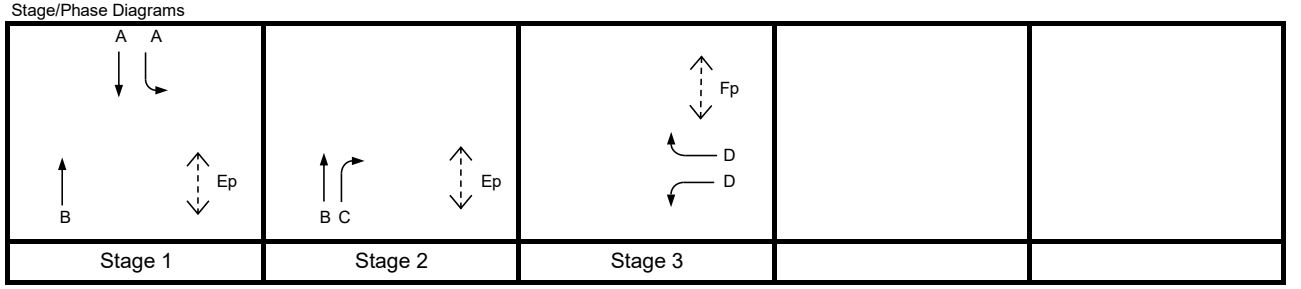
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.537	
Lost time	L =	14	sec
Total Flow	=	2,180	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	56	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	30	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	48.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	35	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		495		495			4072	0.122	
	C	2	3.700	1		22	0	0		0		2125			410	410		100%	1989	0.206	0.206
	D	3	3.380	1	17			1		0		1953	316			316	100%		1795	0.176	
	D	3	3.380	1	17	18	0	0		0		2093	84		255	339	25%	75%	1930	0.176	0.176
	A	1	3.690	1	13			1		0		1984	275			275	100%		1779	0.155	0.155
	A	1	3.745	2				0		0		4259		345		345			4259	0.081	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

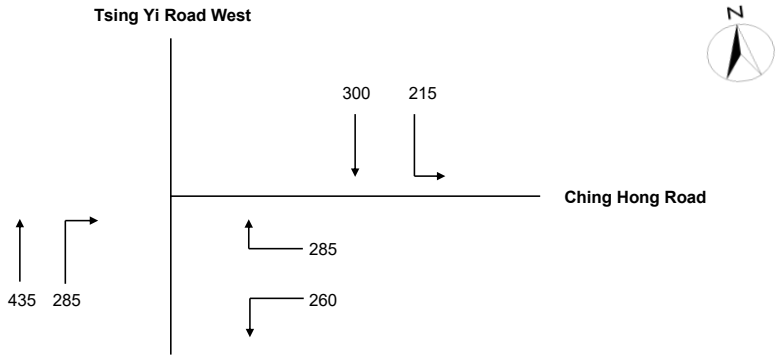
JUNCTION CAPACITY CALCULATION

AECOM

Junction J8 - Tsing Yi Road West / Ching Hong Road	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J8

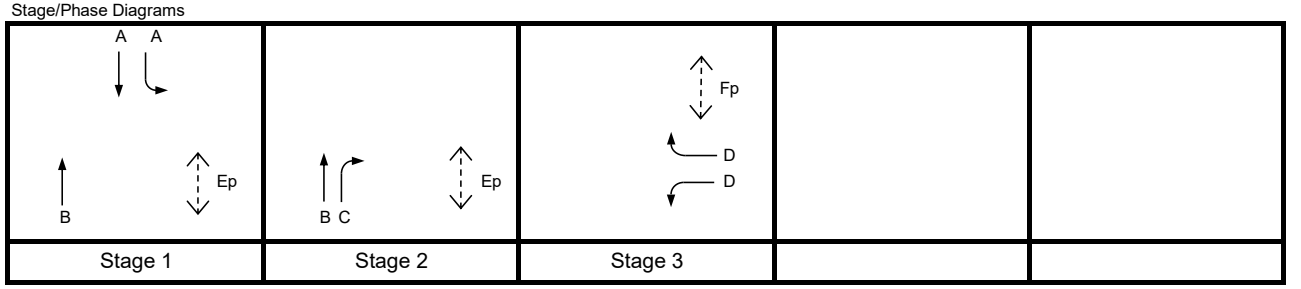
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	110	sec
Sum(y)	Y =	0.412	
Lost time	L =	14	sec
Total Flow	=	1,780	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.795	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	93.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.873	

Stage/Phase Diagrams



I/G = 5 I/G = 5 I/G = 5 2

Critical Case : A,C,D

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	B	1,2	3.510	2				1		0		4072		435		435			4072	0.107	
	C	2	3.700	1		22	0	0		0		2125			285	285		100%	1989	0.143	0.143
	D	3	3.380	1	17			1		0		1953	260			260	100%		1795	0.145	
	D	3	3.380	1	17	18	0	0		0		2093	0		285	285	0%	100%	1932	0.148	0.148
	A	1	3.690	1	13			1		0		1984	215			215	100%		1779	0.121	0.121
	A	1	3.745	2				0		0		4259		300		300			4259	0.070	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	11	+	8	=	19	sec												
	Fp	3	min.	5	+	13	=	18	sec												

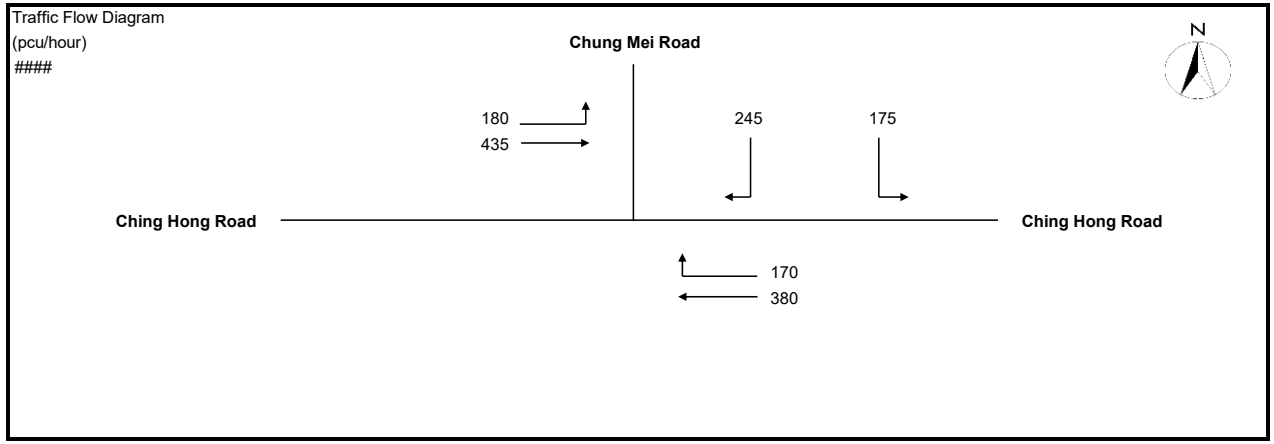
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

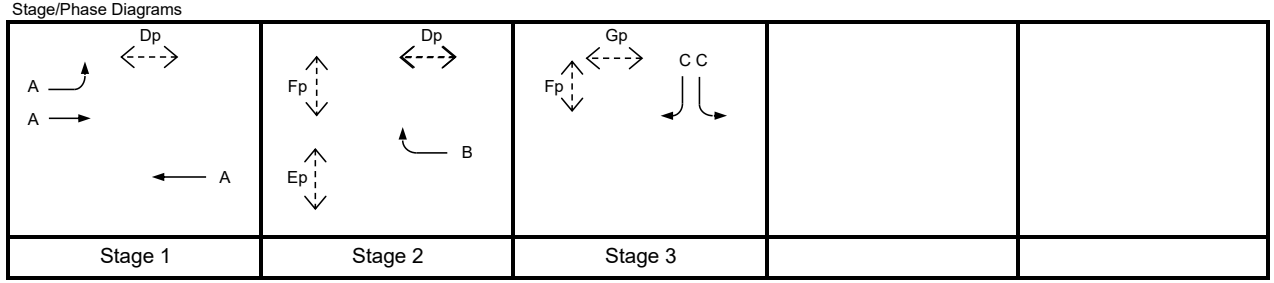
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.371	
Lost time	L =	15	sec
Total Flow	=	1,585	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	112.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 106%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
⇧⇨	A	1	3.640	1	14			1		0		1979	180	109		289	62%		1855	0.156	0.156
⇨	A	1	3.320	1				0		0		2087		326		326			2087	0.156	
⇦	A	1	3.730	2				1		0		4116		380		380			4116	0.092	
⇧⇦	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
⇩⇨	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
⇩⇦	C	3	2.960	1		21	0	0		0		2051			245	245		100%	1914	0.128	0.128

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

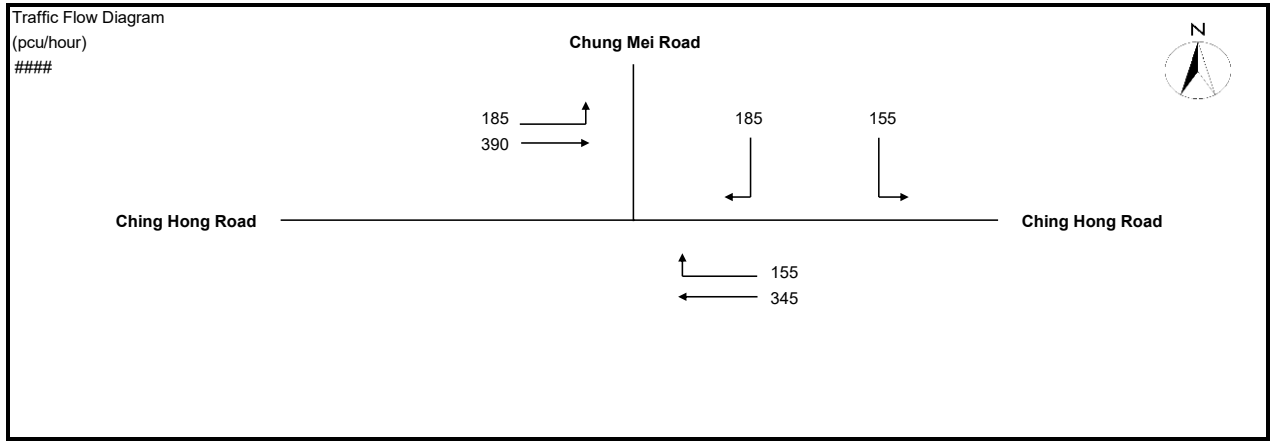
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

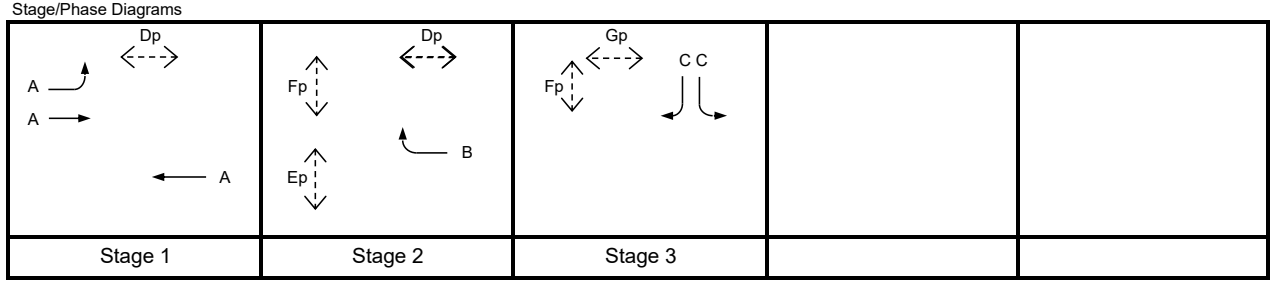
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.323	
Lost time	L =	15	sec
Total Flow	=	1,415	pcu
Optimum Cycle C_o = (1.5×L+5)/(1-Y)	=	41	sec
Min. Cycle Time C_m = L/(1-Y)	=	22	sec
Y_{ult} = 0.9-0.0075×L	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	144.1	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y)	=	23	sec
Y_{max} = 1-L/C	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 137%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	85		270	69%		1844	0.146	0.146
	A	1	3.320	1				0		0		2087		305		305			2087	0.146	
	A	1	3.730	2				1		0		4116		345		345			4116	0.084	
	B	2	3.730	1		16	0	0		0		2128			155	155		100%	1946	0.080	0.080
	C	3	3.250	1	12			1		0		1940	155			155	100%		1724	0.090	
	C	3	2.960	1		21	0	0		0		2051			185	185		100%	1914	0.097	0.097

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

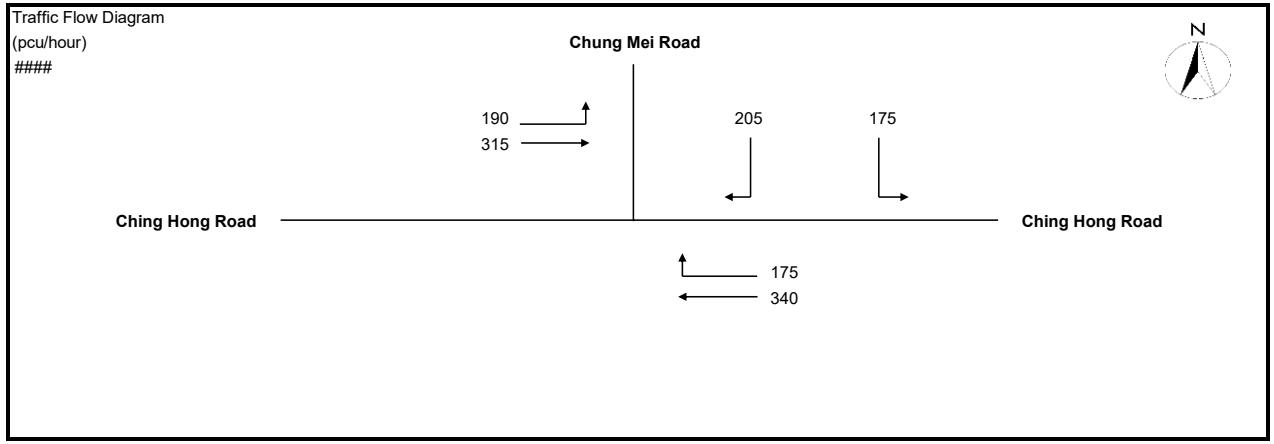
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

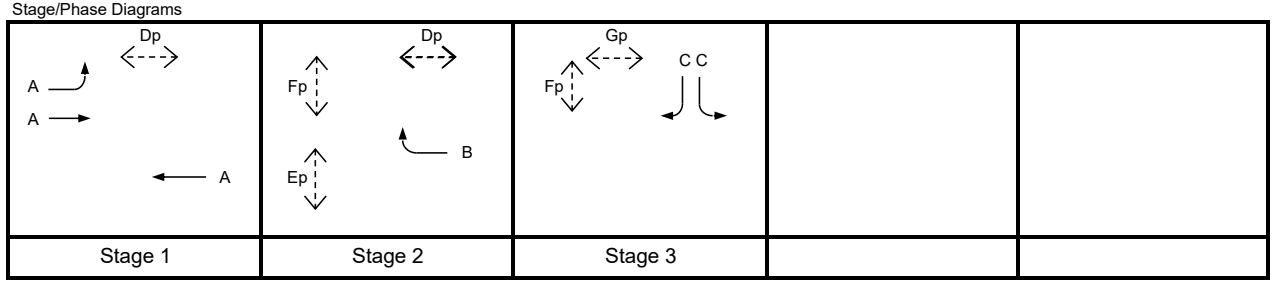
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.326	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	141.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 136%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	190	45		235	81%		1821	0.129	0.129
	A	1	3.320	1				0		0		2087		270		270			2087	0.129	
	A	1	3.730	2				1		0		4116		340		340			4116	0.083	
	B	2	3.730	1		16	0	0		0		2128			175	175		100%	1946	0.090	0.090
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			205	205		100%	1914	0.107	0.107

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

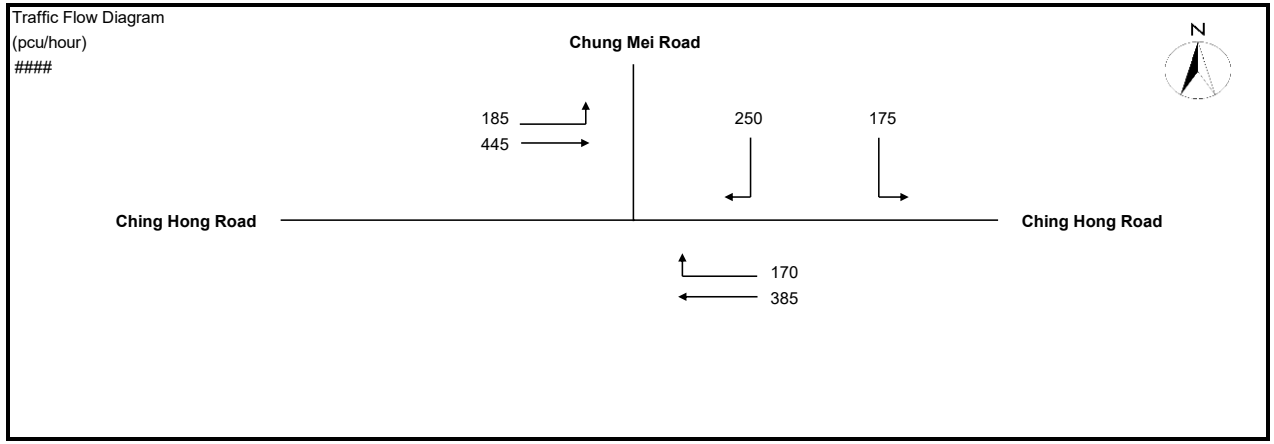
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

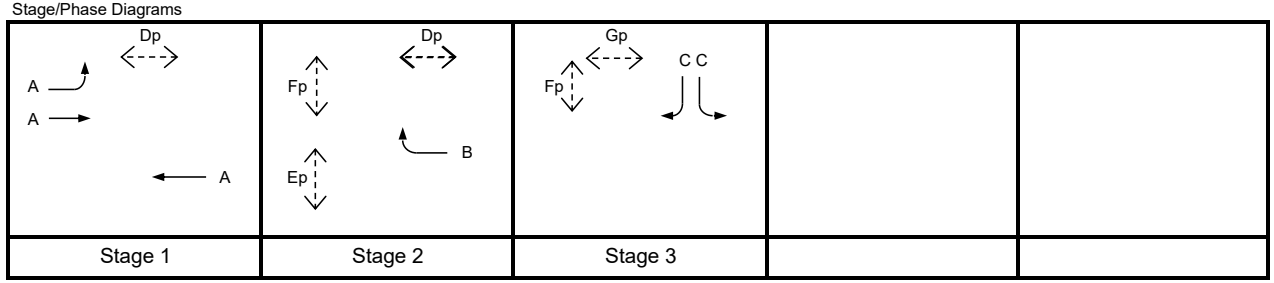
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.378	
Lost time	L =	15	sec
Total Flow	=	1,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	108.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 102%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	111		296	62%		1855	0.160	0.160
	A	1	3.320	1				0		0		2087		334		334			2087	0.160	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			250	250		100%	1914	0.131	0.131

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

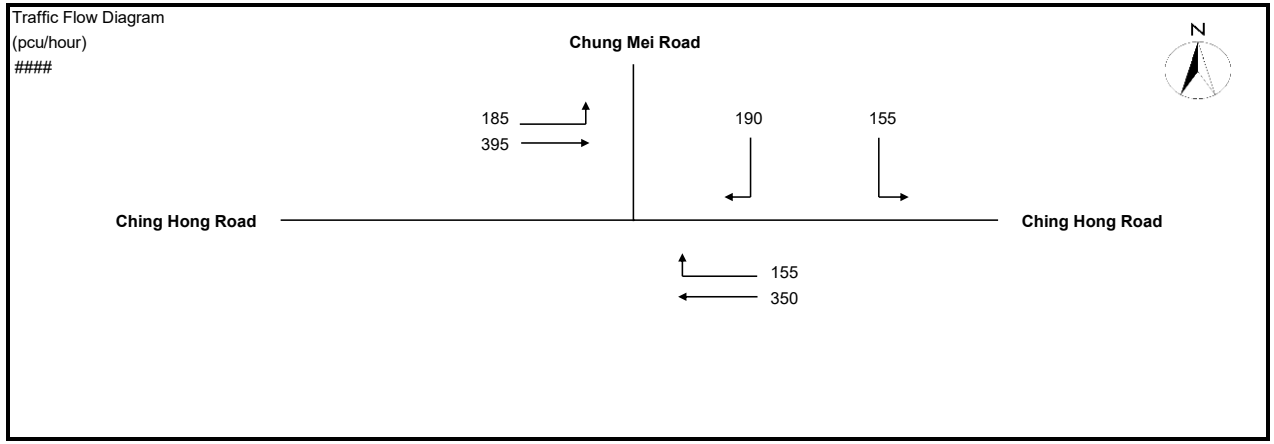
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

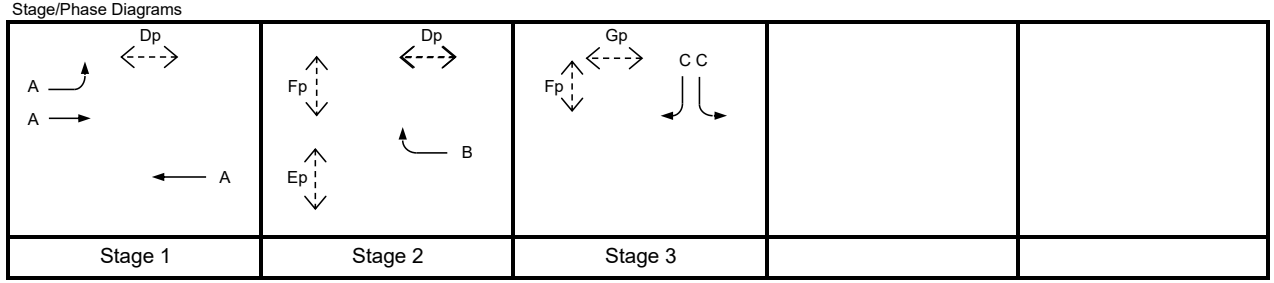
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.326	
Lost time	L =	15	sec
Total Flow	=	1,430	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	141.2	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 134%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	87		272	68%		1845	0.148	0.148
	A	1	3.320	1				0		0		2087		308		308			2087	0.148	
	A	1	3.730	2				1		0		4116		350		350			4116	0.085	
	B	2	3.730	1		16	0	0		0		2128			155	155		100%	1946	0.080	0.080
	C	3	3.250	1	12			1		0		1940	155			155	100%		1724	0.090	
	C	3	2.960	1		21	0	0		0		2051			190	190		100%	1914	0.099	0.099

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

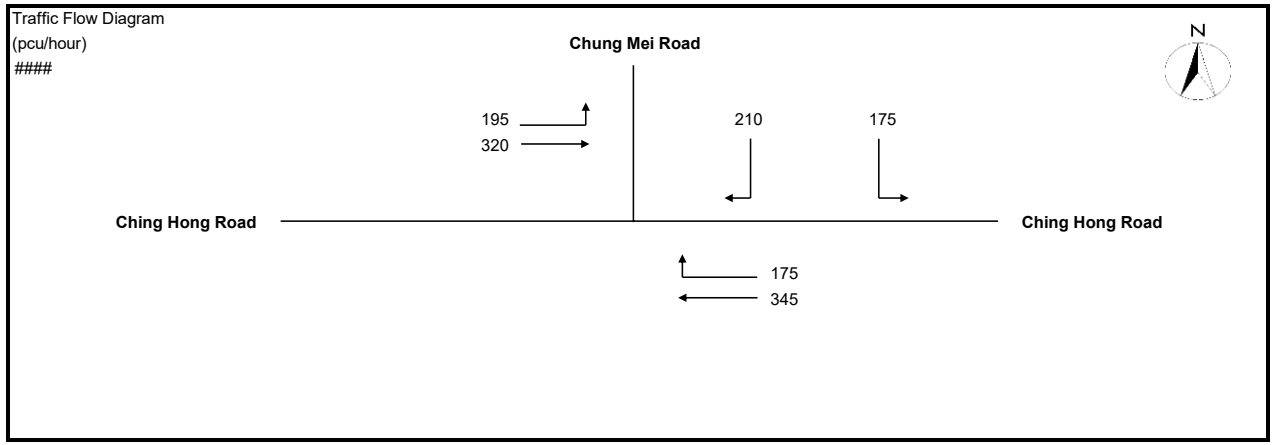
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

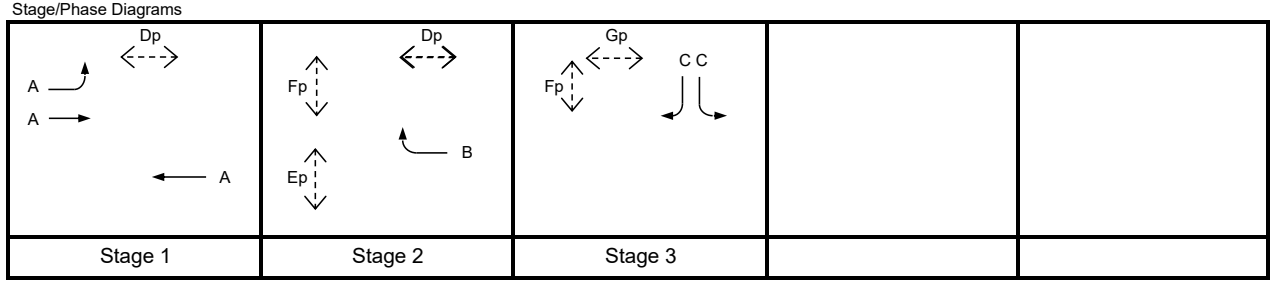
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.331	
Lost time	L =	15	sec
Total Flow	=	1,420	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	137.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 133%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	195	45		240	81%		1820	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		345		345			4116	0.084	
	B	2	3.730	1		16	0	0		0		2128			175	175		100%	1946	0.090	0.090
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			210	210		100%	1914	0.110	0.110

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

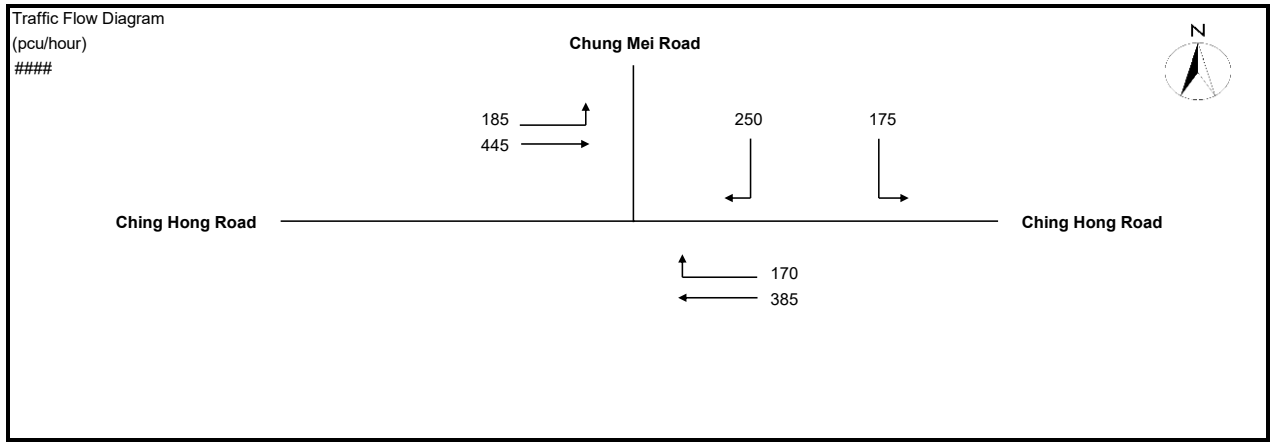
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

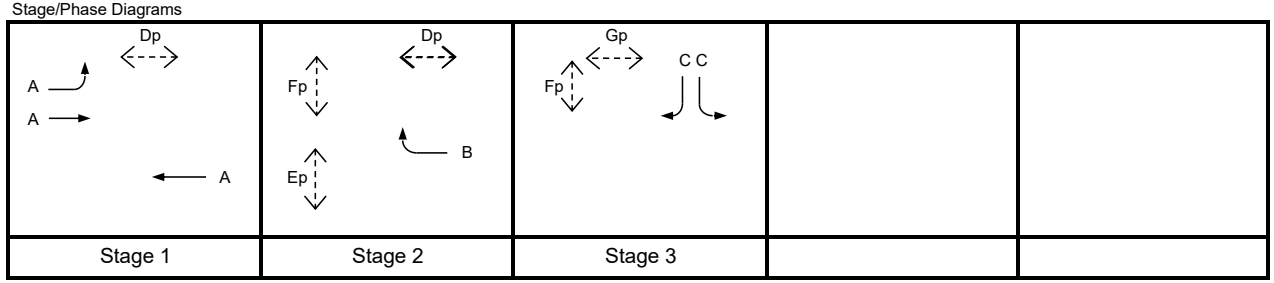
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.378	
Lost time	L =	15	sec
Total Flow	=	1,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	44	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	24	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	108.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	26	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 102%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	111		296	62%		1855	0.160	0.160
	A	1	3.320	1				0		0		2087		334		334			2087	0.160	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			250	250		100%	1914	0.131	0.131

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

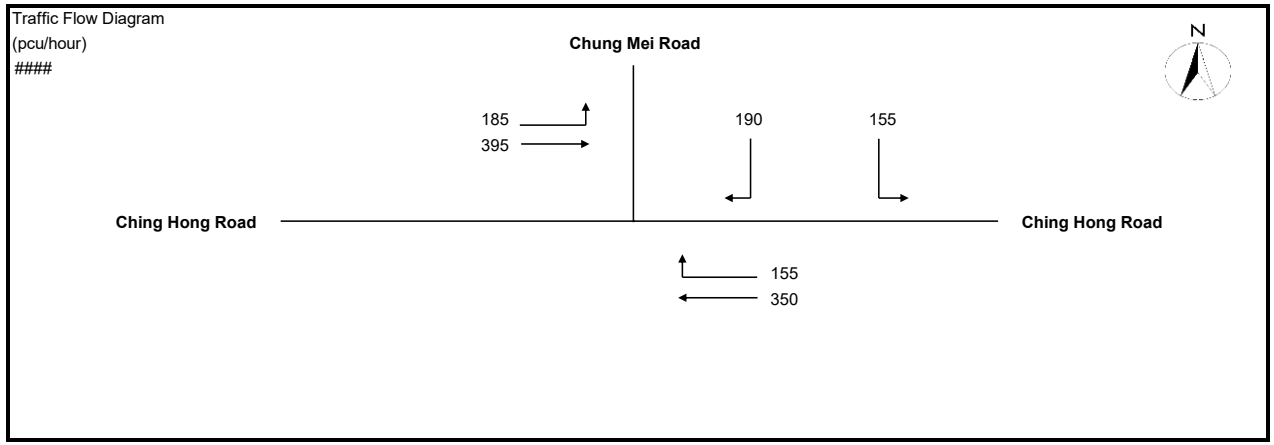
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

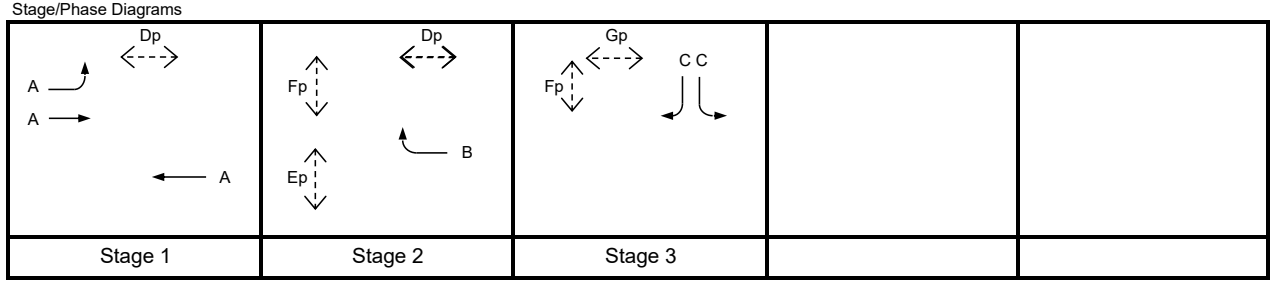
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.326	
Lost time	L =	15	sec
Total Flow	=	1,430	pcu
Optimum Cycle C_o = (1.5×L+5)/(1-Y)	=	41	sec
Min. Cycle Time C_m = L/(1-Y)	=	22	sec
Y_{ult} = 0.9-0.0075×L	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	141.2	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y)	=	24	sec
Y_{max} = 1-L/C	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 134%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	87		272	68%		1845	0.148	0.148
	A	1	3.320	1				0		0		2087		308		308			2087	0.148	
	A	1	3.730	2				1		0		4116		350		350			4116	0.085	
	B	2	3.730	1		16	0	0		0		2128			155	155		100%	1946	0.080	0.080
	C	3	3.250	1	12			1		0		1940	155			155	100%		1724	0.090	
	C	3	2.960	1		21	0	0		0		2051			190	190		100%	1914	0.099	0.099

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

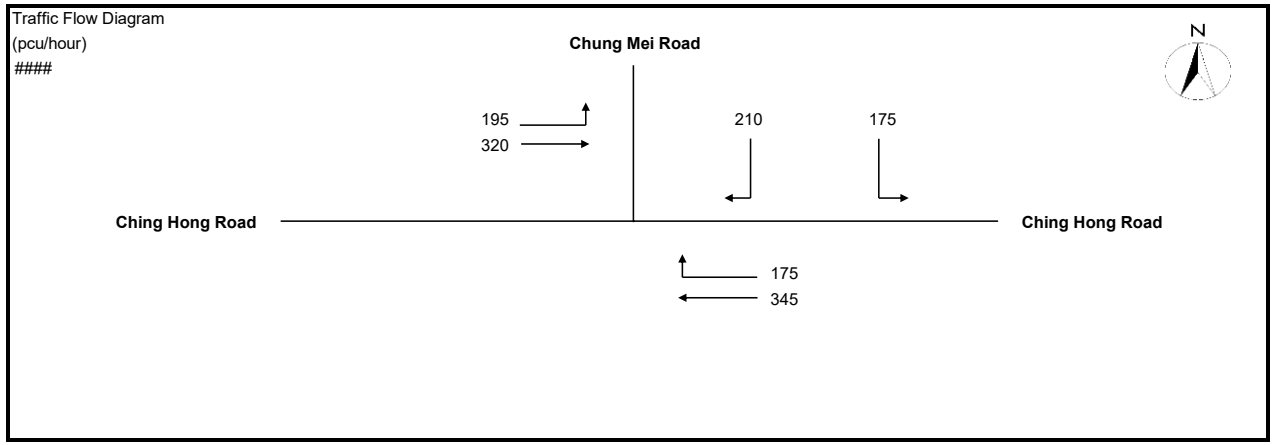
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

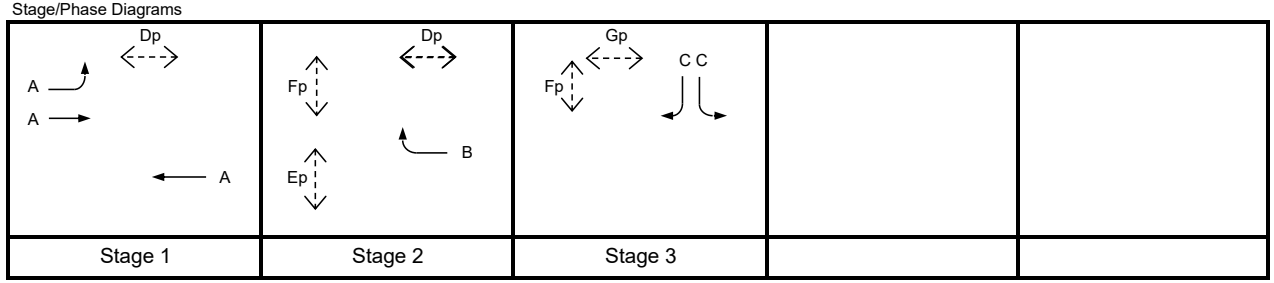
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.331	
Lost time	L =	15	sec
Total Flow	=	1,420	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	41	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	137.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 133%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	195	45		240	81%		1820	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		345		345			4116	0.084	
	B	2	3.730	1		16	0	0		0		2128			175	175		100%	1946	0.090	0.090
	C	3	3.250	1	12			1		0		1940	175			175	100%		1724	0.101	
	C	3	2.960	1		21	0	0		0		2051			210	210		100%	1914	0.110	0.110

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

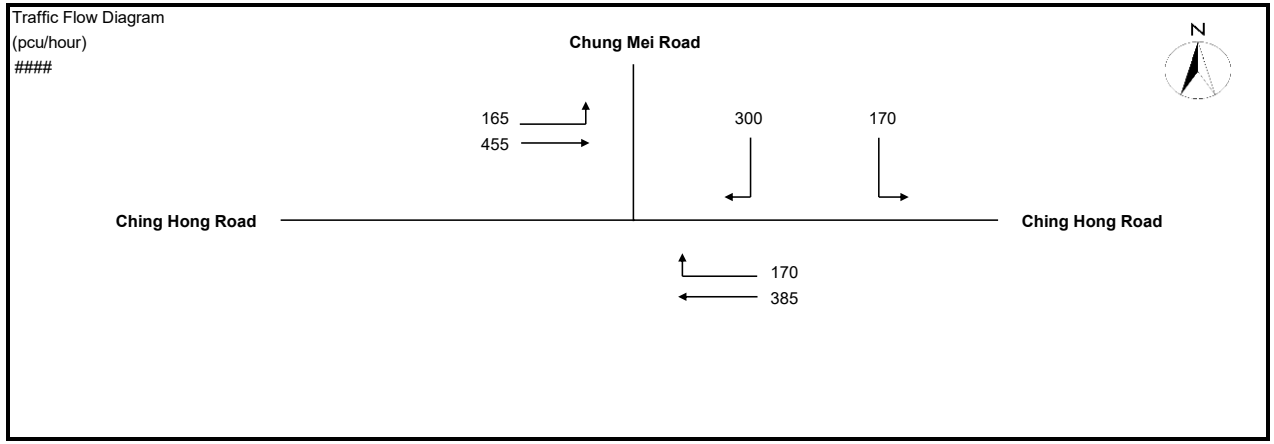
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

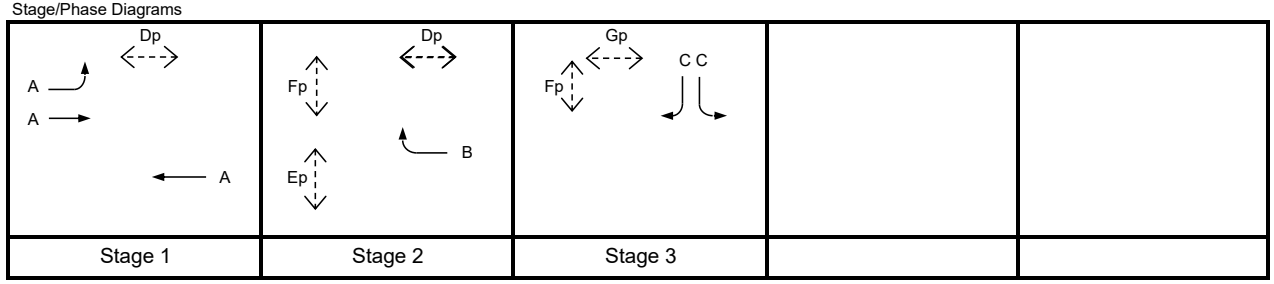
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.401	
Lost time	L =	15	sec
Total Flow	=	1,645	pcu
Optimum Cycle C_o = $(1.5 \times L+5)/(1-Y)$	=	46	sec
Min. Cycle Time C_m = $L/(1-Y)$	=	25	sec
Y_{ult} = $0.9-0.0075 \times L$	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	96.4	%
Practical Cycle Time C_p = $0.9 \times L/(0.9-Y)$	=	27	sec
Y_{max} = $1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	165	128		293	56%		1866	0.157	0.157
	A	1	3.320	1				0		0		2087		327		327			2087	0.157	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	170			170	100%		1724	0.099	
	C	3	2.960	1		21	0	0		0		2051			300	300		100%	1914	0.157	0.157

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

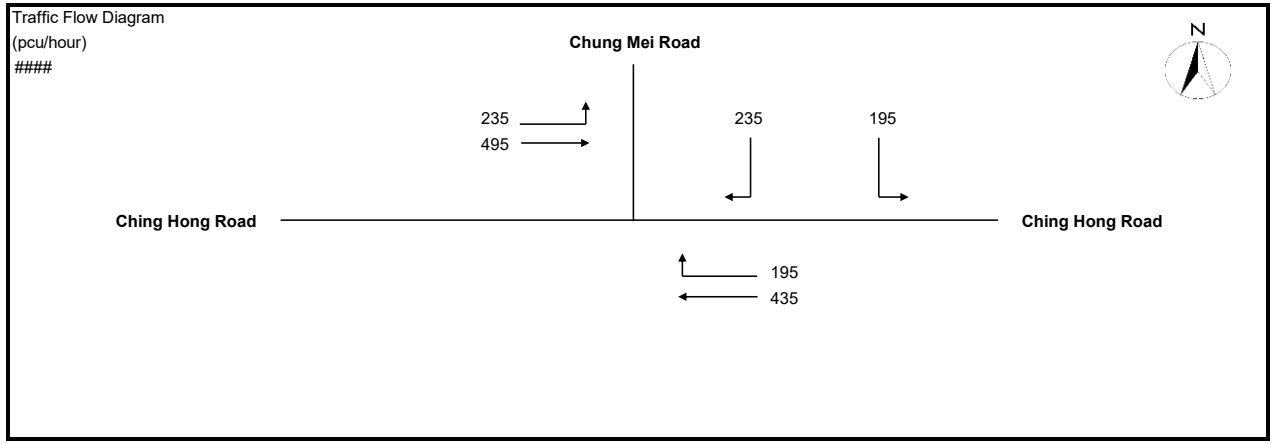
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

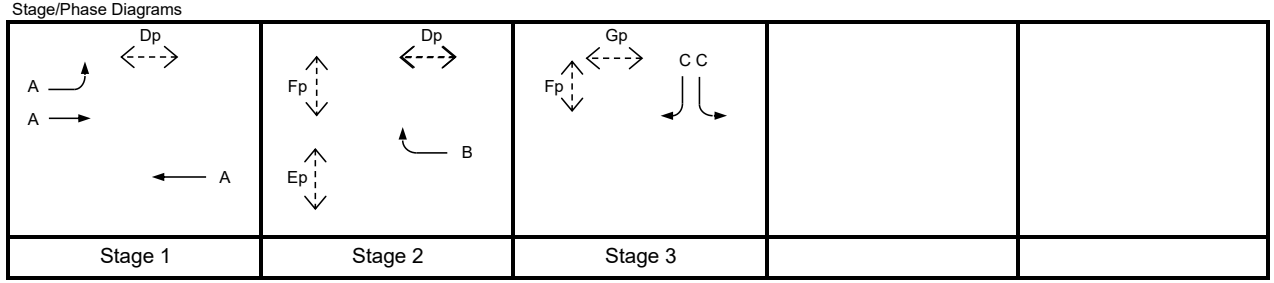
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.409	
Lost time	L =	15	sec
Total Flow	=	1,790	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	47	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	92.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 87%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	235	107		342	69%		1843	0.186	
	A	1	3.320	1				0		0		2087		388		388			2087	0.186	0.186
	A	1	3.730	2				1		0		4116		435		435			4116	0.106	
	B	2	3.730	1		16	0	0		0		2128			195	195		100%	1946	0.100	0.100
	C	3	3.250	1	12			1		0		1940	195			195	100%		1724	0.113	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

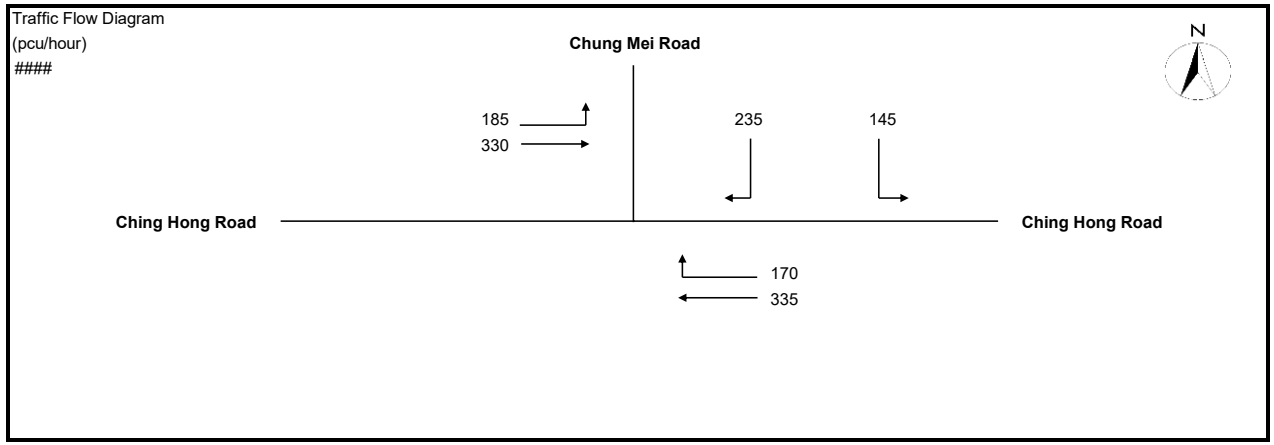
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

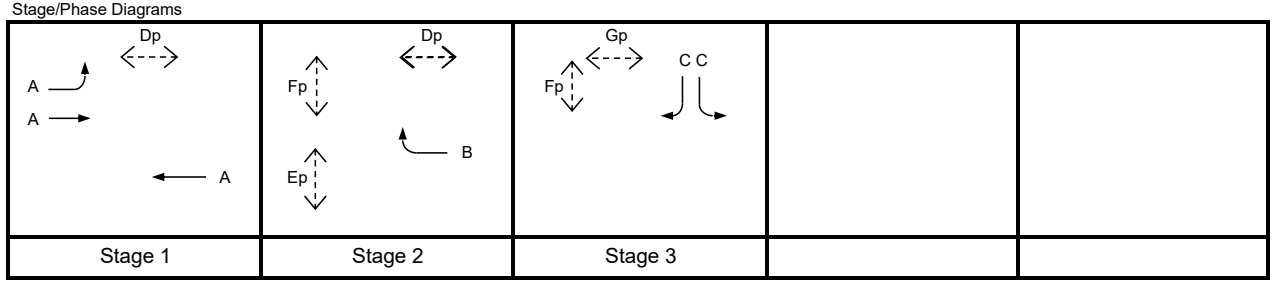
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.342	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	130.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 126%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	55		240	77%		1828	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		335		335			4116	0.081	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	145			145	100%		1724	0.084	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

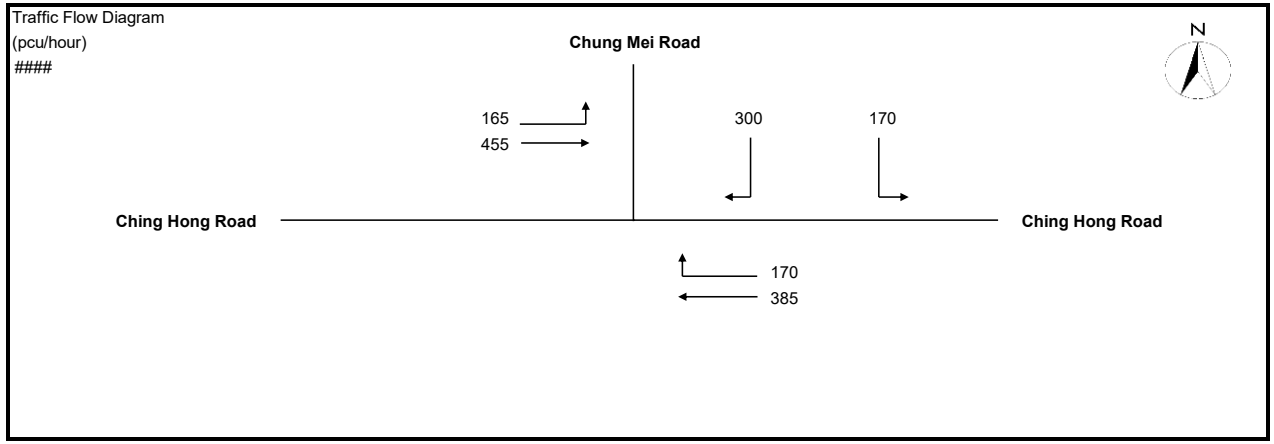
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

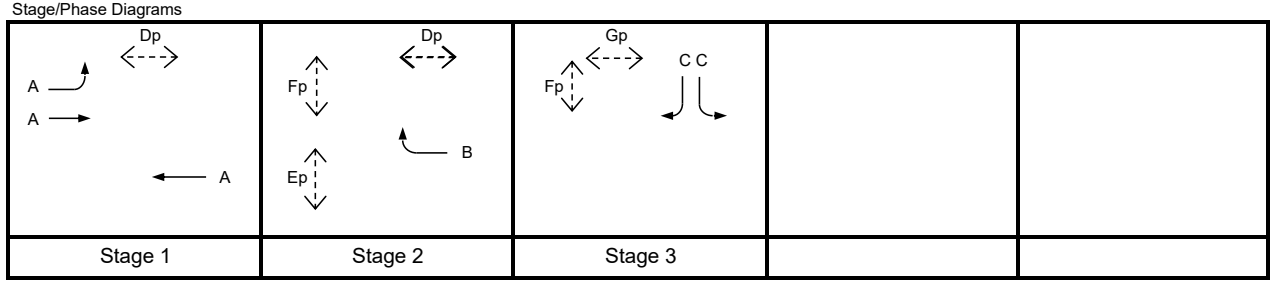
J9

Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.401	
Lost time	L =	15	sec
Total Flow	=	1,645	pcu
Optimum Cycle C_o = $(1.5 \times L+5)/(1-Y)$	=	46	sec
Min. Cycle Time C_m = $L/(1-Y)$	=	25	sec
Y_{ult} = $0.9-0.0075 \times L$	=	0.788	
$R.C._{ult}$ = $(Y_{ult}-Y)/Y \times 100\%$	=	96.4	%
Practical Cycle Time C_p = $0.9 \times L/(0.9-Y)$	=	27	sec
Y_{max} = $1-L/C$	=	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) = $(0.9 \times Y_{max}-Y)/Y \times 100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	165	128		293	56%		1866	0.157	0.157
	A	1	3.320	1				0		0		2087		327		327			2087	0.157	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	170			170	100%		1724	0.099	
	C	3	2.960	1		21	0	0		0		2051			300	300		100%	1914	0.157	0.157

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

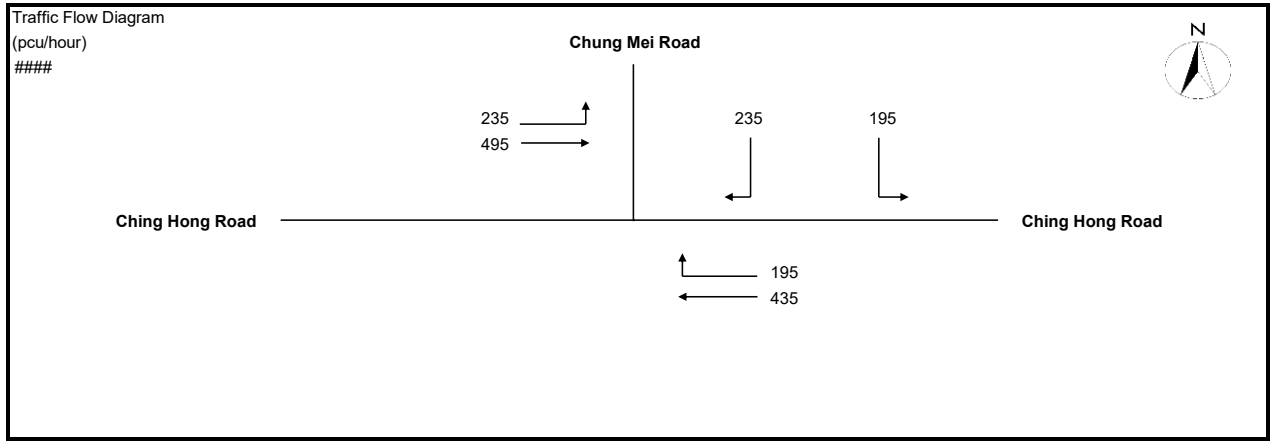
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

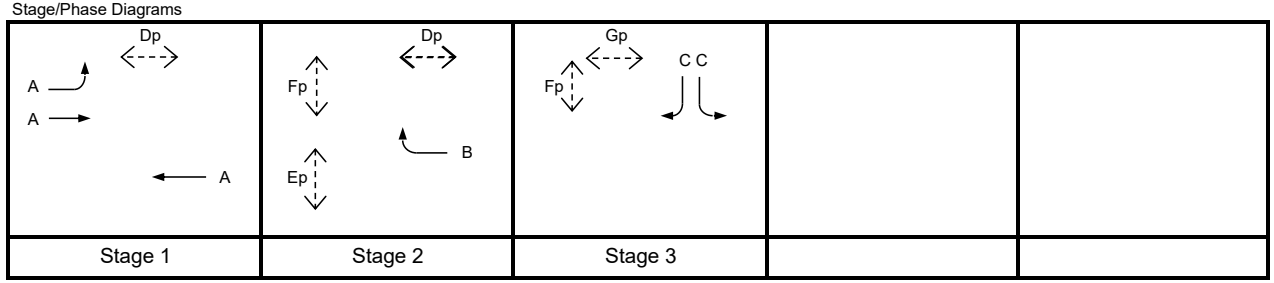
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.409	
Lost time	L =	15	sec
Total Flow	=	1,790	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	47	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	92.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 87%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	235	107		342	69%		1843	0.186	
	A	1	3.320	1				0		0		2087		388		388			2087	0.186	0.186
	A	1	3.730	2				1		0		4116		435		435			4116	0.106	
	B	2	3.730	1		16	0	0		0		2128			195	195		100%	1946	0.100	0.100
	C	3	3.250	1	12			1		0		1940	195			195	100%		1724	0.113	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

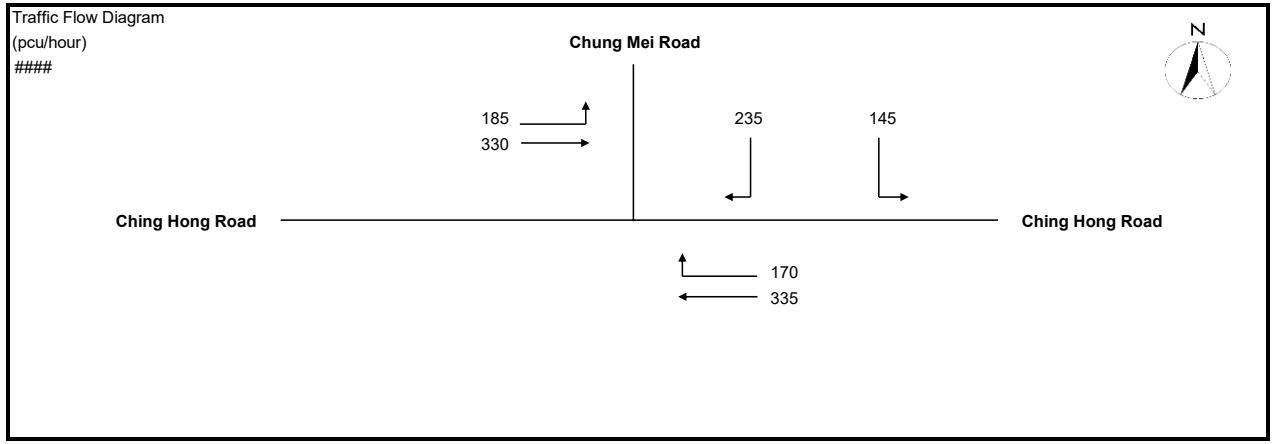
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

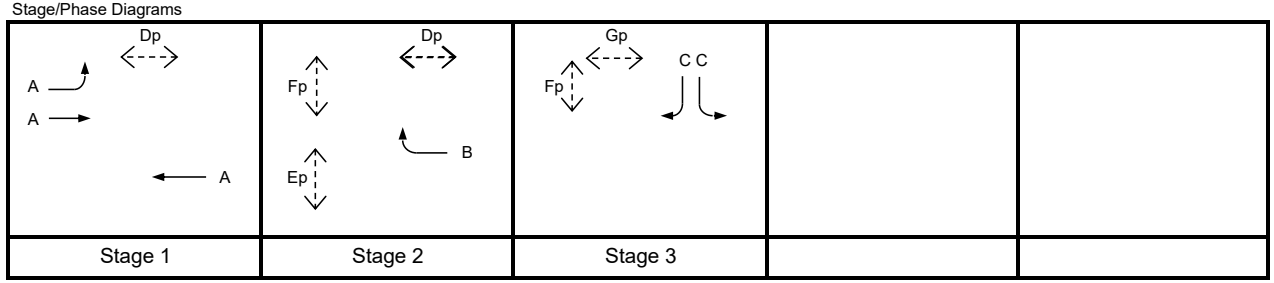
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.342	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	130.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 126%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	55		240	77%		1828	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		335		335			4116	0.081	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	145			145	100%		1724	0.084	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

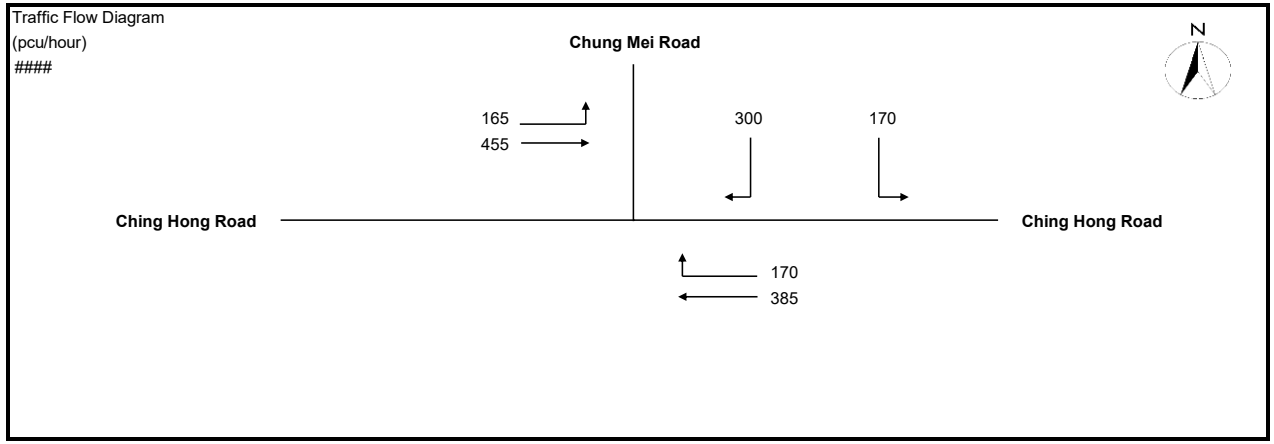
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

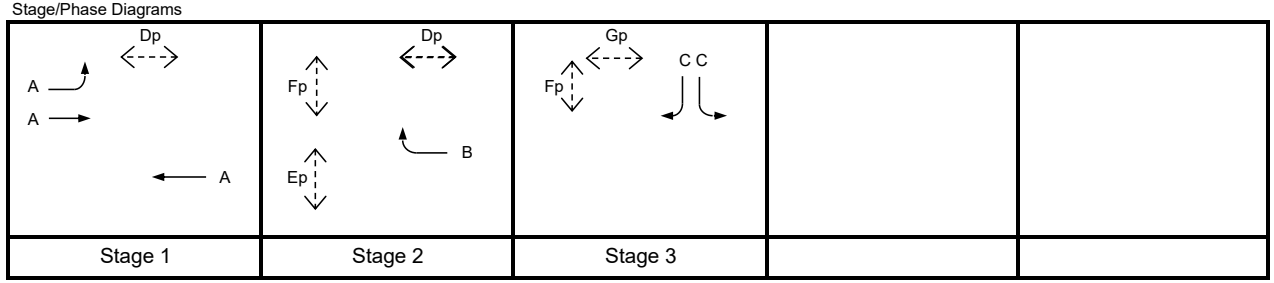
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.401	
Lost time	L =	15	sec
Total Flow	=	1,645	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	46	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	96.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 91%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	165	128		293	56%		1866	0.157	0.157
	A	1	3.320	1				0		0		2087		327		327			2087	0.157	
	A	1	3.730	2				1		0		4116		385		385			4116	0.094	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	170			170	100%		1724	0.099	
	C	3	2.960	1		21	0	0		0		2051			300	300		100%	1914	0.157	0.157

Pedestrain Crossing			GM		FGM		Total							
Dp	1,2	min.	5	+	6	=	11	sec						
Ep	2	min.	5	+	8	=	13	sec						
Fp	2,3	min.	5	+	6	=	11	sec						
Gp	3	min.	5	+	8	=	13	sec						

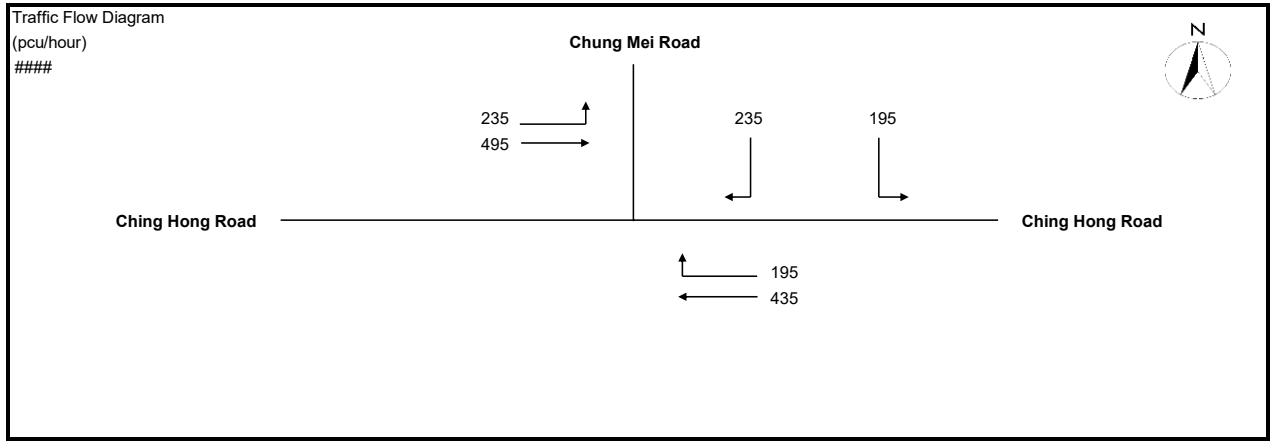
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

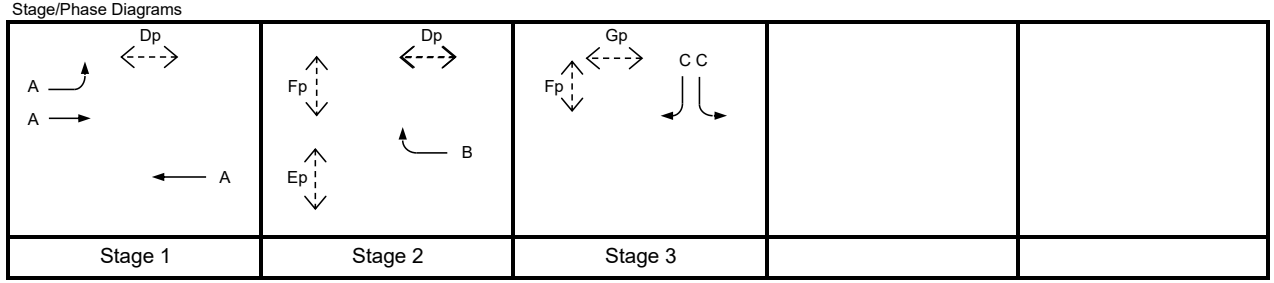
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.409	
Lost time	L =	15	sec
Total Flow	=	1,790	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	47	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	25	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	92.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	27	sec
Y_{max}	$= 1-L/C$ =	0.850	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 87%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	235	107		342	69%		1843	0.186	
	A	1	3.320	1				0		0		2087		388		388			2087	0.186	0.186
	A	1	3.730	2				1		0		4116		435		435			4116	0.106	
	B	2	3.730	1		16	0	0		0		2128			195	195		100%	1946	0.100	0.100
	C	3	3.250	1	12			1		0		1940	195			195	100%		1724	0.113	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123

Pedestrain Crossing			GM		FGM		Total													
Dp	1,2	min.	5	+	6	=	11	sec												
Ep	2	min.	5	+	8	=	13	sec												
Fp	2,3	min.	5	+	6	=	11	sec												
Gp	3	min.	5	+	8	=	13	sec												

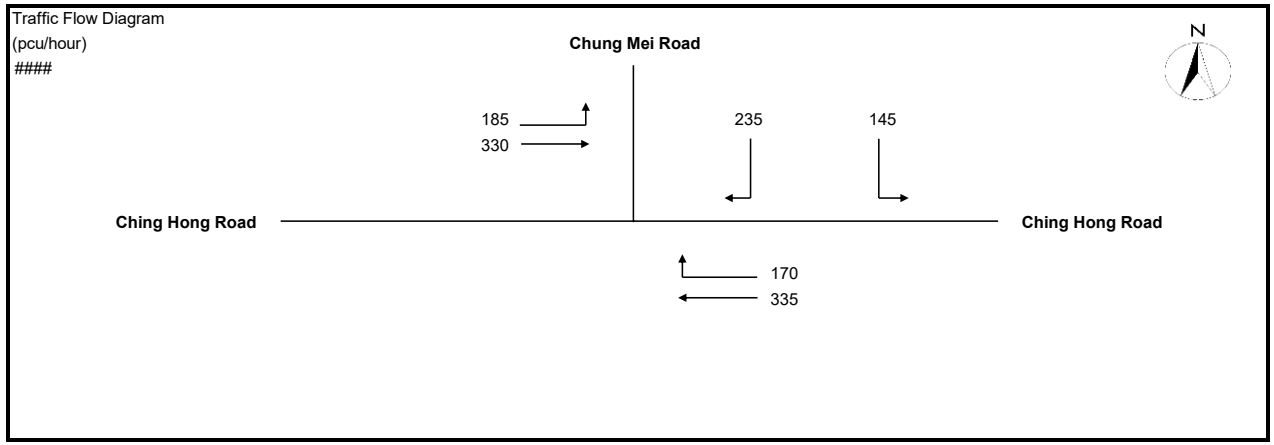
JUNCTION CAPACITY CALCULATION

AECOM

Junction J9 - Ching Hong Road / Chung Mei Road	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J9

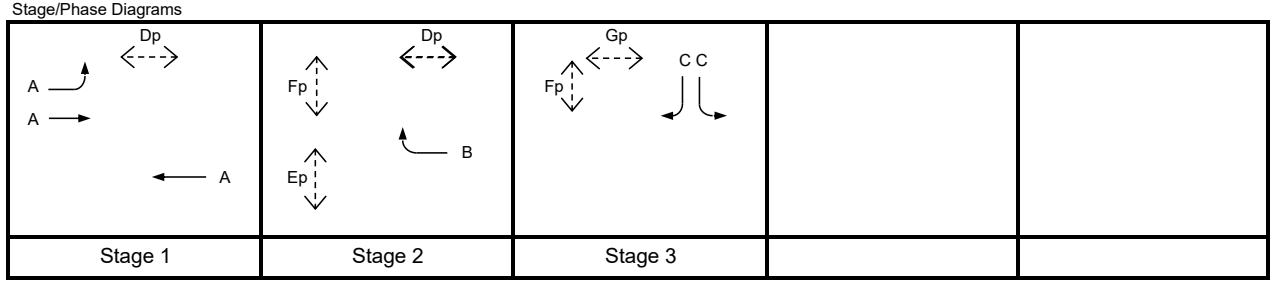
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.342	
Lost time	L =	15	sec
Total Flow	=	1,400	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	23	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.788	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	130.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.857	

Stage/Phase Diagrams



Critical Case : A,B,C

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 126%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	A	1	3.640	1	14			1		0		1979	185	55		240	77%		1828	0.132	0.132
	A	1	3.320	1				0		0		2087		275		275			2087	0.132	
	A	1	3.730	2				1		0		4116		335		335			4116	0.081	
	B	2	3.730	1		16	0	0		0		2128			170	170		100%	1946	0.087	0.087
	C	3	3.250	1	12			1		0		1940	145			145	100%		1724	0.084	
	C	3	2.960	1		21	0	0		0		2051			235	235		100%	1914	0.123	0.123
Pedestrain Crossing				GM		FGM		Total													
	Dp	1,2	min.	5	+	6	=	11	sec												
	Ep	2	min.	5	+	8	=	13	sec												
	Fp	2,3	min.	5	+	6	=	11	sec												
	Gp	3	min.	5	+	8	=	13	sec												

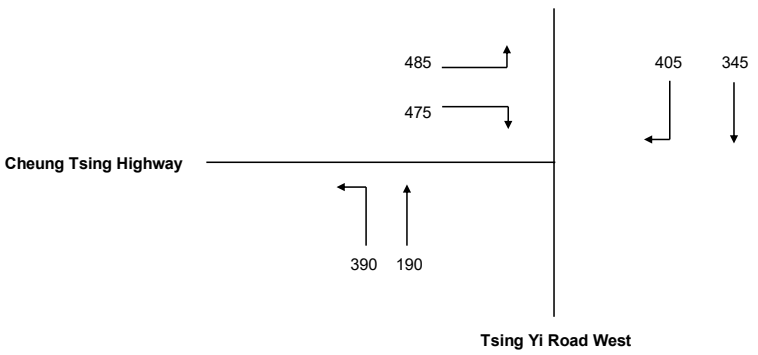
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

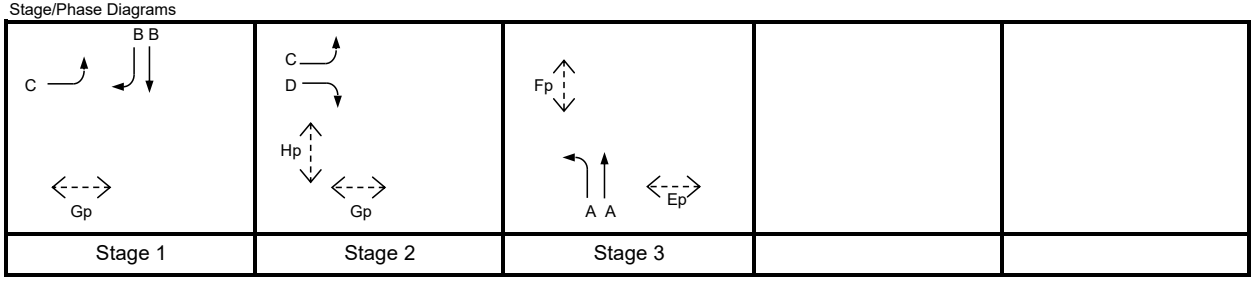
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,290	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	485			485	100%		1793	0.271	0.271
D	D	2	3.030	2		18	0	0		0		4116			475	475		100%	3799	0.125	
A	A	3	3.710	1	14			1		0		1986	390	0		390	100%		1794	0.217	0.217
A	A	3	3.760	1				0		0		2131		190		190			2131	0.089	
B	B	1	3.480	1				1		0		1963		251		251			1963	0.128	
B	B	1	3.300	1		19	0			0		2085		94	161	254		63%	1986	0.128	
B	B	1	3.300	1		16	0	0		0		2085			244	244		100%	1906	0.128	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

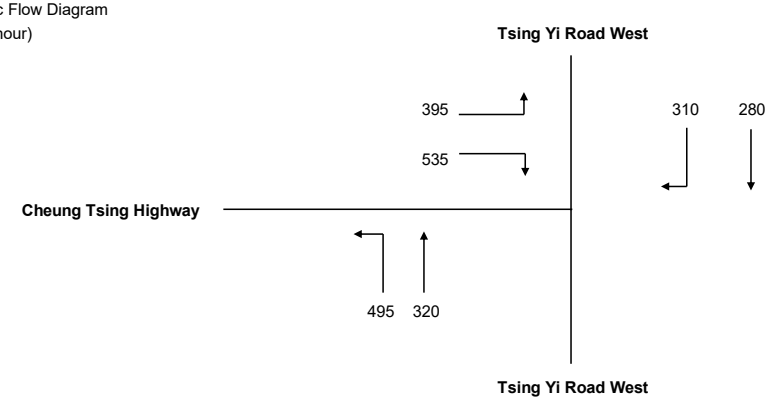
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

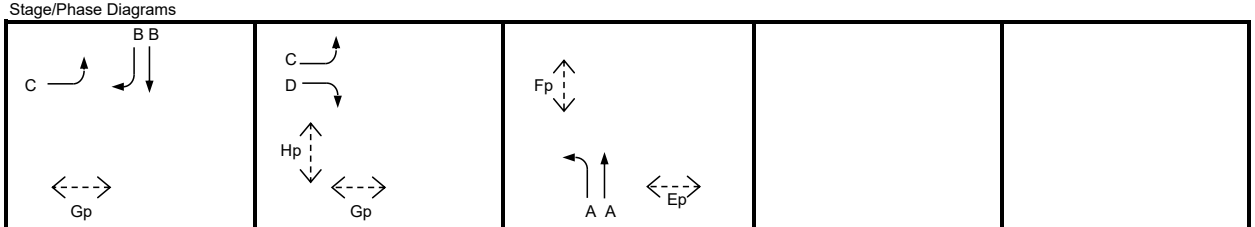
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.517	
Lost time	L =	13	sec
Total Flow	=	2,335	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	51	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	55.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 51%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	395			395	100%		1793	0.220	
	D	2	3.030	2		18	0	0		0		4116			535	535		100%	3799	0.141	0.141
	A	3	3.710	1	14			1		0		1986	495	0		495	100%		1794	0.276	0.276
	A	3	3.760	1				0		0		2131		320		320			2131	0.150	
	B	1	3.480	1				1		0		1963		198		198			1963	0.101	
	B	1	3.300	1		19	0			0		2085		82	118	201		59%	1992	0.101	0.101
	B	1	3.300	1		16	0	0		0		2085			192	192		100%	1906	0.101	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

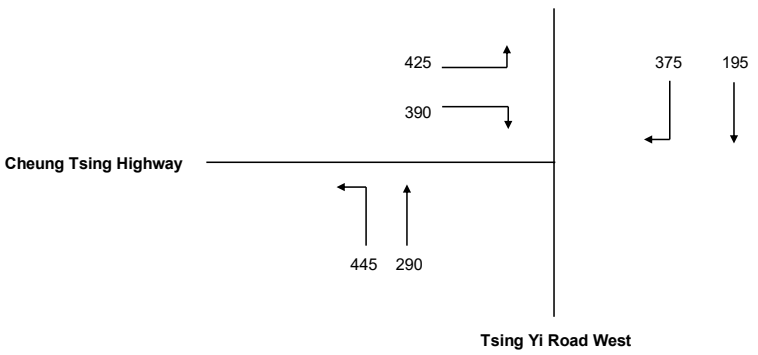
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

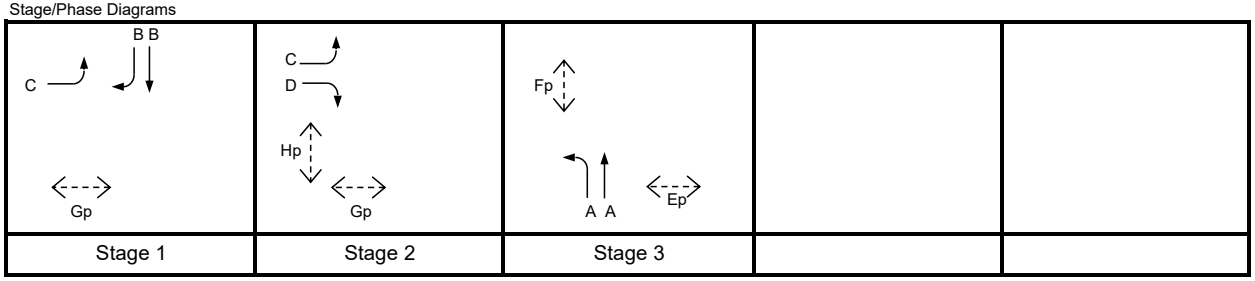
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.485	
Lost time	L =	11	sec
Total Flow	=	2,120	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	68.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 66%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	425			425	100%		1793	0.237	0.237
	D	2	3.030	2		18	0	0		0		4116			390	390		100%	3799	0.103	
	A	3	3.710	1	14			1		0		1986	445	0		445	100%		1794	0.248	0.248
	A	3	3.760	1				0		0		2131		290		290			2131	0.136	
	B	1	3.480	1				1		0		1963		193		193			1963	0.098	
	B	1	3.300	1		19	0			0		2085		2	188	190		99%	1934	0.098	
	B	1	3.300	1		16	0	0		0		2085			187	187		100%	1906	0.098	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

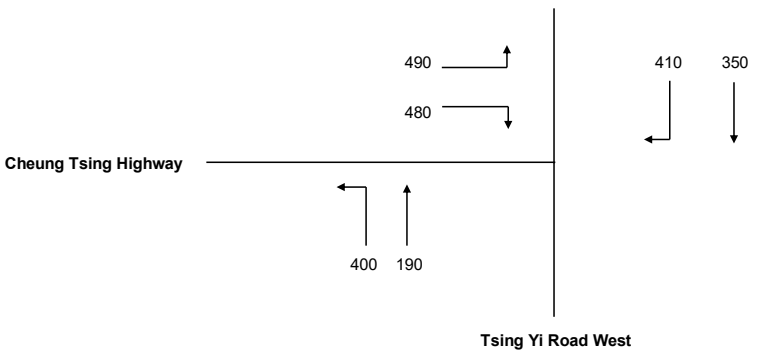
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

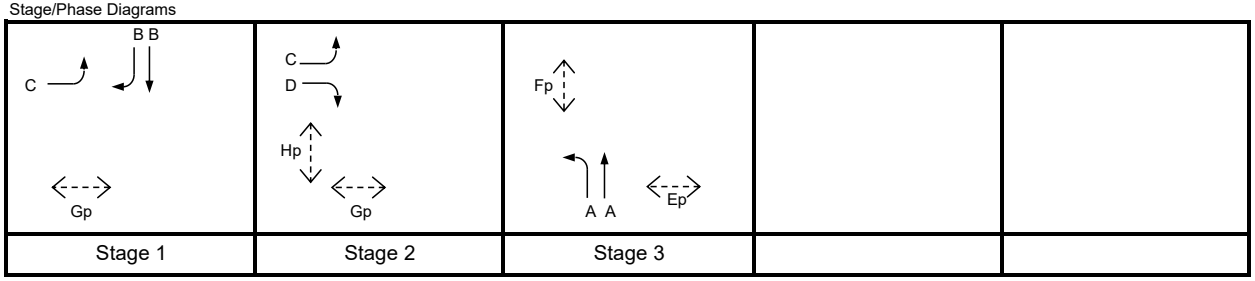
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.496	
Lost time	L =	11	sec
Total Flow	=	2,320	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	43	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	64.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	25	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 61%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
D	D	2	3.030	2		18	0	0		0		4116			480	480		100%	3799	0.126	
A	A	3	3.710	1	14			1		0		1986	400	0		400	100%		1794	0.223	0.223
A	A	3	3.760	1				0		0		2131		190		190			2131	0.089	
B	B	1	3.480	1				1		0		1963		255		255			1963	0.130	
B	B	1	3.300	1		19	0			0		2085		95	163	258		63%	1986	0.130	
B	B	1	3.300	1		16	0	0		0		2085			247	247		100%	1906	0.130	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

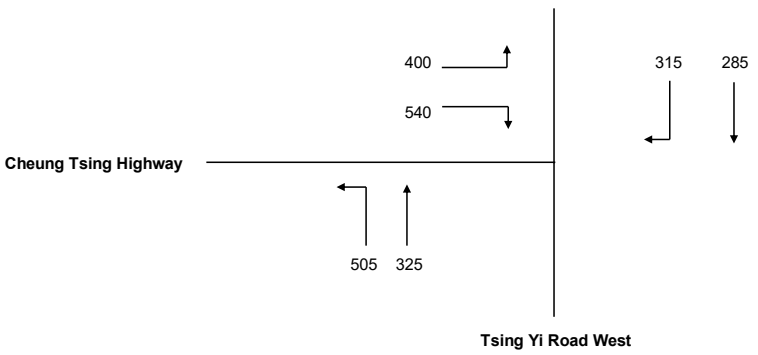
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

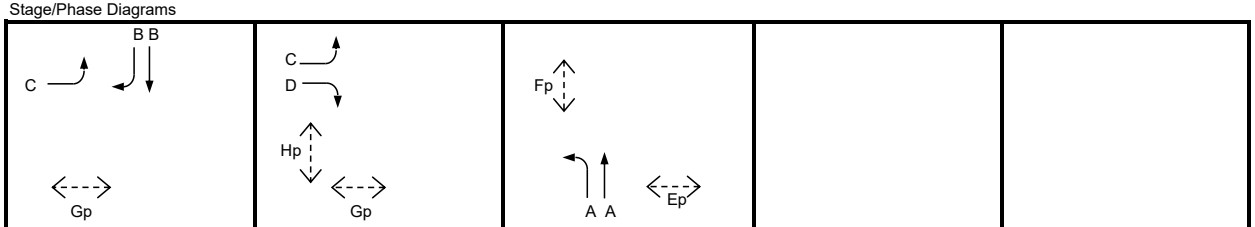
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.526	
Lost time	L =	13	sec
Total Flow	=	2,370	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	52	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	52.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 49%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	400			400	100%		1793	0.223	
D	D	2	3.030	2		18	0	0		0		4116			540	540		100%	3799	0.142	0.142
A	A	3	3.710	1	14			1		0		1986	505	0		505	100%		1794	0.282	0.282
A	A	3	3.760	1				0		0		2131		325		325			2131	0.153	
B	B	1	3.480	1				1		0		1963		201		201			1963	0.102	0.102
B	B	1	3.300	1		19	0			0		2085		84	120	204		59%	1993	0.102	
B	B	1	3.300	1		16	0	0		0		2085			195	195		100%	1906	0.102	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

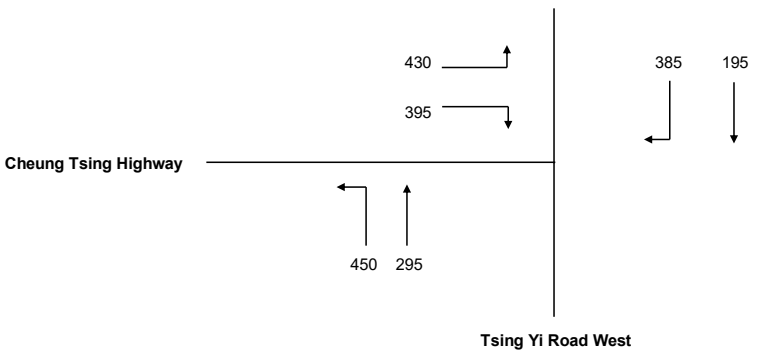
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

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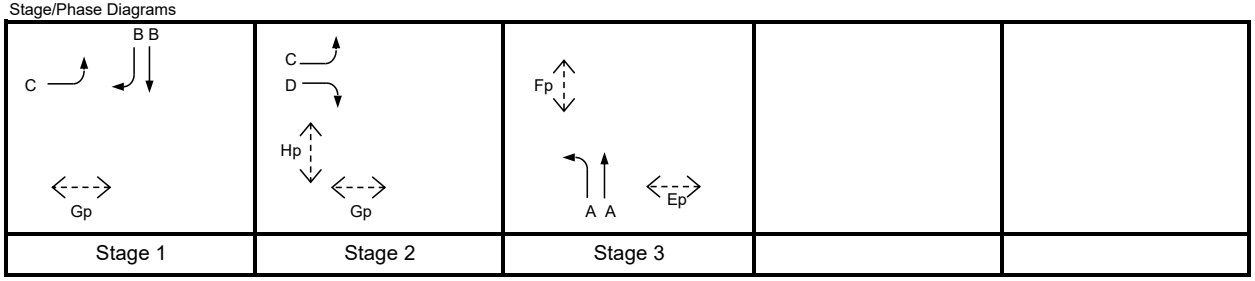
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,150	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	430			430	100%		1793	0.240	0.240
D	D	2	3.030	2		18	0	0		0		4116			395	395		100%	3799	0.104	
A	A	3	3.710	1	14			1		0		1986	450	0		450	100%		1794	0.251	0.251
A	A	3	3.760	1				0		0		2131		295		295			2131	0.138	
B	B	1	3.480	1				1		0		1963		195		195			1963	0.099	
B	B	1	3.300	1		19	0			0		2085		0	194	194		100%	1932	0.100	
B	B	1	3.300	1		16	0	0		0		2085			191	191		100%	1906	0.100	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

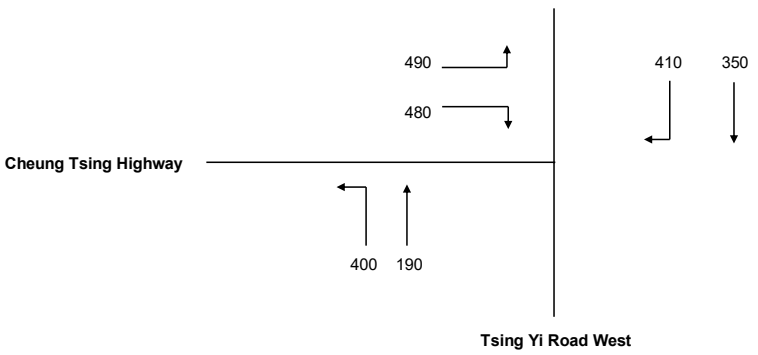
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

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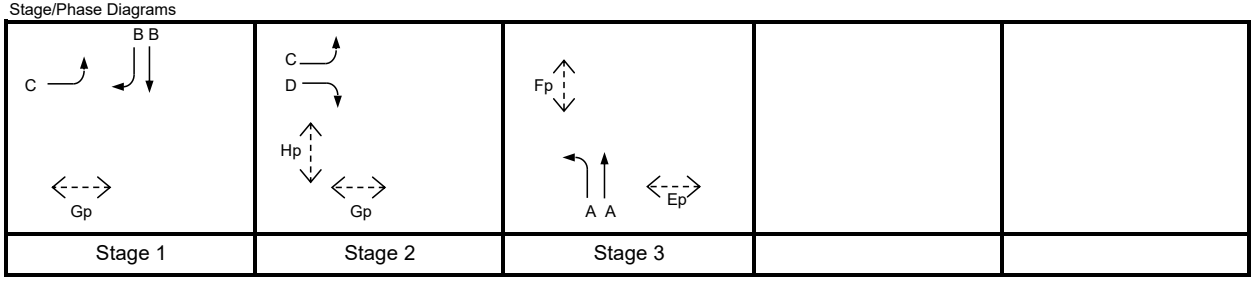
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.496	
Lost time	L =	11	sec
Total Flow	=	2,320	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	43	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	64.7	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	25	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 61%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			480	480		100%	3799	0.126	
	A	3	3.710	1	14			1		0		1986	400	0		400	100%		1794	0.223	0.223
	A	3	3.760	1				0		0		2131		190		190			2131	0.089	
	B	1	3.480	1				1		0		1963		255		255			1963	0.130	
	B	1	3.300	1		19	0			0		2085		95	163	258		63%	1986	0.130	
	B	1	3.300	1		16	0	0		0		2085			247	247		100%	1906	0.130	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

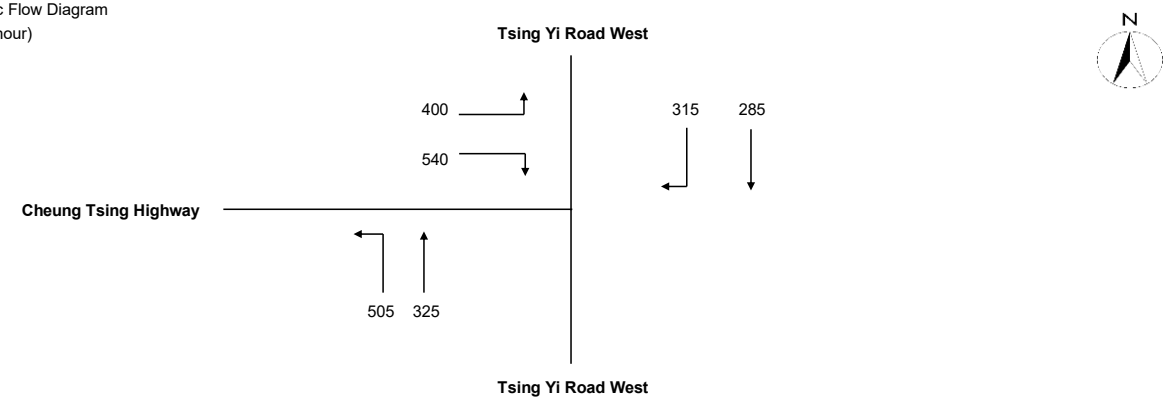
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

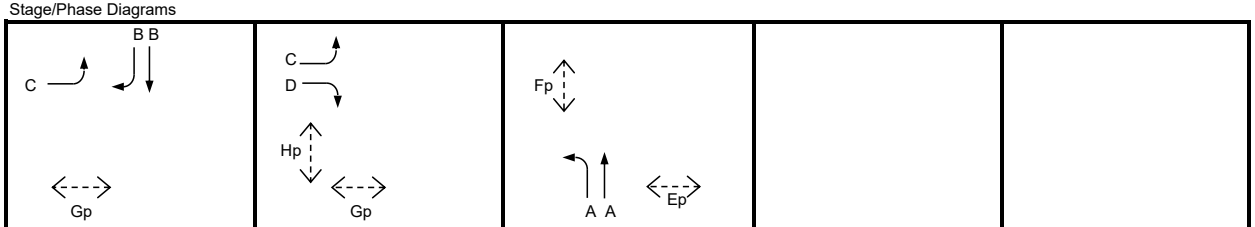
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.526	
Lost time	L =	13	sec
Total Flow	=	2,370	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	52	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	27	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	52.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	31	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) = $(0.9xY_{max}-Y)/Yx100\%$ = 49%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	400			400	100%		1793	0.223	
D	D	2	3.030	2		18	0	0		0		4116			540	540		100%	3799	0.142	0.142
A	A	3	3.710	1	14			1		0		1986	505	0		505	100%		1794	0.282	0.282
A	A	3	3.760	1				0		0		2131		325		325			2131	0.153	
B	B	1	3.480	1				1		0		1963		201		201			1963	0.102	0.102
B	B	1	3.300	1		19	0			0		2085		84	120	204		59%	1993	0.102	
B	B	1	3.300	1		16	0	0		0		2085			195	195		100%	1906	0.102	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

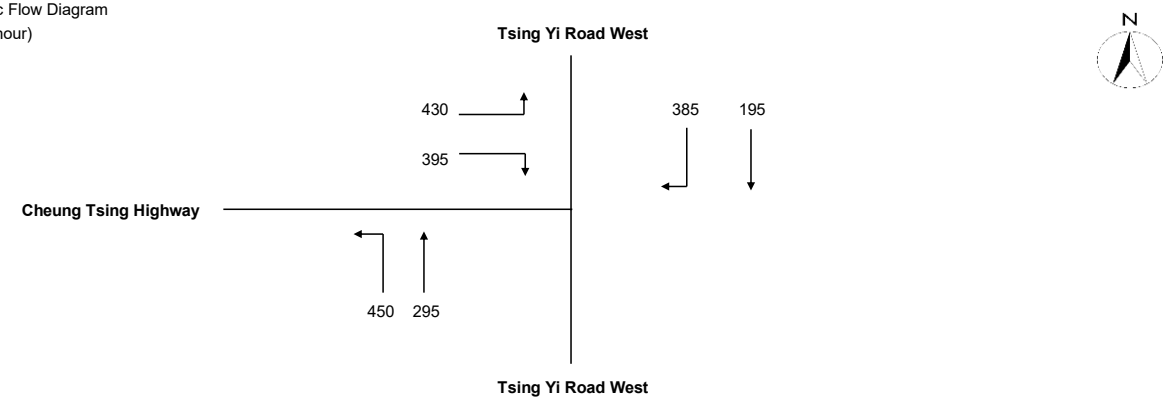
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

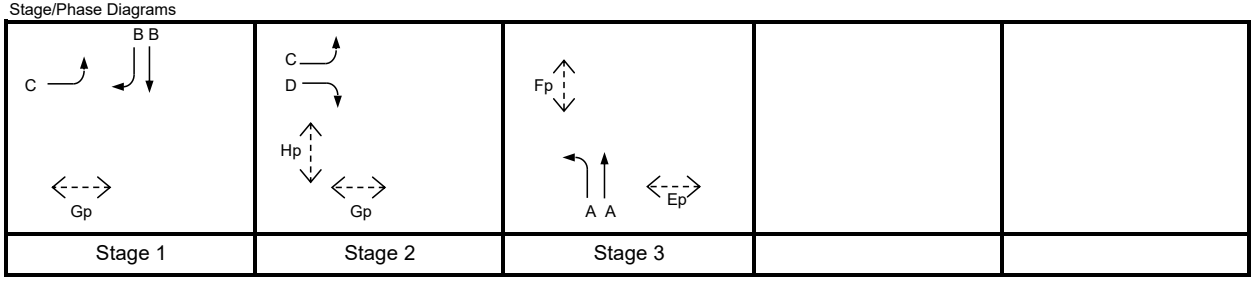
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,150	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.895	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	430			430	100%		1793	0.240	0.240
	D	2	3.030	2		18	0	0		0		4116			395	395		100%	3799	0.104	
	A	3	3.710	1	14			1		0		1986	450	0		450	100%		1794	0.251	0.251
	A	3	3.760	1				0		0		2131		295		295			2131	0.138	
	B	1	3.480	1				1		0		1963		195		195			1963	0.099	
	B	1	3.300	1		19	0			0		2085		0	194	194		100%	1932	0.100	
	B	1	3.300	1		16	0	0		0		2085			191	191		100%	1906	0.100	
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

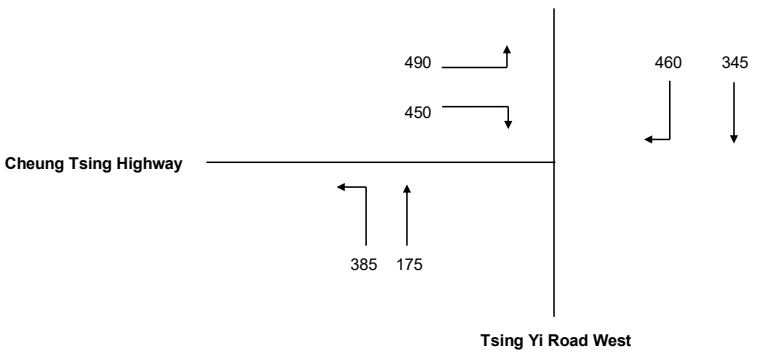
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

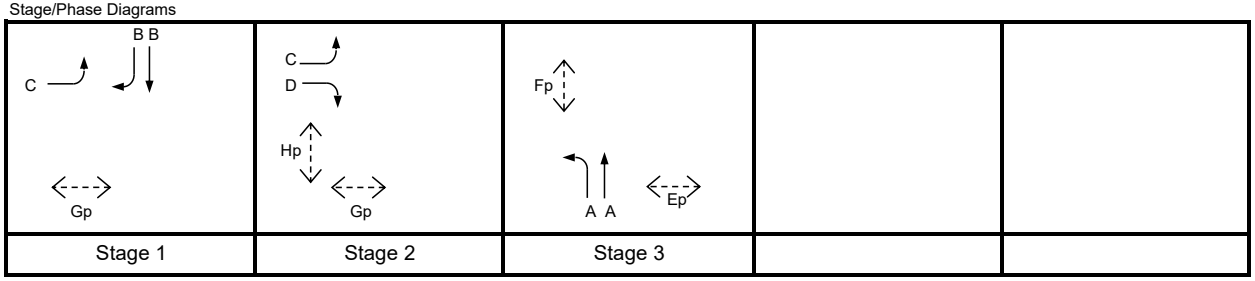
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			450	450		100%	3799	0.118	
	A	3	3.710	1	14			1		0		1986	385	0		385	100%		1794	0.215	0.215
	A	3	3.760	1				0		0		2131		175		175			2131	0.082	
	B	1	3.480	1				1		0		1963		271		271			1963	0.138	
	B	1	3.300	1		19	0			0		2085		74	197	272		73%	1972	0.138	
	B	1	3.300	1		16	0	0		0		2085			263	263		100%	1906	0.138	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

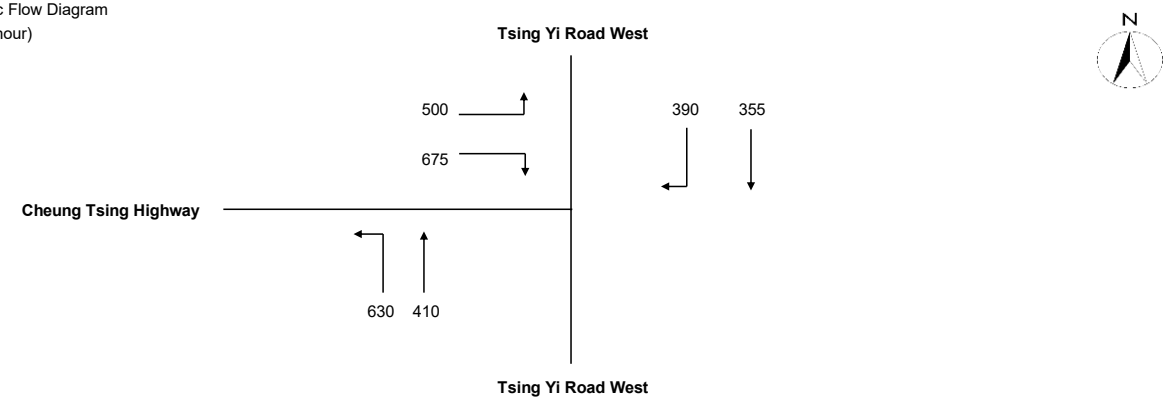
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

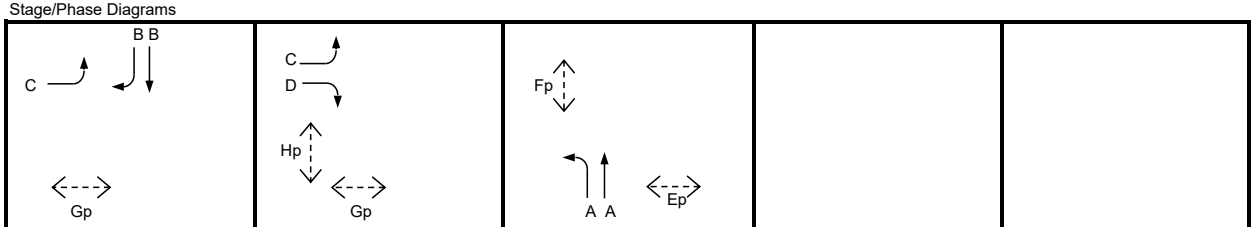
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	71	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	38	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	48	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 19%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	500			500	100%		1793	0.279	
	D	2	3.030	2		18	0	0		0		4116			675	675		100%	3799	0.178	0.178
	A	3	3.710	1	14			1		0		1986	630	0		630	100%		1794	0.351	0.351
	A	3	3.760	1				0		0		2131		410		410			2131	0.192	
	B	1	3.480	1				1		0		1963		249		249			1963	0.127	
	B	1	3.300	1		19	0			0		2085		106	148	253		58%	1993	0.127	
	B	1	3.300	1		16	0	0		0		2085			242	242		100%	1906	0.127	0.127

Pedestrain Crossing			GM		FGM		Total		
Ep	3	min.	5	+	6	=	11	sec	
Fp	3	min.	5	+	10	=	15	sec	
Gp	1,2	min.	5	+	9	=	14	sec	
Hp	2	min.	5	+	10	=	15	sec	

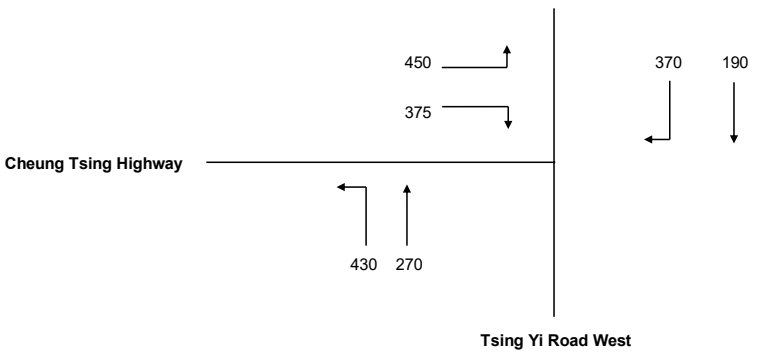
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

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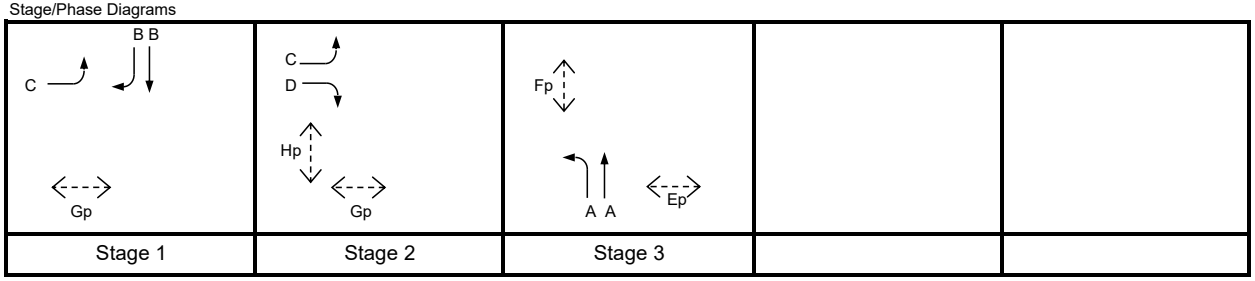
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	450			450	100%		1793	0.251	0.251
	D	2	3.030	2		18	0	0		0		4116			375	375		100%	3799	0.099	
	A	3	3.710	1	14			1		0		1986	430	0		430	100%		1794	0.240	0.240
	A	3	3.760	1				0		0		2131		270		270			2131	0.127	
	B	1	3.480	1				1		0		1963		189		189			1963	0.097	
	B	1	3.300	1		19	0			0		2085		1	186	187		100%	1933	0.097	
	B	1	3.300	1		16	0	0		0		2085			184	184		100%	1906	0.097	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

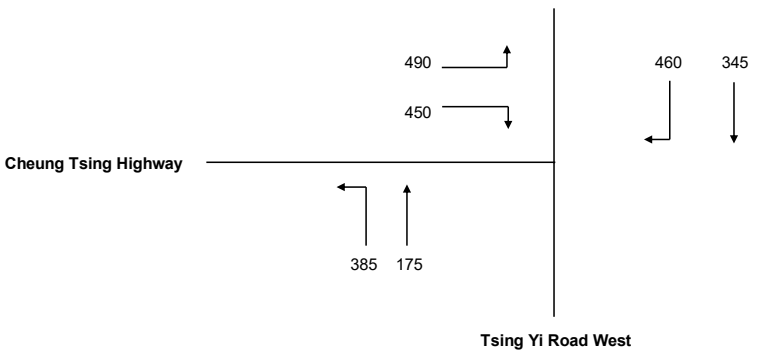
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

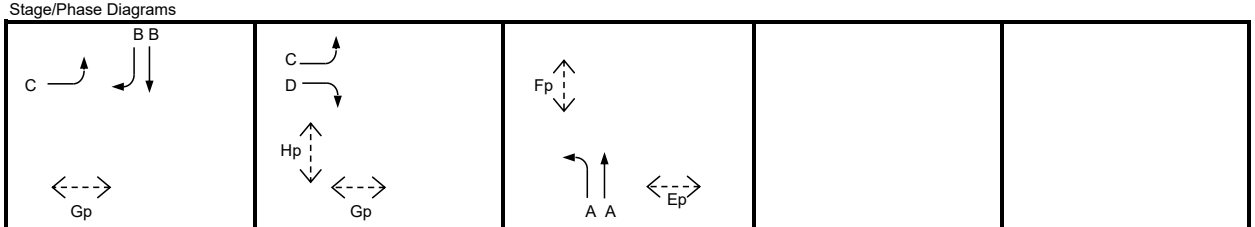
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			450	450		100%	3799	0.118	
	A	3	3.710	1	14			1		0		1986	385	0		385	100%		1794	0.215	0.215
	A	3	3.760	1				0		0		2131		175		175			2131	0.082	
	B	1	3.480	1				1		0		1963		271		271			1963	0.138	
	B	1	3.300	1		19	0			0		2085		74	197	272		73%	1972	0.138	
	B	1	3.300	1		16	0	0		0		2085			263	263		100%	1906	0.138	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

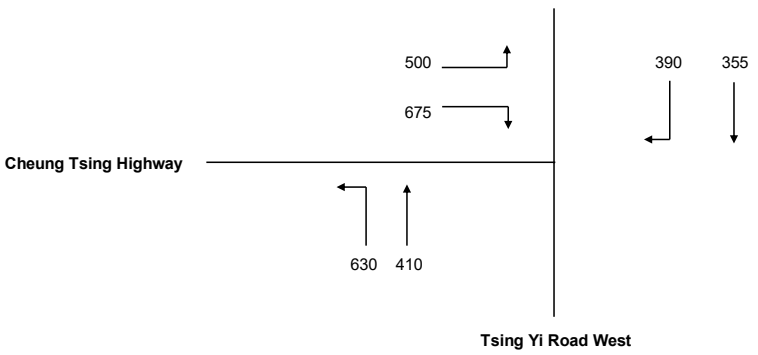
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

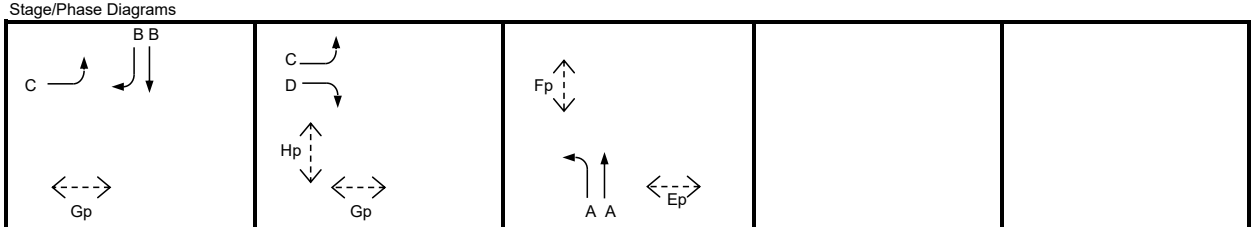
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	71	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	38	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	48	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 19%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	500			500	100%		1793	0.279	
	D	2	3.030	2		18	0	0		0		4116			675	675		100%	3799	0.178	0.178
	A	3	3.710	1	14			1		0		1986	630	0		630	100%		1794	0.351	0.351
	A	3	3.760	1				0		0		2131		410		410			2131	0.192	
	B	1	3.480	1				1		0		1963		249		249			1963	0.127	
	B	1	3.300	1		19	0			0		2085		106	148	253		58%	1993	0.127	
	B	1	3.300	1		16	0	0		0		2085			242	242		100%	1906	0.127	0.127

Pedestrain Crossing			GM		FGM		Total		
Ep	3	min.	5	+	6	=	11	sec	
Fp	3	min.	5	+	10	=	15	sec	
Gp	1,2	min.	5	+	9	=	14	sec	
Hp	2	min.	5	+	10	=	15	sec	

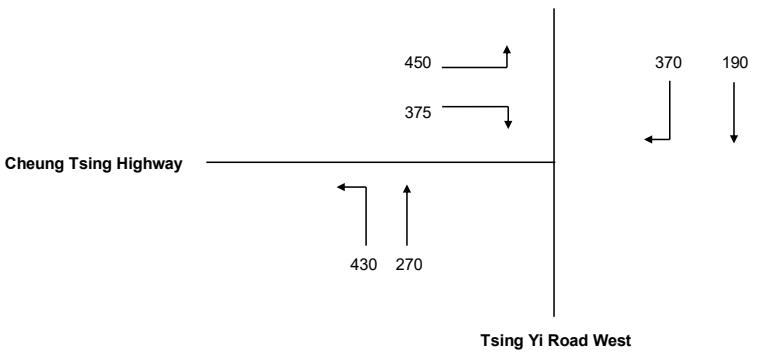
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

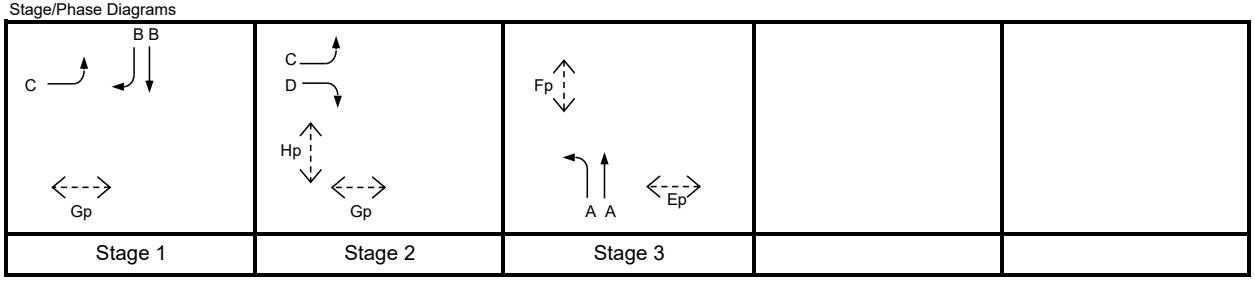
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$	=	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	22	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	66.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	24	sec
Y_{max}	$= 1-L/C$	=	0.895	

Stage/Phase Diagrams



Stage 1	Stage 2	Stage 3		
I/G = 6	I/G = 3	I/G =		4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	450			450	100%		1793	0.251	0.251
	D	2	3.030	2		18	0	0		0		4116			375	375		100%	3799	0.099	
	A	3	3.710	1	14			1		0		1986	430	0		430	100%		1794	0.240	0.240
	A	3	3.760	1				0		0		2131		270		270			2131	0.127	
	B	1	3.480	1				1		0		1963		189		189			1963	0.097	
	B	1	3.300	1		19	0			0		2085		1	186	187		100%	1933	0.097	
	B	1	3.300	1		16	0	0		0		2085			184	184		100%	1906	0.097	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

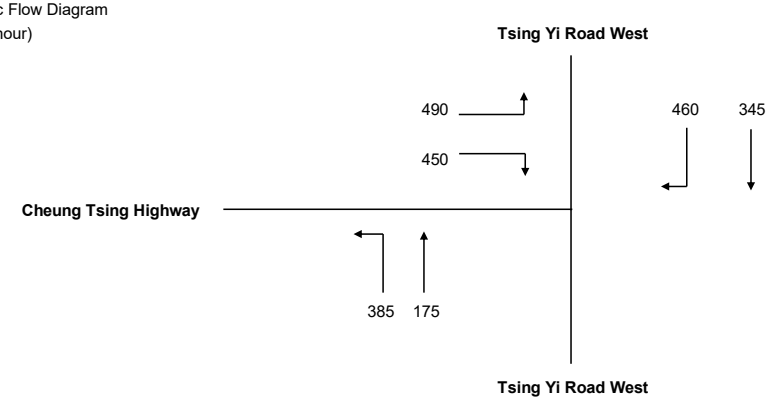
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

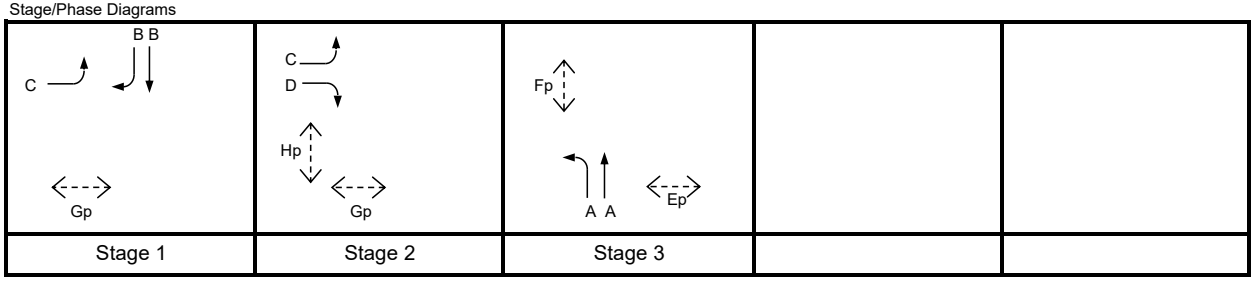
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.488	
Lost time	L =	11	sec
Total Flow	=	2,305	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	42	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	21	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.818	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	67.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	24	sec
Y_{max}	$= 1-L/C$ =	0.890	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\% =$ 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	490			490	100%		1793	0.273	0.273
	D	2	3.030	2		18	0	0		0		4116			450	450		100%	3799	0.118	
	A	3	3.710	1	14			1		0		1986	385	0		385	100%		1794	0.215	0.215
	A	3	3.760	1				0		0		2131		175		175			2131	0.082	
	B	1	3.480	1				1		0		1963		271		271			1963	0.138	
	B	1	3.300	1		19	0			0		2085		74	197	272		73%	1972	0.138	
	B	1	3.300	1		16	0	0		0		2085			263	263		100%	1906	0.138	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

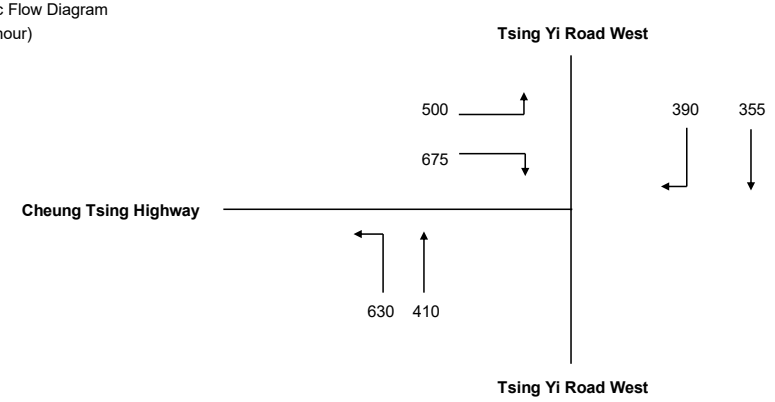
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

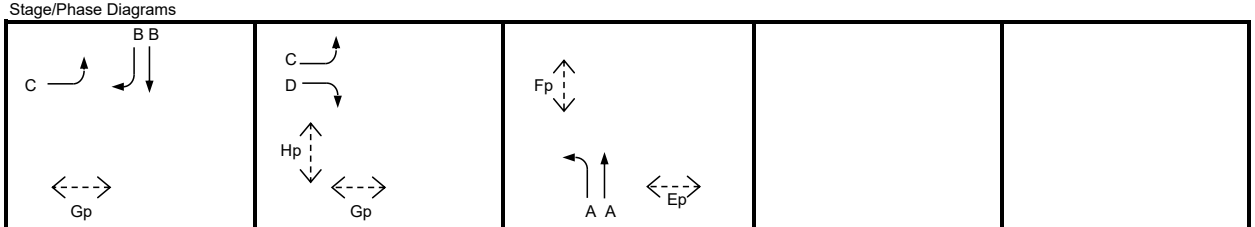
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	100	sec
Sum(y)	Y =	0.656	
Lost time	L =	13	sec
Total Flow	=	2,960	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	71	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	38	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.803	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	22.3	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	48	sec
Y_{max}	$= 1-L/C$ =	0.870	

Stage/Phase Diagrams



I/G = 5 I/G = 6 I/G = 3 2

Critical Case : B,D,A

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 19%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	1,2	3.270	1	18			1		0		1942	500			500	100%		1793	0.279	
	D	2	3.030	2		18	0	0		0		4116			675	675		100%	3799	0.178	0.178
	A	3	3.710	1	14			1		0		1986	630	0		630	100%		1794	0.351	0.351
	A	3	3.760	1				0		0		2131		410		410			2131	0.192	
	B	1	3.480	1				1		0		1963		249		249			1963	0.127	
	B	1	3.300	1		19	0			0		2085		106	148	253		58%	1993	0.127	
	B	1	3.300	1		16	0	0		0		2085			242	242		100%	1906	0.127	0.127
Pedestrain Crossing				GM		FGM		Total													
	Ep	3	min.	5	+	6	=	11	sec												
	Fp	3	min.	5	+	10	=	15	sec												
	Gp	1,2	min.	5	+	9	=	14	sec												
	Hp	2	min.	5	+	10	=	15	sec												

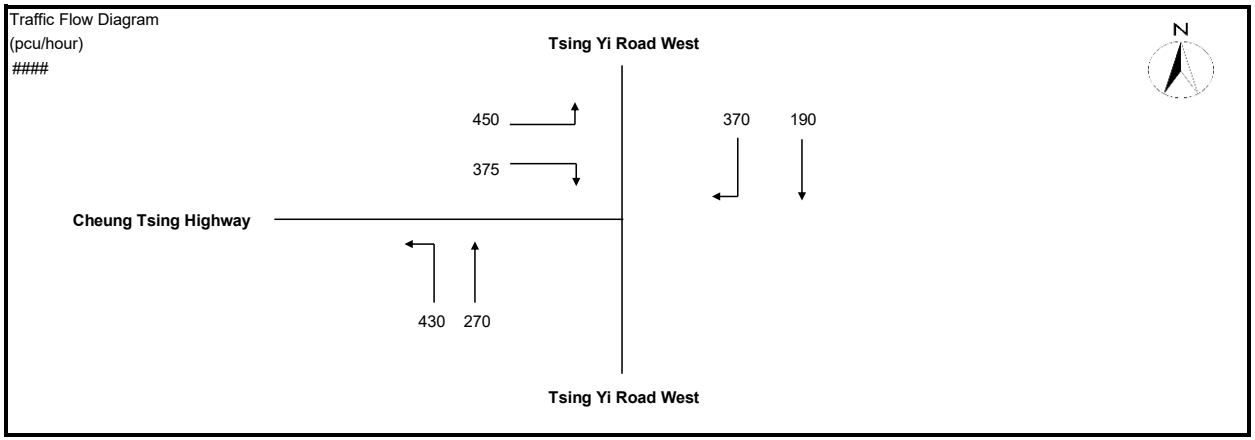
JUNCTION CAPACITY CALCULATION

AECOM

Junction J10 - Cheung Tsing Highway / Tsing Yi Road West	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J10

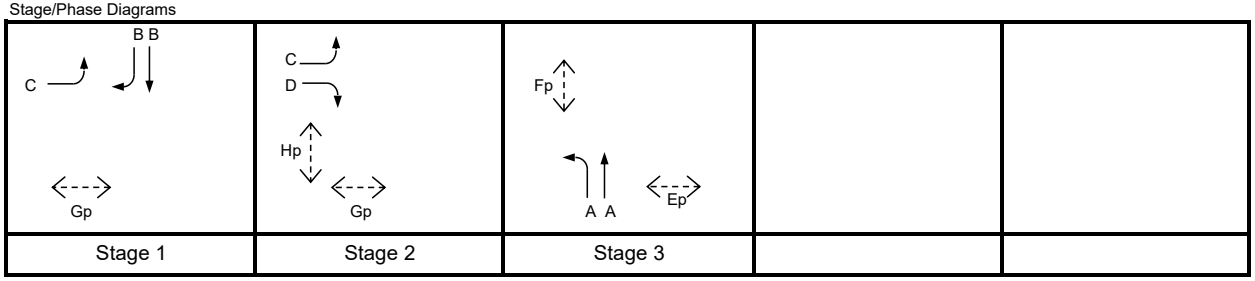
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	3	
Cycle time	C =	105	sec
Sum(y)	Y =	0.491	
Lost time	L =	11	sec
Total Flow	=	2,085	pcu

Optimum Cycle C_o = (1.5×L+5)/(1-Y) =		42	sec
Min. Cycle Time C_m = L/(1-Y) =		22	sec
Y_{ult} = 0.9-0.0075×L =		0.818	
$R.C._{ult}$ = $(Y_{ult}-Y)/Yx100\%$ =		66.6	%
Practical Cycle Time C_p = 0.9×L/(0.9-Y) =		24	sec
Y_{max} = 1-L/C =		0.895	

Stage/Phase Diagrams



I/G = 6 I/G = 3 I/G = 4

Critical Case : C,A

R.C.(C) = $(0.9xY_{max}-Y)/Yx100\%$ = 64%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
C	C	1,2	3.270	1	18			1		0		1942	450			450	100%		1793	0.251	0.251
D	D	2	3.030	2		18	0	0		0		4116			375	375		100%	3799	0.099	
A	A	3	3.710	1	14			1		0		1986	430	0		430	100%		1794	0.240	0.240
A	A	3	3.760	1				0		0		2131		270		270			2131	0.127	
B	B	1	3.480	1				1		0		1963		189		189			1963	0.097	
B	B	1	3.300	1		19	0			0		2085		1	186	187		100%	1933	0.097	
B	B	1	3.300	1		16	0	0		0		2085			184	184		100%	1906	0.097	

Pedestrain Crossing			GM		FGM		Total				
Ep	3	min.	5	+	6	=	11	sec			
Fp	3	min.	5	+	10	=	15	sec			
Gp	1,2	min.	5	+	9	=	14	sec			
Hp	2	min.	5	+	10	=	15	sec			

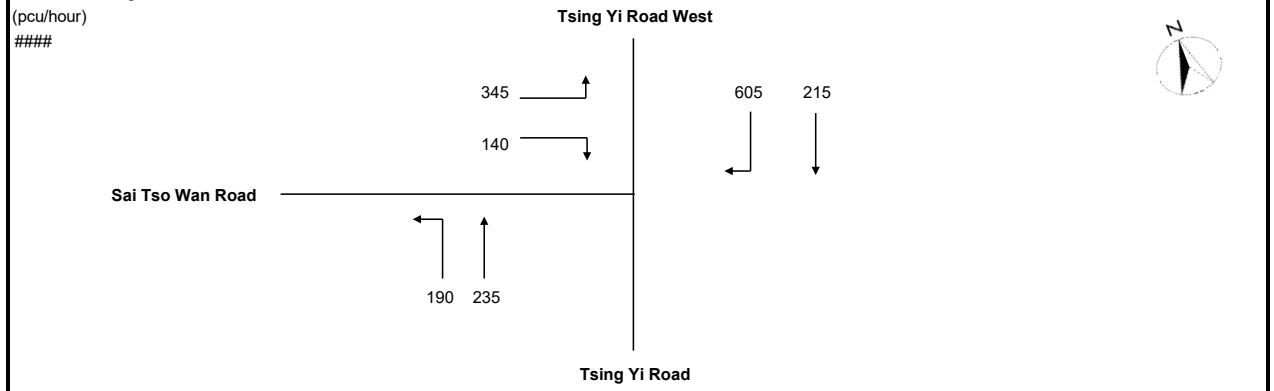
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2025 Survey Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

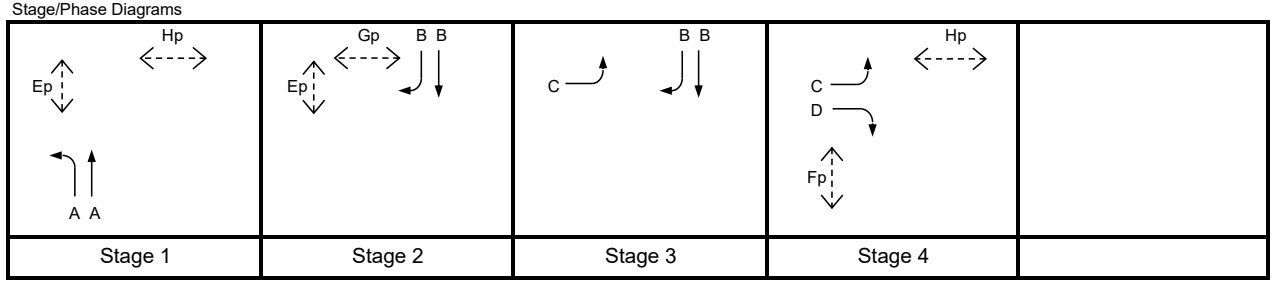
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.423	
Lost time	L =	37	sec
Total Flow	=	1,730	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	105	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	64	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	47.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	70	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 47%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	345			345	100%		1776	0.194	
	D	4	3.890	1		14	0	0		0		2144			140	140		100%	1937	0.072	
	A	1	3.980	1	13			1		0		2013	190			190	100%		1805	0.105	
	A	1	3.750	1				0		0		2130		235		235			2130	0.110	0.110
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			605	605		100%	1933	0.313	0.313
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

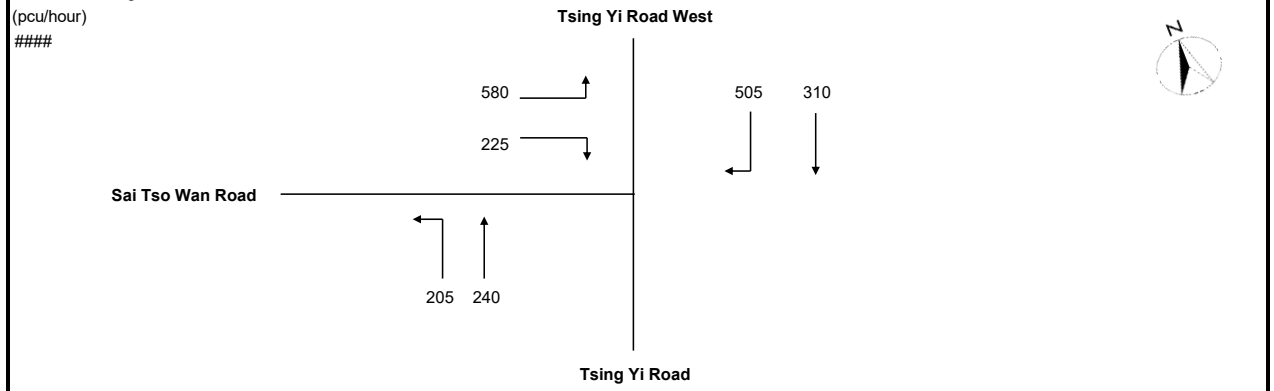
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2025 Survey Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

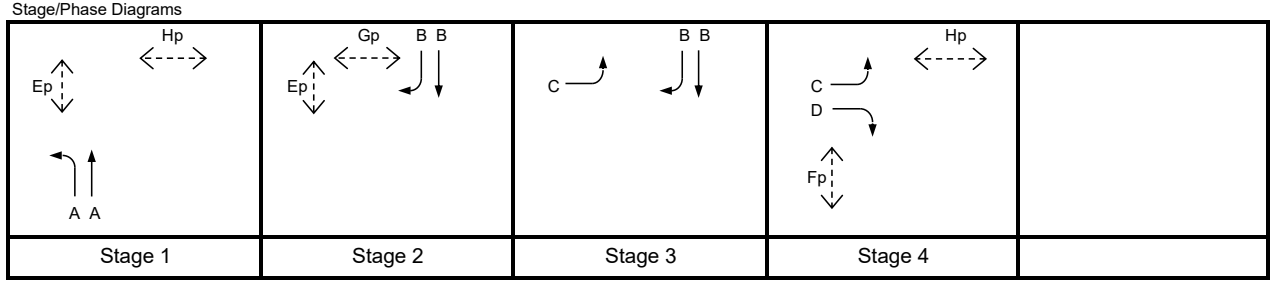
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.440	
Lost time	L =	30	sec
Total Flow	=	2,065	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	89	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	54	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	53.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	59	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 49%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	580			580	100%		1776	0.327	0.327
	D	4	3.890	1		14	0	0		0		2144			225	225		100%	1937	0.116	
	A	1	3.980	1	13			1		0		2013	205			205	100%		1805	0.114	0.114
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	
	B	2,3	3.570	1				1		0		1972		310		310			1972	0.157	
	B	2,3	3.590	1		16	0	0		0		2114			505	505		100%	1933	0.261	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

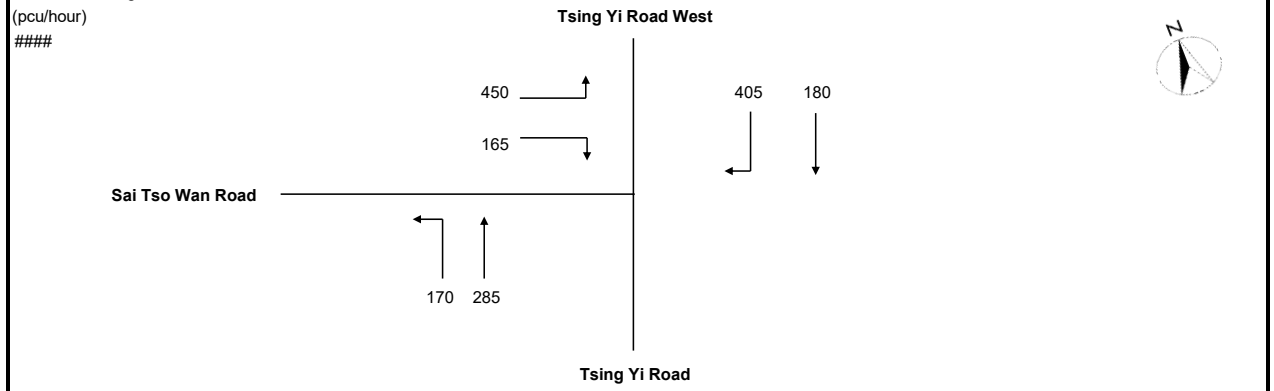
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2025 Survey Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

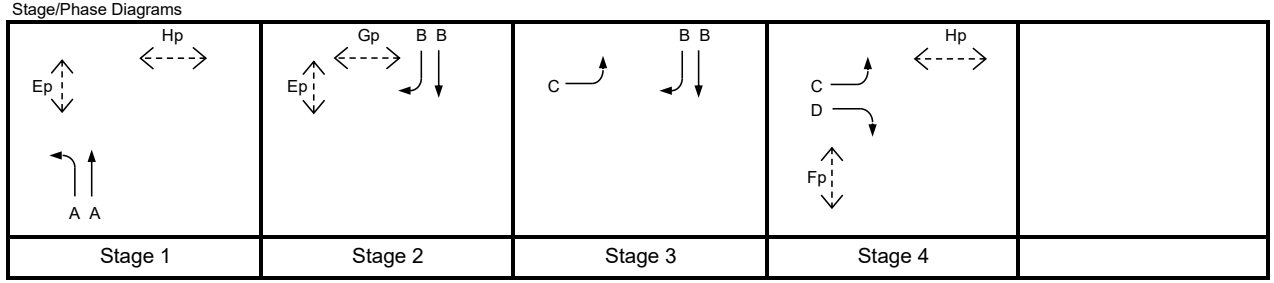
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.387	
Lost time	L =	30	sec
Total Flow	=	1,655	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	82	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	49	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	74.4	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	53	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 69%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	450			450	100%		1776	0.253	0.253
	D	4	3.890	1		14	0	0		0		2144			165	165		100%	1937	0.085	
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		285		285			2130	0.134	0.134
	B	2,3	3.570	1				1		0		1972		180		180			1972	0.091	
	B	2,3	3.590	1		16	0	0		0		2114			405	405		100%	1933	0.210	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

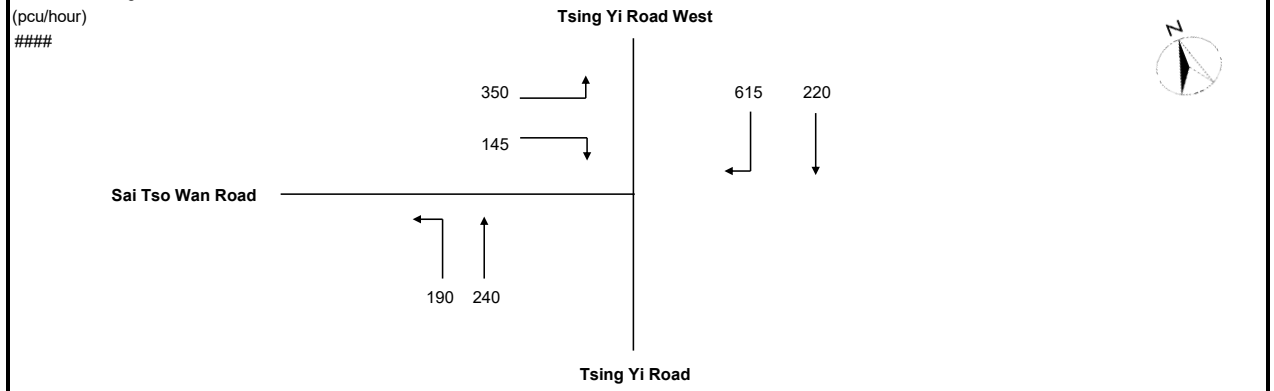
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

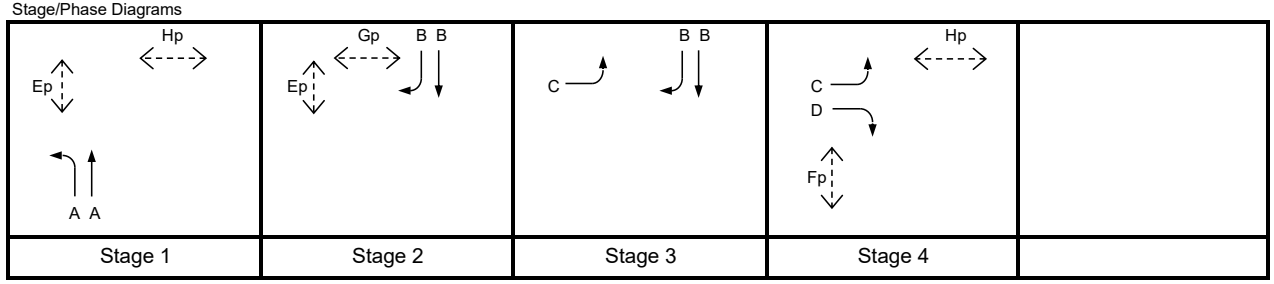
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.431	
Lost time	L =	37	sec
Total Flow	=	1,760	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	106	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	65	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	44.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	71	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	350			350	100%		1776	0.197	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	190			190	100%		1805	0.105	
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	0.113
	B	2,3	3.570	1				1		0		1972		220		220			1972	0.112	
	B	2,3	3.590	1		16	0	0		0		2114			615	615		100%	1933	0.318	0.318
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

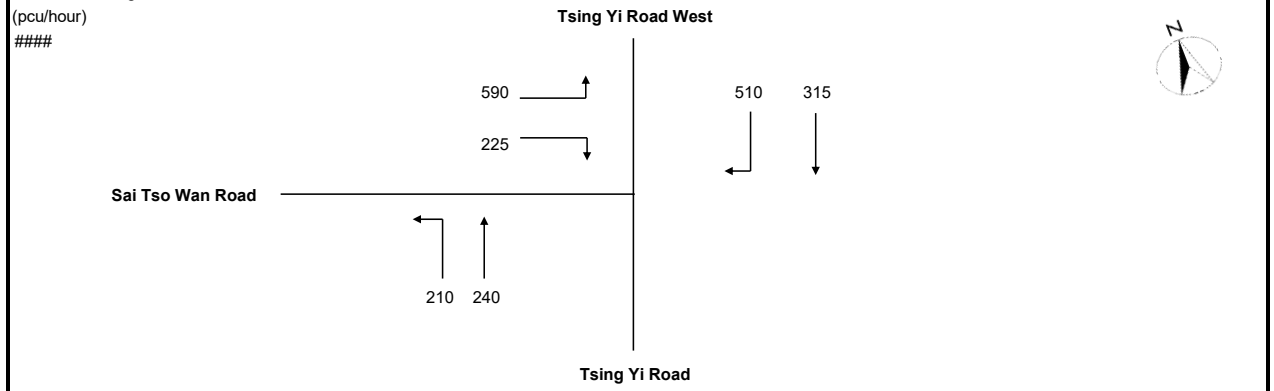
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

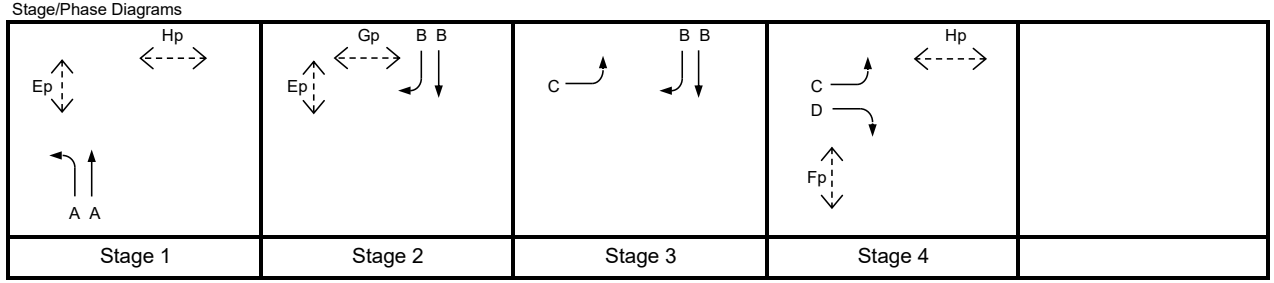
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.448	
Lost time	L =	30	sec
Total Flow	=	2,090	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		91	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	54	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	50.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	60	sec
Y_{max}	$= 1-L/C$	=	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	590			590	100%		1776	0.332	0.332
	D	4	3.890	1		14	0	0		0		2144			225	225		100%	1937	0.116	
	A	1	3.980	1	13			1		0		2013	210			210	100%		1805	0.116	0.116
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	
	B	2,3	3.570	1				1		0		1972		315		315			1972	0.160	
	B	2,3	3.590	1		16	0	0		0		2114			510	510		100%	1933	0.264	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

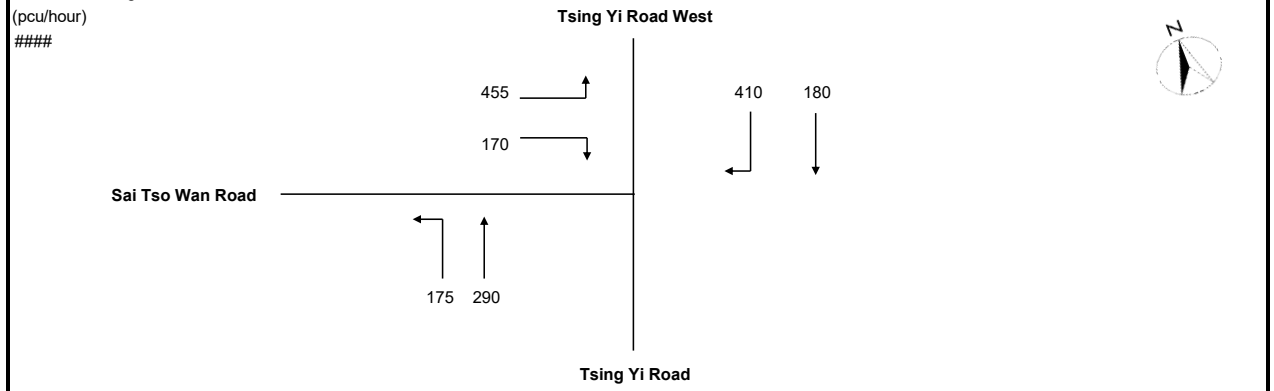
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

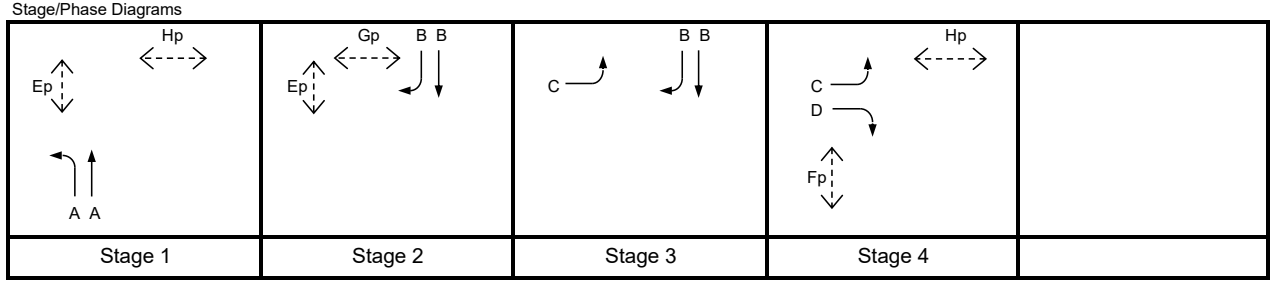
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.392	
Lost time	L =	30	sec
Total Flow	=	1,680	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	82	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	49	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	72.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	53	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 67%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	455			455	100%		1776	0.256	0.256
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	
	A	1	3.980	1	13			1		0		2013	175			175	100%		1805	0.097	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		180		180			1972	0.091	
	B	2,3	3.590	1		16	0	0		0		2114			410	410		100%	1933	0.212	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

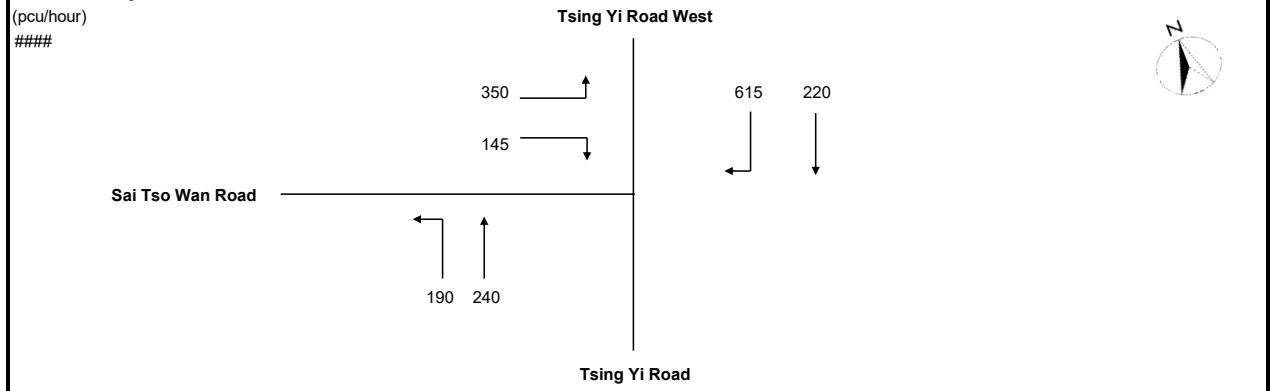
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Design Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

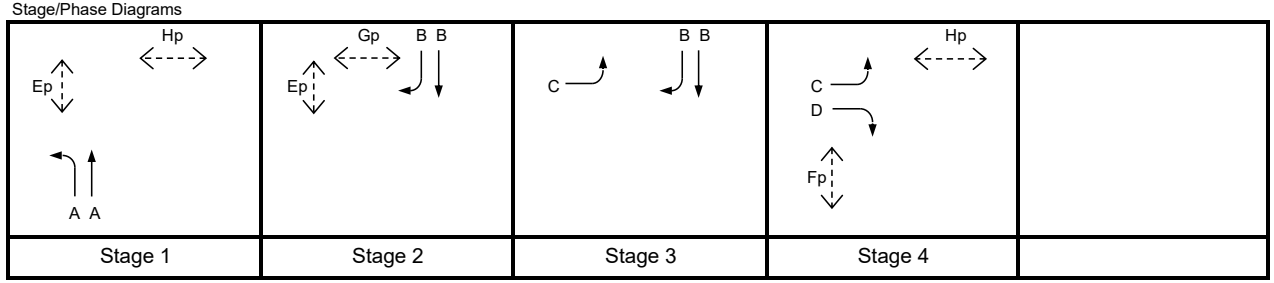
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.431	
Lost time	L =	37	sec
Total Flow	=	1,760	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		106	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	65	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	44.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	71	sec
Y_{max}	$= 1-L/C$	=	0.692	

Stage/Phase Diagrams



Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 44%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	350			350	100%		1776	0.197	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	190			190	100%		1805	0.105	
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	0.113
	B	2,3	3.570	1				1		0		1972		220		220			1972	0.112	
	B	2,3	3.590	1		16	0	0		0		2114			615	615		100%	1933	0.318	0.318
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

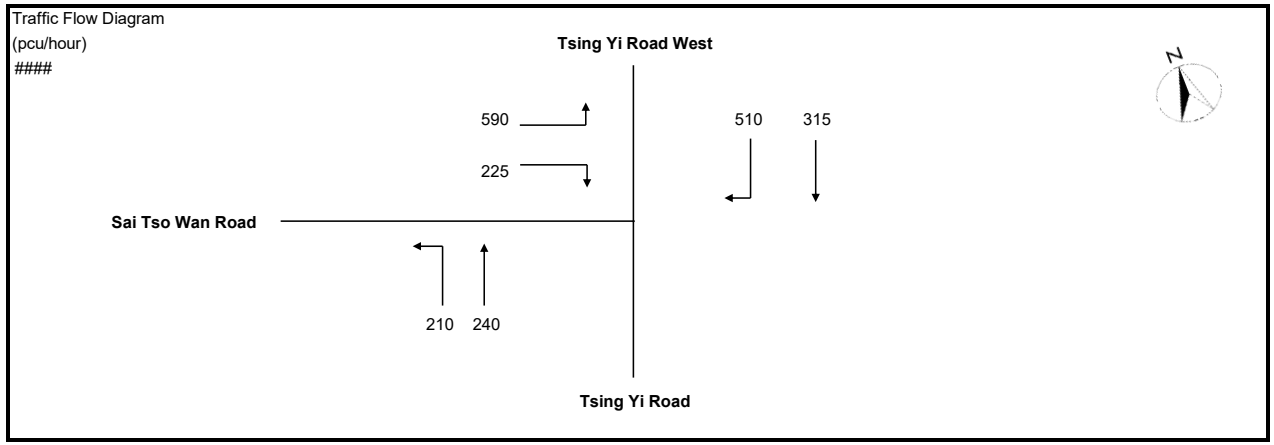
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Design Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

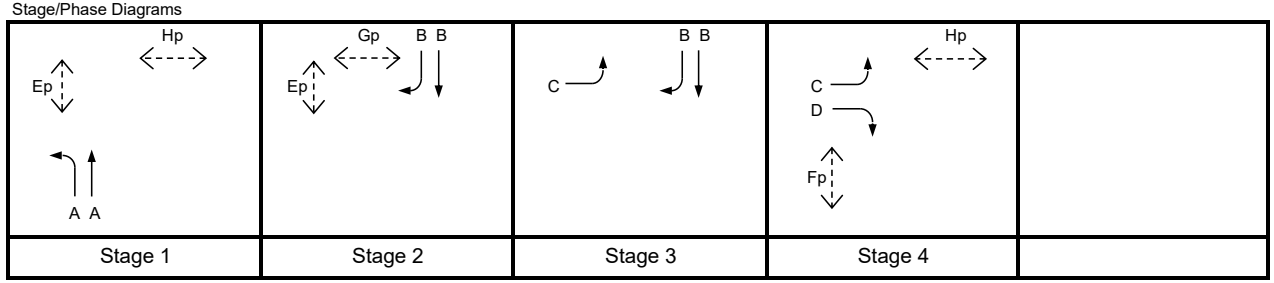
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.448	
Lost time	L =	30	sec
Total Flow	=	2,090	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	91	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	54	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	50.5	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	60	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Y \times 100\%$ = 46%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	590			590	100%		1776	0.332	0.332
	D	4	3.890	1		14	0	0		0		2144			225	225		100%	1937	0.116	
	A	1	3.980	1	13			1		0		2013	210			210	100%		1805	0.116	0.116
	A	1	3.750	1				0		0		2130		240		240			2130	0.113	
	B	2,3	3.570	1				1		0		1972		315		315			1972	0.160	
	B	2,3	3.590	1		16	0	0		0		2114			510	510		100%	1933	0.264	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

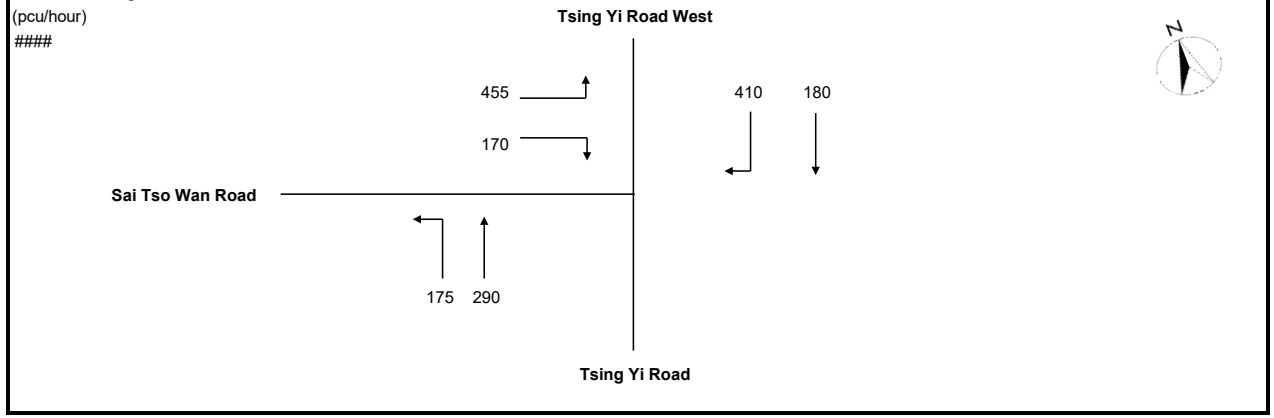
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2028 Design Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

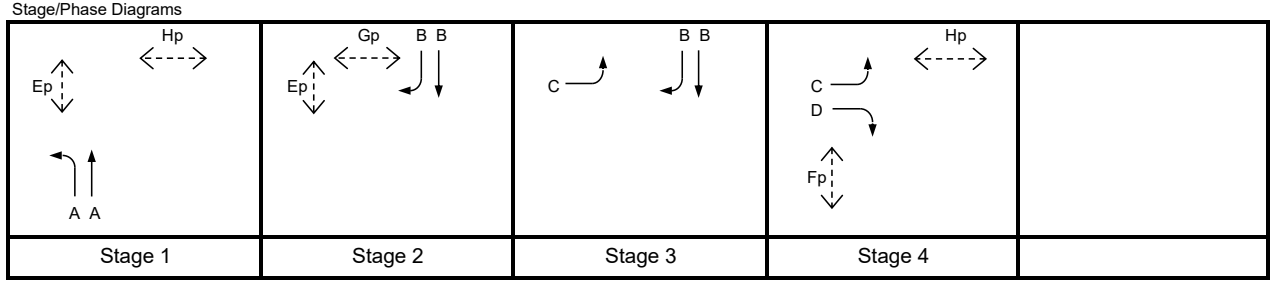
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.392	
Lost time	L =	30	sec
Total Flow	=	1,680	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	82	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	49	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	72.1	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	53	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 67%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
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	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	
	A	1	3.980	1	13			1		0		2013	175			175	100%		1805	0.097	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		180		180			1972	0.091	
	B	2,3	3.590	1		16	0	0		0		2114			410	410		100%	1933	0.212	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

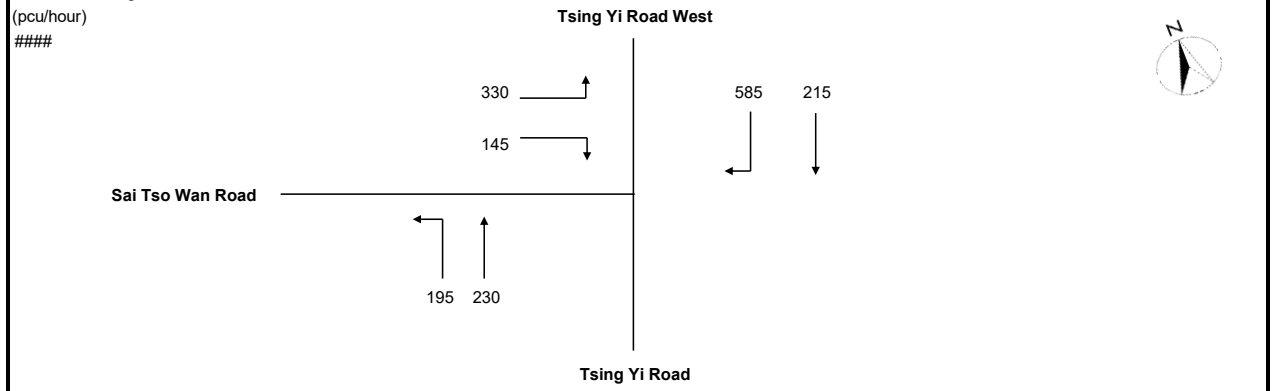
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Reference Case AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

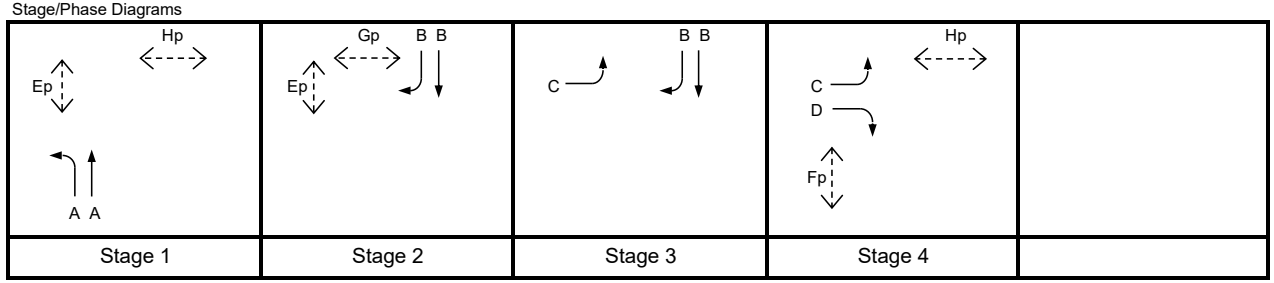
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.411	
Lost time	L =	37	sec
Total Flow	=	1,700	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	103	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	63	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	51.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	68	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 52%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	330			330	100%		1776	0.186	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	195			195	100%		1805	0.108	0.108
	A	1	3.750	1				0		0		2130		230		230			2130	0.108	
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			585	585		100%	1933	0.303	0.303
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

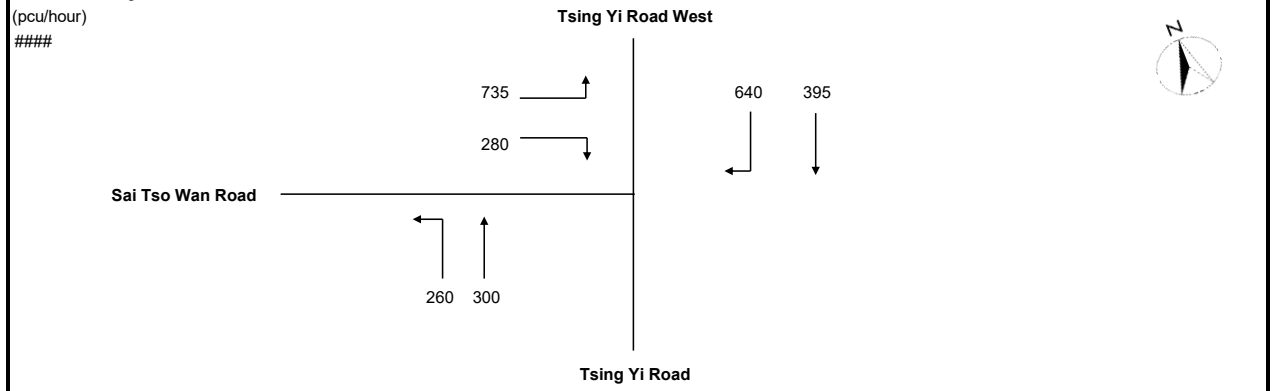
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Reference Case NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

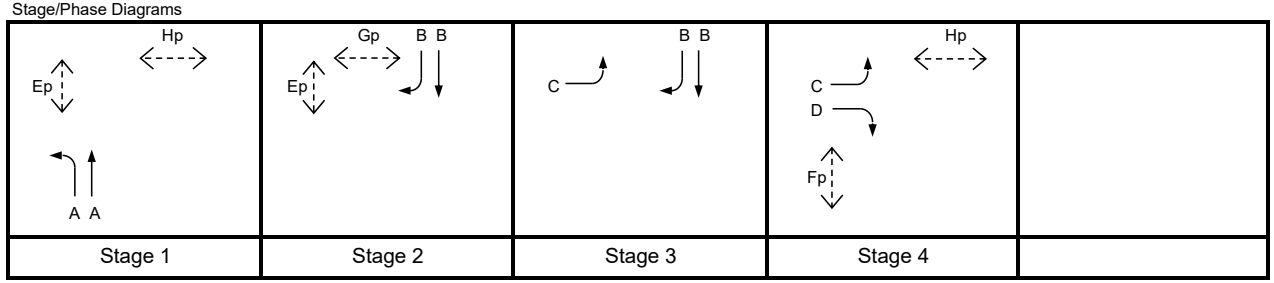
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.558	
Lost time	L =	30	sec
Total Flow	=	2,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		113	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	21.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	79	sec
Y_{max}	$= 1-L/C$	=	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 17%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	735			735	100%		1776	0.414	0.414
	D	4	3.890	1		14	0	0		0		2144			280	280		100%	1937	0.145	
	A	1	3.980	1	13			1		0		2013	260			260	100%		1805	0.144	0.144
	A	1	3.750	1				0		0		2130		300		300			2130	0.141	
	B	2,3	3.570	1				1		0		1972		395		395			1972	0.200	
	B	2,3	3.590	1		16	0	0		0		2114			640	640		100%	1933	0.331	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

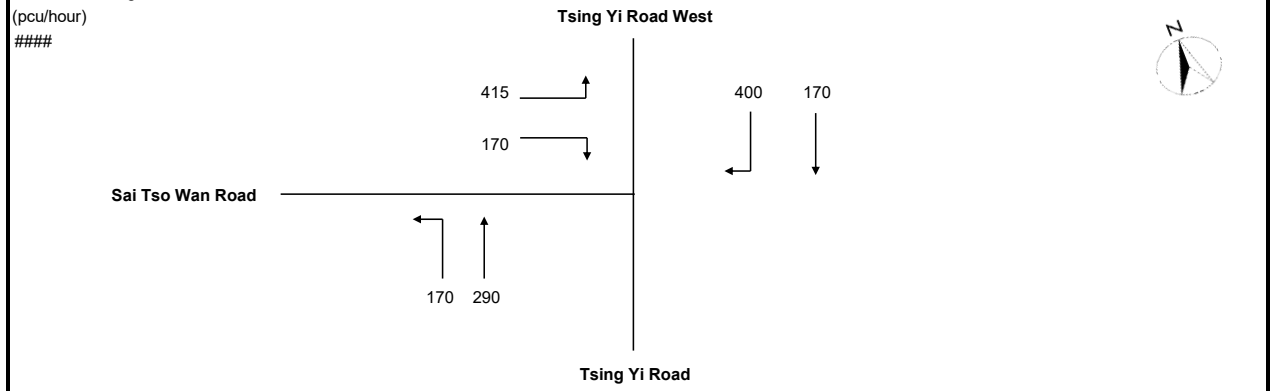
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Reference Case PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

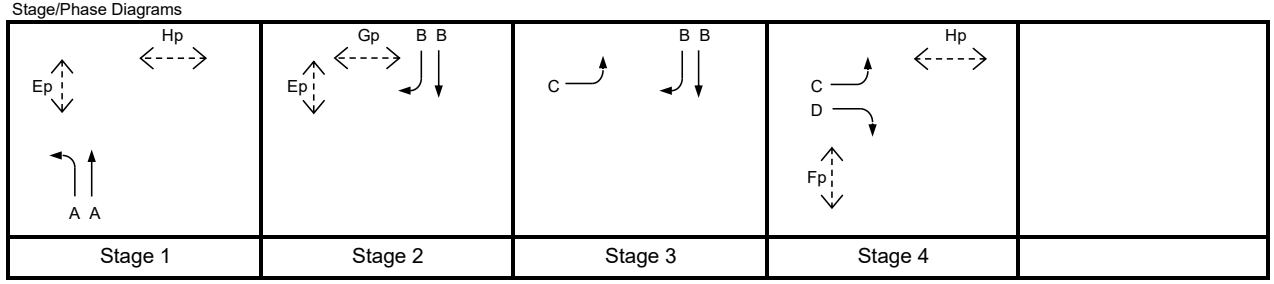
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	19	sec
Total Flow	=	1,615	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		59	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	33	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.758	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	75.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	36	sec
Y_{max}	$= 1-L/C$	=	0.827	

Stage/Phase Diagrams



Critical Case : A,B,D

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 73%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	415			415	100%		1776	0.234	
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	0.088
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		170		170			1972	0.086	
	B	2,3	3.590	1		16	0	0		0		2114			400	400		100%	1933	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

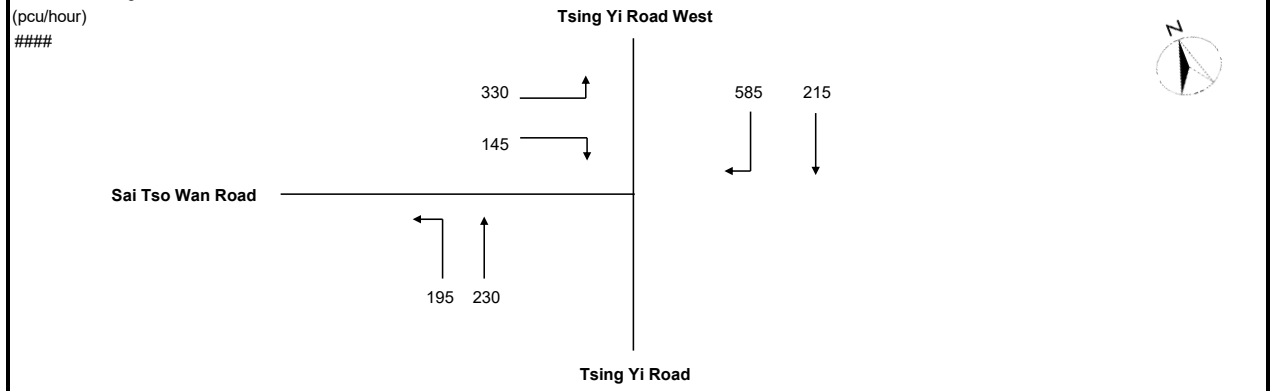
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario A AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

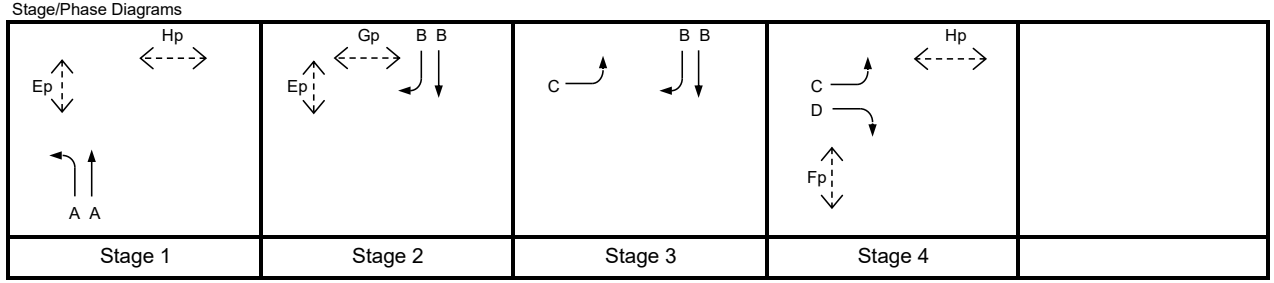
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.411	
Lost time	L =	37	sec
Total Flow	=	1,700	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	103	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	63	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	51.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	68	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 52%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	330			330	100%		1776	0.186	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	195			195	100%		1805	0.108	0.108
	A	1	3.750	1				0		0		2130		230		230			2130	0.108	
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			585	585		100%	1933	0.303	0.303
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

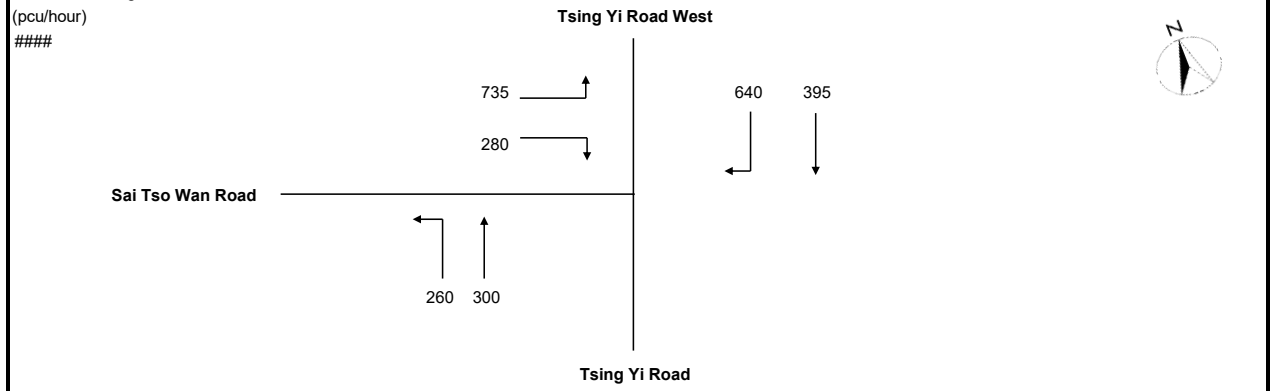
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario A NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

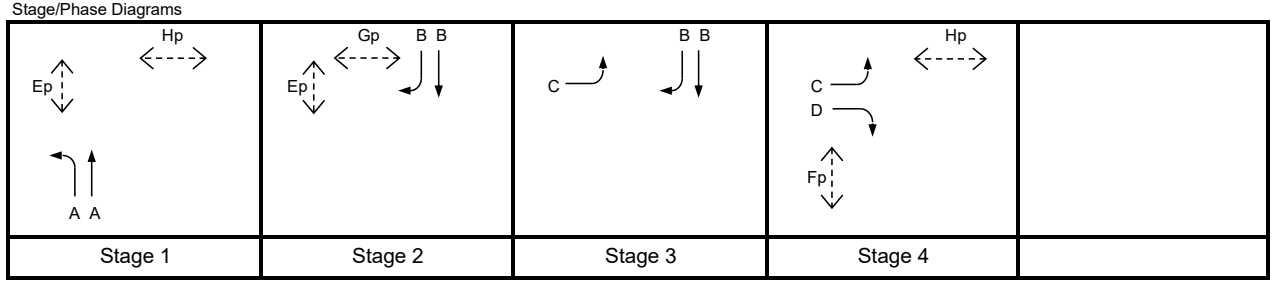
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.558	
Lost time	L =	30	sec
Total Flow	=	2,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	113	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.675	
$R.C._{ult}$	$= (Y_{ult}-Y)/Yx100\%$ =	21.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	79	sec
Y_{max}	$= 1-L/C$ =	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 17%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	735			735	100%		1776	0.414	0.414
	D	4	3.890	1		14	0	0		0		2144			280	280		100%	1937	0.145	
	A	1	3.980	1	13			1		0		2013	260			260	100%		1805	0.144	0.144
	A	1	3.750	1				0		0		2130		300		300			2130	0.141	
	B	2,3	3.570	1				1		0		1972		395		395			1972	0.200	
	B	2,3	3.590	1		16	0	0		0		2114			640	640		100%	1933	0.331	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

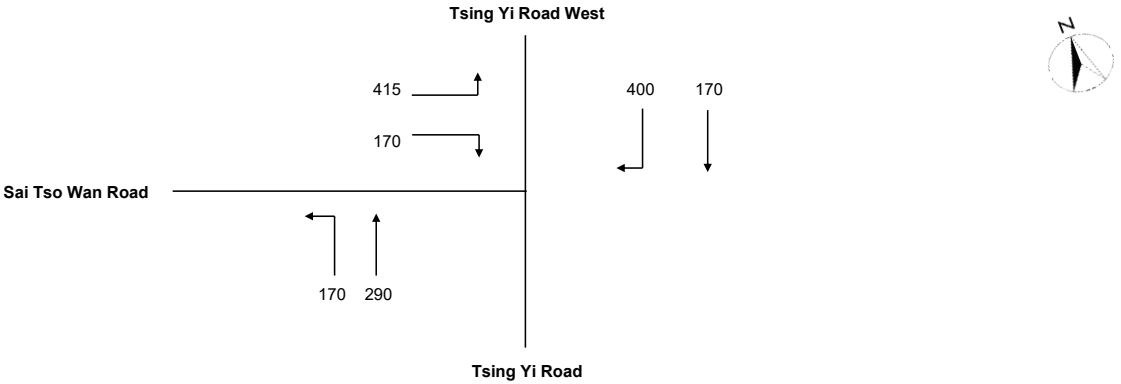
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario A PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

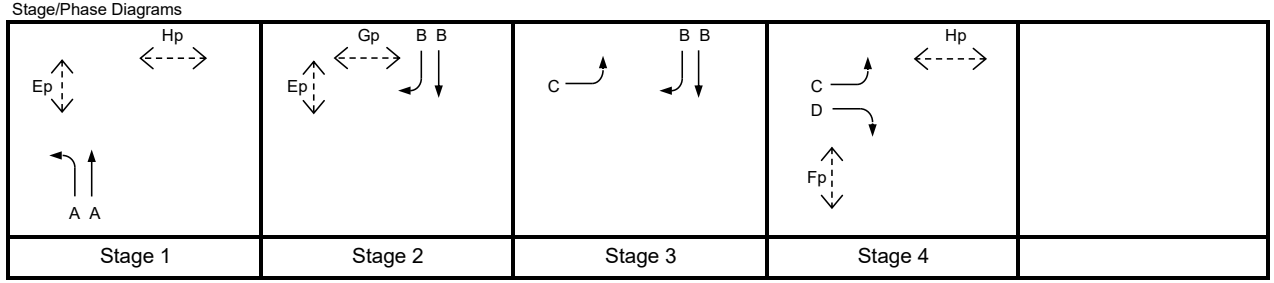
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	19	sec
Total Flow	=	1,615	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		59	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	33	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.758	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$	=	75.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	36	sec
Y_{max}	$= 1-L/C$	=	0.827	

Stage/Phase Diagrams



Critical Case : A,B,D

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 73%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	415			415	100%		1776	0.234	
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	0.088
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		170		170			1972	0.086	
	B	2,3	3.590	1		16	0	0		0		2114			400	400		100%	1933	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

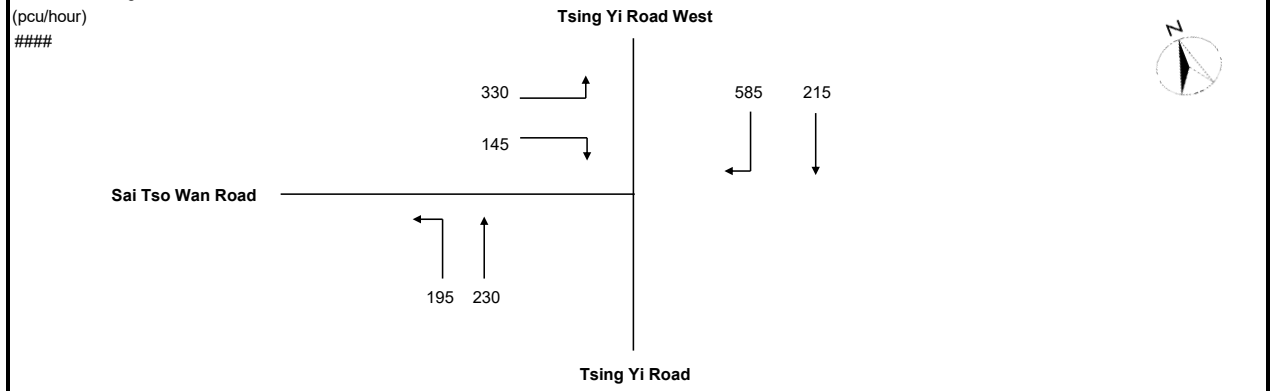
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario B AM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

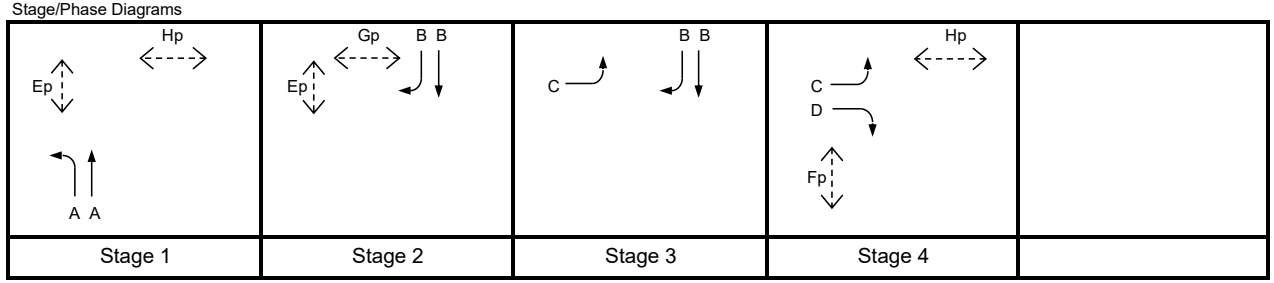
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	120	sec
Sum(y)	Y =	0.411	
Lost time	L =	37	sec
Total Flow	=	1,700	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	103	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	63	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.623	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	51.6	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	68	sec
Y_{max}	$= 1-L/C$ =	0.692	

Stage/Phase Diagrams



I/G = 10 I/G = 10 I/G = 12 G = 5 I/G = 2

Critical Case : A,B,Fp

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 52%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	330			330	100%		1776	0.186	
	D	4	3.890	1		14	0	0		0		2144			145	145		100%	1937	0.075	
	A	1	3.980	1	13			1		0		2013	195			195	100%		1805	0.108	0.108
	A	1	3.750	1				0		0		2130		230		230			2130	0.108	
	B	2,3	3.570	1				1		0		1972		215		215			1972	0.109	
	B	2,3	3.590	1		16	0	0		0		2114			585	585		100%	1933	0.303	0.303
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												*
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

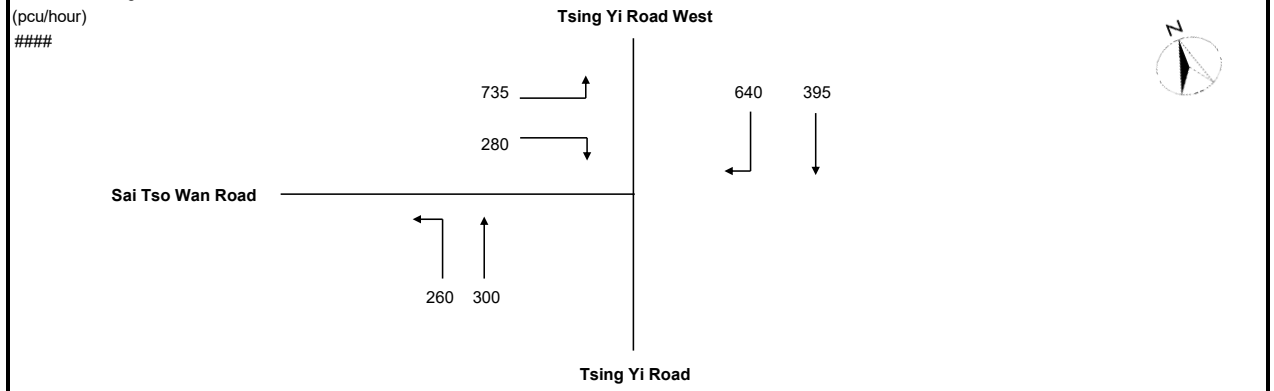
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario B NN	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

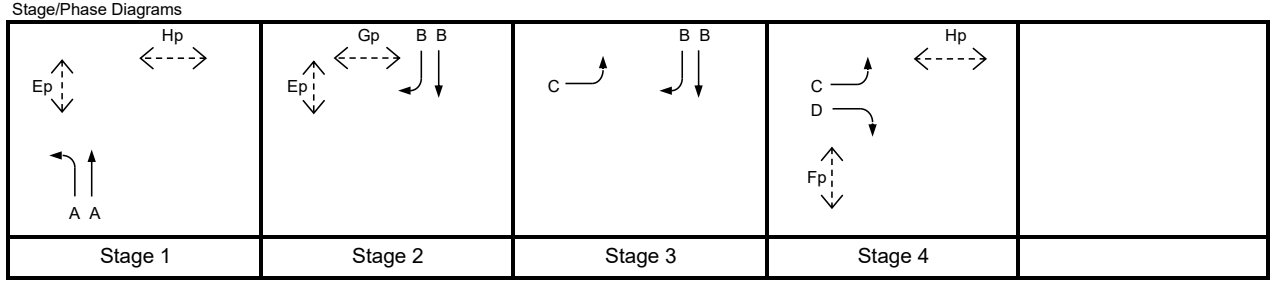
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.558	
Lost time	L =	30	sec
Total Flow	=	2,610	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =		113	sec
Min. Cycle Time C_m	$= L/(1-Y)$	=	68	sec
Y_{ult}	$= 0.9-0.0075 \times L$	=	0.675	
$R.C._{.ult}$	$= (Y_{ult}-Y)/Yx100\%$	=	21.0	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$	=	79	sec
Y_{max}	$= 1-L/C$	=	0.727	

Stage/Phase Diagrams



I/G = 8 G = 5 I/G = 12 I/G = 5 I/G = 2

Critical Case : A,Gp,C

R.C.(C) $= (0.9xY_{max}-Y)/Yx100\%$ = 17%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	735			735	100%		1776	0.414	0.414
	D	4	3.890	1		14	0	0		0		2144			280	280		100%	1937	0.145	
	A	1	3.980	1	13			1		0		2013	260			260	100%		1805	0.144	0.144
	A	1	3.750	1				0		0		2130		300		300			2130	0.141	
	B	2,3	3.570	1				1		0		1972		395		395			1972	0.200	
	B	2,3	3.590	1		16	0	0		0		2114			640	640		100%	1933	0.331	
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												*
	Hp	1,4	min.	5	+	7	=	12	sec												

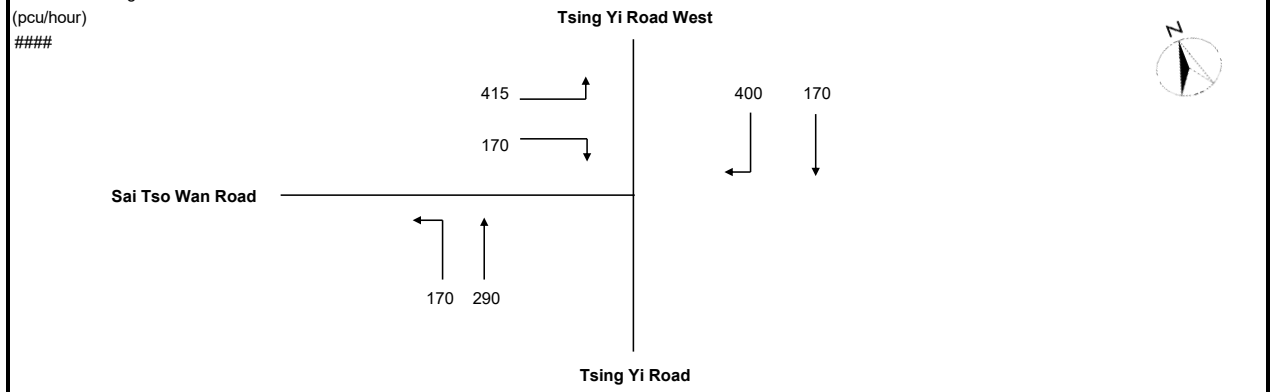
JUNCTION CAPACITY CALCULATION

AECOM

Junction J11 - Sai Tso Wan Road / Tsing Yi Road / Tsing Yi Road West	2031 Scenario B PM	DESIGN: PCH	CHECK: MKC	JOB NO: 60733229	DATE: Nov 2025

J11

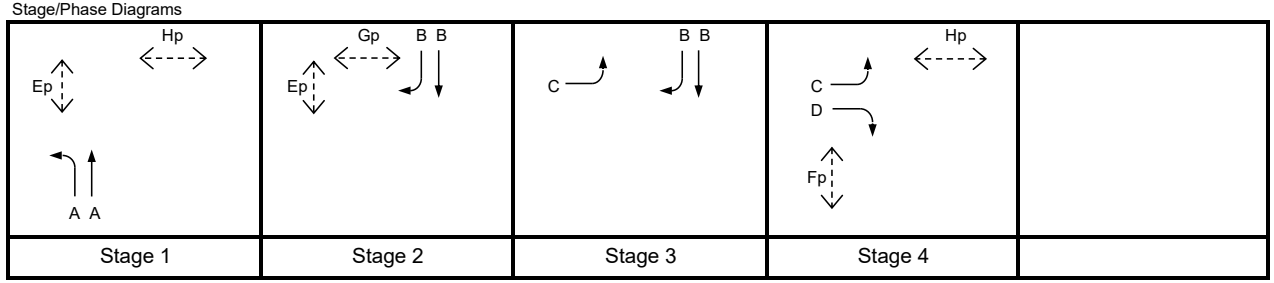
Traffic Flow Diagram
(pcu/hour)
####



No. of stages per cycle	N =	4	
Cycle time	C =	110	sec
Sum(y)	Y =	0.431	
Lost time	L =	19	sec
Total Flow	=	1,615	pcu

Optimum Cycle C_o	$= (1.5 \times L+5)/(1-Y)$ =	59	sec
Min. Cycle Time C_m	$= L/(1-Y)$ =	33	sec
Y_{ult}	$= 0.9-0.0075 \times L$ =	0.758	
$R.C._{ult}$	$= (Y_{ult}-Y)/Y \times 100\%$ =	75.8	%
Practical Cycle Time C_p	$= 0.9 \times L/(0.9-Y)$ =	36	sec
Y_{max}	$= 1-L/C$ =	0.827	

Stage/Phase Diagrams



Critical Case : A,B,D

R.C.(C) $= (0.9 \times Y_{max}-Y)/Y \times 100\%$ = 73%

MOVEMENT	PHASE	STAGE	LANE WIDTH (m)	NO. OF LANES	RADIUS (m) LEFT	RADIUS (m) RIGHT	OPPOSING TRAFFIC	NEAR SIDE LANE	UPHILL GRADIENT (%)	GRADIENT EFFECT (pcu/hr)	ADDITIONAL CAPACITY (pcu/hr)	STRAIGHT-AHEAD SAT. FLOW (pcu/hr)	FLOW (pcu/hr) LEFT	FLOW (pcu/hr) STRAIGHT AHEAD	FLOW (pcu/hr) RIGHT	TOTAL FLOW (pcu/hr)	PROPORTION OF TURNING VEHICLES (%) LEFT	PROPORTION OF TURNING VEHICLES (%) RIGHT	REVISED SAT. FLOW (pcu/hr)	FLOW FACTOR *y*	CRITICAL *y*
	C	3,4	3.390	1	15			1		0		1954	415			415	100%		1776	0.234	
	D	4	3.890	1		14	0	0		0		2144			170	170		100%	1937	0.088	0.088
	A	1	3.980	1	13			1		0		2013	170			170	100%		1805	0.094	
	A	1	3.750	1				0		0		2130		290		290			2130	0.136	0.136
	B	2,3	3.570	1				1		0		1972		170		170			1972	0.086	
	B	2,3	3.590	1		16	0	0		0		2114			400	400		100%	1933	0.207	0.207
Pedestrain Crossing				GM		FGM		Total													
	Ep	1,2	min.	5	+	8	=	13	sec												
	Fp	4	min.	5	+	10	=	15	sec												
	Gp	2	min.	5	+	9	=	14	sec												
	Hp	1,4	min.	5	+	7	=	12	sec												

Appendix C
Traffic Model Validation Results

Validation Result at Screenlines (Daily)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	42,600	42,900	1.01	15,400	14,600	0.95	8,500	8,600	1.01	10,200	9,000	0.89	76,600	75,100	0.98
	S/B	41,500	39,500	0.95	15,600	13,800	0.88	8,700	9,000	1.04	10,500	9,400	0.89	76,400	71,700	0.94
	2-way Total	84,100	82,400	0.98	31,000	28,400	0.92	17,200	17,600	1.03	20,700	18,400	0.89	153,000	146,800	0.96
Hong Kong Internal Cordon	I/B	123,500	118,200	0.96	72,900	74,400	1.02	19,200	17,900	0.93	28,800	30,500	1.06	244,500	241,000	0.99
	O/B	124,600	112,600	0.90	72,000	72,100	1.00	18,200	18,000	0.99	27,000	30,300	1.12	241,900	233,100	0.96
	2-way Total	248,200	230,800	0.93	145,000	146,500	1.01	37,400	35,900	0.96	55,900	60,800	1.09	486,400	474,000	0.97
Kowloon External Cordon	N/B	193,500	191,000	0.99	65,100	61,500	0.95	28,600	32,100	1.12	93,700	97,200	1.04	380,900	381,800	1.00
	S/B	202,000	199,200	0.99	61,400	61,700	1.01	27,200	32,500	1.20	87,600	93,400	1.07	378,100	386,900	1.02
	2-way Total	395,500	390,200	0.99	126,500	123,300	0.97	55,800	64,600	1.16	181,300	190,600	1.05	759,000	768,700	1.01
Tsing Yi External Cordon	I/B	98,900	98,500	1.00	35,200	36,100	1.03	16,300	18,100	1.11	52,800	55,300	1.05	203,300	208,000	1.02
	O/B	100,700	100,400	1.00	36,400	37,000	1.02	16,600	18,300	1.10	53,700	55,300	1.03	207,400	210,900	1.02
	2-way Total	199,600	198,800	1.00	71,600	73,100	1.02	32,900	36,400	1.11	106,600	110,700	1.04	410,700	419,000	1.02
Lantau External Cordon	I/B	26,000	23,800	0.91	12,400	13,000	1.05	3,500	4,100	1.15	13,200	14,000	1.06	55,200	54,900	1.00
	O/B	26,200	24,600	0.94	13,400	12,900	0.96	3,300	4,100	1.22	13,000	14,000	1.08	56,000	55,500	0.99
	2-way Total	52,300	48,300	0.93	25,800	25,900	1.00	6,900	8,200	1.19	26,200	28,000	1.07	111,200	110,500	0.99
Shatin External Cordon	O/B	162,600	162,100	1.00	35,000	34,000	0.97	21,200	23,600	1.11	65,100	69,600	1.07	283,900	289,300	1.02
	I/B	163,000	161,900	0.99	34,700	34,500	0.99	21,400	21,700	1.02	64,300	69,500	1.08	283,500	287,700	1.01
	2-way Total	325,600	324,100	1.00	69,700	68,500	0.98	42,600	45,300	1.06	129,400	139,100	1.08	567,400	577,000	1.02
Ma On Shan External Cordon	O/B	37,200	33,300	0.90	7,800	6,000	0.77	6,400	5,400	0.84	10,000	8,800	0.88	61,400	53,500	0.87
	I/B	33,700	31,800	0.95	8,100	5,600	0.68	7,000	7,000	1.00	11,300	9,800	0.86	60,100	54,200	0.90
	2-way Total	70,800	65,100	0.92	15,900	11,600	0.73	13,500	12,500	0.92	21,300	18,600	0.87	121,500	107,800	0.89
TKO External Cordon	O/B	47,600	44,000	0.92	14,500	12,100	0.83	7,000	6,100	0.87	13,300	13,700	1.03	82,300	75,900	0.92
	I/B	48,200	41,700	0.86	15,600	11,900	0.76	7,900	6,700	0.84	15,800	15,600	0.99	87,500	75,800	0.87
	2-way Total	95,800	85,600	0.89	30,100	24,000	0.80	14,900	12,800	0.86	29,100	29,300	1.01	169,800	151,700	0.89
Screenline A-A	E/B	133,600	127,400	0.95	63,700	53,200	0.84	23,700	22,600	0.95	48,800	51,100	1.05	269,800	254,300	0.94
	W/B	132,700	120,300	0.91	58,700	51,600	0.88	23,500	22,200	0.94	45,800	48,500	1.06	260,800	242,600	0.93
	2-way Total	266,300	247,700	0.93	122,400	104,800	0.86	47,200	44,800	0.95	94,700	99,600	1.05	530,600	496,900	0.94
Screenline C-C	N/B	141,800	134,300	0.95	67,600	61,600	0.91	26,200	24,300	0.93	50,800	59,600	1.17	286,400	279,900	0.98
	S/B	146,900	136,600	0.93	67,600	63,400	0.94	26,700	25,500	0.95	53,700	61,400	1.14	294,900	287,000	0.97
	2-way Total	288,700	271,000	0.94	135,200	125,100	0.92	52,900	49,800	0.94	104,500	121,100	1.16	581,300	566,900	0.98
Screenline F-F	E/B	68,100	63,800	0.94	37,300	36,900	0.99	10,600	9,400	0.89	15,600	15,800	1.01	131,600	126,000	0.96
	W/B	68,300	66,100	0.97	38,700	39,900	1.03	11,400	8,800	0.77	16,900	17,100	1.01	135,300	131,900	0.97
	2-way Total	136,400	129,900	0.95	76,000	76,800	1.01	21,900	18,200	0.83	32,500	32,900	1.01	266,900	257,800	0.97
Screenline G-G	E/B	55,600	59,000	1.06	28,600	29,100	1.02	9,400	10,100	1.08	15,800	15,700	0.99	109,400	113,900	1.04
	W/B	61,300	64,200	1.05	31,500	30,800	0.98	9,900	8,600	0.87	15,700	14,000	0.89	118,400	117,600	0.99
	2-way Total	116,900	123,300	1.05	60,100	59,800	1.00	19,300	18,700	0.97	31,500	29,700	0.94	227,700	231,500	1.02
Screenline H-H	D/B	9,500	8,600	0.90	2,900	2,500	0.88	1,200	900	0.69	1,300	1,200	0.93	14,900	13,200	0.88
	U/B	9,800	7,700	0.79	2,800	2,800	0.99	800	1,000	1.21	1,300	1,200	0.95	14,800	12,800	0.86
	2-way Total	19,300	16,300	0.84	5,700	5,300	0.94	2,100	1,900	0.90	2,600	2,400	0.94	29,700	25,900	0.87
Screenline I-I	N/B	17,300	18,400	1.06	7,900	7,400	0.94	4,000	3,400	0.86	8,200	8,100	0.98	37,400	37,300	1.00
	S/B	16,800	16,200	0.97	8,400	6,900	0.82	4,400	3,700	0.84	9,200	8,600	0.93	38,800	35,300	0.91
	2-way Total	34,100	34,600	1.02	16,300	14,300	0.88	8,400	7,100	0.85	17,400	16,600	0.96	76,100	72,600	0.95
Screenline K-K	E/B	95,400	97,300	1.02	37,200	33,900	0.91	19,800	19,400	0.98	41,200	42,500	1.03	193,600	193,100	1.00
	W/B	92,900	94,600	1.02	38,500	32,600	0.85	19,300	18,900	0.98	39,300	41,400	1.05	190,000	187,500	0.99
	2-way Total	188,200	191,900	1.02	75,700	66,500	0.88	39,100	38,300	0.98	80,500	83,900	1.04	383,600	380,600	0.99
Screenline R-R	N/B	104,400	102,200	0.98	17,300	17,500	1.01	14,300	15,200	1.07	58,400	58,300	1.00	194,400	193,200	0.99
	S/B	110,300	104,000	0.94	17,100	18,400	1.08	13,900	14,800	1.06	54,000	55,800	1.03	195,200	193,000	0.99
	2-way Total	214,700	206,200	0.96	34,400	35,900	1.04	28,200	30,000	1.06	112,300	114,100	1.02	389,600	386,200	0.99
Screenline S-S	E/B	90,400	88,200	0.98	14,900	15,800	1.06	13,100	15,100	1.15	51,200	59,400	1.16	169,600	178,600	1.05
	W/B	88,000	84,900	0.97	15,000	15,000	1.00	13,700	15,500	1.14	53,500	58,700	1.10	170,100	174,200	1.02
	2-way Total	178,400	173,200	0.97	29,900	30,800	1.03	26,800	30,700	1.14	104,700	118,100	1.13	339,700	352,700	1.04
Screenline T-T	N/B	72,500	70,500	0.97	11,400	10,800	0.95	8,300	8,300	1.00	45,000	45,900	1.02	137,300	135,500	0.99
	S/B	74,400	71,100	0.96	11,000	11,200	1.02	8,200	8,700	1.06	43,300	44,100	1.02	136,800	135,100	0.99
	2-way Total	146,900	141,600	0.96	22,400	22,000	0.98	16,500	17,000	1.03	88,300	90,000	1.02	274,100	270,600	0.99
Screenline Y-Y	E/B	37,300	36,000	0.97	8,700	8,100	0.94	4,000	3,800	0.95	28,500	28,000	0.98	78,500	76,000	0.97
	W/B	38,100	36,900	0.97	9,000	8,000	0.88	4,200	3,700	0.88	26,700	26,500	0.99	78,000	75,100	0.96
	2-way Total	75,400	72,900	0.97	17,700	16,100	0.91	8,200	7,500	0.92	55,200	54,500	0.99	156,500	151,100	0.97
Cross Harbour Screenline	N/B	75,300	71,500	0.95	23,000	27,200	1.18	8,900	10,100	1.14	23,600	25,000	1.06	130,900	133,900	1.02
	S/B	75,000	73,500	0.98	22,400	25,300	1.13	8,700	10,100	1.15	24,700	26,000	1.05	130,900	134,800	1.03
	2-way Total	150,300	145,000	0.97	45,400	52,400	1.15	17,700	20,200	1.14	48,400	51,000	1.05	261,700	268,600	1.03
Total	NB/EB/IB/DB	1,630,600	1,587,100	0.97	580,000	555,600	0.96	255,900	259,000	1.01	678,600	711,700	1.05	3,145,200	3,113,400	0.99
	SB/WB/OB/UB	1,656,700	1,591,800	0.96	576,800	555,400	0.96	253,400	258,400	1.02	664,500	697,900	1.05	3,151,400	3,103,500	0.98
	2-way Total	3,287,300	3,178,900	0.97	1,156,800	1,111,000	0.96	509,300	517,400	1.02	1,343,000	1,409,600	1.05	6,296,500	6,216,900	0.99

Validation Result at Screenlines (AM Peak)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	3,500	3,500	0.99	1,100	900	0.81	800	800	1.00	600	500	0.95	6,000	5,700	0.96
	S/B	3,000	3,100	1.03	1,000	1,000	0.98	800	700	0.97	700	600	0.86	5,400	5,400	0.99
	2-way Total	6,500	6,500	1.01	2,100	1,900	0.89	1,600	1,600	0.98	1,200	1,100	0.90	11,400	11,100	0.97
Hong Kong Internal Cordon	I/B	8,300	8,500	1.02	5,300	5,400	1.01	2,000	1,700	0.85	2,200	1,900	0.88	17,900	17,600	0.98
	O/B	7,600	6,300	0.83	5,200	4,500	0.86	1,900	1,600	0.86	1,900	1,700	0.89	16,600	14,100	0.85
	2-way Total	15,900	14,800	0.93	10,600	9,900	0.94	3,900	3,300	0.85	4,100	3,600	0.88	34,500	31,700	0.92
Kowloon External Cordon	N/B	10,700	10,600	0.99	4,400	4,100	0.93	2,100	2,200	1.03	5,500	5,900	1.08	22,800	22,800	1.00
	S/B	19,800	19,600	0.99	4,700	4,800	1.02	2,700	3,000	1.13	7,200	7,900	1.09	34,400	35,400	1.03
	2-way Total	30,500	30,200	0.99	9,100	8,900	0.98	4,800	5,200	1.09	12,700	13,900	1.09	57,200	58,200	1.02
Tsing Yi External Cordon	I/B	7,300	7,000	0.97	2,400	2,300	0.97	1,300	1,400	1.10	3,400	3,600	1.06	14,300	14,300	1.00
	O/B	7,700	7,600	1.00	2,700	2,600	0.96	1,300	1,500	1.13	3,600	3,600	0.99	15,200	15,300	1.00
	2-way Total	14,900	14,700	0.98	5,100	4,900	0.96	2,600	2,900	1.12	7,000	7,200	1.03	29,500	29,600	1.00
Lantau External Cordon	I/B	2,500	2,000	0.83	800	900	1.11	300	300	1.21	900	1,100	1.17	4,500	4,300	0.97
	O/B	1,400	1,400	0.98	900	1,000	1.04	200	200	1.02	600	600	1.08	3,200	3,200	1.02
	2-way Total	3,900	3,400	0.89	1,800	1,900	1.07	500	500	1.13	1,500	1,700	1.14	7,600	7,600	0.99
Shatin External Cordon	O/B	13,800	13,800	1.00	2,500	2,500	1.01	1,900	1,900	1.00	4,700	5,100	1.09	22,900	23,400	1.02
	I/B	13,200	13,900	1.05	2,500	2,300	0.90	1,900	1,700	0.94	4,200	4,600	1.10	21,800	22,500	1.03
	2-way Total	27,100	27,700	1.02	5,000	4,800	0.96	3,700	3,600	0.97	8,900	9,700	1.10	44,700	45,900	1.03
Ma On Shan External Cordon	O/B	4,000	4,000	1.00	500	400	0.77	600	500	0.90	700	600	0.90	5,800	5,500	0.96
	I/B	2,300	2,000	0.88	600	400	0.66	500	500	0.90	600	500	0.76	4,100	3,400	0.83
	2-way Total	6,300	6,000	0.96	1,100	800	0.71	1,100	1,000	0.90	1,300	1,100	0.83	9,800	8,900	0.91
TKO External Cordon	O/B	4,200	3,600	0.85	900	800	0.94	700	600	0.92	800	800	0.99	6,500	5,800	0.89
	I/B	3,000	2,600	0.85	1,000	700	0.66	600	600	1.01	900	700	0.83	5,400	4,500	0.83
	2-way Total	7,200	6,100	0.85	1,900	1,500	0.79	1,200	1,200	0.96	1,700	1,500	0.91	12,000	10,300	0.86
Screenline A-A	E/B	8,200	8,400	1.02	3,800	2,900	0.77	1,900	1,700	0.87	3,000	3,100	1.04	16,900	16,100	0.95
	W/B	9,100	8,600	0.95	3,200	2,600	0.80	1,900	1,700	0.88	2,900	2,800	0.96	17,100	15,700	0.92
	2-way Total	17,200	17,000	0.99	6,900	5,500	0.79	3,900	3,400	0.87	5,900	5,900	1.00	33,900	31,800	0.94
Screenline C-C	N/B	7,800	7,300	0.94	3,700	3,000	0.81	2,000	1,600	0.79	2,700	2,700	0.97	16,200	14,500	0.90
	S/B	9,500	10,300	1.09	3,600	3,600	0.99	2,300	2,100	0.92	3,900	3,800	0.99	19,200	19,800	1.03
	2-way Total	17,200	17,600	1.02	7,300	6,600	0.90	4,300	3,700	0.86	6,600	6,500	0.98	35,400	34,300	0.97
Screenline F-F	E/B	4,600	4,000	0.86	2,700	2,400	0.88	1,200	900	0.79	1,100	700	0.67	9,700	8,100	0.84
	W/B	4,400	4,000	0.91	2,900	2,600	0.91	1,100	700	0.68	1,100	1,200	1.01	9,600	8,600	0.89
	2-way Total	9,100	8,000	0.88	5,600	5,000	0.90	2,300	1,700	0.74	2,200	1,900	0.84	19,200	16,600	0.86
Screenline G-G	E/B	3,600	3,600	1.01	1,900	1,700	0.88	900	800	0.84	900	800	0.83	7,400	6,800	0.93
	W/B	4,500	4,400	0.97	2,100	1,800	0.87	900	800	0.86	1,000	1,100	1.12	8,500	8,100	0.95
	2-way Total	8,000	8,000	0.99	4,000	3,500	0.87	1,800	1,600	0.85	1,900	1,900	0.98	15,800	14,900	0.94
Screenline H-H	D/B	700	800	1.20	300	200	0.87	100	100	1.08	100	100	0.84	1,200	1,300	1.09
	U/B	700	500	0.69	300	200	0.81	100	100	1.84	100	100	1.15	1,200	900	0.82
	2-way Total	1,400	1,300	0.94	500	500	0.84	200	300	1.40	200	200	0.99	2,300	2,200	0.96
Screenline I-I	N/B	1,400	1,400	1.01	500	500	1.00	400	300	0.84	600	500	0.98	2,900	2,800	0.98
	S/B	1,200	1,100	0.90	500	400	0.78	400	300	0.84	600	600	0.97	2,700	2,400	0.89
	2-way Total	2,600	2,500	0.96	1,100	1,000	0.89	700	600	0.84	1,200	1,100	0.97	5,500	5,200	0.94
Screenline K-K	E/B	7,000	6,900	0.98	2,400	2,300	0.94	1,600	1,600	0.95	2,500	2,500	1.00	13,600	13,200	0.97
	W/B	6,900	6,300	0.92	2,500	2,300	0.93	1,600	1,500	0.95	2,400	2,700	1.14	13,400	12,900	0.96
	2-way Total	13,900	13,200	0.95	4,900	4,600	0.93	3,300	3,100	0.95	4,900	5,200	1.07	27,000	26,100	0.97
Screenline R-R	N/B	5,800	5,400	0.95	1,100	1,100	1.02	1,000	900	0.88	3,400	3,200	0.95	11,200	10,600	0.95
	S/B	11,500	10,800	0.94	1,300	1,200	0.92	1,300	1,400	1.07	4,300	4,400	1.02	18,400	17,800	0.97
	2-way Total	17,200	16,200	0.94	2,400	2,300	0.96	2,300	2,300	0.99	7,600	7,600	0.99	29,600	28,400	0.96
Screenline S-S	E/B	8,300	8,200	0.98	1,200	1,300	1.12	1,200	1,400	1.15	4,000	4,600	1.13	14,800	15,500	1.05
	W/B	5,000	5,100	1.03	1,000	1,100	1.13	1,000	900	0.89	3,100	3,600	1.15	10,000	10,700	1.06
	2-way Total	13,300	13,300	1.00	2,100	2,400	1.12	2,200	2,300	1.03	7,200	8,200	1.14	24,800	26,100	1.05
Screenline T-T	N/B	5,300	4,900	0.92	900	900	1.05	700	600	0.93	3,100	3,100	1.00	10,000	9,500	0.95
	S/B	5,700	5,900	1.03	800	800	1.04	700	700	1.02	3,000	3,100	1.06	10,100	10,500	1.04
	2-way Total	11,000	10,700	0.98	1,600	1,700	1.04	1,400	1,300	0.97	6,000	6,200	1.03	20,100	20,000	1.00
Screenline Y-Y	E/B	2,400	2,200	0.89	600	500	0.90	400	300	0.90	1,800	1,800	0.99	5,200	4,800	0.92
	W/B	2,900	3,300	1.12	500	500	1.04	300	300	0.91	1,900	2,000	1.02	5,600	6,000	1.07
	2-way Total	5,300	5,400	1.01	1,000	1,000	0.97	700	600	0.91	3,700	3,800	1.00	10,800	10,800	1.00
Cross Harbour Screenline	N/B	4,400	4,300	0.98	1,100	1,400	1.27	800	700	0.88	1,100	1,200	1.11	7,400	7,600	1.03
	S/B	6,600	6,200	0.94	1,500	1,400	0.91	1,000	1,000	0.94	2,200	2,300	1.04	11,300	10,900	0.96
	2-way Total	11,000	10,600	0.96	2,600	2,800	1.06	1,800	1,600	0.92	3,300	3,500	1.06	18,700	18,500	0.99
Total	NB/EB/IB/DB	110,400	107,600	0.97	38,300	35,300	0.92	21,600	20,100	0.93	42,600	43,100	1.01	212,900	206,100	0.97
	SB/WB/OB/UB	129,300	125,800	0.97	38,600	36,100	0.94	22,500	21,600	0.96	46,600	48,600	1.04	237,000	232,100	0.98
	2-way Total	239,600	233,500	0.97	77,000	71,400	0.93	44,100	41,700	0.94	89,200	91,700	1.03	449,900	438,200	0.97

Validation Result at Screenlines (PM Peak)

Screenline	Bound	Car			Taxi			SPB + PT			GV			Total		
		Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs	Obs	Mod	Mod/ Obs
Hong Kong External Cordon	N/B	3,300	3,100	0.95	1,000	800	0.88	500	500	1.02	400	300	0.71	5,100	4,800	0.93
	S/B	3,000	3,000	1.00	1,000	900	0.90	400	500	1.16	300	200	0.86	4,700	4,600	0.99
	2-way Total	6,300	6,100	0.97	2,000	1,700	0.89	900	1,000	1.09	600	500	0.77	9,800	9,400	0.96
Hong Kong Internal Cordon	I/B	9,300	8,700	0.94	4,600	4,400	0.95	1,200	1,100	0.90	800	800	1.03	15,900	15,000	0.94
	O/B	10,400	10,000	0.96	4,800	4,600	0.97	1,200	1,100	0.92	700	800	1.09	17,100	16,500	0.97
	2-way Total	19,700	18,700	0.95	9,400	9,000	0.96	2,400	2,200	0.91	1,500	1,600	1.06	33,000	31,500	0.95
Kowloon External Cordon	N/B	18,700	17,500	0.93	3,600	3,400	0.95	2,000	2,200	1.08	4,900	4,700	0.97	29,200	27,800	0.95
	S/B	15,400	15,200	0.99	3,600	3,500	0.96	1,800	1,800	0.98	3,200	3,500	1.09	24,000	24,100	1.00
	2-way Total	34,100	32,700	0.96	7,200	6,800	0.95	3,900	4,000	1.03	8,100	8,300	1.02	53,200	51,800	0.97
Tsing Yi External Cordon	I/B	8,300	8,300	1.00	2,000	2,200	1.10	1,200	1,300	1.09	2,400	2,300	0.94	13,900	14,100	1.01
	O/B	8,200	8,300	1.01	2,200	2,300	1.06	1,200	1,300	1.14	2,300	2,000	0.88	13,900	13,900	1.01
	2-way Total	16,500	16,600	1.01	4,200	4,500	1.08	2,400	2,700	1.11	4,700	4,300	0.91	27,700	28,000	1.01
Lantau External Cordon	I/B	1,500	1,300	0.84	700	700	1.00	200	200	1.27	500	500	1.03	2,900	2,700	0.94
	O/B	2,700	2,500	0.93	800	700	0.91	300	400	1.07	700	600	0.90	4,500	4,100	0.93
	2-way Total	4,200	3,800	0.89	1,500	1,400	0.95	500	600	1.14	1,200	1,100	0.95	7,400	6,900	0.93
Shatin External Cordon	O/B	13,700	14,200	1.04	2,100	2,100	1.01	1,400	1,400	1.01	2,800	3,000	1.08	19,900	20,800	1.04
	I/B	15,300	14,500	0.95	2,000	2,000	1.01	1,500	1,300	0.86	3,100	3,200	1.05	21,800	21,000	0.96
	2-way Total	28,900	28,700	0.99	4,100	4,100	1.01	2,900	2,700	0.94	5,900	6,300	1.07	41,700	41,800	1.00
Ma On Shan External Cordon	O/B	2,600	2,200	0.84	500	400	0.84	400	300	0.73	400	400	0.88	4,000	3,300	0.83
	I/B	3,200	3,300	1.04	500	500	1.05	400	400	0.99	600	600	0.93	4,700	4,800	1.02
	2-way Total	5,800	5,500	0.95	1,000	900	0.94	900	700	0.86	1,000	900	0.91	8,700	8,100	0.93
TKO External Cordon	O/B	3,600	3,300	0.91	800	700	0.91	500	400	0.85	600	600	0.95	5,500	5,000	0.91
	I/B	4,000	3,400	0.86	1,000	800	0.86	500	500	0.89	800	700	0.89	6,300	5,400	0.86
	2-way Total	7,600	6,700	0.88	1,800	1,600	0.88	1,000	900	0.87	1,400	1,300	0.92	11,800	10,400	0.88
Screenline A-A	E/B	10,700	10,500	0.98	3,400	3,100	0.92	1,300	1,200	0.91	2,100	2,000	0.95	17,500	16,900	0.96
	W/B	10,800	10,000	0.93	3,400	2,900	0.85	1,300	1,200	0.95	1,700	1,800	1.05	17,200	16,000	0.93
	2-way Total	21,500	20,500	0.95	6,800	6,000	0.89	2,600	2,400	0.93	3,800	3,800	1.00	34,700	32,800	0.94
Screenline C-C	N/B	11,600	11,300	0.97	3,500	3,100	0.87	1,500	1,500	1.03	1,900	2,500	1.34	18,500	18,400	0.99
	S/B	11,600	11,400	0.99	4,100	3,900	0.95	1,300	1,200	0.93	1,700	2,000	1.15	18,700	18,500	0.99
	2-way Total	23,200	22,700	0.98	7,600	6,900	0.91	2,800	2,800	0.98	3,600	4,500	1.25	37,200	36,900	0.99
Screenline F-F	E/B	5,700	4,900	0.85	2,500	2,200	0.89	600	500	0.81	400	500	1.10	9,300	8,000	0.87
	W/B	5,300	5,100	0.97	2,500	2,400	0.93	800	500	0.70	500	400	0.84	9,100	8,500	0.93
	2-way Total	11,000	10,000	0.91	5,000	4,600	0.91	1,400	1,000	0.75	900	900	0.96	18,400	16,500	0.90
Screenline G-G	E/B	4,300	4,700	1.09	1,600	1,600	1.04	500	500	1.03	500	500	0.98	6,900	7,400	1.06
	W/B	4,600	4,300	0.92	1,900	1,800	0.96	600	400	0.75	600	500	0.92	7,700	7,100	0.92
	2-way Total	9,000	9,000	1.00	3,500	3,500	0.99	1,100	900	0.88	1,100	1,000	0.95	14,600	14,400	0.99
Screenline H-H	D/B	900	600	0.72	200	200	0.90	100	100	1.22	50	50	1.23	1,200	900	0.79
	U/B	900	900	1.03	200	200	1.27	50	100	1.22	50	50	0.72	1,100	1,200	1.07
	2-way Total	1,700	1,500	0.87	400	400	1.07	100	100	1.22	100	100	1.00	2,300	2,100	0.93
Screenline I-I	N/B	1,500	1,400	0.93	500	400	0.81	200	200	0.76	300	300	1.11	2,500	2,300	0.91
	S/B	1,200	1,300	1.04	500	300	0.71	200	200	0.76	400	300	0.83	2,300	2,100	0.91
	2-way Total	2,800	2,700	0.98	900	700	0.76	500	300	0.76	600	600	0.94	4,800	4,300	0.91
Screenline K-K	E/B	7,500	7,300	0.97	2,100	1,600	0.76	1,200	1,100	0.88	1,700	1,700	1.04	12,500	11,700	0.94
	W/B	8,100	8,200	1.01	2,200	1,600	0.74	1,300	1,200	0.88	1,700	1,700	0.99	13,300	12,700	0.95
	2-way Total	15,600	15,500	0.99	4,300	3,300	0.75	2,600	2,200	0.88	3,400	3,400	1.01	25,800	24,400	0.94
Screenline R-R	N/B	10,500	9,900	0.95	1,000	1,100	1.10	1,200	1,300	1.05	3,000	3,300	1.09	15,800	15,600	0.99
	S/B	8,400	7,700	0.91	1,100	1,100	1.05	1,000	800	0.77	2,000	2,000	1.00	12,400	11,500	0.93
	2-way Total	18,900	17,600	0.93	2,100	2,200	1.08	2,200	2,000	0.93	5,100	5,300	1.05	28,200	27,200	0.96
Screenline S-S	E/B	6,900	6,600	0.95	1,000	1,300	1.24	900	800	0.90	1,900	2,100	1.10	10,800	10,800	1.00
	W/B	8,700	8,100	0.93	900	900	0.98	1,200	1,300	1.15	2,600	3,300	1.23	13,400	13,600	1.01
	2-way Total	15,600	14,600	0.94	2,000	2,200	1.11	2,100	2,200	1.04	4,600	5,400	1.18	24,200	24,400	1.01
Screenline T-T	N/B	6,600	6,300	0.95	800	900	1.05	500	600	1.04	2,200	2,200	0.96	10,200	9,800	0.96
	S/B	6,500	6,000	0.92	700	700	1.00	500	600	1.13	1,900	2,000	1.07	9,600	9,300	0.97
	2-way Total	13,100	12,200	0.93	1,500	1,600	1.03	1,000	1,100	1.08	4,100	4,200	1.01	19,800	19,100	0.97
Screenline Y-Y	E/B	3,600	3,400	0.96	500	500	0.90	300	300	0.93	1,500	1,500	1.04	5,900	5,700	0.97
	W/B	3,200	3,000	0.95	600	500	0.86	300	200	0.88	1,100	1,200	1.09	5,100	4,900	0.97
	2-way Total	6,800	6,500	0.96	1,100	1,000	0.88	600	500	0.91	2,500	2,700	1.06	11,000	10,600	0.97
Cross Harbour Screenline	N/B	7,100	6,900	0.97	1,200	1,200	1.04	800	800	1.04	1,100	1,300	1.14	10,100	10,100	1.00
	S/B	5,700	5,500	0.98	1,400	1,300	0.98	600	500	0.81	700	800	1.19	8,300	8,100	0.98
	2-way Total	12,800	12,400	0.97	2,500	2,600	1.01	1,300	1,200	0.94	1,800	2,100	1.16	18,400	18,300	0.99
Total	NB/EB/IB/DB	140,600	133,900	0.95	33,500	32,000	0.95	16,700	16,300	0.98	30,000	30,900	1.03	220,900	213,200	0.97
	SB/WB/OB/UB	134,300	130,100	0.97	35,200	33,100	0.94	16,400	15,500	0.94	25,900	27,200	1.05	211,800	205,800	0.97
	2-way Total	274,900	264,000	0.96	68,700	65,000	0.95	33,100	31,800	0.96	55,900	58,100	1.04	432,700	418,900	0.97

Passengers Screenline Validation Summary

Screenline	Bound	Daily Total Rail Passenger			Daily Total Bus Passenger			Daily Total PLB Passenger			Daily Total PT Passenger		
		Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs	Obs	Mod	Mod/Obs
Hong Kong External Cordon	N/B	74,400	82,400	1.11	89,600	88,300	0.99	29,400	33,000	1.12	193,400	203,600	1.05
	S/B	70,800	79,400	1.12	75,300	79,600	1.06	35,200	29,900	0.85	181,400	188,900	1.04
	2-way Total	**145,200**	**161,800**	**1.11**	**164,900**	**167,800**	**1.02**	**64,600**	**62,900**	**0.97**	**374,700**	**392,600**	**1.05**
Hong Kong Internal Cordon	I/B	1,069,000	1,086,500	1.02	249,300	237,900	0.95	23,000	16,400	0.71	1,341,300	1,340,800	1.00
	O/B	1,080,100	1,065,400	0.99	250,400	237,300	0.95	19,200	16,100	0.84	1,349,700	1,318,900	0.98
	2-way Total	**2,149,100**	**2,151,900**	**1.00**	**499,700**	**475,200**	**0.95**	**42,200**	**32,500**	**0.77**	**2,691,000**	**2,659,700**	**0.99**
Kowloon External Cordon	N/B	1,025,100	955,100	0.93	492,200	381,200	0.77	55,100	49,600	0.90	1,572,400	1,386,000	0.88
	S/B	1,053,700	1,002,000	0.95	446,100	416,800	0.93	50,400	55,200	1.10	1,550,200	1,474,000	0.95
	2-way Total	**2,078,900**	**1,957,100**	**0.94**	**938,300**	**798,000**	**0.85**	**105,500**	**104,900**	**0.99**	**3,122,700**	**2,859,900**	**0.92**
Tsing Yi External Cordon	I/B	214,200	219,200	1.02	348,300	337,100	0.97	20,800	23,900	1.15	583,200	580,100	0.99
	O/B	214,000	223,900	1.05	336,700	345,900	1.03	31,200	23,500	0.75	581,900	593,300	1.02
	2-way Total	**428,100**	**443,100**	**1.03**	**685,000**	**683,000**	**1.00**	**52,000**	**47,300**	**0.91**	**1,165,100**	**1,173,500**	**1.01**
Lantau External Cordon	I/B	89,100	93,600	1.05	81,300	80,600	0.99	0	0	1.00	170,400	174,200	1.02
	O/B	90,700	97,700	1.08	72,300	80,700	1.12	0	0	1.00	163,100	178,400	1.09
	2-way Total	**179,800**	**191,300**	**1.06**	**153,600**	**161,300**	**1.05**	**0**	**0**	**1.00**	**333,400**	**352,600**	**1.06**
Shatin External Cordon	O/B	644,300	640,000	0.99	356,400	319,200	0.90	44,000	36,200	0.82	1,044,700	995,400	0.95
	I/B	641,300	626,200	0.98	371,400	296,400	0.80	37,600	28,600	0.76	1,050,200	951,200	0.91
	2-way Total	**1,285,500**	**1,266,200**	**0.98**	**727,800**	**615,600**	**0.85**	**81,500**	**64,800**	**0.79**	**2,094,900**	**1,946,600**	**0.93**
Ma On Shan External Cordon	O/B	67,700	64,900	0.96	66,800	75,700	1.13	20,800	21,200	1.02	155,300	161,900	1.04
	I/B	64,700	66,600	1.03	70,500	90,900	1.29	27,000	29,600	1.10	162,300	187,100	1.15
	2-way Total	**132,400**	**131,500**	**0.99**	**137,400**	**166,600**	**1.21**	**47,800**	**50,900**	**1.06**	**317,600**	**349,000**	**1.10**
TKO External Cordon	O/B	217,400	203,400	0.94	50,700	58,200	1.15	29,800	26,000	0.87	298,000	287,600	0.97
	I/B	210,000	189,900	0.90	61,200	54,600	0.89	30,400	27,400	0.90	301,600	271,900	0.90
	2-way Total	**427,400**	**393,300**	**0.92**	**111,900**	**112,800**	**1.01**	**60,200**	**53,400**	**0.89**	**599,500**	**559,400**	**0.93**
Screenline A-A	E/B	711,800	732,600	1.03	309,800	305,700	0.99	67,600	66,800	0.99	1,089,100	1,105,100	1.01
	W/B	740,200	755,700	1.02	274,700	286,200	1.04	59,500	61,100	1.03	1,074,400	1,103,000	1.03
	2-way Total	**1,452,000**	**1,488,300**	**1.03**	**584,500**	**591,900**	**1.01**	**127,000**	**127,900**	**1.01**	**2,163,500**	**2,208,100**	**1.02**
Screenline C-C	N/B	912,600	963,000	1.06	348,200	335,200	0.96	44,000	46,200	1.05	1,304,800	1,344,400	1.03
	S/B	933,800	1,003,900	1.08	317,000	347,700	1.10	45,500	47,300	1.04	1,296,300	1,398,900	1.08
	2-way Total	**1,846,500**	**1,966,900**	**1.07**	**665,100**	**682,900**	**1.03**	**89,500**	**93,500**	**1.04**	**2,601,100**	**2,743,300**	**1.05**
Screenline F-F	E/B	497,800	494,000	0.99	122,800	153,300	1.25	5,500	7,100	1.29	626,100	654,400	1.05
	W/B	486,500	535,900	1.10	175,300	165,000	0.94	10,800	8,400	0.77	672,500	709,300	1.05
	2-way Total	**984,300**	**1,029,900**	**1.05**	**298,100**	**318,300**	**1.07**	**16,300**	**15,500**	**0.95**	**1,298,600**	**1,363,700**	**1.05**
Screenline G-G	E/B	278,600	262,900	0.94	157,900	139,300	0.88	4,200	4,200	1.02	440,600	406,400	0.92
	W/B	284,700	277,700	0.98	173,700	147,200	0.85	5,700	4,200	0.74	464,100	429,100	0.92
	2-way Total	**563,300**	**540,600**	**0.96**	**331,600**	**286,500**	**0.86**	**9,800**	**8,500**	**0.86**	**904,700**	**835,500**	**0.92**
Screenline H-H	D/B	0	0	1.00	2,600	2,700	1.01	1,700	1,100	0.66	4,300	3,800	0.88
	U/B	0	0	1.00	3,200	3,400	1.06	1,600	1,500	0.94	4,800	4,900	1.02
	2-way Total	**0**	**0**	**1.00**	**5,800**	**6,000**	**1.04**	**3,200**	**2,600**	**0.80**	**9,100**	**8,600**	**0.95**
Screenline I-I	N/B	65,200	65,700	1.01	57,500	69,900	1.22	7,400	7,300	0.98	130,100	143,000	1.10
	S/B	61,700	66,400	1.08	69,500	61,900	0.89	7,200	6,700	0.93	138,500	135,000	0.97
	2-way Total	**126,900**	**132,100**	**1.04**	**127,000**	**131,800**	**1.04**	**14,700**	**14,000**	**0.96**	**268,600**	**277,900**	**1.03**
Screenline K-K	E/B	243,700	257,600	1.06	293,100	268,900	0.92	78,900	73,400	0.93	615,700	599,800	0.97
	W/B	243,300	252,200	1.04	276,100	271,800	0.98	63,900	69,500	1.09	583,300	593,500	1.02
	2-way Total	**487,000**	**509,800**	**1.05**	**569,200**	**540,600**	**0.95**	**142,800**	**142,900**	**1.00**	**1,199,000**	**1,193,300**	**1.00**
Screenline R-R	N/B	370,100	377,800	1.02	326,600	329,000	1.01	20,600	18,200	0.88	717,300	725,000	1.01
	S/B	385,500	416,300	1.08	333,700	335,300	1.01	21,300	22,100	1.04	740,400	773,800	1.05
	2-way Total	**755,600**	**794,100**	**1.05**	**660,300**	**664,300**	**1.01**	**41,900**	**40,300**	**0.96**	**1,457,800**	**1,498,800**	**1.03**
Screenline S-S	E/B	165,400	193,100	1.17	297,600	293,300	0.99	37,700	30,700	0.81	500,700	517,100	1.03
	W/B	156,700	155,100	0.99	300,800	289,200	0.96	33,100	31,000	0.94	490,700	475,300	0.97
	2-way Total	**322,100**	**348,200**	**1.08**	**598,400**	**582,500**	**0.97**	**70,800**	**61,700**	**0.87**	**991,400**	**992,400**	**1.00**
Screenline T-T	N/B	183,900	181,800	0.99	77,900	74,400	0.96	32,800	30,100	0.92	294,600	286,400	0.97
	S/B	185,500	178,000	0.96	76,000	94,600	1.25	28,000	34,000	1.21	289,400	306,600	1.06
	2-way Total	**369,300**	**359,800**	**0.97**	**153,800**	**169,000**	**1.10**	**60,800**	**64,100**	**1.05**	**584,000**	**593,000**	**1.02**
Screenline Y-Y	E/B	94,300	90,900	0.96	24,600	24,300	0.99	12,900	9,600	0.74	131,800	124,800	0.95
	W/B	89,500	75,500	0.84	26,800	25,500	0.95	12,100	8,900	0.74	128,500	109,900	0.86
	2-way Total	**183,800**	**166,400**	**0.91**	**51,500**	**49,800**	**0.97**	**25,000**	**18,500**	**0.74**	**260,300**	**234,700**	**0.90**
Cross Harbour Screenline	N/B	722,800	708,400	0.98	224,500	183,900	0.82	6,000	3,800	0.63	953,300	896,100	0.94
	S/B	725,100	752,200	1.04	231,700	189,200	0.82	4,200	3,500	0.84	960,900	945,000	0.98
	2-way Total	**1,447,800**	**1,460,600**	**1.01**	**456,100**	**373,200**	**0.82**	**10,200**	**7,300**	**0.72**	**1,914,200**	**1,841,100**	**0.96**
Total	NB/EB/IB/DB	7,633,900	7,647,200	1.00	4,006,800	3,747,000	0.94	542,600	507,000	0.93	12,183,200	11,901,100	0.98
	SB/WB/OB/UB	7,731,300	7,845,800	1.01	3,913,200	3,830,300	0.98	523,500	506,400	0.97	12,168,000	12,182,500	1.00
	2-way Total	**15,365,200**	**15,493,000**	**1.01**	**7,920,000**	**7,577,300**	**0.96**	**1,066,100**	**1,013,400**	**0.95**	**24,351,200**	**24,083,700**	**0.99**

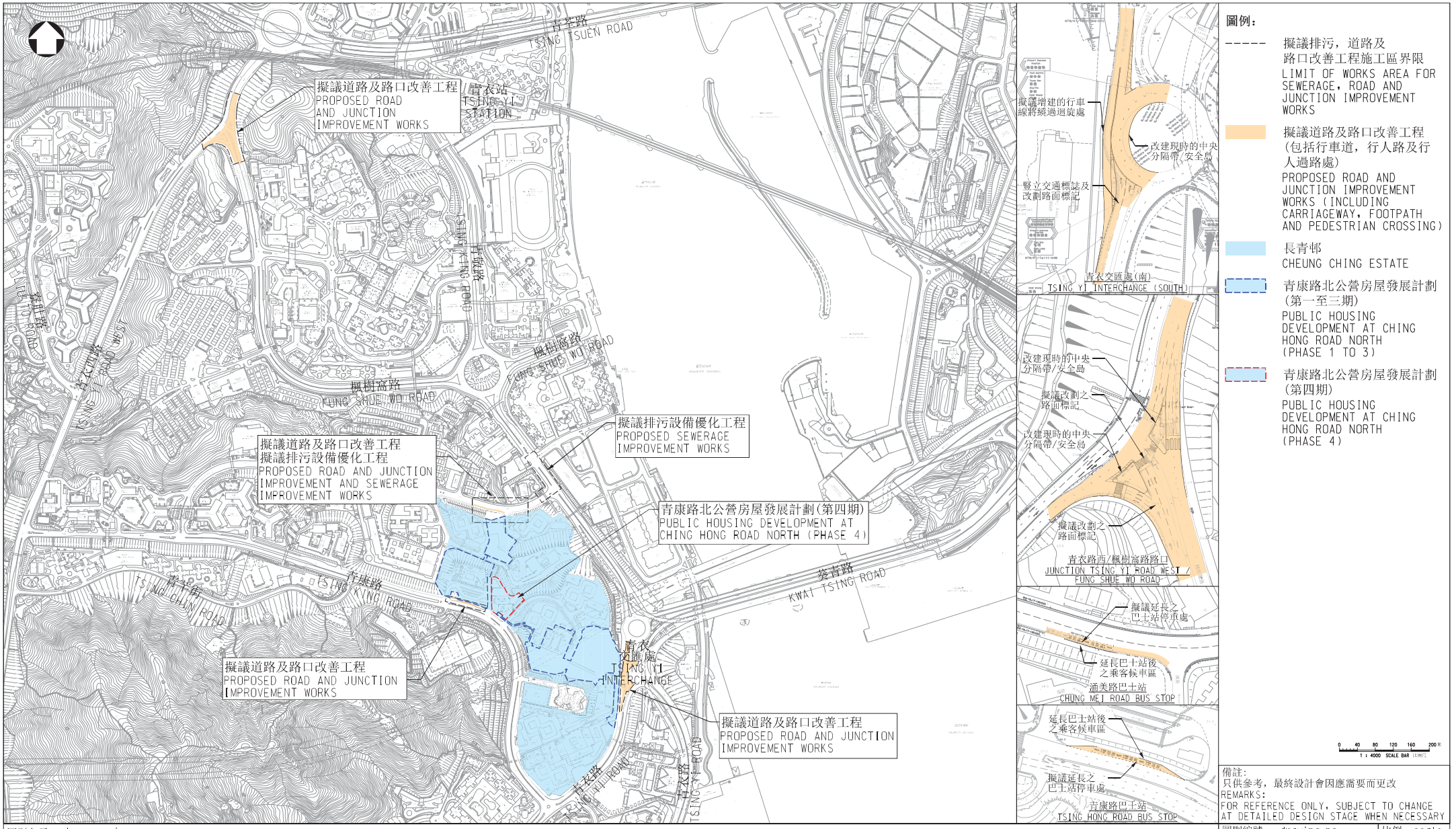
Appendix C - Local Area Traffic Model Validation Result

		AM				PM			
		OBS	**MOD**	**MOD/OBS**	**GEH**	**OBS**	**MOD**	**MOD/OBS**	**GEH**
***J1 - North West Tsing Yi Interchange (NWTYI) Roundabout**									
* Adminstraion Building	SB	5	5	1.00	0	5	5	1.00	0
* Cheung Tsing Highway	NB	570	570	1.00	0	505	490	0.97	1
ENTRY ARM - TOTAL		**575**	**575**	**1.00**	**0**	**510**	**495**	**0.97**	**1**
* Adminstraion Building	NB	370	365	0.99	0	330	315	0.95	1
* Adminstraion Building	EB	205	210	1.02	0	180	180	1.00	0
EXIT ARM - TOTAL		**575**	**575**	**1.00**	**0**	**510**	**495**	**0.97**	**1**
*** J2 - NWTYI / unnamed access road near Lantau Link Visitors Centre**									
* North West Tsing Yi Interchange	NB	1105	1120	1.01	0	1195	1200	1.00	0
* Unnamed access road near Lantau Link Visitors Centre	EB	125	125	1.00	0	140	140	1.00	0
ENTRY ARM - TOTAL		**1230**	**1245**	**1.01**	**0**	**1335**	**1340**	**1.00**	**0**
* North West Tsing Yi Interchange	NB	1035	1055	1.02	1	1150	1160	1.01	0
* Unnamed access road near Lantau Link Visitors Centre	WB	195	190	0.97	0	190	180	0.95	1
EXIT ARM - TOTAL		**1230**	**1245**	**1.01**	**0**	**1340**	**1340**	**1.00**	**0**
*** J3 - Slip Road from Tsing Yi North Coastal Road / Tam Kon Shan Road**									
* Tsing Yi North Coastal Road	NB	220	220	1.00	0	195	190	0.97	0
* Tam Kon Shan Road	EB	155	155	1.00	0	170	165	0.97	0
* Shipyard	SB	5	5	1.00	0	15	15	1.00	0
* Tam Kon Shan Road	WB	105	105	1.00	0	105	105	1.00	0
ENTRY ARM - TOTAL		**485**	**485**	**1.00**	**0**	**485**	**475**	**0.98**	**0**
* Tam Kon Shan Road	WB	155	155	1.00	0	150	150	1.00	0
* Shipyard	NB	10	10	1.00	0	5	5	1.00	0
* Tam Kon Shan Road	EB	325	320	0.98	0	335	325	0.97	1
EXIT ARM - TOTAL		**490**	**485**	**0.99**	**0**	**490**	**480**	**0.98**	**0**
*** J4 - Tam Kon Shan Road/Slip Road to Tsing Yi North Coastal Road**									
* Tam Kon Shan Road	EB	155	155	1.00	0	170	165	0.97	0
* Tam Kon Shan Road	WB	50	50	1.00	0	45	45	1.00	0
ENTRY ARM - TOTAL		**205**	**205**	**1.00**	**0**	**215**	**210**	**0.98**	**0**
* Slip Road to Tsing Yi North Coastal Road	SB	155	155	1.00	0	170	165	0.97	0
* Tam Kon Shan Road	WB	50	50	1.00	0	45	45	1.00	0
* Tam Kon Shan Road	EB	5	5	1.00	0	5	5	1.00	0
EXIT ARM - TOTAL		**210**	**210**	**1.00**	**0**	**220**	**215**	**0.98**	**0**
*** J5 - Tam Kon Shan Interchange**									
* Fung Shue Wo Road	NB	1390	1385	1.00	0	1395	1400	1.00	0
* Tsing Yi North Coastal Road	EB	480	490	1.02	0	360	355	0.99	0
* Tam Kon Shan Road	SEB	990	970	0.98	1	750	755	1.01	0
* Tsing King Road	SB	1020	1045	1.02	1	915	910	0.99	0
* Tsing Yi North Coastal Road	WB	1220	1235	1.01	0	1180	1190	1.01	0
ENTRY ARM - TOTAL		**5100**	**5125**	**1.00**	**0**	**4600**	**4610**	**1.00**	**0**
* Fung Shue Wo Road	SB	1260	1275	1.01	0	1040	1045	1.00	0
* Tsing Yi North Coastal Road	WB	400	400	1.00	0	315	320	1.02	0
* Tam Kon Shan Road	NWB	545	550	1.01	0	495	495	1.00	0
* Tsing King Road	NB	1015	1025	1.01	0	1200	1195	1.00	0
* Tsing Yi North Coastal Road	EB	1880	1875	1.00	0	1545	1555	1.01	0
EXIT ARM - TOTAL		**5100**	**5125**	**1.00**	**0**	**4595**	**4610**	**1.00**	**0**
*** J6 - Fung Shue Wo Road/Tsing Yi Road West**									
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Fung Shue Wo Road	WB	705	705	1.00	0	765	770	1.01	0
* Fung Shue Wo Road	SB	1230	1245	1.01	0	1010	1015	1.00	0
ENTRY ARM - TOTAL		**2935**	**2940**	**1.00**	**0**	**2720**	**2745**	**1.01**	**0**
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
* Fung Shue Wo Road	EB	765	765	1.00	0	645	640	0.99	0
* Fung Shue Wo Road	NB	1360	1355	1.00	0	1365	1370	1.00	0
EXIT ARM - TOTAL		**2930**	**2940**	**1.00**	**0**	**2720**	**2740**	**1.01**	**0**

		AM				PM			
		OBS	MOD	MOD/OBS	GEH	OBS	MOD	MOD/OBS	GEH
*** J7 - Liu To Road / Tsing Yi Road West**									
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
* Liu To Road	EB	865	855	0.99	0	660	660	1.00	0
* Tsing Yi Road West	NB	635	650	1.02	1	695	715	1.03	1
ENTRY ARM - TOTAL		**2305**	**2325**	**1.01**	**0**	**2065**	**2105**	**1.02**	**1**
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Liu To Road	WB	620	630	1.02	0	595	615	1.03	1
* Tsing Yi Road West	SB	690	705	1.02	1	520	530	1.02	0
EXIT ARM - TOTAL		**2310**	**2325**	**1.01**	**0**	**2060**	**2105**	**1.02**	**1**
*** J8 - Tsing Yi Road West/Ching Hong Road**									
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
* Tsing Yi Road West	SB	690	705	1.02	1	520	530	1.02	0
* Ching Hong Road	WB	610	630	1.03	1	525	535	1.02	0
ENTRY ARM - TOTAL		**1975**	**2015**	**1.02**	**1**	**1760**	**1795**	**1.02**	**1**
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
* Tsing Yi Road West	NB	635	650	1.02	1	695	715	1.03	1
* Ching Hong Road	EB	585	595	1.02	0	495	500	1.01	0
EXIT ARM - TOTAL		**1970**	**2015**	**1.02**	**1**	**1760**	**1800**	**1.02**	**1**
*** J9 - Ching Hong Road / Chung Mei Road**									
* Ching Hong Road	EB	615	625	1.02	0	510	515	1.01	0
* Ching Hong Road	WB	550	560	1.02	0	515	515	1.00	0
* Chung Mei Road	SB	415	425	1.02	0	380	385	1.01	0
ENTRY ARM - TOTAL		**1580**	**1610**	**1.02**	**1**	**1405**	**1415**	**1.01**	**0**
* Ching Hong Road	EB	610	615	1.01	0	490	495	1.01	0
* Ching Hong Road	WB	625	645	1.03	1	550	560	1.02	0
* Chung Mei Road	NB	350	350	1.00	0	365	365	1.00	0
EXIT ARM - TOTAL		**1585**	**1610**	**1.02**	**1**	**1405**	**1420**	**1.01**	**0**
*** J10 - Tsing Yi Road West/Cheung Tsing Highway**									
* Tsing Yi Road West	NB	580	595	1.03	1	735	740	1.01	0
* Cheung Tsing Highway	EB	960	950	0.99	0	815	840	1.03	1
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
ENTRY ARM - TOTAL		**2290**	**2315**	**1.01**	**1**	**2120**	**2165**	**1.02**	**1**
* Tsing Yi Road West	SB	820	820	1.00	0	585	605	1.03	1
* Cheung Tsing Highway	WB	800	810	1.01	0	825	830	1.01	0
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
EXIT ARM - TOTAL		**2295**	**2310**	**1.01**	**0**	**2125**	**2165**	**1.02**	**1**
*** J11 - Sai Tso Wan Road / Tsing Yi Road West / Tsing Yi Road**									
* Tsing Yi Road West	SB	820	820	1.00	0	585	605	1.03	1
* Sai Tso Wan Road	EB	490	500	1.02	0	615	610	0.99	0
* Tsing Yi Road	NB	420	425	1.01	0	455	475	1.04	1
ENTRY ARM - TOTAL		**1730**	**1745**	**1.01**	**0**	**1655**	**1690**	**1.02**	**1**
* Tsing Yi Road West	NB	580	595	1.03	1	735	740	1.01	0
* Sai Tso Wan Road	WB	790	780	0.99	0	575	595	1.03	1
* Tsing Yi Road	SB	355	370	1.04	1	345	355	1.03	1
EXIT ARM - TOTAL		**1725**	**1745**	**1.01**	**0**	**1655**	**1690**	**1.02**	**1**

		AM				PM			
		OBS	MOD	MOD/OBS	GEH	OBS	MOD	MOD/OBS	GEH
*** L1 - Lantau Link**									
* Lantau Link	EB	3370	3345	0.99	0	4460	4430	0.99	0
* Lantau Link	WB	4445	4380	0.99	1	3175	3185	1.00	0
*** L2 - Ting Kau Bridge**									
* Ting Kau Bridge	NB	3160	3060	0.97	2	4690	4645	0.99	1
* Ting Kau Bridge	SB	6840	6635	0.97	2	3650	3650	1.00	0
*** L3 - Unnamed access road near Lantau Link Visitors Centre**									
* Unnamed access road near Lantau Link Visitors Centre	NB	195	190	0.97	0	190	180	0.95	1
* Unnamed access road near Lantau Link Visitors Centre	SB	125	125	1.00	0	140	140	1.00	0
*** L4 - Tam Kon Shan Road**									
* Tam Kon Shan Road	EB	325	320	0.98	0	335	325	0.97	1
* Tam Kon Shan Road	WB	105	105	1.00	0	105	105	1.00	0
*** L5 - Slip Road from Tsing Yi North Coastal Road**									
* Slip Road from Tsing Yi North Coastal Road	WB	220	220	1.00	0	195	190	0.97	0
*** L6 - Slip Road to Tsing Yi North Coastal Road**									
* Slip Road to Tsing Yi North Coastal Road	EB	155	155	1.00	0	170	165	0.97	0
*** L7 - Tsing Yi North Coastal Road**									
* Tsing Yi North Coastal Road	EB	1200	1180	0.98	1	1115	1135	1.02	1
* Tsing Yi North Coastal Road	WB	1600	1630	1.02	1	1045	1010	0.97	1
*** L8 - Cheung Tsing Tunnel**									
* Cheung Tsing Tunnel	EB	4360	4340	1.00	0	3540	3615	1.02	1
* Cheung Tsing Tunnel	WB	2930	2970	1.01	1	2930	2980	1.02	1
*** L9 - Nam Wan Tunnel**									
* Nam Wan Tunnel	EB	2910	2805	0.96	2	1755	1550	0.88	5
* Nam Wan Tunnel	WB	1795	1630	0.91	4	2345	2225	0.95	3
*** L10 - Fung Shue Wo Road between Tam Kon Shan Interchange and Tsing Yi Road West**									
* Fung Shue Wo Road	NB	1360	1355	1.00	0	1365	1370	1.00	0
* Fung Shue Wo Road	SB	1230	1245	1.01	0	1010	1015	1.00	0
*** L11 - Tsing Yi Road West between Fung Shue Wo Road and Ching Hong Road**									
* Tsing Yi Road West	NB	1000	990	0.99	0	945	960	1.02	0
* Tsing Yi Road West	SB	805	820	1.02	1	710	730	1.03	1
*** L12 - Tsing Yi Road West between Cheung Tsing Highway and Ching Hong Road**									
* Tsing Yi Road West	NB	675	680	1.01	0	715	730	1.02	1
* Tsing Yi Road West	SB	750	770	1.03	1	570	585	1.03	1
*** L13 – Ching Hong Road**									
* Ching Hong Road	EB	585	595	1.02	0	495	500	1.01	0
* Ching Hong Road	WB	610	630	1.03	1	525	535	1.02	0
*** L14 - Sai Tso Wan Road**									
* Sai Tso Wan Road	EB	490	500	1.02	0	616	612	0.99	0
* Sai Tso Wan Road	WB	790	780	0.99	0	577	597	1.04	1

Appendix D
Planned or Committed Junction Improvement Scheme



備註:
只供參考，最終設計會因應需要而更改
REMARKS:
FOR REFERENCE ONLY, SUBJECT TO CHANGE AT DETAILED DESIGN STAGE WHEN NECESSARY

圖則名稱 drawing title

工務計劃項目第B839號 PWP ITEM NO. B839

附件四 - 青康路北公營房屋發展計劃的基礎設施工程概念平面圖

ANNEX 4 - INFRASTRUCTURE WORKS FOR PUBLIC HOUSING DEVELOPMENTS AT CHING HONG ROAD NORTH, TSING YI - LAYOUT PLAN

圖則編號 drawing no.
圖則一

比例 scale
1:4000

辦事處 OFFICE
南拓展處
SOUTH DEVELOPMENT OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

Date : 18/03/2024
Filename : F:\422555-Hong Kong\6.0-BIM\02_WIP\02_Tsing Yi\01_CV\REPORT\TTIA (CHRN)\20230102\Figure 2.1-1.dgn

Appendix C

Marine Traffic Impact Assessment Report

Agreement No. CE 79/2023 (GE)

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Marine Traffic Impact Assessment Report (Final)
(Ref. B20d-04)

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1 Introduction

1.1 Background and Purpose

1.1.1 Rock, principally as aggregates in concrete, is the most predominately used construction material for buildings and infrastructure developments in Hong Kong. Local quarries, where rock is sourced for such uses, are strategically important to the construction industry in Hong Kong. Apart from the extraction of virgin rock, surplus rock generated from local construction projects can be processed and recycled at quarries for beneficial reuse. In addition, the quarries are suitable sites for housing manufacturing plants of rock-derived construction materials such as ready-mixed concrete and asphalt. Historically, rock has been quarried in Hong Kong by way of surface quarrying – open/pit extraction at the ground surface. By doing this, the quarries have been operating as self-financing business entities rather than government-funded facilities.

1.1.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry, for which the current quarry contract is scheduled for completion in 2025. Recognising the importance of local quarries in minimizing the risk of irregularities in the supply of imported rock, the Government has been searching for suitable sites to set up new surface quarries in order to maintain local rock supply, with a view to have at least one new quarry to dovetail with the closure of Lam Tei Quarry.

1.1.3 Apart from rock materials, Hong Kong is also desperately in need of developable land to meet socio-economic needs. Creating spaces in underground rock caverns is one of the solutions in boosting land supply in the medium to long term. To create land in this manner, the cavern formation will not only generate a large amount of good quality rock, but this process is also a source of rock materials which could be an integral part of the local rock supply in future. This is the underlying concept of the initiative of underground quarry-cum-cavern development, which is unprecedented in Hong Kong. There are, nevertheless, successful examples of this approach in other countries, e.g. Switzerland, Norway and the United States of America, where the entire operation combining quarrying and subsequent uses of the cavern spaces created (e.g. cold storage, data centres, warehousing and recreational complexes) is confirmed to be commercially viable.

1.1.4 Preliminary reviews under the Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

1.1.5 In 2017, the Civil Engineering and Development Department (CEDD) commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan (CMP) jointly promulgated by CEDD and PlanD in 2017, was recommended to be taken forward.

1.1.6 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (“Pilot Study”) to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. The study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North. It is envisioned as an integral part of the long-term local quarry strategy. Shortage of rock imports from Mainland China due to lockdown arising from the COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, it is timely to proceed with the scheme, along with other quarry-related initiatives to maintain the local rock supply.

1.1.7 Following the commencement of the IDC assignment for developing and designing the pilot underground quarry at Lam Tei, Tuen Mun in 2021, CEDD launched an IDC assignment for developing a new underground quarry at Tsing Yi North in 2023.

1.1.8 To implement the proposed underground quarry-cum-cavern development at Tsing Yi North, it is necessary to conduct a site-specific investigation and design for the scheme, building on the work completed under the Underground Quarry Study and the pilot study.

1.1.9 This Assignment aims to complete all the tasks necessary and sufficient to undertake the assignments including statutory procedures, public consultation, detailed technical assessments, broad design for potential facilities, formulation of implementation arrangement etc. at the investigation, design and early construction stages, in order to enable commencement of the underground quarrying tentatively targeted at 2027. These include various impact assessments, reference design of caverns and the underground quarrying-related activities (e.g. the materials processing/manufacturing plants and their operations) coordinated or implemented by the Government, business case analyses, implementation strategy and procurement arrangements. Consultation within the Government and with public and relevant stakeholders/industry players will also be carried out.

1.1.10 This Assignment will also look into any works potentially required by the quarry operators during the operation stage of the proposed underground quarrying. Given its pilot nature, the underground quarrying operation will be subject to the prevailing and/or new implementation mechanisms such as contract form, site supervision and any independent audits required. These will be examined and tailor-designed under this Assignment. Depending on the findings, it may call for works or tasks for which the Government may procure consultancy services separately during the operation stage.

1.1.11 The construction works for the Underground Quarrying at Tsing Yi North (TYNUQ) are scheduled to commence in 2027, and the operation of the TYNUQ is expected to commence in 2028.

1.1.12 AECOM Asia Co. Ltd has been commissioned by the CEDD on 13 June 2024 to undertake the “Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – Investigation, Design and Construction” (hereinafter referred to as “the Project”).

1.1.13 Recognizing the potential marine traffic issues that may arise from the project, AECOM has engaged Maritime Planning Solutions limited (MPS) to conduct a Marine Traffic Impact Assessment (MTIA) to assess any marine impacts generated from the Underground Quarrying project at Tsing Yi North. It includes identifying a suitable location for the barging points and exploring its potential impacts on marine traffic while using the barge. The associated traffic generated by the development and operation of the barging points will be assessed in this study, and corresponding mitigation measures will be developed if required.

1.2 Project Works

1.2.1 The boundary of the Study Area, the two proposed site areas at Ngau Kok Wan (NKW) and Wok Tai Wan (WTW) for the Project, are illustrated in **Figure 1-1**. The Study Area covers the key marine-based facilities and waterways in the vicinity of the proposed site areas within Hong Kong waters.

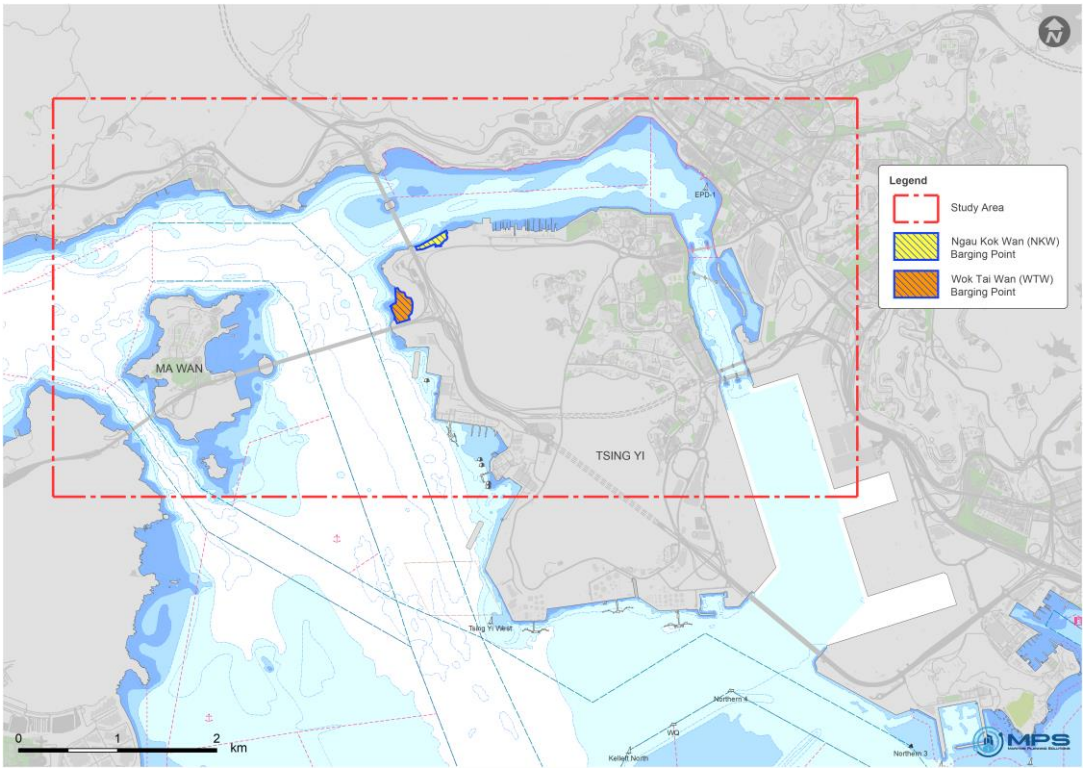


Figure 1-1 Proposed Site Barging Points and MTIA Study Area

1.3 Objectives

1.3.1 The main goal of this report is to review the potential marine traffic impacts brought about by the marine transportation activities generated due to the Project. In addressing the key issues, the MTIA is framed around the following aspects:

Marine Feasibility

What is the existing marine traffic level, and does the barging location present any navigation constraints?

What marine activities may be affected due to the proposed vessel's movements in the Project?

Marine Traffic data is collected from the Marine Department (MD) to review the current marine traffic pattern in waters along the travelled routes; the data will be used to identify any potential impacts due to the proposed transporting activities and recommend risk control measures as required.

Marine Operation

What do the operations involve?

Vessel deployment arrangements and the scheduled barge frequencies are outlined. Marine routes are proposed from the potential origins to the TYNUQ site area.

Marine Safety

What can be done to minimise impact?

Practical mitigation measures are recommended to minimise the potential impact generated by the transporting activities.

1.4 Scope of Works

1.4.1 This Report on Marine Traffic Impact Assessment is one of the deliverables of B20 as described in Section 6.15 of the Scope. The scope of the MTIA includes the following tasks:

1.4.2 Review and study any potential impact on marine traffic during the development and operation of the quarry. Existing information available from relevant studies/surveys regarding the assessment area shall be reviewed. Based on the review results, the assessment shall identify data gaps and determine if there is any need for field surveys. If field surveys are considered necessary, the assessment shall include sufficient site surveys carried out at different strategic locations within or outside the site. The requirements of the survey for the MTIA shall be agreed upon with the MD.

1.4.3 Collect relevant data, including consultation with marine facilities and ship operators on existing and future size and draft of ships and frequency of calls, and project the marine traffic volume, density and flow pattern before, during and after the quarry development;

1.4.4 The traffic model design and its inherent assumptions shall be agreed upon with the MD prior to entry of data into the model for determining the marine traffic risk.

1.4.5 Based on 1.4.2 – 1.4.4 above, evaluate and quantify the existing and future marine traffic situation and navigation risk levels associated with the quarry development;

1.4.6 Based on 1.4.5 above, recommend, if necessary, mitigation measures to minimise the possible impacts to an acceptable level;

1.4.7 Assess the possible cumulative marine traffic and transport impacts, taking into consideration the other proposed developments/works within and near the site; and

1.4.8 Assess the impacts on existing and future vessel traffic during and after the quarry development, and recommend, if necessary, mitigation measures to maintain an unhindered and safe passage and access to marine-based facilities.

1.5 Study Methodology

1.5.1 The MTIA has been developed in accordance with the Formal Safety Assessment (FSA) methodology adopted by the International Maritime Organization (IMO) as a structured approach to the assessment of marine risks and the effectiveness of control mechanisms. The steps are illustrated in **Figure 1-2** and may be summarized as follows:

1.5.2 **Step 1** – Hazard Identification: a list of all relevant accident scenarios with potential causes and outcomes;

1.5.3 **Step 2** – Risk Assessment: estimation of the likelihood and consequences of the potential accident scenarios;

1.5.4 **Step 3** – Risk Control Options: identify potential measures to reduce the likelihood of occurrence of the identified risks or limit their consequences should they occur, and estimate their effect on reducing the risk; and

1.5.5 **Step 4** – Recommendations: the produced information about hazards, risks, and risk control options is gathered and summarized as input for recommendations for decision-making.



Figure 1-2 Formal Safety Assessment (FSA) Methodology

1.5.6 To support the different steps of risk assessment and estimate the effectiveness of mitigating measures, the International Association of Lighthouse Authorities (IALA) suggests the use of several supportive tools. These tools are characterised as quantitative when they result in numeric risk figures or qualitative when the tool produces results in terms of acceptability.

1.5.7 To determine the marine traffic risk that may arise from the Project, two tools from the IALA toolbox will be used for quantitative and qualitative risk assessment, namely a) IALA Waterway Risk Assessment Program (IWRAP) and ii) Simplified IALA Risk Assessment Method (SIRA).

The IALA Waterway Risk Assessment Program (IWRAP)

1.5.8 IWRAP MK II, a quantitative risk assessment tool, is a frequency analysis program that models the marine traffic environment to predict risk levels of ship collisions, allisions and groundings. It quantifies marine traffic risk levels and determines the probability of collision of a predefined traffic route by applying AIS and radar data sourced from the Marine Department (MD).

1.5.9 IWRAP MK II supports steps 1 to 3 of the FSA process. The hazards that can be identified include groundings, allisions, and collisions. The calculated likelihood of these accidents is presented as a “heat map” on an Electronic Nautical Chart (ENC) to reveal “hotspots” in an area where the traffic density distribution leads to relatively high-risk levels. The resulting change in risk level and risk distribution due to changes in the traffic layout (possibly due to mitigating measures) is clearly shown.

The Simplified IALA Risk Assessment Method (SIRA)

1.5.10 SIRA, a qualitative risk assessment tool, uses a structured approach to identify hazards and undesirable incidents and assess their likelihood and consequences. It evaluates the risk level for each incident with and without risk control measures. In this way, SIRA covers FSA steps 1 to 4. Risk control options are recommended primarily based on perceived effectiveness in mitigating risk to acceptable levels.

1.6 Structure of the Report

1.6.1 This report contains the following sections:

Section 1 **Introduction:** outlines the project background, study objectives, and study area.

Section 2 **Proposed Marine Transportation Activities:** identifies and describes the elements of barging operation, vessel deployment and generated traffic;

Section 3 **Marine Environment:** outlines the marine environment of the MTIA Study Area, including the existing marine-based and port-related facilities, and other ongoing and planned developments, metocean conditions, aids to navigation, and constraints;

Section 4 **Marine Traffic Activities Review:** presents the existing, construction and operation marine traffic situation of the Study Area, taking into consideration other proposed developments within the Study Area;

Section 5 **Marine Traffic Risk Assessment:** presents the methodology of marine traffic risk modelling, summarizes the overall risk assessment results, and details the findings of SIRA;

Section 6 **Risk Control Measures:** proposes risk control and mitigation measures to minimise any potential marine impacts;

Section 7 **Conclusions & Recommendations:** summarises the findings, conclusions and recommendations of this MTIA.

1.7 Nomenclature and Abbreviations

1.7.1 **Table 1-1** lists out the abbreviated titles of government bureaus, departments, offices, statutory bodies and public organizations mentioned in this Study.

Table 1-1 Abbreviations for Government Bodies

Abbreviations	Full title
CEDD	Civil Engineering and Development Department
HKO	Hong Kong Observatory
MD	Marine Department
PlanD	Planning Department
VTS	Vessel Traffic Services

1.7.2 **Table 1-2** lists out the meanings of abbreviations for expressions adopted in this Report.

Table 1-2 Abbreviations Adopted in this Report

Abbreviations	Full title
3RS	Three-Runway System
AECOM	AECOM Asia Company Ltd
AIS	Automatic Identification System
ALARP	As Low As Reasonably Practicable
CMP	Cavern Master Plan
CMPs	Contaminated Mud Pits
ENC	Electronic Nautical Chart
FF	Fast Ferry
FL	Fast Launch
FSA	Formal Safety Assessment
HK	Hong Kong
HKP 2030	Hong Kong Port 2030
IALA	International Association of Lighthouse Authorities
IMO	International Maritime Organization
I·PARK1	Integrated Waste Management Facilities Phase 1
I·PARK2	Integrated Waste Management Facilities Phase 2
IWRAP	IALA Waterway Risk Assessment Program
KSMF	Kap Shui Mun Fairway
LF	Local Ferry
LTQ	Lam Tei Quarry
mCD	Meters below the Chart Datum
MPS	Maritime Planning Solutions Limited
MTIA	Marine Traffic Impact Assessment
MWF	Ma Wan Fairway
NKW	Ngau Kok Wan
NWNT	Northwest New Territories
OG	Oceangoing
PRD	Pearl River Delta

Abbreviations	Full title
RT	River Trade
SC	Small Craft
SCVAs	Strategic Cavern Areas
SIRA	Simplified IALA Risk Assessment
TCNTE	Tung Chung New Town Extension
TMB	Tuen Mun Bypass
TM-CLKL	Tuen Mun – Chek Lap Kok Link
TT	Tug and Tow
TYLL	Tsing Yi – Lantau Link
TYNUQ	Underground Quarry at Tsing Yi North
UKC	Under Keel Clearance
WENTX	West New Territories Landfill Extension
WTW	Wok Tai Wan

2 Proposed Marine Transportation Activities

2.1 Introduction

2.1.1 This section outlines the proposed marine transportation activities associated with the TYNUQ Project. It presents the site areas of the Project and summarises the key marine construction and operational activities of the Project.

2.2 Site Areas

2.2.1 Two site areas are proposed along the northern and southern coastline of Tsing Yi:

- **Ngau Kok Wan (NKW)**: designated primarily for the receive and delivery of rock, as well as for receiving raw materials from suppliers to facilitate ancillary operations at NKW.
- **Wok Tai Wan (WTW)**: serves as the stockpile area for the Project. The site will function as a temporary storage location for construction materials during the construction phase, and for excavated and processed rock from NKW or other projects during the operation phase.

2.2.2 The layouts of the proposed NKW and WTW site areas are shown in **Figure 2-1**. Barging points will be set up at both locations to facilitate marine loading and unloading operations.

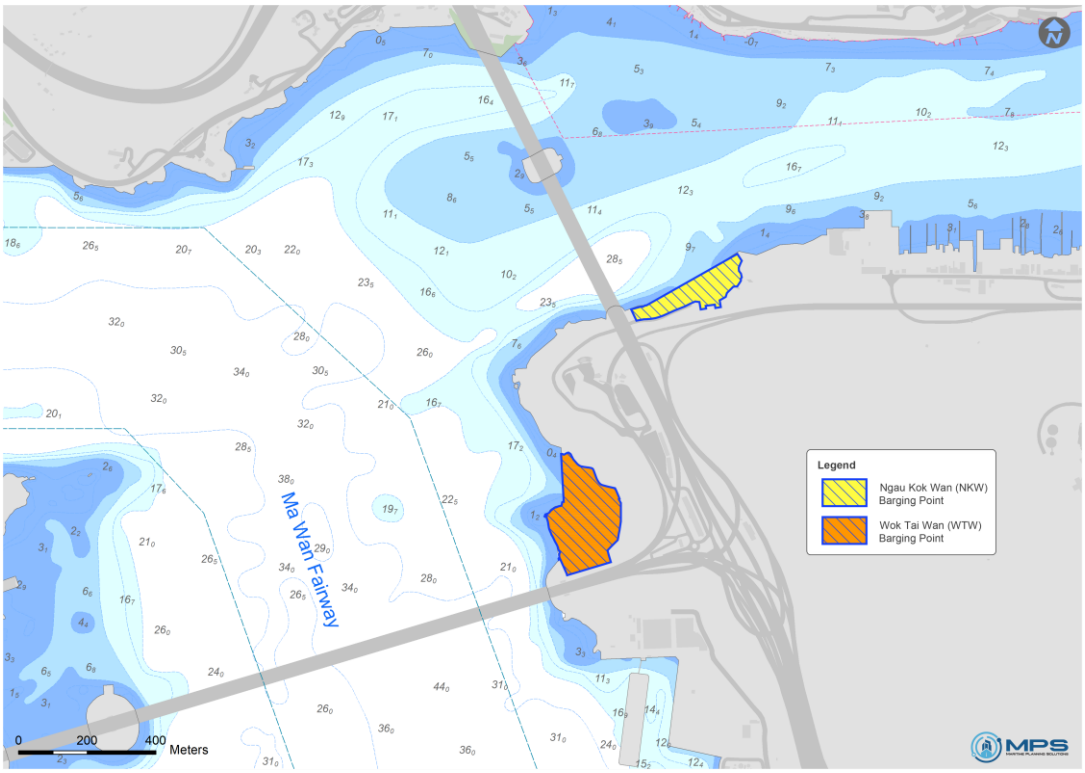


Figure 2-1 Site Areas of the Project

2.3 Marine Activities During the Construction Phase

2.3.1 The construction phase for the Project is scheduled to commence in 2027. Marine traffic during this period will primarily be generated by the transportation of construction materials, plant, equipment, and rock stockpiles to and from the designated site areas.

2.3.2 Construction materials are expected to be delivered from several locations to the NKW and WTW site areas. **Table 2-1** and **Table 2-2** present the estimated peak number of vessel movements by the delivery routes to the NKW and WTW site areas, respectively.

Table 2-1 Estimated Daily Vessel Movements to NKW Site Area during Construction Phase (2027)

Phase	Marine Activities	From	To	Round Trip per day
Construction	Delivery of Construction Materials, Plants, and Equipment	Tuen Mun Public Cargo Working Area	NKW	0.33
		the New Yau Ma Tei Public Cargo Working Area		0.33
		Mainland China		0.34
Total				**1**

Table 2-2 Estimated Daily Vessel Movements to WTW Site Area during Construction Phase (2027)

Phase	Marine Activities	From	To	Round Trip per day
Construction	Delivery of Construction Materials, Plants, and Equipment	Tuen Mun Public Cargo Working Area	WTW	0.25
		the New Yau Ma Tei Public Cargo Working Area		0.25
		Mainland China		0.25
		NKW		0.25
Total				**1**

2.3.3 The typical construction vessels anticipated to be deployed are summarised in **Table 2-3**.

Table 2-3 Typical Vessels Deployed During the Construction Phase

Phase	Marine Activities	Vessel Type	LOA (m)	Beam (m)	Draft (m)	Airdraft (m)
Construction	Delivery of Construction Materials, Plants, and Equipment	Tug and Tow	~100*	~20	~4	~20
		Delivery Barge	~75	~23	~5	~20

Note (*): The overall length of the Tug & Tow is estimated to be 100m, which includes the length of the barge (50m), tugboat (20m), and the length of the tow line 30m).

2.3.4 The indicative marine traffic routes during the construction phase of the Project are illustrated in **Figure 2-2**.

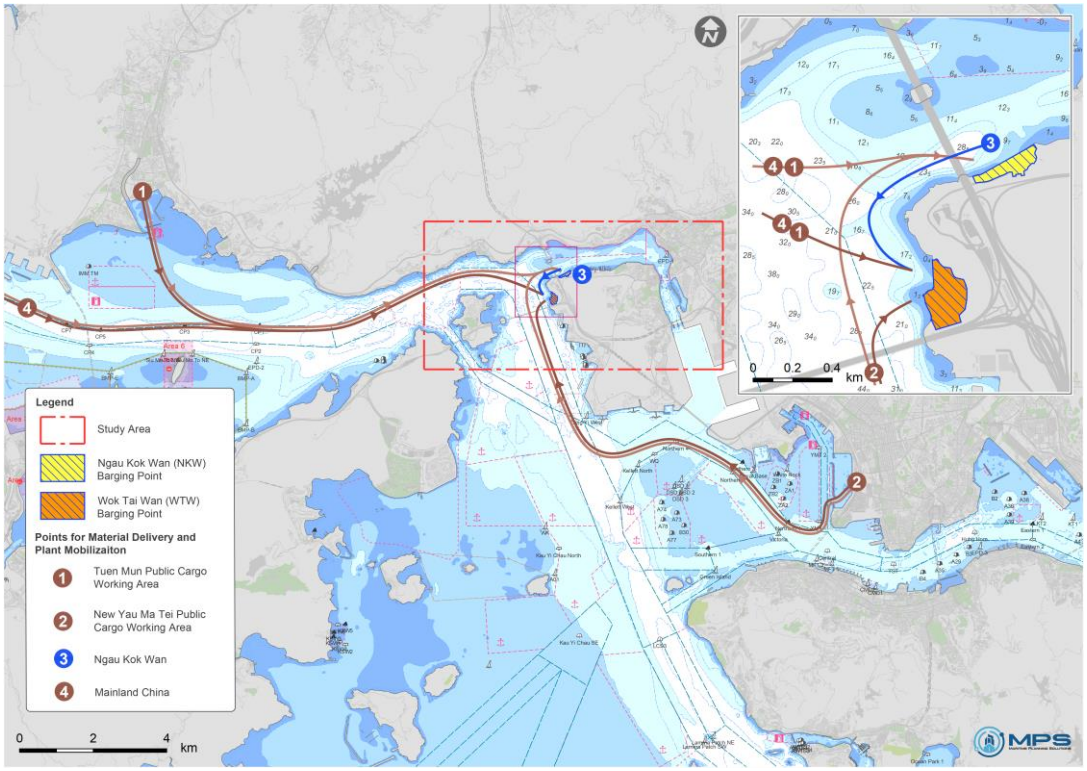


Figure 2-2 Indicative Marine Traffic Routes (Construction Phase)

2.4 Marine Activities During the Operation Phase

2.4.1 The operation phase of the TYNUQ is expected to commence in 2028. During operation, the concrete batching and asphalt production facilities will require marine delivery of raw materials (e.g. aggregates and cement etc.) from the Mainland suppliers to the NKW site area.

2.4.2 An internal marine transfer between WTW and NKW will be established for the transport of stockpiled rock. This includes the delivery of excavated or processed rock from NKW to WTW for storage, and the transfer of stockpiled rock from WTW to NKW for further processing.

2.4.3 **Table 2-4** and **Table 2-5** present the estimated number of vessel movements categorized by the delivery routes to NKW and WTW site areas during the operation phase, respectively.

Table 2-4 Estimated Daily Vessel Movements to NTW Site Area during Operation Phase (2028)

Phase	Marine Activities	From[2]	To	Round Trip per day
Operation	Material Supply	Western waters of HK *(Primary)*	NKW	7.2[2]
		Eastern waters of HK *(Alternative)*		0.8[2]
Total				**8 (16 movements)[1]**

Notes:

(1) *Based on production capacity and the typical loading capacity of delivery barges, approximately 8 round trips (16 movements) per day are expected.*

(2) *Due to supplier uncertainty at this stage, **two marine routes** are proposed **via the western** and **eastern waters of Hong Kong**. For a conservative assessment, the western route is assumed as the primary route handling about 90% of vessel traffic (approximately 7.2 round trips per day),*

while the eastern route serves as an alternative handling about 10% (approximately 0.8 round trips per day.)

Table 2-5 Estimated Daily Vessel Movements to WTW Site Area during Operation Phase (2028)

Phase	Marine Activities	From	To	Round Trip per day
Operation	Rock Delivery	NKW	WTW	2
Total				**2 (4 movements)**

2.4.4 The types of vessels expected to be deployed during operations, along with their typical dimensions and carrying capacities, are summarized in **Table 2-6**.

Table 2-6 Typical Vessels Deployed During the Operation Phase

Phase	Marine Activities	Vessel Type	LOA (m)	Beam (m)	Draft (m)	Airdraft (m)	Capacity (ton)
Operation	Material Supply/ Rock Delivery	Pelican Barge	~75	~20	~5	~22	~3,000
		Delivery Barge	~75	~23	~5	~20	~1,500

2.4.5 The indicative marine traffic routes during the operation phase of the Project are illustrated in **Figure 2-3.** Marine transport operations will take place daily between 07:00 and 19:00.

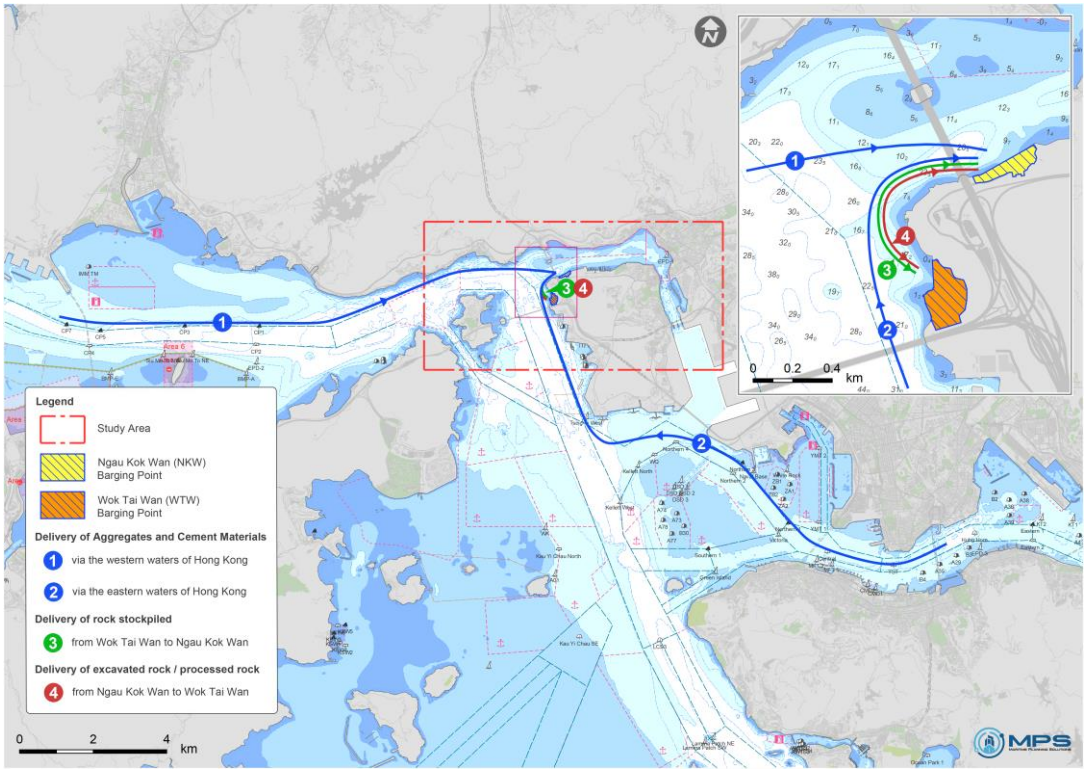


Figure 2-3 Indicative Marine Traffic Routes (Operation Phase)

2.4.6 The typical vessel dimensions and estimated daily round trips outlined in this section have been adopted in the marine traffic risk assessment to quantify the associated risk levels (refer to **Section 5**). Detailed marine traffic information will be provided by the Contractor and will be further assessed in the Construction Marine Traffic Impact Assessment (CMTIA).

2.5 Summary

2.5.1 An overview of the proposed marine transportation activities and the deployed vessels for the TYNUQ Project during both the construction and operational phases has been reviewed and identified. A detailed assessment of potential risks to existing and future marine traffic resulting from these activities is provided in a later section.

3 Marine Environment

3.1 Introduction

3.1.1 This section reviews the marine environment of the MTIA Study Area, comprising existing marine facilities, port operation arrangements, and any anticipated future developments. Existing navigation constraints within the MTIA Study Area are also identified.

3.2 Existing Marine Facilities and Proposed Development

3.2.1 **Figure 3-1** illustrates the existing marine-based facilities and proposed developments that may generate marine activities or have restrictions for vessel passage within the Study Area.

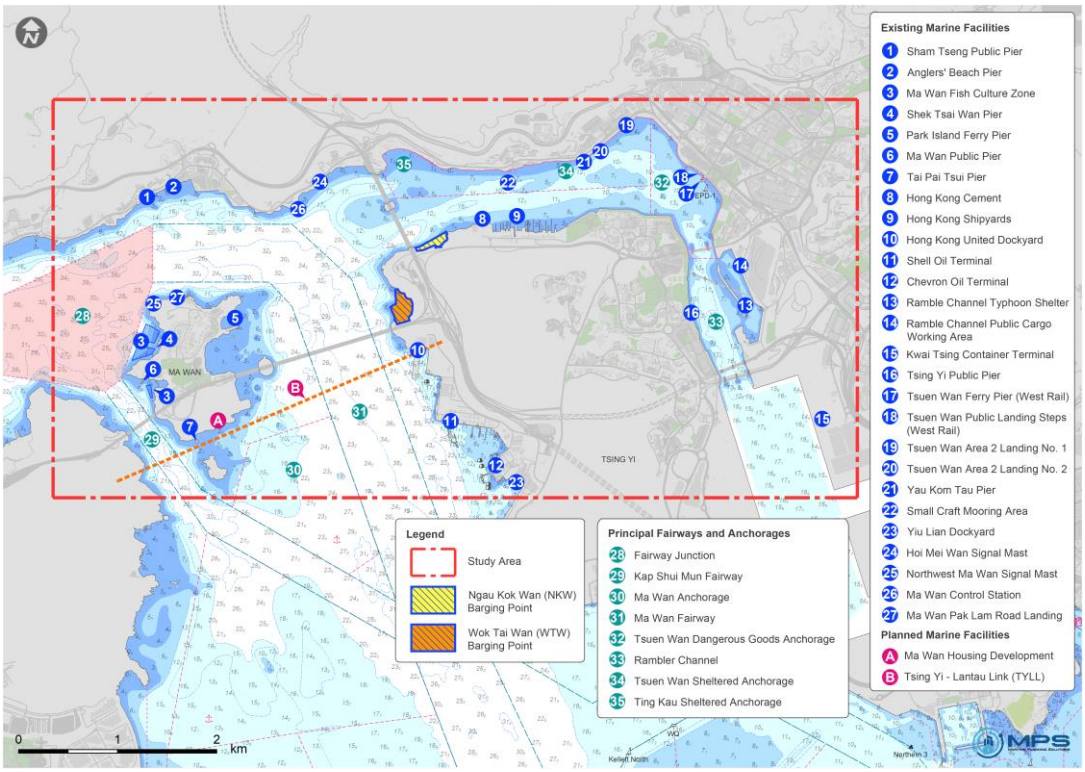


Figure 3-1 Marine Facilities within the Study Area

Existing Marine Facilities

1. **Sham Tseng Public Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. NP091, the former Kaito ferry service linking Sham Tseng Public Pier to Ma Wan Public Pier, has been suspended; currently, no franchised, licensed or Kaito ferry services are berthing at Sham Tseng Public Pier.

2. **Angler's Beach Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. NP161, the former Kaito ferry service linking Angler's Beach Pier to Ma Wan Public Pier, has been suspended; currently, no franchised, licensed or Kaito ferry services are berthing at Angler's Beach Pier.

3. **Ma Wan Fish Culture Zone** – located alongside Tam Shui Wan and Shek Tsai Wan on the west shore of Ma Wan. The rafts are used by fishermen to store fish before taking them to market.

4. **Shek Tsai Wan Pier** – one of the important landing points for local villagers and fishermen in Ma Wan. The existing Shek Tsai Wan Pier has only one berthing space and is mainly used by small fishing vessels.

5. **Park Island Ferry Pier** – a pier used by "Park Island – Tsuen Wan" and Park Island – Central", a licensed ferry service, operated by Park Island Transport Company Limited.

6. **Ma Wan Public Pier** – a pier formerly maintained by the Civil Engineering and Development Department (CEDD), the former Katio ferry service linking Ma Wan Public Pier to Sham Tseng Public Pier/Angler's Beach Pier has been suspended; currently, no franchised, licensed or Kaito ferry services are berthing at Ma Wan Public Pier.

7. **Tai Pai Tsui Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. IP075.

8. **Hong Kong Cement** – Hong Kong Cement Company Limited owns a private terminal for receiving aggregate and other raw materials for cement making.

9. **Hong Kong Shipyards** – is mainly engaged in ship repairing and maintenance services.

10. **Hong Kong United Dockyard** - is mainly engaged in tugboat, salvage services, ship repair, mechanical and electrical engineering and automobile services.

11. **Shell Oil Terminal** - a storage and distribution depot of Shell's, the facility is to providing a safe and efficient supply of oil products to Hong Kong and Macau.

12. **Chevron Oil Terminal** – Chevron's Tsing Yi fuel terminal, the facility is responsible for receiving, delivering and housing Chevron Hong Kong's fuel supply.

13. **Rambler Channel Typhoon Shelter** – used for sheltered berthing and mooring of ~13ha for vessels with a length overall not exceeding 50m.

14. **Rambler Channel Public Cargo Working Area** – inside the Rambler Channel Typhoon Shelter for ships to perform loading and unloading cargo operation.

15. **Kwai Tsing Container Terminal** – Kwai Tsing Port possess 9 container terminals that are financed and owned by 5 private operators. It generates frequent trips of container vessels arriving and departing the basin daily.

16. **Tsing Yi Public Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. NP123, currently no franchised, licensed or kaito ferry services berthing at Tsing Yi Public Pier.

17. **Tsuen Wan Ferry Pier (West Rail)** – a pier maintained by the CEDD Pier/Landing Structure with No. KP092, used by "Tsuen Wan – Park Island", is a licensed ferry service operated by Park Island Transport Company Limited.

18. **Tsuen Wan Public Landing Steps (West Rail)** – a landing step maintained by the CEDD Pier/Landing Structure with No. KP093.

19. **Tsuen Wan Area 2 Landing No. 1** – a landing step maintained by CEDD Pier/Landing Structure with No. NP040.

20. **Tsuen Wan Area 2 Landing No. 2** – a landing step maintained by the CEDD Pier/Landing Structure with No. NP041.

21. **Yau Kom Tau Pier** – a pier maintained by the CEDD Pier/Landing Structure with No. NP125.

22. **Small Craft Mooring Area** – a designated zone where small vessels can moor.

23. **Yiu Lian Dockyard** – mainly engaged in tugboat, salvage services, and ship repair.

24. **Hoi Mei Wan Signal Mast** – signal masts erected at the end of the Ma Wan Fairway to give warnings of restricted movement through the area; the signal mast at Hoi Mei Wan provides a warning to vessels approaching from the east and the south.

25. **Northwest Ma Wan Signal Mast** – signal masts erected at the end of the Ma Wan Fairway to give warnings of restricted movement through the area; signal mast at the northwest of Ma Wan Island provides a warning to vessels approaching from the west.

26. **Ma Wan Control Station** – active vessel traffic management and control scheme to maintain the safe transit of vessels around Ma Wan.

27. **Ma Wan Pak Lam Road Landing** – a landing step maintained by the CEDD Pier/Landing Structure with No. IP121.

Principal Fairway and Anchorages

28. **Fairway Junction** – It joins the Ma Wan Fairway, the Kap Shui Mun Fairway, and the Ha Pang Fairway.

29. **Kap Shui Mun Fairway** – it is designated as a Principal Fairway by the Marine Department with an objective of improving navigation safety in the area, where traffic movement is restricted, with one-way traffic arrangement that restricts vessels exceeding 10 meters to sail through the channel in a southeasterly direction only; fairway is cross by Kap Shui Mun Bridge, with a height limit of 41 meters clearance.

30. **Ma Wan Anchorage** – a mooring area for vessels with length overall less than 320 meters and draught less than 12.6 meters to berth.

31. **Ma Wan Fairway** – it is designated as a Principal Fairway by the Marine Department with an objective of improving navigation safety in the area, where traffic movement is restricted, with North-South direction fairway with the Tsing Ma Bridge overhead is a main navigation channel for container ships to/from Kwai Tsing Container Terminal and other cargo vessels, passenger ferries and oil tankers to/from Hong Kong and ports in the PRD; The height restriction for all vessels approaching Tsing Ma Bridge Area is 57 meters above sea level. Vessels with a height exceeding 54.6 metres above sea level, but not exceeding 57 metres above sea level, can enter or pass through the Tsing Ma Bridge Area during the hours specified by the Highways Department.

32. **Tsuen Wan Dangerous Goods Anchorage** – is one of eight gazetted Dangerous Goods Anchorages in Hong Kong designated for vessels carrying or handling dangerous goods, it accommodates 70 private moorings used primarily by local oil carriers.

33. **Rambler Channel** – a passageway approximately 900 meters at its widest point separates Tsing Yi Island from Tsuen Wan. The majority of vessels' activities involve River Trade vessels to/from Kwai Chung Terminal and Rambler Channel Typhoon Shelter, and local vessels to/from shipyards and small craft moorings.

34. **Tsuen Wan Sheltered Anchorage –** provides 3.7 hectares of sheltered water area primarily for working vessels.

35. **Tin Kau Sheltered Anchorage –** provides 0.7 hectares of sheltered water area primarily for pleasure vessels.

Proposed Developments

A. **Ma Wan Housing Development –** CEDD has conducted a feasibility study for the Private Housing Development in Ma Wan South and finished in September 2024. The report suggests that the implementation of the Ma Wan Housing Development Program is subject to review; hence, the first intake year of the private development is yet to be affirmative.

B. **Tsing Yi – Lantau Link (TYLL) –** construction of dual 3-lane carriageway between Northeast Lantau and Tsing Yi, in the form of cable-supported bridges with connections to/from the proposed Tsing Lung Bridge and the existing North Lantau Highway in both directions at Northeast Lantau Interchange and to/from Tsing Shan Highway in both directions at Tsing Yi. This TYLL will potentially bring constraints to the future vessel movements to/from TYNUQ. However, the study of TYLL is still underway.

3.3 Metocean Environment

3.3.1 The following metocean parameters and conditions within the MTIA Study Area were reviewed to identify any potential impacts during the construction and operation phases of the Project:

- Tidal levels
- Current
- Wind
- Wave Height
- Adverse Weather, including strong monsoons, tropical cyclones, rainstorm warnings, and reduced visibility.

Tidal Levels

3.3.2 Tidal data at Ma Wan Station has been chosen to demonstrate the typical tidal patterns, as it is the nearest tidal station to the TYNUQ. Tidal details are shown **Table 3-1** where the levels of "Mean Lower Low Water" and "Mean Higher High Water" encompass the range of normal tidal variation.

3.3.3 The mean tidal range of about 1.48m is considered to be low, and the change of tidal levels is not considered to have a significant impact on vessels deployed for marine works for the construction and operation of the TYNUQ.

Table 3-1 Tidal Levels at Ma Wan (height in meters above Chart Datum)

Mean Sea Level	Mean Higher High Water Level	Mean Lower Low Water Level	Highest Astronomical Tide
1.48	2.06	0.84	2.89

Note: The Chart Datum is 0.15m below the Hong Kong Principal Datum.
Source: 'Charts for Local Vessels 2025', Hong Kong Waters' by Hydrographic Office, Marine Department

Current

3.3.4 To review the tidal current environment in proximity to the Site Area, one year of tidal stream prediction data from 05 Oct 2023 to 04 Oct 2024, sourced from the Marine Department Hydrographic Office, was obtained for analysis. Data points are set in the vicinity of the site area, as illustrated in **Figure 3-2**.

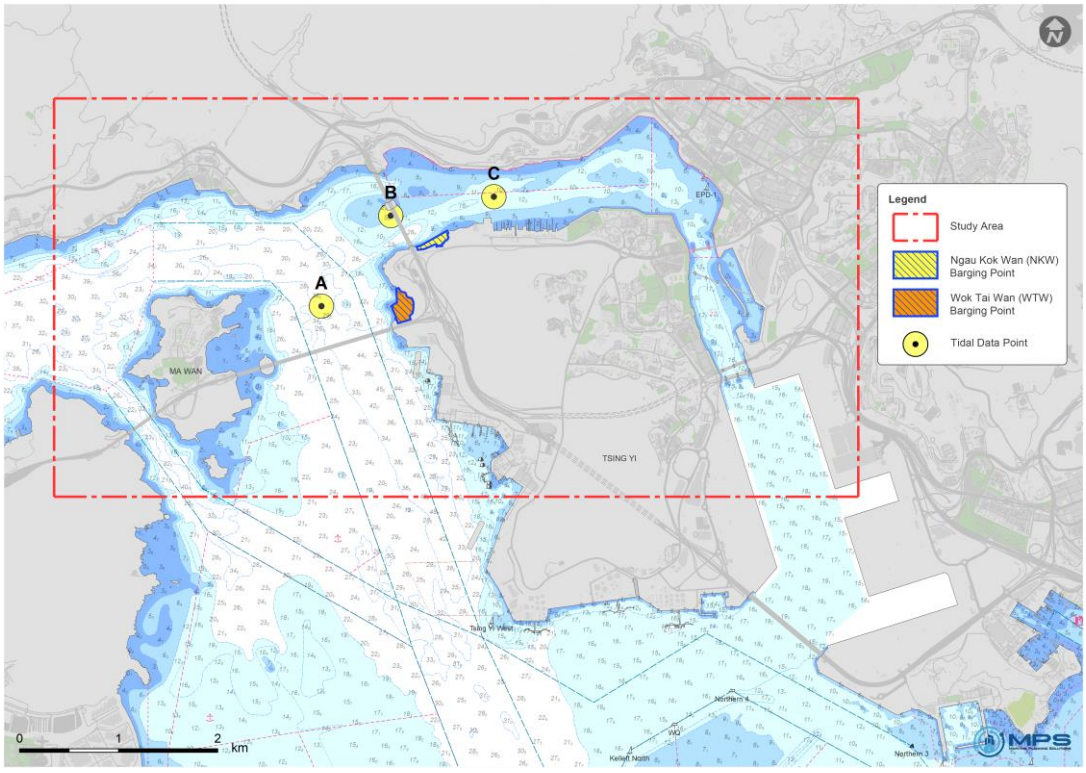


Figure 3-2 Locations of Currents Data Prediction Points

3.3.5 Current speeds and directions are graphically depicted in a “current rose” for the specified locations, as shown in **Figure 3-3**. The longest “bar” on the rose indicates the most frequently occurring direction as a percentage. The “bar” colour bands indicate different current speeds in knots.

3.3.6 It is identified that the strongest tidal currents were recorded at Point A, with maximum speeds of 4.39 knots. Point C with a speed up to 2.16 knots and Point B with a speed up to 1.5 knots, respectively.

3.3.7 Point A is located in the middle of the Ma Wan Fairway and is relatively distant from the barging location. Therefore, the relatively high current speed at this point is not expected to significantly impact the barging operation. The current speeds at Points B and C are considered low to moderate compared to other locations in Hong Kong and are not expected to have a significant impact on the marine works of the Project.

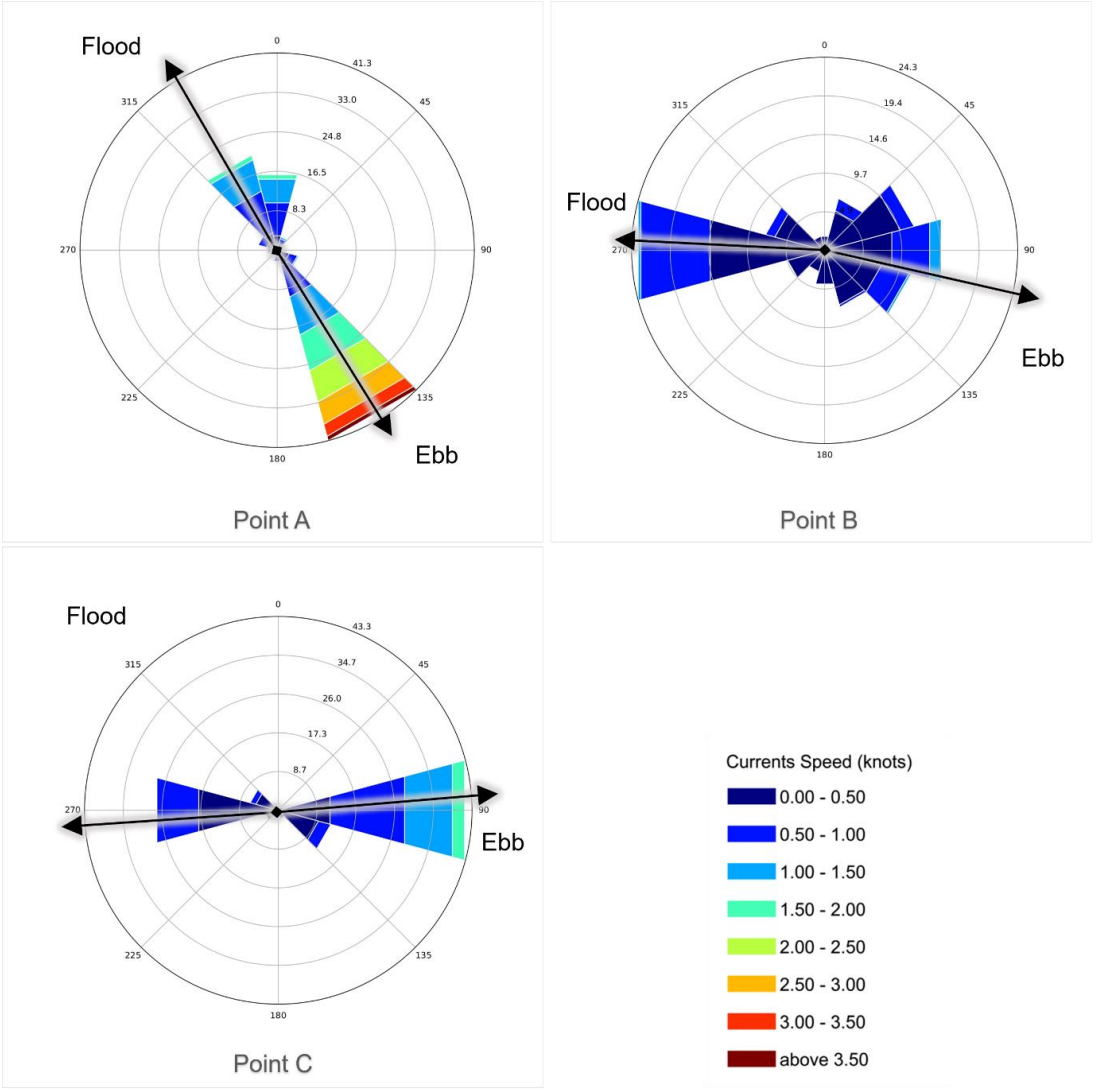


Figure 3-3 Flood / Ebb Tide Direction and Speed

Wind

3.3.8 The wind environment within the Study Area is referenced from data sourced from the automatic weather stations at Shell Oil Depot. The annual wind rose in 2024 is shown in **Figure 3-4**. The most dominant wind direction at Shell Oil Depot has been identified from the Southeast, with a wind force of Beaufort Scale 3 – 4.

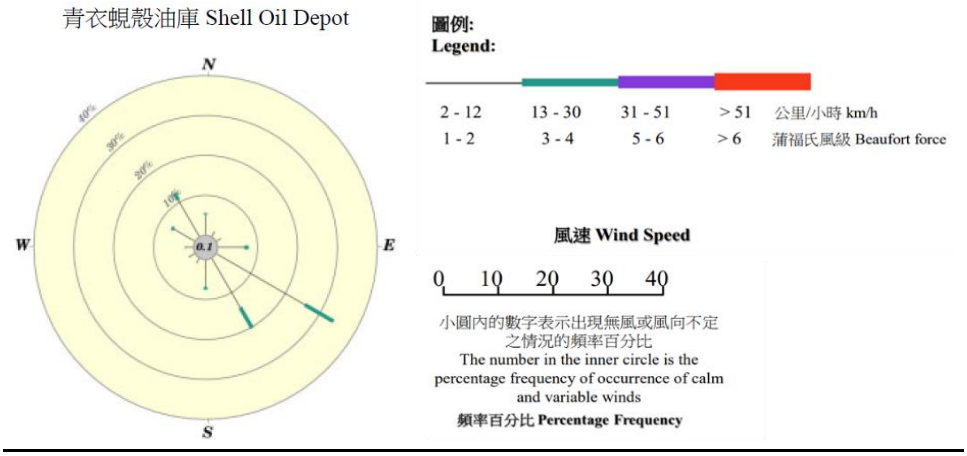


Figure 3-4 Annual Wind Rose at Shell Oil Depot Automatic Weather Station (2024)

Source: Summary of Meteorological and Tidal Observations in Hong Kong 2024, Hong Kong Observatory

3.3.9 **Table 3-2** summarized the prevailing wind direction and mean wind speed recorded in 2024, sourced from the automatic weather station at Shell Oil Depot of the Hong Kong Observatory (HKO). A predominantly south-easterly prevailing wind is observed for the majority of months, as indicated by the direction of 120 to 140 degrees azimuth. The wind speeds during these months vary, with the lowest mean speed observed in November at approximately 6.4 km per hour and the highest in April at about 12.0 km per hour. It is not anticipated that the wind conditions will adversely impact the marine works.

Table 3-2 Prevailing Wind Direction and Mean Wind Speed at Shell Oil Depot, 2024

Month	Shell Oil Depot Automatic Weather Station (2024)	
	Prevailing Direction (degrees)	Mean Speed (km/hour)
Jan	120	7.7
Feb	120	8.5
Mar	120	8.6
Apr	140	12.0
May	120	9.5
Jun	140	10.8
Jul	120	9.1
Aug	130	6.6
Sept	120	6.5
Oct	120	8.3
Nov	320	6.4
Dec	320	6.9

Source: 'https://www.hko.gov.hk/tc/publica/smo/files/SMO2024.pdf' Climatological Information Services, HKO

Wave Height

3.3.10 The Port Works Division of the CEDD operates a long-term wave monitoring program, with stations positioned near Kau Yi Chau and at the West Lamma Channel in Hong Kong. The data collected over the last 10 years indicate that the prevailing wave directions at the measurement locations are predominantly from the south and southeast. It is important to note that extreme wave heights are generally observed in conjunction with tropical cyclone events. A summary of the measurements of wave height at Kau Yi Chau is provided below for reference.

Table 3-3 Wave Measurement at Kau Yi Chau Tide Station

Year	Calm Period (%) (H_{mo}<0.3m)	Maximum Recorded H_{max} (m)
2015	11	2.96
2016	70	1.55
2017	65	2.13
2018	54	6.80
2019	63	2.11
2020	26	2.47
2021	7	2.28
2022	10	3.83
2023	11	3.29
2024	11	2.44

Where: Hmo: Spectral significant wave height, Hmax: Maximum recorded wave height Source: *https://www.cedd.gov.hk/eng/about-us/core-business/port/wave-measurement/index.html, Port Works Division, CEDD*

Increment Weather Review

3.3.11 The following adverse weather conditions are reviewed to identify any potential hazards during the construction and operation of this TYNUQ Project.

- Strong Monsoons
- Tropical Cyclones
- Rainstorm Warnings
- Reduced Visibility

Strong Monsoons

3.3.12 A 10-year record from 2015 to 2024 of strong monsoon signals issued by HKO was reviewed, and the average number of strong monsoons each month is summarized in the table below.

Table 3-4 Monthly Average Number of Strong Monsoon Signals (2015 – 2024)

Monthly Average	Number
Jan	2
Feb	2
Mar	2
Apr	1
May	1
Jun	0
Jul	1
Aug	0
Sept	1
Oct	3
Nov	2
Dec	2

Monthly Average	Number
Total (Annual Average)	**17**

Source: https://www.hko.gov.hk/en/wxinfo/climat/warndb/warndb2.shtml

Tropical Cyclones

3.3.13 A 10-year record from 2015 to 2024 of Tropical Cyclone Warning Signals issued by HKO was reviewed, and the average number of tropical cyclone signals hoisted each month is summarized in the table below.

Table 3-5 Monthly Average Number of Tropical Cyclone Warning Signals (2015 - 2024)

Monthly Average	T3	T8	T9 or above	Total
Jan	0.0	0.0	0.0	**0.0**
Feb	0.0	0.0	0.0	**0.0**
Mar	0.0	0.0	0.0	**0.0**
Apr	0.0	0.0	0.0	**0.0**
May	0.2	0.0	0.0	**0.2**
Jun	0.5	0.3	0.0	**0.8**
Jul	1.2	0.6	0.0	**1.8**
Aug	1.5	0.9	0.2	**2.6**
Sept	0.8	0.5	0.2	**1.5**
Oct	1.8	0.8	0.1	**2.7**
Nov	0.5	0.4	0.0	**0.9**
Dec	0.0	0.0	0.0	**0.0**
Total (Annual Average)	**6.5**	**3.5**	**0.5**	**10.5**

Source: https://www.hko.gov.hk/en/wxinfo/climat/warndb/warndb1.shtml

Rainstorm Warnings

3.3.14 A 10-year record from 2015 to 2024 of Rainstorm Warnings issued by HKO was reviewed, and the average of rainstorm warnings issued each month is summarized in the table below.

Table 3-6 Monthly Average Number of Rainstorm Warnings (2015 - 2024)

Monthly Average	Amber	Red	Black	Total
Jan	0.1	0.0	0.0	**0.1**
Feb	0.2	0.0	0.0	**0.2**
Mar	0.3	0.1	0.1	**0.5**
Apr	2.0	0.1	0.0	**2.1**
May	5.1	1.3	0.2	**6.6**
Jun	6.4	1.2	0.2	**7.8**
Jul	4.0	0.3	0.0	**4.3**
Aug	6.2	0.8	0.0	**7.0**
Sept	4.2	0.9	0.2	**5.3**
Oct	1.8	0.8	0.3	**2.9**

Monthly Average	Amber	Red	Black	Total
Nov	0.1	0.0	0.0	**0.1**
Dec	0.0	0.0	0.0	**0.0**
Total (Annual Average)	**30.4**	**5.5**	**1.0**	**36.9**

Source: https://www.hko.gov.hk/en/wxinfo/climat/warndb/warndb3.shtml

Reduced Visibility

3.3.15 A 10-year record (from 2015 to 2024) of Reduced Visibility recorded at the Hong Kong Observatory (HKO) was received. The average monthly frequency of reduced visibility, at less than 3km (~1.6 nautical miles) under all weather conditions, is summarized in **Figure 3-5** below. Typically, marine operations are suspended when visibility falls below 2 nautical miles.

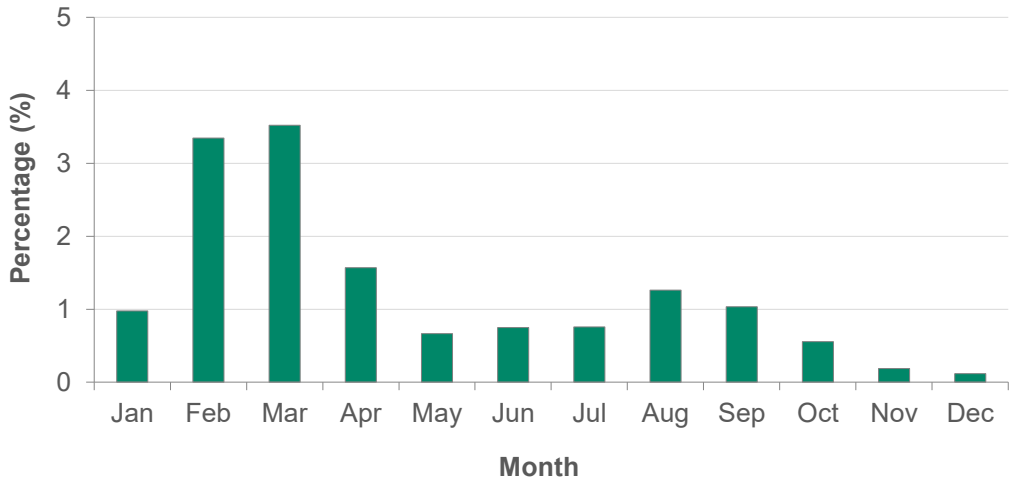


Figure 3-5 The Average Monthly Percentage Frequency of Visibility Below 3km (All Weather Conditions)

Source: Summary of Meteorological and Tidal Observations in Hong Kong, Hong Kong Observatory (2015-2024)

3.4 Water Depth

3.4.1 **Figure 3-6** illustrates the water depths within the Study Area. At NKW site, shoreline depths are generally around -9.1m below Chart Datum (mCD) over a strech of approximately 115m, while both ends of the site exhibit shallower depths of approximately -1.4 mCD. At the WTW site, most of the shoreline is relatively shallow, ranging from -0.4 mCD to -1.42 mCD, with a central section of about 20m reaching depths between -5.1 mCD and -10 mCD.

3.4.2 The relatively shallow waters at WTW may pose a potential grounding risk for vessels with drafts exceeding the available depth. Subject to the type of vessels that the Contractor proposed, adjustment in the payload of vessels may therefore be required to ensure sufficient navigational clearance for vessels. When necessary, the Contractor shall carry out a hydrographic survey prior to deployment of vessels to confirm that the water depths are adequate for the proposed vessels.

3.4.3 To ensure safe navigation, vessels should not exceed the available water depth with their maximum operating draft, and a sufficient under-keel clearance (UKC) of 10 to 15% of the vessel's deepest draught should be considered for safe navigation.

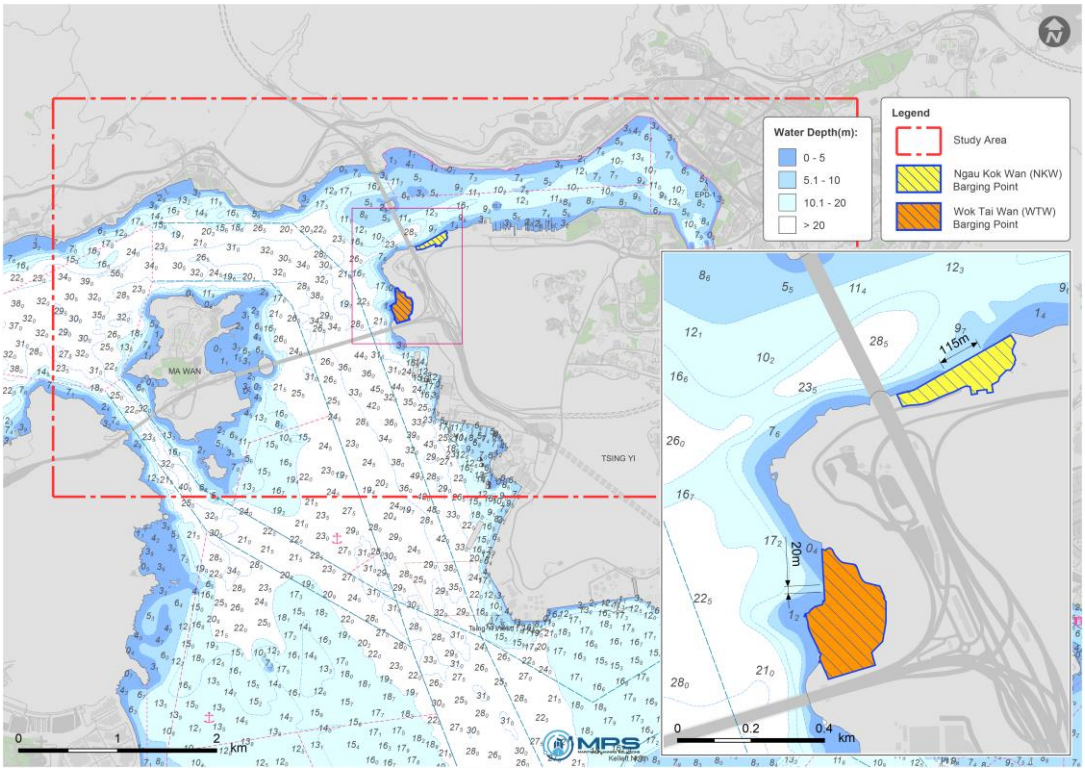


Figure 3-6 Water Depths in the vicinity of Underground Quarrying at Tsing Yi North

Source: 'Charts for Local Vessels 2025' by Hydrographic Office, Marine Department

3.5 Existing Marine Navigation Constraints and Risk Control Measures

3.5.1 Vessels transiting with the Study Area are subject to existing navigation constraints and risk control measures, including 1) Bridge Height Restricted Areas and Special Areas, 2) Ma Wan Transit Window, 3) Ma Wan Marine Traffic Control System and 4) Compulsory Pilotage.

Bridge Areas and Special Areas

3.5.2 **Figure 3-7** summarizes the existing constraints of the Tsing Ma Bridge Area, Kap Shui Mun Bridge Area, Kap Shui Mun Special Area, Ting Kau Bridge, Tsing Tsuen and Tsing Yi Bridge Area in accordance with Shipping and Port Control Regulations (Cap. 313A). The WTW site is located within the Kap Shui Mun Bridge area, where vessels are required to have an air draught of less than 35m. It is not anticipated that this height restriction will impact the construction or operation of the Project.

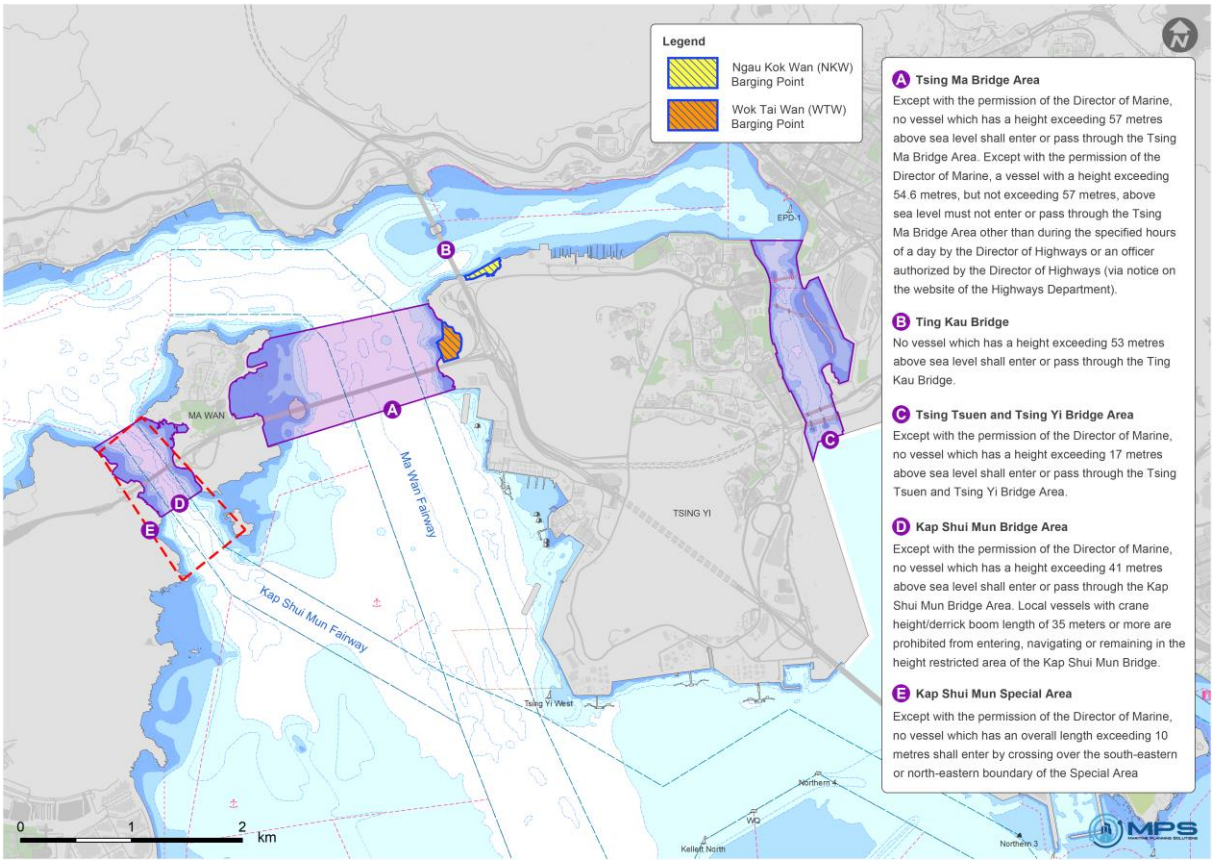


Figure 3-7 Bridge Areas and Special Areas Constraints

Ma Wan Transit Window

3.5.3 Vessels transiting through Ma Wan Fairway are restricted by transit window, considering the type and size of the vessels and the corresponding tidal prediction. Transits through Ma Wan Fairway shall refer to the Ma Wan Transit Window published by the Hydrographic Office of the Marine Department.

3.5.4 **Table 3-7** summarizes the general restrictions for the Ma Wan transit window.

Table 3-7 Ma Wan Transit Tidal Window Restrictions

Bulker and Tanker (All vessels other than passenger & container ships)				
LOA	Draught	Restriction in Tidal Current at Ma Wan (knots)		Other Restriction
		Against	With	
≤230m	≤12.5m	>2.5	>1.5	
	>12.5m - ≤13.0m	>2.5	>1.5	Daylight Transit Only
>230m - ≤255m	≤15m	>2.0	>1.0	Daylight Transit Only
>255m - ≤290m	≤16.8m	>1.5	>0.5	Daylight Transit Only
>290m	≤16.8m	>1.0	>0.5	Daylight Transit Only

Container Ship				
LOA	Draught	Restriction in Tidal Current at Ma Wan (knots)		Other Restriction
		Against	With	
≤400m	≤14.5m	>3.0	>2.0	
	>14.5m - ≤15.0m	>2.5	>1.5	
	>15.0m - ≤15.5m	>2.0	>1.0	
	>15.5m - ≤16.0m	>2.0	>1.0	Daylight Transit Only
Passenger Ship (Conventional)				
LOA	Draught	Restriction in Tidal Current at Ma Wan (knots)		Other Restriction
		Against	With	
≤400m	≤11.0m	>3.0	>2.0	
Passenger Ship (Highly Manoeuvrable)				
LOA	Draught	Restriction in Tidal Current at Ma Wan (knots)		Other Restriction
		Against	With	
≤400m	≤11.0m	>3.5	>2.5	

Notes: Highly maneuverable passenger ships should meet the following requirements:
(a) Bow thrusters of total power ≥ 8000HP
(b) Equipped with azipods.

Ma Wan Marine Traffic Control System

3.5.5 The Ma Wan Marine Traffic Control System facilitates the safe transit of vessels around Ma Wan through an active vessel traffic management and control scheme to monitor the movements of ocean-going vessels and small craft in the area.

3.5.6 Movements of local craft and river trade vessels are temporarily restricted through signal lights, VHF communications and the patrol launch at the scene when large vessels, deep-draught vessels, hampered vessels, vessels carrying specified categories of dangerous goods or other special craft are about to transit the area.

3.5.7 3 signal masts at the 2 ends of the Ma Wan Fairway give warnings of restricted movement through the area:

- Signal masts at Ha Pang and the northwest of Ma Wan Island provide warning to vessels approaching from the west; and
- Signal mast at Hoi Mei Wan provides a warning to vessels approaching from the east and the south.

3.5.8 When the appropriate signal mast(s) show the warning signal, which is three red lights in a vertical line occulting every 8 seconds (5 seconds on and 3 seconds off), vessels that are restricted for movement should wait in the designated Waiting Area(s) shown in **Figure 3-8** until the warning signal is turned off.

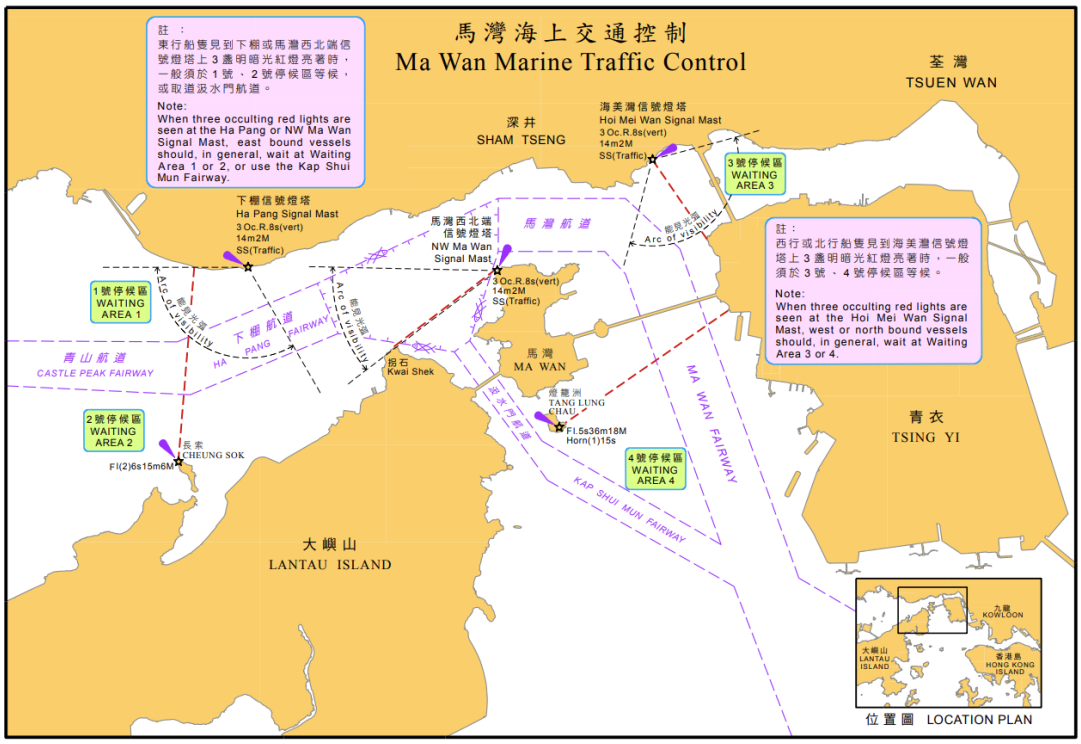


Figure 3-8 Ma Wan Marine Traffic Control

Compulsory Pilotage

3.5.9 Compulsory pilotage in Hong Kong applies to all vessels exceeding 3,000 gross tonages (GT), as well as certain vessels between 1,000 and 3,000 GT under specific conditions. Pilotage is regulated by the Director of Marine and provided 24 hours a day by licensed pilots from the Hong Kong Pilots Association.

3.5.10 In general, vessels of 3,000 GT or above are required to engage a licensed pilot when navigating within Hong Kong waters. Vessels of 1,000 GT or above are also subject to compulsory pilotage if they are carrying dangerous goods, operating as gas carriers (regardless of size), or navigating to designated container terminals, wharves, or government mooring buoys. In addition, vessels with restricted maneuverability are likewise required to take on a licensed pilot.

3.5.11 The Pilotage Ordinance (Cap. 84) provides further details on the compulsory pilotage requirements in Hong Kong. It is not anticipated that vessels deployed for this Project will require pilotage services.

3.6 Summary

3.6.1 This section provides a review of the existing marine-based facilities, anticipated developments, and metocean conditions which may impact or be impacted by the TYNUQ development. Potential marine traffic impacts and interface with existing marine-based facilities and planned developments arising from the TYNUQ, and proposed mitigation measures are assessed in the following sections.

4 Marine Traffic Activities Review

4.1 Introduction

4.1.1 This section presents an overview of the existing marine traffic situation within the MTIA as well as the future marine traffic situation, which includes marine traffic activity anticipated to be generated within the Study Area.

4.2 Vessel Classification

4.2.1 Vessels were categorized into seven classes for analysis and summarized in **Table 4-1**.

Table 4-1 Vessel Classes for Marine Traffic Analysis

Vessel Class	Photos of typical vessels	Description
Oceangoing (OG)		cargo vessels, including container vessels, bulk carriers, tankers, cruise liners, etc., with a length overall over 100m, and cruise ships
River Trade (RT)		cargo vessels, including container vessels, bulk carriers, tankers, fishing/fish processing vessels, local lighter/barge/cargo junk, local bunker vessels, etc, with length overall between 20 to 100m
Tug and Tow (TT)		tugboat with towage, with the total length of tow including the barge and tug/tow vessel length overall between 110m to 140m
Fast Ferry (FF)		cross-boundary passenger ferries with a length overall between 29m to 47m
Local Ferry (LF)		domestic passenger ferries of lengths overall up to 22m

Fast Launch (FL)		government vessels comprised of patrol boats and fire service speedboats, as well as pilot boats of length overall up to 14m
Small Craft (SC)		single tugboat without towage, fishing vessels, pleasure vessels (mostly of auxiliary powered yachts and cruisers), work boats, etc., of length overall up to 20m

4.3 Baseline Marine Traffic Environment

4.3.1 This section reviews the existing marine traffic activity within the MTIA Study Area and describes the present marine traffic levels and patterns. The baseline marine traffic was reviewed based on the following sources of data:

- A one-month marine traffic survey to capture marine traffic in the vicinity of the TYNUQ site;
- One month (September 2024) of Automatic Identification System (AIS) and radar data sourced from the Marine Department;
- Latest timetable schedules of franchised and licensed ferry services within the Study Area; and
- Historical record of marine incidents in Hong Kong waters from 2015 to 2024 sourced from the MD.

Review of Marine Traffic Survey Data

4.3.2 To ascertain the existing marine traffic passing through the Study Area, a marine traffic survey was carried out in accordance with the *Requirements for Marine Traffic Surveys in Marine Traffic Impact Assessment*.

4.3.3 Video footage was recorded for a period of 30 consecutive calendar days (from 27 September 2024 to 26 October 2024) to collect real-time data on marine activities within the Study Area.

4.3.4 Vessel counting was carried out for 12 days randomly selected from recorded video footage during daylight hours (7:00 to 19:00). The survey methodology and viewpoints were agreed upon with the Marine Department before carrying out the survey. The study will be based on the most up-to-date marine traffic data available to assess the current situation.

4.3.5 The following marine traffic gates and proposed viewpoints, as presented in **Figure 4-1** have been adopted for assessment:

- **Gate A**: A camera positioned to the east of Ma Wan, capturing marine traffic movements **along the Ma Wan Fairway**.
- **Gate B**: A camera positioned to the east of Ma Wan, capturing marine traffic movements **across the Ting Kau Bridge**.

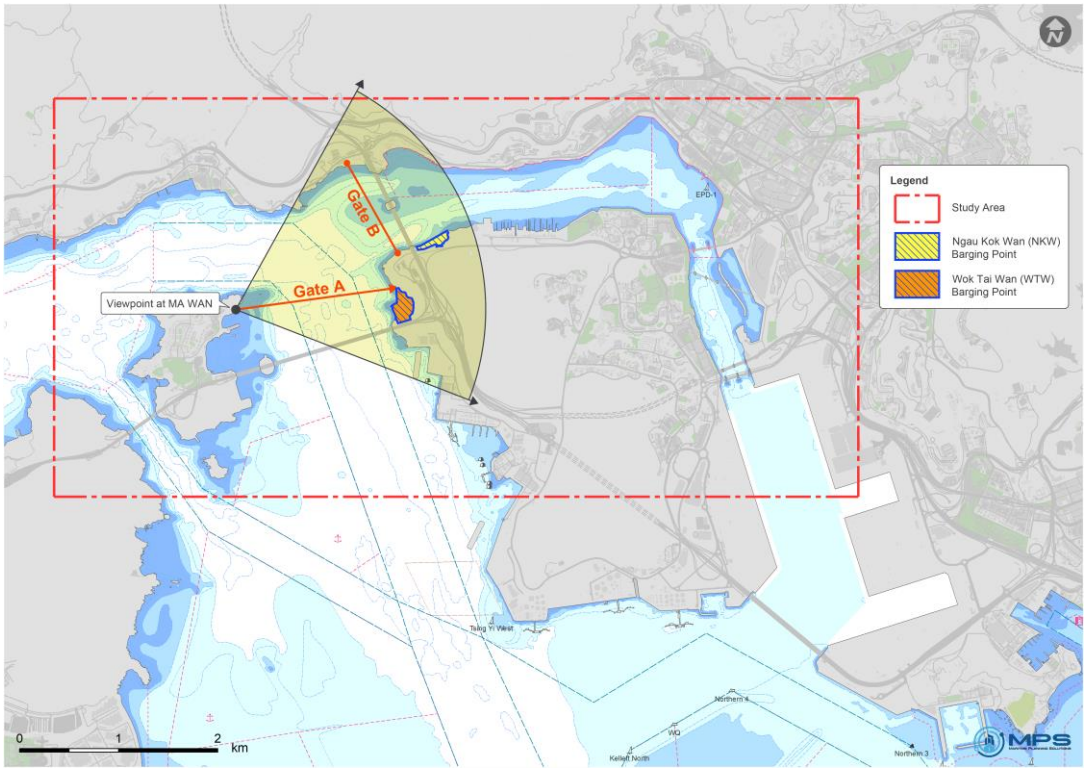


Figure 4-1 Visual Survey Gates

4.3.6 The traffic volume during daylight hours (07:00-19:00) across the marked gates is summarised in **Table 4-2**.

4.3.7 It has been identified from the marine traffic survey data that the marine traffic activity along the Ma Wan Fairway is primarily dominated by Small Craft vessels, followed by River Trade and Fast Ferry vessels, and less frequent traffic activity from Oceangoing and other vessel types. While the marine traffic activity across the Ting Kau Bridge is dominated by Small Craft vessel movements, followed by River Trade vessels, with occasional transits by other vessel types. Ma Wan Fairway has a greater overall average daily daylight traffic volume than Ting Kau Bridge, with 127 traffic movements.

Table 4-2 Average Daily Daylight (07:00 - 19:00) Traffic Movements (Marine Traffic Survey from Sep 2024 to Nov 2024)

Data Source	Vessel Class							Total
	OG	RT	TT	FF	LF	FL	SC	
Marine Traffic Survey	**Gate A – Traffic along Ma Wan Fairway**							
	25	53	8	24	8	4	141	263
	10%	20%	3%	9%	3%	1%	54%	100%
	Gate B – Traffic across the Ting Kau Bridge							
	0	48	1	0	22	3	62	136
	0%	35%	1%	0%	16%	2%	46%	100%

Note: OG – Oceangoing, RT – Rivertrade, TT – Tug and Tow, FF – Fast Ferry, LF – Local Ferry, FL – Fast Launch, SC – Small Craft; Traffic volumes include northbound and southbound traffic at Ma Wan Fairway.

Review of AIS and Radar Data

4.3.8 One month of AIS and radar data of the Study Area from **September 2024** has been provided by the Marine Department for the purpose of this Study.

4.3.9 AIS and radar data are sourced from the MD system used to provide vessel traffic service to vessels visiting Hong Kong. AIS and radar data provide 24-hour vessel tracking information

(including vessel positions, speed, timing, approximate length, and beam) that, when analysed, provides key marine traffic information: traffic volume, route structure, and speed profile.

4.3.10 However, many vessels within Hong Kong waters (particularly fishing vessels and recreational craft) do not carry AIS transponders. Tracking information on these vessels was instead sourced from radar data, although not all vessels could be detected by radar. Radar data does not contain vessel type information, and size and speed information are less consistent than AIS data, as they are based on the interpretation of radar reflections.

4.3.11 In order to review existing traffic patterns and allow cross-referencing with the marine traffic survey findings, marked gates have been created across the same traffic gates as defined in the marine traffic survey. Vessel tracks for one day (24 hours), AIS and radar data of typical vessel activity within the Study Area are presented in **Figure 4-2**.

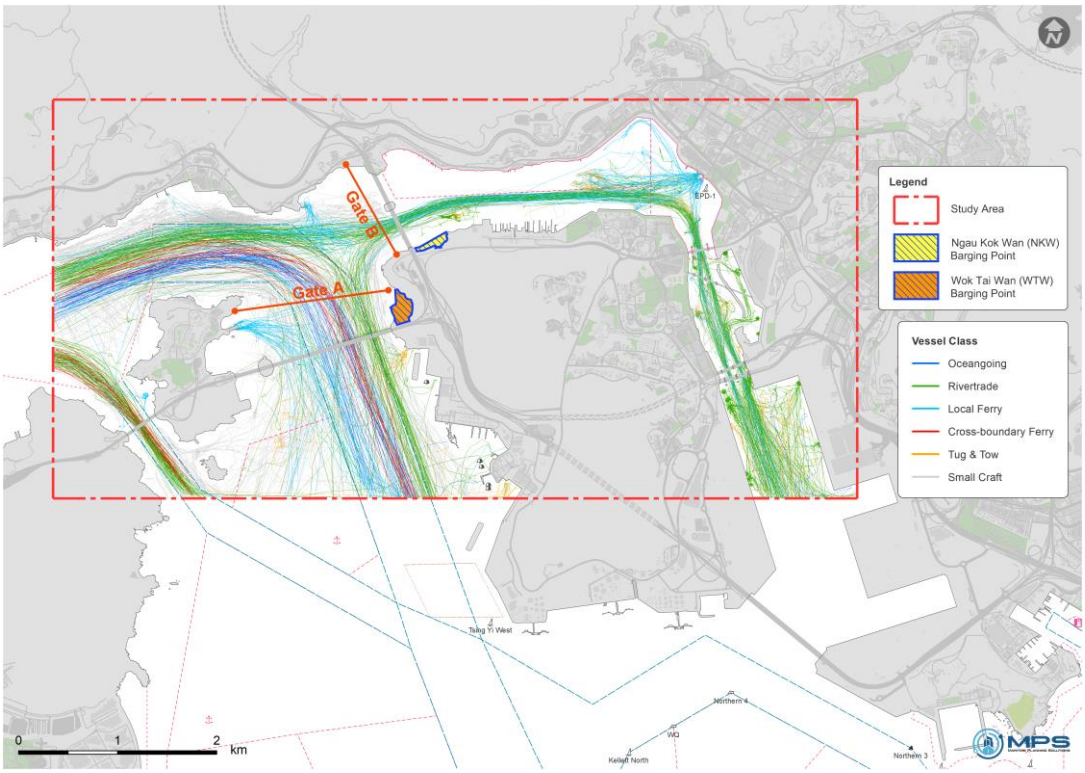


Figure 4-2 Vessel Tracks within MTIA Study Area (A Typical Day in September 2024)

4.3.12 **Table 4-2** presents the average number of transits during a **24-hour** day identified from the AIS and radar data at the traffic gates.

Table 4-3 Average Daily (24-Hour) Traffic Volume (September 2024 AIS and Radar Data)

Data Source	Vessel Class							Total
	OG	RT	TT	FF	LF	FL	SC	
AIS and Radar Data	Gate A – Marine Traffic along Ma Wan Fairway							
	44	97	2	25	13	4	148	333
	13%	29%	1%	8%	4%	1%	44%	100%
	Gate B – Marine Traffic across the Ting Kau Bridge							
	0	71	2	0	36	2	100	211
	0%	34%	1%	0%	17%	1%	47%	100%

Note: OG – Oceangoing, RT – Rivertrade, TT – Tug and Tow, FF – Fast Ferry, LF – Local Ferry, FL – Fast Launch, SC – Small Craft; Traffic volumes include northbound and southbound traffic at Ma Wan Fairway.

4.3.13 It has been identified from the AIS and Radar data that average daily marine traffic activity along the Ma Wan Fairway is dominated by Small Craft, followed by River Trade vessels and Oceangoing vessels, with occasional transits by other vessel types. The marine traffic activity across the Ting Kau Bridge consists predominately of Small Craft, and River Trade vessels, followed by Local Ferries. Ma Wan Fairway has a greater overall average daily daylight traffic volume than Ting Kau Bridge, with 122 traffic movements.

Local Ferry and Cross-Boundary Ferry Route and Schedule

4.3.14 In the Study Area, ferry routes and operators connecting Central to Ma Wan (Park Island) and Hong Kong to the Greater Bay Area via Ma Wan Fairway and Kap Shui Mun Fairway have been identified. The indicative scheduled ferry routes are illustrated in **Figure 4-3**. The details on routes and operators are summarised in **Table 4-4**.

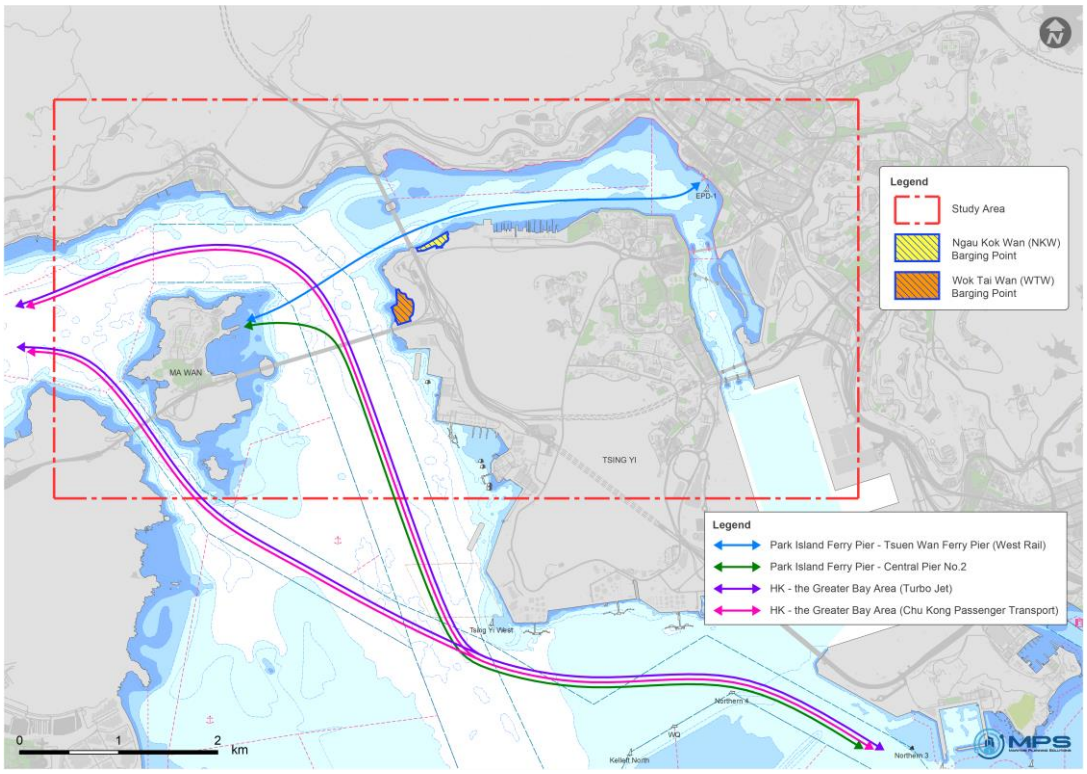


Figure 4-3 Local Ferry and Cross-Boundary Services Route Map

Table 4-4 Daily Scheduled Ferries within the MTIA Study Area

Ferry Operators	Outlying Island Ferry Service	No. of Daily Traffic
Park Island Transport Company Ltd.(1)	Ma Wan (Park Island) ⇔ Central	56 moves (Monday to Friday) 34 moves (Saturday, Sunday and Public Holidays)
	Ma Wan (Park Island) ⇔ Tsuen Wan	6 moves
	Cross-Boundary Fast Ferry Service	
Turbojet(2)	Macau Ferry Terminal / China Ferry Terminal ⇔ Zhuhai	16 moves
Chu Kong Shipping (CKS)(3)	Macau Ferry Terminal ⇔ Shenzhen	10 moves

	China Ferry Terminal ⇔ Nan Sha	4 moves
	China Ferry Terminal ⇔ Zhong Shan	14 moves

Updated as of Jun 2025
Source:
(1)http://www.pitcl.com.hk/en/ferry_service.php
(2)https://www.turbojet.com.hk/en/routing-sailing-schedule/hkkln-zhuhai/sailing-schedule-fares.aspx
(3)https://www.cksp.com.hk/#/main/shipline/ship1

4.3.15 The local ferry and cross-boundary ferry movements have been found in consistent with the AIS and radar data records. Hence, the AIS and radar data records for local ferry and cross-boundary ferry traffic have been adopted as the baseline traffic data.

Baseline Traffic Levels

4.3.16 **Table 4-3** presents a comparison of the average daily daylight traffic volumes identified from the marine traffic survey with the AIS and radar data to ensure accurate identification of traffic volume and vessel distribution within the Study Area.

Table 4-5 Comparison of Average Daily Daylight (07:00 – 19:00) Traffic Volume from Marine Traffic Survey and AIS, and Radar Data

Data Source	Vessel Class							Total
	OG	RT	TT	FF	LF	FL	SC	
Gate A – Marine Traffic along Ma Wan Fairway								
AIS and Radar Data (a)	24	60	1	22	12	3	112	234
Marine Traffic Survey (b)	25	53	8	24	8	4	141	263
Difference (a-b)	-1	7	-7	-2	4	-1	-29	-29
Gate B – Marine Traffic across the Ting Kau Bridge								
AIS and Radar Data (a)	0	46	1	0	29	1	78	155
Marine Traffic Survey (b)	0	48	1	0	22	2	62	136
Difference (a-b)	0	-2	0	0	7	-1	16	20

Note: OG – Oceangoing, RT – Rivertrade, TT – Tug and Tow, FF – Fast Ferry, LF – Local Ferry, FL – Fast Launch, SC – Small Craft; Traffic volumes include northbound and southbound traffic at Ma Wan Fairway.

4.3.17 The result shows that there is reasonable agreement between the traffic structures captured from the visual survey and the analysis of AIS and radar data for larger vessels, except for the number of Small Craft. It is observed that the marine traffic survey data captured greater volumes of Small Craft vessel movements along the Ma Wan Fairway. This may be due to the small size of Small Craft vessels, the wood hull of vessels not being captured by radar, or the vessels not equipped with an AIS transponder.

4.3.18 The Baseline Traffic Model is developed based on the higher average daily daylight traffic volume for each vessel class identified between the two data sets, and the volumes would be adjusted based on the ratios of daylight to night traffic volumes identified from AIS and radar data for each vessel class to develop the 24-hour traffic volumes.

4.3.19 **Table 4-6** summarizes the baseline traffic levels of the vessel classes to be adopted as the Baseline Marine Traffic Model for risk assessment in this MTIA Study.

Table 4-6 Baseline Marine Traffic Model

Gate	Vessel Class							Total
	OG	RT	TT	FF	LF	FL	SC	
Gate A Ma Wan Fairway	25	60	8	24	12	4	141	274
% of total	9%	22%	3%	9%	4%	1%	51%	100%
Gate B Ting Kau Bridge	0	48	1	0	29	2	78	158
% of total	0%	30%	1%	0%	18%	1%	49%	100%

Note: OG – Oceangoing, RT – Rivertrade, TT – Tug and Tow, FF – Fast Ferry, LF – Local Ferry, FL – Fast Launch, SC – Small Craft; Traffic volumes include northbound and southbound traffic at Ma Wan Fairway.

4.4 Future Marine Traffic Environment

4.4.1 This section presents an overview of the future marine traffic activities within the MTIA Study Area, including:

- Future marine traffic activity from other proposed developments; and
- Future baseline marine traffic activities.

4.4.2 Relevant sources and growth trends based on the best available information at the time of this Study have been reviewed to project the future traffic situation within the MTIA Study Area.

Future Marine Traffic Activity from Concurrent Developments

4.4.3 A number of proposed developments under planning may generate marine traffic within the MTIA Study Area and have a potential interface with the Project, including:

1) West New Territories Landfill Extension (WENTX) Operation;
2) Sunny Bay Reclamation;
3) Tsing Lung Bridge – Route 11 (Section between Yuen Long and North Lantau);
4) Road P1 (Tai Ho – Sunny Bay Section);
5) Tsing Yi – Lantau Link (TYLL);
6) Lung Kwu Tan and Tuen Mun West Reclamation;
7) Tuen Mun Bypass (TMB);
8) Integrated Waste Management Facilities Phase 1 & 2 (I·PARK1 & I·PARK2) Operation;
9) Contaminated Sediment Disposal Facility to the West of Lamma Island and
10) Ma Wan Housing Development

4.4.4 These projects may increase the cumulative marine traffic risk level within the MTIA Study Area and should be considered in the marine traffic risk assessments.

1) West New Territories Landfill Extension (WENTX) Operation

4.4.5 The operation stage of WENTX is expected to begin in 2026 and reach its design capacity in

the late 2040s or early 2050s. WENTX has a landfill capacity of approximately 76 million cubic meters, with an average yearly filling capacity of 3.17 million cubic meters. Assuming the operation of WENTX remains the same as existing operations at WENT Landfill, it is estimated that around 7,000 tonnes of solid waste per day will be received and disposed of at the WENTX. Based on typical capacity of delivery barges (about 1,000 tons per transit), an average of 14 round trips (or 28 vessel movements) per day to and from WENTX can be estimated through the Ma Wan Fairway or Kap Shui Mun Fairway to and from the refuse transfer stations(1).

2) Sunny Bay Reclamation

4.4.6 The Sunny Bay reclamation development could be carried out concurrently with the Project. There is no information from the Sunny Bay Reclamation development on construction traffic yet; an assumption will be made based on a similar reclamation project area in recent Hong Kong development, i.e. Tung Chung New Town Extension (TCNTE).

4.4.7 The construction marine traffic activity for TCNTE reclamation, with an extent of about 129ha(2), was estimated to be 32 round trips per day during the peak construction period. Given that the Sunny Bay Reclamation is around two-thirds the scale of the TCNTE reclamation(3), 20 round trips (or 40 vessel movements) would be adopted as the peak traffic activity arising from the Sunny Bay Reclamation. Half of the 40 vessel movements are assumed to transit through the MTIA study area, travelling to and from the southern waters of Hong Kong to reach the Sunny Bay reclamation work site. The remaining half of the vessel movements are expected to originate from the western waters of Hong Kong.

3) Tsing Lung Bridge – Route 11 (Section between Yuen Long and North Lantau)

4.4.8 Tsing Lung Bridge under Route 11 development is one of the major infrastructure developments in Hong Kong. This roadwork development is expected to be carried out in 2026. According to the project brief for the Route 11 development, Tsing Lung Bridge will be in the form of a suspension bridge, and the alignment is proposed to be constructed across the Ha Pang Fairway with the potential reclamation of approximately 2.7 ha for the construction of bridge towers(4). A similar assumption in using the TCNTE marine traffic volume would be used.

4.4.9 According to the current construction planning, the number of construction vessels, either from tug boat or the barge, would be limited to 4, 1 and 6 round trips per day for the barging facilities at To Kau Wan, San Po Tsui, and Tsing Lung Tau respectively.

4.4.10 Half of the 22 vessel movements are assumed to transit through the MTIA study area, travelling to and from the southern waters of Hong Kong to reach the Route 11 minor reclamation work site and barging operation. The remaining half of the vessel movements are expected to originate from the western waters of Hong Kong.

4) Road P1 (Tai Ho – Sunny Bay Section)

4.4.11 Road P1 (Tai Ho – Sunny Bay Section) is identified as part of the Priority Transport Network in the Lantau Tomorrow Vision. This roadwork development could also be carried out concurrently with the Project. According to the project brief for Road P1, Road P1 will be comprised of land after reclamation and marine viaducts, and the alignment is proposed to be constructed with the potential reclamation of approximately 15 ha for the construction(5).

4.4.12 Considering that the required reclamation for the Road P1 development is approximately 15 ha, conservatively, it is anticipated that 6 round trips (or 12 vessel movements) would be adopted as the peak traffic activity arising from this reclamation and marine viaduct works. Half of the 12 vessel movements are assumed to transit through the MTIA study area, travelling to and from the southern waters of Hong Kong to reach the Road P1 reclamation and the marine viaduct work site. The remaining half of the vessel movements are expected to originate from the western waters of Hong Kong.

5) Tsing Yi Lantau Link (TYLL)

4.4.13 Tsing Yi-Lantau Link (TYLL) is to provide a new road connecting Route 11 on Lantau Island and Tsing Sha Highway at Tsing Yi, serving as an alternative route to Lantau Link for vehicles commuting between the Northwest New Territories (NWNT) and urban areas. This roadwork development could also be carried out concurrently with the Project. According to the project brief for the TYLL development, TYLL will be in the form of cable-supported bridges, and the alignment is proposed to be constructed across the Ma Wan Fairway (MWF) and Kap Shui

Mun Fairway (KSMF) with the potential reclamation of approximately 5 ha for the construction of bridge towers and anchorages[6].

4.4.14 Considering that the required reclamation for the TYLL development is approximately 5 ha, conservatively, it is anticipated that 10 round trips (or 20 vessel movements) would be adopted as the peak traffic activity arising from these minor reclamation works and construction materials delivery in support of the bridge construction. 20 vessel movements are assumed to transit through the MTIA study area, travelling to and from the western waters and southern waters of Hong Kong to reach the TYLL minor reclamation work site.

6) Lung Kwu Tan Reclamation Development and the Re-planning of Tuen Mun West

4.4.15 The Lung Kwu Tan reclamation development and the re-planning of Tuen Mun West is expected to be carried out in 2027. There is no information from the Lung Kwu Tan Reclamation development on construction traffic yet; an assumption will be made based on a similar reclamation project area in recent Hong Kong development, i.e. Tung Chung New Town Extension (TCNTE).

4.4.16 The construction marine traffic activity for TCNTE reclamation, with an extent of about 129ha, was estimated to be 32 round trips per day during the peak construction period. Given that the Lung Kwu Tan Reclamation is around 145ha and Tuen Mun West Reclamation is around 45ha[7], 48 round trips (or 96 vessel movements) would be adopted as the peak traffic activity arising from the Lung Kwu Tan Reclamation. Half of the 96 vessel movements are assumed to transit through the MTIA study area, travelling to and from the southern waters of Hong Kong to reach the Lung Kwu Tan reclamation work site. The remaining half of the vessel movements are expected to originate from the western waters of Hong Kong.

7) Tuen Mun Bypass (TMB)

4.4.17 Tuen Mun Bypass will be 3 barging points and 1 delivery point established for the project at the Tuen Mun – Chek Lap Kok Link (TM-CLKL) Northern Landfall. Only the 3 barging points would be responsible for the spoil transportation and the delivery point would only involve delivery of equipment and construction materials. According to the current construction planning, the number of construction vessels, either from tug boat or the barge, would be limited to 3 trips per day for each barging point and delivery point[8].

8) Integrated Waste Management Facilities Phase 1 & 2 (I·PARK1 & I·PARK2)

4.4.18 The Integrated Waste Management Facilities Phase 1 (I·PARK1) will have a treatment capacity of 3,000 tonnes each day. It is expected to commence operation in 2025 and the contract includes a 15-year operation period. Municipal Solid Waste (MSW) and ash would be delivered by marine vessels from the existing refuse transfer stations including Island East Transfer Station, Island West Transfer Station and West Kowloon Transfer Station to WENT Landfill and the adjoining the Tsang Tsui Ash Lagoons site. It is assumed that up to 8 daily vessel movements to transit through the MTIA study area[9].

4.4.19 Construction works for Integrated Waste Management Facilities Phase 2 (I·PARK2) are scheduled to commence in 2026, however construction related marine activity is not expected to pass through the MTIA study area.

9) Contaminated Sediment Disposal Facility to the West of Lamma Island

4.4.20 The operation of the contaminated sediment disposal facility to the west of Lamma Island is scheduled to commence in 2025/2026 and is expected to have a service lifetime of up to 20 years. Based on the conservative estimate, up to 172 vessel movements per day could arise from backfilling, dredging and capping works of three contaminated mud pits (CMPs) in 2027 and it is estimated that there will be approximately 34 vessel trips per day for capping of the last CMP from 2036 onward[10]. It is estimated that 68 vessel movements will pass through the MTIA study area.

10) Ma Wan Housing Development

4.4.21 According to the latest report of Private Housing Development in Ma Wan South released by CEDD in September 2024, there are no marine works proposed under the Ma Wan Housing Development; therefore, no direct marine traffic impact is anticipated[11].

4.4.22 **Table 4-7** summarizes the estimated daily marine traffic generated by concurrent developments that are expected to transit through the MTIA Study Area in 2027 and 2028.

Table 4-7 Summary of Estimated Marine Traffic Generated by Concurrent Developments within the MTIA Study Area

ID	Concurrent Project	Estimated Daily Vessel Movements within MTIA Study Area (2027 and 2028)
1	WENTX Operation	28
2	Sunny Bay Reclamation	20
3	Tsing Lung Bridge – Route 11	11
4	Road P1	6
5	Tsing Yi – Lantau Link (TYLL)	20
6	Lung Kwu Tan & Tuen Mun West Reclamation	48
7	Tuen Mun Bypass (TMB)	12
8	I·PARK1 & I·PARK2 Operations	8
9	West Lamma Contaminated Sediment Disposal Facility	68
10	Ma Wan Housing Development	Not anticipated
Total		**221**

4.4.23 **Figure 4-4** presents the distribution of estimated marine traffic generated from proposed developments currently in the planning stage, which may potentially interact with the marine traffic of the Project.

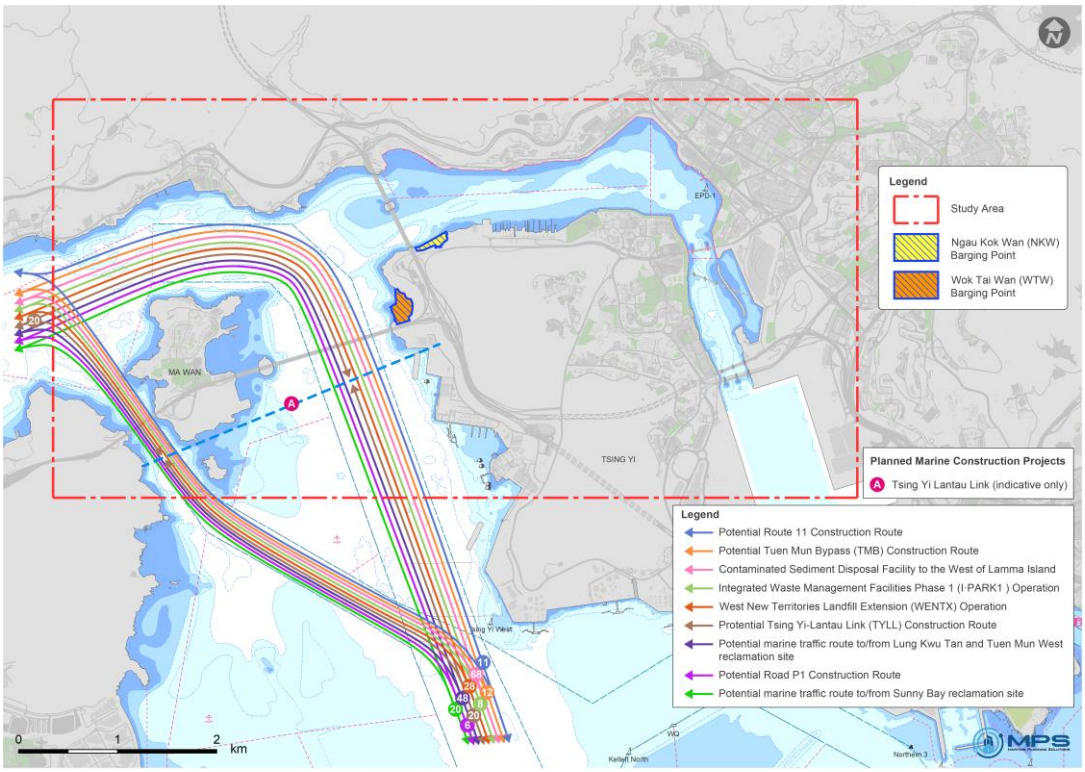


Figure 4-4 Indicative Marine Traffic Routes Generated by Concurrent Developments in 2027 and 2028

(1) Legislative Council of the Hong Kong Special Administrative Region, Item for Public Works Subcommittee of Finance Committee

(2) Marine Department, Local Vessels Advisory Committee, Tung Chung New Town Extension

(3) Environmental Protection Department, Sunny Bay Development Project Profile, Environmental Impact Assessment

(4) Environmental Protection Department, Route 11 (Section between Yuen Long and North Lantau), Environmental Impact Assessment Executive Summary

(5) Environmental Protection Department, Road P1 (Tai Ho – Sunny Bay Section), Lantau, Project Profile, Environmental Impact Assessment

(6) Environmental Protection Department, Tsing Yi – Lantau Link Project Profile, Environmental Impact Assessment

(7) Environmental Protection Department, Reclamation at Lung Kwu Tan, Project Profile, Environmental Impact Assessment

(8) Environmental Protection Department, Tuen Mun Bypass, Project Profile, Environmental Impact Assessment

(9) Environmental Protection Department, Problems & Solutions, Integrated Waste Management Facilities

(10) Marine Department, PAC Paper No. 9/2022, Dredging, Management and Capping of Contaminated Sediment Disposal Facility at West of Lamma Island

(11) Civil Engineering and Development Department, Agreement No. CE 50/2021 (CE) Private Housing Development in Ma Wan South – Feasibility Study

Future Baseline Marine Traffic Activities

4.4.24 Relevant sources and growth trends have been reviewed to project the future traffic situation within the MTIA Study Area to be adopted for the marine traffic risk assessment from the baseline year up to the horizon year 2028, which is the commencement year of operations.

4.4.25 The following sources were reviewed:

- Executive Summary of "*Study on the Strategic Development Plan for Hong Kong Port 2030 (HKP 2030)*" published by the Hong Kong Maritime and Port Board forms the foundation of the oceangoing and river trade cargo traffic forecasts as they take into account macro and local economic drivers;
- "*Port of Hong Kong Statistical Tables*" from 2015 to 2024 (i.e. 10-year records) by the Marine Department provides the historical data records for vessel arrivals in Hong Kong, including general cargo, cross-boundary ferries, as well as government fleet statistics;
- "*Monthly Traffic and Transport Digest*" from 2015 to 2024 (10 years) by the Transport Department provides the historical data records to be referred to for domestic passenger ferry traffic forecasts; and
- Executive Summary of "A*ssessment of Typhoon Shelter Space Requirement 2022 – 2035*" by the Marine Department provides the principal reference for local vessels.

4.4.26 The forecast methodology is illustrated in **Figure 4-5** below. Historical trends were adopted if there was no forecast data available and extrapolated.



Figure 4-5 Marine Traffic Forecast Methodology

4.4.27 As described in **Table 4-1**, vessels are grouped into 7 classes (i.e. oceangoing, river trade, tug and tow, fast ferry, local ferry, fast launch and small craft) for analysis and **Appendix A** presents the traffic projections for each vessel class based on historical trends and expected annual growth rates to be adopted for marine traffic risk assessment.

4.4.28 The forecast average annual rate of growth by vessel type, and the forecast rate of vessel traffic growth from existing traffic levels for the key vessel types at different time horizons to be adopted for assessments, are summarized in **Table 4-8**. The construction peak in 2027 and the operation of TYNUQ in 2028 have been adopted and reviewed as part of the future traffic baseline.

Table 4-8 Summary of Forecast Rate of Vessel Traffic Growth (2024 - 2027 & 2024 - 2028)

Vessel Type	OG	RT	TT	FF	LF	FL	SC
Forecast Growth in 2027	-3%	-4%	-4%	0%	0%	7%	4%
Forecast Growth in 2028	-4%	-5%	-5%	0%	0%	9%	6%

Note: OG – Oceangoing, RT – Rivertrade, TT – Tug and Tow, FF – Fast Ferry, LF – Local Ferry, FL – Fast Launch, SC – Small Craft; Traffic volumes include northbound and southbound traffic at Ma Wan Fairway.

4.5 Summary

4.5.1 A review of AIS and Radar data and visual survey records has been conducted to identify the existing marine traffic situation and patterns within the Study Area.

4.5.2 Marine traffic in the Ma Wan Fairway and its adjacent inshore traffic zones is dominated by river trade vessels and small crafts. Other vessel types, including oceangoing vessels, contribute approximately 9% of the total average daily movements. Ting Kau Bridge is dominated by river trade vessels and small craft, followed by local ferries, with occasional transits by other vessel types.

4.5.3 Relevant sources and growth trends have been reviewed to forecast the future traffic situation for different vessel types, including traffic activity generated by proposed developments within the MTIA Study Area up to the construction year of 2027 and the operation year of 2028 for TYNUQ.

5 Marine Traffic Risk Assessment

5.1 Introduction

5.1.1 This section presents the methodology and results of the marine traffic risk assessment to evaluate the risk level brought by both the construction and operation phases of the Project.

5.1.2 The existing and future marine traffic volumes and patterns within the MTIA Study Area identified in the previous sections were used to develop the marine traffic risk model. The baseline and future risk environments were assessed by examining the spatial distribution of incidents within the MTIA Study Area.

5.1.3 Risk assessment tools, including both quantitative and qualitative analysis suggested by the International Association of Lighthouse Authorities (IALA) toolbox, were adopted to support the different steps of risk assessment and estimating the effectiveness of mitigating measures.

5.2 Marine Traffic Quantitative Risk Assessment

Approach

5.2.1 The IALA Risk Management Tool, IWRAP MK II, a desktop risk assessment program that is aimed at the calculation of probabilities of ship collisions, allisions, and groundings, is adopted to develop a marine traffic risk model to predict risk levels arising from the proposed marine works.

Collision Risk

5.2.2 IWRAP MK II quantifies marine traffic risk levels and determines the probability of collision of a predefined traffic route by applying MD's AIS and radar data. Collisions were divided into two types: i) collisions along the route segment, i.e. overtaking or head-on collisions, and ii) collisions when two routes cross each other, merge, or intersect each other in a turn.

5.2.3 The applied model for calculating the frequency of collision accidents involves the use of a causation probability that is multiplied by a theoretically obtained number of collision accidents. The causation factor models the probability of a vessel failing to react in time given that it is on a collision course with another vessel.

5.2.4 The collision analysis procedures are as follows:

1) Define the navigational area, including traffic composition along all navigational routes and all grounds in the vicinity of the route.
2) Estimate the geometrical probability distribution function of each traffic route based on the defined annual traffic volume per vessel type.
3) Given how the traffic routes meet or overlap with each other and their estimated geometrical probability distribution functions, calculate the collision risk.
4) Multiply the collision risk with a causation probability that two vessels will fail to avoid a collision when they meet.
5) Sum up the collision risk from all traffic routes in the defined navigational area to obtain the final collision frequency per year.

Grounding/Allision Risk Assessment Approach

5.2.5 There are two basic types of grounding/allision risk:

- Type 1 – Grounding/allision by powered vessels, going aground with operational speed, mainly due to human errors (e.g. fail to turn and correct the ship heading);
- Type 2 – Grounding/allision by drifting vessel with power down, going aground with drifting speed, and possible mitigation measures (e.g. repair, anchor drop) failed.

5.2.6 The grounding and allision risk analysis procedures are as follows:

1) Define the major traffic routes (geometry and daily traffic volume)
2) Define the land area that vessels would go aground;
3) Measure the distance between routes and land area in the vicinity;
4) Prepare wind information (direction and speed occurrence %) and setup drifting speed based on input vessel type

5.2.7 The inputs above are used to calculate the grounding and allision risk based on the following formulas for the risk evaluation:

Type 1 - Grounding by powered vessels

$$P_{ground-1} = N \cdot P_C \cdot P_G \cdot e^{-d/a}$$

Type 2 - Grounding by drifting vessel

$$P_{ground-2} = N \cdot P_{wind} \cdot P_{breakdown} \cdot P_{no_repair} \cdot P_{no_anchor}$$

Overall Grounding Risk

$$P_{ground_all} = P_{ground-1} + P_{ground-2}$$

Annotations:

N : traffic volume;

P_C : causation probability, the probability of human error;

P_G : geometric probability, the accumulative distribution of traffic density where may overlay on the land

d: distance from the bending section of the route to the land shape (d =0 when straight route section)

a: distance between position checks by the crew

P_{wind} : probability of wind, which in such direction that will push the vessel to the land

$P_{breakdown}$: probability of vessel losing power or failure of propulsion system

P_{no_repair} : probability of not being able to repair the machine failure

P_{no_anchor} : probability of not using anchor or failure of using anchor

5.3 Modelling Scenarios

5.3.1 The following marine traffic risk modelling scenarios have been developed to compare the baseline traffic risk levels with the cumulative risk levels arising from both the construction and operation phases of the Project, as well as future traffic growth.

Table 5-1 Summary of IWRAP Marine Traffic Risk Modelling Scenarios

Scenario A	**2024 Baseline Traffic**
	Existing marine traffic conditions **without** implementing the Project. This scenario models the current traffic environment by adopting traffic levels identified from collected data. The predicted traffic risk level provides a baseline for comparison with other scenarios.
Scenario B1	**2027 Future Traffic without TYNUQ Construction**
	Future traffic **without** the construction works of the Project. Evaluates the cumulative risk level, considering future traffic growth and the estimated peak traffic of other proposed developments.
Scenario B2	**2027 Future Traffic with TYNUQ Construction**
	Future traffic **with** the construction works of the Project. Evaluate the cumulative risk level, considering future traffic growth, the generated peak construction traffic of the project in 2027, and the estimated peak traffic of other proposed developments.
Scenario C1	**2028 Future Traffic without TYNUQ Operation**
	Future traffic **without** the implementation of the Project. Evaluate the cumulative risk level, considering future traffic growth and the estimated peak traffic of other proposed developments at the planned commissioning year in 2028.
Scenario C2	**2028 Future Traffic with TYNUQ Operation**
	Future traffic **with** the implementation of the Project. Evaluate the cumulative risk level, considering future traffic growth and the estimated peak traffic of other proposed developments at the planned commissioning year in 2028.

5.3.2 The marine traffic risk modelling scenarios are summarized in **Figure 5-1**.

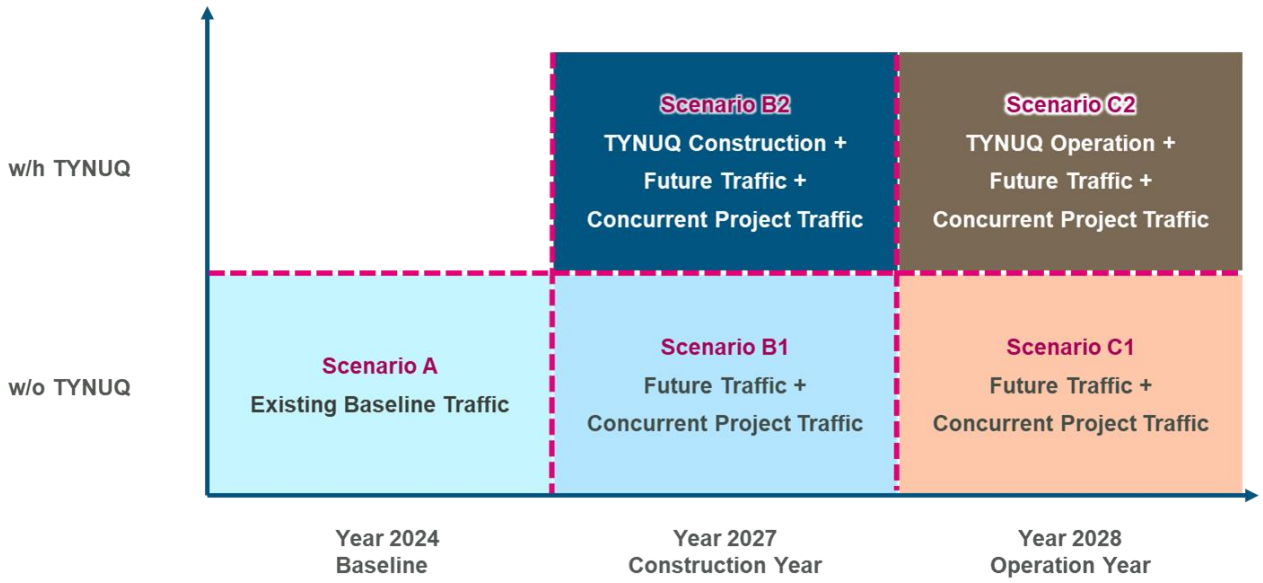


Figure 5-1 IWRAP Marine Traffic Risk Modelling Scenarios

5.4 Risk Model Area

5.4.1 Given that the Project will not generate any marine traffic to the west of the site area, and in order to concentrate the risk assessment effectively near the TYNUQ barging points, a designated "Model Area" with reference to the collision incidents grid has been established for marine traffic risk analysis. This focused assessment area is illustrated in **Figure 5-2**.

5.4.2 It is projected that both existing and future marine activities, as well as the associated levels of collision risk within the “Model Area”, may be influenced by the construction and operation of the Project. However, beyond the boundaries of the "Model Area," the Project’s construction and implementation are not expected to induce substantial changes in prevailing marine traffic patterns or navigational behaviour that would consequently alter the existing risk levels.

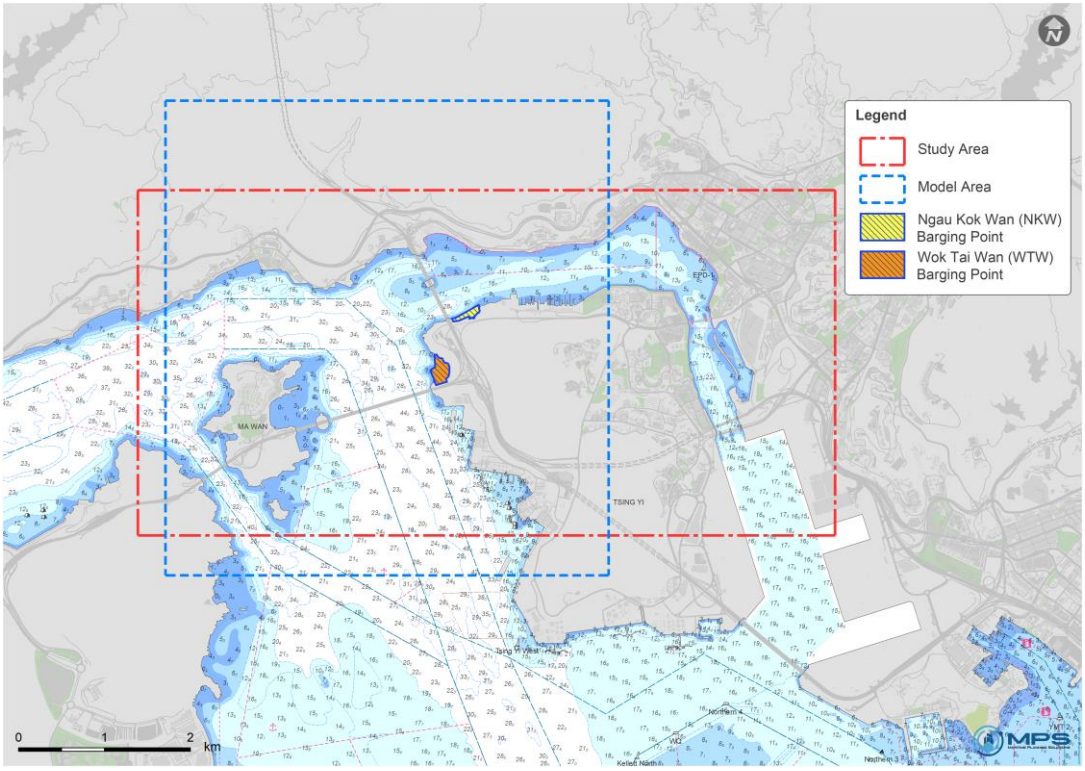


Figure 5-2 Model Area for Marine Traffic Risk Assessment

5.5 Marine Risk Model

Route

5.5.1 The existing vessel traffic routes identified from AIS and radar data, adopted for the marine traffic risk model, are illustrated in **Figure 5-3**.

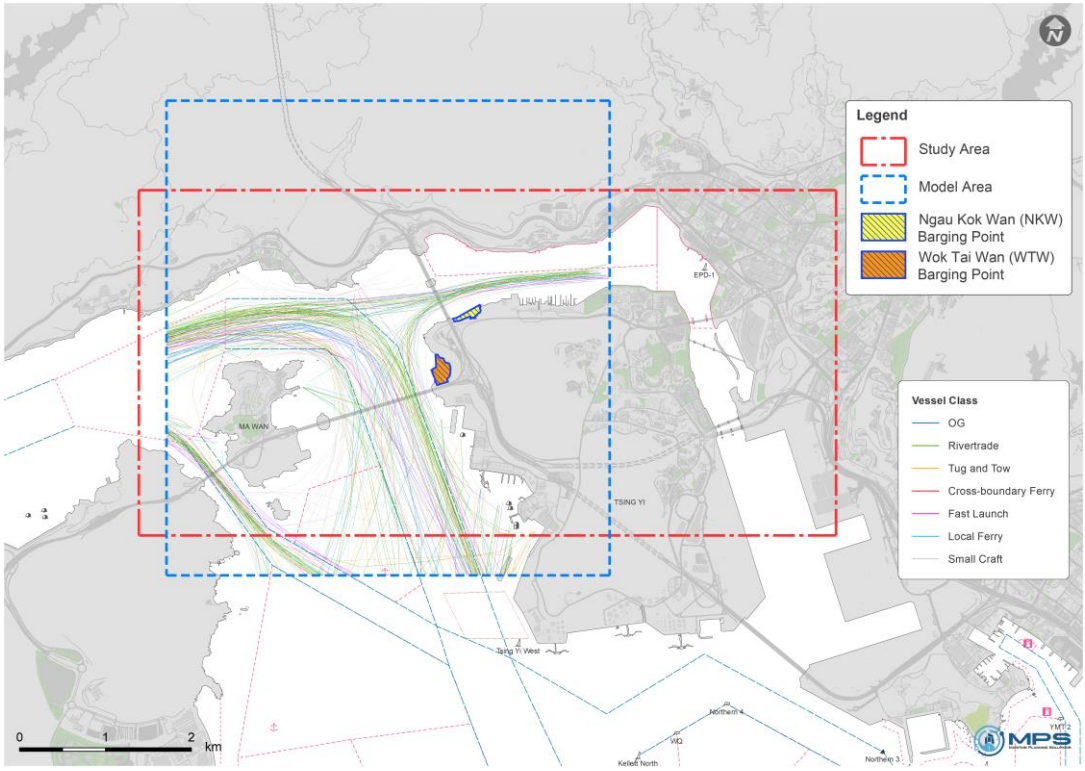


Figure 5-3 Marine Traffic Risk Model Vessel Route

Model Calibration

5.5.2 Collision incident records from 2015 to 2024 provided by the Hong Kong Marine Department within the MTIA Study area have been reviewed and assessed. As shown in **Figure 5-4**, the total average annual collision incident frequency in the Study Area is 10.0 per year from 2015 to 2024. The average collision incident frequency within the Model Area is approximately 3.9 incidents per year.

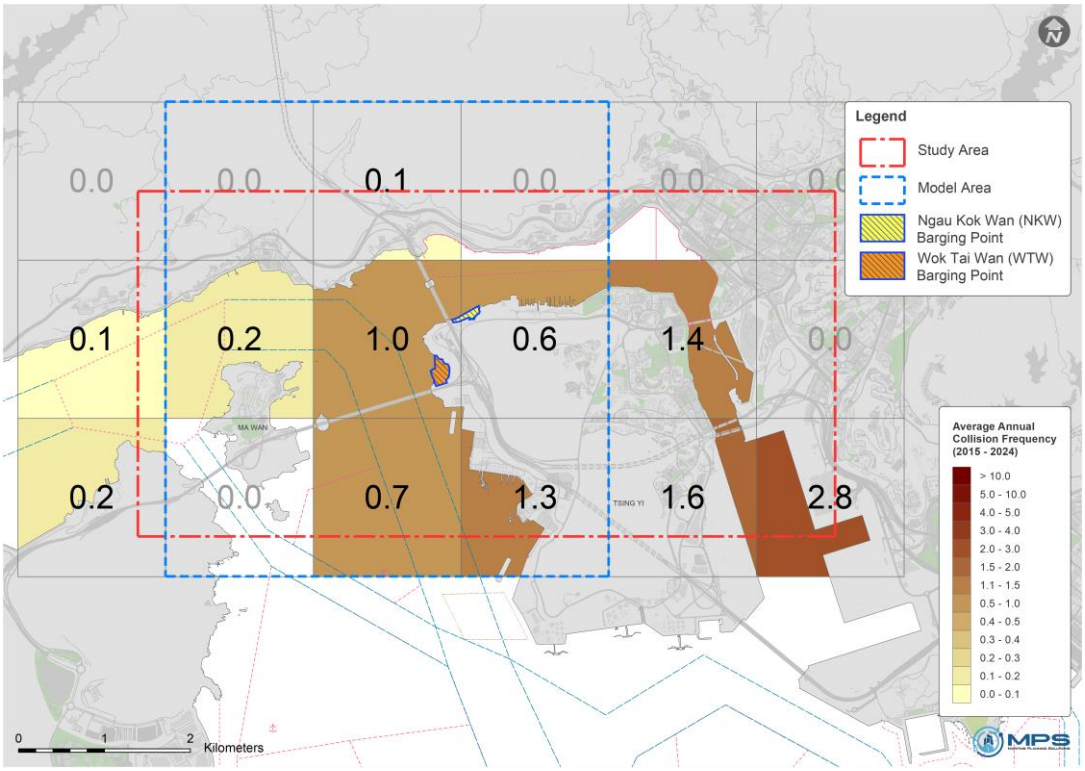


Figure 5-4 Historical Average Annual Collision Incidents (2015 - 2024)

5.5.3 Grounding incident records from 2015 to 2024 provided by the Hong Kong Marine Department within the MTIA Study area have been reviewed. As shown in **Figure 5-5**, the total average grounding incident frequency in the Study Area was 1.8 per year during the period from 2015 to 2024. The average grounding incident frequency within the Model Area is approximately 0.7 incidents per year.

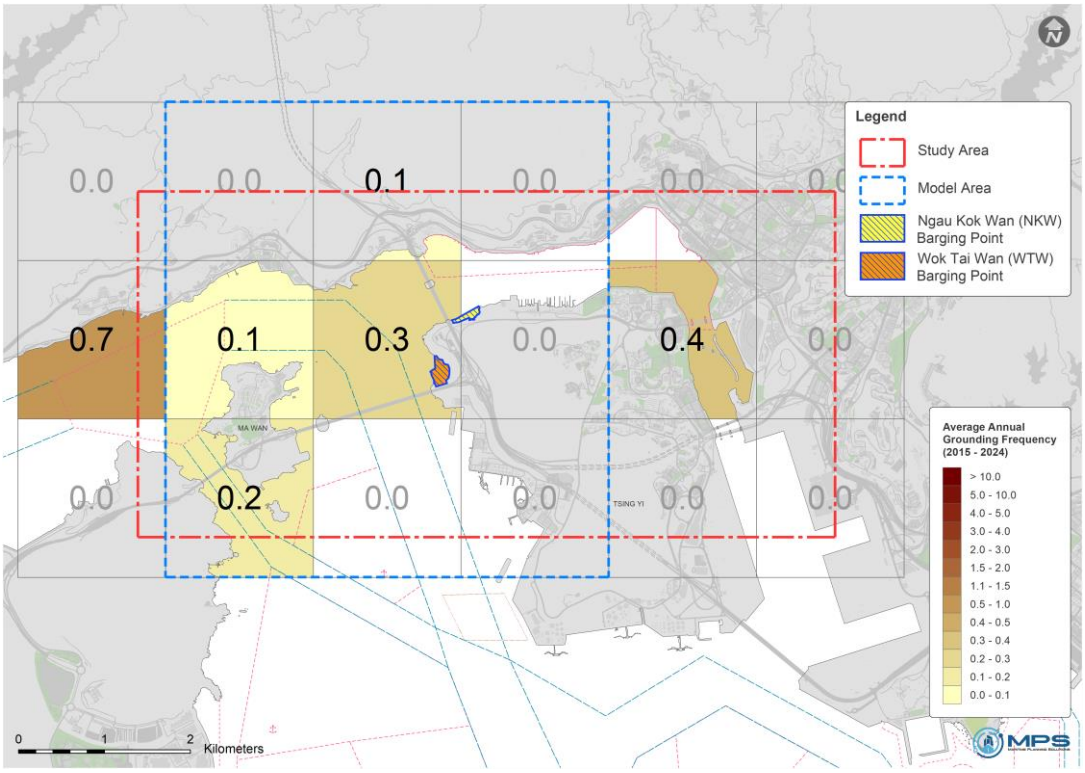


Figure 5-5 Historical Average Annual Grounding Incidents (2015 - 2024)

5.6 Collision Risk Modelling Results

Scenario A - 2024 Baseline Traffic

5.6.1 The baseline marine traffic risk model has been calibrated to the existing marine traffic risk level identified. **Figure 5-6** illustrates the average annual distribution of collision incident rates of 3.90 within the Model Area.

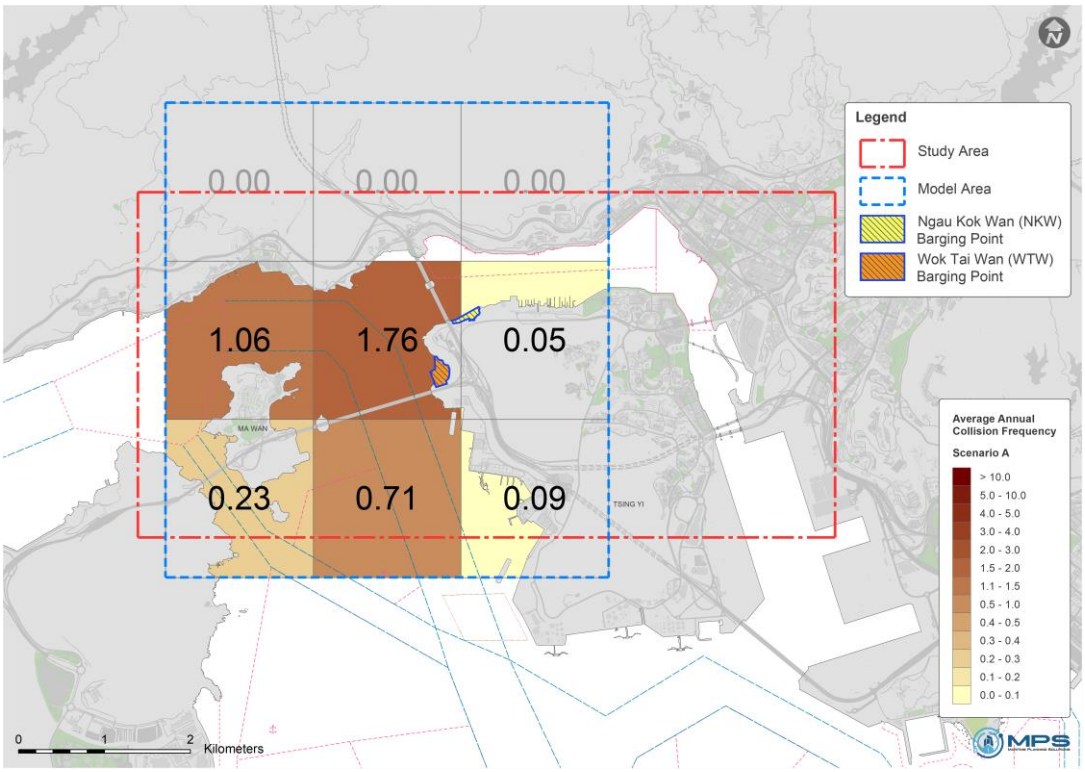


Figure 5-6 Scenario A – Average Annual Collisions of Baseline Traffic 2024

Scenario B1 – 2027 Future Traffic without TYNUQ Construction

5.6.2 **Figure 5-7** identifies the annual collision frequency in the Risk Modelling Area, considering future traffic without the peak construction traffic of TYNUQ in 2027. An average annual collision incident rate of 5.86 has been identified within the Model Area.

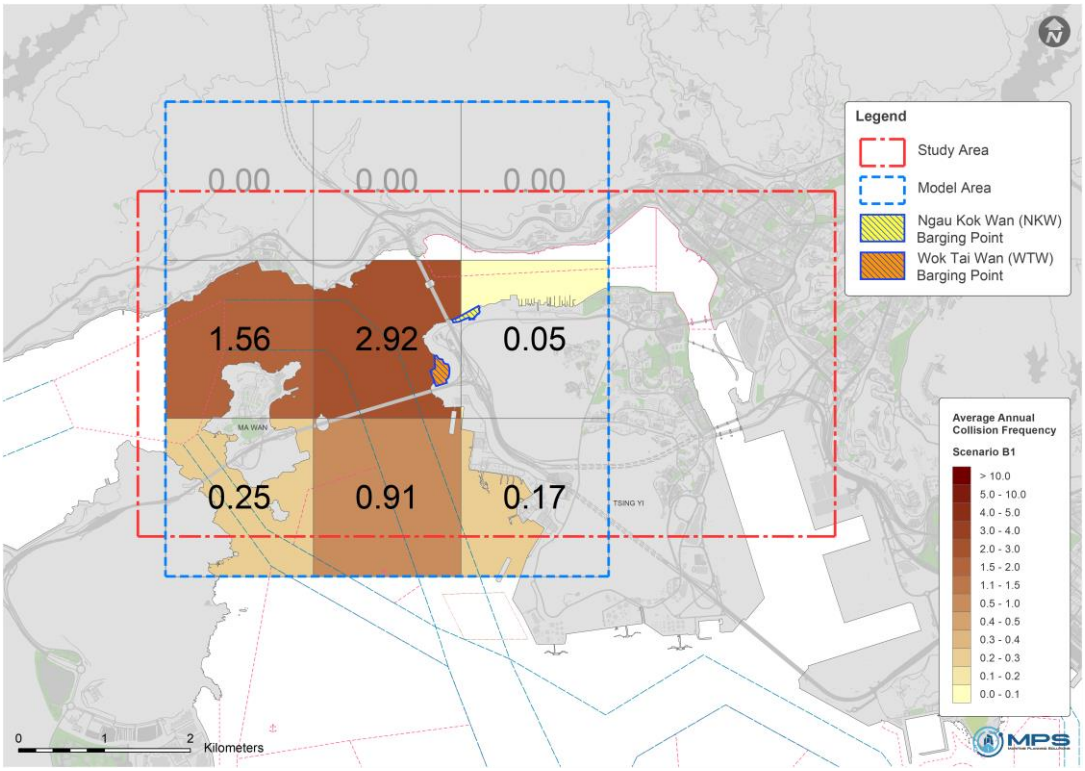


Figure 5-7 Scenario B1 – Average Annual Collisions of Future Traffic 2027 without TYNUQ Construction

5.6.3 The risk model predicted that future traffic growth up to the year 2027 along with concurrent traffic generated by other proposed developments without the peak construction traffic of TYNUQ in 2027 would increase average annual collision incidents by about 1.96 incidents (~50% increase) within the Model Area from existing levels (i.e. Scenario B1 – Scenario A).

Scenario B2 – 2027 Future Traffic with TYNUQ Construction

5.6.4 **Figure 5-8** illustrates the distribution of average annual collision incidents considering future traffic growth and the estimated peak traffic of other proposed developments, with the peak construction traffic of TYNUQ in 2027. An average annual collision incident rate of 5.91 has been identified within the Model Area.

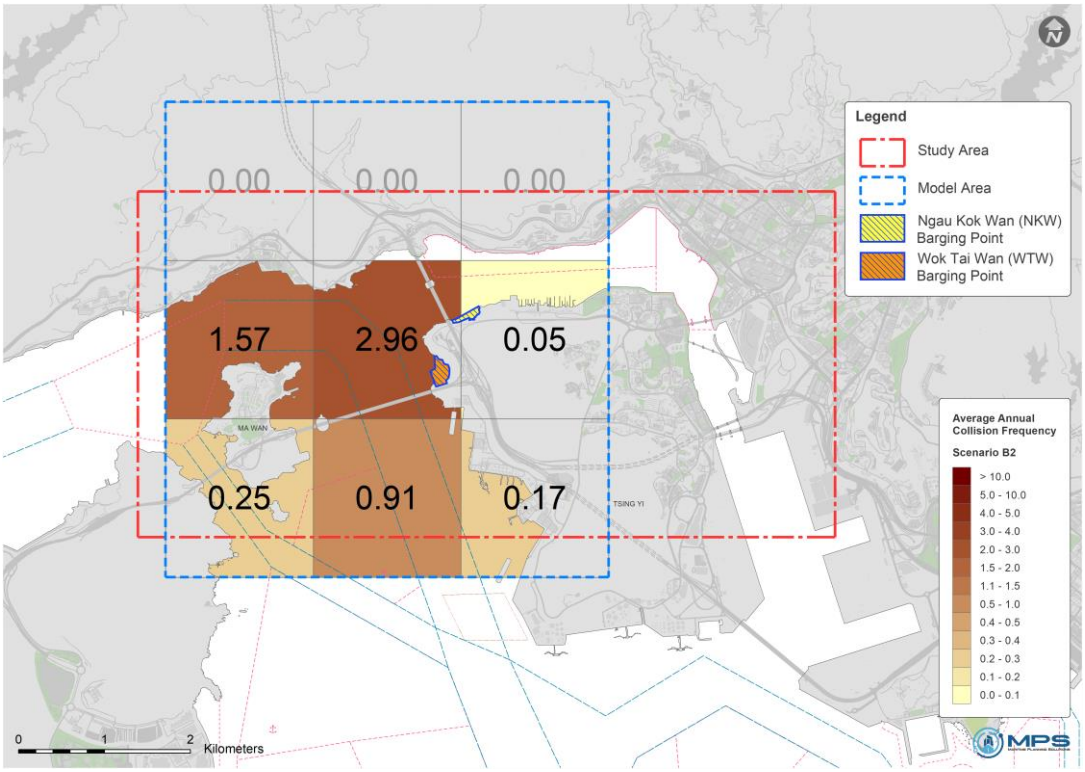


Figure 5-8 Scenario B2 – Average Annual Collisions of Future Traffic 2027 with TYNUQ Construction

5.6.5 The risk model predicted that future traffic growth up to the year 2027 along with concurrent traffic generated by other proposed developments with the peak construction traffic of TYNUQ in 2027 would increase average annual collision incidents by about 0.05 incidents (~1% increase) within the Model Area from existing levels (i.e. Scenario B2 – Scenario B1).

Scenario C1 – 2028 Future Traffic without TYNUQ Operation

5.6.6 **Figure 5-9** illustrates the distribution of average annual collision incidents considering future traffic growth and the estimated peak traffic of other proposed developments at the planned commissioning year in 2028, without the implementation of TYNUQ. An average annual collision incident rate of 5.82 has been identified within the Model Area.

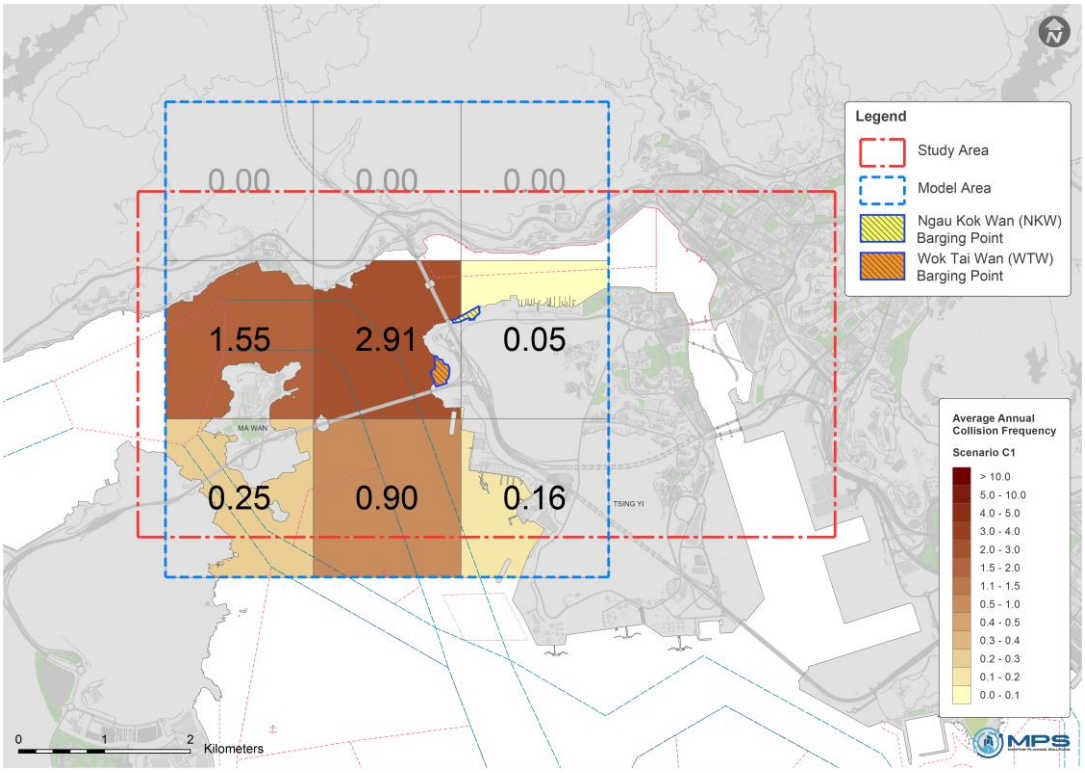


Figure 5-9 Scenario C1 – Average Annual Collisions of Future Traffic 2028 without TYNUQ Operation

5.6.7 The risk model predicted that future traffic growth up to the year 2028 considering the estimated peak traffic of other proposed developments at the planned commissioning year in 2028 without the implementation of TYNUQ would increase average annual collision incidents by about 1.92 incidents (~49% increase) within the Model Area from existing levels (i.e. Scenario C1 – Scenario A).

Scenario C2 – 2028 Future Traffic with TYNUQ Operation

5.6.8 **Figure 5-10** illustrates the distribution of average annual collision incidents considering future traffic growth and the estimated peak traffic of other proposed developments at the planned commissioning year in 2028, with the implementation of TYNUQ. An average annual collision incident rate of 6.02 has been identified within the Model Area.

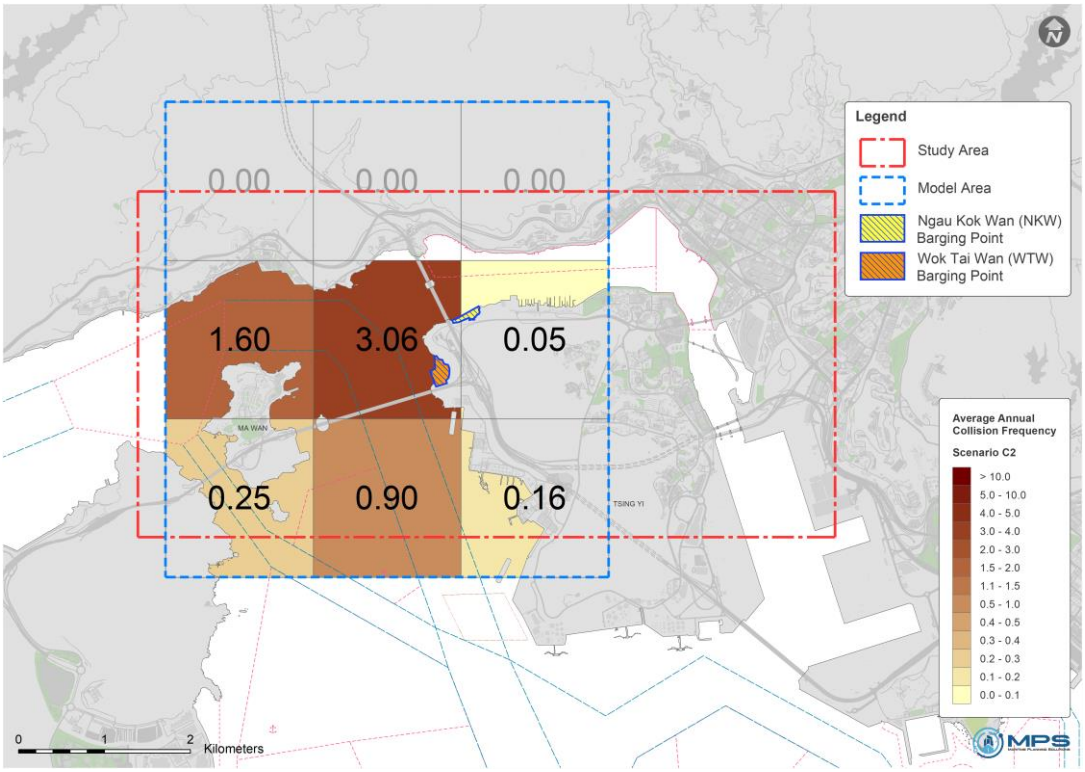


Figure 5-10 Scenario C2 – Average Annual Collisions of Future Traffic 2028 with TYNUQ Operation

5.6.9 The risk model predicted that future traffic growth up to the year 2028 considering the estimated peak traffic of other proposed developments at the planned commissioning year in 2028 with the implementation of TYNUQ would increase average annual collision incidents by about 0.2 incidents (~3% increase) within the Model Area from existing levels (i.e. Scenario C2 – Scenario C1).

Collision Risk Assessment Summary

5.6.10 **Table 5-2** presents a summary of the IWRAP collision risk assessment results and a comparison of the impact on risk levels anticipated within the Model Area in the existing and future traffic environments, with and without the implementation of the TYNUQ.

Table 5-2 IWRAP Collision Risk Assessment Summary

Scenario	Descriptions	Average Annual Collision Frequency	Percentage Increase in Risk Level
A	2024 Baseline Traffic	3.90	2024 Baseline Risk
B1	2027 Future Traffic + Concurrent Project Traffic	5.86	~50% up on Scenario A
B2	2027 Future Traffic with TYNUQ Construction Traffic + Concurrent Project Traffic	5.91	~51% up on Scenario A; ~1% up on Scenario B1
C1	2028 Future Traffic + Concurrent Project Traffic	5.82	~49% up on Scenario A
C2	2028 Future Traffic with TYNUQ Operation + Concurrent Project Traffic	6.02	~54% up on Scenario A ; ~3% up on Scenario C1

5.6.11 Comparing Scenario B1 and Scenario C1 with Scenario A, it is identified that the average annual collision incident level in the Model Area could potentially increase by ~50% in 2027 and ~49% in 2028, even without the implementation of the TYNUQ due to the forecast marine traffic growth and concurrent traffic from other proposed developments. The ~50% and ~49% increase primarily attributable to concurrent projects, which are expected to generate approximately 221 daily vessel movements (refer to **Table 4-7**) on top of the existing 274 background movements at Gate A (refer to **Table 4-6**). This increase in total traffic volume accounts for the projected rise in collision risk.

5.6.12 Comparing Scenario B2 with Scenario A, it is identified that the cumulative impact arising from the construction of TYNUQ along with concurrent traffic from other proposed developments, could potentially increase the average annual collision incident level within the Model Area by ~51%. Comparing Scenario B2 with Scenario B1, the TYNUQ Project itself contributes only 16 vessel movements in 2027 (refer to **Table 2-4**), which is negligible compared with the traffic generated by concurrent developments and existing background movements. This limited contribution results in only ~1% incremental collision risk in 2021.

5.6.13 Comparing Scenario C2 with Scenario A, it is identified that that the implementation of TYNUQ along with concurrent traffic from other proposed developments, could potentially increase the average annual collision incident level within the Model Area by ~54%. Comparing Scenario C2 with Scenario C1, the TYNUQ Project itself contributes only 4 movements in 2028 (refer to **Table 2-5**), which is negligible relative to the traffic generated by concurrent developments and existing background movements. This limited contribution results in only ~3% incremental collision risk in 2028.

5.6.14 It can be concluded that the increase in risk level arising from the construction and implementation of TYNUQ is significantly less than the increase in risk level anticipated from future traffic growth and concurrent traffic of other proposed developments in the years 2027

and 2028 without the implementation of the TYNUQ. Accordingly, the TYNUQ Project is not expected to result in adverse collision impacts on future marine traffic in 2027 and 2028.

5.7 Grounding and Allision Risk Modelling Results

Scenario A - 2024 Baseline Traffic

5.7.1 The baseline marine traffic risk model has been calibrated to the existing marine traffic risk level identified. **Figure 5-11** illustrates the average annual distribution of grounding and allision incidents rate of 0.70 within the Model Area.

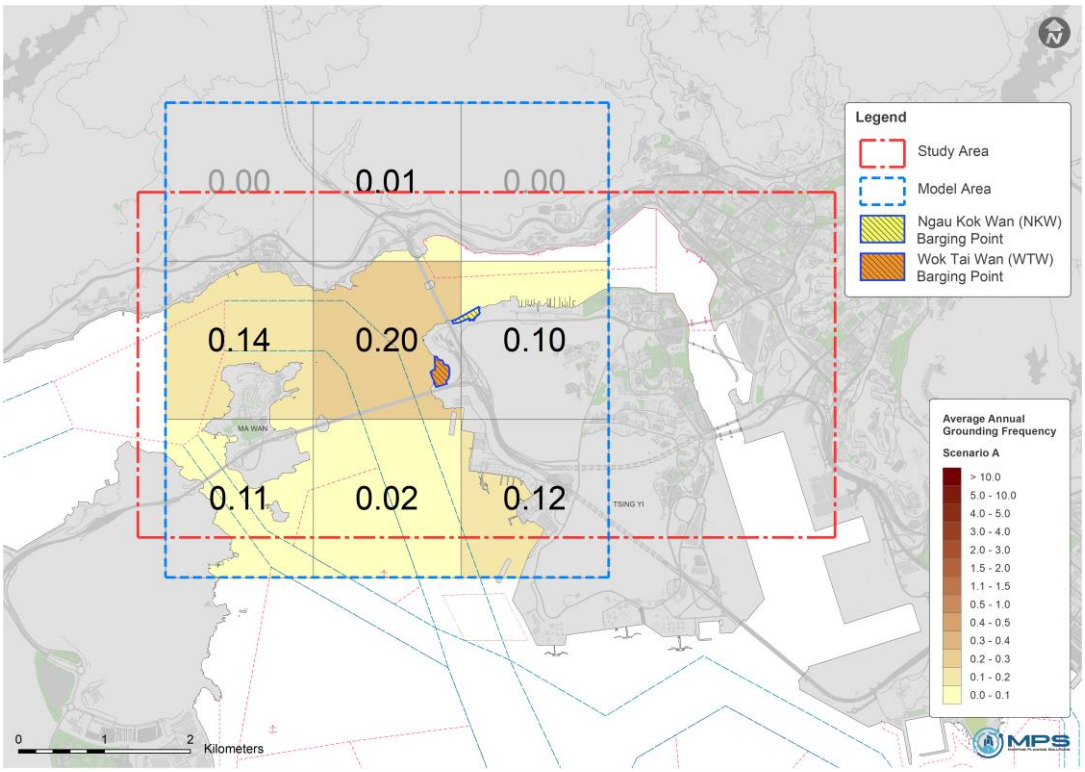


Figure 5-11 Scenario A – Average Annual Grounding and Allision of Baseline Traffic 2024

Scenario B1 – 2027 Future Traffic without TYNUQ Construction

5.7.2 **Figure 5-12** illustrates the distribution of average annual grounding and allision incidents considering future traffic growth and the estimated peak traffic of other proposed developments without the peak construction traffic of TYNUQ in 2027. An average annual grounding and allision incident rate of 4.11 has been identified within the Model Area.

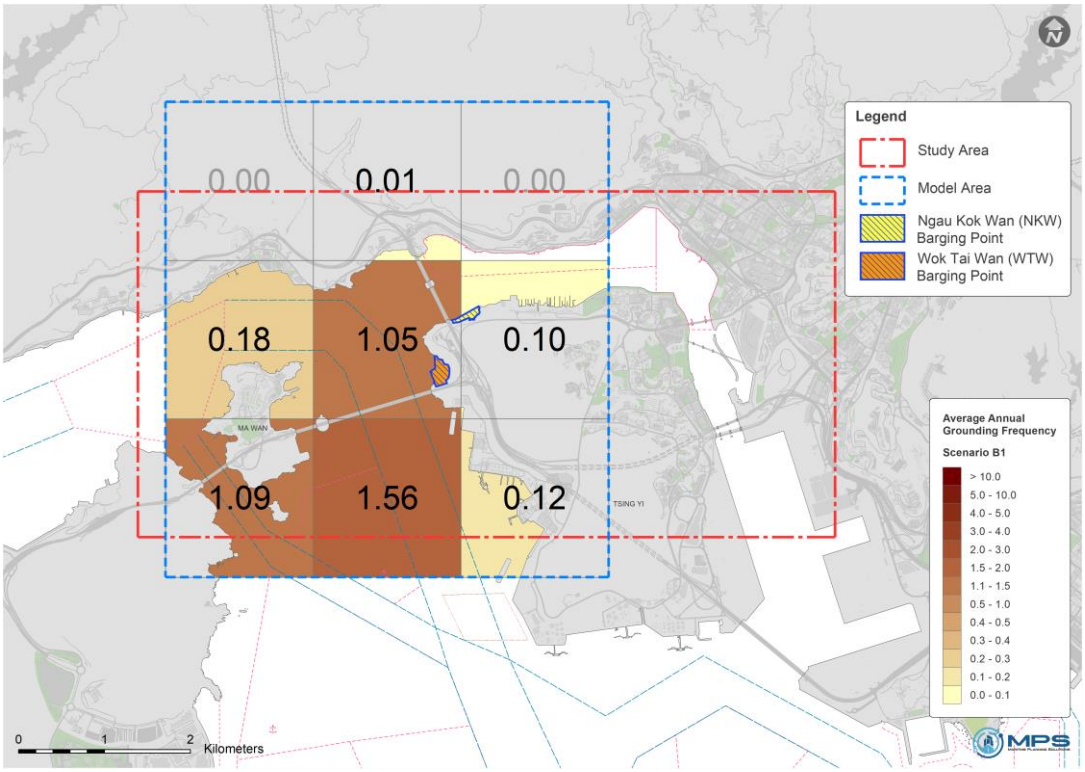


Figure 5-12 Scenario B1 – Average Annual Grounding and Allision of Future Traffic 2027 without TYNUQ Construction

5.7.3 The risk model predicted that future traffic growth up to the year 2027 along with concurrent traffic generated by other proposed developments without the peak construction traffic of TYNUQ in 2027 would increase average annual grounding and allision incidents by about 3.41 incidents (~487% increase) within the MTIA Study Area from existing levels (i.e. Scenario B1 – Scenario A).

Scenario B2 – 2027 Future Traffic with TYNUQ Construction

5.7.4 **Figure 5-13** illustrates the distribution of average annual grounding and allision incidents considering future traffic growth and the estimated peak traffic of other proposed developments with the peak construction traffic of TYNUQ in 2027. An average annual grounding and allision incident rate of 4.13 has been identified within the Model Area.

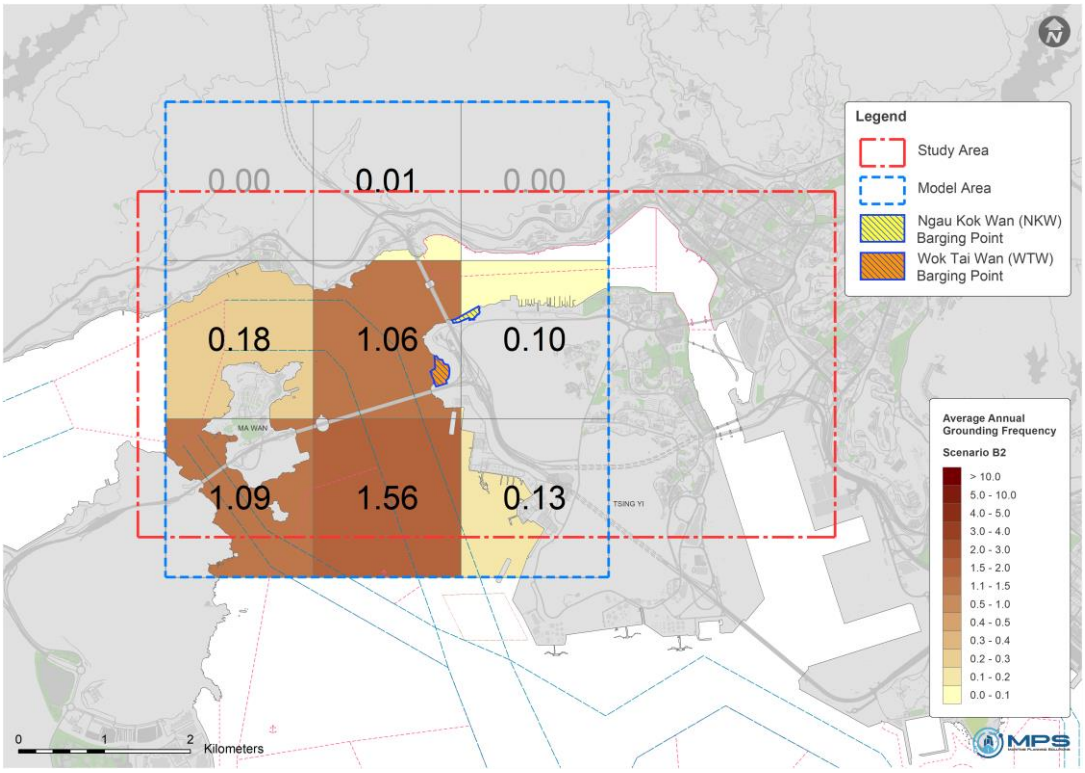


Figure 5-13 Scenario B2 – Average Annual Grounding and Allision of Future Traffic 2027 with TYNUQ Construction

5.7.5 The risk model predicted that future traffic growth up to the year 2027 along with concurrent traffic generated by other proposed developments with the peak construction traffic of TYNUQ in 2027 would increase average annual grounding and allision incidents by about 0.02 incidents (~0.5 % increase) within the Model Area from existing levels (i.e. Scenario B2 – Scenario B1).

Scenario C1 – 2028 Future Traffic without TYNUQ Operation

5.7.6 **Figure 5-14** illustrates the distribution of average annual grounding and allision incidents considering future traffic growth and the estimated peak traffic of other proposed developments at the planned commissioning year in 2028, without the implementation of TYNUQ. An average annual grounding and allision incident rate of 4.16 has been identified within the Model Area.

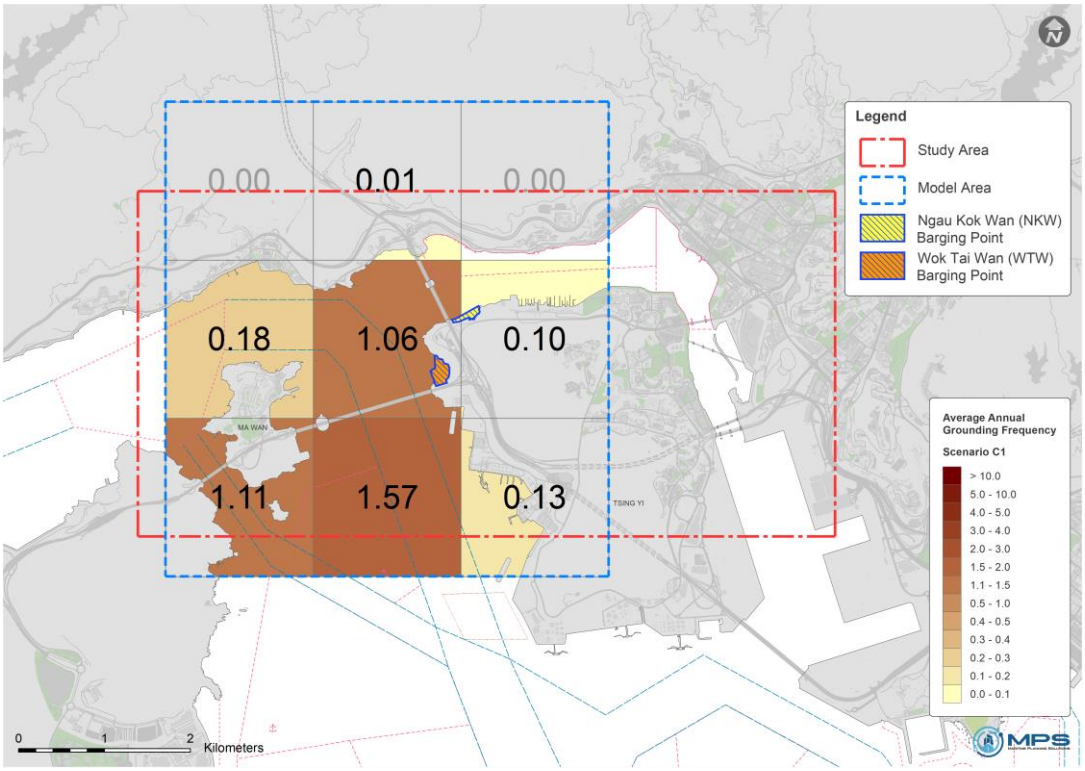


Figure 5-14 Scenario C1 – Average Annual Grounding and Allision of Future Traffic 2028 without TYNUQ Operation

5.7.7 The risk model predicted that future traffic growth up to the year 2028 considering the estimated peak traffic of other proposed developments at the planned commissioning year in 2028 without the implementation of TYNUQ would increase average annual grounding and allision incidents by about 3.46 incidents (~494% increase) within the Model Area from existing levels (i.e. Scenario C1 – Scenario A).

Scenario C2 – 2028 Future Traffic without TYNUQ Operation

5.7.8 **Figure 5-15** illustrates the distribution of average annual collision incidents considering future traffic growth and the estimated peak traffic of other proposed developments at the planned commissioning year in 2028, with the implementation of TYNUQ. An average annual grounding and allision incident rate of 4.20 has been identified within the Model Area.

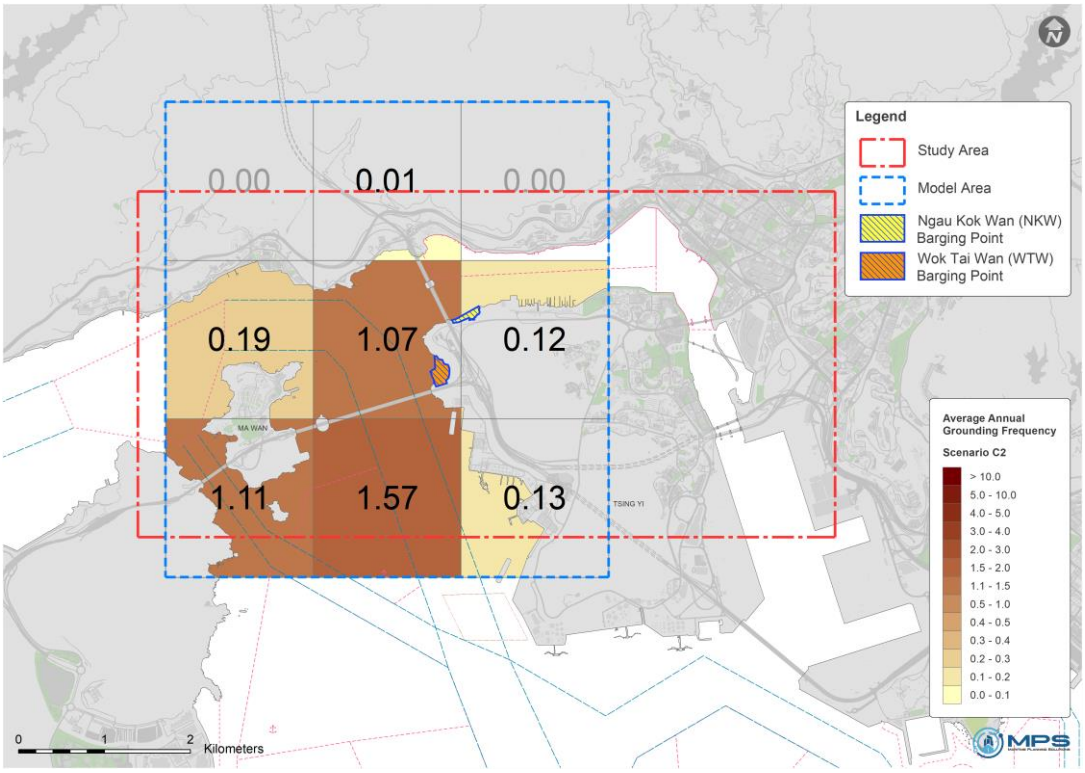


Figure 5-15 Scenario C2 – Average Annual Grounding and Allision of Future Traffic 2028 with TYNUQ Operation

5.7.9 The risk model predicted that future traffic growth up to the year 2028 considering the estimated peak traffic of other proposed developments at the planned commissioning year in 2028 with the implementation of TYNUQ would increase average annual grounding and allision incidents by about 0.04 incidents (~1% increase) within the Model Area from existing levels (i.e. Scenario C2 – Scenario C1).

Ground and Allison Risk Assessment Summary

5.7.11 Ground and Allison Risk Assessment Summary **Table 5-3** presents a summary of the IWRAP grounding, and allision risk assessment results and a comparison of the impact on risk levels anticipated within the Risk Model Area in the existing and future traffic environments, with and without the implementation of the TYNUQ.

Table 5-3 IWRAP Ground and Allison Risk Assessment Summary

Scenario	Descriptions	Average Annual Collision Frequency	Percentage Increase in Risk Level
A	2024 Baseline Traffic	0.70	2024 Baseline Risk
B1	2027 Future Traffic + Concurrent Project Traffic	4.11	~487% up on Scenario A
B2	2027 Future Traffic with TYNUQ Construction Traffic + Concurrent Project Traffic	4.13	~490% up on Scenario A ; ~0.5% up on Scenario B1
C1	2028 Future Traffic + Concurrent Project Traffic	4.16	~494% up on Scenario A
C2	2028 Future Traffic with TYNUQ Implementation + Concurrent Project Traffic	4.20	~500% up on Scenario A ; ~1% up on Scenario C1

5.7.12 Comparing Scenario B1 and Scenario C1 with Scenario A, it is identified that the average annual grounding and allision incident level in the Model Area could potentially significantly increase by ~487% in 2027 and ~494% in 2028, even without the implementation of TYNUQ. This increase is primarily attributable to concurrent projects, which are expected to generate approximately 221 daily vessel movements (refer to **Table 4-7**) on top of the existing 274 background movements at Gate A (refer to **Table 4-6**).

5.7.13 Comparing Scenario B2 with Scneario A , it is identified that the cumulative impact arising from the construction of TYNUQ, along with concurrent traffic from other proposed developments, could potentially increase the average annual grounding and allision incident level within the Model Area by ~490%. Comparing Scenario B2 with Scneario B1, the TYNUQ Project itself contributes only 16 movements in 2027 (**refer to Table 2-4**), which is negligible relative to the traffic generated by concurrent developments and existing background movements. As such, it results in only ~0.5% incremental grounding and allision risk in 2027.

5.7.14 Comparing Scenario C2 with Scneario A, it is identified that the implementation of TYNUQ, along with concurrent traffic from other proposed developments, could potentially increase the average annual grounding and allision incident level within the Model Area by ~500%. Comparing Scenario C2 with Scneario C1, theTYNUQ Project itself contributes only 4 movements in 2028 (refer to **Table 2-5**), which is negligible relative to the traffic generated by concurrent developments and existing background movements. As such, it results in only ~3% incremental grounding and allision risk in 2028.

5.7.15 It can be concluded that the increase in grounding and allision risk arising from the construction and implementation of TYNUQ is significantly lower than the increase anticipated from future

traffic growth and concurrent developments in 2027 and 2028 without TYNUQ. Accordingly, the TYNUQ Project is not expected to result in adverse grounding and allision impacts on future marine traffic in 2027 and 2028.

5.9 Marine Traffic Qualitative Risk Assessment

Approach

5.9.1 The IALA Risk Management Tool, SIRA, has been adopted for qualitative risk review. It provides a structured method for developing a risk matrix that identifies relevant hazards and undesirable events, and assesses the effectiveness of risk control options.

5.9.2 The identification of hazards is based on available information such as traffic data, adequate nautical charts, publications, etc. Based on the identified hazards, possible undesirable scenarios are identified. SIRA addresses each undesirable scenario in turn, and the likelihood of the occurrence of each undesirable scenario is estimated, as well as its potential consequences, in the immediate and long term. The SIRA process is illustrated as:

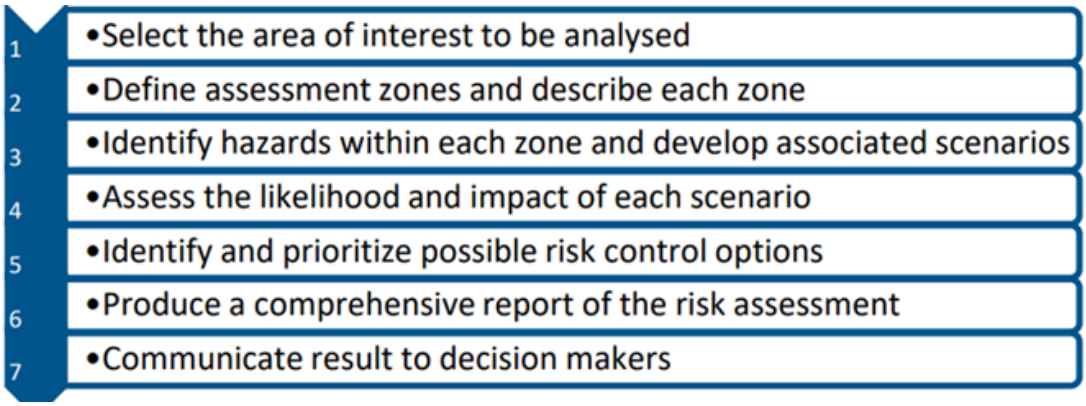


Figure 5-16 SIRA Process

Source: IALA GUIDELINE G1138 THE USE OF THE SIMPLIFIED IALA RISK ASSESSMENT METHOD (SIRA)

5.9.3 The SIRA process involves five levels of likelihood as presented in **Table 5-4** and five levels of impact as presented in **Table 5-5** for each undesirable scenario. These levels are used to calculate a risk value by multiplying the likelihood and impact scores. Historical data may be used to adjust the likelihood scale based on known frequencies of undesirable scenarios. Additionally, an impact scale is provided for various categories such as service disruption and human impact. The highest score across these categories, when combined with the likelihood score, determines the risk value.

Table 5-4 Description of Likelihood

Classification	Socre	Probability
Very rare	1	Very rare or unlikely, will occur only in exceptional circumstances and not more than once in 20 years
Rare	2	Rare, may occur every 2–20 years
Occasional	3	Occasional, may occur every 2 months to 2 years
Frequrent	4	Frequent, may occur once every weekly to every 2 months
Very frequrent	5	Very frequent, may occur at least once every week

Source: IALA GUIDELINE G1138 THE USE OF THE SIMPLIFIED IALA RISK ASSESSMENT METHOD (SIRA)

Table 5-5 Description of Impact Categories

Category	Score	Service Disruption	Human Impact
Insignificant	1	No service disruption apart from some delays or nuisance.	No injury to humans, perhaps significant nuisance.
Minor	2	Some nonpermanent loss of services such as the closure of a port or waterway for up to 4 hours.	Minor injury to one or more individuals who may require hospitalization.
Severe / Moderate	3	Sustained disruption to services such as the closure of a port or waterway for 4-24 hours	Injuries to several individuals requiring hospitalization.
Major	4	Sustained disruption to services such as the closure of a major port or waterway for 1-30 days or permanent or irreversible loss of services	Severe injuries to many individuals or loss of life.
Catastrophic	5	Sustained disruption to services such as the closure of a major port or waterway for months or years	Severe injuries to numerous individuals and/or loss of several lives.

Source: IALA GUIDELINE G1138 THE USE OF THE SIMPLIFIED IALA RISK ASSESSMENT METHOD (SIRA)

5.9.4 The risk value for each identified scenario is calculated by multiplying the likelihood and impact scores. The risk value is calculated in accordance with the matrix in **Table 5-6**.

Table 5-6 Risk Value Matrix

		PROBABILITY (LIKELYHOOD)				
		Very Rare 1	Rare 2	Occasional 3	Frequent 4	Very frequent 5
CONSEQUENCE (IMPACT)	Catastrophic 5	5	10	15	20	25
	Major 4	4	8	12	16	20
	Severe 3	3	6	9	12	15
	Minor 2	2	4	6	8	10
	Insignificant 1	1	2	3	4	5

Source: IALA GUIDELINE G1138 THE USE OF THE SIMPLIFIED IALA RISK ASSESSMENT METHOD (SIRA)

5.9.5 To determine whether those risks are acceptable or not, SIRA specifies four colour-banded levels of risk. These are shown in the **Table 5-7**.

Table 5-7 Action Required for Risk Categories

Risk Value	Risk Category	Action Required
1 – 4	Green	**Low risk** not requiring additional risk control options unless they can be implemented at low cost in terms of time, money and effort.
5 – 8	Yellow	**Moderate risk must be reduced to the ALARP level**, through the implementation of additional risk control options that are likely to require additional funding.
9 –12	Amber	**High risk** for which substantial and urgent efforts **must be made to reduce it to ALARP levels** within a defined period. Significant funding is likely to be required and services may need to be suspended or restricted until risk control options have been actioned.
15 – 25	Red	**Very high and unacceptable risk** for which substantial and immediate improvements are necessary. Major funding may be required, and ports and waterways are likely to be forced to close until the risk has been reduced to an acceptable level.

Source: IALA GUIDELINE G1138 THE USE OF THE SIMPLIFIED IALA RISK ASSESSMENT METHOD (SIRA)

5.9.6 The FSA methodology requires that any risks that are intolerable (i.e., in the red category in SIRA) should be identified and improved immediately. For those risks in the green category, the level of risk is considered acceptable. For those risks lying in between these upper and lower bounds (i.e., yellow and amber), they should be appraised to understand how the risks can be reduced to a level "as low as reasonably practicable" ALARP.

Table 5-8 Illustration to show FSA-defined ALARP regions in SIRA Matrix

		PROBABILITY/(LIKELIHOOD)				
		Very Rare (1)	Rare (2)	Occasional (3)	Frequent (4)	Very frequent (5)
CONSEQUENCE (IMPACT)	Catastrophic (5)	5	10	15	20	25
	Major (4)	4	8	12	16	20
	Severe (3)	3	6	9	12	15
	Minor (2)	2	4	6	8	10
	Insignificant (1)	1	2	3	4	5

"Intolerable"
Risks to be ALARP
"Tolerable"

Source: IALA GUIDELINE G1138 THE USE OF THE SIMPLIFIED IALA RISK ASSESSMENT METHOD (SIRA)

5.10 Hazard Identification

5.10.1 The hazards identified in the IALA Guideline G1138 are categorized into seven groups: 1) Natural Hazards; 2) Economic Hazards; 3) Technical Hazards; 4) Human Hazards; 5) Operational Hazards; 6) Spatial Planning Conflicts; and 7) Waterway Complexity.

5.10.2 The hazards identified may lead to one or more undesirable scenarios within the Study Area at the construction and operation phases were identified and summarized in **Table 5-9**.

Table 5-9 Hazards identified for the MTIA Study Area

Hazard	Description	Remark
1. Natural	Shallow water	Shallow water observations at the shore end of the barging points in NKW and WTW.
	Low Visibility	Vessels transiting in the waters between Ting Kau and Tsing Yi North may not be able to see marine works vessels during low visibility.
2. Economic	This hazard is unrelated to the vessels involved in TYNUQ construction and operation. Economics is not be covered in the marine traffic impact assessment, which focuses on physical impact.	
3. Technical	Mechanical failures	The TYNUQ construction and operation will require the deployment of marine works vessels. If the contractor and operator choose to employ marine works vessels without ensuring proper management and maintenance, it could result in the loss of vessel control due to mechanical failures during work.
4. Human	Crew competency and distraction	Insufficient communication and action are being taken by the skipper associated with the marine work vessels when navigating to and from the works area.
5. Operational	Impact of vessels	Other vessels are unable to identify the marine work vessels deployed for the TYNUQ construction and operation.
6. Spatial planning conflicts	The existence of wrecks and new dangers	Marine work vessels transiting in Tsing Yi North have not taken into account the height restrictions and marine viaduct structures of the Tsing Ma Bridge and Ting Kau Bridge.
7. Waterway complexity	This hazard is unrelated to the vessels involved in TYNUQ construction and operation. No waterway complexity has been identified in the vicinity of the works area.	

5.11 Identify Undesirable Scenarios

5.11.1 The hazards identified may lead to several different undesirable scenarios. The possible scenarios that these hazards may cause are identified and summarised in **Table 5-10**.

Table 5-10 Possible Undesirable Scenarios Identified for Construction and Operation Phases

Hazard	Scenario	Remark
1. Natural		
Safe minimum depth (m)	Grounding (Construction Phase)	Shallow water observations at the shore end of the barging points in NKW and WTW.
Minimum visibility (NM)	Collision (Construction & Operation Phase)	Vessels transiting in the waters between Ting Kau and Tsing Yi North may not be able to see marine works vessels during low visibility.
2. Economic		
This hazard is unrelated to the vessels involved in TYNUQ construction and operation. Economics is not be covered in the marine traffic impact assessment, which focuses on physical impact.		
3. Technical		
Loss of vessel control due to mechanical failure	Collision (Construction & Operation Phase)	Unexpected operational breakdowns on marine works vessels could result in collisions with other vessels.
4. Human		
Crew competency	Collision (Construction & Operation Phase)	Miscommunication or action being taken with other vessels when there is a foreseeable risk of collision with marine works vessels.
5. Operational		
Impact of vessels	Collision (Construction Phase)	Other vessels are unable to identify the marine work vessels deployed for the TYNUQ construction.
Impact of vessels	Collision (Operation Phase)	Other vessels are unable to identify the marine work vessels deployed for the TYNUQ operation.
6. Spatial planning conflicts		
The existence of wrecks and new dangers	Allision (Construction Phase)	TYNUQ construction vessels may strike the Tsing Ma Bridge and Ting Kau Bridge marine viaduct structures when navigating into and out of the proposed working area.
7. Waterway complexity		
This hazard is unrelated to the vessels involved in TYNUQ construction and operation. No waterway complexity has been identified in the vicinity of the works area.		

5.12 Risk Scores of Undesirable Scenarios (without Risk Control Measures)

5.12.1 For each undesirable scenario, a risk score is given considering the probability of the incident happening and its potential impact. The likelihood and impact scores were determined based on findings from the IWRAP assessment and historical incidents in the Study Area. **Table 5-11** presents the risk scores for the scenarios under the existing situations without implementing a risk control option, and a detailed development of the risk values is presented in **Appendix C**.

Table 5-11 Risk Scores of Undesirable Scenarios

Ref	Scenario & Description	Likelihood (A)	Impact (B)	Risk Value (A * B)
1. Natural				
1.1	Grounding (Construction Phase) Marine works vessels may go aground in shallow waters at the shore end of the barging points in NKW and WTW..	3	2	6
1.5	Collision (Construction & Operation Phase) Marine works vessels may not be able to see other vessels on the same course during low visibility, potentially leading to collisions.	4	4	16
2. Economic				
This hazard is unrelated to the vessels involved in TYNUQ construction and operation. Economics is not be covered in the marine traffic impact assessment, which focuses on physical impact.				
3. Technical				
3.3	Collision (Construction & Operation Phase) Unexpected operational breakdowns on marine works vessels could result in collisions with other vessels.	2	4	8
4. Human				
4.1	Collision (Construction & Operation Phase) Miscommunication or action being taken with other vessels when there is a foreseeable risk of collision with marine works vessels.	2	4	8
5. Operational				
5.1	Collision (Construction Phase) Other vessels are unable to identify the vessels deployed for the TYNUQ.	3	4	12
5.2	Collision (Operation Phase) Other vessels are unable to identify the vessels deployed for the TYNUQ.	4	4	16
6. Spatial planning conflicts				
6.1	Allision (Construction Phase) TYNUQ construction vessels may strike the Tsing Ma Bridge and Ting Kau marine viaduct structures when navigating into and out of the proposed working area.	3	2	6
7. Waterway complexity				
This hazard is unrelated to the vessels involved in TYNUQ construction and operation. No waterway complexity has been identified in the vicinity of the works area.				

5.13 Risk Scores of Undesirable Scenarios (with Risk Control Measures)

5.13.1 It has been identified that the risk values for all undesirable scenarios are within the ALARP region based on the current situation. In order to ensure risks can be further minimized to ALARP, further risk control measures are recommended. **Table 5-12** provides a summary of the proposed risk control measures for each scenario and their resulting risk values and a detailed development of control measures is presented in **Appendix C**.

Table 5-12 Risk Scores of Undesirable Scenarios (with Risk Control Measures)

Ref	Scenario & Description	Risk Control Measures	Likelihood (A)	Impact (B)	Risk Value (A * B)
1. Natural					
1.1	Grounding (Construction Phase) Marine works vessels may go aground in shallow waters at the shore end of Tsing Yi North.	A hydrographic survey covering the waters within the barging area shall be carried out before deployment of vessels. Temporary Marine Traffic Management (TMTM) Plan should be prepared during the construction phase, which may include a mooring plan, designated routing (to avoid shallow waters), designated anchoring area (if necessary), and contingency plan in case of grounding incidents.	2	1	2
1.5	Collision (Construction & Operation Phase) Marine works vessels may not be able to see other vessels on the same course during low visibility, potentially leading to collisions.	The marine operations shall be suspended at times of poor visibility of 2.0 nautical miles or below, all marine works shall be suspended, and regular bell swings/gong strikes will be carried out to warn approach vessels. Sound signals for vessels in restricted visibility shall strictly comply with the International Regulations for Preventing Collisions at Sea 1972 (COLREGS), Rule 35.	3	3	9
2. Economic					
This hazard is unrelated to the vessels involved in TYNUQ construction and operation. Economics should not be covered in the marine traffic impact assessment, which focuses on physical impact.					
3. Technical					
3.3	Collision (Construction & Operation Phase) Unexpected operational breakdowns on marine works vessels could result in collisions with other vessels.	All vessels deployed for the marine works must be properly licensed locally in Hong Kong and operated by a licensed operator. Should the suspension of navigation be required and confirmed, the marine launch will pick up all onboard site staff and transport them to land. Tug(s) would be summoned for the towing of the vessel to a safe location.	1	3	3

Ref	Scenario & Description	Risk Control Measures	Likelihood (A)	Impact (B)	Risk Value (A * B)
4. Human					
4.1	Collision (Construction & Operation Phase) Miscommunication or action being taken with other vessels when there is a foreseeable risk of collision with marine works vessels.	Contractor and operator shall provide a daily briefing to coxswains on guard boats and remind them that it is vital that the guard boat must NOT sail beyond the Works Area and intrude into the navigation passage. The skipper and crew will receive periodic training sessions to familiarize them with the waterspace and restrictions in the vicinity of the works area.	1	3	3
5. Operational					
5.1	Collision (Construction Phase) Other vessels are unable to identify the vessels deployed for the TYNUQ.	The Temporary Marine Traffic Management (TMTM) Plan should be developed by the contractor. Promulgation of the Marine Department Notice (MDN) on the works carried out. A stakeholder meeting, such as the Marine Management Liaison Group (MMLG), is recommended to address marine traffic issues. The Marine Traffic Management Team (MTMT) Plan should be developed by the contractor. Deployment of yellow marker buoys fitted with yellow flashing lights and radar reflectors, and AIS transmitters to mark the positions of the anchors extending from the work barges. Work barges equipped with an AIS transponder and VHF.	2	3	6
5.2	Collision (Operation Phase) Other vessels are unable to identify the vessels deployed for the TYNUQ.	The Marine Traffic Management Team (MTMT) Plan should be developed by the contractor. Deployment of yellow marker buoys fitted with yellow flashing lights and radar reflectors, and AIS transmitters to mark the positions of the anchors extending from the work barges. Work barges equipped with an AIS transponder and VHF.	3	3	9

Ref	Scenario & Description	Risk Control Measures	Likelihood (A)	Impact (B)	Risk Value (A * B)
6. Spatial planning conflicts					
6.1	Allision (Construction Phase) TYNUQ construction vessels may strike the Tsing Ma Bridge and Ting Kau marine viaduct structures when navigating into and out of the proposed working area.	Temporary Marine Traffic Management (TMTM) Plan should be prepared during the construction phase, which may include a designated routing (to be aware of the Vessels Height Restrictions of Tsing Ma Bridge and Ting Kau Bridge) and contingency plan in case of allision incidents. Promulgation of the MDN on the works carried out. A stakeholder meeting, such as the Marine Management Liaison Group (MMLG), is recommended to address marine traffic issues.	2	1	2
7. Waterway complexity					
This hazard is unrelated to the vessels involved in TYNUQ construction and operation. No waterway complexity has been identified in the vicinity of the works area.					

5.14 Qualitative Risk Assessment Findings

5.14.1 The SIRA assessment was conducted to identify the potential hazards and undesirable scenarios arising from the construction and operation of the Project. A risk value was calculated based on likelihood and impact. In order to ensure risks are minimized and managed, further risk control measures were recommended, and a new risk value was calculated to evaluate the effectiveness of the proposed risk control measures. The assessment record, in the form of a matrix, is included in **Appendix C**. It is identified that the recommended risk control measures have further reduced risk values. The details on risk control measures are presented in the next section of this Report.

5.15 Summary

5.15.1 A comprehensive risk assessment was conducted using IWRAP and SIRA to assess the quantitative and qualitative risks within the study area. It is not anticipated that the Project, during the construction phase and operation phase, with the proposed risk control measures, will pose significant hazards to existing and future marine traffic.

6 Risk Control Measures

6.1 Introduction

6.1.1 As reviewed in the previous sections, it is anticipated that the construction works and operation of the TYNUQ will impact the local marine traffic environment during the construction and operation phase. To minimise any potential marine traffic risk, general marine traffic management measures are recommended.

6.1.2 This section summarises the proposed risk control measures that shall be implemented for the construction works and operation of the TYNUQ to mitigate any potential marine traffic risk.

6.1.3 As mentioned in Section 2.3 and 2.4, the primary marine activity during construction and operation phases is transporation of material. There is no marine construction works proposed under this Project. If the contractor plans to carry out any marine construction works to suit for their need, the contractor shall submit to the Marine Department for promulgation of a Marine Department Notice (MDN) together with the necessary supporting information. The following section outlined the requirement of the supporting information in the event that they are triggered.

6.2 General Marine Traffic Management Measures During Construction

Pre-Construction Site Survey

6.2.1 Prior to the commencement of marine construction works, a hydrographic survey covering the waters within the construction works area, where necessary, shall be carried out to ensure adequate water depth for safe navigation for construction vessels.

Temporary Marine Traffic Management Plan (TMTM)

6.2.2 To identify and minimise potential construction marine traffic impacts, the appointed contractor of the Project shall employ a marine traffic consultant with relevant experience to develop a Temporary Marine Traffic Management (TMTM) plan for the proposed marine construction works. The TMTM plan shall identify the potential hazards and propose adequate mitigation measures to minimize any potential impacts of the proposed construction works, including but not limited to:

- Review of key marine facilities, existing marine traffic activity and the metocean environment in the vicinity of the works area;
- Identify the work activities, deployed vessel list, required working area and works-related marine traffic arising from the construction works;
- Temporary marine traffic arrangements and re-provisioning arrangements to ensure that adequate access to existing marine facilities is maintained during the construction works;
- Proposed marine traffic routes and recommended control measures for management and monitoring of vessel movements;
- Evaluate the effect of establishing temporary navigation aids or any other appropriate measures to maintain navigation safety; and
- Recommendations on tackling all marine safety issues, including typhoon evacuation, emergency and inclement weather.

6.2.3 A detailed TMTM plan would be carried out at the construction phase when details of the construction method and vessel deployment for the marine works are further developed by the appointed contractor and would be submitted for review and approval before submission for the promulgation of MDN for the construction works. The potential marine traffic impacts and proposed mitigation measures for marine works shall consider impacts on vessels within the principal fairways as well as the waters outside the principal fairways.

Marine Department Notice

6.2.4 At least one month before the commencement of the construction works, an application shall be submitted to the Marine Department for promulgation of a MDN in advance to provide detailed information on the proposed marine works and temporary traffic arrangement with reference to the latest Marine Department Notice on Promulgation of Marine Department

Notices (i.e., MDN No. 23/2020 at time of this Study). To comply with statutory requirements for the notification and control of marine works, Section 70 of the Shipping and Port Control Regulation (Cap. 313A) should be referred to.

6.3 Marine Traffic Control

Pre-Deployment Site Survey

6.3.1 Prior to the deployment of vessels, a hydrographic survey covering the waters within the barging areas, where necessary, shall be carried out to ensure adequate water depth for safe navigation for vessels.

Vessel Deployment

6.3.2 All vessels deployed for marine works and operations must be properly licensed locally in Hong Kong and manned under the Merchant Shipping (Local Vessels) Ordinance (Cap. 548) and its sub-legislation. The Certificate of Ownership (COO) and Operating License (OL) shall be obtained prior to operating a vessel in the waters of Hong Kong. With regards to the particulars of the employed local vessels (such as their length overall and extreme breadth, vessel type, conditions, etc.), their OL and Certificate of Survey shall prevail.

6.3.3 All works vessels shall be equipped with an AIS transponder that is in good operational order and VHF equipment that shall be operated by licensed Marine Radio Officers on board. The guard boats and escort boats shall be on continuous listening watch on VHF Channel 11 to assist piloted vessels passing the works area on request by the pilots on board. All works vessels shall maintain a listening watch on the relevant VHF Channel of VTC. The barge shall be on continuous listening watch on marine VHF (Channel 14) for VTC's instruction, as well as facilitate communication with HPS and other vessels.

6.3.4 All work vessels deployed for the construction and operation works shall be:

- Equipped with a Global Positioning System (GPS) or equivalent with AIS for real-time tracking and monitoring;
- Equipped with a marine band VHF radio operating on specified channels to facilitate communication with the Vessel Traffic Centre (VTC) and Harbour Patrol Section (HPS) of the Marine Department, as well as other vessels, and shall only be operated by a licensed operator;
- Properly licensed and manned under Cap. 548 Merchant Shipping (Local Vessels) Ordinance;
- To ensure safe navigation, the maximum operating draft of the works barges should not exceed the available water depth, and adequate under-keel clearance (UKC) should be allowed. In general, the UKC is 15% of the vessel's deepest draft; and
- Yellow marker buoys fitted with yellow flashing lights and radar reflectors, and AIS transmitters shall be laid to mark the positions of the anchors extending from the works barges deployed for marine works. The positions of the anchors would be laid according to the agreed plan.
- Appropriate illumination shall be installed on any marine platforms to indicate their location at night.
- Properly licensed locally in Hong Kong and operated by a licensed operator.

6.3.5 Should the suspension of navigation be required and confirmed, the marine launch will pick up all onboard site staff and transport them to land. Tug(s) would be summoned for the towing of the vessel to a safe location.

6.3.6 The contractor and operator shall provide a daily briefing to coxswains on guard boats and remind them that it is vital that the guard boat must NOT sail beyond the Works Area and intrude into the navigation passage.

6.3.7 The skipper and crew will receive periodic training sessions to familiarize them with the waterspace and restrictions in the vicinity of the works area.

Marine Traffic Management Team (MTMT)

6.3.8 During the construction and operation phase, the appointed contractor and operator shall establish an MTMT and be responsible for monitoring marine traffic movements of all marine construction and operation works. The MTMT will closely monitor daily work to ensure the implementation of work is as planned and ensure that works are carried out to fulfil compliances.

6.3.9 The MTMT shall be organised and managed by a Marine Coordination Manager with relevant qualifications and supported by a Marine Traffic Superintendent and Supervisor (on-site) for the management of the overall interfacing and communication duties with other relevant stakeholders, as well as management of vessel activities during the construction and operation phase.

6.3.10 The following outlines the general workflow for monitoring marine traffic movement:

- Marine Traffic Superintendent and Supervisor shall regularly report to the Marine Coordination Manager on daily marine works and weekly work plans.
- All information on working vessels, works area, and works duration shall be provided to the Marine Coordination Manager before commencement of works.
- The relevant information of each working vessel shall be maintained and updated by the MTMT.
- The MTMT shall monitor all working vessels on-site and communicate with the working vessels via mobile phone.
- The MTMT shall maintain lines of communication with the Vessel Traffic Centre (VTC) of the Marine Department and other relevant stakeholders at all times.

Marine Management Liaison Group (MMLG)

6.3.11 The appointed contractor shall liaise closely with the requirements of the Marine Department in all marine traffic matters concerned with the execution of the Project. It is proposed that a Marine Management Liaison Group (MMLG) should be established to review the planning of the key phases of the Works and provide a forum for key stakeholder engagement, including the local marine users and contractors of marine construction works near the works site. The purpose of the MMLG is to:

- Provide a forum for the sharing of marine traffic management requirements between the contractor(s), concerned stakeholders, and concerned government/bureaux to assist in planning construction works;
- To evaluate the implementation of marine traffic risk control measures to optimise the safety and efficiency of construction and port operations;
- To advise on the phasing of construction operations and
- To resolve conflicts that may arise from the construction works.

6.3.12 Key stakeholders shall include, but not be limited to, representatives from:

- Marine Department;
- Civil Engineering and Development Department ;
- Contractor(s);
- Resident Site Staff;
- Key stakeholders of affected marine facilities;
- Representatives from relevant government departments;
- Hong Kong Pilots Association (on an as-needed basis);
- Hong Kong Police Force and Fire Services Department (on an as-needed basis) and
- Ferry Operators

6.3.13 The frequency of the meetings should be based on the frequency and schedule of work.

6.3.14 As part of the active risk control measures, any interface issues with the concurrent

construction activities could be resolved by the contractor by maintaining close liaison with marine stakeholders and concurrent projects. Ad-hoc liaisons should be arranged for any work that may impact individual stakeholders. A representative shall be assigned by the Contractor to take an active role in liaising and regularly communicating with the MD and relevant authorities, as well as interface with concurrent projects and marine stakeholders, to resolve any marine issues.

6.4 Contingency Plan for Adverse Weather and Emergency Conditions

6.4.1 The following emergency and adverse weather risk control measures and procedures shall be implemented by vessels carrying out the construction works and operation of the TYNUQ.

Safety Measures for Poor Visibility

6.4.2 During conditions when visibility is poor due to fog, mist, heavy rainstorms, or any other similar causes and found to be less than 2.0 nautical miles (3,704m), all marine works shall be suspended, and regular bell swing/gong strike will be carried out to warn approach vessels. Sound signals for vessels in restricted visibility shall strictly comply with the International Regulations for Preventing Collisions at Sea 1972 (COLREGS), Rule 35.

6.4.3 The appointed contractor of the works and operator shall refer to the latest Marine Department Notice (i.e. MDN No. 20/2025 at the time of this Study) for safe navigation in poor visibility about safety practices at times during conditions of restricted visibility.

Safety Measures for Typhoon Evacuation

6.4.4 The appointed contractor and operator shall ensure that all vessels deployed for marine works are properly licensed locally and stipulated on the local license, the intended location for the vessel to take shelter during adverse weather conditions. A Typhoon Evacuation Plan (TEP) shall be submitted to outline the vessel's evacuation arrangement, and if in case the sheltering location is outside HK waters, the TEP should also consider the maneuverability of any special-purpose working vessel and the time required to leave the works area and to navigate to the intended sheltering location.

6.4.5 When the Hong Kong Observatory (HKO) announces that Tropical Cyclone Warning Signal No.1 will be or has been hoisted, vessel masters shall review the weather forecast regularly to monitor the latest situation and make necessary preparations to evacuate in case a higher tropical cyclone warning signal is forecasted.

6.4.6 When the HKO announces that Tropical Cyclone Signal No.3 will be, or has been hoisted, no journey for disposal operation shall commence, all marine works shall be suspended, and vessels shall commence preparations to proceed to the nearest appropriate typhoon shelter. Any vessels with a length overall greater than 50m but less than 75m shall seek shelter at Hei Ling Chau Typhoon Shelter only. All construction vessels exceeding LOA 75m, or as required by the conditions of their operating licenses, should take early action and navigate on their own power to evacuate forthwith towards sheltered waters outside Hong Kong before Signal No.3 is hoisted. The indicative location(s) outside Hong Kong waters and safety measures for typhoon evacuation shall be further updated by the appointed contractor once the vessel deployment for construction works is confirmed.

6.4.7 Vessel masters shall maintain a continuous listening watch on the VHF radio channel appropriate to the VHF sector in which the vessel is located and shall have sufficient crew to man the barge and carry out duties to ensure the safety of the vessel during the passage of the typhoon.

Safety Measures for Monsoon

6.4.8 If the Strong Monsoon Signal warning is forecasted to be issued by the HKO, all works shall be suspended. The following safety measures shall be implemented for works vessels remaining within the works area at a time under strong monsoon conditions:

- Sufficient tugboat(s) shall be arranged on-site to provide assistance in case of emergency;
- Keep a proper lookout and anchor watch to monitor the vessel's position. Take appropriate actions to rectify any dragging of anchors and

- Continuous listening and watch on marine VHF (Channel 14) for VTC's instructions and to report the status of vessels at regular intervals.

Safety Measures for Emergency Evacuation

6.4.9 The appointed contractor and operator shall prepare for the evacuation of the works vessels in case of emergencies such as engine breakdown, fire on board, grounding, or oil spillage. Tug(s) would be summoned for the towing of the works vessel to a safe location if necessary. In the event of a need for emergency evacuation, the incident and evacuation time needed to leave the working area shall be reported to the MD VTC immediately.

6.5 Summary

6.5.1 The marine works associated with the construction and operation of the TYNUQ are not anticipated to impact the navigation of existing traffic within the MTIA Study Area.

6.5.2 To establish general principles for managing marine traffic, ensuring the effective and safe passage of vessels in the area during the construction phase, the appointed contractor will conduct a detailed risk assessment, develop associated mitigation measures, and prepare a Temporary Marine Traffic Management (TMTM) plan. This plan will undergo further review at the construction phase, aligning with the detailed design and construction methods.

6.5.3 Marine traffic risk control measures have been proposed to minimise any potential impacts arising from the construction and operation of the TYNUQ. In addition, contingency measures are established to mitigate the risks associated with the construction and operation of the TYNUQ in emergency events and adverse weather.

7 Summary

7.1 Introduction

7.1.1 A Marine Traffic Impact Assessment has been conducted to assess and evaluate potential marine traffic impacts and cumulative effects arising from the TYNUQ within the Study Area during the construction and operation of the Project. Marine traffic impact mitigation and operational risk control measures were recommended.

7.1.2 Upon contract commencement, the details of the proposed marine activities shall be provided by the contractor, including but not limited to, the size of the vessels deployed, frequencies, mooring methods, layout of the mooring/berthing for a comprehensive MTIA. The contractor shall prepare and submit a MTIA for construction and operation phases to MD when the latest details are available.

7.1.3 The primary marine activity during construction and operation phases is transporation of material. There is no marine construction works proposed under this Project. If the contractor plans to carry out any marine construction works to suit for their need, the contractor shall submit to the Maine Department for promulgation of a Marine Department Notice (MDN) together with the necessary supporting information.

7.2 Proposed Marine Transportation Activities

7.2.1 The construction and operation of the TYNUQ have been reviewed with the development of proposed marine work vessels.

7.2.2 The construction of the TYNUQ would require the delivery of construction machinery, equipment and ancillary facilities to the NKW and WTW barging points, with 1 round trip per day for each location.

7.2.3 The operation of the TYNUQ would require the delivery of raw production material (e.g. aggregates and cement etc.) to the NKW barging point, 8 round trips per day. In addition, the delivery of rock stockpiled from WTW to NKW, as well as the transport of excavated rock / processed rock from NKW to WTW, will involve 2 round trips per day.

7.3 Marine Environment

7.3.1 A review of the marine environment of the MTIA Study Area has been conducted to identify the existing marine facilities, metocean conditions, and restrictions in the vicinity. It is not anticipated that the TYNUQ construction and operation will be impacted by metocean conditions or have a significant interface with any existing or planned marine facilities.

7.4 Marine Traffic Activities Review

7.4.1 Following the identification of hazards or key marine features and navigation constraints. A review of AIS and Radar data and visual survey records has been conducted to identify the existing marine traffic situation and patterns within the Study Area.

7.4.2 It was identified that the marine traffic across the waters between Tsing Yi North and Ting Kau Study Area is dominated by river trade vessels and small crafts, with limited local ferry and other vessel types.

7.4.3 Relevant sources and growth trends have been reviewed to forecast the future traffic situation for different vessel types, including traffic activity generated by proposed developments within the MTIA Study Area up to the horizon year 2028.

7.4.4 It is anticipated that the TYNUQ construction and operation will generate a certain level of marine construction traffic from the marine works vessels across the waters between Tsing Yi North and Ting Kau could potentially impact the navigation safety of existing marine traffic.

7.5 Marine Traffic Risk Assessment

IWRAP Assessment

7.5.1 Marine traffic risk assessment considering the following scenarios:

- Current marine traffic;
- Future peak marine traffic without TYNUQ construction
- Future peak marine traffic with TYNUQ construction
- Future peak marine traffic without TYNUQ operation
- Future peak marine traffic with TYNUQ operation

7.5.2 It is identified that the annual collision and grounding incident level or risk level would not significantly increase with the implementation of the construction and operation of the TYNUQ.

SIRA Assessment

7.5.3 The SIRA assessment was conducted to identify the potential hazards and undesirable scenarios due to the TYNUQ's marine works and operation. A risk value was calculated based on likelihood and impact. It was identified that the risk values for all undesirable scenarios are within the as low as reasonably practicable (ALARP) region. To ensure risks are minimised and managed, further risk control measures were recommended, and a new risk value was calculated to evaluate the effectiveness of the proposed risk control measures. It was identified that the recommended risk control measures have further reduced risk values.

7.6 Risk Control Measures

7.6.1 Risk mitigation measures have been proposed to assist in the development of a safety management plan for the TYNUQ construction. Recommendations have been made about the following aspects:

- Pre-Construction Site Survey
- General Marine Traffic Management Measures
- Marine Traffic Control
- Contingency Plan for Adverse Weather and Emergency Conditions

7.6.2 Risk mitigation measures have also been proposed to assist in the development of a safety management plan for the TYNUQ operation. Recommendations have been made about the following aspects:

- Pre-Deployment Site Survey
- Marine Traffic Control
- Contingency Plan for Adverse Weather and Emergency Conditions

Appendix A

Marine Traffic Forecast

A1. Forecast Oceangoing Vessel Traffic Activity

1.1.1 Oceangoing vessel traffic within the MTIA Study Area is primarily associated with container vessels calling to and from the Hong Kong Port (HKP), including the Kwai Tsing Container Terminals and other major cargo-handling facilities. Accordingly, the forecast of oceangoing vessel activity is derived based on the projected container throughput of the HKP, which serves as the key indicator of overall vessel movement trends in Hong Kong waters.

1.1.2 In recent years, Hong Kong's container throughput has shown a gradual decline. However, this downward trend is projected to slow and stabilize as Hong Kong benefits from integration within the Guangdong–Hong Kong–Macao Greater Bay Area (GBA) such import/export opportunities benefit from enhanced interconnectivity, cargo sharing, and coordinated regional planning to offset part of the loss from standard container traffic.

1.1.3 Three forecast scenarios have been developed in order to capture the possible future trends:

- **Scenario1 - Declining Trend Case**: Represents a continuation of the historical declining trend in HKP container throughput based on past record data (2015–2024).
- **Scenario2 - Strategic Growth Case**: Reflects gradual stabilization and recovery in container throughput, aligned with government port development strategies, GBA integration and market diversification.
- **Scenario3 – Midpoint Projection Case**: Represents the arithmetic mid-point between Scenarios 1 and 2, providing a moderate projection between potential decline and recovery.

Scenario1 - Declining Trend Case

1.1.4 Historical data on seaborne container throughput of the HKP by Kwai Tsing Container Terminals and other cargo handling locations is reviewed with reference to Port of Hong Kong Statistical Tables (2015 – 2024). The historical data shown in **Figure A-1** indicate a downward trend, primarily driven by competition from Shenzhen and Guangzhou ports.

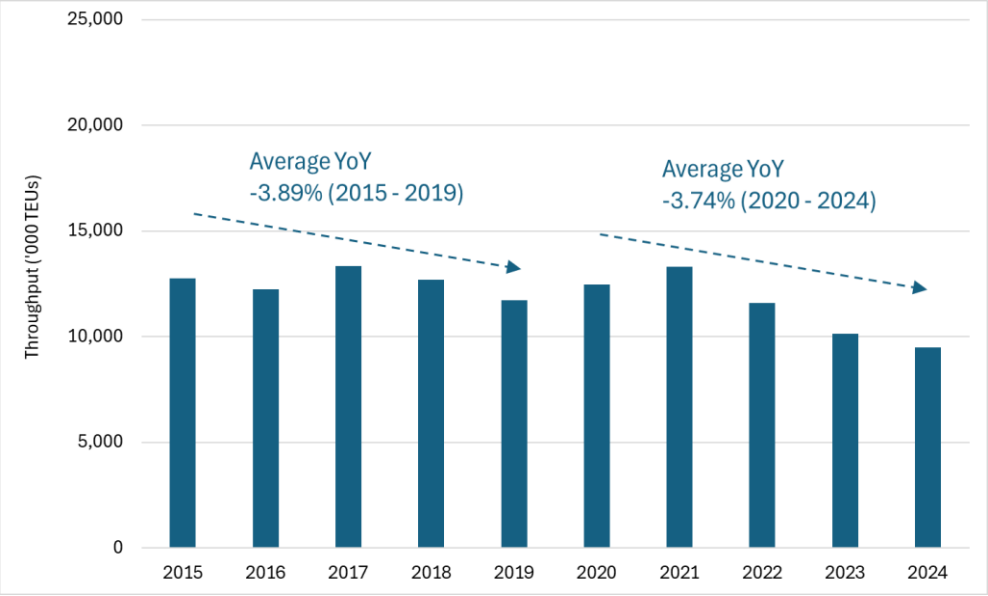


Figure A-1 Hong Kong Port Seaborne Container Throughput (2015 - 2024)

Source: Marine Department, Port of Hong Kong Statistical Tables, "Port Container Throughput by Main Cargo Handling Location", 2015 -2024

1.1.5 Between 2015 and 2019, the average year-on-year (YoY) reduction in throughput was –3.89%, and between 2020 and 2024, the average YoY reduction was –3.74%. The mean of these two periods, –3.82% per annum, is adopted as the annual growth rate for the Declining Trend Case (Scenario 1).

Scenario2 - Strategic Growth Case

1.1.6 Hong Kong's throughput is expected to gradually stabilize under the Strategic Growth Case supported by GBA integration, enhanced cargo sharing, and improved regional connectivity. Key strategic measures supporting this trend include:

1) **Expansion of Inland Cargo Sources** - HKP is strengthening its connections through the New Western Land–Sea Corridor via Guangxi, which achieved a 47.4% YoY increase in container throughput in Q4 2024, reaching approximately 59,600 TEUs.[1]

2) **Market Diversification -** HKP is expanding into emerging markets such as Central and South America and Oceania, while reinforcing its role in maritime finance, digital logistics, and green shipping initiatives, in line with Hong Kong's position as an international maritime centre.[1]

3) **Strengthening of Transshipment Hub Role** - Hong Kong remains one of the world's foremost transshipment hubs, handling about 24 million TEUs annually, connecting with over 550 ports worldwide and accommodating nearly 200,000 vessel calls per year, creates a cluster effect that continues to attract shipping lines seeking efficient, multi-port connectivity.[2]

1.1.7 Taken into consideration of above positive growth opportunities, a reference per annum growth rate of 1.5% from is adopted making reference to the Study on the Strategic Development Plan for Hong Kong Port 2030 (Transport and Logistics Bureau, 2014) which forecasted that the total container throughputs of oceangoing is projected to grow at a rate of 1.5% per annum from 2015 to 2030.

Scenario3 – Midpoint Projection Case

1.1.8 For modelling purposes, Scenario 3 represents a midpoint projection between historical decline and potential recovery. The overall growth rate is calculated as below:

$$\text{Overall Growth Rate} = \frac{(1+R_1)^t + (1+R_2)^t}{2} - 1$$

Where:

R_1 =-3.82% (Scenario 1 - Declining Trend Case)

R_2 =+1.5% (Scenario 2 - Strategic Growth Case)

1.1.9 Applying the above formula,

- For 2024 - 2027, overall growth rate = $[(1 – 3.82\%)^3 + (1 + 1.5\%)^3]/2 – 1$ = **–3.2%**
- For 2024 - 2028, overall growth rate = $[(1 – 3.82\%)^4 + (1 + 1.5\%)^4]/2 – 1$ = **–4.1%**

[1] Reference: Multiple Strategies for New Chapter in Maritime and Port Industry - https://www.tlb.gov.hk/eng/blog/20250329.html
[2] Reference: The world's leading cargo transshipment hub - https://www.hongkongmaritimehub.com/the-hub-3/the-worlds-leading-cargo-transshipment-hub/

Adopted Forecast Growth Rate

1.1.10 In summary, the predicted growth rate calculated from the various scenarios are presented in **Table A-1** and **Figure A-2**.

Table A-1 Summary of Adopted Forecast Annual Growth Rates for Oceangoing Vessels

	Growth Rate per annum
Scenario1 - Declining Trend Case	–3.82%
Scenario2 - Strategic Growth Case	+1.5%
Scenario3 – Midpoint Projection Case	-3.2% (2024 – 2027) - 4.1 % (2024 – 2028)

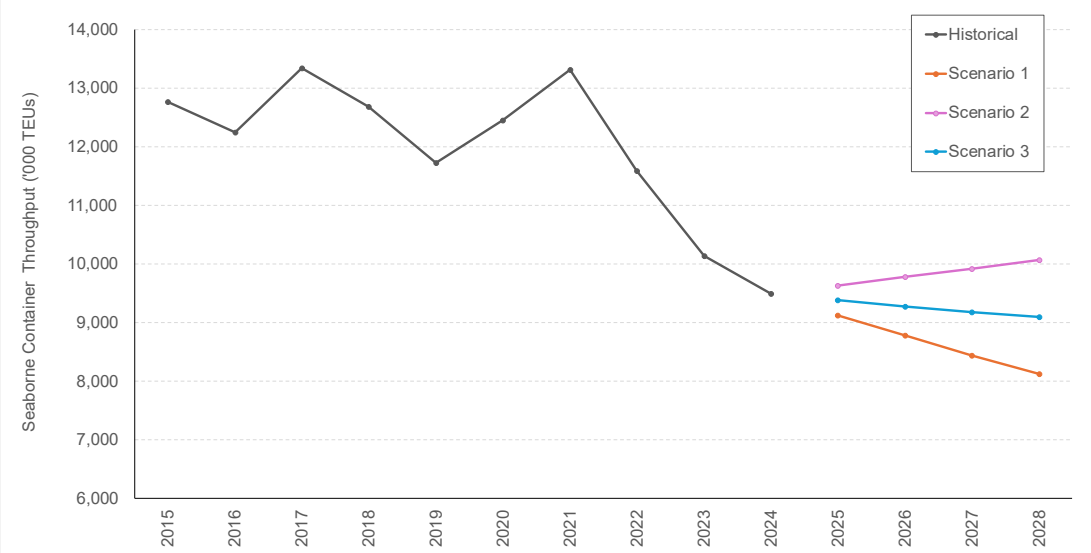


Figure A-2 Forecast of Hong Kong Port Seaborne Container Throughput (2024–2028)

1.1.11 In view of uncertainties about the current competitive environment and positive future outlook, the Study would adopt findings from Scenario 3 as the forecast annual growth rates for modelling future oceangoing vessel traffic within the Study Area.

1.2 A2. Forecast River Trade Vessel Traffic Activity

1.2.1 The forecast of river trade vessel activity within the MTIA Study Area follows the same methodological approach as the oceangoing vessel traffic forecast. River trade traffic are mostly related to cargo or container vessels (see **Figure A-4**), and the forecast adopts the same scenarios to capture potential growth:

- **Scenario 1 – Declining Trend Case**: Based on historical river trade container throughput, representing a continuation of the recent downward trend.
- **Scenario 2 – Strategic Growth Case**: Based on the Hong Kong Port 2030 Study, assuming recovery and growth in river trade throughput driven by regional economic integration, infrastructure enhancements, and port development initiatives.
- **Scenario 3 – Midpoint Projection Case**: Represents the mid-point between Scenarios 1 and 2, providing a moderate projection for river trade vessel traffic.

Scenario 1 – Declining Trend Case

1.2.2 Historical trend on river trade container throughput with reference to the Port of Hong Kong Statistical Tables (2015 – 2024) is presented in **Figure A-3** and it is identified that river trade container throughput in Hong Kong have gradually decreased over the past decade with a significant decline in 2020.

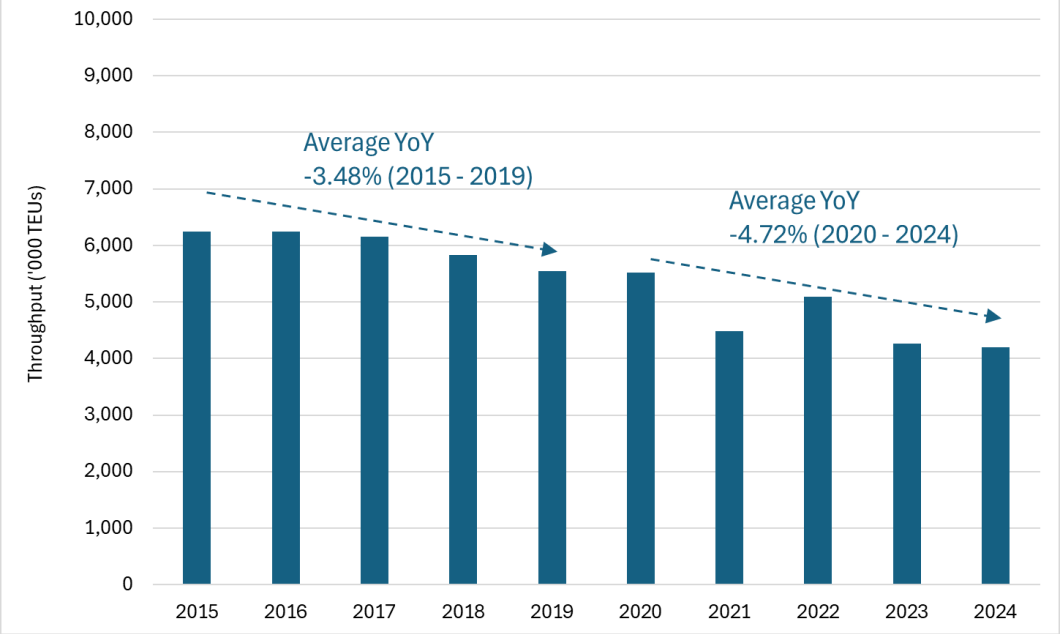


Figure A-3 River Trade Container Throughput in Hong Kong (2015 - 2024)

Source: Source: Marine Department, Port of Hong Kong Statistical Tables, "Port Cargo Throughput by River", 2015 -2024

1.2.3 The historical analysis shows that the average YoY decline between 2015 and 2019 was approximately –3.48% and approximately –4.72% between 2020 and 2024. The mean of these two periods, –4.10% per annum, is adopted as the annual growth rate for the Declining Trend Case (Scenario 1).

Scenario 2 – Strategic Growth Case

1.2.4 Although historical trends indicate a decline, the Strategic Growth Case assumes that river trade throughput will recover, supported by:

i. Policy and government initiatives enhancing port operations and connectivity,

ii. Diversification of cargo sources, and

iii. Continued integration within the GBA, supporting transshipment and regional trade flows.

1.2.5 Analysis of vessel arrivals indicates that approximately 80% of river trade vessel arrivals are associated with container traffic (conventional, fully cellular, or semi-container vessels), as shown in **Figure A-4**.

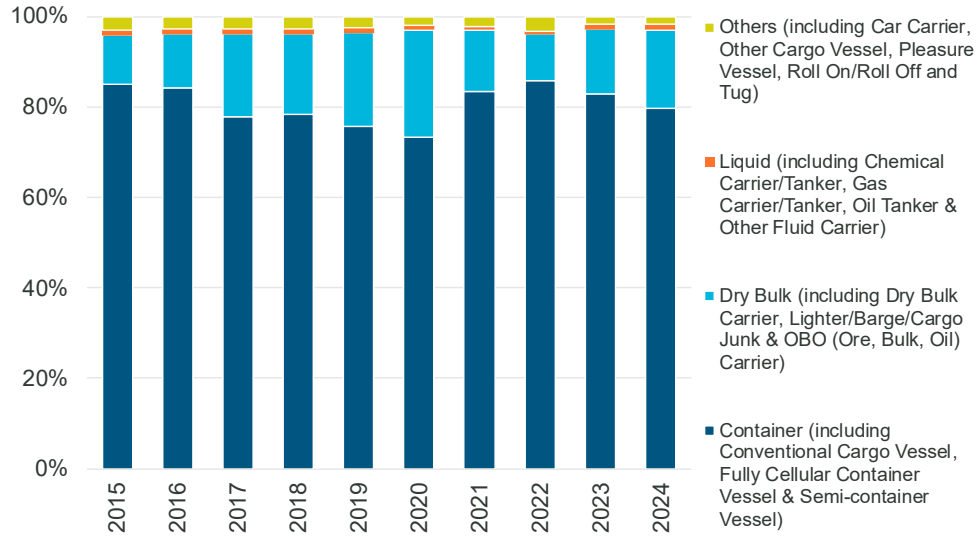


Figure A-4 River Trade Vessel - Cargo Type Breakdown (2015 - 2024)

Source: Marine Department, Port of Hong Kong Statistical Tables, "Vessel Arrivals by Ship Type" 2015 – 2024

1.2.6 Taken into consideration of above positive growth opportunities, a reference per annum growth rate of 1.5% from is adopted making reference to The Study on the Strategic Development Plan for Hong Kong Port 2030 (Transport and Logistics Bureau, 2014) which forecasted that the total container throughputs of river trade vessel is projected to grow at a rate of 1.5% per annum from 2015 to 2030.

Scenario3 – Midpoint Projection Case

1.2.7 For modelling purposes, Scenario 3 represents a balanced projection between historical decline and potential recovery. The overall growth rate is calculated as below:

$$\text{Overall Growth Rate} = \frac{(1+R_1)^t + (1+R_2)^t}{2} - 1$$

Where:

R_1 = −4.10% (Scenario 1 - Declining Trend Case)

R_2 = +1.5% (Scenario 2 - Strategic Growth Case)

1.2.8 Applying the above formula,

- For 2024 - 2027, overall growth rate = $[(1 – 4.10\%)^3 + (1 + 1.5\%)^3]/2 – 1$ = **–3.6%**
- For 2024 - 2028, overall growth rate = $[(1 – 4.10\%)^4 + (1 + 1.5\%)^4]/2 – 1$ = **–4.6%**

Adopted Forecast Growth Rate

1.2.9 In summary, the predicted growth rate calculated from the various scenarios are presented in **Table A-2** and **Figure A-5**.

Table A-2 Summary of Adopted Forecast Annual Growth Rates for River Trade Vessels

	Growth Rate per annum
Scenario1 - Declining Trend Case	–4.10%
Scenario2 - Strategic Growth Case	+1.5%
Scenario3 – Midpoint Projection Case	-3.6% (2024 – 2027) - 4.6 % (2024 – 2028)

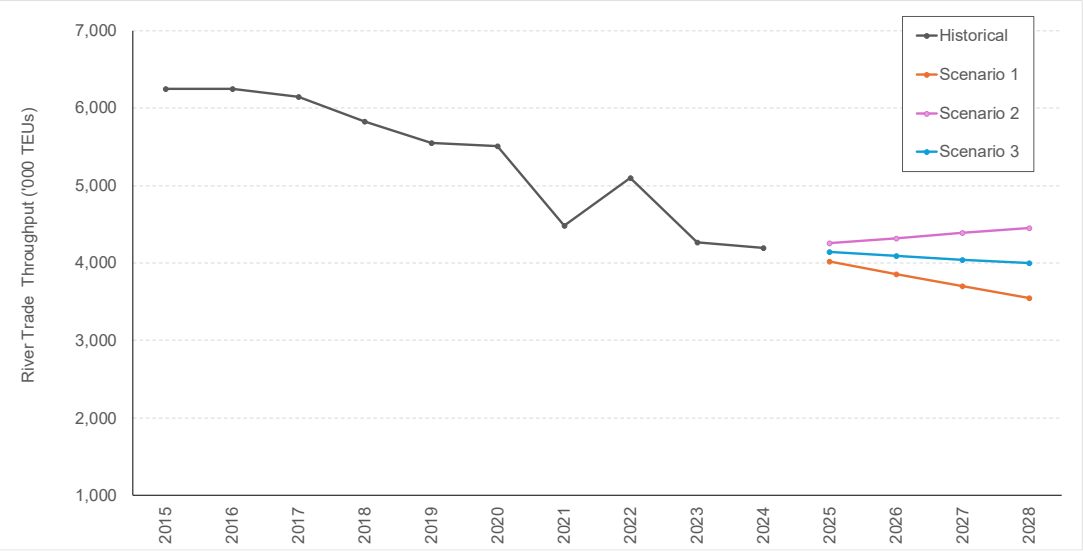


Figure A-5 Forecast of Hong Kong Port River Trade Container Throughput (2024–2028)

1.2.10 In view of uncertainties about the current competitive environment and positive future outlook, the Study would adopt findings from Scenario 3 as the forecast annual growth rates for modelling future oceangoing vessel traffic within the Study Area.

1.3 A3.Forecast Fast Ferry Vessel Traffic Activity

1.3.1 Historical data on vessel arrivals and departures at cross-boundary ferry terminals were reviewed with reference to Port of Hong Kong Statistical Tables (2015 – 2024) and **Figure A-5** presents the historical trend. A significant decline observed in 2020, associated with the COVID-19 pandemic, is excluded as it may not be representative of the typical existing cross-boundary ferry traffic activity. However, a declining rate of 8.5% is still identified for the CAGR between 2015 to 2024.

1.3.2 For a conservative assessment, it is assumed that the future fast ferry vessel traffic in the MTIA Study Area up to 2027 and 2028 will remain the same as existing levels.

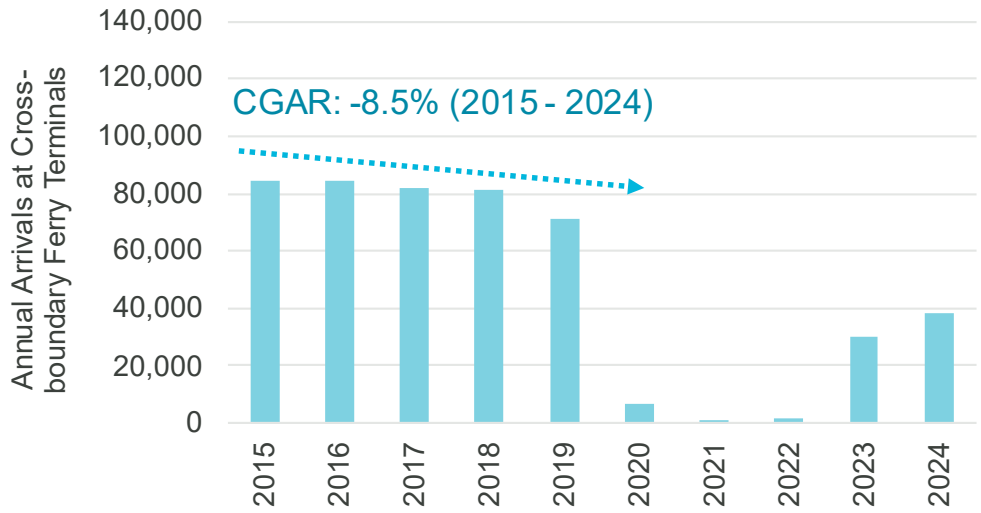


Figure A-6 Vessel Arrivals at Cross-Boundary Ferry Terminals (2015 - 2024)

Source: Marine Department, Port of Hong Kong Statistical Tables, "Statistics on Vessel Arrivals and Departures at Cross-Boundary Ferry Terminals" 2015 – 2024

1.4 A4. Forecast Local Ferry Vessel Traffic Activity

1.4.1 Historical trends on the average daily passenger journeys by domestic licensed and franchised ferries were reviewed from the Monthly Traffic and Transport Digest (2014 – 2023). A significant decline observed in 2020, associated with the COVID-19 pandemic, is excluded as it may not be representative of the typical existing domestic ferry traffic activity. However, a declining rate of 1.8% is still identified for the CAGR between 2013 to 2019, and the historical trend is presented in **Figure A-6**.

1.4.2 For a conservative assessment, it is assumed that the future local ferry vessel traffic in the MTIA Study Area up to 2027 and 2028 will remain the same as existing levels.

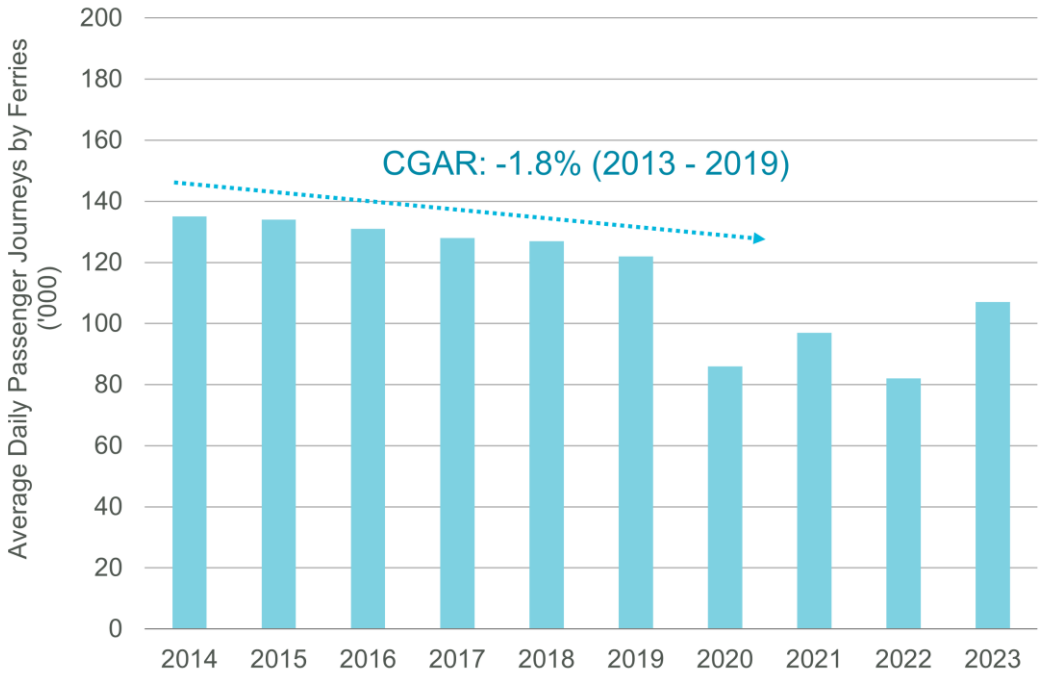


Figure A-7 Average Daily Passenger Journeys by Domestic Ferries (2014 - 2023)

Source: Monthly Traffic and Transport Digest (2014 – 2023) by the Transport Department, https://www.td.gov.hk/mini_site/atd/2024//sc/5-2

1.5 A5. Forecast Fast Launch Traffic Activity

1.5.1 Fast launch vessels adopted in the marine traffic model refer to government vessels comprised of powered vessels commonly found within the MTIA Study Area.

1.5.2 Historical data from the Port of Hong Kong Statistic Tables (2015-2024) on the supply of local government vessels were reviewed and the historical trend is presented in **Figure A-7**.

1.5.3 A linear projection using an average historical CAGR of 2.2% identified between 2015 and 2024 is adopted for forecasting an overall growth rate of 6.7% from 2024 to 2027 and 9.1% from 2024 to 2028.

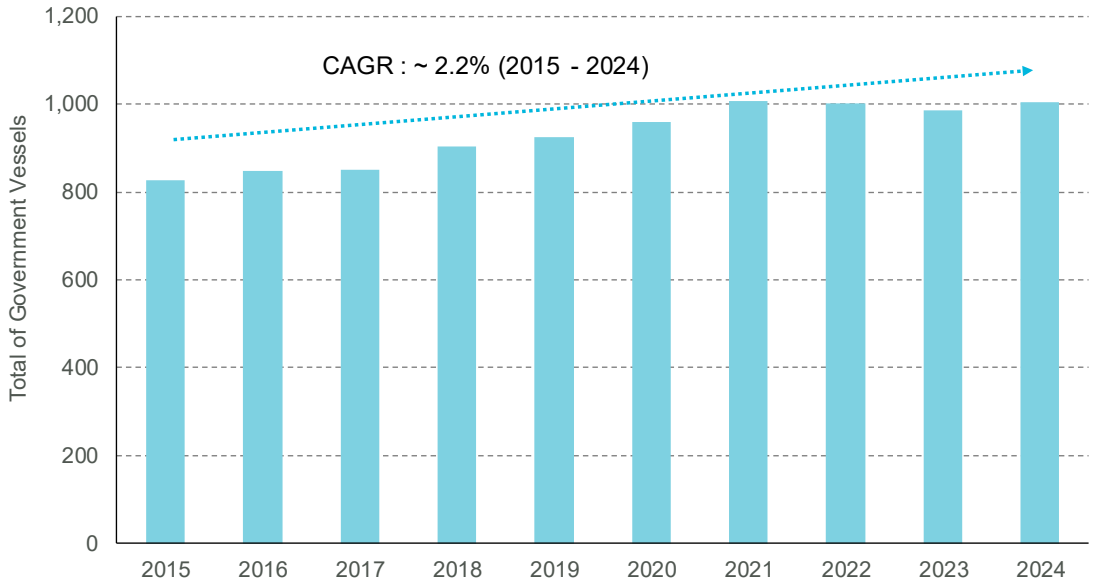


Figure A-8 Total Number of Government Vessels (2015 - 2024)

Source: Department, Port of Hong Kong Statistic Tables (2015 – 2024), Table of Departmental Ownership and Availabilities of Government Vessels

1.6 A6. Forecast Small Craft Traffic Activity

1.6.1 Small craft vessels adopted in the marine traffic model are best represented by:

- Class III vessels (i.e. Fishing Vessel: Fish Carrier, Fishing Sampan, Fishing Vessel, Outboard Open Sampan); and
- Class IV vessels (i.e. Pleasure Craft: Auxiliary Powered Yacht, Cruiser, Open Cruiser) as defined in the Port of Hong Kong Statistical Tables by MD.

1.6.2 Historical records on vessel numbers of locally licensed Class III and Class IV were reviewed and the historical trend from 2015 to 2024 is illustrated in **Figure A-8**.

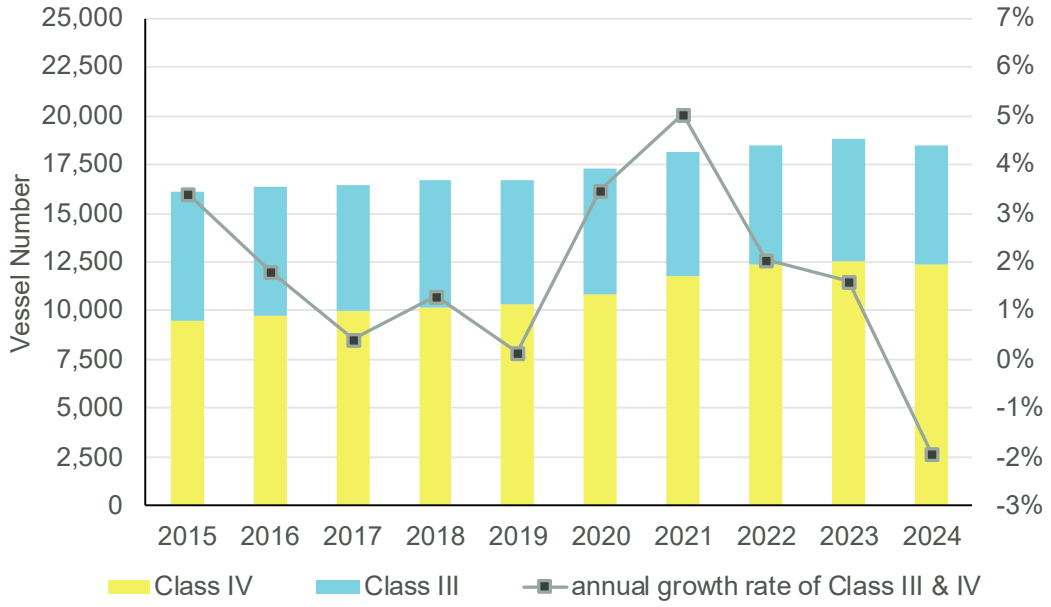


Figure A-9 Historical Trend for Hong Kong Licensed Vessels (Class III & IV) (2015 - 2024)

Source: Marine Department, Port of Hong Kong Statistic Tables, "Hong Kong Licensed Vessels by Tonnage Classification" 2015 – 2024

1.6.3 Growth in Class III & IV licensed vessel numbers have generally increased with a peak of around 5% in 2021, although it decreased around 2% in 2024. However, the 'Assessment of Typhoon Shelter Space Requirements 2022 – 2035' projects an average annual rate of change of around 0.4% and 1.9% for locally licensed vessels Class III and Class IV, respectively from 2021 to 2035. From 2024 to 2027, these growth rates are conservatively adopted up to 2027 which corresponds to an overall growth rate of 1.2% for Class III and 5.8% for Class IV, respectively. From 2024 to 2028, these growth rates are conservatively adopted up to 2028 which corresponds to an overall growth rate of 1.6% for Class III and 7.8% for Class IV, respectively.

1.6.4 The vessel distribution for "Small Craft" comprising Class III and Class IV vessels adopted is calculated based on the existing vessel distribution of locally licensed vessels. Port of Hong Kong Statistical Tables of 2024 identified a total of 20,604 local vessels and Class III (6,125) represents 30% of the total while Class IV represents (12,325) 60% of the total. The forecast future traffic would adopt a Small Craft vessel distribution of 33% [30/90] and 67% [60/90] for Class III and Class IV respectively.

1.6.5 For forecasting future Small Craft traffic activity, a weighted percentage of overall traffic growth of 4.3% = [1.2% x 33% + 5.8% x 67%] is adopted from 2024 to 2027, and another weighted percentage of overall traffic growth of 5.8% = [1.6% x 33% + 7.8% x 67%] is adopted from 2024 to 2028.

1.7 Summary

1.7.1 The following table summaries the predicted growth rate:

Vessel Type	Growth Rate (2024 – 2027)	Growth Rate (2024 – 2028)
Oceangoing	-3.2%	-4.1%
River Trade	-3.6%	-4.6%
Fast Ferry	0%	0%
Local Ferry	0%	0%
Fast Launch	6.7%	9.1%
Small Craft	4.3%	5.8%

Appendix B

IALA Training Certificate

The IALA World-Wide Academy

certifies that

[redacted]

has completed the

IALA World-Wide Academy training course on the Use of the IALA Risk Management Toolbox

course on

27th June 2025

Assinado por: **Filipe Alexandre Reis Vieira**

Rear Admiral Vincent Denamur
Dean of the
IALA World-Wide Academy

Ms Latifa Oumouzoune
Education and Training Manager
IALA World-Wide Academy

Filipe Alexandre Reis Vieira
Capitão-de-fragata / CDR (OF-4)
Chefe da Divisão de Navegação
Instituto Hidrográfico – Marinha Portuguesa

This certificate is awarded in accordance with IALA Recommendation R0141 and IALA Model Course L1.3. Serial number: Lisbon2025_4

Appendix C

SIRA Risk Assessment Matrix

Simplified IALA Risk Assessment (SIRA)

REF	Hazard	Review Results	Scenario	Description of Scenario / Incident	Root Cause(s)	Existing Risk Control Measures	Reasoning behind Probability Score	Reasoning behind Consequence Score (short term and long term)	Without Control Measures			Control Measures which could reduce either probability or consequence	After Control Measures		
									Probability Score (1 - 5)	Consequence Score (1 - 5)	Risk Value		Probability Score (1 - 5)	Consequence Score (1 - 5)	Risk Value
1. Natural															
1.1	Safe minimum depth (m)	Shallow water is identified as the shore end of the bargingin point in Ngau Kok Wan (NKW) and Wok Tai Wan (WTW) (See **Figure 3-6**). Marine works vessels may be exposed to grounding risk, particularly during low tide periods.	Grounding	Marine works vessels may go aground in shallow waters at the barging facility in NKW and WTW.	Poor planning of mooring location	N.A.	According to the MD incident record (2015-2024), the average annual grounding rate per year is around 0.7 in the Model Area, which is considered occasional (i.e. occur every 2 months to 2 years according to G1138 IALA standard).	Onstie tugboat will be summoned immediately to untangle the grounding problem. Grounding may cause some minor injuries. No public service or the waterway traffic would be interrupted. No significant environmental or economic impact is anticipated.	3	2	6	Refer to Section 6.2 in the MTIA report A hydrographic survey covering the waters within the construction works area shall be carried out before the construction works. Temporary Marine Traffic Management (TMTM) Plan should be prepared during the construction stage, which may include a mooring plan, designated routing (to avoid shallow waters), designated anchoring area (if necessary), and contingency plan in case of grounding incidents.	2	1	2
1.2	Proximity of danger (NM)	By reviewing the sea chart, the nearest 'Obstruction' marking is identified approximately 670 meters away from the TYNUQ barging point.													
1.3	Tide, wind, wave, and current effect	The tide, wind, wave, and current effects are reviewed in Section 3.3. It is not anticipated that the metocean conditions will pose significant impacts on the TYNUQ construction and operation.													
1.4	Ice conditions	This hazard is unrelated to the vessels involved in this project. The chance of ice conditions in Hong Kong is rare.													
1.5	Minimum visibility (NM)	By reviewing "*Summary of Meteorological and Tidal Observations in Hong Kong" (2014-2023)* , it is noted that reduced visibility under 3km (1.6 nautical miles) under all weather conditions is between 2% to 4% during February to April and less than 1% during other months. Generally speaking, the visibility is fair enough for marine users.	A collision between marine works vessels and other vessels due to low visibility	Marine works vessels may not be able to see other vessels on the same course during low visibility, potentially leading to collisions.	Low visibility	Under MDN No. 20/2025	Based on the IWRAP modelling result of the construction and operation stage of peak year with concurrent projects traffic where the anticipated collision per year is around 5.91-6.02 within the Risk Model Area, which is considered frequent (i.e. occur once weekly to every 2 months according to G1138 IALA standard).	Collision incidents within the waters between Ting Kau and Tsing Yi North could cause sustained disruption to services such as the closur a port or waterway for 4-24 hours, and severe injuries to many individuals or loss of life. No significant environmental or economic impact is anticipated.	4	4	16	Refer to Section 6.4 in the MTIA report The marine operations shall be suspended at times of poor visibility of 2.0 nautical miles or below, all marine works shall be suspended, and regular bell swings/gong strikes will be carried out to warn approach vessels. Sound signals for vessels in restricted visibility shall strictly comply with the International Regulations for Preventing Collisions at Sea 1972 (COLREGS), Rule 35.	3	3	9
1.6	Low sun issues	This hazard is unrelated to the vessels involved in this project. The chance of low sun issues in Hong Kong is rare.													
1.7	Background lighting	This hazard is unlikely to have an impact on the vessels associated with the project. The waters from Ting Kau to Tsing Yi North is remote to the populated downtown area. Background lighting is a less critical factor affecting the crew's watch.													
1.8	Loss of PNT (geographical obstruction)	This hazard is unlikely to have an impact on the vessels associated with the project. The geographical location of Hong Kong is within the lonosphere regions with high frequency.													
1.9	Earthquake and tsunami	This hazard is unrelated to the vessels involved in this project. The chance of earthquakes and tsunamis in Hong Kong is rare.													
2. Economic															
2.1	Legal action problems	This hazard is unrelated to the vessels involved in this project. Legal action problems should not be covered within the MTIA.													
2.2	Insufficient AtoN funding issues	This hazard is unrelated to the vessels involved in this project. Insufficient AtoN funding issues should not be covered within the MTIA.													
3. Technical															
3.1	Shipborne nav-aid failure	This hazard is unlikely to have an impact on the vessels associated with the project. A tugboat will be depolyed with the marine works vessels to provide assistance during the TYNUQ construction and operation. Continuous communication between the skipper and contractor/operator will be maintained during transit to and from the work site. Monitoring of the marine works vessels will be overseen by the contractor and operator. In the event of shipborne nav-aid failure and requiring immediate assistance, the skipper should signal appropriate international and Hong Kong port signals, and effectively manage the situation using their seamanship skills. Skippers and ship owners should ensure that charts and navigational information are up to date. Before sailing, develop a thorough passage plan that includes waypoints, navigational aids, and potential hazards.													
3.2	Quality and validity of charted information	This hazard is unrelated to the vessels involved in this marine works. Contractor will use the latest charted information for the opeartion.													

3.3	Loss of vessel control due to mechanical failure	The proposed marine works will require the deployment of various marine works vessels. If the contractor and operator choose to employ marine works vessels without ensuring proper management and maintenance, it could result in the loss of vessel control due to mechanical failures during works.	A collision between marine works vessels and other vessels due to mechanical failure (Construction and Operation stage)	Unexpected operational breakdowns on marine works vessels could result in collisions with other vessels.	Mechanical failures leading to loss of vessel control can be caused by wear and tear, lack of maintenance, malfunctioning systems, and environmental factors.	N.A.	(1) Ship inspection shall be carried out before the marine works. The possibility of the vessel having a malfunction is relatively small. (2) Due to the works area being closer to the land, the possibility of losing the network and thus losing communication is relatively small.	Collision incidents within the waters between Ting Kau and Tsing Yi North could cause sustained disruption to services such as the closur a port or waterway for 4-24 hours, and severe injuries to many individuals or loss of life. No significant environmental or economic impact is anticipated.	2	4	8	Refer to Section 6.3 in the MTIA report All vessels deployed for the marine works must be properly licensed locally in Hong Kong and operated by a licensed operator. Should the suspension of navigation be required and confirmed, the marine launch will pick up all onboard site staff and transport them to land. Tug(s) would be summoned for the towing of the vessel to a safe location.	1	3	3
3.4	Loss of communications	This hazard is unlikely to have an impact on the vessels associated with the project. A tugboat will be depolyed with the marine works vessels to provide assistance during the TYNUQ construction and operation. Continuous communication between the skipper and contractor/operator will be maintained during transit to and from the work site. Monitoring of the marine works vessels will be overseen by the contractor and operator. In the event of loss of communication and requiring immediate assistance, the skipper should signal appropriate international and Hong Kong port signals, and effectively manage the situation using their seamanship skills. Skippers and ship owners should stay updated with the latest navigational techniques, technologies, and best practices to effectively handle any adverse situations.													
3.5	Loss of connectivity	This hazard is unlikely to have an impact on the vessels associated with the project. A tugboat will be depolyed with the marine works vessels to provide assistance during the TYNUQ construction and operation. Continuous communication between the skipper and contractor/operator will be maintained during transit to and from the work site. Monitoring of the marine works vessels will be overseen by the contractor and operator. In the event of loss of communication and requiring immediate assistance, the skipper should signal appropriate international and Hong Kong port signals, and effectively manage the situation using their seamanship skills. Skippers and ship owners should stay updated with the latest navigational techniques, technologies, and best practices to effectively handle any adverse situations.													
3.6	Cyber interference	This hazard is unlikely to have an impact on the vessels associated with the project. A tugboat will be depolyed with the marine works vessels to provide assistance during the TYNUQ construction and operation. Continuous communication between the skipper and contractor/operator will be maintained during transit to and from the work site. Monitoring of the marine works vessels will be overseen by the contractor and operator. In the event of loss of communication and requiring immediate assistance, the skipper should signal appropriate international and Hong Kong port signals, and effectively manage the situation using their seamanship skills. Skippers and ship owners should stay updated with the latest navigational techniques, technologies, and best practices to effectively handle any adverse situations.													
3.7	AtoN failure	This hazard is unlikely to have an impact on the vessels associated with the project. A tugboat will be depolyed with the marine works vessels to provide assistance during theTYNUQ construction and operation. Continuous communication between the skipper and contractor/operator will be maintained during transit to and from the work site. Monitoring of the marine works vessels will be overseen by the contractor and operator. In the event of loss of communication and requiring immediate assistance, the skipper should signal appropriate international and Hong Kong port signals, and effectively manage the situation using their seamanship skills. Skippers and ship owners should stay updated with the latest navigational techniques, technologies, and best practices to effectively handle any adverse situations.													

3.8	Loss of PNT	This hazard is unlikely to have an impact on the vessels associated with the project. A tugboat will be depolyed with the marine works vessels to provide assistance during the TYNUQ construction and operation. Continuous communication between the skipper and contractor/operator will be maintained during transit to and from the work site. Monitoring of the marine works vessels will be overseen by the contractor and operator. In the event of loss of communication and requiring immediate assistance, the skipper should signal appropriate international and Hong Kong port signals, and effectively manage the situation using their seamanship skills. Skippers and ship owners should stay updated with the latest navigational techniques, technologies, and best practices to effectively handle any adverse situations.													
3.9	Substandard ships	Ensure ship capability, Update vessel survey will be conducted and supplemented in the Marine Department Notice (MDN) application.														
4. Human																
4.1	Crew competency	Insufficient communication and action being taken by the operator of TYNUQ associated marine work vessels when working.	A collision between marine works vessels and other vessels due to a communication error (Construction and Operation stage)	Miscommunication or action being taken with other vessels when there is a foreseeable risk of collision.	The operator of vessels may lack the ability to identify the risk of collisions with other vessels, coupled with weak communication and uncertainty about the necessary actions to be taken. Also, the operator may be distracted or lack sufficient training when facing the risk of collisions.	N.A.	The operator of vessels may be distracted or lack sufficient training when facing the risk of collisions.	Collision incidents within the waters between Ting Kau and Tsing Yi North could cause sustained disruption to services such as the closur a port or waterway for 4-24 hours, and severe injuries to many individuals or loss of life. No significant environmental or economic impact is anticipated.	2	4	8	Refer to Section 6.3 in the MTIA report Contractor and operator shall provide a daily briefing to coxswains on guard boats and remind them that is vital that the guard boat must NOT sail beyond the Works Area and intrude into the navigation passage. The skipper and crew will receive periodic training sessions to familiarize them with the waterspace and restrictions in the vicinity of the works area.	1	3	3
4.2	Fatigue	The likelihood of this hazard affecting the vessels associated with the project is low. However, the health issues of the crews need to be overseen and managed by the Person in Charge (PIC) of each vessel.														
4.3	Safety culture	The likelihood of this hazard affecting the vessels associated with the project is low. However, the safety culture of the crews needs to be overseen and managed by the contractor and the Person in Charge (PIC) of each vessel.														
4.4	Influence of alcohol and/or drugs	The likelihood of this hazard affecting the vessels associated with the project is low. However, the influence of alcohol and/or drugs on the crews needs to be overseen and managed by the contractor and the Person in Charge (PIC) of each vessel.														
4.5	Availability and competency of VTS	This hazard is unrelated to the vessels involved in this project.														
4.6	Competency of other AtoN provider	This hazard is unrelated to the vessels involved in this project.														
4.7	Availability and competency of pilotage	This hazard is unrelated to the vessels involved in this project.														
4.8	Piracy/terrorism	This hazard is unrelated to the vessels involved in this project. Piracy/terrorism is rare to occur in Hong Kong waters.														
4.9	Political issues	This hazard is unrelated to the vessels involved in this project. Poiltical issues should not be covered within the MTIA.														
4.10	Culture and language issues	Refer to REF 4.1.														
4.11	Crew medical issues	The likelihood of this hazard affecting the vessels associated with the project is low. However, the crew's medical issues need to be overseen and managed by the contractor and the Person in Charge (PIC) of each vessel.														
4.12	Crew distractions	Refer to REF 4.1.														

Simplified IALA Risk Assessment (SIRA)

5. Operational														
5.1	Impact of vessels	Collision during TYNUQ construction	A collision between marine works vessels and other vessels due to a communication error	Other vessels are unable to identify the vessels deployed for TYNUQ marine works.	(1) Moderate traffic volume within the waters between Ting Kau and Tsing Yi North near the TYNUQ by Rivertrade, Small Craft and Local Ferry vessels within the Study Area. (2) Additional traffic movements generated by the construction of the Project. (3) The TYNUQ construction route would pose a new temporary obstruction for vessels navigating within the waters between Ting Kau and Tsing Yi North and vessels may need to deviate from their existing routes. (4) Marine users are not aware of or do not take into consideration the construction works of the Project when planning their passage within the Study Area.	HKVTS COLREGs	Based on the IWRAP modelling result of the construction stage of peak year with concurrent projects traffic where the anticipated collision per year is around 5.91 within the Risk Model Area, which is considered frequent (i.e. occur once every 2 months to 2 years according to G1138 IALA standard).	Collision incidents within the waters between Ting Kau and Tsing Yi North could cause sustained disruption to services such as the closur a port or waterway for 4-24 hours, and severe injuries to many individuals or loss of life. No significant environmental or economic impact is anticipated.	3	4	12	Refer to Section 6.2 & 6.3 in the MTIA report The Temporary Marine Traffic Management (TMTM) Plan should be developed by the contractor. Promulgation of the Marine Department Notice (MDN) on the works carried out. A stakeholder meeting, such as the Marine Management Liaison Group (MMLG), is recommended to address marine traffic issues. Deployment of yellow marker buoys fitted with yellow flashing lights and radar reflectors, and AIS transmitters to mark the positions of the anchors extending from the work barges. Work barges equipped with an AIS transponder and VHF.	2	3	6
5.2	Impact of vessels	Collision during TYNUQ operation	A collision between marine works vessels and other vessels due to a communication error	Other vessels are unable to identify the vessels deployed for TYNUQ marine works.	(1) Moderate traffic volume within the waters between Ting Kau and Tsing Yi North near the TYNUQ by Rivertrade, Small Craft and Local Ferry vessels within the Study Area. (2) Additional traffic movements generated by the operation of the Project. (3) The TYNUQ operation route would pose a new temporary obstruction for vessels navigating within the waters between Ting Kau and Tsing Yi North and vessels may need to deviate from their existing routes. (4) Marine users are not aware of or do not take into consideration the operation works of the Project when planning their passage within the Study Area.	HKVTS COLREGs	Based on the IWRAP modelling result of the operation stage of peak year with concurrent projects traffic where the anticipated collision per year is around 6.02 within the Risk Model Area, which is considered frequent (i.e. occur once weekly to every 2 months according to G1138 IALA standard).	Collision incidents within the waters between Ting Kau and Tsing Yi North could cause sustained disruption to services such as the closur a port or waterway for 4-24 hours, and severe injuries to many individuals or loss of life. No significant environmental or economic impact is anticipated.	4	4	16	Refer to Section 6.3 in the MTIA report The Marine Traffic Management Team (MTMT) Plan should be developed by the contractor. Deployment of yellow marker buoys fitted with yellow flashing lights and radar reflectors, and AIS transmitters to mark the positions of the anchors extending from the work barges. Work barges equipped with an AIS transponder and VHF.	3	3	9
5.3	Fishing activities	This hazard is unrelated to the vessels involved in this project. No significant fishing activiteis have been identified in the vinicity of the propsoed works area.												
5.4	Seasonal activities	This hazard is unrelated to the vessels involved in this project. No significant seasonal activities have been identified in the vinicity of the propsoed works area.												
5.5	Poor passage planning	Refer to REF 5.1 & 5.2.												
5.6	Inadequate routeing guidance	Refer to REF 5.1 & 5.2.												
5.7	Poor route monitoring	Refer to REF 5.1 & 5.2.												
5.8	Poor response to marking of new danger	This hazard is unrelated to the vessels involved in this project. No new dangers have been identified in the vicinity of the proposoed works area.												
5.9	Poor promulgation of maritime safety information (MSI)	The likelihood of this hazard affecting the vessels associated with the project is low. Marine Department Notice (MDN) shall be applied for the marine works of the TYNUQ.												
6. Spatial planning conflicts														
6.1	The existence of wrecks and new dangers	Allision to Tsing Ma Bridge and Ting Kau Bridge marine viaduct structures during the TYNUQ construction.	Allision to Tsing Ma Bridge and Ting Kau Bridge marine viaduct structures during construction stage	TYNUQ construction vessels may strike the Tsing Ma Bridge and Ting Kau Bridge marine viaduct structures when navigating into and out of the proposed working area.	Poor planning when TYNUQ construction vessels navigating into and out of the proposed barging facility.	Tsing Ma Bridge and Ting Kau Bridge Height Restricted Areas	Based on the IWRAP modelling result of the construction stage of peak year with concurrent projects traffic where the anticipated grounding and allision per year is around 4.13 within the Risk Model Area, which is considered occasional (i.e. occur once every 2 months to 2 years according to G1138 IALA standard).	The allision may cause some minor injuries. Some non-permanent loss of highway services. No significant environmental or economic impact is anticipated.	3	2	6	Refer to Section 6.2 & 6.3 in the MTIA report Temporary Marine Traffic Management (TMTM) Plan should be prepared during the construction stage, which may include a designated routing (to be aware of the Vessels Height Restrictions of Tsing Ma Bridge and Ting Kau Bridge) and contingency plan in case of allision incidents. Promulgation of the Marine Department Notice (MDN) on the works carried out. A stakeholder meeting, such as the Marine Management Liaison Group (MMLG), is recommended to address marine traffic issues.	2	1	2
6.2	Crowded waterway issues	Refer to REF 5.1 & 5.2.												
6.3	The existence of restricted areas (e.g., spoil grounds, fish farms)	This hazard is unrelated to the vessels involved in the construction and operation of the TYNUQ. No spatial planning conflicts have been identified in the vicinity of the works area.												
7. Waterway complexity														
7.1	New or existing obstructions	This hazard is unrelated to the vessels involved in this project. No new or existing obstructions have been identified in the vicinity of the proposed works area.												

7.2	Sharp bends	This hazard is unrelated to the vessels involved in this project. No sharp bends navigation channel have been identified in the vicinity of the proposed works area.														
7.3	Narrow fairway	This hazard is unrelated to the vessels involved in this project. No narrow fairway have been identified in the vicinity of the proposed works area.														
7.4	Manoeuvering space	This hazard is unrelated to the vessels involved in this project. No confined waterspace have been identified in the vicinity of the proposed works area.														
7.5	Traffic considerations	Referring to REF 5.1 & 5.2, there is a moderate level of existing marine traffic that will traverse with the proposed TYNUQ area, particularly navigating into and out of the waters between Ting Kau and Tsing Yi North.														
7.6	Limited available depth of water	Refer to REF 1.1.														
7.7	Mobile seabed	This hazard is unrelated to the vessels involved in this project. No Mobile have been identified in the vicinity of the proposed works area.														
7.8	Channel siltation	This hazard is unrelated to the vessels involved in this project. No siltation has been identified in the vicinity of the proposed works area.														

Appendix D

Preliminary Environmental Review Report

(Part 1 of 2)

Agreement No. CE 79/2023 (GE)

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Preliminary Environmental Review Report (Final) (Ref. B19-07)

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1 INTRODUCTION

1.1 Project Background

1.1.1 Rock, principally as aggregates in concrete, is the most predominantly used construction material for buildings and infrastructure developments in Hong Kong. Local quarries, where rock is sourced for such uses, are strategically important to the construction industry in Hong Kong. Apart from the extraction of virgin rock, surplus rock generated from local construction projects can be processed and recycled at quarries for beneficial reuse. In addition, the quarries are suitable sites for housing manufacturing facilities of rock-derived construction materials such as ready-mixed concrete and asphalt. Historically, rock has been quarried in Hong Kong by way of surface quarrying – open/pit extraction at the ground surface. By doing this, the quarries have been operating as self-financing business entities rather than government-funded facilities.

1.1.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry, for which the current quarry contract is scheduled for completion in 2025. Recognising the importance of local quarries in minimizing the risk of irregularities in the supply of imported rock, the Government has been searching for suitable sites to set up new surface quarries in order to maintain local rock supply, with a view to have at least one new quarry to dovetail with the closure of LTQ.

1.1.3 Apart from rock materials, Hong Kong is also desperately in need of developable land to meet socio-economic needs. Creating spaces in underground rock caverns is one of the solutions in boosting land supply in the medium to long-term. To create land in this manner, the cavern formation will not only generate a large amount of good quality rock, but this process is also a source of rock materials which could be an integral part of the local rock supply in future. This is the underlying concept of the initiative of underground quarry-cum-cavern development, which is unprecedented in Hong Kong. There are, nevertheless, successful examples of this approach in other countries, e.g. Switzerland, Norway and the United States of America, where the entire operation combining quarrying and subsequent uses of the cavern spaces created (e.g. cold storage, data centres, warehousing and recreational complexes) is confirmed to be commercially viable.

1.1.4 Preliminary reviews under the Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

1.1.5 In 2017, Civil Engineering and Development Department (CEDD) commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan jointly promulgated by CEDD and Planning Department (PlanD) in 2017, was recommended to take forward.

1.1.6 In 2019, the CEDD and PlanD jointly commissioned the *Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study* (hereinafter referred to as the “Pilot Study”) to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. The findings of the Pilot Study concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North. It is envisioned as an integral part of the long-term local quarry strategy. Shortage of rock import from the mainland China due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, it is timely to proceed with the scheme, along with other quarry related initiatives to maintain local rock supply.

1.1.7 Following the commencement of the Investigation, Design and Construction (IDC) assignment for developing and designing the pilot underground quarry at Lam Tei, Tuen Mun in 2021, CEDD launched an IDC assignment for developing a new underground quarry at Tsing Yi North (hereinafter referred to as "the Project") in 2023.

1.1.8 To implement the proposed underground quarry-cum-cavern development at Tsing Yi North, it is necessary to conduct a site-specific investigation and design for the scheme, building on the work completed under the Underground Quarry Study and the Pilot Study.

1.1.9 This Project aims to complete all the tasks necessary and sufficient to undertake the assignments including statutory procedures, public consultation, detailed technical assessments, broad design for potential facilities, formulation of implementation arrangement etc. at the investigation, design and early construction phases, in order to enable commencement of the underground quarrying tentatively targeted in 2027. The scope under the IDC assignment includes various impact assessments, reference design of caverns and the underground quarrying-related activities (e.g. the materials processing/manufacturing facilities and their operations) coordinated or implemented by the Government, business case analyses, implementation strategy and procurement arrangements. Consultation within the Government and with public and relevant stakeholders/industry players will also be carried out.

1.1.10 This IDC assignment will also look into any works potentially required by the quarry operators during the operation phase of the proposed underground quarrying. Given its pilot nature, the underground quarrying operation will be subject to the prevailing and/or new implementation mechanisms such as contract form, site supervision and any independent audits required. These will be examined and tailor-designed under this Project. Depending on the findings, it may call for works or tasks for which the Government may procure consultancy services separately during the operation phase.

1.2 Objectives of the IDC Assignment

1.2.1 AECOM Asia Company Limited (the "Consultant") has been appointed by Mines Division, Geotechnical Engineering Office, CEDD (the "Employer") to undertake the IDC assignment of the Project. The overall objective of the assignment is to carry out investigation and design of the Tsing Yi North Underground Quarry (TYNUQ) as described under the Brief of the IDC assignment in accordance with the agreed programme and to the satisfaction of the Employer, with due and proper regarding to achieving the following:

(a) early completion and commissioning of the project;

(b) cost-effectiveness and financial viability;

(c) avoidance of extensive modification and maintenance for future land use;

(d) minimization and mitigation to physical, environmental, social and economic impacts;

(e) quality and reliability of works, robustness in performance;

(f) proper risk control and management;

(g) public / stakeholders consultation and gaining support;

(h) safety and health in quarry operation and maintenance;

(i) compatibility to the interfacing projects, future land uses and town planning;

(j) sustainability of the project, such as heritage, energy and waste management; and

(k) innovation for the benefits of the project throughout its delivery, operation and maintenance.

1.3 Scope of this updated Preliminary Environmental Review Report

1.3.1 The proposed scope of the Project includes the following principal works elements:

- Site clearance (e.g., vegetation removal and erection of fences/hoarding);
- Site investigation works;
- Erection of workshops and site office;
- Reception of imported rocks and stockpiling;
- Underground quarrying in the form of cavern/tunnelling works by drill-and-blast and mechanical breaking methods;
- Ancillary activities for quarry operation, such as concrete batching, asphalt production, and rock processing;
- Installation of tunnel/cavern support;
- Blasting-related mitigation measures;
- Site formation works and geotechnical works for portals and slopes;
- Road works, including potential widening of the existing access road;
- Drainage infrastructural works comprising surface drainage system, etc.
- Environmental mitigation measures;
- Landscaping works;
- Water supply works;
- Fire safety installation works; and
- Utilities diversion and installation works.

1.3.2 The Project consists of underground quarrying works, ancillary operations and associated infrastructural works. The Project Site falls within the area zoned ”Green Belt (GB)”, “Area shown as Road” and Other Specified Uses (OU)” annotated “Recreation and Tourism Related Uses” (“OU(RTRU)”) and “OU” annotated “Boatyard and Marine-oriented Industrial Uses” (“OU(BMIU)”) in the approved Tsing Yi Outline Zoning Plan No. S/TY/32 and is not partly or wholly located in any environmentally sensitive areas as stipulated under Item Q.1 of Part I of Schedule 2 of the EIAO. There is no on-site magazine setup and overnight storage of explosives. The total silo capacity of the proposed concrete production facility will not be more than 10,000 tonnes, in which cement is handled and manufactured. According to the latest design, there will be 5 production lines for concrete production. The road works which involve widening of an existing unnamed road (not an expressway/trunk road/primary distributor road/district distributor road) is required to provide vehicular access to the Project Site. No surface quarrying activities will be carried out under the Project. The Environmental Protection Department (EPD) confirmed on 16 October 2024 that this Project does not constitute a Designated Project (DP) under Environmental Impact Assessment Ordinance (EIAO). The scope of works under this IDC assignment generally remains unchanged after EPD’s confirmation on the non-DP status. Under Clause 6.14 of the Project Brief, the Consultant shall review the findings, recommendations and conclusions from the previous Preliminary Environmental Review (PER) undertaken under the Pilot Study (hereinafter referred to as “the previous PER”), which serves as the basis for the subsequent environmental submission.

1.3.3 This updated PER, based on the latest available information, has evaluated the Project’s environmental acceptability, established the existing baseline conditions, identified key environmental issues/constraints, examined the environmental acceptability of the Project, and recommended practicable mitigation measures for adverse environmental impacts.

1.4 Structure of the PER

1.4.1 In this PER, description of the Project, the identified key issues associated with the construction and operation of the Project are addressed in the following sections.

- Section 2: Site Location and Project Description
- Section 3: Study Approach
- Section 4: Air Quality
- Section 5: Noise
- Section 6: Water Quality
- Section 7: Waste Management

- Section 8: Land Contamination
- Section 9: Terrestrial Ecology
- Section 10: Landscape and Visual
- Section 11: Cultural Heritage
- Section 12: Hazard to Life
- Section 13: Overall Conclusions

2 SITE LOCATION AND PROJECT DESCRIPTION

2.1 Site Location

2.1.1 The Project Site of TYNUQ, covering an area of about 39 hectares, is located in the northern part of Tsing Yi Island, encompassing Wok Tai Wan and Yau Kom Tau. The proposed construction and quarrying activities will primarily take place within the designated works areas, including portals, underground cavern, access tunnels, access road, potential site formation areas, and Wok Tai Wan Works Area. An area at the southeastern corner of the proposed cavern has been reserved for potential future expansion of the underground quarry. The Project Boundary, which encloses a larger area beyond the proposed works areas, has been delineated to provide flexibility for future design refinement and potential adjustments to the layout during subsequent design stages. The location of the Project is shown in **Figure 2.01**.

2.1.2 The proposed TYNUQ consists of three components. Firstly, there is an underground area (i.e. the Underground Quarry Site) beneath Yau Kom Tau, currently zoned "Green Belt" ("GB") and area shown as 'Road' on the approved Tsing Yi Outline Zoning Plan No. S/TY/32 (the OZP). Secondly, there are two portal areas for access to the underground area, namely 1) the proposed Tam Kon Shan Portal at the north-eastern corner zoned "Other Specified Uses" annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)"), "Green Belt" ("GB") and area shown as 'Road'; and 2) the proposed Ngau Kok Wan Portal including areas for surface ancillary operations (i.e. concrete production, asphalt production and rock processing) located at the north where is currently zoned "Other Specified Uses" annotated "Recreation and Tourism Related Uses" ("OU(RTRU)"), "GB" and area shown as 'Road'. Lastly, Wok Tai Wan Works Area will be used for stockpiling with a conveyor belt system, which connects to the access road, to support the operation of the Project. This Wok Tai Wan Works Area is zoned "GB" and "OU(RTRU)".

2.1.3 Drainage Services Department (DSD) had applied for a Temporary Government Land Allocation (TGLA) at Ngau Kok Wan and Wok Tai Wan under the *Relocation of Sha Tin Sewage Treatment Works to Caverns* project, to temporarily stockpile good-quality rock material for local reuse. According to the information provided by DSD at the current stage, the period of TGLA at Ngau Kok Wan is from 1 July 2021 to 30 June 2026. The TGLA may potentially be extended to the end of 2026.

2.2 Construction Phase

2.2.1 The Project Site is proposed to be developed into an underground quarry, contributing to future land supply. The construction phase will involve site establishment works for the quarry, including site formation, slope stabilization, utility works, and the installation of ancillary operations. Two portal areas, i.e. Ngau Kok Wan Portal and Tam Kon Shan Portal, will be established to support TYNUQ operations, as illustrated in **Figure 2.01**.

2.2.2 Ngau Kok Wan Portal, located immediately north of the TYNUQ, will be the main entrance of TYNUQ. Approximately 2.1 hectares of flat land at this portal area for material processing and to accommodate essential construction equipment and associated facilities, such as site offices and workshops. Initial setup for ancillary operations (i.e. concrete production, asphalt production, and rock processing) will also be provided here and will only operate upon the operation of TYNUQ.

2.2.3 Located northeast of the TYNUQ, the Tam Kon Shan Portal will serve as an alternative entrance and exit to the Underground Quarry during the operation phase, facilitating the transport of materials and quarry operations.

2.2.4 The Wok Tai Wan Works Area has been planned to function as an ancillary operation zone for TYNUQ. A conveyor belt system will be installed at the sloping works area to allow transportation of imported rocks between Wok Tai Wan Works Area (current Government Land GLA-TKT1939) and TYNUQ. The conveyor belt system could unleash the potential connection and facilitate rock transportation between the Wok Tai Wan Works Area and Ngau Kok Wan Portal, thereby supporting the ancillary operations.

2.2.5 Excavation of the tunnel portals will be executed through slope cutting, accompanied by stabilization works. The initial sections of the Main Access Tunnel, which are expected to be less than 30m long from the portals, leading to the Underground Quarry Site will be excavated using mechanical breaking methods. Drill-and-blast (D&B) method and the use of explosives will not be adopted for these initial sections during the construction phase.

2.2.6 The Project will not involve the development of a new barging point or any marine works. Watercourses located within the portal areas will either be removed or diverted. The watercourse within the Wok Tai Wan Works Area will be preserved as far as practicable through careful design of the conveyor belt system. Watercourse diversion works, if required, will only commence once the new flow paths are fully established, ensuring that all modifications occur within a dry zone and remain physically separated from downstream watercourses.

2.2.7 The construction phase is estimated to last approximately 1.5 years. This timeline includes the procurement, delivery, installation, and licensing processes for ancillary operations. Construction activities are anticipated to begin in Q2 2027 for completion by Q3 2028.

2.3 Operation Phase

2.3.1 The operation phase of the Project covers both quarrying activities and associated ancillary operations.

2.3.2 Upon completion of construction, quarrying activities will be primarily conducted by employing the D&B method for rock excavation within the remaining sections of the Main Access Tunnel and the Underground Quarry Site. All blasting operations will be conducted underground and will involve drilling, explosive charging, blasting, and rock removal processes.

2.3.3 Delivery of explosives to the Underground Quarry Site will be coordinated with the Mines Division of the CEDD (Mines/CEDD) on a daily basis, subject to further discussions and detailed designs of blasting cycles. No magazine site or overnight storage of explosives will be required for the Project.

2.3.4 Ancillary operations will include stockpiling, rock processing, and associated activities such as concrete production and asphalt production. Blasted rocks will undergo on-site crushing to achieve suitable aggregate sizes. Some aggregates will be further processed for concrete production or asphalt production at Ngau Kok Wan Portal before being transported off-site to construction locations by land. When imported rock is required, rocks from other projects will be delivered to Ngau Kok Wan Portal either by trucks via the access road, by barge via an existing barging point at Ngau Kok Wan, or by barge via an existing barging point at Wok Tai Wan, through the proposed conveyor belt at Wok Tai Wan Works Area and then by trucks through the access road. Subject to the land availability for stockpiling, TYNUQ will import and recycle surplus rock generated from the local construction projects. The quarry operator will flexibly utilize the underground spaces created by quarrying for stockpiling and housing rock processing activities throughout the quarry's operational lifespan. All ancillary activities are not permanent in nature and will cease upon completion of quarrying. Revenues generated from the sale of aggregates, concrete, and/or asphalt products will support the cost of rock extraction to be borne by the quarry operator.

2.3.5 The operation phase of the Underground Quarry Site is tentatively scheduled to commence in Q4 2028, following the establishment of the Site, and may continue after the rock reserves are depleted, subject to contract provisions and/or local market demand for rock aggregates. Thus, the decommissioning of the Site is indeterminate.

2.3.6 Underground quarrying is solely a means to form the underground space. The proposed Main Access Tunnel is approximately 16m wide and 10m high, whereas the individual production cavern is approximately 20m wide and 20m high. Both tunnels and caverns are generally horseshoe-shaped. Upon completion of the quarrying activities, approximately 6 hectares of the underground space (excluding the potential cavern expansion area and rock pillars between individual production cavern) will be formed in Tsing Yi North and owned by

the Government. Such valuable underground space will contribute to the future land supply for further development. The exact future land use will be determined in due course. The environmental impact of the construction of the cavern (potential expansion) (See **Figure 2.01**) has been assessed in this PER. Technical assessment of the environmental impacts by the after-use will be conducted under a separate study in the future.

3 STUDY APPROACH

3.1 General Approach for PER

3.1.1 Preliminary assessment of the environmental impacts has been conducted for the Project based on the best available information during the preparation of this PER. The approach of this PER in general follows the criteria and guidelines stipulated in Hong Kong Planning Standards and Guidelines (HKPSG) and other relevant legislation, standards, guidelines and criteria, with details presented in **Sections 4** to **12**.

3.2 Project Interface

3.2.1 Based on the tentative project programme as stated in **Section 2**, the concurrent projects have been identified in **Table 3.1** with their locations illustrated in **Figure 3.01**.

Table 3.1 Potential Concurrent Projects

Concurrent Project	Project Proponent	Tentative Construction Programme	
		Start	Complete
Public Housing Development at Tsing Yi Road West, Tsing Yi	CEDD / HD	2024 (1)	2034/35 (2)
Tsing Yi – Lantau Link	HyD	2027 (3)	2033 (3)

Notes:
(1) Source: https://www.cedd.gov.hk/eng/our-projects/major-projects/index-id-172.html
(2) Source: https://www.legco.gov.hk/yr2024/english/fc/pwsc/papers/P24-5-e.pdf
(3) Source: https://www.epd.gov.hk/eia/files/applications/en/pp_359/eia_6190/progress/action_176300/Html_Clean_20250929/Index.htm
(4) The proposed development under Planning Application Y/TY/2 has a physical overlap with part of the TYNUQ Project area. As such, it remains uncertain whether the development proposed under Y/TY/2 could be implemented concurrently and in full with the TYNUQ Project. Furthermore, at the time of preparation of this PER, Planning Application Y/TY/2 had not yet been approved by the Town Planning Board. Given the uncertainty in both its implementation feasibility and programme, it is considered premature to include the proposed development under Y/TY/2 as a concurrent project in this assessment.
(5) Other potential projects, such as Advanced Construction Industry Building (ACIB) and green fuel bunkering, will be located at Tsing Yi South and outside the assessment areas of the Project; therefore, cumulative environmental impacts are not anticipated.

3.2.2 Any cumulative impact from the concurrent project(s) has been addressed in this PER, subject to the availability of information for assessment and appropriateness.

4 AIR QUALITY

4.1 Introduction

4.1.1 This section presents an assessment of the potential air quality impact associated with the construction and operation of the Project. The potential air quality impact from the construction of the Project is addressed qualitatively while that from the operation phase is addressed quantitatively. Recommendations for mitigation measures have been provided, where necessary, to minimise the identified air quality impacts to an acceptable level.

4.1.2 Reference has been made to previous *Final Technical Report on Preliminary Assessment of the Selected Underground Quarry Site - Preliminary Environmental Review* under Agreement No. CE 21/2016 Technical Study on Underground Quarrying in Hong Kong – Investigation (hereinafter referred to as "the CE 21/2016 Study").

4.2 Environmental Legislation, Standards and Assessment Criteria

Air Quality Objectives

4.2.1 The *Air Pollution Control Ordinance* (APCO) provides the statutory authority for controlling air pollutants from a variety of sources. The Hong Kong Air Quality Objectives (AQOs), which stipulate the maximum allowable concentrations over specific periods for typical pollutants, should be met. The prevailing AQOs are listed in **Table 4.1**.

Table 4.1 Hong Kong Air Quality Objectives

Pollutants	Averaging Time	Concentration Limit (μg/m^3) (1)	Number of Exceedance Allowed per Year
Sulphur Dioxide (SO_2)	10-min	500	3
	24-hour	40	3
Respirable Suspended Particulates (RSP or PM_{10}) (2)	24-hour	75	9
	Annual (4)	30	N/A
Fine Suspended Particulates (FSP or $PM_{2.5}$) (3)	24-hour	37.5	18
	Annual (4)	15	N/A
Nitrogen Dioxide (NO_2)	1-hour	200	18
	24-hour	120	9
	Annual (4)	40	N/A
Ozone	8-hour	160	9
	Peak season	100	N/A
Carbon Monoxide (CO)	1-hour	30,000	0
	8-hour	10,000	0
	24-hour	4,000	0
Lead (Pb)	Annual (4)	0.5	N/A

Notes:
(1) Gaseous pollutant measured at 293 K and 101.325 kPa.
(2) Suspended particulates in air with a nominal aerodynamic diameter of 10 μm or less.
(3) Suspended particulates in air with a nominal aerodynamic diameter of 2.5 μm or less.
(4) Arithmetic mean.

Air Pollution Control (Construction Dust) Regulation

4.2.2 Notifiable and regulatory works are under the control *of Air Pollution Control (Construction Dust) Regulation*. This Project is expected to include notifiable works (i.e. works inside tunnel, superstructure construction and demolition, and site formation) and regulatory works (i.e. slope stabilization works, dusty material handling and excavation, and blasting). Contractors and site agents are required to inform EPD and adopt dust reduction measures to minimize dust emission, while carrying out construction works, to the acceptable level.

Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation

4.2.3 The *Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation* comes into

effect on 1 June 2015. Under the Regulation, non-road mobile machinery (NRMMs), except those exempted, are required to comply with the prescribed emission standards. From 1 September 2015, all regulated machines sold or leased for use in Hong Kong must be approved or exempted with a proper label in a prescribed format issued by EPD. Starting from 1 December 2015, only approved or exempted NRMMs with a proper label are allowed to be used in specified activities and locations including construction sites. The Contractor is required to ensure the adopted machines or non-road vehicle under the Project could meet the prescribed emission standards and requirement.

Best Practice Means (BPM) and Associated Guidance Note

4.2.4 Under the APCO, "A Guidance Note on the Best Practicable Means for Mineral Works (Stone Crushing Plants) BPM 11/1 (95)" issued by EPD requires that the particulates emission concentration limit of 50mg/m^3 (expressed at reference condition, 0°C, 101.325kPa) should be met.

4.2.5 *A Guidance Note on the Best Practicable Means for Specified Process – Cement Works (Concrete Batching Plant) BPM 3/2 (2025)* issued by EPD sets out definition for cement works, which are works where cement is handled, argillaceous and calcareous materials are used in the production of cement clinker or clinker is ground, and for which the total bulk storage capacity exceeds 50 tonnes, the total installed capacity of concrete mixers exceeds 3m^3 or the total hourly concrete production rate exceeds 20m^3. It requires that the particulates emission concentration limit of 10mg/m^3 (expressed at reference condition, 0°C, 101.325kPa) should be satisfied. Furthermore, the premises covered by the BPM include a ship or barge connected to the ancillary operation area as storage.

4.2.6 *A Guidance Note on the Technical, Management and Monitoring Requirements for Specified Process – Tar and Bitumen Works (Asphalt Concrete Plants)* issued by EPD dated January 2017 requires that the particulates emission concentration limit of 10mg/m^3 for arrestment equipment of filler silos (expressed at reference condition, 0°C, 101.325kPa) should be satisfied by January 2018. The bitumen fumes emission concentration limit is at 5mg/m^3, while the particulates emission concentration limit for other arrestment equipment is at 50mg/m^3.

4.2.7 *Air Pollution Control (Fuel Restriction) Regulations* issued by EPD requires that the limit of 0.001% on the sulphur content of liquid fuel for industrial and commercial use should be satisfied.

Technical Memorandum on EIA Process

4.2.8 The criteria for evaluating air quality impacts and the guidelines for air quality assessment are laid out in Annex 4 and Annex 12 of the EIAO-TM.

4.2.9 In accordance with Annex 4 of EIAO-TM, the limit of 5 odour units based on an averaging time of 5 seconds for odour prediction assessment should not be exceeded at any air sensitive receiver (ASR).

Non-Criteria Pollutants (Bitumen, Heavy Metals)

4.2.10 Apart from criteria pollutants, non-criteria pollutants such as Polycyclic Aromatic Hydrocarbons (PAHs) and Bitumen Fumes (Polycyclic Organic Matter) are commonly generated from batch mix, and bitumen heating processes emitted from the chimney of the asphalt production operation. Types of non-criteria pollutants emitted and selected for assessment are made reference to the United States Environmental Protection Agency (USEPA) Compilation of *Air Pollution Emission Factors (AP-42), 5th edition*[1]. As there is no relevant standard for these pollutants in Hong Kong, other relevant guidelines were reviewed to identify the assessment criteria. According to the criteria for health risk impacts due to the potential non-criteria pollutants, the assessment criteria related to Inhalation Unit Risk (IUR),

[1] Reference to USEPA AP-42, section 11.1, 3/04ed. Table 11.1-9 (No. 2 fuel oil-fired dryer, hot screens, and mixer with fabric filter)

European Commission, Acute Reference Exposure Level (REL) for non-Carcinogenic and Reference Concentration (RfC) for chronic non-Carcinogenic have been made reference to the standards laid out by WHO, Integrated Risk Information System (IRIS) of USEPA and Office of Environmental Health Hazard Assessment (OEHHA). Relevant criteria are summarized in **Table 4.2**.

Table 4.2 Assessment Criteria of Various Non-Criteria Air Pollutants by Asphalt Production

Pollutants	Inhalation Unit Risk (IUR) (Carcinogenic)[2]		Non-Carcinogenic Risk – Reference Value							
			Acute (Hourly)		Acute (8-hour)		Acute (Daily)		Chronic (Annual)	
	($\mu g/m^3$)$^{-1}$	REF.	($\mu g/m^3$)	REF.	($\mu g/m^3$)	REF.	($\mu g/m^3$)	REF.	($\mu g/m^3$)	REF.
Acetaldehyde	2.20E-06	IRIS	470	OEHHA	300	OEHHA	-	-	9	IRIS
Benzene	6.00E-06	WHO	27	OEHHA	3	OEHHA	-	-	3	OEHHA
Ethylbenzene	2.50E-06	OEHHA	-	-	-	-	-	-	1000	IRIS
Formaldehyde	1.10E-05	IRIS	98.1 (hourly) /100 (30min.)	HPCL / WHO	-	-	-	-	9	OEHHA
Quinone	-	-	-	-	440	OSHA	-	-	-	-
Toluene	-	-	5000	OEHHA	830	OEHHA	-	-	420	OEHHA
Xylene[8]	-	-	22000	OEHHA	435000	OSHA	-	-	100	IRIS
Bitumen	-	-	-	-	-	-	7	[6]	-	-
2-Methylnaphthalene	-	-	-	-	-	-	-	-	-	-
Acenaphthene	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	-	-	-	-	-	-	-	-	-	-
Anthracene	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	1.10E-04	OEHHA	-	-	-	-	-	-	-	-
Benzo(a)pyrene	6.00E-04	IRIS	0.387	HPCL	-	-	0.000873	[5]	0.002	IRIS
Benzo(b)fluoranthene	1.10E-04	OEHHA	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	1.10E-04	OEHHA	-	-	-	-	-	-	-	-
Chrysene	1.10E-05	OEHHA	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	1.20E-03	OEHHA	-	-	-	-	-	-	-	-
Fluoranthene	-	-	-	-	-	-	-	-	-	-
Fluorene	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	1.10E-04	OEHHA	-	-	-	-	-	-	-	-
Naphthalene	3.40E-05	OEHHA	-	-	50000	OSHA	-	-	10	WHO
Phenanthrene	-	-	-	-	-	-	-	-	-	-
Pyrene	-	-	-	-	-	-	-	-	-	-
Benzaldehyde	-	-	-	-	-	-	-	-	-	-

Pollutants	Inhalation Unit Risk (IUR) (Carcinogenic)[2]		Non-Carcinogenic Risk – Reference Value							
			Acute (Hourly)		Acute (8-hour)		Acute (Daily)		Chronic (Annual)	
	$(\mu g/m^3)^{-1}$	REF.	$(\mu g/m^3)$	REF.	$(\mu g/m^3)$	REF.	$(\mu g/m^3)$	REF.	$(\mu g/m^3)$	REF.
Butyraldehyde/ Isobutyraldehyde	-	-	-	-	-	-	-	-	-	-
Crotonaldehyde	-	-	-	-	860	OSHA	-	-	-	-
Hexanal	-	-	-	-	-	-	-	-	-	-
Volatile Organic Compounds (VOCs)	-	-	300	[7]	-	-	-	-	-	-

Notes:
[1] Reference sources:
IRIS – Integrated Risk Information System (IRIS), USEPA
WHO – World Health Organization (WHO) air quality guidelines (AQGs)
HPCL – Air Pollutants and Health Protection Concentration Levels, Technical Memorandum for Issuing Air Pollution Abatement Notices to Control Air Pollution from Stationary Polluting Processes, HKEPD
OEHHA – The Office of Environmental Health Hazard Assessment
OSHA – Occupational Safety and Health Administration, Department of Labour, USA
[2] With reference to USEPA, Inhalation Unit Risk (IUR) is an estimate of the increased cancer risk from inhalation exposure to a concentration of $1\mu g/m^3$ for a lifetime. The lifetime cancer risk can be estimated by multiplying the IUR by an estimate of lifetime exposure (in $\mu g/m^3$).
[3] Acute exposure refers to short-term exposures for humans to the pollutants. Hourly, 8-hour, and daily average concentration are adopted for assessing acute exposure impact to human.
[4] Chronic exposure refers to long-term exposures for humans to the pollutants. Annual average concentration is adopted for assessing chronic exposure impact to human.
[5] Benzo(a)pyrene 24-hour concentration limit made reference to Guidelines for Ventilation Requirement in Buildings
[6] Bitumen Fume (Polycyclic Organic Matter) 24-hour concentration limit made reference to Acceptable Ambient Concentration Standards of USEPA's National Air Toxics Information Clearinghouse (NATICH) - Data Base Report on State, Local and EPA Air Toxics Activities (September 1993).
[7] Volatile Organic Compounds (VOCs) 1-hour concentration limit made reference to Guidelines for Ventilation Requirement in Buildings, EUR 14449, EN
[8] Xylenes: technical mixture and o-xylene, m-xylene and p-xylene isomers.
[9] Dashed entries represent no related information is found.
[10] List of Non-Criteria Pollutants refers to USEPA AP-42, Section 11.1 Hot Mix Asphalt Plants, 3/04ed. Table 11.1-9 (No. 2 fuel oil-fired dryer, hot screens, and mixer with fabric filter)

4.2.11 Apart from the above non-criteria pollutants, metals, which are noxious pollutants, are expected to be emitted from batch mix, and bitumen heating processes in this Project. Types of heavy metals emitted and selected for assessment are made reference to the United States Environmental Protection Agency (USEPA) *Compilation of Air Pollution Emission Factors (AP-42), 5th edition*[2]. The concentration limits for the metals made reference either from available standards in Hong Kong or other relevant recognized international standards. The 8-hour Time-Weighted Average (TWA) Permissible Exposure Limits of OSHA are the averages for every 8 hours (i.e. three data sets for every 24-hour period). For a smoother reflection of a more continuous trend of metal concentrations without short-term fluctuation, a moving average was adopted for the estimation of the metal concentration. **Table 4.3** summarizes the concentration limits for the metals.

Table 4.3 Assessment Standards for Noxious Pollutants (Heavy Metals) by Asphalt Production

Pollutants	Inhalation Unit Risk (IUR) (Carcinogenic) [1] [2]		Concentration limits for Heavy Metals [1] [2]					
			Hourly		8-hour		Annual	
	($\mu g/m^3$)$^{-1}$	REF.	($\mu g/m^3$)	REF.	($\mu g/m^3$)	REF.	($\mu g/m^3$)	REF.
Arsenic (As)	3.30E-03	OEHHA	0.2	OEHHA	0.015	OEHHA	0.015	OEHHA
Beryllium (Be)	2.40E-03	OEHHA	0.53	HPCL	0.2	OSHA	-	-
Barium (Ba)	-	-	-	-	500	OSHA	-	-
Cadmium (Cd)	4.20E-03	OEHHA	-	-	5	OSHA	0.005	WHO
Chromium (Cr)	-	-	-	-	500	OSHA	-	-
Hexavalent Chromium (Cr(VI))	1.50E-01	OEHHA	0.0085	HPCL	5	OSHA	0.1	IRIS
Copper (Cu)	-	-	100	OEHHA	100	OSHA	-	-
Lead (Pb)	-	-	-	-	50	OSHA	0.5	HPCL/WHO
Manganese (Mn)	-	-	-	-	0.17	OEHHA	0.09	OEHHA
Mercury (Hg)	-	-	0.6	OEHHA	0.06	OEHHA	0.03	OEHHA
Nickel (Ni)	2.60E-04	OEHHA	0.2	OEHHA	0.06	OEHHA	0.02	WHO
Selenium (Se)	-	-	-	-	200	OSHA	20	OEHHA
Zinc (Zn)	-	-	-	-	5000	OSHA	-	-

Notes:
[1] Reference sources:
IRIS – Integrated Risk Information System (IRIS), USEPA
WHO – World Health Organization (WHO) air quality guidelines (AQGs)
HPCL – Air Pollutants and Health Protection Concentration Levels, Technical Memorandum for Issuing Air Pollution Abatement Notices to Control Air Pollution from Stationary Polluting Processes, HKEPD
OEHHA – The Office of Environmental Health Hazard Assessment
OSHA – Occupational Safety and Health Administration, Department of Labour, USA
[2] Dashed entries represent that no related information was found.
[3] List of Non-Criteria Pollutants refers to USEPA AP-42, Section 11.1 Hot Mix Asphalt Plants, 3/04ed. Table 11.1-9 (No. 2 fuel oil-fired dryer, hot screens, and mixer with fabric filter)

4.3 Description of Baseline Condition

4.3.1 The Project is located at the northwest of Tsing Yi Island, occupying the areas of Wok Tai Wan, Yau Kom Tau, and Cheung Shue Tau. The location of the Project and its 500m assessment area are shown in **Figure 4.01**. The northeastern Tsing Yi is mainly residential area zoned "Residential (Group A)" ("R(A)"), "Village Type Development" ("V") and "Open

[2] Reference to USEPA AP-42, section 11.1, 3/04ed. Table 11.1-9 (No. 2 fuel oil-fired dryer, hot screens, and mixer with fabric filter)

Space" ("O"), while western and southern Tsing Yi are mainly industrial areas zoned "Industrial" ("I") and "Other Specified Uses" ("OU") annotated "Container Related Uses". Various existing shipyards, an existing cement work and two existing concrete batching plants are located at the north of the Project; nearest residential areas such as Cheung Wang Estate, Cheung Hang Estate and Cheung On Estate are located at the east of the Project.

4.3.2 The nearest EPD Air Quality Monitoring Station (AQMS) is the Tsuen Wan AQMS. The monitoring data recorded at EPD's Tsuen Wan AQMS has shown that the air quality complies with the respective AQOs. The recent 5-year (2021-2025) monitoring results of air pollutants measured at Tsuen Wan AQMS are summarized in **Table 4.4**.

Table 4.4 Average Concentrations of Pollutants in the Recent Five Years (Year 2021 – 2025) at Tsuen Wan EPD Air Quality Monitoring Station

Pollutant	Avg Time	AQO (1)	Data Summary	Pollutant Concentration (μg/m^3) (2)(3)				
				2021	2022	2023	2024	2025
Sulphur Dioxide (SO_2)	10-min	500 (3)	4th Highest	23	32	36	22	29
	24-hr	40 (3)	4th Highest	8	12	10	8	6
Respirable Suspended Particulates (RSP)	24-hr	75 (9)	10th Highest	60	52	53	53	58
	Annual	30	-	24	22	24	22	22
Fine Suspended Particulates (FSP)	24-hr	37.5 (18)	19th Highest	34	32	29	33	32
	Annual	15	-	**16**	14	15	15	14
Nitrogen Dioxide (NO_2)	1-hr	200 (18)	19th Highest	151	140	158	129	140
	24-hr	120 (9)	10th Highest	77	63	70	66	76
	Annual	40	-	**44**	39	40	39	39

Notes:
(1) Values in ( ) mean the number of exceedances allowed per year.
(2) **Bolded** values mean exceedance of the AQOs.
(3) All concentration units are in microgram per cubic metre (μg/m^3).

4.3.3 Apart from the air quality monitoring data, EPD has released a set of background levels from "Pollutants in the Atmosphere and their Transport over Hong Kong" (PATH v3.0) model. According to the PATH v3.0 data published by EPD, the concentrations of SO_2, RSP, FSP and NO_2 at various averaging times would be lower than the AQOs in Year 2028 within the assessment area. The air pollutant concentrations within the Project Boundary, in reference to the PATH data in Year 2028, are summarized in **Table 4.5**.

Table 4.5 Background Air Pollutants in Year 2028 Extracted from the PATH v3.0 Model

Pollutant	Avg Time	AQO (1)	Data Summary	PATH v3.0 Grid in Year 2028 (2)(3)			
				30,38	31,38	32,38	33,38
Sulphur Dioxide (SO_2)	10-min	500 (3)	4th Highest	29.62	28.18	23.58	22.89
			No. of Exceedance(s)	0	0	0	0
	24-hr	40 (3)	4th Highest	7.63	7.34	7.29	7.28
			No. of Exceedance(s)	0	0	0	0

Pollutant	Avg Time	AQO [1]	Data Summary	PATH v3.0 Grid in Year 2028 [2][3]			
				30,38	31,38	32,38	33,38
Respirable Suspended Particulates (RSP)	24-hr	75 (9)	10th Highest	54.67	54.19	53.88	54.82
			No. of Exceedance(s)	0	0	0	0
	Annual	30	-	20.73	20.35	20.32	20.86
Fine Suspended Particulates (FSP)	24-hr	37.5 (18)	19th Highest	31.08	30.57	30.32	31.89
			No. of Exceedance(s)	9	6	6	7
	Annual	15	-	13.05	12.71	12.68	13.18
Nitrogen Dioxide (NO_2)	1-hr	200 (18)	19th Highest	99.76	92.89	94.35	98.64
			No. of Exceedance(s)	0	0	0	0
	24-hr	120 (9)	10th Highest	48.9	40.72	40.32	42.3
			No. of Exceedance(s)	0	0	0	0
	Annual	40	-	26.74	23.66	23.85	24.4

Pollutant	Avg Time	AQO [1]	Data Summary	PATH v3.0 Grid in Year 2028 [2][3]			
				30,37	31,37	32,37	33,37
Sulphur Dioxide (SO_2)	10-min	500 (3)	4th Highest	29.68	30.07	28.5	22.5
			No. of Exceedance(s)	0	0	0	0
	24-hr	40 (3)	4th Highest	7.66	7.65	7.39	7.26
			No. of Exceedance(s)	0	0	0	0
Respirable Suspended Particulates (RSP)	24-hr	75 (9)	10th Highest	54.49	55.64	56.08	56.48
			No. of Exceedance(s)	0	0	0	0
	Annual	30	-	20.9	20.95	20.84	20.82
Fine Suspended Particulates (FSP)	24-hr	37.5 (18)	19th Highest	32.02	32.48	32.52	32.04
			No. of Exceedance(s)	8	10	10	9
	Annual	15	-	13.19	13.21	13.11	13.12
Nitrogen Dioxide (NO_2)	1-hr	200 (18)	19th Highest	103.31	96.5	94.56	97.17
			No. of Exceedance(s)	0	0	0	0
	24-hr	120 (9)	10th Highest	55.54	45.96	41.09	43.23
			No. of Exceedance(s)	0	0	0	0
	Annual	40	-	30.2	26.12	23.85	25.02

Notes:
(1) Values in ( ) mean the number of exceedances allowed per year.
(2) **Bolded** values mean exceedance of the AQOs.
(3) All concentration units are in microgram per cubic metre (μg/m^3).

4.3.4 The nearest EPD air quality monitoring station with available data of non-AQO pollutants and heavy metals is Tsuen Wan and Tuen Mun respectively. The maximum concentrations of non-AQO pollutants and heavy metals in the recent five years (i.e. Year 2020 - 2024) are summarized in **Table 4.6** and **Table 4.7** respectively. For the concentrations of pollutants which are not available in the data, the ambient concentrations of these pollutants are not included in the assessment.

Table 4.6 Ambient Concentrations of Non-AQO Pollutants at Tsuen Wan EPD Air Quality Monitoring Station (2020-2024)

Non-AQO Pollutants	Maximum Ambient Concentrations [1] [2] [3] [4]	
	Daily (μg/m^3)	Annual (μg/m^3)
Bitumen	N.A.	N.A.
Acetaldehyde	1.2000E+01	4.4071E+00
Benzene	1.8000E+00	8.0208E-01
Ethylbenzene	1.9000E+00	4.4300E+00
Formaldehyde	1.4000E+01	6.4636E+00
Quinone	N.A.	N.A.
Toluene	3.1000E+01	5.2138E+00
Xylene[4]	4.7000E+01	2.1776E+01
2-Methylnaphthalene	N.A.	N.A.
Acenaphthene	5.5989E-02	1.9520E-02
Acenaphthylene	1.1997E-02	6.2200E-03
Anthracene	2.3500E-03	7.5000E-04
Benzo(a)anthracene	1.0030E-03	1.4273E-04
Benzo(a)pyrene	2.6000E-04	6.6364E-05
Benzo(b)fluoranthene	2.7629E-04	9.1793E-05
Benzo(g,h,i)perylene	3.4000E-04	1.0039E-04
Benzo(k)fluoranthene	5.9753E-04	9.0675E-05
Chrysene	8.4600E-03	1.5655E-03
Dibenz(a,h)anthracene	3.9646E-05	1.3144E-05
Fluoranthene	4.0000E-03	1.7600E-03
Fluorene	5.8000E-03	2.4100E-03
Indeno(1,2,3-cd)pyrene	2.6390E-04	7.8521E-05
Naphthalene	4.4822E-01	2.9195E-01
Phenanthrene	1.9180E-02	7.6900E-03
Pyrene	5.5000E-03	2.0900E-03
Benzaldehyde	5.5000E+00	2.2464E+00
Butyraldehyde/ Isobutyraldehyde	8.3000E-01	3.5893E-01
Crotonaldehyde	7.0000E-02	2.7143E-02
Hexanal	1.6000E+00	6.0357E-01

Notes:
[1] The ambient concentrations of non-AQO pollutants refer to "Summary of Toxic Air Pollutants Concentration" (EPD AQHI: Toxic Air Pollutant Concentration).
[2] The highest ambient concentrations of the non-AQO pollutants among Year 2020 – 2024 from monitoring data at Tsuen Wan AQMS are adopted. As VOC and carbonyl data are not available for 2020, the highest ambient concentrations of the respective pollutants are taken from the monitoring data from Year 2021-2024. Daily maximum ambient concentration is taken from the highest data recorded, while annual maximum ambient concentration is taken from the maximum annual average data recorded.
[3] N.A. represents that no related information is found.
[4] Xylenes: technical mixture and o-xylene, m-xylene, and p-xylene isomers.

Table 4.7 Ambient Concentrations of Heavy Metals at Tuen Mun EPD Air Quality Monitoring Station (2020-2024)

Heavy Metals	Maximum Ambient Concentrations [1] [2]	
	Daily (µg/m^3)	Annual (µg/m^3)
Arsenic (As)	1.1000E-02	1.9429E-03
Barium (Ba)	3.1000E-01	2.0877E-02
Beryllium (Be)	4.0000E-05	2.9426E-05
Cadmium (Cd)	2.5000E-03	4.7377E-04
Chromium (Cr)	1.4000E-02	3.5885E-03
Copper (Cu)	1.4000E-01	3.4641E-02
Hexavalent Chromium (Cr(VI))	1.1000E-04	1.1000E-04
Lead (Pb)	4.6000E-02	1.0974E-02
Manganese (Mn)	6.9000E-02	1.7648E-02
Mercury (Hg)	1.9000E-04	1.7082E-04
Nickel (Ni)	9.3000E-03	3.8041E-03
Selenium (Se)	2.2000E-03	6.3525E-04
Zinc (Zn)	2.3000E-01	6.7967E-02

Notes:
[1] The ambient concentration refer to "Summary of Daily Concentration of Airborne Species Derived from RSP" (EPD AQHI: Airborne Species Concentration in Respirable Suspended Particulates) , except Hexavalent Chromium (Cr(VI)) which refers to data from Tsuen Wan AQMS from "Summary of Toxic Air Pollutants Concentration" (EPD AQHI: Toxic Air Pollutant Concentration).
[2] The highest ambient concentration among the recent 5 years (i.e. Year 2020 – 2024) is adopted. Daily maximum ambient concentration is taken from the highest data recorded, while annual maximum ambient concentration is taken from the maximum annual average data recorded.

4.4 Representative Air Sensitive Receivers

4.4.1 The assessment area for preliminary air quality assessment covers 500m from the Project Boundary. The existing air sensitive receivers (ASRs), which would likely be affected by the Project are identified as representative ASRs with reference to *Annex 12 of the EIAO-TM*, Outline Zoning Plans (OZPs), OZP Plan No. S/TY/32 and are confirmed with surveys conducted on 18 September 2023, 17 and 19 March 2025. The details of the representative ASRs are listed in **Table 4.8**. The locations of these ASRs are shown in **Figure 4.01**.

4.4.2 There are existing public housing, primary school, and shopping mall located in the eastern part of the study area; however, they are located uphill and are sheltered from the Project Site by the hills with no direct line of sight with the Project, hence no direct impact is anticipated. These ASRs in the eastern part of the study area are therefore not included in the assessment.

Table 4.8 Representative Air Sensitive Receivers

ID	Description	Use	Approximate Distance from the Project Boundary (m)	Assessment Height (mAG)
A01	Administration Building of Hong Kong United Dockyards Limited (1)	Office	415	N/A
A02	Lantau Link Administration Building	Office	110	1.5, 5, 10, 15
A03	Interchange Vehicle Maintenance Workshops (2)	Workshop	80	1.5, 5, 10
A04	Lantau Link Visitors Centre	Recreational	90	1.5, 5, 10

ID	Description	Use	Approximate Distance from the Project Boundary (m)	Assessment Height (mAG)
A05	The Hong Kong Shipyard Ltd Administrative Office	Office	<5	1.5, 5, 10, 15, 20
A06	Store	Commercial	425	1.5, 5, 10
A07	Hobby Nana Café (Coffee Shop)	Commercial	45	1.5, 5
A08	Hobby Nana Café (Model Train Shop)	Commercial	40	1.5, 5

Remarks:
(1) A01 will be removed under Tsing Yi – Lantau Link before construction commencement in Year 2027 according to its approved EIA (AEIAR-269/2025). No construction and operation air quality impact assessment for the ASR are required for the Project.
(2) Long-term air quality impact is not applicable to A03 due to its transient nature of use.
(3) The full range of assessment heights of each ASR has been covered.

4.5 Identification of Air Quality Impact

Construction Phase

4.5.1 Potential construction air quality impact would arise from the construction activities, including site formation of portal areas, construction of tunnel portals and construction of the Main Access Tunnel (initial sections) at Ngau Kok Wan Portal and Tam Kon Shan Portal, utility works, erection of equipment for ancillary facilities and installation of a conveyor belt system at Wok Tai Wan Works Area. These construction activities would involve site formation works, slope cutting works, excavation, spoil handling, haul roads and movement of construction vehicles. The construction is expected to begin in Q2 2027 for completion by Q3 2028.

4.5.2 The above construction activities would generate potential fugitive dust and gaseous emissions. Given the site formation area of both Ngau Kok Wan Portal and Tam Kon Shan Portal is only about 0.68ha and 0.15ha, respectively, the fugitive dust and gaseous emission due to site formation works of portal areas would be limited with the implementation of suppression measures. Tunnel portals will be constructed through slope cutting. The initial sections of the Main Access Tunnel will be excavated by mechanical excavation, and will be installed with blast doors for subsequent blasting works during the operation phase. Since most of this works occurs underground in enclosed spaces, dust emissions would mainly come from the portals (i.e. portal emission), including those from spoil handling and transport. The maximum number of construction truck trips is estimated to be 8 per hour. Construction dust suppression measures such as regular watering, provision of blast doors, dust filtering at exhaust as suggested in *Air Pollution Control (Construction Dust) Regulation* will be implemented to abate the potential construction dust impacts. Construction vehicles accessing/leaving the works area at portals would also cause potential air quality impact on the ambient. A comprehensive air quality monitoring and audit programme is recommended during the construction phase to ensure the proper implementation of measures and the compliance of AQOs.

4.5.3 The erection of equipment for the three types of ancillary operations, i.e. rock processing, concrete production and asphalt production, would involve minor construction activities such as minor excavation for foundation works and facility fabrication works. These construction activities would pose a potential dust impact on the ambient air, but are considered as minor works owing to their small scale. With the implementation of construction dust mitigation measures as suggested in *Air Pollution Control (Construction Dust) Regulation*, no adverse construction dust impact due to the erection of equipment would be expected.

4.5.4 On-site use of diesel-powered engines is the potential source for other gaseous pollutants such as NO_2, SO_2, RSP, FSP, CO and smoke. The *Air Pollution Control (NRMM) (Emission)*

Regulation came into effect in June 2015 to control emissions from diesel-powered engines. The actual no. of NRMMs would be subject to the future contractor. Fuel with sulphur content not exceeding 0.001% by weight will be used to minimize SO_2 emission in accordance with *Air Pollution Control (Fuel Restriction) Regulations*. In addition, the use of NRMMs with exempted label under *Air Pollution Control (NRMM) Regulation* will be avoided as far as practicable.

Operation Phase

4.5.5 During the operation phase of the Project, tentatively commencing in Q4 2028, the underground quarrying will take place inside the cavern, while ancillary operations (including rock processing, concrete production, and asphalt production) and rock handling would be conducted at Ngau Kok Wan Portal and stockpiling at Wok Tai Wan Works Area, with reference to **Section 2.3**. D&B method would be used for the excavation of rocks. The blasted rocks will be crushed into suitable-sized aggregates. Concrete batching and asphalt production would consume some of the aggregates from rock processing for production. These rock products (aggregates, concrete and asphalts, etc.) would then be delivered off-site via enclosed conveyor for land transport. The ancillary activities will be operated upon the operation of the Underground Quarry. There would be two options for ancillary activities, namely Option 1 with rock processing, concrete batching with five production lines, and asphalt production; and Option 2 with rock processing and concrete batching with six production lines, replacing the asphalt production. The operation details of the underground quarry are summarized in **Table 4.9**. The operation details of the ancillary operations in Options 1 and 2 are summarized in **Table 4.10** and **Table 4.11**.

4.5.6 The underground quarrying would involve dusty activities including blasting, excavation, and mucking, and haul road emission by vehicle movement (paved or unpaved), therefore, potential air quality impact is expected during the operation phase of the Underground Quarry. Mitigation measures as suggested in *Air Pollution Control (Construction Dust) Regulation* should be implemented to abate the potential air quality impacts. Water sprayers will be provided to control the likely particulate emissions from the transport and handling of spoil.

4.5.7 The three proposed ancillary activities, namely rock processing, concrete production and asphalt production, will use electricity as the power supply for their operations in general, and no air pollutant emissions are anticipated from the electric mechanical equipment. However, the drying and mixing process in asphalt production would require heat generated by diesel fuel burners. Emissions of NO_X, SO_2 and particulate matters are expected from the fuel combustion processes, while the D&B and excavation works, as well as the ancillary operations would cause dust emission.

4.5.8 Based on the design and operational practices of the rock processing, concrete batching operation, and asphalt production works, as reviewed and confirmed by the Project Engineer, the activities considered as major potential dust emission sources are identified as follows in accordance with the specification given in *Compilation of Air Pollutant Emission Factors (AP-42), 5th Edition* issued by U.S. Environmental Protection Agency.

(a) Rock Processing
    (i) Aggregate handling;
    (ii) Loading of rock to the crushers and screens;
    (iii) Wind erosion at stockpiles;
    (iv) Loading of rock product to conveyor and dump trucks to subsequent production legs of ready-mix concrete and asphalt concrete; and
    (v) Paved haul roads with vehicular movement.

(b) Concrete Batching
    (i) Aggregate handling;
    (ii) Loading of raw material to the storage silos;
    (iii) Loading of raw material to weigh hoppers;
    (iv) Loading of weighed raw material to mixers; and
    (v) Paved haul roads with vehicular movement.

(c) Asphalt Production
  (i) Aggregate handling;
  (ii) Loading of raw material to the storage silos;
  (iii) Loading of raw material to weigh hoppers;
  (iv) Loading of weighed raw material to drummers;
  (v) Loading of asphalt concrete to storage silos and vehicles; and
  (vi) Paved haul roads with vehicular movement.

(d) Wok Tai Wan Works Area
  (i) Loading/Unloading of rock to/from stockpiles;
  (ii) Wind erosion at stockpiles.

Table 4.9 Operation Details of Underground Quarry

Operation Parameter	Underground Quarry
Approx. Area of Blasting Face	200 m^2
Frequency of Blasting	1 per day
Approx. Blasting period of the day	12:00 – 15:00
Approx. Rock generated per Blasting	3120 t

Table 4.10 Operation Details of Ancillary Operations (Option 1)

Operation Parameter	Option 1		
	Rock Processing	Concrete Batching	Asphalt Production
Maximum Hourly Processing Capacity	800 t/hr	500 m^3/hr	208 t/hr
Mode of Operation	N/A	Batch	Batch
Total Cementitious Material Storage Silos Capacity (tonnes)	N/A	7500 t	N/A
Proposed Ancillary Operation Period	07:00 – 19:00		24 hours

Table 4.11 Operation Details of Ancillary Operations (Option 2)

Operation Parameter	Option 2	
	Rock Processing	Concrete Batching
Maximum Hourly Processing Capacity	800 t/hr	550 m^3/hr
Mode of Operation	N/A	Batch
Total Cementitious Material Storage Silos Capacity (tonnes)	N/A	7500 t
Proposed Ancillary Operation Period	07:00 – 19:00	07:00 – 19:00 max. 550m^3/hr concrete production 19:01 – 06:59 max. 50 m^3/hr concrete production

4.5.9 Dust suppression and fugitive emissions control as recommended in relevant BPMs have been considered in the design of the ancillary operations and their equipment. According to the characteristics of works involved in the specified process (SP) and the Underground Quarry Site, control measures to minimize potential emission should be implemented where applicable. Dust collectors, enclosures and water sprayers are the general measures to control the likely particulates emission arising from the transport and handling of aggregates and cementitious materials. Nevertheless, the cavern with quarry inside provide a natural enclosure to avoid immediate release of pollutants to ambient and facilitate further control measures inside the cavern, for example, provision of blasting door and a dust collection system inside the cavern or at the exhaust of the cavern.

4.5.10 During heating of the bitumen, mixing process and load out of hot mix asphalt, bitumen fume and odourous gas are to be released. Bitumen fume would comprise Polycyclic Aromatic Hydrocarbon (PAH) Hazardous Air Pollutants (HAPs), non-PAH HAPs and non-HAP organic compound. For the bitumen heating, precise temperature control is an effective mean to reduce bitumen fume and odourous gas emission. High temperature cutoff device would be implemented to avoid bitumen temperature exceeding the corresponding temperature limit that would cause fume emission. Furthermore, the exhaust from these concerned processes would be vented to the dryer drum for combustive destruction and subsequently treated by baghouse before release to the ambient. Bitumen emission and odour are assessed in the modelling assessment.

4.5.11 Heavy metal emission is also expected from the batch mix and bitumen heating process. The emission will be vented to the dryer drum and subsequently treated by baghouse before release at the exhaust stack. Metals are emitted either as vapour or particulate or both, subject to the type of metals used in the processes. The particulates removal by the baghouse would help capture some of the heavy metal emission.

4.5.12 Excavated rocks from Underground Quarry will be transported by trucks to the barging point at Ngau Kok Wan, then by barge to Wok Tai Wan for storage at stockpiles. Unprocessed rocks in demand will be transported by barge back to the rock processing operation area in Ngau Kok Wan. Import rock or surplus rock from other local construction projects will be delivered by barge to Ngau Kok Wan for rock processing or to Wok Tai Wan for storage, subject to the demand. A cement barge is also expected for the delivery of cement, PFA, and GGBS to the concrete batching operation area. Marine emissions from these vessels induced by the Project are expected.

4.5.13 After crushing and screening, graded rock products will be transferred to the areas for concrete batching by conveyor belt and by trucks to the areas for asphalt production, respectively. Other cementitious materials required for concrete batching will be delivered by cement barge or tanker truck via the Tam Kon Shan Portal, cavern, to Ngau Kok Wan. Raw materials required for asphalt production, such as bitumen, fillers, etc. will also be delivered by trucks via the abovementioned route. Haul road and tailpipe emissions from these trucks are anticipated, which constitutes mainly NO_X and particulates.

Concurrent Projects

4.5.14 *Public Housing Development at Tsing Yi Road West, Tsing Yi* involves site formation, construction of retaining wall and slope, footbridge and junction construction, and ancillary works such as provision of drainage, sewerage, water supply and landscaping works. Construction began in 2024 with expected completion in 2034/35. Since it is located at more than 500m away from the Project Site, it was not considered in the assessment.

4.5.15 *Tsing Yi – Lantau Link* will provide a connection between Tsing Yi and North Lantau to meet the future traffic demands induced by the developments in North Lantau and Northwest New Territories. The construction will tentatively commence in 2027. Operation of the Tsing Yi – Lantau Link is expected by no later than 2033. Its cumulative air quality impact during construction and operation phases was considered in the assessment.

4.5.16 The proposed development under Planning Application Y/TY/2 has a physical overlap with part of the TYNUQ Project area. As such, it remains uncertain whether the development proposed under Y/TY/2 could be implemented concurrently and in full with the TYNUQ Project. Furthermore, at the time of preparation of this PER, Planning Application Y/TY/2 had not yet been approved by the Town Planning Board. Given the uncertainty in both its implementation feasibility and programme, it is considered premature to include the proposed development under Y/TY/2 as a concurrent project in this assessment.

Existing Emission Sources

4.5.17 Vehicular emission from existing roads within 500m assessment area also contributes to the ambient air quality. Major roads include Tam Kon Shan Road, Tsing Yi North Coastal Road, Ting Kau Bridge, Tsing Long Highway, North West Tsing Yi Interchange, Tsing Sha Highway, Cheung-Tsing Highway and Tsing Ma Bridge. The vehicular emission sources were also considered in the modelling assessment.

4.5.18 Facilities with frequent operation associated with vehicles also contribute to ambient air quality by vehicular running, idling, and start emissions within the facilities of concern. Parking sites for heavy goods vehicles (HGVs) and coaches have been identified within the assessment area and no public transport interchange is identified within the assessment area. The locations of these identified parking sites are illustrated in **Appendix 4.6**. The vehicular emissions of these parking sites were considered in the modelling assessment by a precise approach. 24-hour site surveys were conducted at the parking sites, referring to the Traffic and Transport Impact Assessment Report endorsed by Transport Department (TD). Information, including the observations in engine start frequency and soak time, as well as the detailed calculation of start emission according to start emission factors of concerned vehicles at various soak times extracted from EMFAC-HK v4.3 is presented in **Appendix 4.6**. The information regarding the facilities with potential vehicular emissions is current as of the time of preparation of this PER.

4.5.19 According to the best available information from Hong Kong Environmental Database by EPD, there are several existing specified processes (SPs) identified within the 500m assessment area and illustrated in **Figure 4.02**. These SPs involve cement works, concrete batching and asphalt production. All of these were considered in the quantitative assessment. Moreover, there are no other existing or planned industrial chimneys within the 500m assessment area, based on the best available information.

- Hong Kong Cement Company Limited (SP Licence No.: L-3-034(7));
- Quon Hing Concrete Company Limited (SP Licence No.: L-3-039(7));
- Hong Kong Concrete Company Limited (SP Licence No.: L-3-259(2));
- Alliance Construction Materials Limited (SP Licence No.: L-3-213(6));
- Anderson Concrete Limited (SP Licence No.: L-3-247(2)); and
- Asphalt Surfaces (International) Limited (SP Licence No.: L-15-027(5)).

4.5.20 Apart from the above specified processes, major point sources within 4 km from the Site, which may contribute to the ambient air quality in the study area, is reviewed as well. Two more SPs are identified, including:

- Chemical Waste Treatment Centre by Ecospace Limited under SP Licence No. L-20-004(5); and
- Kwai Chung Crematorium by the Food & Hygiene Department under SP Licence No. L-12-003(5).

4.5.21 CWTC and Kwai Chung Crematorium are sheltered by hills such that the wake effect by the hilly terrain enhances its dispersion before reaching the study area. No direct impact from these sources on the study area is expected. Hence, they are not considered in the cumulative air quality impact.

Identification of Key Air Pollutants of Emission during Operation Phase

4.5.22 Major dusty activities of underground quarrying, including blasting, excavation and spoil handling cause potential fugitive emissions in particulates. On-site use of diesel-powered engines is also the potential source for gaseous and particulate pollutants, such as NO_2, SO_2, RSP, FSP, CO and smoke. The emission of NO_2, CO and particulates are regulated under the *Air Pollution Control (NRMM) (Emission) Regulation*. Fuel with sulphur content not exceeding 0.001% by weight will be used to minimise SO_2 emission in accordance with the *Air Pollution Control (Fuel Restriction) Regulations*. Based on the current engineering design as confirmed by the Project Engineer, approximately 2 drilling jumbos, 2 concrete lorries, 2 dump trucks, 2 excavators with hydraulic break, 2 air compressors, 2 mobile generators , 2 cherry pickers, 4 ventilation fans, 2 loaders, 2 breakers, 2 bulldozers, 1 shotcrete robot, 1 rock bolting rig and 1 folk lift are expected to operate at the Project Site during the operation phase. The use of NRMMs with an exempted label under the *Air Pollution Control (NRMM) (Emission) Regulation* will be avoided as far as practicable. The equipment would also be properly maintained to minimise any emissions. The use of NRMMs is unlikely to cause significant smoke, gaseous and particulates emissions. In view of the impact by NRMMs is controlled, particulates from underground quarrying would be the major air pollutant during the operation phase. Ventilation with exhaust at portals should be provided in the Underground Quarry Site. A dust collection system with overall dust removal efficiency of 85% for the entire excavated space should be installed at the ventilation exhaust to minimise the air quality impacts.

4.5.23 RSP and FSP are the major air pollutants from ancillary operations. The activities will generally run on electricity, and no air pollutant emissions are anticipated from the electric mechanical equipment. However, the drying and mixing process in asphalt production would require heat generated by diesel fuel burners. Emissions of NO_X, SO_2, CO, and particulate matters are the major air pollutants from the fuel combustion processes. During heating of the bitumen, mixing process and load out of hot mix asphalt, bitumen emission (including bitumen fume, PAH and non-PAH HAPs, and non-PAH organic compounds) and odourous gas are to be released. Heavy metal emission is also expected from the batch mix and bitumen heating process. The emission is vented to the dryer drum and subsequently treated by baghouse before being released through the exhaust stack. Metals are emitted either as vapour or particulate or both, subject to the type of trace metals present in the raw material.

4.5.24 CO is a typical pollutant emitted from fossil fuel combustion and comes mainly from vehicular emissions. With reference to the "*Air Quality in Hong Kong 2024*", the highest 1-hour average (1,950μg/m^3) and the highest 8-hour average (1,778μg/m^3) CO concentrations were recorded at Causeway Bay monitoring station and Yuen Long monitoring station respectively; these values were around one-tenth and one-fifth of the respective AQO limits. Given this substantial margin below the AQOs, CO would not be a critical air pollutant of concern, and was excluded from the modelling assessment.

4.6 Assessment Methodology

Construction Phase

4.6.1 As discussed in **Section 2.2.5**, the construction of the initial sections of the Main Access Tunnel will involve mechanical excavation and spoil handling. The erection of the equipment for the three types of ancillary operations will involve minor excavation and fabrication works. Other construction works, such as site clearance, site formation, access road modification and slope works are considered minor and localized. Given the limited construction works to be carried out, minor construction air quality impacts are anticipated from the Project during the construction phase when appropriate control measures are implemented. Therefore, the potential construction air quality impact was assessed qualitatively. In addition, a comprehensive air quality monitoring and audit programme is recommended during the construction phase to ensure the proper implementation of measures and the compliance of AQOs.

Operation Phase

4.6.2 During operation phase, the concrete batching operation, rock processing, and asphalt

production should follow the requirements stipulated in SP Licences and implement the dust control measures as stipulated in their Air Pollution Control Plan submitted for SP Licence application as well as *BPMs for Mineral Works (Stone Crushing Plants)/Cement Works (Concrete Batching Plant)/Tar and Bitumen Works (Asphaltic Concrete Plants)*. Ambient RSP monitoring (and odour patrol for asphalt production only) at the facilities' boundary and/or any other locations acceptable to the EPD would also be conducted under the requirement of the SP Licences during the ancillary operations.

4.6.3 (not used)

Emission by Underground Quarrying

4.6.4 Based on the latest engineering design, the underground cavern will be quarried by D&B method. Major dusty activities would include blasting, spoil handling and transport of quarried rocks out of the caverns. Dust control measures would be incorporated into the design, as presented in **Table 4.12**. These dust control measures were taken into account in the assessment.

4.6.5 Emission rates of quarrying related activities were estimated based on emission factors of United States Environmental Protection Agency (USEPA) *Compilation of Air Pollution Emission Factors (AP-42), 5th edition* and activity data from the engineer design. Activity data includes, but not limited to, excavation rate, material handling rate, percentage active area, moisture content, silt content, number of construction trucks and truck speed. Detailed calculations of dust emission sources were presented in **Appendix 4.2**.

Table 4.12 Emission Source of Underground Quarrying and Corresponding Control Measures

Emission Description	Pollutant	Control Measures
Blasting and in the Cavern	Particulates	• Blasting door to remain shut during blasting • Wet suppression with water sprinklers to facilitate dust settlement • Ventilation resumes after settlement of dust • Release at portal by ventilation
Spoil Handling at Mucking-Out Area	Particulates	• Wet suppression with water sprinklers • Release at portal by ventilation
Unpaved Haul Road inside the Cavern	Particulates	• Regularly wetting with water sprays • Speed limit of all vehicles at 8km/hr • Release at portal by ventilation • Paving inside the cavern is subject to the progress of cavern construction (1)
Vehicular Emission on Unpaved Haul Road inside the Cavern (V101-V107, V201-V207)	Particulates, Sulphur Dioxide, Nitrogen Oxides	• Release at portal by ventilation
Exhaust at Portals (BP01-BP02)	Particulates, Sulphur Dioxide, Nitrogen Oxides	• Ventilation system equipped with dust collection system at overall 85% dust removal efficiency for the entire excavated space

Remark:
(1) All the roads with active quarrying activities would be paved at the end of construction phase. However, haul roads near blasting and mucking-out area is infeasible to be paved when works are carrying out.

4.6.6 A ventilation system equipped with dust collection system at overall 85%[3] dust removal efficiency for the entire excavated space will be provided. Most air emissions generated from the processes inside the Underground Quarry Site will be vented and released at the Ngau Kok Wan portals to the ambient. According to the Project Engineer, fresh air will be vented into the Underground Quarry Site from the portal areas, while the air extraction is situated near the blasting face for the purpose of fume extraction after blasting. The general air flow within the Underground Quarry Site would be from the portals towards the blasting face. The exhaust was assumed to be well-mixed, therefore the emission source was modelled as a volume source at the portals. Given that there are no details on the ventilation system available for assessment yet, the emission was evenly distributed as volume source among two portals at the Ngau Kok Wan portals. The emission strength was estimated to be the total emission inside the excavated space by all processes. The spatial distribution of effective dust emission source outside the cavern was presented in **Appendix 4.2**.

Vehicular Emission from Cavern Haul Roads

4.6.7 The 24-hour traffic flow, which only consists of HGV9, and the relevant traffic information was presented in **Appendix 4.2**. The hourly emission factor of each cavern haul road was determined by summation of emission by each vehicle class which is the product of traffic flow and emission factor at specific speed and ambient condition. The hourly emissions factors of NO, NO_2, RSP and FSP were further divided by the hourly flow to obtain a composite emission rate in gram per kilometer per vehicle, ready for input to the dispersion model. The Smart Air Modelling Platform (SAMP v2.1) by EPD, was used for the calculation and model setup of vehicular emission. The detailed calculation of vehicular emission source from cavern haul roads was presented in **Appendix 4.2**.

Emission by Ancillary Operations

Option 1

4.6.8 According to the preliminary engineering design, air pollution generating activities by ancillary operations and their corresponding air quality control measures were identified. As confirmed by the CEDD and the Project Engineer, the total production capacity of the concrete production and asphalt production from the Project would be 500m^3 per hour and 208 tonnes per hour, respectively.

4.6.9 Air quality control measures specified in the associated BPMs would be incorporated into the design. Descriptions of each emission source and the corresponding control measures are tabulated in **Table 4.13** to **Table 4.16**. These control measures were taken into account in the assessment.

4.6.10 Emission rates by processes were estimated in accordance with the USEPA *Compilation of Air Pollution Emission Factors (AP-42), 5th Edition*. Detailed calculations of emission rates and the spatial distribution of air emission sources were presented in **Appendix 4.2.**

Table 4.13 Emission Points at Portal for Rock Processing Operation and Corresponding Control Measures

Emission Description	Pollutant	Control Measures
Unloading of Rocks into Feed Hopper of Primary Crusher, Stone Crushing at Primary Crusher, Screening after Primary Crushing (SCP02)	Particulates	• Wet suppression • Housed inside rigid enclosure structure with dust collector at overall 90% dust removal efficiency
Stone Crushing at Secondary Crusher	Particulates	• Wet suppression

[3] According to the factsheet of dust collector issued by USEPA, dust collection system such as bagfilter can generally achieve more than 99% of dust removal. However, as the great pressure drop at filter is concerned by the Project Engineer, a lower rate such as 85% is recommended for the entire excavated space, which was also adopted under other projects with similar nature.

Emission Description	Pollutant	Control Measures
(SCP04)		• Enclosed crushing train
Screening after Secondary Crushing (SCP05)	Particulates	
Stone Crushing at Tertiary Crusher (SCP06, SCP07)	Particulates	
Screening after Tertiary Crushing (SCP08, SCP09)	Particulates	
Aggregate handling and storage of excavated and imported rock & Wind Erosion during non-working hours (Stkp01)	Particulates	• Wet suppression • Free falling transfer point fitted with flexible curtain or enclosed with chutes to minimize the drop height • Transfer points to be housed by enclosure structure • Delivering conveyors to be enclosed with windshield on top and 2 sides • Tarpaulin cover
Material handling of rejects & Wind Erosion during non-working hours (Stkp03)	Particulates	
Paved Haul Road inside the Facilities	Particulates	• Haul roads are paved • Regularly wetting with water sprays for every hour • Speed limit of all vehicles at 8km/hr

Table 4.14 Emissions for Stockpiles at Wok Tai Wan Works Area and Corresponding Control Measures

Emission Description	Pollutant	Control Measures (1)
Unloading Rock Products to Stockpiles (Stkp06-08)	Particulates	• Wet suppression • Free falling transfer point fitted with flexible curtain or enclosed with chutes to minimize the drop height
Wind Erosion during non-working hours (Stkp04-05)	Particulates	• Tarpaulin cover

Note:
(1) The control measures would be subject to the design of the stockpiling area in later stage, i.e. whether stockpile would be placed within 3-sided and top enclosure or in open air.

Table 4.15 Emissions for Concrete Batching Operation at Ngau Kok Wan Portal and Corresponding Control Measures

Emission Description	Pollutant	Control Measures
Dust Collector on Silica Fume Silo (CBP01-02, CBP23-25)	Particulates	• Pumped pneumatically through cement pipes • Dust tight silo • Equipped with a fabric dust collector at 99% dust removal efficiency • Emission concentration less than 9 mg/m^3 (more stringent than the requirement of 10 mg/m^3 stipulated in BPM)
Dust Collector on Pulverised Fuel Ash Silo (CBP03-04, CBP20-22)		
Dust Collector on GGBS Silo (CBP05-06, CBP17-19)		
Dust Collector on Cement Silo (CBP07-16)		

Emission Description	Pollutant	Control Measures
Dust Collector on Mixers (CBP26-30)		
Unloading of Aggregate to Hopper by Conveyor Belt (CBP31-32)	Particulates	• 3-side and top enclosure • Wet Suppression • Aggregate bins and its associated delivering conveyors to be housed inside a fully cladded structure
Paved Haul Road inside the Facilities	Particulates	• Haul roads are paved • Regularly wetting with water sprays for every hour • Speed limit of all vehicles at 8km/hr
Discharge of Concrete to Concrete Mixer Truck	Particulates	• No dust emission is anticipated because of its moist nature • Loading points enclosed on 2 sides and roof

Table 4.16 Emission for Asphalt Production Operation at Ngau Kok Wan Portal and Corresponding Control Measures

Emission Description	Pollutant	Control Measures
Loading of Aggregate to Aggregate Receiving Hopper (AP01)	Particulates	• Wet suppression • Fully enclosed structure
Aggregate handling at enclosed virgin aggregate silos	Particulates	• Wet suppression • Fully enclosed structure • Exhaust vented to Dust Emission System (AP02)
Dust collector on Recovered Filler Silos	Particulates	• Emission concentration less than 9 mg/m^3 (more stringent than the requirement of 10 mg/m^3 stipulated in BPM) • Exhaust vented to Dust Emission System (AP02)
Exhaust from Dryer Drum with Burner	Particulates, Sulphur Dioxide, Nitrogen Oxides, Carbon Monoxide, Methane, VOC, Heavy Metals	• Exhaust vented to baghouse at 99% dust removal efficiency • Ultra-low-sulfur diesel (sulfur content ≤ 0.001% w/w) • Exhaust vented to Dust Emission System (AP02)
Enclosed Mixing Tower	Particulates, Bitumen Fume or Odourous Substance	• Exhaust vented to dryer drum for combustion • Exhaust vented to Dust Emission System (AP02)
Bitumen Heating System	Particulates, Sulphur Dioxide, Nitrogen Oxides, Bitumen Fume or Odourous Substance	• Equipped with high temperature cutoff device to ensure bitumen temperature not to exceed the corresponding temperature limit • Exhaust vented to Dryer Drum via the Mixing Tower for combustion • Ultra-low-sulfur diesel (sulfur content ≤ 0.001% w/w) • Exhaust vented to Dust Emission System (AP02)
Truck Load out from Hot Mix Asphalt Storage Silo	Particulates, Bitumen Fume or Odourous Substance	• Enclosed 2-side and top with dust curtains at openings • Bitumen fume for the loading out

Emission Description	Pollutant	Control Measures
		vented to dry drum for combustion • Exhaust vented to Dust Emission System (AP02)
Dust Emission System (AP02)	Particulates, Sulphur Dioxide, Nitrogen Oxides, Carbon Monoxide, Methane, VOC, Heavy Metals, Bitumen Fume or Odourous Substance	• Selective catalytic reduction (SCR) for diesel fuel burners, assumed at 80% NO_X removal efficiency • Equipped with a fabric dust collector at 99% dust removal efficiency
Loading of RAP and Rejected Aggregrate to Storage and Hopper inside RAP storage area (AP03)	Particulates	• Fully enclosed structure • Emission concentration less than 9 mg/m^3 (more stringent than the requirement of 10 mg/m^3 stipulated in BPM)
Aggregate Handling at Aggregate Reject Bin (AP04)	Particulates	• Wet suppression • Fully enclosed structure
Load-out to Foul Batch Hopper (AP05)	Particulates	• Control measures are considered not necessary as the loading rate is low
Loading of aggregates to Dump Trucks at Rock Processing Operation Area (AP31-34)	Particulates	• Wet suppression
Paved Haul Road inside the Facilities	Particulates	• Haul roads are paved • Regularly wetting with water sprays for every hour • Speed limit of all vehicles at 8km/hr

4.6.11 Based on the latest design, the proposed concrete batching and asphalt production would only achieve 90% and 40% of their maximum hourly production capacity per annum, respectively. Therefore, such annual factors are applied to their emissions when considering long-term air quality impact, i.e. annual average.

Option 2

4.6.12 Alternatively, the asphalt production is replaced by an additional concrete batching production line with concrete production of 50 m^3 per hour, operating 24 hours a day. The total production capacity of the concrete production from the Project would become 550m^3 per hour in total for a maximum of 6 concrete batching production lines. The concrete batching operation primarily involves dust emission. There would be no more air pollutants due to the fuel combustion process in asphalt production, including NO_2, SO_2, heavy metals, as well as odorous emissions such as bitumen fumes and PAHs. The air pollutant emissions from Option 2 are expected to be less than those from Option 1.

4.6.13 The particulate emission inventories for asphalt production and the concrete batching operation have been compared, with detailed calculations presented in **Appendix 4.11**. Based on the comparison results, the particulate emissions of the asphalt production would be equivalent to a CBP production line operating for 24 hours a day, with an hourly production rate of around 52.4 m^3/hour, and around 88.9% of the maximum hourly production capacity (46.5 m^3/hour) per annum. Replacing concrete batching with a production rate of 50 m^3 per hour, operating 24 hours a day, would have lower emissions in particulates. Therefore, the assessment results for Option 1 should be applicable to Option 2.

Vehicular Emission and Start Emission from Open Roads

4.6.14 The key air pollutants associated with vehicular emission during the operation phase are RSP, FSP, and NO_2. Major open road emission sources within 500m assessment area include haul roads supporting underground quarry and ancillary operations, Tam Kon Shan Road, Tsing Yi North Coastal Road, Ting Kau Bridge, Tsing Long Highway, North West Tsing Yi Interchange, Tsing Sha Highway, Cheung-Tsing Highway, Tsing Ma Bridge, and the planned Tsing Yi-Lantau Link.

4.6.15 EMFAC-HK v4.3 was adopted to estimate the vehicular emission factors in NO, NO_2, RSP and FSP in various travelling speeds and ambient conditions with reference to weather research and forecast (WRF) meteorological data extracted from PATH v3.0. For short-term cumulative impacts, an approach of using a daily profile of the lowest temperature and relative humidity data in each hour for each month was adopted. For long-term cumulative impacts, an approach of using a daily profile of averaged temperature and relative humidity data in each hour for each month was adopted. The Smart Air Modelling Platform (SAMP v2.1) with the ZEV scenario is used for the calculation of the composite vehicular emission factor and emission rates.

4.6.16 The traffic data for each road in 500m assessment area comprises 24-hour traffic flow with vehicle percentage, travelling speed in 18 vehicle classes was presented in **Appendix 4.5**. TD agreement on the adopted traffic data was presented in **Appendix 4.5**. The induced traffic due to the Project has been taken into account in the traffic data. With reference to the traffic data, the hourly emission factor of each open road was determined by summation of emission by each vehicle class which is the product of traffic flow and emission factor at specific speed and ambient condition. The hourly emissions factors of NO, NO_2, RSP and FSP were further divided by the hourly flow to obtain a composite emission rate in gram per kilometer per vehicle, ready for input to the dispersion model. The Smart Air Modelling Platform (SAMP v2.1) by EPD, was used for the calculation and model setup of vehicular emission. The detailed calculation of vehicular emission source was presented in **Appendix 4.5**.

4.6.17 Start emission refers to the air pollutants generated due to the ignition of the vehicle engines which are released at vehicle tailpipes. Start emission generally occurs on the local road where there is potential trip start, while no start emission along district distributor or expressway is anticipated. For the assessment purpose, a broad-brush approach was adopted except for parking spaces where the start emission at all local roads were assumed irrelevant to the actual location of engine start. Also, vehicle classes (including private cars, light goods vehicles (LGV3, LGV4, LGV6, and motor cycles) were assumed to have a potential trip start on a local road.

4.6.18 Most of the HGVs along the local roads within the assessment area are working vehicles travelling to/from the Project, other industrial buildings and dockyards, which includes concrete mixer trucks and cement tankers. These working vehicles are not supposed to park along these roads, i.e. no engine start is expected. There will be no parking of the HGVs within the Project Site. Furthermore, non-franchised buses (NFBs) are unlikely to appear in the assessment area as the area near the Project Site is of industrial uses and offices. Hence, no start emission was assumed for HGVs and NFBs at the local roads within the assessment area.

4.6.19 On the other hand, public transports (including PLBs, FB (single deck) and FB (double deck)) usually starts its engine at its termini throughout its service routes. Start emissions within the identified parking sites were assessed with a precise approach as discussed in **Section 4.5.18**.

4.6.20 For the broad-brush approach of start emission calculations, vehicle classes except public light buses (PLBs), NFBs, franchised buses (FBs) and HGVs were adopted. Start emission factors of the relevant vehicle classes at various soak times were extracted from EMFAC-HK v4.3, among which the highest factor was adopted for a vehicle class. Start emissions for each vehicle class are assumed directly proportional to Trips per Vehicle-kilometre-travelled ratio (Trip/VKT) with consideration of the proportion of local and rural roads within

Hong Kong based on the latest *Annual Traffic Census (ATC)* prepared by the TD. For SAMP v2.1, default trip and VKT values from EMFAC-HK v4.3 model are used in the calculations and the proportion of local and rural roads within Hong Kong (3.74%) derived from *ATC 2024*, which is detailed in **Appendix 4.5**.

Vehicular Emission Associated with Parking Sites

4.6.21 Running, idling and start emissions within the existing parking sites described in **Section 4.5.18** were assessed with a precise approach. According to desktop research, there are several parking sites that are open space sites with no ventilation system. Data concerning engine start at these concerned locations, such as the frequency and soak time, was collected in 24-hour site survey conducted on 27 May 2025, a normal working day and is presented in **Appendix 4.6**. The start emissions calculation was conducted according to the "*Technical Note on the Calculation of Start Emissions in Air Quality Impact Assessment*". Start emission factors of vehicle types at various soak times were extracted from EMFAC-HK v4.3. An approach of using the lowest temperature and relative humidity data in the year among the four PATH grids (i.e. 9°C and 16%) was adopted. The detailed calculation of start emission is presented in **Appendix 4.6**.

Determination of Assessment Year of Vehicular Emission

4.6.22 According to the latest planning, the operation period (Operation Phase) of the Project is expected to commence in Year 2028, yet the decommissioning of the Site is indeterminate. The assessment year for open road vehicular emission was determined by the year with the highest vehicular emission burden within the assessment area during the operation period, assuming 15 years after the commencement year. The vehicular emission burdens of NO_X, RSP, FSP in Year 2028, Year 2030, Year 2033, Year 2038, and Year 2043 were estimated with EMFAC-HK v4.3 and are presented in **Table 4.17**. The traffic data and the assumption adopted in EMFAC-HK are presented in **Appendix 4.5**. The planned Tsing Yi-Lantau Link will be commissioned in Year 2033, thus it has been included in the traffic data in Year 2033 and after. An approach of using the lowest temperature and relative humidity data in each hour of the year was adopted. Year 2028 was selected as the assessment year, which had the highest vehicular emission burden for NOx, RSP, and FSP.

Table 4.17 Vehicular Emission Burden in the Assessment Area

Year	Vehicular Emission Burden (Tonne Per Year)					
	RSP		FSP		NOx	
2028	**2.60**		**2.39**		**62.82**	
2030	2.11		1.94		49.07	
Traffic Scenario [2]	**A**	**B**	**A**	**B**	**A**	**B**
2033	1.27	1.29	1.17	1.19	29.78	30.52
2038	0.68	0.70	0.62	0.64	18.54	19.17
2043	0.60	0.62	0.55	0.57	14.47	14.98

Note:
[1] **Bolded** value indicates the highest value among the assessed years.
[2] Please refer to **Appendix 4.13** for different potential traffic scenarios (Scenarios A & B) from Year 2033.

Marine Emission

4.6.23 The operation of the Project would induce marine traffic. Marine emission is expected and would pose a potential air quality impact on the ASRs. Major air pollutants associated with marine emissions include particulates, NO_2, and SO_2. The stack parameters of marine traffic induced were provided by the Project Engineer, and the emission inventory is summarized in **Appendix 4.4**.

4.6.24 With reference to the Study on Marine Vessels Emission Inventory (MVEIS) by HKUST, the marine emission is estimated using an activity-based approach. The emission factors were derived in units of works (gram per kilowatt-hour), dependent on the fractional load of the equipment during different vessel activity modes. The calculation is summarized as below:

Emission = P x FL x T x EF

where *P* is the installed power of equipment;
FL is fractional load of equipment in a specific mode;
T is operation time-in-mode; and
EF is fractional load emission factor of equipment.

4.6.25 Typical power equipment installed on marine vessels are Main Engine (ME) for propulsion, Auxiliary Engine (AE) for electricity and Auxiliary Boiler (AB) for fuel pre-heating and pumping. Subject to the vessel types, different combinations of engines are equipped on a vessel.

4.6.26 The vessel types identified within the assessment area are matched with equivalent vessel types considered in MVEIS. Typical engine power rating, engine type, fuel type of each vessel type are adopted from MVEIS. The detailed assumptions are presented in **Appendix 4.4**. The vessel type considered in the assessment include:

- Dry Bulk Carrier (category RTV)

4.6.27 Typical engine load factor by vessel type and by operation mode refers to MVEIS. Engine load factor of marine source was then determined according to its vessel type and its operation mode, which is defined according to the vessel speed with reference to MVEIS and shown in **Table 4.18**.

Table 4.18 Operation Mode of Marine Vessels

Operation Mode	Vessel Speed
Cruise / Fairway Cruise	Over 12 knots
Slow Cruise	8 to 12 knots
Maneuvering	1 to below 8 knots
Hotelling	Below 1 knot

4.6.28 The time-in-mode is estimated by the distance and vessel speed travelled in the corresponding mode.

4.6.29 Emission factors of RSP and FSP by vessel type and by operation mode refers to MVEIS and IMO Fourth Greenhouse Gas Study 2020. According to the *Air Pollution Control (Fuel for Vessels) Regulation* stipulates the use of fuel with sulphur content of 0.5% for all vessels within Hong Kong waters. As such, fuel with sulphur content of 0.5% is assumed to be used by River Trade Vessels (RTV) for modelling purpose as a conservative approach. Together with the parameters discussed above, the emission of a marine source is estimated with the equation discussed above.

4.6.30 The stack parameters exit temperature and release height are determined by desktop review and site surveys whenever possible, and the other stack parameters (exit velocity and stack diameter) refer to previous studies concerning nearby waters, such as the approved EIA Report of Route 11 (Section between Yuen Long and North Lantau) (AEIAR-255/2023). The emission inventory is summarized in **Appendix 4.4**.

Bitumen and Odour Emission

4.6.31 Bitumen emission (including bitumen fume, PAH and non-PAH HAPs, and non-PAH organic compounds) from the mixer and the bitumen tanks would cause air quality and odour emission impact to the ambient[4]. The exhaust from the mixer is fed to the rotary dryer drum and undergone combustion by burner. The odourous pollutants are subject to combustive destruction before being released to the ambient. Activated carbon filters should be equipped to reduce the bitumen and odour emission from the bitumen tanks. The potential odour

[4] There is only 1 exhaust point collectively for the mixer and bitumen tanks.

emission is expected to be controlled with these control measures.

4.6.32 Bitumen fumes of 5mg/m^3 was assumed to be emitted at the exhaust vent, with reference to concentration limit of bitumen fume stipulated in *BPM for Asphalt Concrete Plant*. The odour emission strength was determined by the species in the bitumen fume and their odour thresholds. The species in the bitumen fume refer to *USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-9 (No.2 fuel oil-fired dryer, hot screens and mixer with fabric filter)*. Detailed calculations of bitumen and odour emission rates are presented in **Appendix 4.2**. The concentration limits for bitumen fume, emission rates for PAH and non-PAH HAPs and odour to be used for assessment should be monitored at the exhaust upon commissioning and during the operation phase to demonstrate the assumed concentration limits and emission rates and assessment results are valid.

Heavy Metal Emission

4.6.33 The emission factors of heavy metal emissions from the mixer and the bitumen tanks refer to *USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-11*. Detailed calculations of individual heavy metal emission rate are presented in **Appendix 4.2**. The heavy metal emission rates to be used for assessment should be monitored at the exhaust upon commissioning and during the operation phase to demonstrate the assumed emission rates and assessment results are valid.

Dispersion Modelling & Modelling Approach

Dispersion Modelling & Modelling Approach for Underground Quarrying and Associated Ancillary Operations

4.6.34 According to *Guidelines on Assessing the 'TOTAL' Air Quality Impacts* by EPD, integrated modelling system PATH v3.0, which are developed and maintained by EPD were applied to provide background pollutant concentrations in assessing the total impact in the assessment area. In addition, WRF meteorological data was adopted for modelling.

4.6.35 American Meteorological Society and USEPA Regulatory Model (AERMOD), the EPD approved air dispersion model, was applied to predict the air quality impacts due to emission from underground quarrying and associated ancillary operations. Air pollutants concentrations, including criteria pollutants and odour, were predicted at each identified ASRs at various assessment heights, 1.5 metres aboveground (mAG), 5mAG, 10mAG and so on, every 10 metres up to its physical height.

4.6.36 Hourly meteorological conditions, including wind data, temperature, relative humidity, pressure, cloud cover and mixing height of Year 2019 were extracted from the WRF meteorological data and adopted in the PATH system. The dataset by WRF should be intact and consistent among parameters. In order to avoid any hours misidentified as missing data by AERMOD and its associated components, the WRF meteorological data were handled manually to set wind direction between 0° – 0.1° to be 360°. The height of the input data was assumed to be 8.5mAG for the first layer of the WRF data as input.

4.6.37 The wind speed and mixing heights in the WRF data were further adjusted before meteorological pre-processing by AERMET. The minimum wind speed was capped at 0.5 metre per second. The mixing height was capped between 119 metres and 2009 metres according to the observation by HKO in Year 2019. After pre-processed by AERMET, the mixing height was verified once again and adjusted to the capped range if necessary.

4.6.38 Surface characteristic parameters such as albedo, Bowen ratio and surface roughness are required in the AERMET. The parameters were determined according to land use classified for the surroundings and the latest AERMOD Implementation Guide. The determination of the surface characteristics parameter is presented in **Appendix 4.7**. Elevated terrain option was applied in AERMOD, to where the base elevation of receptors and sources were input.

4.6.39 As particulates are concerned, dry deposition was applied in the model run. Particle size distribution was assigned for particles with aerodynamic diameters smaller than 10 μm to

each type of source in the AERMOD in order to account for the particle deposition. The particle size distribution for each process is summarized in **Appendix 4.2**.

Dispersion Modelling and Modelling Approach for Vehicular Emission from Open Roads

4.6.40 According to *Technical Note for Modelling Vehicular Emission Using AERMOD* by EPD, AERMOD was used to assess the vehicular emission from open road.

4.6.41 The mixing zone of a road source was defined in the AERMOD. The top of plume was defined as 1.7 times of the average height of vehicle fleet on the road. The average height of vehicle fleet was determined for each road and was weighted by the total daily traffic flow of each vehicle class. The suggested average vehicle height of each 18-vehicle classes refers to the same technical note.

Dispersion Modelling and Modelling Approach for Marine Emission

4.6.42 AERMOD was applied to assess the marine emission in the nearby waters. Marine emission is line source in nature because of the mobile vessels along the route. However, the emission also resembles point source for its high exhaust temperature, exhaust velocity and higher release height. In consideration of these similarities, the marine emission along a route was modelled by numerous of point sources along the route with an interval of 20m and its emission strength is equally allocated to these point sources.

Cumulative Impact of Criteria Air Pollutants

4.6.43 Cumulative AQO pollutant concentration at ASR was derived by the sum of contributions by various sources, and background contribution from PATH v3.0 on a hour-by-hour basis. Averaging results, namely 10-min, hourly, daily, and annual, were derived from the cumulative hour-by-hour results in accordance with Title 40, Code of Federal Regulations, US Environmental Protection Agency (USEPA 40 CFR) Part 51 “Revision to the Guideline on Air Quality Models, January 2017”. For annual average, the sum of all valid hourly concentrations was divided by the number of valid hours during the year. For daily average, cumulative results at each ASR amongst 365 days were ranked by highest concentration and compared with the maximum allowable concentration to determine the number of exceedance throughout a year. The air quality impact on ASRs was evaluated by number of exceedance per annum against the criteria of EIAO-TM and AQOs.

4.6.44 Ozone Limiting Method (OLM) was adopted for the conversion of short-term NO_X to NO_2 based on the ozone background concentration from PATH v3.0. Regarding vehicular emission, NO_2 and NO was predicted separately in AERMOD. Following the principle of OLM, the total predicted vehicular NO_2 was estimated as below:

$$[NO_2]_{vehicular} = [NO_2]_{predicted} + MIN \{[NO]_{predicted}, \text{ or } (46/48) \times [O_3]_{PATH}\}$$

where

$[NO_2]_{vehicular}$	is the total predicted vehicular NO_2 concentration
$[NO_2]_{predicted}$	is the predicted NO_2 concentration
$[NO]_{predicted}$	is the predicted NO concentration
MIN	means the minimum of the two values within the bracket
$[O_3]_{PATH}$	is the representative O_3 PATH concentration (from other contributions)
(46/48)	is the molecular weight of NO_2 divided by the molecular weight of O_3

4.6.45 NO_2-to-NO_X ratio of 5% was adopted for the emission from boiler of an asphalt production operation area, with reference to *Table 1.3-1, Section 1.3, 5/10 ed., AP-42, USEPA*. Following the principle of OLM, the total predicted NO_2 due to boiler of asphalt production was estimated as below:

$[NO_2]_{stack} = f \times [NO_X]_{predicted} + MIN \{(1 - f) \times [NO_X]_{predicted}, or (46/48) \times [O_3]_{PATH}\}$

where

f	is the NO_2-to-NO_X ratio
$[NO_2]_{stack}$	is the total predicted NO_2 concentration
$[NO_X]_{predicted}$	is the predicted NO_X concentration
MIN	means the minimum of the two values within the bracket
$[O_3]_{PATH}$	is the representative O_3 PATH concentration (from other contribution)
(46/48)	is the molecular weight of NO_2 divided by the molecular weight of O_3

4.6.46 With reference to the *Guidance on Choice of Models and Model Parameters*, Jenkin method was adopted for the conversion of cumulative annual average NO_X to NO_2 by using the empirical relationship in observed annual mean of NO_X and NO_2 concentrations. The empirical relationship is derived from the annual mean observed data by relevant EPD's AQMSs including Tsuen Wan (the closest station), Tap Mun (background station with no vehicular emission), and Mong Kok roadside station (station dominated by vehicular emission). The resulting curve was adopted for the cumulative annual average NO_x to NO_2 conversion. A detailed derivation of NO_X-to-NO_2 conversion equation using Jenkin method was presented in **Appendix 4.8**.

4.6.47 According to *Guidelines on the Estimation of 10-min average SO_2 Concentration for Air Quality Assessment in Hong Kong*, SO_2 concentration in 10-min average due to the stack emissions was estimated by applying stability-dependent multiplicative factor to 1-hour average model prediction by AERMOD.

4.6.48 All odour emission sources (point sources) from the proposed operation are wake-affected point sources, and the 1-hour to 1-second conversion factors from *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (NSW Approved Method)* for wake-affected point sources were adopted. The conversion factors for wake-affected point sources converting 1-hour average to 1-second average concentration stipulated in the NSW Approved Method were adopted directly to convert the 1-hour concentration predicted by the AERMOD model to 5-second concentration as a conservative approach. The conversion factors for different types of source and stability classes are listed in **Table 4.19** below. Pasquill-Gifford stability refers to the dataset based on the WRF meteorological data.

Table 4.19 Conversion Factors to 5-second Mean Concentration

Pasquill Stability Class	Conversion Factor	
	Wake Affected Point Sources	Area
A	2.3	2.5
B	2.3	2.5
C	2.3	2.5
D	2.3	2.5
E	2.3	2.3
F	2.3	2.3

4.6.49 For the estimation of formaldehyde, 1-hour to 30-minute conversion factors were calculated via a power law relationship with reference to Duffee et al., 1991[5]. Such that the 1-hour average concentrations predicted by the AERMOD model were converted to 30-minute average concentrations. The conversion factors for different Pasquill stability classes are listed in **Table 4.20** below.

$$C_l = C_s(t_s/t_l)^p$$

[5] Richard A. Duffee, Martha A. O'Brien and Ned Ostojic, 'Odor Modeling - Why and How', Recent Developments and Current Practices in Odor Regulations, Controls and Technology, Air & Waste Management Association, 1991

where
C_l = concentration for the longer time-averaging period;
C_s = concentration for the shorter time-averaging period;
t_s = shorter averaging time;
t_l = longer averaging time; and
p = power law exponent in **Table 4.20**.

Table 4.20 Conversion Factors from 1-hour to 30-minute Averaging Time

Pasquill Stability Class	Power Law Exponent	1-hour to 30-minute Conversion Factor
A	0.5	1.41
B	0.5	1.41
C	0.333	1.26
D	0.2	1.15
E	0.167	1.12
F	0.167	1.12

4.6.50 As a conservative approach, the AERMOD predicted maximum 1-hour average formaldehyde concentration at each ASRs was converted to 30-minute average using the highest conversion factor of 1.41 presented in **Table 4.20**.

4.7 Prediction and Evaluation of Environmental Impacts

Construction Phase

4.7.1 The major construction works would be the site formation works with an approximate total area of around 0.83ha. The potential construction air quality impact would arise from the construction activities including site formation of portal areas, slope cutting for tunnel portal, excavation of the Main Access Tunnel (less than 30m long) by mechanical breaking method, spoil handling and haul roads. The erection of equipment for the three ancillary operations would involve minor construction activities such as minor excavation for foundation works and fabrication works and the works are similar for both Option 1 and 2. A maximum of approximately 49,000m^3 of soil and approximately 38,000m^3 of rock will be excavated during the construction period (Q3 2027 – Q3 2028). While the excavated rock would be stockpiled on site for further processing and reuse in the operation phase, the excavated soil will be disposed of at the Public Fill Reception Facilities (PFRFs). A maximum daily traffic of 40 dump trucks will be expected from each portal.

4.7.2 Air quality mitigation measures stipulated in *Air Pollution Control (Construction Dust) Regulation* should be implemented as far as practicable to abate the air emission from the construction activities. Regular watering should be provided at the excavation works, spoil handling and exposed areas. Stockpiling area should be covered with impervious sheets, as far as practicable. Haul roads should be paved as far as practicable, and regularly wetted to suppress the fugitive dust and gaseous emissions caused by the travelling construction vehicles. Vehicles transporting dusty spoil should be properly covered with a mechanical cover or tarpaulin sheets to avoid any dust pickup by gust during travel. Wheel washing facility should also be provided at the exit of construction site such that no residue on the body of construction vehicles would cause dust emission on public roads. With the implementation of appropriate air quality mitigation measures and good site practices, the air emission from the construction works would be reduced to minimum.

4.7.3 On-site use of diesel-powered engines is also the potential source for gaseous and particulate pollutants, such as NO_2, SO_2, CO, RSP, FSP and smoke. The actual no. of NRMMs would be subject to the future contractor. Fuel with sulphur content not exceeding 0.001% by weight should be used to minimise SO_2 emission in accordance with *Air Pollution Control (Fuel Restriction) Regulations*. The use of NRMMs with exempted label under *Air Pollution Control (NRMM) (Emission) Regulation* should be avoided as far as practicable. The equipment should also be properly maintained to minimize any emissions. Furthermore, the use of electric NRMMs would be explored. On-site power supply will be provided and

the use of diesel generators and machinery should be avoided as far as practicable.

4.7.4 The nearest ASR A05 is located less than 5m away from the nearest Project Site. Dusty activities should be located away from this ASR as far as practicable. Dust monitoring at the nearest ASR A05 will be carried out to ensure the potential dust impact complying with AQOs during the construction phase.

4.7.5 Major construction works of *Tsing Yi – Lantau Link* within the assessment area are mostly site formation works and construction of superstructure. The associated construction works of *Tsing Yi – Lantau Link* will tentatively commence in Year 2027 and will be completed by Year 2033, which would be concurrent with the construction period of the Project. It is anticipated that appropriate air quality mitigation measures stipulated in *Air Pollution Control (Construction Dust) Regulation*, such as regularly watering and paved haul road, would also be implemented by the contractors of this concurrent project, resulting in minimum air emission from their construction activities. It is also anticipated that the use of NRMMs with exempted label under *Air Pollution Control (NRMM) (Emission) Regulation* will be avoided as far as practicable and the use of electric NRMMs will be explored by the contractors of this concurrent project. Furthermore, on-site power supply will be provided and the use of diesel generators and machinery will be avoided as far as practicable to minimize air quality impact arising from construction machinery. Close liaison with the contractors of *Tsing Yi – Lantau Link* will be taken place during the construction phase to minimize concurrent construction activities in the proximity.

4.7.6 The excavated materials are anticipated to be handled over a one-year period (Q3 2027 to Q3 2028). The average daily volume of materials to be handled is relatively small and the works are therefore considered to be of a limited scale. Given the limited site formation works and minor works for facility erections, in addition to the implementation of effective air quality mitigation measures, no adverse air quality impact on nearby ASRs is anticipated. A comprehensive air quality monitoring and audit programme and regular site audits would be conducted during construction phase to ensure proper implementation of air quality mitigation measures and the compliance of AQOs.

Operation Phase (Air Quality Impact)

4.7.7 The cumulative air quality impact due to proposed underground quarry and above-ground ancillary operations, all other relevant emission sources, including existing and planned open roads, marine emissions, and parking sites within 500m assessment area and background concentration at representative ASRs in the operation phase have been evaluated. The predicted cumulative air pollutant concentrations at representative ASRs were predicted and are summarised in **Table 4.21** and **Table 4.22**. The detailed prediction results are presented in **Appendix 4.9**. The predictions showed that the cumulative RSP, FSP, NO_2 and SO_2 concentrations at representative ASRs would comply with the respective AQOs, except A02.

Table 4.21 Worst Predicted Cumulative RSP and FSP Concentrations at Representative ASRs in Operation Phase in Year 2028

ASR ID	10th Highest Daily Average RSP Conc. (µg/m³)	Annual RSP Conc. (µg/m³)	19th Highest Daily Average FSP Conc. (µg/m³)	Annual FSP Conc. (µg/m³)
	(AQO: 75 µg/m³)	(AQO: 30 µg/m³)	(AQO: 37.5 µg/m³)	(AQO: 15 µg/m³)
A02	58.40	23.27	33.98	14.95
A03	59.98	N.A. [1]	34.25	N.A. [1]
A04	63.95	23.65	34.77	14.75
A05	57.74	22.48	32.60	13.77
A06	54.68	21.07	30.79	13.17
A07	61.43	23.58	34.63	14.60
A08	60.77	23.49	34.31	14.55

Notes:
(1) Long-term impact is not applicable to A03 because it is transient in nature.

Table 4.22 Worst Predicted Cumulative NO_2 and SO_2 Concentrations at Representative ASRs in Operation Phase in Year 2028

ASR ID	19th Highest Hourly average NO_2 Conc. (µg/m³)	10th Highest Daily average NO_2 Conc. (µg/m³)	Annual average NO_2 Conc. (µg/m³)	4th Highest 10-min average SO_2 Conc. (µg/m³)	4th Highest Daily average SO_2 Conc. (µg/m³)
	(AQO: 200 µg/m³)	(AQO: 120 µg/m³)	(AQO: 40 µg/m³)	(AQO: 500µg/m³)	(AQO: 40µg/m³)
A02	167.18	77.95	38.20 [1]	38.80	8.29
A03	178.83	78.73	N.A. [2]	33.53	8.55
A04	156.02	66.34	37.95	32.56	8.38
A05	152.25	55.47	30.92	25.05	7.48
A06	142.79	52.40	28.11	25.03	7.43
A07	149.59	64.43	35.91	32.45	8.42
A08	145.12	64.58	35.30	32.43	8.42

Notes:
(1) Air purification system (APS) with at least 10% NO_2 removal efficiency will be provided.
(2) Long-term impact is not applicable to A03 because it is transient in nature.

4.7.8 According to the discrete results of representative ASRs, the worst affected level is 1.5 metres above ground (mAG) for daily and annual RSP and FSP. The contour plots of daily and annual RSP and FSP at 1.5 mAG are illustrated in **Figure 4.03** to **Figure 4.06**. According to the contour results, exceedance was predicted within Project Site and adjacent SPs for daily and annual RSP and FSP. Exceedance in annual FSP was also predicted at sections of local roads and highways, including Sai Tso Wan Road, North West Tsing Yi Interchange and Cheung Tsing Highway. There is no existing or planned air sensitive use in these exceedance zones, except Lantau Link Administration Building (ASR A02). Appropriate dust control measures are expected to be provided at the office or workshops, if any, of the adjacent SPs by their operators due to their own dusty operations. In the Project Site, any air sensitive uses, e.g. office or workshop of the proposed ancillary operation area, shall avoid being located within exceedance zones to avoid any adverse air quality impact. It is noted that the predicted 10th highest daily RSP, annual RSP, 19th highest daily FSP and annual FSP concentrations within the Project Site is around 203 µg/m³, 108 µg/m³, 56 µg/m³ and 30 µg/m³ respectively. Should any office or workshop be located in the exceedance area, centralized air conditioning and air filtering system of at least 73% RSP removal efficiency and at least 51% FSP removal efficiency should be installed to minimize the air quality impacts and achieve AQO compliance at all air sensitive uses within the Project Site. The air filtering system and its dust removal efficiency will be further reviewed at the detailed design stage to ensure that the air quality impacts at all sensitive uses within the Project Site could comply within the AQOs.

4.7.9 According to the discrete results of representative ASRs, the worst affected level is 1.5 mAG for hourly, daily and annual NO_2. The contour plots of hourly, daily and annual NO_2 at 1.5 mAG are illustrated in **Figure 4.07** to **Figure 4.09.** According to the contour results,

exceedance in hourly NO_2 and daily NO_2 were predicted at 1.5mAG within the Project Site. Exceedance in annual NO_2 were also predicted at 1.5 mAG within Project Site, sections of local roads and highways, including Sai Tso Wan Road, North West Tsing Yi Interchange and Cheung Tsing Highway. There is no existing or planned air sensitive use in these exceedance areas, except Lantau Link Administration Building (ASR A02). Any air sensitive uses within the Project Site, e.g. office or workshop of the proposed ancillary operation areas, shall avoid being located within exceedance zones to avoid any adverse air quality impact. It is noted that the predicted maximum hourly, daily and annual NO_2 concentrations within the Project Site were around 364 $\mu g/m^3$, 123 $\mu g/m^3$ and 56 $\mu g/m^3$ respectively. Should any office or workshop be located in the exceedance area, centralized air conditioning and air filtering system of at least 46% NO_2 removal efficiency should be installed at all air sensitive uses within the Project Site. The air filtering system and its NO_2 removal efficiency will be further reviewed at the detailed design stage to ensure that the air quality impacts at all sensitive uses within the Project Site could comply within the AQOs.

4.7.10 Exceedances in annual NO_2 and annual FSP were predicted at the Lantau Link Administration Building (ASR A02). Thus, a further assessment has been conducted for these pollutants at A02, and is presented in **Appendix 4.12**. The predicted annual concentrations of NO_2 and FSP at the fresh air intakes (FAIs) of A02 for the assessment years 2028 and 2030, as well as contour plots of annual NO_2 concentrations at different assessment heights, are presented in the appendices. The exceedance in annual NO_2 and FSP concentrations was predicted in Year 2028 at the fresh air intake of G/F, which were around 44.2 $\mu g/m^3$ and 15.1 $\mu g/m^3$,respectively. In Year 2030, the predicted annual NO_2 and annual FSP complied with the AQOs at all FAIs of A02. Therefore, APS with at least 10% NO_2 removal efficiency and 1% FSP removal efficiency will be provided on the G/F of A02 in order to achieve AQO compliance. The APS and its removal efficiencies in NO_2 and FSP will be further reviewed at the detailed design stage to ensure that the air quality impacts at A02 would comply with the AQOs.

4.7.11 According to the discrete results of representative ASRs, the worst affected level is 1.5 mAG in general and 5 mAG at A02 for 10-min average SO_2. For daily SO_2, the worst affected level is predicted at 1.5mAG. The contour plots of 10-min average SO_2 at 1.5 mAG and 5 mAG, and daily SO_2 at 1.5 mAG are illustrated in **Figure 4.10** to **Figure 4.12**. According to the contour results, no exceedance of 10-min and daily SO_2 is predicted in the study area.

4.7.12 As discussed in above **Section 4.7.7** to **Section 4.7.11**, it is anticipated that there would be no adverse air quality impact in AQO criteria pollutants due to the operation of the Project after implementing an APS with at least 10% NO_2 removal efficiency and 1% FSP removal efficiency at A02.

Operation Phase (Bitumen Emission (including bitumen fume, PAH and non-PAH hazardous air pollutants, and non-PAH organic compounds) and Odour Impact)

4.7.13 The 5-second odour and daily bitumen fume concentrations at the representative ASRs are predicted and are summarized in **Table 4.23**. The predictions showed that the odour and bitumen fume concentrations would comply with the respective international criteria and EIAO-TM criterion. The detailed prediction results are presented in **Appendix 4.9**.

4.7.14 According to the detailed results in **Appendix 4.9**, the maximum 5-second odour would occur at 5 mAG. The contour plots of the predicted highest cumulative 5-second odour concentration at different levels are illustrated in **Figure 4.24** to **4.28**. Based on these contour plots, exceedances of odour are predicted within the projected site. Any air sensitive uses within the Project Site, including the office and workshop of the proposed ancillary operation area, shall avoid being located within the exceedance zones at 1.5, 5, 10, 15, and 20 mAG shown in **Figure 4.24** to **4.28** to avoid any adverse air quality impact. It is anticipated that there is no adverse air quality impact in terms of odour due to the operation of the Project.

4.7.15 According to the detailed results in **Appendix 4.9**, the maximum daily bitumen fume concentration would occur at 10 mAG. The contour plots of the predicted maximum daily bitumen fume concentration at different levels are illustrated in **Figure 4.29** to **4.33**. Exceedance of bitumen fume concentration was predicted within the Project Site at 10mAG,

as shown in **Figure 4.31**. Any air sensitive uses within the Project Site, including the office and workshop of the proposed ancillary operation area, shall avoid being located within the exceedance zone of bitumen fume at 10 mAG shown in **Figure 4.31** to avoid any adverse air quality impact. It is anticipated that there is no adverse air quality impact in terms of bitumen fume due to the operation of the Project.

4.7.16 The cumulative concentrations of each individual PAH and non-PAH hazardous air pollutant and non-PAH organic compound at the representative ASRs were also predicted and are presented in **Appendix 4.9**. The predictions showed that the cumulative concentrations of each pollutant would comply with its respective concentration criteria if available according to **Table 4.2**. For each averaging period, the pollutant with the cumulative concentration closest to its respective assessment criterion, i.e. the pollutant with the highest cumulative concentration-to-criterion ratio, was selected the representative pollutant. According to the detailed results in **Appendix 4.9**, the hourly formaldehyde, 8-hour benzene, daily benzo(a)pyrene and annual formaldehyde are the representative pollutants for different averaging periods. The cumulative concentrations of the representative pollutants are summarized in **Table 4.24.** The worst affected level for hourly formaldehyde would be 5 mAG, while that for 8-hour benzene, daily benzo(a)pyrene and annual formaldehyde would be 10 mAG. The contour plots of the representative pollutants at different levels are illustrated in **Figure 4.34** to **Figure 4.44**.

4.7.17 No exceedance of hourly and annual formaldehyde and daily benzo(a)pyrene was predicted. Exceedance in cumulative concentration for 8-hour benzene was predicted at the proposed asphalt production operation area within the Project site at 10 mAG, 15 mAG, and 20 mAG as shown in **Figure 4.40 to 4.42**. There is no existing or planned air sensitive use in the exceedance zone. Any air sensitive uses within the Project Site, e.g. office or workshop of the proposed ancillary operation area, shall avoid being located within exceedance zones. It is anticipated that there is no adverse air quality impact in PAH and non-PAH hazardous air pollutants and non-PAH organic compounds due to the operation of the Project.

Table 4.23 Worst Predicted Odour and Bitumen Fume Concentrations at Representative ASRs

ASR ID	Maximum 5-second Average Odour Conc. (OU/m^3)	Maximum Daily Bitumen Fume Conc. ($\mu g/m^3$)
	(EIAO-TM: 5 OU/m^3)	(Criterion: 7 $\mu g/m^3$)
A02	0.58	0.03
A03	0.80	0.04
A04	1.03	0.06
A05	0.60	0.03
A06	0.37	0.01
A07	1.81	0.07
A08	1.42	0.07

Notes:
(1) **Bolded** value shows exceedance in the relevant criterion.

Table 4.24 Worst Predicted Representative Pollutants (Formaldehyde, Benzene and Benzo(a)pyrene) Concentrations at Representative ASRs

ASR ID	Maximum 30-min Formaldehyde Conc. (µg/m3)	Maximum Hourly Formaldehyde Conc. ($\mu g/m^3$)	Maximum 8-hour Benzene Conc. ($\mu g/m^3$)	Maximum Daily Benzo(a)pyrene Conc. ($\mu g/m^3$)	Maximum Annual Formaldehyde Conc ($\mu g/m^3$)
	(Criterion: 100 $\mu g/m^3$)	(Criterion: 98.1 $\mu g/m^3$)	(Criterion: 3 $\mu g/m^3$)	(Criterion: 0.000873 $\mu g/m^3$)	(Criterion: 9 $\mu g/m^3$)
A02	20.6	14.6	1.92	0.000260	6.47
A03	21.0	14.9	1.95	0.000260	N.A. [1]
A04	21.3	15.1	2.03	0.000260	6.49
A05	20.7	14.7	1.91	0.000260	6.47
A06	20.3	14.4	1.86	0.000260	6.47
A07	22.5	16.0	2.04	0.000260	6.49
A08	21.9	15.5	2.01	0.000260	6.49

Notes:
(1) Long-term impact is not applicable to A03 because it is transient in nature.

Operation Phase (Heavy Metal)

4.7.18 The cumulative concentrations of each individual heavy metal at the representative ASRs were also predicted and are presented in **Appendix 4.9**. The predictions showed that the cumulative concentrations of each heavy metal would comply with its respective concentration criteria according to **Table 4.3**. For each averaging period, the pollutant with the cumulative concentration closest to its respective assessment criterion, i.e. the pollutant with the highest cumulative concentration-to-criterion ratio, was selected as the representative pollutant. According to the detailed results in **Appendix 4.9**, the hourly nickel, 8-hour Arsenic and annual nickel are the representative pollutants for different averaging periods. The cumulative concentrations of the representative pollutants are summarized in **Table 4.25** and the worst affected level for hourly nickel would be 5 mAG, while that for 8-hour arsenic and annual nickel would be 10 mAG. The contour plots of the representative heavy metals at different levels are illustrated in **Figure 4.45** to **Figure 4.56**.

4.7.19 Exceedances in cumulative hourly nickel concentration at 1.5 and 5 mAG, cumulative 8-hour arsenic concentration at 10, 15, and 20 mAG and cumulative annual nickel concentration at 10 and 15 mAG were predicted within or adjacent to the Project site. No existing or planned air sensitives uses exist in these exceedance zones. Any air sensitive uses within the Project Site, e.g. office and workshop of the proposed ancillary operations shall avoid being located within exceedance zones, as shown in **Figure 4.45** to **Figure 4.46**, **Figure 4.49** to **Figure 4.51**, and **Figure 4.54** to **Figure 4.55**. It is anticipated that there is no adverse air quality impact from heavy metals due to the operation of the Project.

Table 4.25 Worst Predicted Representative Pollutants (Nickel and Arsenic) Concentrations at Representative ASRs

ASR ID	Maximum Hourly Nickel Conc. (µg/m³) (Criterion: 0.2 µg/m³)	Maximum 8-hour Arsenic Conc. (µg/m³) (Criterion: 0.015 µg/m³)	Maximum Annual Nickel Conc. (µg/m³) (Criterion: 0.02 µg/m³)
A02	0.026	0.011	0.004
A03	0.032	0.011	N.A. [1]
A04	0.038	0.012	0.004
A05	0.026	0.011	0.004
A06	0.020	0.011	0.004
A07	0.060	0.012	0.004
A08	0.049	0.012	0.004

Notes:
(1) Long-term impact is not applicable to A03 because it is transient in nature.

4.8 Mitigation of Adverse Environmental Impacts

Construction Phase

4.8.1 Air quality mitigation measures stipulated in *Air Pollution Control (Construction Dust) Regulation* and good site practices listed below should be carried out to further minimise construction air quality impact.

- Use of regular watering to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;
- Use of frequent watering for particularly dusty construction areas and areas close to ASRs;
- Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines;
- For the work sites close to the ASRs with a separation distance less than 10m, provide hoardings of not less than 3.5m high from ground level along the site boundary; for the other work sites in general, provide hoarding not less than 2.4m high from ground level along site boundary except for site entrance or exit;

- Avoid position of material stockpiling areas, major haul roads and dusty works within the construction site close to concerned ASRs;
- Avoid unnecessary exposed earth;
- Locate all the dusty activities away from any nearby ASRs as far as practicable;
- Open stockpiles should be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs;
- Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;
- Establishment and use of vehicle wheel and body washing facilities at the exit points of the site;
- Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs;
- Imposition of speed controls for vehicles on site haul roads; and
- Instigation of an air quality monitoring and audit program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise, and to ensure that no nearby ASRs will be subject to adverse air quality impact.

4.8.2 Guidelines stipulated in EPD's Recommended Pollution Control Clauses for Construction Contracts shall be incorporated in the contract document to abate air quality impacts. These clauses include:

- The Contractor shall observe and comply with APCO and its subsidiary regulation, particularly the *Air Pollution Control (Construction Dust) Regulation*.
- The Contractor shall undertake at all times to prevent air nuisance as a result of the construction activities.
- The Contractor shall ensure that there will be adequate water supply / storage for air quality mitigation measures.
- The Contractor shall devise and arrange methods of working and carrying out the works in such a manner so as to minimise air quality impact on the surrounding environment, and shall provide experienced personnel with suitable training to ensure that these methods are implemented properly.
- Before the commencement of any work, the Contractor may be required to submit the methods of working, plant, equipment and air pollution control system to be used on the site for the Engineer's inspection and approval.

4.8.3 To minimize the exhaust emission from NRMMs during the construction phase, the following measures should be applied as far as practicable:

- Connect construction plant and equipment to main electricity supply and avoid the use of diesel generators and diesel-powered equipment;
- Avoid exempted NRMMs as far as practicable; and
- Deploy electrified NRMMs as far as practicable.

Operation Phase (Air Quality Impact)

4.8.4 Blast doors and water sprayers should be provided to control the likely particulate emission from the underground quarrying. Ventilation with exhaust at the portal should also be provided in the caverns. A dust collector with dust removal efficiency of at least 85% for the excavated space should be installed at the ventilation exhaust.

4.8.5 Air quality mitigation measures stipulated in *Air Pollution Control (Construction Dust) Regulation*, good site practices, guidelines stipulated in EPD's *Recommended Pollution Control Clauses for Construction Contracts* and measures for NRMMs emissions described in **Section 4.8.1** to **Section 4.8.3** should be carried out to further minimise operation air quality impact.

4.8.6 Control measures (e.g. water sprinklers, enclosures, baghouses, SCR for fuel burner, ultra-low-sulphur diesel etc.) described in **Table 4.12** to **Table 4.16** should be incorporated in the design of underground quarrying and ancillary operations to further minimise the air quality impact.

4.8.7 Centralized air conditioning and air filtering system with recommended NO_2 removal efficiency of at least 46%, RSP removal efficiency of at least 73% and FSP removal efficiency of at least 51% shall be installed to minimize the air quality impacts and achieve AQO compliance for any air sensitive uses, including the office and workshop of the proposed ancillary operation areas, to be located within the exceedance zones of RSP, FSP and NO_2 as shown in **Figure 4.03** to **Figure 4.09**. The air filtering system and its air pollutant removal efficiencies will be further reviewed at the detailed design stage to ensure compliance with AQOs.

4.8.8 An APS with at least 10% NO_2 removal efficiency and 1% FSP removal efficiency should be provided on the G/F of A02. The APS shall be kept in place until AQO compliance at A02 can be demonstrated by a quantitative air quality impact assessment. However, APS is not required for rooms with fresh air intake located outside the exceedance zone, plant rooms, storerooms and rooms intended for transient / short-term occupancy. The APS and its NO_2 and FSP removal efficiencies will be further reviewed by the Contractor at the detailed design stage to ensure that the air quality impacts at this building could comply with the AQOs. The Contractor shall review and demonstrate the effectiveness of mitigation measures to CEDD for agreement.

4.8.9 With reference to **Section 4.7.7** to **Section 4.7.11**, no adverse residual air quality impact is anticipated due to the Project during the operation phase. The indicative locations of emission points as presented in **Appendix 4.2** are suggested by the Project Engineer. It is recommended to relocate emission points AP02 (Batch mix dryers, hot screen and mixer, and bitumen heating system) in the subsequent design in a manner that separation distance from each nearby ASRs is maximized.

Operation Phase (Bitumen Emission (including bitumen fume, PAH and non-PAH HAPs, and non-PAH organic compounds) and Odour Impact)

4.8.10 Precise temperature control, baghouse, and activated carbon filter should be incorporated in the design of asphalt production to control the bitumen and odour emission. With reference to **Section 4.7.13** to **Section 4.7.17**, there is no existing or planned air sensitive use in the exceedance zones. Any air sensitive uses within the Project Site, e.g. office or workshop of the proposed ancillary operation area, shall avoid being located within exceedance zones. No adverse impact in odour and bitumen is anticipated due to the Project during the operation phase. Thus, further mitigation measure is deemed not necessary.

Operation Phase (Heavy Metal)

4.8.11 Baghouse should be connected to the exhaust of the asphalt production to control the heavy metal emission. With reference to **Section 4.7.18** and **Section 4.7.19**, there is no existing or planned air sensitive use in the exceedance zone. Any air sensitive uses within the Project Site, e.g. office or workshop of the proposed ancillary operation area, shall avoid being located within exceedance zones. No adverse impact in heavy metal is anticipated due to the Project during the operation phase. Thus, further mitigation measure is deemed not necessary.

4.9 Evaluation of Residual Impacts

Construction Phase

4.9.1 With the implementation of control measures and the proposed air quality monitoring and auditing programme with real-time dust monitoring described in **Section 4.10**, no adverse residual impact would be expected from the construction of the Project.

Operation Phase (Air Quality Impact)

4.9.2 With the implementation of measures described in **Section 4.8**, no adverse residual impact would be expected from the Operation Phase of the Project.

Operation Phase (Bitumen Emission (including bitumen fume, PAH and non-PAH hazardous air pollutants, and non-PAH organic compounds) and Odour Impact)

4.9.3 No adverse residual impact is expected during the Operation Phase of the Project.

Operation Phase (Heavy Metal)

4.9.4 No adverse residual impact is expected during the Operation Phase of the Project.

4.10 Air Quality Monitoring and Audit

Construction Phase

4.10.1 Real-time dust monitoring of RSP and FSP shall be conducted during the construction phase so as to check compliance with the legislative requirements. The locations of dust monitoring will be confirmed with EPD by the Contractor at a later stage.

4.10.2 Regular site audits are recommended to be conducted during the entire construction phase of the Project so as to ensure the air quality mitigation measures, including those stipulated in *Air Pollution Control (Construction Dust) Regulation*, are implemented in order.

Operation Phase (Air Quality Impact)

4.10.3 Real-time dust monitoring of RSP and FSP shall be conducted for the first three years after the commencement of the Project so as to check compliance with the legislative requirements. Agreement with the EPD shall be sought to review if further monitoring works are required after three years of monitoring.

4.10.4 The dust monitoring of RSP and FSP shall cover the ventilation system exhaust and the cavern portals upon full capacity of the quarry operation during the operation phase. The total of these two monitoring results (i.e. concentration at exhaust and concentration at portal) shall be reviewed to confirm the validity of the adopted emission rates of cavern in the assessment. Emission rates in terms of gram per second at both exhaust and portal shall also be determined so that the validity of the adopted emission rates for assessment can be checked.

4.10.5 The details of the monitoring concerning the ancillary operations, including but not limited to the locations of monitoring, monitoring frequencies, and duration, will be confirmed with EPD under the Air Pollution Control Plan (APCP) to be prepared by the Contractor in a later stage. The monitoring shall include the exhaust(s) and/or stack(s) of the proposed asphalt production operation.

4.10.6 Regular site audits for potential air quality impact are recommended to be conducted during the entire operation phase of the Project so as to ensure the air quality mitigation measures, including those stipulated in *Air Pollution Control (Construction Dust) Regulation* are implemented in order.

4.10.7 Air quality monitoring of NO_2 and FSP concentrations at A02 shall be conducted by the Contractor after the commencement of the Project to verify the desired NO_2 and FSP removal efficiencies achievable by the APS and ensure the indoor NO_2 & FSP concentrations complying with the respective AQOs. Agreement with the EPD shall be sought at the early stage of the Project on the monitoring approach and the frequency of monitoring. The Contractor shall review and demonstrate the effectiveness of mitigation measures to CEDD for agreement.

Operation Phase (Bitumen Emission (including bitumen fume, PAH and non-PAH hazardous air pollutants, and non-PAH organic compounds) and Odour Impact)

4.10.8 Monitoring of PAH and non-PAH hazardous air pollutants, non-PAH organic compounds are recommended to be conducted at sources upon commissioning and during the first three years to ensure the concentration limits/emission rates adopted in the modelling assessment and the assessment results are valid. Agreement with the EPD shall be sought to review if further monitoring works are required after three years of monitoring.

4.10.9 Odour patrol are also recommended to be conducted in the first three years after the

commencement of the Project so as to ensure no adverse odour impact at ASRs. Agreement with the EPD shall be sought to review if further monitoring works are required after three years of monitoring.

4.10.10 The details of the monitoring, including but not limited to the locations of monitoring, monitoring frequencies, and duration, will be confirmed with EPD under the APCP to be prepared by the Contractor in a later stage. The monitoring shall include the exhaust(s) and/or stack(s) of the proposed asphalt production operation area.

Operation Phase (Heavy Metal)

4.10.11 Monitoring of heavy metal are recommended to be conducted at sources upon commissioning and during the first three years to ensure the concentration limits / emission rates adopted in the modelling assessment and the assessment results are valid. The details of the monitoring, including but not limited to the locations of monitoring, monitoring frequencies, and duration, will be confirmed with EPD under the APCP to be prepared by the Contractor in a later stage. The monitoring shall include the exhaust(s) and/or stack(s) of the proposed asphalt production operation area. Agreement with the EPD shall be sought to review if further monitoring works are required after three years of monitoring.

4.11 Conclusion

Construction Phase

4.11.1 Potential construction air quality impact would arise from site formation, construction of two portals, potential internal road widening and erection of equipment for ancillary activities. With the implementation of suppression measures as suggested in *Air Pollution Control (Construction Dust) Regulation*, together with the recommended air quality mitigation measures including frequent watering on active works areas, exposed areas and haul roads, and other site management measures such as good site practice and air quality monitoring and audit programme with real-time monitoring of RSP and FSP, no adverse construction air quality impact on ASRs in the vicinity of the work sites is anticipated during the construction phase.

Operation Phase (Air Quality Impact)

4.11.2 Cumulative air quality impact arising from proposed underground quarry and above-ground ancillary operations, adjacent industrial sources, existing and planned open roads and parking sites within 500m assessment area has been evaluated. The quantitative assessment conducted in this PER is based on the best available information on the development operation parameters, including but not limited to activity intensity, emission strength, and site layout, as detailed in **Appendix 4.2**.

4.11.3 The prediction results predicted exceedance in RSP, FSP and NO_2 within the Project Site. All air sensitive uses, including any office or workshop of the proposed ancillary operations, shall avoid being located within exceedance zones to avoid any adverse air quality impact. Should any office or workshop be located in the exceedance area, an air filtering system with at least 73% RSP removal efficiency, at least 51% FSP removal efficiency and at least 46% NO_2 removal efficiency will be provided at these buildings in order to achieve AQO compliance.

4.11.4 Exceedances in annual NO_2 and annual FSP were predicted at the Lantau Link Administration Building (ASR A02). An APS with at least 10% NO_2 removal efficiency and 1% FSP removal efficiency should be provided at this building before the commencement of the operation phase of the Project in order to achieve AQO compliance. The APS shall be kept in place until AQO compliance at A02 can be demonstrated by a quantitative air quality impact assessment. However, APS is not required for rooms with fresh air intake located outside the exceedance zone, plant rooms, storerooms, and rooms intended for transient / short-term occupancy.

4.11.5 With the installation of aforementioned APSs and the implementation of the proposed air quality monitoring and audit program, no adverse air quality impacts in respect of the criteria

air pollutants are anticipated during the operation phase of the Project.

Operation Phase (Bitumen Emission (including bitumen fume, PAH and non-PAH hazardous air pollutants, and non-PAH organic compounds) and Odour Impact)

4.11.6 Potential bitumen emission (including bitumen fume, PAH and non-PAH hazardous air pollutants, and non-PAH organic compounds) and odour impacts arising from ancillary operations have been evaluated. Exceedance of odour, bitumen fume and benzene was predicted within the Project Site. Given that no air sensitive uses within the Project Site, such as the office or workshop of the proposed operations, will be located within any exceedance zones, no adverse air quality impacts due to bitumen emissions (including bitumen fume, PAHs, non-PAH hazardous pollutants) are anticipated during the operation phase of the Project

Operation Phase (Heavy Metal)

4.11.7 Heavy metal impacts arising from ancillary operations have been evaluated. Exceedance in cumulative concentration for nickel and arsenic was predicted within the Project site. Given that no air sensitive uses within the Project Site, such as the office or workshop of the proposed operations, will be located within any exceedance zones, no adverse air quality impacts due to heavy metal emissions are anticipated during the operation phase of the Project.

5 NOISE

5.1 Introduction

5.1.1 This section presents the assessment findings of the potential noise impacts associated with the construction and operation of the Project.

5.2 Environmental Legislation, Standards and Assessment Criteria

5.2.1 Potential noise impacts have been assessed in accordance with the criteria and guidelines given in the HKPSG, Technical Memoranda (TMs) under the Noise Control Ordinance (NCO) (Cap. 400), and guidelines and references provided by EPD.

5.2.2 Assessment procedures, standards, and guidelines relevant to the Project are listed below:

- Chapter 9 of Hong Kong Planning Standards and Guidelines (HKPSG);
- Technical Memorandum on Noise from Percussive Piling (PP-TM);
- Technical Memorandum on Noise from Construction Work other than Percussive Piling (GW-TM);
- Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM);
- Section 3 of Recommended Pollution Control Clauses for Construction Contracts; and
- Professional Persons Environmental Consultative Committee Practice Note 1/24 (ProPECC PN 1/24) *Minimizing Noise from Construction Activities*.

Construction Phase and Operation Phase - Quarry Noise (Excluding Fixed Noise Sources)

General Construction Works

5.2.3 The NCO provides the statutory framework for noise control of construction works other than percussive piling, using powered mechanical equipment (PME) between the hours of 1900 and 0700 hours or at any time on Sundays and general holidays (that is, restricted hours). Noise control on construction activities taking place at other times is subject to the criteria for evaluating noise impact stated in ProPECC PN 1/24. The noise limit is $L_{eq\ (30\ minutes)}$ 75dB(A) at all domestic premises, temporary housing accommodation, hostels, convalescences homes and homes for the aged; and $L_{eq\ (30\ minutes)}$ 70dB(A) at places of public worship, courts of law, hospitals and medical clinics, and educational institutions (including kindergartens and nurseries) (with criterion of $L_{eq\ (30\ minutes)}$ 65dB(A) during examinations). The above standards apply to uses which rely on opened windows for ventilation and are assessed at 1m from the external façade.

Construction Works During Restricted Hours

5.2.4 The NCO designates Acceptable Noise Levels (ANLs) for Noise Sensitive Receivers (NSRs) on the basis of an Area Sensitivity Rating (ASR), based on the characteristics of the area within which they are located, such as rural, village, low-density residential, or urban (**Table 5.1** refers) for the purpose of the assessments of the construction noise impact during restricted hours (i.e. between 1900 and 0700 hours or at any time on Sundays and general holidays). Within these areas, the presence of "influencing factors" (IF) (such as the presence of industrial area or major roads) can further affect the ASR and hence the ANLs.

Table 5.1 Area Sensitivity Ratings

Type of Area Containing NSR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
Rural area, including country parks or village type developments	A	B	B
Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C

Type of Area Containing NSR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
Urban area	B	C	C
Area other than those above	B	B	C

Remarks:
(1) "Country park" means an area that is designated as a country park pursuant to section 14 of the Country Parks Ordinance;
(2) "Directly affected" means that the NSR is at such a location that noise generated by the IF is readily noticeable at the NSR and is a dominant feature of the noise climate of the NSR;
(3) "Indirectly affected" means that the NSR is at such a location that noise generated by the IF, whilst noticeable at the NSR, is not a dominant feature of the noise climate of the NSR;
(4) "Not affected" means that the NSR is at such a location that noise generated by the IF is not noticeable at the NSR; and
(5) "Urban area" means an area of high density, diverse development including a mixture of such elements as industrial activities, major trade or commercial activities and residential premises.

5.2.5 Between 1900 and 0700 hours and all day on Sundays and public holidays (i.e. restricted hours), activities involving the use of PME for the purpose of carrying out construction work are prohibited unless a construction noise permit (CNP) has been obtained. A CNP may be granted provided that the ANLs for NSRs can be complied with. ANLs are assigned depending upon the ASRs. The corresponding Basic Noise Levels (BNLs) for evening and night-time periods are given in **Table 5.2**.

Table 5.2 Construction Noise Criteria During Restricted Hours

Time Period	Basic Noise Levels (BNLs) (dB(A))		
	ASR A	ASR B	ASR C
All days during the evening (1900 to 2300 hours), and general holidays (including Sundays) during the day-time and evening (0700 to 2300 hours)	60	65	70
All days during the night-time (2300 to 0700 hours)	45	50	55

5.2.6 Despite any description or assessment made in this PER on construction noise aspects, there is no guarantee that a CNP will be issued for the Project construction. The Noise Control Authority will consider a well-justified CNP application, once filed, for construction works within restricted hours as guided by the relevant TMs issued under the NCO. The Noise Control Authority will take into account of contemporary conditions/situations of adjoining land uses and any previous complaints against construction activities at the site before making his decision in granting a CNP. Nothing in this PER shall bind the Noise Control Authority in making his decision. If a CNP is to be issued, the Noise Control Authority shall include in it any condition he thinks fit. Failure to comply with any such conditions will lead to cancellation of the CNP and prosecution action under the NCO.

5.2.7 The regulatory control of all blasting operations in Hong Kong is vested in the Commissioner of Mines (CoM). The Mines/CEDD undertakes the regulatory control duties under delegated authority from CoM. The *Dangerous Goods (Control) Regulation* (Cap. 295G) also stipulates that a blasting permission granted by the CoM is required for carrying out blasting operations in a blasting site. As recommended in the *Recommended Pollution Control Clauses for Construction Contracts* by EPD, less noisy techniques (such as pulse plasma fragmentation) shall be considered when blasting is to be carried out where practical.

Operation Phase - Fixed Noise Sources

5.2.8 Fixed noise sources are controlled by Section 13 of the NCO and IND-TM. Noise criteria for fixed noise sources impact with a noise criterion of 5dB(A) below the appropriate ANL shown in Table 2 of the IND-TM or the prevailing background noise levels (for quiet areas with level

5dB(A) below the ANL) recommended in Table 4.1 of Chapter 9 of the HKPSG for planning purposes was applied to this Study. For the protection of noise sensitive developments against impacts from existing fixed noise sources, IND-TM has stipulated appropriate ANLs. The ANLs and criteria for different ASRs are summarised in **Table 5.3** below**.**

Table 5.3 ANLs at NSRs for Fixed Noise Sources

Time Period	Acceptable Noise Levels (1) (2) (ANLs) ($L_{eq\ (30\ minutes)}$, dB(A))		
	ASR A	ASR B	ASR C
Day (0700 to 1900 hours)	60 (55)	65 (60)	70 (65)
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50 (45)	55 (50)	60 (55)

Notes:
(1) The above standards, or equivalent, apply to uses which rely on opened windows for ventilation and are assessed at 1m from the external façade.
(2) The numbers in brackets represent the ANLs for planned fixed noise sources.

Operation Phase - Road Traffic Noise

5.2.9 For road traffic noise, the $L_{10\ (1\ hour)}$ criteria as stipulated in Table 4.1 of Chapter 9 of the HKPSG shall be adopted for different types of NSRs which rely on opened windows for ventilation. These criteria are summarized as follows:

Table 5.4 Noise Criteria for Road Traffic Noise

Uses	Road Traffic Noise ($L_{10\ (1\ hour)}$, dB(A)) (1)
• All domestic premises, including temporary housing accommodation • Hotels and hostels • Offices	70
• Educational institutions, including kindergartens, child care centres and all others where unaided voice communication is required • Places of public worship and courts of law	65
• Hospitals, clinics, convalescences and residential care homes for the elderly - diagnostic rooms - wards	55
• Amphitheatres, and auditoria, libraries, performing arts centres and Country Parks	depend on locations and construction

Note:
(1) The above standards apply to uses which rely on opened windows for ventilation.

5.3 Description of Baseline Condition

5.3.1 The Project is located at the northwest of Tsing Yi Island and the locality of area near the Project is predominantly as Green Belt and areas used for industrial activities (e.g. Hong Kong Cement, Hong Kong Shipyard, etc.). The dominant noise sources are the vehicular traffic from the existing Tsing Long Highway and Tsing Yi North Coastal Road, and the existing industrial activities from shipyards along Tam Kon Shan Road.

5.4 Identification of Noise Sensitive Receivers

5.4.1 In accordance with Appendix 4.1 of Chapter 9 of the HKPSG, domestics premises including temporary housing, educational institutions including kindergartens and child care centres, hospitals, medical clinics, residential care homes for the elderly, convalescent homes, places of public worship, libraries, courts of law, performing arts centres, auditoria, amphitheatres, hotels, hostels, country parks and offices are classified as NSRs.

5.4.2 The assessment area for noise impact assessment is defined by a distance of 300m from the Project Boundary. Based on site observation and review of the latest information including topographic maps, the OZP (i.e. Approved OZP No. S/TY/32), Layout Plans and other relevant published land use plans, including plans and drawings published by the Lands Department (LandsD), and land use and planning application approved by the Town Planning Board in the vicinity of the Project, there are no existing and planned NSRs identified within the assessment area. The nearest NSR would be Cheung Wang Estate (i.e. NSR ID N04), which is located at about 389m to the east of the Project Boundary, and would have no direct line of sight to any part of the Project Site. The nearest NSR that would have a direct line of sight to the Project Site would be Villa Cote D'azur (i.e. NSR ID N03) which is located at more than 730m to the north of the Project Boundary. The identified representative NSRs are listed in **Table 5.5**, with their locations shown in **Figure 5.01**.

Table 5.5 Representative Noise Sensitive Receivers

Representative NSR	NSR ID	Land Use	Approximate Distance from the Project Boundary, m
Sunny Villa	N01	Residential	755
Aztec Lodge	N02	Residential	894
Villa Cote D'azur	N03	Residential	737
Cheung Wang Estate	N04	Residential	389
S.K.H. Tsing Yi Chu Yan Primary School	N05	Educational	396
Mount Haven	N06	Residential	566
Queen's College Old Boys' Association Secondary School	N07	Educational	903

5.5 Identification of Potential Impacts

Construction Phase

5.5.1 The major construction works would include site clearance, site formation, road modification, foundation works, construction of portals and Main Access Tunnel, installation of blasting doors, installation for ancillary activities and other quarry-related equipment, and slope stabilisation works. Construction noise sources will mainly come from the use of PME such as generators, excavators and breakers, etc., for the abovementioned construction activities. The tentative plant inventory to be used for the proposed construction works are listed in **Table 5.6** below.

Table 5.6 Tentative Plant Inventory for Key Construction Activities

Key Construction Activities	Possible PME Required [1]	
Site Clearance	• Excavator/loader • Breaker, excavator mounted • Mobile crane	• Generator • Dump truck
Construction Works Associated with the Ngau Kok Wan Access Road Modification	• Rock drill, crawler mounted • Air compressor • Water pump	• Grout mixer • Grout pump • Generator • Mobile crane
Site Formation and Foundation Works Associated with the Ngau Kok	• Excavator/loader • Breaker, excavator mounted • Mobile crane • Dump truck • Piling, large diameter bored,	• Piling, large diameter bored, oscillator • Piling, large diameter bored, reverse circulation drill • Generator

Key Construction Activities	Possible PME Required [1]	
Wan Site Formation	grab and chisel	• Mobile crane • Concrete lorry mixer • Concrete pump
Construction of Ngau Kok Wan Portal and Front Sections of Main Access Tunnels by Mechanical Excavation, Mucking Out and Installation of Blasting Doors	• Excavator/loader • Breaker, excavator mounted • Rock drill, crawler mounted [2] • Air compressor [2] • Generator [2] • Water pump [2] • Ventilation fan [2] • Concrete lorry mixer [2]	• Concrete pump [2] • Grout mixer [2] • Grout pump [2] • Mobile crane [2] • Vibratory poker [2] • Bar bender and cutter • Dump truck • Rock bolt rig [2] • Shotcreting robot [2]
Slope Stabilization Works Associated with Ngau Kok Wan Portal's Formation	• Drill rig, rotary type (diesel) • Air compressor • Grout mixer • Grout pump • Generator	• Lorry, with crane/grab
Construction of Tam Kon Shan Portal and Front Section of Main Access Tunnel by Mechanical Excavation, Mucking Out and Installation of Blasting Door	• Excavator/loader • Breaker, excavator mounted • Rock drill, crawler mounted • Air compressor • Generator • Water pump • Ventilation fan • Concrete lorry mixer	• Concrete pump • Grout mixer • Grout pump • Mobile crane • Vibratory poker • Bar bender and cutter • Dump truck, with grab
Slope Stabilization Works Associated with the Tam Kon Shan Portal's Formation	• Drill rig, rotary type (diesel) • Air compressor • Grout mixer • Grout pump • Generator	• Lorry, with crane/grab
Ancillary Activities / Other Plants Associated with Underground Quarrying	• Mobile crane • Concrete lorry mixer • Concrete pump • Vibratory poker • Drill, percussive	• Bar bender and cutter • Lorry • Dump truck, with grab

Notes:
(1) Quiet equipment or quality powered mechanical equipment (QPME) would be adopted where applicable and practicable.
(2) The PMEs would also be adopted for other construction activities related to the Main Access Tunnel and formation of the Underground Quarry Site (prior to primary rock crusher), including the D&B and the quarrying activities mentioned in **Section 5.5.4** to **Section 5.5.6**, during the operation phase.

5.5.2 The Contractor should develop a reasonable construction programme to avoid noisy construction works during restricted hours, particularly for aboveground works. Based on the latest information, the proposed construction works during the construction phase will not be conducted during restricted hours, i.e. the time between 1900 and 0700 hours on all days, and any time on general holidays, including Sundays. In case any construction works are to be carried out during restricted hours, a CNP shall be obtained under the NCO (**Section 5.2.5** refers).

5.5.3 Based on the latest information, most of the proposed construction works will occur during non-restricted hours. However, certain underground construction activities, such as hole drilling, scaling, and mucking out, may need to be performed during restricted hours to align with the blasting cycle. It is the Contractor's responsibility to ensure the compliance with the NCO and the relevant TMs. The Contractor should submit CNP application to the Noise Control Authority and abide by any conditions stated in the CNP, should one be issued.

Operation Phase - Quarry Noise (Excluding Fixed Noise Sources)

5.5.4 The D&B method would be adopted for excavating the Main Access Tunnel and caverns. Given the hard rock conditions at the Project Site and its proven cost-effectiveness, the D&B method is considered as the most suitable approach compared to other quieter construction methods.

5.5.5 Pursuant to Section 2 of Part I of NCO, any work in connection with or for the extraction from the earth of any matter whatsoever is defined as construction works. Hence, hole drilling before blasting and quarrying activities (e.g. rock mucking from blast faces, further rock breaking for easier transportation as necessary and stabilisation works for the Underground Quarry Site, including rock bolt installation and shotcreting) after blasting during the operation phase are considered construction works. Based on the latest information, construction activities during the operation phase may need to be performed during restricted hours to facilitate the blasting cycle. It is the Contractor's responsibility to ensure the compliance with the NCO and the relevant TMs. The Contractor should submit CNP application to the Noise Control Authority and abide by any conditions stated in the CNP, should one be issued.

5.5.6 The instant noise from the blasting operation is considered to be minimal in terms of noise annoyance, as the duration of blasting is very short and infrequent and that all the identified representative NSRs would have no direct line of sight to the blasting operation. There is no statutory procedure or criteria under the NCO for assessing the blasting noise impact. However, the regulatory control of all blasting operations in Hong Kong is vested in the CoM and delegated to the Mines/CEDD. The *Dangerous Goods (Control) Regulation* (Cap. 295G) stipulates that a blasting permission granted by the CoM is required for carrying out blasting operations in a blasting site. Mines/CEDD is also responsible for carrying out audit inspections at times with the works activities of the Contractor.

Operation Phase - Fixed Noise Sources

5.5.7 During the operation phase, fixed noise sources from the Project will include rock crushing, concrete production, and asphalt production at Ngau Kok Wan Portal and an enclosed conveyor belt system used for on-site transportation at Wok Tai Wan Works Area. Tentative locations of the proposed major fixed noise sources are shown in **Figure 5.02**.

5.5.8 As detailed in **Section 2.3.5**, the operation phase of the Project will tentatively commence in Q4 2028, Generally, fixed noise sources will not operate during night-time hours. However, the asphalt production may need to operate during restricted hours when night-time road works require asphalt.

Operation Phase - Road Traffic Noise

5.5.9 As confirmed by the Project Engineer, there will be no construction of new roads and local roads to be carried out under the Project. The only road work planned is minor widening near the entrance of access road within the Project Site. The tentative traffic routes to and from the Project Site would be generally via Tsing Long Highway, Lantau Link, Tsing Yi North Coastal Road, Northwest Tsing Yi Interchange and the access road. Road traffic noise impact on the nearby NSRs would be generated from the traffic of the existing road network and the Project-related traffic due to the additional road traffic associated with the operation of the Underground Quarry Site.

5.6 Evaluation of Potential Impacts

Construction Phase and Operation Phase - Quarry Noise (Excluding Fixed Noise Sources)

5.6.1 As mentioned in **Section 5.4.2**, there is no NSR identified within the assessment area, and the nearest NSRs are Cheung Wang Estate and S.K.H. Tsing Yi Chu Yan Primary School, which are located more than 380m away from the Project Boundary and are substantially screened by natural terrain. At the north of the Project Boundary, the nearest NSRs that have direct line of sight to the portal areas are Sunny Villa and Villa Cote D'azur, which are located more than 700m away from the Project Boundary. In view of the considerable buffer distances between the Project Boundary and the nearest NSRs, the noise impact incurred by the construction activities of the Project is thus considered insignificant. Nevertheless, good site practices and quiet construction methods as presented in **Section 5.7** should be followed.

5.6.2 During the drilling activities prior to blasting, potential ground-borne noise impacts arising from breaking the rock face by rock drills and hydraulic breakers may affect the NSRs in the close vicinity of the works sites. However, there are no existing and planned NSRs located within 300m from the works sites of D&B, i.e. the Main Access Tunnel and the Underground Quarry Site. Given that the large separation distance between the works sites of D&B and the NSRs, along with the limited number of PMEs to be involved (**Table 5.6** refers), ground-borne noise impact from the drilling activities would be insignificant.

5.6.3 As the rock excavation will be conducted underground and the duration of blasting is very short and infrequent, associated noise impacts from the underground construction activities and rock blasting are also not expected. Nevertheless, blasting should be carried out outside restricted hours as far as practicable, and the blasting schedule should be submitted to the concerned authority for approval prior to its implementation. Firing the blast should be carried out by a person who possesses a valid Mine Blasting Certificate issued by Mines/CEDD.

5.6.4 There will be transport of rock products to and from the Underground Quarry Site by road traffic. Based on the latest information, the total hourly traffic induced from the Project during peak hour is approximately 74 vehicles and the details are provided in **Table 5.8**. Nevertheless, there are no existing or planned NSRs within the 300m assessment area, and the induced road traffic would be insignificant compared to the traffic volume of nearby existing heavily trafficked roads (e.g. Tsing Long Highway and Tsing Yi North Coast Road). Considering only minimal additional traffic would be generated and no NSRs are located within the assessment area, additional road traffic noise impact induced by the Project is anticipated to be minimal.

Cumulative Construction Noise Impact

5.6.5 As presented in **Section 3.2**, the construction phase of Tsing Yi – Lantau Link and Public Housing Development near Tsing Yi Road West will overlap with the construction activities of the Project from 2027 to 2035, resulting in potential cumulative construction noise impact.

5.6.6 Tsing Yi – Lantau Link is located to the southwest of the Project Boundary. The nearest NSR is Aztec Lodge, which is located over 850m from both the Project Boundary and Tsing Yi – Lantau Link. Given the large separation distance between the construction activities and the NSR, the cumulative noise impact is anticipated to be insignificant.

5.6.7 Public Housing Development near Tsing Yi Road West is located to the southeast of the Project Boundary. The nearest NSRs to this concurrent project (e.g. Mount Haven, Leung Chik Wai Memorial School, and Ching Wah Court) are all situated over 500m from the Project Boundary and have no direct line of sight to the Project's construction activities. Therefore, cumulative noise impact is expected to be insignificant.

Operation Phase - Fixed Noise Sources

5.6.8 Potential fixed noise sources impact has been assessed qualitatively at the representative NSRs based on the locations of the proposed fixed noise sources as shown in **Figure 5.02**. Factors including the separation distance between the NSRs and proposed fixed noise sources, and direct line of sight have been considered. Potential fixed noise sources impact at representative noise sensitive receivers has been evaluated and is presented in **Table 5.7**

below.

Table 5.7 Potential Fixed Noise Sources Impact

NSR ID	Land Use	Approximate Horizontal Distance to the Nearest Major Fixed Noise Source	Potential Screening Effect (Y/N)	Potential Fixed Noise Sources Impact
N01	Residential	Rock Crushing – 837m	N	In view of the large separation distance of more than 830m between N01 and the nearest fixed noise source, no adverse fixed noise sources impact from the Project to N01 is anticipated.
N02	Residential	Asphalt Production – 908m	N	In view of the large separation distance of more than 900m between N02 and the nearest fixed noise source, no adverse fixed noise sources impact from the Project to N02 is anticipated.
N03	Residential	Rock Crushing – 747m	N	In view of the large separation distance of more than 740m between N03 and the nearest fixed noise source, no adverse fixed noise sources impact from the Project on N03 will be anticipated.
N04	Residential	Rock Crushing – 1,088m	Y (No direct line of sight to the fixed noise sources due to the screening provided by natural terrain)	In view of the large separation distance of more than 1km between N04 and the nearest fixed noise source along with the screening effect, no adverse fixed noise sources impact from the Project to N04 is anticipated.
N05	Educational	Rock Crushing – 1,074m	Y (No direct line of sight to the fixed noise sources due to the screening provided by natural terrain)	In view of the large separation distance of more than 1km between N05 and the nearest fixed noise source along with the screening effect, no adverse fixed noise sources impact from the Project to N05 is anticipated.
N06	Residential	Rock Crushing – 1,297m	Y (No direct line of sight to the fixed noise sources due to the screening provided by natural terrain)	In view of the large separation distance of more than 1km between N06 and the nearest fixed noise source along with the screening effect, no adverse fixed noise sources impact from the Project to N06 is anticipated.

NSR ID	Land Use	Approximate Horizontal Distance to the Nearest Major Fixed Noise Source	Potential Screening Effect (Y/N)	Potential Fixed Noise Sources Impact
N07	Educational	Rock Crushing – 1,393m	Y (No direct line of sight to the fixed noise sources due to the screening provided by natural terrain)	In view of the large separation distance of more than 1km between N07 and the nearest fixed noise source along with the screening effect, no adverse fixed noise sources impact from the Project to N07 is anticipated.

5.6.9 As presented in **Table 5.7**, there is no NSR identified within the assessment area, and the representative NSRs that have direct line of sight to the portals are Sunny Villa, Aztec Lodge and Villa Cote D'azur (i.e. N01 – N03), which are located at more than 740m away from the nearest fixed noise sources at Ngau Kok Wan Portal. While the conveyor belt system at Wok Tai Wan Works Area would be enclosed, the nearest NSR that has direct line of sight to it, i.e. Aztec Lodge, is of over 1km separation distance. In view of a considerable separation distance between the major fixed noise sources and the respective nearest NSRs, the noise impact arising from the operation of fixed noise sources is therefore considered insignificant. Nonetheless, additional mitigation measures such as selection of quieter plants, regular maintenance of the plants (as detailed in **Section 5.7.7**) should be implemented to further minimise any associated fixed noise source impacts.

Operation Phase - Road Traffic Noise

5.6.10 Based on the information provided by the Project Engineer, the major vehicle types to be induced by the Project would be heavy vehicles (e.g. trucks) which will be used for delivering rock products. Based on the anticipated maximum production capacity of concrete and asphalt during the operation of the Project, the estimated maximum traffic flows of concrete trucks entering and leaving for the proposed concrete production will be approximately 50 vehicles/hour; while the estimated maximum traffic flows of dump trucks entering and leaving for the proposed asphalt production will be approximately 16 vehicles/hour. There are also traffic flows of vehicles (i.e. other heavy vehicles, private cars/taxis, and light goods vehicles) with approximately a total of 8 vehicles/hour to support the operation. Details of the traffic breakdown are summarised in **Table 5.8** below.

Table 5.8 Estimated Number of Vehicles during the Operation of the Project

Vehicle Type	Predicted Maximum Traffic (vehicles/hour)
Heavy Vehicles	
Dump Truck (for asphalt production)	16
Concrete Truck (for concrete production)	50
Other Heavy Vehicle (for operational support) (e.g. Waste Disposal Truck, Bitumen Tanker etc.)	2
Sub-Total	68
Light Vehicles	

Vehicle Type	Predicted Maximum Traffic (vehicles/hour)
Private Car / Taxi (for operational support)	4
Light Goods Vehicle (for operational support)	2
Sub-total	6
Total	**74**

5.6.11 Considering only minimal of additional traffic would be generated and no NSRs are located within the assessment area, additional road traffic noise impact induced by the Project is anticipated to be minimal.

5.7 Mitigation Measures

Construction Phase and Operation Phase - Quarry Noise (Excluding Fixed Noise Sources)

5.7.1 In view of the large separation distance with approximately over 700m between the representative NSRs and the aboveground works areas (i.e. portal areas), the localised nature of the construction activities involved, no adverse noise impact would be anticipated during the construction phase and operation phase. Nonetheless, in order to minimise the potential noise nuisance to nearby NSRs due to the construction activities of the Project, following mitigation measures which were confirmed to be practicable and feasible by the Project Engineer, should be considered by the contractors:

- Good site practices to limit noise emissions at the sources;
- Use of quieter PME and quieter construction methods (if practicable); and
- Adoption of construction noise barriers / enclosures to screen noise from construction plants.

Good Site Practice

5.7.2 Although the noise mitigation effects are not easily quantifiable, and the benefits may vary with site conditions and operating conditions, good site practices are easy to implement and do not impact upon the works schedule. The site practices listed below should be continually followed during construction of the Project:

- Only well-maintained PME should be operated on-site and should be serviced regularly during construction works;
- Silencers or mufflers on construction equipment should be utilised (if appropriate) and should be properly maintained during the construction;
- Mobile plant, if any, should be sited as far away from NSRs as possible;
- Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;
- Plant known to emit noise strongly in one direction should, wherever possible, be orientated to direct noise away from the nearby NSRs;
- Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities; and
- The Contractor should devise, arrange methods of working and carry out the works to minimise noise impacts to the surrounding environment, and should provide experienced personnel with suitable training to ensure all these measures are implemented properly.

Use of Quieter PME and Quieter Construction Methods

5.7.3 The use of quieter PME is considered a practicable means to mitigate the construction noise impact. Quieter PME refers to those PMEs which could deliver the same output but have sound power levels lower than those specified in the GW-TM. In addition, the use of quieter PME could make reference to the EPD's website of Quality PME (e.g. air compressor, mobile

crane, excavator, generator, etc.).

5.7.4 A number of quieter construction methods should also be evaluated and reviewed by the Project Engineer to see if they are practicable to be adopted as an additional measure for construction activities. With due consideration of the quieter construction methods listed in EPD's website[6], the following are examples of quieter construction methods / equipment that could be applicable to this Project:

- Quieter type wire saw or hydraulic crusher can be adopted for site clearance and site formation works;
- Press-in piling method for the piling works; and
- Use of pulse plasma rock fragmentation technology for blasting.

The Contractor should further review the practicality of these construction methods and adopt, where appropriate, in the construction and operation phases of the Project.

Adoption of Construction Noise Barriers / Enclosures

5.7.5 Movable noise barriers that can be placed close to the construction equipment and moved along with the PME are effective for screening noise. A typical design which has been used locally is a wooden framed barrier with a cantilevered upper portion of superficial density no less than 10kg/m^2 on a skid footing with internal sound absorptive lining. The length of the noise barrier should be at least five times greater than its height. This measure is particularly effective for low level zone of NSRs. A longer cantilevered top cover would be required to achieve screening benefits at upper floors of NSRs. The Contractor should be responsible for the design and actual position of the movable noise barriers with due consideration given to the position and size of the PME, and the requirement of intercepting the line-of-sight from the NSRs to the PME, as well as ensuring that the barriers should have no opening and gap. It is anticipated that properly designed noise barriers would achieve a 5dB(A) reduction for mobile PME and a 10dB(A) reduction for static PME. The use of full enclosure could also be considered to shelter the noise from relatively stationary plants (e.g. air compressors and generators). The minimum surface density of the enclosure panel should achieve 14kg/m^2 and be lined with noise absorptive material internally. These enclosures could provide about 10 – 15dB(A) noise reduction.

5.7.6 Guidelines stipulated in EPD's *Recommended Pollution Control Clauses for Construction Contracts* should also be incorporated in the future contract document to ensure proper implementation of noise mitigation measures and minimisation of the potential construction noise impact arising from the Project. In addition, appropriate requirements and recommendations on the practices for minimizing construction noise mentioned in ProPECC PN1/24 *Minimizing Noise from Construction Activities* should also be included in the contract document and followed by the Contractor.

Operation Phase - Fixed Noise Sources

5.7.7 In view of the large separation distance with approximately >700m between the NSRs and the nearest proposed fixed noise sources, no adverse fixed noise sources impact would be expected during the operation of fixed noise sources. Nonetheless, in order to minimise the potential noise nuisance to nearby NSRs, the following noise reduction measures, which are confirmed to be practical by the Project Engineer, are recommended to be considered during the detailed design and tender phases:

- Selection of quieter plant;
- Provision of silencer, enclosure, acoustic louvres or acoustic doors;
- Locating fixed plants / louvres away from any NSRs;
- Avoiding unloading of rubbles or aggregates in the cold feed system to minimise any noise impact generation from metal surface during the asphalt production process in

[6] https://www.epd.gov.hk/epd/misc/construction_noise/contents/index.php/en/home2/quieter-construction-methods.html

night-time; and

- Development and implementation of a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain controlled level of noise. The programme should be implemented by properly trained personnel.

Operation Phase - Road Traffic Noise

5.7.8 As mentioned in **Section 5.6.10** to **Section 5.6.11**, the traffic flow induced by the operation of the Project would be minimal. The change in road traffic noise level from the operation of the Project would therefore be insignificant, and no mitigation measures are required. However, in order to minimise the potential road traffic noise nuisance on the NSRs which are located in the vicinity of the operation traffic routes (**Section 5.5.9** refers), it is recommended to adopt administrative measures to ensure that the traffic from the Project would be routed to the nearby highways instead of the local roads in Tsing Yi such as Tam Kon Shan Road where practicable to minimize the noise impact due to the additional traffic flow.

5.8 Conclusion

5.8.1 The potential noise impacts from the construction works of the Project would mainly be related to the use of PME. As there is no NSR identified within the 300m assessment area from the Project Boundary, noise impact from construction activities is anticipated to be insignificant. Nevertheless, good site practices and quiet construction methods as presented in **Section 5.7** should be followed.

5.8.2 During the operation phase, fixed plant noise would be generated from fixed noise sources of the Project, such as crushing, concrete production and asphalt production at Ngau Kok Wan Portal and the conveyor belt system. Given that there is no NSR identified within the assessment area, noise impact from fixed noise sources is anticipated to be insignificant.

5.8.3 Given only minimal amount of additional traffic would be generated from the operation of TYNUQ and no NSR are located within the assessment area, in addition to the adoption of proper traffic routes, road traffic noise impact arising from the operation of the Project is anticipated to be insignificant.

6 WATER QUALITY

6.1 Introduction

6.1.1 This section identifies and assesses the potential water quality impacts associated with the construction and operation of the Project. Practical water quality mitigation measures have been proposed, where necessary, to mitigate the potential water quality impacts.

6.2 Environmental Legislation, Standards and Assessment Criteria

Water Quality Objectives under the Water Pollution Control Ordinance

6.2.1 The *Water Pollution Control Ordinance* (WPCO) (Cap. 358) provides the major statutory framework for the protection and control of water quality in Hong Kong. According to the WPCO and its subsidiary legislation, Hong Kong waters are divided into ten water control zones (WCZs) and four supplementary WCZs. Corresponding statements of water quality objectives (WQOs) are stipulated for different water regimes (marine waters, inland waters, bathing beaches subzones, secondary contact recreation subzones and fish culture subzones) in the WCZs based on their beneficial uses. The Project is located within the Western Buffer WCZ and the respective WQOs are listed in **Table 6.1**.

Table 6.1 Summary of Water Quality Objectives for Western Buffer WCZ

Parameters	Criteria	Subzone
Aesthetic appearance	(a) There should be no objectionable odours or discolouration of the water.	Whole Zone
	(b) Tarry residues, floating wood, articles made of glass, plastic, rubber or of any other substances should be absent.	
	(c) Mineral oil should not be visible on the surface. Surfactants should not give rise to a lasting foam.	
	(d) There should be no recognisable sewage-derived debris.	
	(e) Floating, submerged and semi-submerged objects of a size likely to interfere with the free movement of vessels, or cause damage to vessels, should be absent.	
	(f) The water should not contain substances which settle to form objectionable deposits.	
Bacteria	(a) The level of Escherichia coli should not exceed 610 per 100 mL, calculated as the geometric mean of all samples collected in a calendar year.	Secondary Contact Recreation Subzones and Fish Culture Subzones
	(b) The level of Escherichia coli should not exceed 180 per 100 mL, calculated as the geometric mean of all samples collected from March to October inclusive in 1 calendar year. Samples should be taken at least 3 times in 1 calendar month at intervals of between 3 and 14 days.	Recreation Subzones
	(c) The level of Escherichia coli should be less than 1 per 100 mL, calculated as the geometric mean of the most recent 5 consecutive samples taken at intervals of between 7 and 21 days.	Water Gathering Ground Subzones
	(d) The level of Escherichia coli should not exceed 1000 per 100 mL, calculated as the geometric mean of the most recent 5 consecutive samples taken at intervals of	Other Inland Waters

Parameters	Criteria	Subzone
	between 7 and 21 days.	
Colour	(a) Human activity should not cause the colour of water to exceed 30 Hazen units.	Water Gathering Ground Subzones
	(b) Human activity should not cause the colour of water to exceed 50 Hazen units.	Other Inland Waters
Dissolved Oxygen (DO)	(a) The level of dissolved oxygen should not fall below 4 mg per litre for 90% of the sampling occasions during the whole year; values should be calculated as water column average (arithmetic mean of at least 3 measurements at 1 m below surface, mid-depth and 1 m above seabed). In addition, the concentration of dissolved oxygen should not be less than 2 mg per litre within 2 m of the seabed for 90% of the sampling occasions during the whole year.	Marine Waters excepting Fish Culture Subzones
	(b) The level of dissolved oxygen should not be less than 5 mg per litre for 90% of the sampling occasions during the year; values should be calculated as water column average (arithmetic mean of at least 3 measurements at 1 m below surface, mid-depth and 1 m above seabed). In addition, the concentration of dissolved oxygen should not be less than 2 mg per litre within 2 m of the seabed for 90% of the sampling occasions during the whole year.	Fish Culture Subzones
	(c) The level of dissolved oxygen should not be less than 4 mg per litre.	Water Gathering Ground Subzones and Other Inland Waters
pH	(a) The pH of the water should be within the range of 6.5–8.5 units. In addition, human activity should not cause the natural pH range to be extended by more than 0.2 unit.	Marine Waters
	(b) Human activity should not cause the pH of the water to exceed the range of 6.5–8.5 units.	Water Gathering Ground Subzones
	(c) Human activity should not cause the pH of the water to exceed the range of 6.0–9.0 units.	Other Inland Waters
Temperature	Human activity should not cause the natural daily temperature range to change by more than 2.0℃.	Whole Zone
Salinity	Human activity should not cause the natural ambient salinity level to change by more than 10%.	Whole Zone
Suspended Solids (SS)	(a) Human activity should neither cause the natural ambient SS level to be raised by more than 30% nor give rise to accumulation of SS which may adversely affect aquatic communities.	Marine Waters

Parameters	Criteria	Subzone
	(b) Human activity shall not cause the annual median of SS to exceed 20 mg per litre.	Water Gathering Ground Subzones
	(c) Human activity should not cause the annual median of suspended solids to exceed 25 mg/L.	Other Inland Waters
Ammonia	The un-ionized ammoniacal nitrogen level should not be more than 0.021 mg per litre, calculated as the annual average (arithmetic mean).	Whole Zone
Nutrients	(a) Nutrients should not be present in quantities sufficient to cause excessive or nuisance growth of algae or other aquatic plants.	Marine Waters
	(b) Without limiting the generality of objective (a) above, the level of inorganic nitrogen should not exceed 0.4 mg per litre, expressed as annual water column average (arithmetic mean of at least 3 measurements at 1 m below surface, mid-depth and 1 m above seabed).	Marine Waters
5-Day Biochemical Oxygen Demand (BOD_5)	(a) The 5-day biochemical oxygen demand should not exceed 3 mg per litre.	Water Gathering Ground Subzones
	(b) The 5-day biochemical oxygen demand should not exceed 5 mg per litre.	Other Inland Waters
Chemical Oxygen Demand (COD)	(a) The chemical oxygen demand should not exceed 15 mg per litre.	Water Gathering Ground Subzones
	(b) The chemical oxygen demand should not exceed 30 mg per litre.	Other inland Waters
Toxic Substances	(a) Toxic substances in the water should not attain such levels as to produce significant toxic, carcinogenic, mutagenic or teratogenic effects in humans, fish or any other aquatic organisms, with due regard to biologically cumulative effects in food chains and to interactions of toxic substances with each other.	Whole Zone
	(b) Human activity should not cause a risk to any beneficial use of the aquatic environment.	Whole Zone
Turbidity	Waste discharges should not reduce light transmission substantially from the normal level.	Bathing Beach Subzones

Remark:
(1) The table is referenced to the Statement of Water Quality Objectives (Western Buffer Water Control Zone).

Technical Memorandum on Effluent Discharge Standard (DSS-TM)

6.2.2 Under Section 21 of the WPCO, *Technical Memorandum on Standards for Effluent Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters* was issued to regulate the physical, chemical and microbial quality of effluents. Any effluent discharge into the foul sewers, stormwater drains, inland and coastal waters during the construction and operation phase of the proposed Project should comply with the stipulated standards in the DSS-TM. The discharge standards into foul sewers leading into the Government's sewage treatment plants are shown in **Table 6.2** and **Table 6.3** below.

Table 6.2 Standards for effluents discharged into Foul Sewers leading into Government Sewage Treatment Plants

	Flow rate (m^3/day)												
Determinand	**≤10**	**>10 and ≤100**	**>100 and ≤200**	**>200 and ≤400**	**>400 and ≤600**	**>600 and ≤800**	**>800 and ≤1000**	**>1000 and ≤1500**	**>1500 and ≤2000**	**>2000 and ≤3000**	**>3000 and ≤4000**	**>4000 and ≤5000**	**>5000 and ≤6000**
pH (pH units)	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10
Temperature (℃)	43	43	43	43	43	43	43	43	43	43	43	43	43
Suspended Solids	1200	1000	900	800	800	800	800	800	800	800	800	800	800
Settleable Solids	100	100	100	100	100	100	100	100	100	100	100	100	100
BOD	1200	1000	900	800	800	800	800	800	800	800	800	800	800
COD	3000	2500	2200	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Oil & grease	100	100	50	50	50	40	30	20	20	20	20	20	20
Iron	30	25	25	25	15	12.5	10	7.5	5	3.5	2.5	2	1.5
Boron	8	7	6	5	4	3	2.4	1.6	1.2	0.8	0.6	0.5	0.4
Barium	8	7	6	5	4	3	2.4	1.6	1.2	0.8	0.6	0.5	0.4
Mercury	0.2	0.15	0.1	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cadmium	0.2	0.15	0.1	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Copper	4	4	4	3	1.5	1.5	1	1	1	1	1	1	1
Nickel	4	3	3	2	1.5	1.5	1	0.8	0.7	0.7	0.6	0.6	0.6
Chromium	2	2	2	2	1	0.7	0.6	0.4	0.3	0.2	0.1	0.1	0.1
Zinc	5	5	4	3	1.5	1.5	1	0.8	0.7	0.7	0.6	0.6	0.6
Silver	4	3	3	2	1.5	1.5	1	0.8	0.7	0.7	0.6	0.6	0.6
Other toxic metals individually	2.5	2.2	2	1.5	1	0.7	0.6	0.4	0.3	0.2	0.15	0.12	0.1
Total toxic metals	10	10	8	7	3	2	2	1.6	1.4	1.2	1.2	1.2	1
Cyanide	2	2	2	1	0.7	0.5	0.4	0.27	0.2	0.13	0.1	0.08	0.06
Phenols	1	1	1	1	0.7	0.5	0.4	0.27	0.2	0.13	0.1	0.1	0.1
Sulphide	10	10	10	10	5	5	4	2	2	2	1	1	1
Sulphate	1000	1000	1000	1000	1000	1000	1000	900	800	600	600	600	600
Total nitrogen	200	200	200	200	200	200	200	100	100	100	100	100	100
Total phosphorus	50	50	50	50	50	50	50	25	25	25	25	25	25
Surfactants (total)	200	150	50	40	30	25	25	25	25	25	25	25	25

Remark: All units in mg/L unless otherwise stated; all figures are upper limits unless otherwise indicated.

Table 6.3 Standards for effluents discharged into Foul Sewers leading into Government Sewage Treatment Plants with Microbial Treatment

	Flow rate (m^3/day)												
Determinand	**≤10**	**>10 and ≤100**	**>100 and ≤200**	**>200 and ≤400**	**>400 and ≤600**	**>600 and ≤800**	**>800 and ≤1000**	**>1000 and ≤1500**	**>1500 and ≤2000**	**>2000 and ≤3000**	**>3000 and ≤4000**	**>4000 and ≤5000**	**>5000 and ≤6000**
Copper	1.5	1	1	1	0.8	0.6	0.5	0.4	0.3	0.2	0.15	0.1	0.05

Remark: All units in mg/L unless otherwise stated; all figures are upper limits unless otherwise indicated.
Standards in this table apply in place of those in **Table 6.2** for the corresponding determinand.

Practice Note for Professional Persons on Construction Site Drainage

6.2.3 EPD has issued a ProPECC PN 2/24 *Construction Site Drainage* to control site runoff and wastewater generated during the construction phase of proposed project. Guidelines for handling and disposal of construction discharges are provided. Practice outlines in ProPECC PN 2/24 should be closely followed during the construction phase to minimise potential water quality impacts associated with construction site drainage.

Practice Note for Professional Persons on Drainage Plans

6.2.4 ProPECC PN 1/23 on *Drainage Plans* provides guidelines and practices for handling, treatment and disposal of various effluent discharges to stormwater drains and foul sewers. The design of site drainage and disposal of various site effluents generated within the proposed project should follow the relevant guidelines and practices as given in the ProPECC PN 1/23.

Hong Kong Planning Standards and Guidelines (HKPSG)

6.2.5 The HKPSG, Chapter 9 (Environment), provides additional information on regulatory guidelines against water pollution for sensitive uses such as aquaculture and fisheries zones, bathing waters and other contact recreational facilities.

6.3 Description of Baseline Condition

6.3.1 The baseline water quality condition of marine water was established from the marine water quality monitoring data routinely collected by EPD in the Western Buffer WCZ. A summary of EPD monitoring data collected in 2024 for EPD monitoring station in Western Buffer WCZ (WM4) is tabulated in **Table 6.4**. Location of the monitoring station is shown in **Figure 6.01**.

6.3.2 The Western Buffer WCZ fully met the WQOs in 2024. Since the commissioning of the Harbour Area Treatment Scheme Advance Disinfection Facilities in 2010, the *E. coli* level in the WCZ has decreased substantially.

Table 6.4 Summary Statistics of 2024 Marine Water Quality in Western Buffer WCZ

Parameter		Tsing Yi (West) WM4	WPCO WQO
Temperature (°C)		24.3 (19.8 - 28.6)	Change due to water discharges not to exceed 2°C
Salinity		30.3 (22.2 - 33.4)	Change due to water discharges not to exceed 10% of natural ambient level
Dissolved Oxygen (mg/L)	Depth Average	5.3 (4.1 - 7.9)	Not less than 4mg/L for 90% of samples
	Bottom	4.7 (2.0 - 7.7)	Not less than 2mg/L for 90% of samples
Dissolved Oxygen (% Saturation)	Depth Average	75 (59 - 105)	Not available
	Bottom	65 (29 - 103)	Not available
pH		7.8 (7.3 - 8.1)	To be in the range 6.5 - 8.5, change due to waste discharge not to exceed 0.2
Secchi Disc Depth (m)		2.4 (1.2 - 5.4)	Not available
Turbidity (NTU)		4.8 (0.3 - 7.4)	Not available
Suspended Solids (SS) (mg/L)		5.1 (2.6 - 8.0)	Not to raise the natural ambient level by 30%
5-day Biochemical Oxygen Demand (BOD_5) (mg/L)		0.9 (<0.1 - 2.6)	Not available
Ammonia Nitrogen (NH_3-N) (mg/L)		0.098 (0.021 - 0.220)	Not available
Unionised Ammonia (mg/L)		0.003 (<0.001 - 0.007)	Annual mean not to exceed 0.021 mg/L

Parameter	Tsing Yi (West)	WPCO WQO
	WM4	
Nitrite Nitrogen (NO_2-N) (mg/L)	0.029 (0.005 - 0.082)	Not available
Nitrate Nitrogen (NO_3-N) (mg/L)	0.241 (0.035 - 0.620)	Not available
Total Inorganic Nitrogen (TIN) (mg/L)	0.37 (0.12 - 0.69)	Annual mean depth-averaged TIN not to exceed 0.4 mg/L
Total Kjeldahl Nitrogen (mg/L)	0.26 (0.16 - 0.38)	Not available
Total Nitrogen (TN) (mg/L)	0.53 (0.29 - 0.85)	Not available
Orthophosphate Phosphorus (PO_4) (mg/L)	0.014 (0.003 - 0.024)	Not available
Total Phosphorus (TP) (mg/L)	0.09 (0.04 - 0.20)	Not available
Silica (as SiO_2) (mg/L)	1.36 (0.18 - 3.80)	Not available
Chlorophyll-a (µg/L)	4.0 (0.5 - 16.8)	Not available
E. coli (count/100mL)	610 (130 - 13000)	Secondary contact recreation subzones and fish culture subzones: Not to exceed 610 count/100mL for geometric mean
Faecal Coliforms (count/100mL)	1200 (280 - 23000)	Not available

Remarks:
(1) Unless otherwise specified, data presented are depth-averaged values calculated by taking the means of three depths: Surface, Mid-depth, Bottom.
(2) Data presented are annual arithmetic means of depth-averaged results except for *E. coli* and faecal coliforms which are annual geometric means.
(3) Data in brackets indicate the ranges.

6.4 Identification of Water Sensitive Receivers

6.4.1 As the Project is located in Western Buffer WCZ, any discharge from the Project during the construction and operation phases would potentially affect the marine water quality.

6.4.2 Water sensitive receivers (WSRs) within 500m from the Project Boundary that may have a bearing on the environmental acceptability of the Project are identified and listed in **Table 6.5** below, and are illustrated in **Figure 6.01**.

Table 6.5 List of Water Sensitive Receivers

ID	Description	Approximate Distance from the Project Boundary
W1	Channelised watercourse adjacent to Ngau Kok Wan	Partially within Project Boundary
W2	Natural watercourses downslope from Yau Kom Tau	Partially within Project Boundary
W3	Channelised watercourse near Tam Kon Shan Road	162m
W4	Channelised watercourse near Lantau Link Visitor's Centre	<10m
W5	Channelised watercourses downslope from Wok Tai Wan	Partially Within Project Boundary
W6	Down-the-slope drainage in Wok Tai Wan	<10m
W7	Horizontal drainage along Wok Tai Wan	Partially Within Project Boundary

ID	Description	Approximate Distance from the Project Boundary
W8	Semi-natural watercourse west of Cheung Tsing Highway	453m
W9	Natural watercourses downslope from Shek Wan	131m
W10	Natural watercourses downslope from Liu To Shan	85m
W11	Natural watercourses downslope from Wok Tai Wan	Partially Within Project Boundary
W12	Natural downslope watercourses below Cheung Wang Estate	446m
Others		
Secondary Contact Recreation Subzone		409m

6.5 Assessment Methodology

6.5.1 The assessment area for the water quality impact covers all areas within 500m from the Project Boundary in the Western Buffer WCZ. The WSRs that may be affected by the Project have been identified. Potential sources of water quality impact that may arise during the construction and operation phases of the Project have been described. This task included identifying pollutants from point discharges and non-point sources that could affect the quality of surface water bodies. All of the identified sources of potential water quality impact have then been evaluated and their impact significance is determined. The mitigation measures to reduce any identified adverse impacts on water quality to acceptable levels have been recommended accordingly.

6.6 Identification, Prediction and Evaluation of Potential Impacts

Construction Phase

6.6.1 The Project would only involve land-based construction works. Potential sources of water quality impact associated with the construction of the Project have been identified as below:

- Wastewater from general construction activities;
- Construction site runoff;
- Accidental spillage and potential contamination of surface water and groundwater;
- Construction works in close proximity to inland water;
- Removal or diversion of watercourses;
- Groundwater from contaminated areas and contaminated site runoff; and
- Sewage effluent from construction workforce.

Wastewater from General Construction Activities

6.6.2 Wastewater discharged from construction activities should be controlled to prevent direct discharge to the neighbouring inland waters and storm drains. Such effluent may include wastewater generated from wheel washing of site vehicles at site entrances, discharge of debris and rubbish such as packaging, construction materials and refuse. With the adoption of the guidelines and good site practices for handling and disposal of construction discharges as specified in **Sections 6.7.1** to **6.7.14**, the potential water quality impacts associated with construction activities would be minimal.

Construction Site Runoff

6.6.3 Potential pollution sources of site runoff may include:

- Runoff and erosion of exposed bare soil and earth, drainage channel, earth working area and stockpiles;
- Release of any bentonite slurries, concrete washings and other grouting materials with construction runoff or stormwater;
- Wash water from dust suppression sprays and wheel washing facilities; and

- Fuel, oil and lubricants from maintenance of construction vehicles and equipment.

6.6.4 During rainstorms, site runoff would wash away the soil particles on unpaved land and areas with topsoil exposed. The runoff is generally characterized by high concentrations of suspended solids (SS). Release of uncontrolled site runoff would increase the SS levels and turbidity in the nearby water environment. Site runoff may also wash away contaminated soil particles and, therefore, cause water pollution.

6.6.5 Wind-blown dust would be generated from exposed soil surfaces in the works areas. It is possible that wind-blown dust would fall directly onto the nearby water bodies when a strong wind occurs. Dispersion of dust within the works areas may increase the SS levels in surface runoff, causing a potential impact on the nearby sensitive receivers.

6.6.6 It is important that proper site practice and good site management are followed to prevent runoff with high level of SS from entering the surrounding waters. Best Management Practices (BMPs) in controlling construction site discharges are recommended for this Project. With the implementation of BMPs to control runoff and drainage from the construction site, disturbance of water bodies would be avoided and deterioration in water quality would be minimal.

Accidental Spillage and Potential Contamination of Surface Water and Groundwater

6.6.7 The use of engine oil and lubricants, and their storage as waste materials, has the potential to create impacts on the water quality of adjacent inland water bodies or storm drains if spillage occurs. Waste oil may infiltrate into the surface soil layer, or run off into local watercourses, increasing hydrocarbon levels. Groundwater pollution may also arise from the improper use of chemicals and petroleum products within the Underground Quarry Site where groundwater infiltrates into the area. Infiltration of groundwater may occur in areas where there are faults and/or fissures in the rock mass. The spillage of petroleum products and chemicals should be handled properly to avoid any potential surface water or groundwater contamination. The potential impacts could, however, be mitigated by practical mitigation measures and good site practices as given in **Sections 6.7.15** to **6.7.17**. Hence, adverse impact on water quality is not anticipated.

Construction Works in Close Proximity to Inland Water

6.6.8 Construction activities in proximity of the channelized watercourse adjacent to Ngau Kok Wan (W1), channelized watercourse near Lantau Link Visitor's Centre (W4), and watercourses and drainages near Wok Tai Wan (W5, W6, W7 & W11) may pollute these WSRs due to potential release of construction wastes, construction wastewater and site runoff which are generally characterised by high concentration of SS and elevated pH. Adoption of good housekeeping and mitigation measures would reduce the generation of construction wastes and potential water pollution. The implementation of measures to control runoff and drainage water is important for the construction works adjacent to the inland watercourses in order to prevent runoff and drainage water with high levels of SS from entering the water environment. With the implementation of mitigation measures as specified in ProPECC PN 2/24 *Construction Site Drainage* and ETWB TC(W) No. 5/2005 *Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works* as given in **Sections 6.7.18** to **6.7.19**, it is anticipated that water quality impacts would be minimal.

Removal or Diversion of Watercourses

6.6.9 The construction of Ngau Kok Wan Portal may involve the diversion of the channelized watercourse adjacent to Ngau Kok Wan (W1) partially. A conveyor belt system would be established in the northern part of the Wok Tai Wan Works Area and stockpiling area will be provided at the remaining Wok Tai Wan Works Area. The conveyor belt system will be slightly elevated and supported by discrete foundations (e.g. piers), without being placed directly on the watercourses nearby (i.e. W5, W7 & W11). The provision of the proposed conveyor belt system will not involve any diversion, removal, and modification to the existing watercourses. Furthermore, the conveyor system will be fully enclosed to prevent any material spillage to the watercourses nearby. Thus, no adverse water quality impact is anticipated at watercourses W5, W7 & W11. Although sections of the natural watercourses downslope from

Yau Kom Tau (W2) are located within the Underground Quarry Site and the proposed Main Access Tunnel of Ngau Kok Wan Portal, no aboveground construction works would be conducted and thus, removal or diversion of the watercourse is deemed not necessary. The impact on the watercourse is anticipated to be negligible.

6.6.10 Removal or diversion of existing surface watercourse, if needed, should be undertaken before portal construction. Any flow diversion works should be conducted after full completion of the new flow paths, such that all of the flow modification works and the subsequent surface construction works can be conducted within a dry zone and physically separated from the downstream watercourse. Intercepting and diverting surface water (e.g. rain runoff and streams) from entering the Underground Quarry Site by building upstream dams or intercepting channels at site boundaries would be required to minimize the potential for water contamination from exposed rock and waste soil and rock.

6.6.11 With adoption of the recommended mitigation measures for protection of downstream water quality from diversion and removal of watercourses as described in **Sections 6.7.20** to **6.7.22**, there would be no significant sediment and contaminant release to the downstream water.

Groundwater from Contaminated Areas and Contaminated Site Runoff

6.6.12 It is identified that the reclaimed land portion of Ngau Kok Wan Portal may have potential land contamination issues. Proper land contamination remediation and mitigation measures are proposed in **Section 8.7**. Any contaminated material disturbed, or material which comes into contact with the contaminated material, has the potential to be washed with site runoff into the drainage system. Excavated contaminated materials should be properly stored, housed and covered to avoid the generation of contaminated runoff. Open stockpiling of contaminated materials should not be allowed. Any contaminated site runoff should be properly treated and disposed of. The water quality impact would be minimal with the mitigation measures for contaminated site runoff recommended in **Sections 6.7.23** to **6.7.25**.

Sewage Effluent from Construction Workforce

6.6.13 During the construction phase, the workforce on site will generate sewage effluents, which are characterized by high levels of BOD, ammonia and *E.coli* counts. Potential water quality impacts on the local drainage and fresh water systems may arise from these sewage effluents, if uncontrolled. As suggested by the *Reference Materials on Construction Site Facilities for Workers* issued by the Construction Industry Council in 2025 (Section 2.2b), the number of toilet facilities provided on site should be at a ratio of not less than 1 for every 30 workers. Adequate and sufficient chemical toilets should be provided in the works area to handle sewage from the construction workforce and a licensed collector should be employed to clean and maintain the chemical toilets on a regular basis. No discharge of sewage to the inland water should be allowed. With mitigation measures as recommended in **Sections 6.7.26** to **6.7.27** to be adopted as far as practicable, it is unlikely that sewage generated from the construction workforce would have a significant water quality impact.

Operation Phase

6.6.14 Potential sources of water quality impact during the operation phase of the Project include:

- Vessel discharge;
- Wastewater from underground quarrying;
- Surface runoff from portal areas and access road; and
- Groundwater infiltration and change in groundwater levels.

Vessel Discharge

6.6.15 Vessels would be used during the operation of the Underground Quarry Site for delivering raw material and rock products to and from the Site using existing barging points near Ngau Kok Wan Portal or Wok Tai Wan Works Area. Discharges from vessels may include uncontaminated deck drainage, potentially contaminated drainage from machinery spaces and sewage.

6.6.16 Deck drainage is likely to be uncontaminated and is not likely to impact water quality. Other sources of possible impacts to water quality may arise from discharges of hydrocarbons (oil and grease) from machinery space drainage, BOD and microbiological constituents associated with sewage. All vessels should follow the *International Convention for the Prevention of Pollution from Ships* (MARPOL 73/78) to prevent and minimise the release of these water pollutants to the marine environment. Possible impacts associated with barge discharges are therefore considered to be negligible.

6.6.17 Potential water quality impact due to loading and unloading activities is expected to be insignificant with proper implementation of all recommended mitigation measures as specified in **Section 6.7.28**.

6.6.18 No solid wastes should be permitted to be disposed overboard and thus water quality impacts from such sources could be eliminated.

Wastewater from Underground Quarrying

6.6.19 The wastewater generated from the operation of the Underground Quarry Site would include the sewage from the users, the industrial wastewater from the ancillary operations (i.e. rock crushing, concrete production and asphalt production) and wastewater from the formation or operation of the Underground Quarry Site. The means of disposal of wastewater generated from the operation of the Underground Quarry Site would be determined by the future Contractor of the Underground Quarry Site.

6.6.20 Sewage generated from the workforce at the Underground Quarry Site in the operation phase is characterised by high levels of BOD, ammonia and *E. coli*. The industrial wastewater generated from the ancillary operations, including concrete production, rock processing and asphalt production would contain high levels SS. During the formation of the Underground Quarry Site and the Main Access Tunnel, wastewater would be generated during the process of rock bolt installation and on-site dust suppression. The wastewater generated by quarrying would also contain high SS concentrations.

6.6.21 Concrete production will be set at Ngau Kok Wan Portal to produce fresh concrete. All wastewater and slurry generated will be collected by an on-site wastewater / slurry treatment system which is comprised of reclaimers and filter press systems. Treated effluent will be recycled and reused for production processes and dust control measures (e.g. wheels watering) at the Project Site. No treated effluent from the concrete production activities will be discharged to nearby natural watercourses. Besides, no wastewater will be generated from the operations of asphalt production and rock processing in view of the high operating temperature and operation mode (i.e. no water would be involved), respectively.

6.6.22 The sewage should be properly disposed of and treated, and no wastewater from the ancillary activities should be discharged to nearby natural watercourses. The wastewater from the formation of the Underground Quarry Site can be minimised with mitigation measures and good site practices as recommended in **Sections 6.7.29** to **6.7.30**. Therefore, no adverse water quality impact is therefore anticipated.

Surface Runoff from Portal Areas and Access Road

6.6.23 Surface runoff to be generated by the Project is known as non-point source pollution. The at-grade portals and paved access road will increase the amount of surface runoff. The presence of oil, grease and grit on the surfaces of the portals and road could be washed into the nearby drainage system or even directly into the marine water during a rainfall event due to their close proximity to the shoreline. Surface runoff generated from these areas may contain debris, refuse and dust from the operation activities. Practices that cleaning agents used for washing streets may also affect the quality of the nearby receiving water environment. However, the potential water quality impacts could be mitigated by measures recommended in **Sections 6.7.31** to **6.7.34**. Therefore, no adverse water quality impact is therefore anticipated.

Groundwater Infiltration and Change in Groundwater Levels

6.6.24 Excavation of the Underground Quarry Site and the Main Access Tunnels may result in infiltration of groundwater. The major concern from these construction activities would be the increase in site runoff and the associated potential drawdown of groundwater in any soil and aquifer layers. Groundwater infiltration would affect the construction works and infiltrated water would carry away silt and other contaminants from site into the site drainage. Considerations given in **Sections 6.7.35** to **6.7.40** should be taken in designing the Underground Quarry Site to minimize the infiltration of groundwater and the potential impacts from the change in groundwater level. Therefore, no adverse water quality impact is anticipated.

6.7 Mitigation Measures

Construction Phase and Construction Works during Operation Phase

General Construction Activities

6.7.1 Control of potential water quality impact arising from general construction works should be achieved based on the following principles:

- Prevent or minimise the likelihood of pollutants (generated from construction activities) being in contact with rainfall or runoff; and
- Abate pollutants in the stormwater surface runoff prior to the discharge of surface runoff to the nearby water bodies.

6.7.2 These principal objectives should be achieved by implementation of the BMPs of mitigation measures in controlling water pollution. The guidelines for handling and disposal of construction site discharges as detailed in the ProPECC PN 2/24 *Construction Site Drainage* should be followed, where applicable. All effluent discharged from the construction site should comply with the standards stipulated in the DSS-TM. The following measures are recommended to protect water quality of the inland and coastal waters, and should be sufficient to adequately control site discharges so as to avoid water quality impacts when properly implemented.

Construction Site Runoff

6.7.3 Surface runoff from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sandbag barriers should be provided on site during construction works to properly direct stormwater to such silt removal facilities. Perimeter channels should be provided on site boundaries where necessary to intercept storm runoff from outside the Project Site so that it will not wash across the Project Site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.

6.7.4 Silt removal facilities, channels and manholes should be maintained, and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to prevent local flooding. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to provide adequate hydraulic capacity of all drains.

6.7.5 Construction works should be programmed to minimize soil excavation works in rainy seasons (April to September). If soil excavation cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place in such a way that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.

6.7.6 Earthworks final surfaces should be well compacted, and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage, like intercepting channels,

should be provided where necessary.

6.7.7 Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.

6.7.8 Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms.

6.7.9 Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm runoff from getting into foul sewers. Discharge of surface runoff into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.

Boring and Drilling Water

6.7.10 Water used in ground boring and drilling for site investigation (SI) or rock / soil anchoring should be re-circulated as far as practicable after sedimentation. When there is a need for final disposal, the wastewater should be treated in compliance with WPCO requirements before discharging into storm drains via silt removal facilities.

Wheel Washing Water

6.7.11 All vehicles and plants should be cleaned before they leave a construction site to minimise the deposition of earth, mud, and debris on roads. A wheel washing bay should be provided at every site exit of practicable and washwater should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfill to reduce vehicle tracking of soil and to prevent site runoff from entering public road drains.

Rubbish and Litter

6.7.12 Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the Project Site. It is recommended to clean the construction site on a regular basis.

Effluent Discharge

6.7.13 There is a need to apply to EPD for a discharge licence for the discharge of effluent from the construction site under the WPCO. The discharge quality should meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the DSS-TM. The beneficial uses of the treated effluent for other on-site activities such as dust suppression, wheel washing and general cleaning etc., can minimise water consumption and reduce the effluent discharge volume. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the relevant WPCO licence.

Acid Cleaning, Etching and Pickling Wastewater

6.7.14 Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralised to within the pH range of 6 to 10 before discharging into foul sewers.

Accidental Spillage and Potential Contamination of Surface Water and Groundwater

6.7.15 Contractor should register as a chemical waste producer if chemical wastes would be produced from the construction activities. The *Waste Disposal Ordinance (Cap. 354)* (WDO) and its subsidiary regulations, in particular the *Waste Disposal (Chemical Waste) (General) Regulation*, should be observed and complied with for control of chemical wastes.

6.7.16 Any service shop and maintenance facilities should be located on hard standings within a bunded area with sumps and oil interceptors provided. Maintenance of vehicles and equipment involving activities with the potential of leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.

6.7.17 Disposal of chemical wastes should be carried out in compliance with the WDO. The *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes* published under the WDO details the requirements to deal with chemical wastes. General requirements are given as follows:

- Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport;
- Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and
- Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.

Construction Works in Close Proximity to Inland Water

6.7.18 The practices outlined in ETWB TC (Works) No. 5/2005 *Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works* should also be adopted where applicable to minimise the water quality impacts on any natural streams or surface water systems. Relevant mitigation measures from the ETWB TC (Works) No. 5/2005 are listed below:

- The use of less or smaller construction plants may be specified in areas close to the watercourses to reduce the disturbance to the surface water;
- Temporary storage of materials (e.g. equipment, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses when carrying out of the construction works;
- Stockpiling of construction materials and dusty materials should be covered and located away from any watercourses;
- Construction debris and spoil should be covered up and / or disposed of as soon as possible to avoid being washed into the nearby water receivers;
- Proper shoring may need to be erected in order to prevent soil or mud from slipping into the watercourses; and
- The proposed works should preferably be carried out during the dry season, when flow in the stream/river is low.

6.7.19 The main practices provided in the ProPECC PN 2/24 (**Sections 6.7.1** to **6.7.14** refer) should also be implemented by the Contractor during the construction phase.

Removal or Diversion of Watercourses

6.7.20 The construction works for the removal and diversion of watercourses should be undertaken within a dry zone. Construction works at watercourses should be undertaken only after the flow diversion or dewatering operation is fully completed to avoid water flow in the works area. Dewatering of watercourses should be performed by diverting the water flow to new or temporary water paths. The permanent or temporary water paths for carrying the diverted flow from existing watercourses to be removed should be constructed and completed before the dewatering of that existing watercourse. Construction of all the proposed permanent and temporary water paths should be undertaken in a dry zone prior to receiving any water flow.

6.7.21 The Contractor should provide a dry zone for all the construction works to be undertaken in watercourses as described above or using other approved methods as appropriate to suit the works condition. The flow diversion works should be conducted in a dry season, where possible, when the flow in the watercourses is low. The wastewater and ingress water from the site should be properly treated to comply with the WPCO and the DSS-TM before discharge.

6.7.22 The site practices outlined in the ProPECC PN 2/24 *Construction Site Drainage* (**Sections 6.7.1** to **6.7.14** refer) and ETWB TC (Works) No. 5/2005 *Protection of Natural Streams/rivers from Adverse Impacts Arising from Construction Works* (**Section 6.7.18** refers) should be adopted for the proposed demolition or diversion of watercourses where applicable.

Groundwater from Contaminated Areas and Contaminated Site Runoff

6.7.23 Remediation of contaminated land should be properly conducted following the recommendations proposed under **Section 8.7**. Any excavated contaminated material and exposed contaminated surface should be properly housed and covered to avoid the generation of contaminated runoff. Open stockpiling of contaminated materials should not be allowed. Any contaminated runoff generated under the construction process should be properly collected and diverted to wastewater treatment facilities (WTF) as necessary. The WTF should deploy suitable treatment processes (e.g. oil interceptor or activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances, such as total petroleum hydrocarbon, to an undetectable range. All treated effluent from the WTF should meet the requirements as stated in the DSS-TM and should be either discharged into the foul sewers or tankered away for proper disposal.

6.7.24 No direct discharge of groundwater from contaminated areas should be allowed. Prior to any excavation works within the potentially contaminated areas, the baseline groundwater quality in these areas should be reviewed based on the relevant past SI data and any additional groundwater quality measurements to be performed should make reference to *Guidance Note for Contaminated Land Assessment and Remediation*, and the review results should be submitted to EPD for examination. If the review results indicate that the groundwater generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated or properly recharged into the ground in compliance with the requirements of the DSS-TM. If wastewater treatment is to be deployed for treating the contaminated groundwater, the wastewater treatment unit should deploy a suitable treatment process (e.g. oil interceptor or activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances, such as total petroleum hydrocarbon, to an undetectable range. All treated effluent from the wastewater treatment plant should meet the requirements as stated in the DSS-TM and should be either discharged into the foul sewers or tankered away for proper disposal.

6.7.25 If deployment of wastewater treatment is not feasible for handling the contaminated groundwater, groundwater recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the DSS-TM. The baseline groundwater quality should be determined prior to the selection of the recharge wells and a working plan should be submitted to EPD for agreement. Pollution levels of groundwater to be recharged should not be higher than the pollutant levels of ambient groundwater at the recharge well. Groundwater monitoring wells should be installed near the recharge points to monitor the effectiveness of the recharge wells and to ensure that no likelihood of an increase of groundwater level and transfer of pollutants beyond the Project Site. Prior to recharge, free products should be removed as necessary by installing the petrol interceptor. The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater recharge operation or discharge of treated groundwater.

Sewage Effluent from Construction Workforce

6.7.26 The construction workforce on site will generate sewage. Sufficient chemical toilets should be provided in the works area, with a licensed collector employed to clean the chemical toilets on a regular basis.

6.7.27 Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the surrounding environment. Regular environmental audit of the construction site could provide effective control of any malpractices and encourage continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause a water pollution

problem after undertaking all required measures.

Operation Phase

Vessel Discharge

6.7.28 Adverse impacts related to marine water quality are not expected to arise from marine vessel operation, provided that good site practices are strictly followed. Recommendations for good site practices during operation of the Project include:

- All vessels should be sized so that adequate clearance is maintained between vessels and the seabed in all tide conditions, to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash;
- All vessels must have a clean ballast system;
- All vessels should be well maintained and inspected before use to limit any potential discharges to the marine environment;
- No direct discharge of sewage/grey wastewater should be allowed;
- No soil waste should be allowed to be disposed overboard;
- Loading and/or unloading of barges and hoppers should be controlled to prevent splashing of material into the surrounding water. Barges or hoppers should not be filled to a level that will cause overflow of materials or polluted water during loading or transportation;
- Proper storage, handling and disposal of chemicals and oils to prevent the release into the marine environment; and
- All vessels should follow the MARPOL 73/78 to prevent and minimise the release of water pollutants to the marine environment.

Wastewater from Underground Quarrying

6.7.29 The means of wastewater disposal would be determined by the future Contractor of the Underground Quarry Site. There is no existing sewerage system available within and in the vicinity of the Project. The nearest sewerage system is located over 600m away to the east of the Tam Kon Shan Portal. The sewage generated by the user should be treated by the on-site sewage treatment facility or tanked away by registered waste collectors. For the tankering option, the domestic sewage would be collected by proposed chemical toilets and holding tanks, and transferred off-site by a registered waste collector. Then, sewage will be transported to sewage treatment works for further treatment. The destination will be decided by the Water Pollution Control Ordinance (WPCO) license holder, ideally, Tsing Yi Preliminary Treatment Works. The industrial wastewater and polluted runoff generated from the concrete production, the machinery workshop/depot, stockpiling area, etc. should be collected by on-site WTF and reused as far as practicable. A discharge license under the WPCO should be obtained from EPD before commencing discharge, and the discharge quality should meet the standard as stipulated in the DSS-TM. Besides, no wastewater will be generated from the operations of asphalt production and rock processing in view of the high operating temperature and the operation modes (i.e. no water would be involved).

6.7.30 Water used in rock drilling for D&B excavation should be re-circulated as far as practicable after sedimentation. When there is a need for final disposal, the wastewater should be treated in compliance with WPCO requirements before discharging into storm drains via silt removal facilities.

Surface Runoff from Portal Areas and Access Road

6.7.31 All ancillary activities associated with the future underground quarrying and aboveground activities will mainly be within the portal areas. BMPs for stormwater discharges recommended for the underground quarrying are given below:

Design measures to Control Erosion and Runoff Quantity

6.7.32 Exposed surface should be avoided within the Project Site to minimise soil erosion. The Project Site should either be hard paved or covered by landscaping area where appropriate to reduce soil erosion.

6.7.33 The drainage system should be designed to avoid any case of flooding based on the 1-in-50-year return period.

Management Measures

6.7.34 Good management measures such as regular cleaning and sweeping of road surface/open areas are suggested. The road surface/open area cleaning should also be carried out prior to the occurrence of a rainstorm.

Groundwater Infiltration and Change in Groundwater Levels

6.7.35 Appropriate measures during the development of the Underground Quarry Site should be implemented to minimise groundwater infiltration. The water control strategies include:

- Probing Ahead: As normal practice, the Contractor would undertake rigorous probing of the ground ahead of excavation works to identify zones of significant water inflow. The probe drilling results should be evaluated to determine specific grouting requirements in line with the underground space. In such zones of significant water inflow that could occur as a result of discrete, permeable features, the intent would be to reduce overall inflow by means of cut-off grouting executed ahead of the underground space.
- Pre-grouting: Where water inflow quantities are excessive, pre-grouting would be required to reduce the water inflow into the underground space. The pre-grouting could be achieved via a systematic and carefully specified protocol of grouting.

6.7.36 In principle, the grout pre-treatment would be designed on the basis of probe hole drilling ahead of the underground space.

6.7.37 In the event of excessive infiltration being observed as a result of the excavation works, even after incorporation of the water control strategies, post-grouting should be applied as far as practicable as described below:

- Groundwater drawdown would be most likely due to inflows of water into the underground space that have not been sufficiently controlled by the pre-grouting measures. Where this occurs, post-grouting will be undertaken. While unlikely to be required in significant measure, such a contingency should be allowed for reduction in permeability of the underground space surround (by grouting) to limit inflow to acceptable levels.

6.7.38 The practical groundwater control measures stated above are proven technologies and have been extensively applied in other past projects. These measures or other similar methods, as approved by the Supervising Officer to suit the works condition, should be applied to minimise the groundwater outflow.

6.7.39 In case seepage of groundwater occurs, groundwater should be pumped out from works areas and discharged to the storm drains via silt traps. Uncontaminated groundwater from dewatering processes should also be discharged to the storm drains via silt removal facilities. The discharges during quarrying should comply with WPCO requirements.

6.7.40 As recommended in Geoguide 4 *Guide to Cavern Engineering, Second Edition (2018)* published by CEDD, ground investigation (GI) should cover an assessment of the hydrogeology of the site, including the hydraulic connectivity of the discontinuities that may intercept the proposed cavern. It is also necessary to assess the need for ground treatment and groundwater control works. Assessment of the impact of groundwater drawdown caused by an inflow should be made in establishing the inflow limit. It is necessary to define the seasonal variations in the groundwater levels, in particular knowledge of the lowest levels. Where large groundwater drawdowns are expected in the soil, it is necessary to carry out detailed assessments of the potential impacts and whether excessive ground settlements are likely to occur as a result of groundwater drawdown. In the geotechnical / hydrogeological assessment, the potential drawdown of the groundwater level and alteration of hydrogeological regime is evaluated for both the short-term scenario (such as during

construction) as well as the long-term scenario (for the operation phase). Grouting should be considered in the excavation design to control the groundwater inflow within the established inflow limit.

6.8 Conclusion

6.8.1 Potential water quality impacts from the construction and operation of the Project have been identified. Minor water quality impacts are associated with land-based construction and the operation of the underground quarrying. In the construction phase, water quality impacts may result from wastewater from general construction activities, construction site runoff, accidental spillage and potential contamination of surface water and groundwater, construction works in proximity of inland water, removal or diversion of watercourses, groundwater from contaminated areas and contaminated site runoff, and sewage effluent from on-site construction workforce. During the operation phase, the potential water quality impacts would include vessel discharge, wastewater from underground quarrying, surface runoff from portal areas and access road, and groundwater infiltration and change in groundwater levels. Proper mitigation measures have been recommended such that the water quality impacts could be controlled to comply with the WPCO standards. Therefore, no adverse water quality impact is anticipated in both the construction and the operation phases of the Project.

7 WASTE MANAGEMENT

7.1 Introduction

7.1.1 This section discusses the waste management implications during the construction and operation phases of the Project and evaluates the potential environmental impacts that may result from handling, storage, collection, transportation and disposal of the wastes.

7.2 Environmental Legislation and Guidelines

7.2.1 The following legislation relates to the handling, storage, collection, transportation and disposal of wastes in Hong Kong:

- Waste Disposal Ordinance (WDO) (Cap. 354);
- Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C);
- Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N);
- Land (Miscellaneous Provisions) Ordinance (Cap. 28);
- Building Ordinance (Cap. 123); and
- Public Health and Municipal Services Ordinance (Cap. 132BK) – Public Cleansing and Prevention of Nuisances Regulation.

7.2.2 The WDO prohibits unauthorised disposal of wastes. Under the WDO, waste can be disposed of only at designated waste disposal facilities licensed by the EPD.

7.2.3 Issued under the WDO, the *Chemical Waste (General) Regulation* administers the possession, storage, collection, transport and disposal of chemical wastes. EPD has also issued three statutory guidelines, namely *A Guide to the Chemical Waste Control Scheme* (2016), *A Guide to the Registration of Chemical Waste Producers* (2024) and *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes* (1992), which detail how the Contractor should comply with the regulations on chemical wastes.

7.2.4 *Public Cleansing and Prevention of Nuisances Regulation* provides control on illegal tipping of wastes on unauthorised (unlicensed) sites. The illegal dumping of wastes can lead to a fine and/or imprisonment.

7.3 Assessment Methodology

7.3.1 The waste management implications have been assessed in accordance with the following approaches:

- Identification of construction and operation activities that could give rise to waste arising;
- Estimation of types and quantities of the waste to be generated;
- Review of the opportunities for waste reduction and reuse;
- Identification of disposal options for each type of waste; and
- Assessment of potential impacts from the management of the waste with respect to potential hazards, air and odour emissions, noise, and wastewater discharge.

7.3.2 Prior to considering the disposal options for various types of wastes, opportunities for reducing waste generation, on-site or off-site reuse and recycling have been evaluated. Measures which can be taken in the planning and design phases (e.g. by modifying the design approach) and in the construction phase for maximising waste reduction have been separately considered.

7.3.3 After considering all the opportunities for reducing waste generation and maximising reuse, the types and quantities of the waste required to be disposed of have been estimated and the disposal options for each type of waste have been described. The disposal method recommended for each type of waste has taken into account the result of the assessment. The impacts caused by handling (including stockpiling, labelling, packaging and storage), collection, transportation and reuse / disposal of waste have been addressed and appropriate

mitigation measures have been proposed.

7.4 Identification and Evaluation of Waste Management Implications

7.4.1 Wastes generated from the construction and operation of the Project would include construction and demolition (C&D) materials, general refuse from the on-site workforce, and chemical wastes from the maintenance of construction plants, equipment and vehicles. These wastes may have the potential to give rise to environmental impacts if not properly handled and disposed of.

Construction and Demolition (C&D) Materials

7.4.2 It is envisaged that C&D materials, including inert and non-inert, would be generated during site formation, slope stabilization works, excavation works at tunnel portals, including slope cutting works, tunnelling works for the Main Access Tunnel, and installation for ancillary activities. Inert C&D materials will comprise mainly soil and rock, while non-inert C&D materials will include vegetation, plastic and equipment wrappings, etc.

7.4.3 Based on the current design scheme, the estimated quantities of C&D materials to be generated during construction phase are summarised in **Table 7.1** below.

Table 7.1 Estimated Quantities of C&D Materials During Construction Phase

Description	Approx. Quantities of C&D Materials (m^3)		
	Inert C&D Materials		Non-inert C&D Materials
	Soil	Rock(1)	
C&D Materials Generated	49,000	38,000	605
On-site Reuse	2,000	38,000	-(3)
Disposal Outlet	Public Fill Reception Facilities(2)	-	Designated Landfill Site (For example: NENT Landfill)

Notes:
(1) The rock generated will be processed within the Site for reuse in ancillary operations.
(2) Delivery of inert C&D materials to Public Fill Reception Facilities (PFRFs) should be agreed with CEDD.
(3) Non-inert C&D materials will be recycled as far as possible before being disposed of at a designated landfill.

7.4.4 The inert C&D materials, including soil and rock, could be sorted and reused on-site as far as practicable before delivery to PFRFs (e.g. Tuen Mun Area 38 Fill Bank) for reuse by other projects, subject to designation by the Public Fill Committee of CEDD. Non-inert C&D materials will also be reused or recycled on-site wherever possible before being disposed of at a designated landfill site (for example: NENT Landfill). Details of proposed mitigation measures are provided in **Section 7.5** below.

7.4.5 During the operation phase, the ancillary operations, including concrete production and asphalt production, would produce solid waste such as dried cements and dust paste. During concrete production, waste concrete and slurry with an estimated total quantity of approximate 40 tonnes per day would be generated due to improper concrete pouring and handling. To minimise the waste generation, these wastes will be diverted to the concrete recycling machine to separate aggregates and slurry after washing for recycle and reuse on-site. The slurry will be directed into the settlement pits and the aggregates will be reused for the production of subbase material. The final solid waste, including an estimated quantity of approximately 15 tonnes per day of dried cement collected by filter press, could not be further reused on-site and will be delivered to PFRFs by trucks. Besides, all rejected asphalt concrete during asphalt production will be crushed and recycled for production use. The excess filler generated will be conditioned as dust paste with an estimated volume of approximately 8 tonnes per day. The generated dust paste could not be further reused on-site and will be delivered to PFRFs for beneficial reuse in other projects. With proper handling, recycling and reuse of solid waste, no adverse waste management impact is expected during the operation of the Project.

7.4.6 By the end of the operation phase, the Project will involve dismantling of temporary structures and removal of ancillary equipment. Given the limited scale of works involved, the quantity of C&D materials generated is anticipated to be insignificant (approximately 1,000 cubic meters, of which approximately 80% is non-inert C&D materials and the rest is inert C&D materials). Any inert C&D materials generated (e.g. concrete) will be sorted for on-site reuse or delivered to designated PFRFs, as appropriate. Non-inert C&D materials (e.g. scrap metals and plastic), if any, will also be sorted and handled following the same principles to be adopted in the construction phase, with priority given to on-site reuse or recycling before disposal at designated landfills. With proper implementation of waste management measures, no adverse environmental impact is expected during the decommissioning phase.

General Refuse

7.4.7 General refuse, such as food waste, waste paper, empty containers, etc., would be generated from the construction workforce and Contractor of the TYNUQ during construction and operation phases. Such refuse should be properly managed so that intentional or accidental release to the surrounding environment does not occur. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into nearby waters, or creating an odour nuisance, visual impacts, or pest and vermin problems. Waste storage areas should be well maintained and cleaned regularly.

7.4.8 Based on a generation rate of 0.65kg per worker per day and around 100 workers/staff to be deployed, around 65kg of general refuse would be generated daily during the construction and operation phases of the Project.

7.4.9 With the implementation of good waste management practices as mentioned in **Section 7.5**, adverse environmental impacts are not expected to arise from the handling, storage, transportation and disposal of general refuse generated by the workers.

Chemical Wastes

7.4.10 The maintenance and servicing of construction plants, equipment and vehicles would involve the use of a variety of chemicals and generate chemical wastes. The possible chemical waste that would be generated during the construction and operation phases includes:

- Spent lubrication oils and cleansing fluids from plant maintenance;
- Spent hydraulic fluids and waste fuel from plant operation;
- Scrap batteries from vehicle maintenance; and
- Spent paint, cleaners and solvents from equipment maintenance.

7.4.11 Chemical wastes arising during the construction and operation phases may pose environmental, health and safety hazards if not stored and disposed of in an appropriate manner as stipulated in the *Waste Disposal (Chemical Waste) (General) Regulation*. The potential hazards include:

- Toxic effects on the workforce;
- Adverse impacts on water quality and aquatic biota from spills; and
- Fire hazards.

7.4.12 It is difficult to quantify the amount of chemical wastes that would arise from the construction and quarrying activities since it would depend on the Contractor's on-site maintenance requirements and the amount of plant utilised. However, it is anticipated that the quantity of chemical waste produced would be small and in the order of a few cubic meters per month during construction and operation phases. The amount of chemical waste to be generated would be quantified in Waste Management Plan to be prepared by the Contractor.

7.4.13 These chemical wastes will be readily accepted for appropriate treatment and disposal of at the Chemical Waste Treatment Centre (CWTC) at Tsing Yi. Provided that the handling, storage, transportation and disposal of chemical wastes are in accordance with the requirements and the *Code of Practice on Packaging, Labelling and Storage of Chemical Wastes* published by EPD, adverse environmental impacts are not expected.

Floating Refuse

7.4.14 Floating refuse (e.g. waste paper and empty containers) might be generated from construction workforce/operation staff while working near water bodies if there is no proper site management in place. With the mitigation and control requirements as detailed in **Section 7.5**, including avoiding placing waste collection bins close to any water bodies, ensuring construction materials are well covered to prevent occurrence of wind-blown light materials, and proper waste management and training to workers, the quantity is expected to be insignificant. Adverse waste management implications, including potential hazards, air and odour emissions, noise, wastewater discharge, ecology, and public transport, associated with handling of floating refuse during the construction and operation phases of the Project are not expected.

7.5 Mitigation Measures

General

7.5.1 Good housekeeping practices, such as waste segregation prior to disposal should be adopted. Stockpiling and segregating areas should be provided on-site. Effective collection of site wastes would be required to prevent waste materials being blown around by wind, flushed or leached into nearby waters, or creating an odour nuisance, visual impact, or pest and vermin problem. Waste storage areas should also be well maintained and cleaned regularly.

Waste Management Hierarchy

7.5.2 The waste management hierarchy has been applied in the assessment and development of mitigation measures for waste, which aims at evaluating the desirability of waste management methods and includes the following in descending preference:

- Avoidance and minimisation of waste generation;
- Reuse of materials where practicable;
- Recovery and recycling of residual materials where possible; and
- Treatment and disposal of waste according to relevant laws, guidelines and good practices.

7.5.3 Recommendations of good site practices and waste reduction measures should be stated in order to achieve the avoidance and minimisation of waste generation in the waste management hierarchy. A trip-ticket system is recommended for monitoring management of waste. Specific measures targeting the mitigation of impacts in works sites and the transportation of waste off-site should be provided to minimise the potential impacts to the surrounding environment.

Good Site Practices

7.5.4 Appropriate waste handling, storage, collection, transportation, and disposal methods for all waste arising generated during the construction phase of the Project should be implemented to ensure that construction wastes will not enter the nearby water bodies.

7.5.5 Recommendations for good site practices during the construction activities include:

- Nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for the collection of all wastes generated at the site and effective disposal to an appropriate facility;
- Training of site personnel in proper waste management and chemical waste handling procedures;
- Provision of sufficient waste reception/disposal points, of a suitable vermin-proof design that minimises windblown litter;
- Arrangement for regular collection of waste for transport off-site and final disposal;
- Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting waste in enclosed containers;
- Regular cleaning and maintenance programme for drainage systems, sumps and oil

interceptors; and
- A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) should be proposed.

Waste Reduction Measures

7.5.6 Good management and control of construction site activities/ processes can minimise the generation of waste. Waste reduction is best achieved in the planning and design phases, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:

- Segregate and store different types of construction related waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- Provide separate labelled bins to segregate recyclable waste such as aluminium cans from other general refuse generated by the workforce, and to encourage collection by individual collectors;
- Recycle any unused chemicals or those with remaining functional capacity;
- Maximise the use of reusable steel formwork to reduce the amount of C&D materials;
- Prior to disposal of C&D waste, it is recommended that wood, steel and other metals should be separated for reuse and / or recycle to minimise the quantity of waste to be disposed of at landfill;
- Adopt proper storage and site practices to minimise the potential for damage to, or contamination of, construction materials;
- Plan the delivery and stock of construction materials carefully to minimise the amount of waste generated; and
- Minimise over-ordering of concrete, mortars and cement grout by doing careful check before ordering.

7.5.7 In addition to the above measures, other specific mitigation measures are recommended below to minimise environmental impacts during handling, transportation and disposal of wastes.

Storage, Collection and Transportation of Waste

7.5.8 Storage of materials on-site may induce adverse environmental impacts if not properly managed. The following recommendations should be implemented to minimise the impacts:

- Waste, such as soil, should be handled and stored well to ensure secure containment, thus minimising the potential of pollution;
- Maintain and clean storage areas routinely;
- Stockpiling area should be provided with covers and water spraying system to prevent materials from being wind-blown or washed away; and
- Different locations should be designated to stockpile each material to enhance reuse.

7.5.9 Waste hauler with appropriate permits should be employed by the Contractor for the collection and transportation of waste from works sites to respective disposal outlets. The following recommendations should be implemented to minimise the impacts:

- Remove waste in a timely manner;
- Employ the trucks with cover or enclosed containers for waste transportation;
- Obtain relevant waste disposal permits from the appropriate authorities; and
- Dispose of waste at licensed waste disposal facilities.

Construction and Demolition (C&D) Materials

7.5.10 Careful design, planning together with good site management can reduce over-ordering and the generation of C&D materials such as concrete, mortar and cement grouts. Formwork and temporary works should be designed to minimise the use of standard wooden panels, so that high reuse levels can be achieved. Alternatives such as steel formwork or plastic

facing should be considered to increase the potential for reuse.

7.5.11 Inert C&D materials with suitable characteristics / size should be reused on-site as fill or recycled as aggregate for other projects where practicable. The C&D material to be delivered to a PFRF for beneficial reuse should only consist of soil, rock, concrete, brick, cement plaster / mortar, inert building debris, aggregates, and asphalt. The material should be free from household refuse, plastic, metals, industrial and chemical waste, animal and vegetable matter, and other material considered to be unsuitable by the Filling Supervisor. Prior to disposal of non-inert C&D materials, wood, steel and other metals should also be separated for reuse and / or recycling where practicable so as to minimise the quantity of waste to be disposed of at landfill.

7.5.12 Suitable areas should be designated within the site boundaries for on-site sorting and providing temporary stockpiling of C&D materials. Within stockpiling areas, the following measures should be taken to control potential environmental impacts or nuisance:

- Surface of stockpiled soil should be regularly wetted with water especially during dry season (i.e. November to March);
- Disturbance of stockpiled soil should be minimised;
- Stockpiled soil should be properly covered with tarpaulin especially during heavy storms are predicted; and
- Stockpiling areas should be enclosed where space is available.

7.5.13 In order to monitor the delivery of C&D materials at the designated PFRFs and landfill and to control fly-tipping, a trip-ticket system should be implemented in accordance with the DEVB TC(W) No. 6/2010 *Trip Ticket System for Disposal of Construction & Demolition Materials*. The Contractor should ensure that every truck carrying C&D materials leaving the Project Site must bear a completed CHIT which should be presented to the designated waste facility operator during waste delivery. Truck operator should return the Transaction Record Slip and stamped CHIT received from the facility operator to the Supervising Officer to verify the compliance with waste handling policy. A recording system for the amount of waste generated, recycled and disposed of, including the disposal sites, should also be set up. Warning signs should be put up to remind the designated disposal sites. CCTV should also be installed at the vehicular entrance and exit of the site to monitor handling of C&D materials disposal. To prohibit illegal dumping and landfilling of C&D materials, the dump trucks engaged on-site should be equipped with a Global Positioning System or equivalent automatic system for real time tracking and monitoring of their travel routings, parking locations and disposal activities.

7.5.14 For non-inert biomass waste arising from the construction activities, such as yard waste, they are required to be handled in accordance with the principles of reduce, reuse, and recycle. Specifically, to minimise the generation of yard waste, the following measures should be adopted:

- Avoid unnecessary removal or excessive pruning of trees. Preserve trees in their original locations and implement tree transplanting when on-site preservation is not feasible;
- Segregate various types of yard waste and shred wood into smaller pieces if necessary to facilitate reuse and recycling;
- Reuse yard waste on-site for a variety of purposes (e.g. decomposition and composting, recreational and decorative uses, and mulching in planting areas, etc.); and
- Identify recycling options (e.g. delivery to Y·Park) for yard waste that cannot be directly reused on-site.

7.5.15 Where yard waste generation is unavoidable, sorting of yard waste for recycling and reuse on-site should always be the priority. Yard waste should be separated from C&D materials to facilitate recycling, such as delivering them to Y·Park so as to minimise the quantity of waste to be disposed of at the landfill site. Where appropriate, the Contractor should be responsible to cut and shred the yard waste on-site in order to meet the collection

requirements of the recycling outlet for processing / disposal. Disposal of yard waste directly at landfills should only be regarded as the last resort, when no alternatives are available.

7.5.16 In addition, the Contractor should prioritise materials with higher recycled content or those that are more easily recyclable, such as engineered wood products over solid lumber. Procuring materials in standardised sizes can also help reduce the need for on-site cutting and trimming, which often generates significant wood waste. Establishing take-back agreements with suppliers for unused or damaged goods is another effective way to prevent these materials from ending up in landfills. Dedicated bins or storage areas for different waste streams, including non-inert biomass, in construction sites enable efficient sorting and facilitate recycling and reuse. Ultimately, reducing non-inert biomass waste in construction requires a holistic approach that spans material selection, procurement, on-site management, and end-of-life processing.

General Refuse

7.5.17 General refuse should be stored in enclosed bins or compaction units separated from other wastes including C&D materials and chemical wastes. A reputable waste collector should be employed to remove general refuse separately from C&D materials and chemical wastes for disposal at a designated landfill. Preferably an enclosed and covered area should be provided to reduce the occurrence of “wind-blown” light materials. Clearly labelled recycling bins should be provided on-site in order to encourage segregation and recycling of aluminum and plastic wastes, and wastepaper in order to reduce general refuse production.

7.5.18 The Contractor should carry out an education programme for workers in avoiding, reducing, reusing, and recycling of materials generation. Posters and leaflets advising on the use of the bins should also be provided on-site as reminders. The recyclable waste materials should then be collected by reliable waste recycling agents on a daily basis.

Chemical Wastes

7.5.19 The Contractor should register with EPD as a chemical waste producer and follow the guidelines stated in the *Code of Practice on the Packaging, Labelling and Storage of Chemical Waste*. Chemical wastes should be stored in appropriate containers with proper labels and collected and delivered to designated outlet by a licensed collector. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the CWTC, or another licensed facility, in accordance with the *Waste Disposal (Chemical Waste) (General) Regulation*.

Floating Refuse

7.5.20 Proper waste management, such as using collection bins with lids, avoiding placing waste collection bins close to any river channels or water bodies, and ensuring construction materials are well covered, should be considered to avoid having waste transported to water bodies under extreme weather conditions. The Contractor should be responsible for the collection of floating refuse, if any, within the work sites. The Contractor should collect and remove floating refuse, if any, at regular intervals on a daily basis to keep water bodies within the Project Site and the neighbouring water free from rubbish. The floating materials should be removed and eventually stored and disposed of together with the general refuse by the Contractor, after separating the recyclables for recycling.

7.5.21 Provided that good site practices and the above mitigation measures are strictly followed, there would be no adverse impacts related to waste management during construction and operation phases.

7.6 Conclusion

7.6.1 A variety of wastes, including inert and non-inert C&D materials, general refuse, chemical waste, and floating refuse would be generated during construction and operation phases. Provided that the wastes generated would be managed with appropriate measures, no adverse environmental impacts arising from the handling, storage, collection, transportation

and disposal of the wastes generated during construction and operation phases are envisaged.

8 LAND CONTAMINATION

8.1 Introduction

8.1.1 This section presents a review of potential land contamination issues associated with the Project.

8.2 Environmental Legislation, Standards and Guidelines

8.2.1 The relevant environmental legislation, standards, and guidelines for land contamination assessment include the following:

- Guidance Note for Contaminated Land Assessment and Remediation (Guidance Note) (EPD, April 2023) - This Guidance Note sets out the requirements for proper assessment and management of potentially contaminated sites such as oil installations (e.g. oil depots, petrol filling stations), gas works, power plants, shipyards/boatyards, chemical manufacturing/processing plants, steel mills/metal workshops, car repairing/dismantling workshops and scrap yards. In addition, this Guidance Note provides guidelines on how site assessments should be conducted and analysed and suggests practical remedial measures that can be adopted for the clean-up of contaminated sites.
- Practice Guide for Investigation and Remediation of Contaminated Land (Practice Guide) (EPD, April 2023) - This Practice Guide outlines typical investigation methods and remediation strategies for the range of potential contaminants typically encountered in Hong Kong.
- Guidance Manual for Use of Risk-based Remediation Goals for Contaminated Land Management (Guidance Manual) (EPD, April 2023) - This Guidance Manual introduces the risk-based approach in land contamination assessment and present instructions for comparison of soil and groundwater data to the Risk-Based Remediation Goals (RBRGs) for 54 chemicals of concern commonly found in Hong Kong. The RBRGs were derived to suit Hong Kong conditions by following the international practice of adopting a risk-based methodology for contaminated land assessment and remediation and were designed to protect the health of people who could potentially be exposed to land impacted by chemicals under four broad post restoration land use categories. The RBRGs also serve as the remediation targets if remediation is necessary.

8.3 Assessment Methodology

8.3.1 Land contamination assessment has been carried out with reference to the abovementioned Guidance Note, Practice Guide and Guidance Manual.

8.3.2 A site appraisal (including desktop review and site walkover) was conducted to identify any current / historical potentially contaminating land uses that may pose an adverse impact on the Project. The following information was reviewed for the site appraisal:

- Environmental Impact Assessment (EIA) Report for Tsing Yi – Lantau Link (HyD) (2025) (EIAO Application No.: EIA-314/2025);
- Civil Engineering and Development Department (CEDD) (2024) Agreement No. CE 57/2018 (GE) Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Preliminary Environmental Review of Preferred Land Use Option at SCVA No. 10 (TR1B);
- Aerial photographs and topographic maps held by the LandsD;
- Available records of dangerous goods (DG), Chemical Waste Producers (CWPs), chemical spillage/leakage and fire incidents at the Project Site from EPD and Fire Services Department (FSD);
- Hong Kong Geological Survey Map (Series HGM 20) – Sheet 6 (1:20,000); and
- Relevant ground investigation reports from the CEDD civil engineering library.

8.3.3 If land contamination issues are identified at the Project Site, the potential land contamination impacts to the Project will be evaluated and appropriate mitigation measures / further works will also be recommended.

8.4 Description of Environment

8.4.1 The Project Site is located in Tsing Yi Island, occupying the areas of Wok Tai Wan, Yau Kom Tau and Cheung Shue Tau. It is bounded by Rambler Channel and Tam Kon Shan Road in the north, and vegetated land in the east, south and west. The Project Site of about 39 hectares is mainly occupied by vegetated/vacant land, access road and the Tsing Yi North Coastal Road. The location of the Project is shown in **Figure 2.01**.

8.4.2 As discussed in **Section 2.2.4**, the Wok Tai Wan Works Area has been planned to function as an ancillary operation zone and a conveyor belt system will be installed at sloping area. Based on the latest engineering design, the surface land of Wok Tai Wan Works Area will be used for stockpiling only and no soil excavation is required under the Project.

8.5 Identification of Potential Land Contamination Concern

Review of Previous Study

Environmental Impact Assessment Report for Tsing Yi – Lantau Link

8.5.1 Land contamination assessment was conducted under the EIA Report for Tsing Yi – Lantau Link (EIAO Application No.: EIA-314/2025) (hereinafter referred to as the "TYLL EIA Report"). The assessment area of TYLL covered the southwestern portion of Project Site, including Wok Tai Wan Works Area and part of the adjacent slope and access road. The assessment area of TYLL also covered a small portion of the slope and the Northwest Tsing Yi Interchange near the western part of the Underground Quarry Site. The location of the assessment area is shown in **Figure 8.01**. The land contamination assessment included desktop review and site walkovers and was conducted in accordance with the EIAO-TM and EPD's prevailing guidelines. The site walkovers were conducted in 2023 and 2025. The TYLL EIA Report was approved on 27 November 2025.

8.5.2 Based on the findings of the approved TYLL EIA Report, the Wok Tai Wan Works Area was vacated after the construction of the existing Tsing Ma Bridge since 2003 and used as storage site for excavated rocks from Sha Tin Cavern under *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction* since 2022. No vehicle / equipment maintenance / refueling activities and no signs of chemicals or chemical stains / spillage or stressed vegetation were identified within the works area at the time of the site walkover. No land contamination issues were identified within the Wok Tai Wan Works Area. For the remaining areas within the assessment area of the TYLL that fall inside the Project Boundary, no land contamination issues were also identified. According to the recommendations in the approved TYLL EIA Report, further site appraisal would be carried out at a later stage of the TYLL project to confirm / update the land uses / activities and to identify the presence of any potential contamination sources.

8.5.3 Based on the above recent findings of the approved TYLL EIA Report and that no soil excavation works are required within the Wok Tai Wan Works Area under this Project (**Section 8.4.2** refers), no land contamination issues to the Project are anticipated within the Wok Tai Wan Works Area and the remaining areas within the assessment area of TYLL that fall inside the Project Boundary. Nevertheless, a further site walkover was conducted under this PER to update the site conditions and to identify any new potential contamination sources within those areas. (**Sections 8.5.13** and **8.5.18** to **8.5.19** refer).

Previous Preliminary Environmental Report under Agreement No. CE 57/2018 (GE) Pilot Planning and Engineering Study on Development of Selected Strategic Caverns Area – Feasibility Study

8.5.4 The previous PER, including land contamination assessment, was completed in 2024 under the Pilot Study. The land contamination assessment had been carried out in the form of desktop review and site walkover, covering the Project Site including the northeastern portion of the Ngau Kok Wan Portal, the northern portion of the potential site formation area adjacent to the Ngau Kok Wan Portal, most of the access road, most of Tam Kon Shan Portal and adjacent potential site formation area and the Underground Quarry Site. The location of the assessment area is shown in **Figure 8.01**.

8.5.5 Based on the findings of the previous PER, Ngau Kok Wan Portal was largely reclaimed after 1991 and used as a barging point and open storage of materials between 1996 and 2002. The reclaimed land was partly occupied by the Marine Department as Ngau Kok Wan Vessel Traffic Service System Maintenance Site and had been used as material storage since 2016. It had been vacated at the time of the site walkover in 2021. No large-scale polluting installations / facilities were identified within the area. However, as the reclaimed land portion of Ngau Kok Wan Portal was unpaved and it was possible that handling and storage of chemicals for vehicle / equipment maintenance was undertaken, it was concluded at the time that the risk of potential land contamination could not be ruled out. Except the surface land at Ngau Kok Wan Portal, no land contamination issues were identified in the previous PER. The previous PER recommended a detailed land contamination assessment at the next design phase of the underground quarrying project (i.e. this Project) to confirm the presence and, if any, extent of contamination, evaluate the potential land contamination impact and recommend appropriate remedial actions and mitigation measures as necessary.

Review of Historical Land Uses

Assessment Area under the Previous PER

8.5.6 A review of aerial photographs in the period since the time of the previous PER has been undertaken to evaluate the likelihood of potential contamination associated with past land uses within the assessment area under the previous PER. The reviewed aerial photographs are enclosed in **Appendix 8.1** and the findings are summarised in **Table 8.1**.

Table 8.1 Review of Historical Land Uses within the Assessment Area under the Previous PER

Year	Reference of Aerial Photos(1) in Appendix 8.1 (Photo Reference Number)	Review of Land-Uses and Site Operation/Activities Since the Time of the Previous PER
2021	AP5 (#E129562C, #E129564C, #E129566C, #E139349C)	Ngau Kok Wan Portal remained occupied by vacant land and natural hillside whilst the Tam Kon Shan Portal remained occupied by vegetated land and natural hillside. The cavern remained occupied by natural hillside. The remaining assessment area of the previous PER remained occupied by the access road and Tsing Yi North Coastal Road.
2023	AP6 (#E194717C, #E194719C, #E194721C, #E195093C)	The vacant land at Ngau Kok Wan Portal was converted into a works area. No other significant land use changes were observed within the assessment area under the previous PER.

Note: (1) Source of aerial photographs: Survey and Mapping Office, LandsD

8.5.7 Based on the review above, except the works area observed at Ngau Kok Wan Portal in 2023, no significant land use changes were observed within the assessment area under the previous PER since the time of the previous PER. For the works area observed in 2023 at Ngau Kok Wan Portal, based on information from the EPD and FSD and findings of the site walkover (refer to **Sections 8.5.12** to **8.5.15** and **8.5.20** to **8.5.24** for details), no potential land contamination issue associated with the works area of the Project is anticipated.

8.5.8 From the above, apart from the open storage of materials and the Marine Department Ngau Kok Wan Vessel Traffic Service System Maintenance Site identified in the previous PER (**Section 8.5.5** refers), no additional past potentially contaminating land uses were identified.

Project Site outside the Assessment Area under the Previous PER

8.5.9 Referring to **Section 8.5.1** and **Section 8.5.4**, the approved TYLL EIA Report and the previous PER only covered the Wok Tai Wan Works Area and part of the adjacent slope and access road, small portion of slope and North West Tsing Yi Interchange near the western part of the Underground Quarry Site, the northeastern portion of the Ngau Kok Wan Portal, the northern portion of the potential site formation area adjacent to the Ngau Kok Wan Portal,

most of access road, most of Tam Kon Shan Portal and adjacent potential site formation area and the Underground Quarry Site. For the remaining portion of the Project Site not covered in the approved TYLL EIA Report and the previous PER (See **Figure 8.01**), a review of available aerial photographs has been undertaken to evaluate the likelihood of potential contamination associated with past land uses within these areas.

8.5.10 Based on the 1991 aerial photograph (AP1 in **Appendix 8.1** refers), the remaining portion of the Project Site was mainly occupied by natural hillside and the western part of the remaining portion of the Project Site was observed under reclamation. By 2002, reclamation at the western part of the remaining portion of the Project Site was completed and vegetated land was observed. The existing Tsing Yi North Coastal Road, Northwest Tsing Yi Interchange and Tam Kon Shan Road were also observed within the remaining portion of the Project Site (AP2 in **Appendix 8.1** refers). No significant land use changes have been observed in this area since then (AP3 to AP6 in **Appendix 8.1** refers).

8.5.11 Based on the above review, no potential land contamination associated with past land uses were identified within the remaining portion of the Project Site.

Site Walkover

8.5.12 Drone surveys were conducted on 18 September 2023, 17 and 19 March 2025 to facilitate the identification of the current land uses within the Project Site. Site walkover was also conducted on 8 April 2025 to update the findings of the previous PER and to investigate any land contamination issues associated with the current land uses within the Project Site. In addition, referring to **Section 8.5.3**, further site walkover was conducted on 20 October 2025 within the Wok Tai Wan Works Area to update the site conditions and to identify any new potential contamination sources. Photographic records, along with the site layout plan, are shown in **Figures 8.02** to **8.06**. Questionnaires were conducted with available site representatives and the site walkover checklists are attached in **Appendix 8.2**.

8.5.13 Based on the findings of drone surveys and site walkovers, the majority of the Project Site is currently occupied by non-contaminating land uses, including natural hillsides, slopes, vegetated land, access road, Tam Kon Shan Road, Northwest Tsing Yi Interchange and Tsing Yi North Coastal Road. No signs of oil stain, chemical spillage / leakage, stressed vegetation or potentially contaminating activities were observed in these areas of the Project Site during the site walkover.

8.5.14 A works area of DSD under *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction* was observed at Ngau Kok Wan Portal. According to information provided by the site representative, the works area serves as a temporary stockpiling area, rock crushing and screening facilities for rocks excavated from the caverns at Nui Po Shan of A Kung Kok. The works area has been in operation since late 2022, and the associated works are anticipated to be completed in June 2026.

8.5.15 As observed during the site walkover, the DSD works area at Ngau Kok Wan Portal was mainly comprised of two sets of crushing and screening facilities, stockpiling areas, two material stores, a site office, a recorder house, a weighbridge, a barging point, an unloading platform and hopper, material storage areas and an access road. The site was largely unpaved except the site office, the recorder house and the material store in the south of the site. The material store in the west of the site was inaccessible for detailed site inspection (Photo 3284 in **Figure 8.03** refers). As reported by the site representative, the material store was used for storage of valuable parts only. Based on site observations, chemicals identified on-site include gear oil, hydraulic oil, grease, lubricating oil and engine oil. These chemicals were reportedly used for the daily operation of the crushing and screening facilities, which were observed to be stored directly on concrete paved floor in the chemical storage area within the material store at the southern works area. The chemical storage area was noted to be in good condition with no signs of oil stain / chemical leakage / stressed vegetation observed in the vicinity (Photo 5998 in **Figure 8.03** refers). In addition, diesel oil was reportedly used for the operation of the crushing and screening facilities and was refueled directly to the facilities from diesel trucks as needed. Based on observation during the site walkover and as reported by the site representative, no chemical waste is generated at the

site. Weekly inspection by the Environmental Team (ET) and Independent Environmental Checker (IEC) is conducted under the EM&A programme under *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction* to monitor the chemicals handled and to check and rectify any spillage on-site.

8.5.16 A works area of CEDD under *Contract No. GE/2022/08 Ground Investigation – New Territories East* was observed at the Tam Kon Shan Portal. According to information provided by the site representative, the works area was used from February 2025 to April 2025 for GI works within the works area and adjacent natural hillside.

8.5.17 As observed during the site walkover, the CEDD works area was generally unpaved and mainly comprised of material storage areas, a changing room, drill rigs, a water pump, an elevated working platform and natural hillside. Two chemical storage cabinets containing diesel oil drums were observed in the material storage area. A chemical waste collection bin and a compressed nitrogen cylinder were observed in the changing room and lubricating oil was observed on the elevated working platform. Based on site observations, the diesel oil drums were stored in chemical storage cabinets with drip trays in good condition with no signs of oil stain / chemical leakage / stressed vegetation observed in the vicinity (Photo 3063 in **Figure 8.04** and Photo 5664 in **Figure 8.05** refer). The diesel oil was reportedly used as fuel for the drill rigs and water pump as needed. The chemical waste collection bin and compressed nitrogen cylinder were observed on timber floorboard with no signs of oil stain / chemical leakage / stressed vegetation noted in the vicinity (Photo 5679 in **Figure 8.04** refers). The compressed nitrogen was observed to be in gaseous form which would not lead to land contamination. The lubricating oil was placed on wooden plank of the elevated working platform without direct contact with the ground (Photo 5649 in **Figure 8.05** refers). Wooden sideboards were installed around the elevated working platform which would prevent any chemical spillage to the ground underneath (Photo 5655 in **Figure 8.05** refers). The wooden plank of the elevated working platform was observed in good condition with no signs of oil stain / chemical leakage / stressed vegetation observed in the vicinity. The lubricating oil was reportedly used as lubricants for the drill rods as needed. According to the site representative, no chemical spillage or leakage incidents were reported at the site.

8.5.18 Similar to the findings of the approved TYLL EIA Report, the Wok Tai Wan Works Area is currently the DSD works areas under *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction* and is used as a storage area for excavated rocks from Sha Tin Cavern.

8.5.19 As observed during the site walkover, the DSD works area was generally unpaved and mainly comprised of a barging point, stockpiles of rocks and rest rooms. As reported by the site representative, diesel oil was used for the operation of excavators and refueled directly from the oil tanker as needed. A diesel oil drum with a drip tray was observed in the north of the site and was reportedly used as fuel for excavators for emergency use only. The drip tray was observed in good condition with no signs of oil stain / spillage observed in the vicinity of the diesel oil drum (Photo 0361 in **Figure 8.06** refers). Based on the observations during the site walkover and as reported by the site representative, no chemical waste is generated at the site. Based on the information provided by the site representative, weekly site inspection by ET and IEC under the EM&A programme under *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction* and daily inspection by the residential site staff are reportedly conducted to monitor the chemicals handled and to check and rectify any spillage on-site. No records of land contamination / chemical spillage / leakage for the site have been reported.

Acquisition of Information from Government Departments

8.5.20 The EPD and FSD have been contacted for (i) records of any spillage / leakages of chemicals and chemical waste, (ii) records of DG, (iii) records of CWP(s) and (iv) records of reported fire incidents within the Project Boundary. EPD's and FSD's replies to the request are attached in **Appendix 8.3**. In addition, records acquired in the approved TYLL EIA Report were also reviewed. The information is summarised below.

Environmental Protection Department

8.5.21 Based on the EPD's reply on 4 September 2024, 22 April 2025, 22 October 2025 and findings of the approved TYLL EIA Report, there is no record of chemical spillage / leakage records within the Project Boundary. Further to the EPD's reply, visit to EPD's Southorn Centre Office was undertaken on 26 November 2024 to review the available CWP records. According to the records reviewed, there is 1 registered CWP identified within the Project Boundary with details summarised in **Table 8.2** and location shown in **Figure 8.07**.

Table 8.2 Registered Chemical Waste Producer within the Project Boundary

CWP Licensee Name	Address	Status	Nature of Business
China State - Alchmex Joint Venture operated by China State Construction Engineering (Hong Kong) Limited and Alchmex International Construction Limited	Ngau Kok Wan and Wok Tai Wan at Tsing Yi	Valid	Construction

8.5.22 The CWP is likely to be associated with the works areas under DSD *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns – Main Caverns Construction* at Ngau Kok Wan Portal or Wok Tai Wan Works Area. Based on the site walkover, no chemical waste storages / oil stain / chemical leakage / stressed vegetation were observed within these works areas. For DSD works area at Ngau Kok Wan Portal and Wok Tai Wan Works Area, there have been regular site walks conducted by the ET and IEC to monitor the handling of chemicals and to check and rectify any spillage on-site. The storage of chemical wastes, if any, associated with this CWP record is unlikely to have caused any land contamination issues to the Project.

Fire Services Department

8.5.23 Based on the reply from FSD on 26 September 2024, 6 May 2025, 22 October 2025 and findings of the approved TYLL EIA Report, no records of DG license or incidents of spillage / leakage of DG were found within the Project Boundary. However, 6 incident records were provided in the FSD's replies. The details of the incident records are summarised in **Table 8.3** and the locations are shown in **Figure 8.07**.

Table 8.3 Summary of Incident Records

No.	Address	Date	Type of Incident	Within Project Boundary?
1	Near Lamppost AC1725, Near Tam Kon Shan Road	9/7/2025	Electrical Fire	Yes
2	Kiosk 5, UTM Grid Reference KK001751, Tsing Yi Nature Trail	14/9/2024	Mountain Rescue	No
3	Hillside, UTM Grid Reference KK000755, Tsing Yi Nature Trail	10/6/2024	Mountain Rescue	Yes
4	No. 80-82, Tam Kon Shan Road	19/4/2024	No. 2 Alarm Fire	No
5	Man Shun Shipyard, Tam Kon Shan Road	5/8/2023	No. 1 Alarm Fire	No
6	Hillside, UTM Grid Reference JK997754, Near Tsing Yi Nature Trail	6/3/2023	Mountain Rescue	Yes

8.5.24 Of the 6 incident records, 3 records (Incident Nos. 2, 4 and 5) occurred outside the Project Boundary. For Incident No. 1, based on further information provided by FSD, no DG / chemicals were involved in the fire incident concerned. Thus, potential land contamination issues associated with the incident record are not anticipated. For Incident Nos. 3 and 6, given the nature of the two incidents (i.e. mountain rescue), potential land contamination issues associated with these incident records are not anticipated.

Site Geology

8.5.25 According to the 1:20,000 Geological Map Sheet 6 (Yuen Long), the bedrock underlying the Project Site in Northwest Tsing Yi comprises mainly coarse ash Tuffs. Some minor intrusions of Felsparphyric and Quartzphyric Rhyolite also occur.

8.5.26 Based on the relevant GI reports, the Project Site was underlain by Completely Decomposed Tuff / Colluvium comprising loose yellowish brown with dark grey speckles and slightly clayey fine to coarse sand with some angular gravels of rock fragments of 2.5m thickness, followed by highly decomposed Tuff comprising weak to moderately, yellowish brown with dark grey and green to brown speckles and spots, gravels of rock fragments and slightly silty fine to coarse sand matrix of 4m thickness and highly to moderately decomposed Tuff comprising light grey and yellowish brown rock fragment of 1m thickness. The underlying rock was moderately and slightly decomposed Tuff of at least 52.83m, with the corresponding termination elevation of -36.68mPD. The strength of the rock was moderately strong to very strong.

8.6 Prediction and Evaluation of Potential Impacts

8.6.1 According to the findings of the site appraisal, the Project Site has been mainly occupied by non-contaminating land uses (e.g. natural hillside, vegetated land, slopes and roads). No land contamination impact associated with these land uses to the Project is anticipated.

8.6.2 For the CEDD works area under Contract No. *GE/2022/08 Ground Investigation – New Territories East* at the Tam Kon Shan Portal, handling of chemicals and chemical waste were identified. However, the operation of the works area, and the associated chemical and chemical waste storage are temporary (i.e. 2 months only). The chemical and chemical waste storages were observed to be in good condition with no signs of oil stain / chemical leakage / stressed vegetation noted in the vicinity. In addition, no records of spillage / leakage incidents involving chemicals / chemical wastes were reported by the site representative, EPD and FSD. Given the above and the nature of works (i.e. GI works), potential land contamination impact associated with operation of this works area is not anticipated.

8.6.3 For the Wok Tai Wan Works Area, the site is currently the DSD works areas under *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction*. Based on the land contamination assessment under the approved TYLL EIA Report, no land contamination issues were identified within the site. Although a diesel oil drum was observed in the north of the site during the site walkover in this review, the drum was placed with drip tray in good condition and with no signs of oil stain / spillage observed in the vicinity. There have also been regular inspections conducted by the resident site staff, ET, and IEC to monitor the chemicals handled and to check and rectify any spillage on-site and no records of land contamination / chemical spillage / leakage were reported. Given the above and that no soil excavation works are required on the surface land at Wok Tai Wan Works Area (**Section 8.4.2** refers), no land contamination issues to the Project are anticipated within the Wok Tai Wan Works Area.

8.6.4 For the reclaimed land portion of Ngau Kok Wan Portal, the area had been used as a barging point and open storage of materials between 1996 and 2002, and Marine Department Ngau Kok Wan Vessel Traffic Service System Maintenance Site from 2016. The area had been vacated in 2021. From the site walkover conducted under this assessment, the area is currently occupied by the DSD works area under *Contract No. DC/2020/05 Relocation of Sha Tin Sewage Treatment Works to Caverns - Main Caverns Construction*, which is a Designated Project under the EIAO with respective Environmental Permit in place, and handling of chemicals were identified in the works area. There have been regular site walks conducted by the ET and IEC, and any sign of land contamination detected would be rectified in accordance with the EIAO during the course of the operational and decommissioning phases of the works area. In addition, no records of spillage / leakage incidents involving chemicals / chemical wastes were reported by the site representative, EPD and FSD. As such, potential land contamination impact associated with the operation of this works area is not anticipated. Nevertheless, according to the previous PER, it is possible that vehicle / equipment maintenance activities, which were associated with the handling and storage of chemicals, were carried out within the reclaimed land portion of Ngau Kok Wan Portal. However, it should be noted that based on the latest engineering design, no soil excavation

works will be carried out within 10m from the seawall in the land portion of Ngau Kok Wan Portal in order to avoid any adverse impacts on the structural stability of the existing seawall. As such, no land contamination issues to the Project are anticipated within this 10m 'buffer area' due to no soil excavation works at this area. The potentially contaminated area (i.e. the area of the former open storage and the Marine Department Ngau Kok Wan Vessel Traffic Service System Maintenance Site but excluding the 10m buffer area near the seawall) are indicated in **Figure 8.02** to **Figure 8.03**. A detailed land contamination assessment (including further site appraisal and if necessary intrusive SI) should be carried out within the potentially contaminated area prior to commencement of construction works of the Project to confirm the presence and, if any, extent of contamination. The detailed land contamination assessment should be carried out according to the EPD's Guidance Note, Guidance Manual and Practice Guide. Details of the further works are discussed in **Section 8.7** below.

8.6.5 Given any soil/groundwater contamination would be identified and properly treated prior to the commencement of construction works of the Project if the further works outlined in **Section 8.7** are implemented, land contamination impacts are considered not insurmountable to future occupants.

8.7 Recommended Further Works

8.7.1 Further site appraisal should be carried out at the potentially contaminated area within the reclaimed land portion of Ngau Kok Wan Portal after site handover but prior to commencement of construction works of the Project to confirm the presence of any potential land contamination sources. Any necessary intrusive SI works and remediation action are recommended to be carried out prior to the commencement of construction works under the Project.

8.7.2 The further site appraisal and submission of Contamination Assessment Plan (CAP) should be carried out prior to the commencement of the SI works, presenting findings of the further site appraisal, the latest site conditions and proposed sampling strategy and testing protocol, and submitted to EPD for endorsement. The SI works should be carried out according to EPD's agreed CAP. Following the completion of SI works and receipt of laboratory test results, Contamination Assessment Report (CAR) should be prepared to present the findings of the SI works and to discuss the presence, nature and extent of contamination. If contamination is identified, Remediation Action Plan (RAP) which provides details of the remedial actions for the identified contaminated soil and / or groundwater should be endorsed by EPD.

8.7.3 Remediation action, if necessary, should be carried out according to EPD endorsed RAP and Remediation Report (RR) should be submitted after completion of the remediation action. The RR should be endorsed by EPD prior to the commencement of construction works at the respective identified contaminated areas (if any).

8.8 Conclusion

8.8.1 A site appraisal, in the form of a desktop review and site walkover, was conducted between September 2023 and October 2025 to identify any current / historical potentially contaminating land uses within the Project Boundary. Based on the findings of the site appraisal, the Project Site was mainly occupied by non-contaminating land uses. Three existing works areas were identified within the Project Boundary but no potential land contamination issues associated with operations of the works areas are anticipated. For the reclaimed land portion of Ngau Kok Wan Portal, the area was used as a barging point, open storage of materials and Marine Department Ngau Kok Wan Vessel Traffic Service System Maintenance Site. According to the previous PER, it is possible that vehicle / equipment maintenance activities, which were associated with handling and storage of chemicals, were carried out within the reclaimed land portion of Ngau Kok Wan Portal.

8.8.2 A detailed land contamination assessment (including further site appraisal and if necessary intrusive SI) should be carried out for the potentially contaminated area within the reclaimed land portion of Ngau Kok Wan Portal prior to commencement of construction works involving soil excavation under the Project to confirm the presence and, if any, extent of contamination.

The detailed land contamination assessment should be carried out according to EPD's Guidance Note, Guidance Manual and Practice Guide.

8.8.3 With the implementation of the recommended follow up works for the Project, any soil/groundwater contamination would be identified and properly treated prior to the construction works. No insurmountable land contamination impacts on the Project are therefore anticipated.

9 TERRESTRIAL ECOLOGY

9.1 Introduction

9.1.1 This section presents the baseline terrestrial ecological resources within the assessment area which is 500m from the Project Boundary (**Figure 9.01** refers), and the preliminary review results of the potential terrestrial ecological impacts arising from the construction works (e.g. site formation, slope stabilization, and the installation for ancillary activities) within Surface Works Area (i.e. portal areas, associated access road and Wok Tai Wan Works Area), excavation of the Main Access Tunnel by mechanical breaking methods, as well as operation (i.e. underground quarrying by D&B method) of the Project.

9.1.2 Baseline conditions for ecological components of the terrestrial environment have been evaluated based on information from available literature and field surveys. Measures required to mitigate any identified adverse impacts have been recommended, where appropriate.

9.2 Environmental Legislation, Standards and Assessment Criteria

9.2.1 Ordinances/regulations, guidelines, standards and documents listed below were referred to during the course of the preliminary ecological review:

- Country Parks Ordinance (Cap. 208);
- Forests and Countryside Ordinance (Cap. 96);
- Wild Animals Protection Ordinance (Cap. 170);
- Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586);
- Town Planning Ordinance (Cap. 131);
- Chapter 10 of the Hong Kong Planning Standard and Guidelines (HKPSG);
- The International Union for the Conservation of Nature (IUCN)'s Red List of Threatened Species;
- The List of Key Protected Wildlife and Plant Species under the People's Republic of China's (PRC) Wild Animal Protection Law; and
- The Convention on Biological Diversity (CBD).

9.3 Assessment Methodology

9.3.1 A desktop review of relevant available studies/surveys regarding the ecological conditions within the assessment area was conducted. Literature reviewed includes:

- Agreement No. CE 21/2016 (GE) – Technical Study on Underground Quarrying in Hong Kong – Investigation, Final Technical Report on Preliminary Assessment of the Selected Underground Quarry Site – Preliminary Environmental Review (TR1B) (CEDD, 2018);
- Agreement No. CE 84/2017 (CE) – Technical Study on Potential Sites for Relocation of Wholesale Markets and for Other Industrial Uses in North West Tsing Yi – Feasibility Study – Preliminary Report on Preliminary Environmental Study (CEDD, 2023);
- Agreement No. CE 57/2018 (GE) – Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study – Preliminary Environmental Review of Preferred Land Use Option at SCVA No. 10 (TR1B) (CEDD, 2024);
- AFCD Biodiversity Information Hub (AFCD, 2025);
- Approved Tsing Yi OZP No. S/TY/32; and
- Cavern Master Plan under Long-term Strategy for Cavern Development – Feasibility Study (CEDD, 2019).

9.3.2 The current Project Boundary overlaps with the study area of the PER for the *Technical Study on Underground Quarrying in Hong Kong* (CEDD, 2018) and the study area of the previous PER. With the available recent information, the ecological characters of the current Project Boundary were verified and consolidated with the latest aerial photographs, countryside maps published by the Survey and Mapping Office of LandsD and the reconnaissance site

visits conducted in September 2024, January 2025, and June 2025 according to the methodology agreed with AFCD. The walk transects and freshwater communities sampling points during the reconnaissance site visits are provided in **Figure 9.01**.

9.4 Description of Baseline Condition

Habitat and Vegetation

9.4.1 No recognized site of conservation importance was identified within the assessment area. A total of six habitats (i.e. mixed woodland, shrubland, plantation, modified watercourse, natural watercourse and developed area) were identified within the Project Boundary and the 500m assessment area after collating and consolidating the findings from literature review and the reconnaissance site visits (**Figure 9.02** refers). A total of three flora species of conservation importance were recorded within the assessment area during the reconnaissance site visits, all of which were also recorded in previous studies (**Table 9.1**, **Figure 9.02** and **Appendix 9.1** refer).

Table 9.1 Flora Species of Conservation Importance Recorded within the Assessment Area

Species	Distribution in Hong Kong (1)	Conservation Status	Previous Studies (9)	Recent Reconnaissance Site Visits
Incense Tree *(Aquilaria sinensis)*	Common in Hong Kong	Cap. 586 (2), Cat 2&3 (NT) (3), Cat II (4), VU (5), NT (6), VU (7), VU (8)	Mixed Woodland*; Shrubland	Mixed Woodland*; Shrubland; Plantation*
Aralia chinensis	Common in Hong Kong	VU (8)	Mixed Woodland*; Plantation*	Mixed Woodland*; Plantation*
Small Persimmon (*Diospyros vaccinioides*)	Common in Hong Kong	EN (7), CR (8)	Mixed Woodland; Plantation*	Mixed Woodland*; Plantation*

Notes:
(1) AFCD (2025): Hong Kong Biodiversity Information Hub. Distribution in Hong Kong follows Hong Kong Herbarium (2007; 2008; 2009; 2011), Wu, S.H. & Lee, T.C.W. (2000), Xing, F.W., Ng, S.C. & Chau, L.K.C. (2000), and Siu, L.P.G. (2000).
(2) Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
(3) Hu et al. (2003): Rare and Precious Plants of Hong Kong. NT= Near Threatened.
(4) List of Wild Plants under State Protection (promulgated by the Ministry of Forestry in 2021).
(5) Fu (1992): China Plant Red Data Book. Vol. 1 - Rare and Endangered Plants. VU= Vulnerable.
(6) Feng et al. (2002): Study on Rare and Endangered Plants and National Key Protected Plants in Guangdong. NT= Near Threatened.
(7) Qin et al. (2017): Threatened Species List of China's Higher Plants. VU = Vulnerable, EN = Endangered.
(8) The International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species (2024.2). VU = Vulnerable, CR = Critically Endangered.
(9) CEDD (2018); CEDD (2023); CEDD (2024).
* Recorded within Project Boundary.

Overview of the Project Site

9.4.2 The Project comprises different components, with the majority of the Project Site made up of underground caverns and associated underground access tunnels (hereinafter collectively referred to as the "Underground Quarry Site") which are located underneath mixed woodland, plantation, modified watercourse, natural watercourse and developed area. Aboveground components of the Project include two portal areas, namely Ngau Kok Wan Portal and Tam Kon Shan Portal, associated access road west of Ngau Kok Wan and Wok Tai Wan Works Area, and are hereinafter collectively referred to as "Surface Works Area", which are mainly made up of developed area, with small areas of mixed woodland, plantation and shrubland, short sections of modified watercourses (i.e. W1 and W3) as well as a short section of natural watercourse (i.e. W6) (**Table 9.2** and **Figure 9.02** refer).

Table 9.2 Area of Habitats of Surface Works Area, Underground Site, Potential Cavern Expansion, Other Area within Project Boundary (excluding Surface Works Area, Underground Site, and Potential Cavern Expansion) and 500m Assessment Area

Habitat	Surface Works Area (ha) [a]	Underground Site (ha) [b]	Potential Cavern Expansion (ha) [c]	Other Area within Project Boundary (excluding [a], [b] and [c]) (ha) (1)	500m Assessment Area (ha)
Mixed Woodland	0.85	15.31	2.27	5.28	66.48
Shrubland	0.11	-	-	<0.01	5.52
Plantation	0.92	2.98	-	1.47	36.58
Modified Watercourse	0.05 (~ 0.15km)	0.01 (~ 0.02km)	-	0.06 (~0.20km)	0.43 (~ 0.86km)
Natural Watercourse	<0.01 (~0.03km)	0.12 (~ 1.21km)	-	0.01 (~0.11km)	0.24 (~ 2.39km)
Developed Area	7.49	2.28	-	2.47	67.15
Total	**9.43**	**20.71**	**-**	**9.30**	**176.39**

Note:
(1) No construction works are proposed within this area in the current project design presented in this PER.

Mixed Woodland

9.4.3 Mixed woodlands were identified within the Project Boundary. The mixed woodland at both portal areas and Ngau Kok Wan formed a narrow continuous patch of mixed woodland. Another continuous patch of mixed woodland was identified along the coastal area of Wok Tai Wan. The patches of mixed woodland were around 5-8m tall with similar floristic composition. Flora species recorded include native species typically found in disturbed environment, such as Sweet Gum (*Liquidambar formosana*), Pop-gun Seed (*Bridelia tomentosa*), Yellow Cow Wood (*Cratoxylum cochinchinense*), Elephant's Ear (*Macaranga tanarius* var. *tomentosa*) and Ivy Tree (*Schefflera heptaphylla*), interspersed with exotic plantation species such as *Eucalyptus* spp. and Taiwan Acacia (*Acacia confusa*).

9.4.4 Outside the portal areas, the majority of the mixed woodland was situated at Liu To Shan in the southeastern part of the assessment area. The canopy was about 8-12m tall, where a mix of native species (e.g. Castanopsis (*Castanopsis fissa*) and Lance-leaved Sterculia (*Sterculia lanceolata*)) and exotic species (e.g. Taiwan Acacia and *Eucalyptus* spp.) were present. Shrub and herb species (e.g. Rough-leaved Holly (*Ilex asprella*), Wild Coffee (*Psychotria asiatica*) and Semi-pinnated Brake (*Pteris semipinnata*)) were recorded in the understorey.

9.4.5 A total of three flora species of conservation importance, including Incense Tree (*Aquilaria sinensis*), *Aralia chinensis* and Small Persimmon (*Diospyros vaccinioides*), were recorded in the mixed woodland within both the assessment area and Project Boundary. Individuals of Incense Tree were found in Tam Kon Shan Portal and above the footprint of the Underground Quarry Site, individuals of *Aralia chinensis* were found in both Tam Kon Shan Portal and Ngau Kok Wan Portal, and individuals of Small Persimmon were found in Ngau Kok Wan Portal. Outside the Project Boundary, individuals of Incense Tree were also recorded at Liu To Shan, while clusters of Small Persimmon were recorded at the mixed woodland west of Ngau Kok Wan.

9.4.6 The mixed woodland at Liu To Shan was considered to be of moderate naturalness, less fragmented, larger in size and structurally connected to adjacent plantation and shrubland habitats and subject to some disturbance from human activities (e.g. traffic from Tsing Yi North Coastal Road, regular human disturbances on hiking trails and paved hiking trails with pavilion structures). The mixed woodlands in Ngau Kok Wan and Wok Tai Wan were small in size with high fragmentation, low to moderate naturalness and subject to regular disturbance (e.g. heavy vehicular traffic from adjacent developed area at Tsing Yi North Coastal Road, Tam Kon Shan Road, shipyard and cement works, and construction works at Ngau Kok Wan). The mixed woodland at Liu To Shan is considered to be of **moderate** ecological value, while those at Ngau Kok Wan and Wok Tai Wan are considered to be of

low ecological value.

Shrubland

9.4.7 A narrow continuous patch of shrubland was found within the Project Boundary along the coast of Wok Tai Wan Works Area. Outside the Project Boundary, patches of shrubland were identified on the knoll between the portals and Liu To Shan. Native shrubs such as Rose Myrtle (*Rhodomyrtus tomentosa*) and Oblong-leaved Litsea (*Litsea rotundifolia* var. *oblongifolia*) were typically recorded in this habitat. The understorey comprised herbaceous species such as Oriental Blechnum (*Blechnum orientale*) and Dichotomy Forked Fern (*Dicranopteris pedata*). An Individual of Incense Tree was recorded at Liu To Shan. Considering the small size, young age, low wildlife diversity and abundance as well as high fragmentation, shrubland is considered to be of **low** ecological value.

Plantation

9.4.8 Plantations were largely found along the access road west of Ngau Kok Wan, Yau Kom Tau, and man-made slopes (e.g. along Tsing Yi North Coastal Road and Northwest Tsing Yi Interchange) across the assessment area and within the Project Boundary (including Ngau Kok Wan Portal, Tam Kon Shan Portal, Wok Tai Wan Works Area and above the footprint of the Underground Quarry Site). Exotic plantation species such as Taiwan Acacia, Big-leaved Acacia (*Acacia mangium*) and Horsetail Tree (*Casuarina equisetifolia*) were predominant in this habitat, where a mix of native and exotic vegetation, such as Wood Fern (*Cyclosorus parasiticus*), Microcos (*Microcos nervosa*) and *Wedelia trilobata* were occasionally recorded in the understorey.

9.4.9 A total of three flora species of conservation importance, including Incense Tree, *Aralia chinensis* and Small Persimmon, were recorded in plantation within the assessment area and the Project Boundary. Within the Project Boundary, an individual of Incense Tree was identified at the slope between the Main Access Tunnel of the Ngau Kok Wan Portal, individuals of *Aralia chinensis* were found in and near Ngau Kok Wan Portal, while individuals of Small Persimmon were found near Tam Kon Shan Portal, south and west to the Ngau Kok Wan Portal and above the footprint of the Underground Quarry Site. Outside the Project Boundary, an individual of Incense Tree was found on the engineered slope adjacent to Tsing Yi North Coastal Road, individuals of *Aralia chinensis* were found along the access road west of Ngau Kok Wan, and an individual of Small Persimmon was found adjacent to the access road near Wok Tai Wan.

9.4.10 Considering the low naturalness, diversity and abundance of wildlife, high fragmentation and recreatability, and regular disturbance (e.g. heavy vehicular traffic from Tam Kon Shan Road, Tsing Yi North Coastal Road and Northwest Tsing Yi Interchange and the construction works at Ngau Kok Wan), plantation is considered to be of **low** ecological value.

Modified Watercourse

9.4.11 Three modified watercourses (i.e. W1 – W3) were identified in the northern and western seafront of the assessment area. Short sections of W1 are located within the footprint of Ngau Kok Wan Portal. It was subject to sedimentation from runoff from the adjacent human and vehicular activities on excavated land, had stagnant water flow and appeared to lack natural substratum. Ruderal weedy species such as Shell Ginger (*Alpinia zerumbet*)*, Bidens alba,* Opposite-leaved Fig (*Ficus hispida*) and Mile-a-minute Weed (*Mikania micrantha*) formed the bankside vegetation. W2 was a stormwater drainage channel that crosses the access road west of Ngau Kok Wan Portal. It was observed to be dry during the reconnaissance site visits. A section of W3 is located within the Wok Tai Wan Works Area. It was a stormwater drainage channel with slow water flow and poor water quality. No flora species of conservation importance were identified along the modified watercourses which supported low diversity and abundance of vegetation. Considering the low naturalness, heavy disturbance, low diversity and abundance of wildlife, the modified watercourses are considered to be of **low** ecological value.

Natural Watercourse

9.4.12 Four natural watercourses (i.e. W1a, W4 – W6) were identified within the assessment area. W1a and W4 are seasonal natural watercourses recorded at the northern slope of Liu To Shan, which partly falls within the footprint of the Main Access Tunnel of the Ngau Kok Wan Portal and the Underground Quarry Site. Cobbles and boulders are found at the bottom of both watercourses. During the reconnaissance site visits in wet season (i.e. September 2024 and June 2025), W1a was observed to be dry, while good water quality was recorded at W4. W5 is a perennial watercourse found at the eastern slope of Liu To Shan with stagnant water flow. The bottom of the watercourse is formed by bedrocks. A short section of W6 is located within Wok Tai Wan Works Area. It is a seasonal natural watercourse which was observed to be dry during the reconnaissance site visits in wet season, with cobbles and mud at the bottom. Limited vegetation, such as Common Centotheca (*Centotheca lappacea*), Lily Turf (*Liriope spicata*) and Wild Coffee (*Psychotria asiatica*), were recorded at the riparian zone of the natural watercourses. No flora species of conservation importance were recorded along the natural watercourses. No fauna species were recorded at W1a and W6. The fauna species recorded at W4 and W5 are presented in **Appendix 9.2**. Considering the moderate naturalness, and their structural connection to adjacent mixed woodland, shrubland and plantation habitats, and subject to some disturbance from human activities (e.g. regular human disturbances on the hiking trail), the natural watercourses are considered to be of **low to moderate** ecological value.

Developed Area

9.4.13 Developed areas were identified at several locations within the Project Boundary. There is a developed area in the coastal area of Ngau Kok Wan Portal. This area was fenced, and showed some signs of dumping and storage activities. Another developed area was identified at Wok Tai Wan Works Area and along the access road west of Ngau Kok Wan Portal, where low abundance and diversity of flora species were found. A small portion of the developed area (i.e. the man-made slope along Northwest Tsing Yi Interchange) was also identified within the western footprint of the Underground Quarry Site.

9.4.14 Beyond the Project Boundary, a developed area was recorded east of Ngau Kok Wan Portal, with frequent human and heavy vehicular activities on the excavated land. The developed area northeast to the Tam Kon Shan Portal and southeast to the Wok Tai Wan Works Area also experienced frequent heavy vehicular activities from cement works and the shipyard along Tam Kon Shan Road. Other developed areas, such as roads, highways, built-up areas and construction sites were also identified within the assessment area.

9.4.15 The developed area was observed with low diversity and abundance of vegetation, overgrown with ruderal species such as the tree species White Popinac (*Leucaena leucocephala*), Elephant's Ear*,* and herbs *Bidens alba* and Mile-a-minute Weed. No flora species of conservation importance was recorded within this habitat. Considering the low naturalness, heavy disturbance, low diversity and abundance of wildlife, developed area is considered to be of **low** ecological value.

Fauna

9.4.16 In general, the fauna abundance and diversity recorded in terms of avifauna, mammal, butterfly, odonate, herpetofauna and freshwater communities were low, while no firefly species was recorded within the assessment area. No breeding or roosting behaviour were recorded within the assessment area.

9.4.17 A total of ten fauna species of conservation importance, including five avifauna, four butterfly, and one odonate species, were recorded from previous studies, while two avifauna species were recorded within the Project Boundary, namely Chinese Hwamei and Little Egret. Chinese Hwamei was found above the footprint of the Underground Quarry Site, and Little Egret was found at the coastal area of Ngau Kok Wan Portal.

9.4.18 A total of 13 fauna species of conservation importance, including five avifauna, six mammal, one herpetofauna and one freshwater communities species, were recorded in recent reconnaissance site visits, while four species of conservation importance, namely Crested Goshawk, Lesser Yellow Bat, Short-nosed Fruit Bat, and Unknown Vespertilionidae Species

2, were recorded within the Project Boundary. Crested Goshawk was found above the footprint of the Underground Quarry Site, Lesser Yellow Bat was found along the access road west of Ngau Kok Wan Portal, Short-nosed Fruit Bat was found at Tam Kon Shan Portal area where potential site formation works would be carried out, and Unknown Vespertilionidae Species 2 was found south to the Tam Kon Shan Portal but within the Project Boundary (**Table 9.3**, **Figure 9.02** and **Appendix 9.2** refer).

Table 9.3 Fauna Species of Conservation Importance Recorded within the Assessment Area

Species	Distribution in Hong Kong (1)	Conservation Status	Previous Studies (10)	Recent Reconnaissance Site Visits
Black Kite (*Milvus migrans*)	Common resident and winter visitor. Widely distributed in Hong Kong.	Cap. 170 (2); Cap. 586 (3); (RC) (4); Class II (5)	In Flight	In Flight
Black-throated Laughingthrush (*Pterorhinus chinensis*)	Common resident. Widely distributed in woodland and shrubland throughout Hong Kong.	Cap. 170 (2); Class II (5)	-	Mixed Woodland
Chinese Hwamei (*Garrulax canorus*)	Common resident. Widely distributed in hillside shrubland throughout Hong Kong.	Cap. 170 (2); Cap. 586 (3); Class II (5)	Mixed Woodland*; Shrubland; Plantation	-
Chinese Pond Heron (*Ardeola bacchus*)	Common resident. Widely distributed in Hong Kong.	Cap. 170 (2); PRC (RC) (4)	Modified Watercourse	-
Collared Scops Owl (*Otus lettia*)	Common resident. Widely distributed in shrubland throughout Hong Kong.	Cap. 170 (2); Cap. 586 (3); Class II (5)	-	Mixed Woodland
Crested Goshawk (*Accipiter trivirgatus*)	Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.	Cap. 170 (2); Cap. 586 (3); Class II (5); Rare (6)	-	In Flight*
Greater Coucal (*Centropus sinensis*)	Common resident. Widely distributed in Hong Kong.	Cap. 170 (2); Class II (5); Vulnerable (6)	Plantation	-
Little Egret (*Egretta garzetta*)	Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.	Cap. 170 (2); PRC (RC) (4)	In Flight*	In Flight
Greater Bent-winged Bat (*Miniopterus magnater*)	Data deficient.	Cap. 170 (2); PRC (RC) (4)	-	Plantation

Species	Distribution in Hong Kong (1)	Conservation Status	Previous Studies (10)	Recent Reconnaissance Site Visits
Japanese Pipistrelle (*Pipistrellus abramus*)	Widely distributed throughout Hong Kong.	Cap. 170 (2)	-	Mixed Woodland; Shrubland; Plantation
Lesser Yellow Bat (*Scotophilus kuhlii*)	Fairly widely distributed in countryside areas throughout Hong Kong.	Cap. 170 (2); (LC) (4)	-	Developed Area*
Short-nosed Fruit Bat (*Cynopterus sphinx*)	Very widely distributed in urban and countryside areas throughout Hong Kong.	Cap. 170 (2)	-	Mixed Woodland; Plantation*
Unknown Vespertilionidae species 1	-	Cap. 170 (2)	-	Mixed Woodland; Shrubland; Developed Area
Unknown Vespertilionidae species 2	-	Cap. 170 (2)	-	Mixed Woodland; Shrubland; Plantation*; Developed Area
Courtesan (*Euripus nyctelius*)	Tai Po, Kai Shan.	Very Rare (7)	Mixed Woodland	-
Grass Demon (*Udaspes folus*)	Widely distributed throughout Hong Kong.	Rare (7)	Mixed Woodland	-
Lesser Band Dart (*Potanthus trachala*)	Widely distributed throughout Hong Kong.	Rare (7)	Plantation	-
Small Cabbage White (*Pieris rapae*)	Shep Mun Kap, Fan Lau, Ngong Ping, Kam Tin, Ho Chung, Luk Keng, Tuen Mun Ash Lagoon.	Rare (7)	Plantation	-
Dusk-hawker (*Gynacantha* sp.)	-	LC (4)	Modified Watercourse	-
Four-clawed Gecko (*Gehyra mutilata*)	Widely distributed throughout Hong Kong.	VU (8), VU (9)	-	Plantation
Hong Kong Freshwater Crab (*Nanhaipotamon hongkongense*)	Presumably endemic to Hong Kong, but been recently discovered in Shenzhen; Common.	PGC (4)	-	Plantation; Natural Watercourse

Notes:
(1) AFCD (2025): Hong Kong Biodiversity Information Hub.

(2) Protected under the Wild Animal Protection Ordinance (Cap. 170).
(3) Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
(4) Fellowes et al. (2002): Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. LC=Local Concern; RC=Regional Concern; PRC=Potential Regional Concern. Letter in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence.
(5) List of Wild Animals under State Protection (promulgated by National Forestry and Grassland Administration in 2021).
(6) Zheng & Wang (1998): China Red Data Book of Endangered Animals. Aves.
(7) Chan et al. (2011): A Review of the Local Restrictedness of Hong Kong Butterflies.
(8) Jiang et al. (2016): Red List of China's Vertebrates. VU=Vulnerable.
(9) Redlist of China's Biodiversity - Vertebrates (promulgated by the Ministry of Ecology and Environment and Chinese Academy of Sciences in 2020). VU=Vulnerable.
(10) CEDD (2018); CEDD (2023); CEDD (2024).
* Recorded within Project Boundary.

9.5 Prediction and Evaluation of Ecological Impacts

9.5.1 The construction phase of the Project includes site establishment for the quarry (including site formation, slope stabilization, slope cutting works and installation for ancillary activities at portals and the conveyor belt system at Wok Tai Wan Works Area), excavation of tunnel portals by slope cutting, and excavation of the initial sections of the Main Access Tunnel by mechanical breaking methods. The operation phase of the Project includes rock excavation within the Underground Quarry Site by the D&B method and ancillary operations.

Construction Phase – Direct Impact

Habitat Loss

9.5.2 Loss of mixed woodland, plantation, modified watercourses and developed area is anticipated due to the aboveground construction works, including the construction of portals and associated works areas (**Table 9.4** refers). The affected mixed woodland consisted of common native and exotic floral species, which are typical vegetation assemblage in a disturbed environment, while the small area of affected strips of plantation comprised common and typical exotic plantation species. The poor water quality of the modified watercourses, and heavy disturbance and predominance of ruderal floral species in the developed area imply low ecological values of these two habitats. In general, the recorded biodiversity was low in these potentially affected small areas, and they are under constant disturbance such as human activities and traffic of heavy vehicles. Therefore, direct impact of habitat loss is considered **minor**.

Table 9.4 Area of Habitat Loss due to Surface Works

Habitat	Approx. Area of Habitat Loss (ha) (1)
Mixed Woodland	0.85
Shrubland	0.11
Plantation	0.92
Modified Watercourse	0.03 (~ 0.10km) (2)
Natural Watercourse	Nil (2)
Developed Area	7.49
Total	**9.40**

Notes:
(1) Area of habitat loss included the habitats within the Surface Works Area under the current design.
(2) The modified watercourse (i.e. W3) and natural watercourse (i.e. W6) located partially within the Wok Tai Wan Works Area will be preserved as far as practicable. Therefore, direct loss of these two watercourses is not anticipated.

Injury and Mortality of Wildlife

9.5.3 The construction activities may result in injury and mortality of wildlife. Animals may be killed or injured by construction activities, including collision with rapidly moving vehicles and aboveground structures. Traffic flow brought by construction vehicles may lead to roadkill. However, as only low diversity and abundance of fauna was recorded within and in the vicinity of the Project Boundary, potential injury and mortality of wildlife would be unlikely with the adoption of appropriate mitigation measures to prevent terrestrial fauna from entering the

Project Site.

Impact on Species of Conservation Importance

9.5.4 A total of three flora species of conservation importance (i.e. three individuals of Incense Tree, one individual of *Aralia chinensis* and one individual of Small Persimmon) were recorded within Tam Kon Shan Portal while one flora species (i.e. three individuals of *Aralia chinensis*) was recorded within Ngau Kok Wan Portal (**Sections 9.4.5** and **9.4.9** refer). Direct impact on these species is unavoidable and therefore would require mitigation measures such as transplantation. Details of mitigation measures are provided in **Section 9.6**. Impacts to these species of conservation importance would be **minor** with appropriate mitigation measures implemented.

9.5.5 The four fauna species of conservation importance (i.e. Crested Goshawk, Lesser Yellow Bat, Short-nosed Fruit Bat and Unknown Vespertilionidae Species 2) recorded within Project Boundary were in flight and neither breeding nor roosting behaviour were recorded within the Project Boundary. Thus, direct impacts to these species of conservation importance would be unlikely.

Construction Phase – Indirect Impact

Disturbance to Natural Habitats and Concomitant Wildlife

9.5.6 Aboveground construction activities described in **Section 9.5.1** would produce various forms of disturbance (e.g. noise, air quality, glare, increased traffic and human activities) and impact the adjacent natural habitats and the concomitant wildlife. Given that the Project Boundary is already under considerable disturbance and low biodiversity was recorded in the affected habitats, the indirect impact from the increased disturbance is anticipated to be **minor**.

9.5.7 The mechanical excavation for the construction of Main Access Tunnel would produce noise and vibration disturbance impacts on the aboveground habitats and lead to potential displacement of fauna. Considering that the aboveground habitats are already subject to the disturbance and vibrations from the heavy traffic flow on Tsing Yi North Coastal Road and Tam Kon Shan Road, disturbance impacts due to the construction of Main Access Tunnel would be **minor**.

Impacts on Water Quality

9.5.8 Short sections of W1 fall within Ngau Kok Wan Portal, while W2 is in the vicinity of the portal. Also, short sections of W3 and W6 fall within the Wok Tai Wan Works Area. The water quality of these watercourses could be indirectly impacted by uncontrolled site runoff and chemical spillage from construction activities. However, the poor water quality and stagnant water flow of W1 and W3, and the absence of water flow of W6 make the watercourses unlikely habitats for aquatic communities. With good site practices and standard measures to prevent site runoff and other contaminants from entering these modified watercourses, the indirect ecological impact from change in water quality would be **insignificant**.

Operation Phase

9.5.9 No direct ecological impacts would be expected from the operation phase of the Project. Despite the underground nature of the quarrying, disturbance (e.g. ground vibration, noise and air quality) to the surrounding, aboveground habitats and concomitant wildlife may be created from the rock excavation by D&B method, ancillary operations, and increased road traffic associated with the operation of the Underground Quarry Site. The operation of the conveyor belt system at Wok Tai Wan Works Area may also generate disturbances, including the increase in human activities and the associated noise and dust and gaseous disturbances.

9.5.10 Underground construction activities (e.g. rock excavation within the Underground Quarry Site and construction of Main Access Tunnel) could potentially affect water quality in soil and aquifer layers due to groundwater infiltration. Nonetheless, comparing to excavation in soft

ground, the construction activities would result in relatively minor infiltration/drawdown of groundwater, as the rock itself is a natural barrier with low permeability, preventing potential groundwater drawn in layers above. Furthermore, only short sections of seasonal natural watercourses (i.e. W1a and W4) with limited water flow were identified above the footprint of the Underground Quarry Site. With the implementation of appropriate mitigation measures (e.g. probing ahead and pre-grouting) to reduce the overall inflow of water and the effect of groundwater infiltration and drawdown, no adverse impacts due to groundwater table drawdown would be anticipated.

9.5.11 Since the Underground Quarry Site is at a significant depth from ground surface, the quarrying-induced vibration would be unlikely to result in significant disturbance impacts. On the other hand, the noise level and dust and gaseous emission from the operation of the Underground Quarry Site and the ancillary activities are not anticipated to increase significantly from the current level (i.e. from existing heavy vehicular activities on excavated land and access road). As such, the impacts would also be **insignificant**.

9.6 Mitigation Measures

Avoidance of Flora Species of Conservation Importance

9.6.1 Direct impact to species of conservation importance outside the Project Boundary (e.g. *Aralia chinensis* along the access road west of Ngau Kok Wan Portal) should be avoided with careful construction design and Plant Protection Zone should be setup during the construction phase (e.g. preservation in-situ) to avoid encroachment and injury, where appropriate (DEVB, 2020).

Minimisation of Direct Impact of Terrestrial Natural Habitats

9.6.2 To minimise the extent of terrestrial habitat loss and its ecological impact, the proportion and extent of land-based works (e.g. portals and surface works areas) have been carefully designed and strategically positioned along existing developed area as far as practicable. The surface works area in Wok Tai Wan Works Area has been confined to minimise direct loss to the mixed woodland (**Figure 9.02** refers).

Transplantation of Flora Species of Conservation Importance

9.6.3 Direct impacts on the three species of conservation importance (i.e. Incense Tree, *Aralia chinensis* and Small Persimmon) at the portal areas are unavoidable and should be minimised by transplantation of the affected individuals to a nearby suitable recipient site before commencement of construction activities at the respective site (e.g. portal site formation). A detailed pre-construction vegetation survey should be conducted within the Project Site by a qualified ecologist/botanist with at least five years of relevant experience to assess the locations and conditions of the flora species of conservation importance. A Pre-construction Vegetation Survey Report and Transplantation Proposal should also be prepared to include findings of the vegetation survey and recommend applicable mitigation measures (e.g. transplantation and mitigation planting at a recipient site, and subsequent monitoring visit for the affected individuals) where necessary.

Adoption of Good Site Practice

9.6.4 The procedures promulgated under ProPECC PN 2/24 *Construction Site Drainage* should be adopted, where applicable, to contain the site runoff and minimise water quality impacts.

9.6.5 Indirect impacts (e.g. construction runoff, air quality, noise and glare) to the nearby habitats could be minimised by adopting good site practices, including but not limited to the following:

- Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimise disturbance to natural habitats, and ensure litter and fuels would not enter nearby drainages and waterbodies;
- Noise mitigation measures by means of movable noise barriers/enclosures, the use of Quiet PME and other good site practices to limit noise emissions at source;
- Glare reduction measures such as restriction of construction hours and provision of

hoarding to the adjoining habitats to minimise the impact to nearby nocturnal fauna; and

- Air quality control measures such as regular water spraying of unpaved roads, proper covering of dusty material storage piles to avoid and minimise emission and dispersal dust, which would cover vegetation and subsequently suppress their health and growth.

Buffer Planting

9.6.6 Though the habitats and associated wildlife already experience disturbance from existing road traffic and construction activities, subject to the detailed design, buffer planting could be implemented at both portal entrances and along the access road west of Ngau Kok Wan to minimise disturbance. Buffer planting of native tree species could be considered as an ecological enhancement while helping to contain disturbances within the portal and works areas.

9.7 Conclusion

9.7.1 Six habitats (i.e. mixed woodland, shrubland, plantation, modified watercourse, natural watercourse and developed area) were identified within the assessment area, with generally low diversity and abundance of flora and fauna recorded. Mixed woodland within the assessment area is considered to range from '**low**' to '**moderate**' ecological values. Natural watercourses within the assessment area are considered to be of '**low to moderate**' ecological value. Shrubland, plantation, modified watercourses and developed area within the assessment area are considered to be of '**low**' ecological value. Three flora species of conservation importance (i.e. Incense Tree, *Aralia chinensis*, and Small Persimmon) were recorded at various habitats within the assessment area, including mixed woodland, shrubland and plantation.

9.7.2 Direct ecological impacts during construction phase would include minor loss of mixed woodland and plantation at Tam Kon Shan Portal, minor loss of mixed woodland, plantation, modified watercourse and developed area at Ngau Kok Wan Portal, minor loss of developed area along the access road west of Ngau Kok Wan Portal, and minor loss of mixed woodland, shrubland, plantation and developed area at Wok Tai Wan Works Area. Potential injury and mortality of wildlife, and direct impact on the three flora species of conservation importance (i.e. Incense Tree, *Aralia chinensis* and Small Persimmon) are also anticipated. Avoidance of these species located outside the Project Boundary should be considered and adopted where applicable. As the direct impacts on flora species of conservation importance within both portal areas are unavoidable, transplantation of individuals would be required (which includes a detailed pre-construction vegetation survey at the impacted areas and preparation of a Pre-construction Vegetation Survey Report and Transplantation Proposal).

9.7.3 Indirect ecological impacts during construction would also affect adjacent habitats and concomitant wildlife through disturbance (e.g. noise, air quality, glare, increased traffic and human activities), groundwater table drawdown and water quality impacts. The operation phase of the Project would also result in a potential indirect disturbance impact. These ecological impacts are considered **minor** in general.

9.7.4 Nonetheless, with the proper implementation of the mitigation measures (e.g. careful construction design, setup of plant protection zone, transplantation of flora species of conservation importance, clear demarcation of site boundary, adoption of good site practices and buffer planting), no unacceptable ecological impacts are anticipated to arise from the Project.

9.8 Reference

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10 LANDSCAPE AND VISUAL

10.1 Introduction

10.1.1 This section identifies and assesses the potential landscape and visual impacts arising from the Project. Based on the impact identified, preliminary landscape and visual mitigation measures are proposed to alleviate any potential adverse impact.

10.1.2 The site location and the details of the Project are described in **Section 2**.

10.2 Environmental Legislation, Standards and Guidelines

10.2.1 Legislation and standards that are relevant to the consideration of preliminary landscape and visual impacts under this assessment include the following:

- Chapters 4, 10 and 11 of Hong Kong Planning Standards and Guidelines;
- DEVB TC(W) No. 4/2020 – Tree Preservation;
- DEVB TC(W) No. 5/2020 – Registration and Preservation of Old and Valuable Trees;
- ETWB TC(W) No. 5/2005 – Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works;
- GEO Publication No. 1/2011 – Technical Guidelines on Landscape Treatment
- for Slopes;
- TPB PG-No. 41A – Town Planning Board Guidelines on Submission of Visual Impact Assessment for Planning Applications to the Town Planning Board;
- Tree Management Practice Note No. 1 – Tree Preservation during Construction; and
- Study on Landscape Value Mapping of Hong Kong.

10.3 Assessment Methodology and Area

10.3.1 Identification of the baseline landscape resources (LRs), landscape character areas (LCAs) and public viewers (PVs) within the assessment area was achieved by a desktop study of topographical maps, information databases, and aerial photographs, as well as undertaking site visits.

10.3.2 The assessment area for the preliminary landscape impact assessment is proposed as 500m from the Project Boundary. The assessment area of visual impact assessment is defined by Tuen Mun Road in the north, Ma Wan in the west, natural hillside in the south and shipyard factories along the Tam Kon Shan Road in the east. The assessment area and the Visual Envelope are shown in **Figure 10.01** and **Figure 10.02**, respectively.

10.3.3 The methodology for the preliminary landscape impact assessment during the construction and operation phases includes:

- Broad identification of the baseline LRs and LCAs that would be potentially affected by the Project;
- Broad assessment of the degree of sensitivity of the LRs and LCAs identified;
- Broad identification of selected sources of landscape impacts;
- Broad identification of the magnitude of landscape impacts;
- Broad recommendation of selected landscape mitigation measures; and
- Broad prediction of the significance of residue landscape impacts with mitigation measures.

10.3.4 The sensitivity of each LR and LCA is classified as follows:

- High: Important landscape or landscape resource of particularly distinctive character or high importance, sensitive to relatively small changes;
- Medium: Landscape or landscape resource of moderately valued landscape characteristics reasonably tolerant to change; and
- Low: Landscape or landscape resource, the nature of which is largely tolerant to change.

10.3.5 The magnitude of change on LR and LCA is classified as follows:

- Substantial: The landscape or landscape resource would have a major change;
- Moderate: the landscape or landscape resources would have a moderate change.
- Slight: The landscape or landscape resources would have slight or barely perceptible changes; and
- Negligible: The landscape or landscape resource would have no discernible change.

10.3.6 The significant thresholds of landscape impacts are categorized as follows:

- Substantial: Adverse/ beneficial impact where the proposal would cause significant deterioration or improvement in existing landscape quality;
- Moderate: Adverse/ beneficial impact where the proposal would cause a noticeable deterioration or improvement in existing landscape quality;
- Slight: Adverse/ beneficial impact where the proposal would cause a barely perceptible deterioration or improvement in existing landscape quality; and
- Negligible: No discernible change in the existing landscape quality.

10.3.7 The following **Table 10.1** shows the rationale in assessing the potential significance of landscape impacts.

Table 10.1 Relationship between Landscape Sensitivity and Impact Magnitude in Defining Impact Significance

		Sensitivity of LRs / LCAs		
		Low	**Medium**	**High**
Magnitude of Change	**Substantial**	Moderate	Moderate / Substantial	Substantial
	Moderate	Slight / Moderate	Moderate	Moderate / Substantial
	Slight	Slight	Slight / Moderate	Moderate
	Negligible	Negligible	Negligible	Negligible

10.3.8 The methodology for the preliminary visual impact assessment during the operation phase includes:

- Broad identification of the Visual Envelope and associated PVs, including key visual resources and visual detractors, that would be potentially affected by the Project;
- Broad assessment of the degree of sensitivity of the PVs identified;
- Broad identification of sources of visual change, including visual composition and obstruction;
- Broad assessment of visual change experienced by the identified PVs and visual resources/ elements; and
- Recommendation of visual mitigation measures.

Table 10.2 Relationship between Visual Sensitivity and Magnitude of Change in Defining Impact Significance

		Visual Sensitivity		
		Low	**Medium**	**High**
Magnitude of Change	**Substantial**	Moderate	Moderate / Substantial	Substantial
	Moderate	Slight / Moderate	Moderate	Moderate / Substantial
	Slight	Negligible / Slight	Slight / Moderate	Moderate
	Negligible	Negligible	Negligible	Negligible

10.3.9 The resultant overall visual impact may be concluded and classified within a range of threshold:

- Beneficial: If the Proposed Development in the overall term will improve the visual quality and complement the visual character of its setting from most of the identified key public viewing points.
- Negligible: If the Proposed Development will, with or without mitigation measures, in the overall term have insignificant visual effects to most of the identified key public viewing points, or the visual effects would be screened or filtered by other distracting visual elements in the assessment area.
- Slight: If the Proposed Development will, with or without mitigation measures, result in overall term slight adverse visual effects to most of the identified key public viewing points.
- Moderate: If the Proposed Development will, with or without mitigation measures, result in overall term some adverse visual effects to most of the key identified key public viewing points, but these can be eliminated, reduced or moderated to a certain extent by design/mitigation measures.
- Substantial: If the Proposed Development will in overall term cause serious and detrimental visual effects to most of the identified key public viewing points even with mitigation measures.

10.4 Review of Planning Control Framework

10.4.1 A review of the existing and planned development framework for the proposed works and for the surroundings was considered. It aims to gain an insight into the outlook of the area affected, identify potential resources and sensitive receivers, and evaluate the compatibility between the Project and the existing and planned land use setting.

10.4.2 The Project Site is covered by the Approved Tsing Yi OZP No. S/TY/32 (**Figure 10.03** refers). The land use zones to be potentially affected by the Project and the future outlook of the area are discussed in **Table 10.3**.

10.4.3 The proposed portal structures and potential site formation area will be fall within “Green Belt”, ‘Other Specified Uses” (“OU”) annotated “Recreation and Tourism Related Uses” (“OU(RTRU)”) and “OU” annotated “Boatyard and Marine-oriented Industrial Uses” (“OU(BMIU)”) on the approved Tsing Yi Outline Zoning Plan.

Table 10.3 Summary of the Review of Planning and Development Control Framework

OZP Plan Title and No.	Land Use Zoning	Approx. Area within 500m Assessment Area (ha)	Approx. Area Affected (ha) (Approximate % of Zoning Affected)
Approved Tsing Yi OZP No. S/TY/32	Green Belt ("GB")	104.7	30.7 (29%)
	Area shown as "Road"	26.6	1.4 (5%)
	Other Specified Uses ("OU") annotated "Recreation and Tourism Related Uses" ("OU(RTRU)")	10.9	6.9 (63%)
	Other Specified Uses ("OU") annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)")	10.2	0.2 (2%)
	Industrial ("I")	7.5	0 (0%)
	Residential (Group A)	3.3	0 (0%)
	Other Specified Uses ("OU") annotated Viewing Platform	1.9	0 (0%)
	Government, Institution or Community ("G/IC")	1.5	0 (0%)
	Other Specified Uses ("OU") annotated Cement Plant	0.9	0 (0%)

10.4.4 In general, the majority of the affected area falls within the "OU(RTRU)" and "OU(BMIU)" zones on the approved Tsing Yi OZP No. S/TY/32 for the construction/site formation works of work areas, portals, and conveyor belt system. A small portion of the area within the OU Zone will be taken up for the construction of the portals, while a small portion of the area within the GB Zone will potentially be changed due to the site formation works for the portal and conveyor belt system construction.

10.5 Baseline Findings

10.5.1 Under this PER, only key LRs, LCAs, and PVs which would be potentially affected are included and discussed.

Existing Trees

10.5.2 Approx. 16,700 m^2 of existing hillside vegetation, including green belt, will be inevitably affected by the portal construction and associated development. There are approximately 1,230 nos. of existing trees surveyed and approximately 765 nos. of trees proposed to be removed within the proposed works area. None of these are Registered Old and Valuable Trees on the records of Greening, Landscape and Tree Management Section of DevB. No mature tree was found in the site, i.e. trees with individual trunk(s) over 750mm diameter at

breast height. Tree species to be removed included *Acacia confusa, Acacia mangium, Adina pilulifera, Celtis sinensis, Cinnamomum burmannii, Corymbia citriodora*, *Cratoxylum cochinchinense*, *Eucalyptus exserta*, *Ilex rotunda*, *Liquidambar formosana*, and *Schefflera heptaphylla,* etc.

10.5.3 Transplanting should be considered as far as possible unless the trees affected are of low conservation and amenity value, or have a low chance of surviving or recovering to its normal form after transplanting. Among the trees to be affected by the proposed works, trees are selected as far as possible for transplanting to reduce the impact on existing trees. However, since most of the affected individual trees are located either on natural terrain or engineered slopes and in mature size, their survival rate after transplanting is low and not feasible for transplanting. Therefore, tree felling is proposed with compensatory planting. The tree treatment proposal should be submitted under a separate submission – Tree Preservation and Removal Proposal.

10.5.4 The compensatory planting strategy of the proposal is as follows:

- Compensatory planting for trees to be removed due to non-slope works will be of a ratio not less than 1:1 in terms of number, as far as practicable. The size of the proposed compensatory tree is appropriate to the location and function;
- For slope works, the ratio of 1:1 by number requirement may not apply due to site constraints; and the planting of shrubs, climber mix and woodland shrub mix would be more appropriate;
- Apart from the above compensatory planting requirements, quality greenery will be considered, such as themed planting, enhancing the landscape amenity value and maximizing greening opportunity etc.

Landscape Resources (LRs)

10.5.5 The preliminary findings of baseline LRs, which will be potentially affected by the Project, together with their sensitivity, are discussed in **Table 10.4**. The locations of these baseline LRs are mapped in **Figure 10.01**.

Table 10.4 Baseline LRs and their Sensitivity

LRs	Description	Sensitivity
LR1	Hillside vegetation along Tsing Yi North Coastal Road Hillside vegetation along the Tsing Yi North Coastal Road is the key LR and is a common LR. The quality of this LR is high and the ability to accommodate change is low. Therefore, the sensitivity of this LR is considered as high.	High
LR2	Rambler Channel Sea Waterbody The sea waterbody comprises Rambler Channel and Ma Wan Channel, which is a valuable LR contributing to the unique waterfront setting of the Ting Kau area. In view of the physical characteristics of the channels, the sensitivity of this LR is high.	High
LR3	Coastal Landscape along Wok Tai Wan and Cheung Shue Tau Natural rocky shore, trees and scattered shrubland along the coastal area of Wok Tai Wan and Cheung Shue Tau are the dominant LR and is a common LR. The quality of this LR is medium. The ability to accommodate changes and the sensitivity of this LR are considered as medium.	Medium

Landscape Character Areas (LCAs)

10.5.6 The preliminary findings of baseline LCAs, which will be potentially affected by the Project,

together with their sensitivity, are discussed in **Table 10.5**. The locations of these baseline LCAs are mapped in **Figure 10.01**.

Table 10.5 Baseline LCAs and their Sensitivity

LCAs	Description	Sensitivity
LCA1	Strait Landscape This LCA is an inshore coastal water enclosed by significant landforms of north Tsing Yi and Ting Kau, creating a distinct sense of enclosure on the two sides. It is characterized by the surrounding landforms and the muted hues and horizontality of their coastal waters comprised of passing vessels, shipping traffic, and waterborne recreational activity. The quality of this LCA is high, with low ability to accommodate change and the sensitivity of this LCA is considered as medium.	Medium
LCA2	Transportation Corridor Landscape This LCA comprises the major highway corridor in the North West Tsing Yi Interchange, the Ting Kau Bridge and the Lantau Link Visitors Centre. Major features include bridges, flyovers, signage gantries, interchange, and associated roadside buffer planting areas. This type of LCA is common in Hong Kong. It has high ability to accommodate change. The sensitivity is therefore considered as low.	Low
LCA3	Industrial Urban Landscape This is found on the low-lying areas of the reclaimed land along the coast of north Tsing Yi. It mainly comprises the cement plants and shipyards within the assessment area and the adjoining vacant lands on the peripheries. The quality of this LCA is low, with high ability to accommodate change, and the sensitivity of this LCA is considered as low.	Low
LCA4	Upland and Hillside Landscape Woodland is a significant landscape element of this LCA and is of good quality with low ability to accommodate change. The sensitivity of this LCA is high.	High

Visual Envelope

10.5.7 Visual Envelope is identified by site visit and desktop study of topographic maps and photographs to determine visibility of the Project from various locations. The Project Site is located within the coastal area of the Northern part of Tsing Yi, adjacent to the shipyard along the Tam Kon Shan Road. It is a waterfront site sandwiched between the Northwest Tsing Yi Interchange, Tsing Long Highway and Tsing Yi North Coastal Road, vegetated hillsides to the east, and Rambler Channel and Ma Wan Channel to the north and west respectively. An industrial cluster including boatyards and marine-oriented industrial uses with building heights (BHs) generally not exceeding +35mPD is situated at the northeast of the Site along the coastline. Another low-rise industrial cluster, including dockyards and oil storage with BH generally not exceeding +30mPD is located to its further south. Lantau Link Viewing Platform at about +68.5mPD is located to the immediate north of Wok Tai Wan Works Area, for public enjoyment of the scenic view of Tsing Ma Bridge and the surrounding landscape and seascape.

10.5.8 The visual envelope of the Project includes from the Tuen Mun Road in the north, Ma Wan in the west, natural hillside in the south and shipyard factories along the Tam Kon Shan Road in the east. The key visual resources within or in the vicinity of the visual envelope including the ridgeline formed by Shek Lung Kung at Tai Lam, the unique scene of Rambler Channel and Ma Wan Channel, and the spectacular view of the Ting Kau Bridge. The open sky view is one of the key visual resources. The visual detractor of the Project Site is the industrial area in north Tsing Yi with industrial buildings, vacant lands and limited landscape areas.

Public Viewers (PVs)

10.5.9 Within the visual envelope, a number of key PVs were identified during the operation phase. They are listed, together with their baseline assessment and sensitivity, in **Table 10.6** and mapped in **Figure 10.02**.

10.5.10 The sensitivity of PVs were assessed with key factors, including type of PVs, number of PVs, quality of existing view, degree of visibility and duration of view of the PVs are evaluated.

Representative Public Viewing Points

10.5.11 Photomontages at representative locations show a comparison between existing conditions and proposals on the Proposed Scenario with mitigation measures as presented from **Figure 10.07** to **Figure 10.13**. An enlarged version of these figures are presented in **Appendix 10.1**.

10.5.12 The criteria for the selection of representative public viewing points for photomontages includes:

- the public viewing points which cover the aboveground structure viewed from different angles of major public viewing points representing key PVs or PV groups who would be potentially affected by the proposed structures in the operation phase; and

- the public viewing points should be able to represent the worst-case scenarios and demonstrate the compatibility of the aboveground structures to the adjacent visual context and illustrate the visual effect during the Proposed Scenario with mitigation measures.

10.5.13 Based on the locations of the proposed aboveground structures, the proposed public viewing points from key representative PVs are mapped in **Figure 10.03** with their description provided as below:

- VP1 – View from Ting Kau Beach viewing at the proposed Ngau Kok Wan Portal and Tam Kon Shan Portal. This viewing point is selected to represent the view of PV RE1.
- VP2 – View from Approach Beach viewing at the proposed Ngau Kok Wan Portal and Tam Kon Shan Portal. This viewing point is selected to represent the view of PV RE1.
- VP3 – View from the Minibus Stop on Tam Kon Shan Road near Cheung Shue Tau, viewing at the proposed Tam Kon Shan Portal. This viewing point is selected to represent the view of PV T1.
- VP4 – View from Hoi Mei Wan Beach viewing at the proposed Ngau Kok Wan Portal and Wok Tai Wan Works Area (the conveyor belt system). This viewing point is selected to represent the view of PV RE2.
- VP5 – View from Ma Wan Tung Wan Beach viewing at the Wok Tai Wan Works Area. This viewing point is selected to represent the view of PV RE3.
- VP6 – View from Tsing Yi Nature Trail viewing at the proposed Ngau Kok Wan Portal and Tam Kon Shan Portal. This viewing point is selected to represent the view of PV RE4.
- VP7 – View from Lantau Link Viewing Platform, viewing at the Wok Tai Wan Works Area (the conveyor belt system). This viewing point is selected to represent the view of PV RE5.

Table 10.6 PVs and their Visual Sensitivity

VP No.	PV ID	Visual Sensitivity of the Public Viewers (VPs)	PVs	Approx. Viewing Distance	Type of PVs	Number of PVs (Many/ Medium/ Few)	Quality of Existing View (Good/ Fair/ Poor)	Degree of Visibility (Full/ Partial/ Glimpse)	Duration of View (Long/ Medium/ Short)	Frequency of View (Frequent / Occasional / Rare)	Sensitivity (Low/ Medium/ High)
VP1	RE1	Ting Kau Beach	Recreational User of the beaches along Castle Peak Road – New Ting Kau	1km	Recreational	Medium	Good	Full	Medium	Occasional	High
VP2	RE1	Approach Beach	Recreational User of the beaches along Castle Peak Road – New Ting Kau	0.9km	Recreational	Medium	Good	Full	Medium	Occasional	High
VP3	T1	Minibus Stop on Tam Kon Shan Road near Cheung Shue Tau	Travellers at Cheung Shue Tau	30m	Travelling	Medium	Fair	Partial	Short	Rare	Low
VP4	RE2	Hoi Mei Wan Beach	Recreational User of the beaches along Castle Peak Road – Ting Kau	1.4km	Recreational	Medium	Good	Full	Medium	Occasional	High
VP5	RE3	Ma Wan Tung Wan Beach	Recreational User from Ma Wan	2km	Recreational	Medium	Good	Full	Medium	Occasional	Medium
VP6	RE4	Tsing Yi Nature Trail	Recreational User from Tsing Yi Nature Trail	0.6km	Recreational	Medium	Fair	Glimpse	Short	Occasional	Low
VP7	RE5	Lantau Link Viewing Platform	Recreational User from Lantau Link Viewing Platform	0.2km	Recreational	Few	Good	Glimpse	Medium	Occasional	High

Remark: RE = Recreational; T = Traveller

10.6 Preliminary Landscape and Visual Impact Assessment

Sources of Landscape Impact

10.6.1 The sources of landscape impact due to the Project would create various levels of landscape impact during the construction and operation phases of the Project. Potential impacts would result from the temporary and permanent works during the construction phase and non-permanent aboveground structure elements during the operation phase.

10.6.2 The sources of landscape impact in the construction phase for Ngau Kok Wan Portal, Tam Kon Shan Portal and Wok Tai Wan Works Area would include:

- Site formation works;
- Slope cutting and stabilisation works;
- Installation and establishment for ancillary operations and conveyor belt system;
- Road modification works; and
- Loss of existing trees and other vegetation due to construction works.

10.6.3 The sources of landscape impact in the operation phase for Ngau Kok Wan Portal, Tam Kon Shan Portal and Wok Tai Wan Works Area would include:

- Operation of the quarry and the ancillary activities; and
- Demolishment of ancillary and conveyor belt system.

Landscape Resources (LRs)

10.6.4 The magnitude of unmitigated impacts on LRs associated with the construction phase and operation phases of the Project was assessed and described in **Table 10.7**:

Table 10.7 Magnitude of Changes on Landscape Resources during Construction and Operation

LR	Landscape Resources	Potential Source and Description of Change	Magnitude of Change (Substantial/ Moderate/ Slight/ Negligible)	
			Construction	Operation
LR1	Hillside vegetation along Tsing Yi North Coastal Road	Approx. 2,200 sqm. of existing hillside vegetation, including green belt with around 165 nos. of existing non-mature trees, will be inevitably affected by the portal construction and associated development.	Slight	Slight
LR2	Rambler Channel Sea Waterbody	No construction or development will be carried out in this LR.	Negligible	Negligible
LR3	Coastal Landscape along Wok Tai Wan and Cheung Shue Tau	Approx. 14,500 sqm. of existing natural rocky landscape including green belt with around 600 nos. of non-mature existing trees will be affected by the portal construction and associated structures.	Moderate	Moderate

Landscape Character Areas (LCAs)

10.6.5 The magnitude of unmitigated impacts on LCAs associated with the construction phase and operation phases of the Project was assessed and described in **Table 10.8**:

Table 10.8 Magnitude of Changes on Landscape Character Areas during Construction and Operation

LCA	Landscape Character Area	Potential Source and Description of Changes	Magnitude of Change (Substantial/ Moderate/ Slight/ Negligible)	
			Construction	Operation
LCA1	Strait Landscape	No construction or development will be carried out in this LCA	Negligible	Negligible
LCA2	Transportation Corridor Landscape	Approx. 14,500 sqm. of existing natural rocky landscape with around 600 nos. of existing trees and approx. 2,200 sqm. of hillside vegetation with around 165 nos. of existing trees will be affected by the portal development and associated structures. However, the changes on this LCA due to the Project is relatively small in scale and localized. Therefore, the magnitude of change during both construction and operation phases is considered as slight.	Slight	Slight
LCA3	Industrial Urban Landscape	No construction or development is carried out in this LCA	Negligible	Negligible
LCA4	Upland and Hillside Landscape	No aboveground construction or development will be carried out in this LCA.	Negligible	Negligible

Public Viewers (PVs)

10.6.6 The source of visual impact due to the Project would create varying levels of visual impact during the operation phase. Potential impacts would result from the aboveground structure during the operation phase. The preliminary layout plans at Ngau Kok Wan Portal, Wok Tai Wan and Tam Kon Shan Portal are shown in **Figure 10.04 to Figure 10.06**.

10.6.7 The sources of visual impact in the operation phase for Ngau Kok Wan Portal, Tam Kon Shan Portal and Wok Tai Wan Works Area would include:

- Operation of the aboveground ancillary activities.

Proposed Works for Ngau Kok Wan Portal

10.6.8 The construction of works proposed for the Ngau Kok Wan Portal is mainly the site formation, slope cutting, and installation and establishment of the portal entrance and associated ancillary operations. Some of the existing vegetation will be removed due to site formation works. During the operation phase, all the aboveground structures are the major source of impact to the PVs. By the end of the operation phase, the installations will eventually be

demolished.

Proposed Works for Tam Kon Shan Portal

10.6.9 The proposed works for the Tam Kon Shan Portal are mainly the site formation, slope cutting, and installation and establishment of the portal entrance and utility works. To construct the portal of the Main Access Tunnel, a small portion of existing vegetated slope will be cut back. Existing trees will also be removed for site formation works. After the completion of slope works, the portal entrance will be the only aboveground structure while the natural vegetated slope will be replaced by a man-made slope with slope greening.

Proposed Works for Wok Tai Wan Works Area

10.6.10 The proposed works for the Wok Tai Wan Works Area are mainly the installation of conveyor belt system. To construct the system, a small portion of the existing vegetated slope will be cut. After completion of the works, the natural vegetated slope will be replaced by a man-made slope with slope greening. By the end of the operation phase, the conveyor belt system will eventually be demolished.

10.7 Preliminary Landscape and Visual Mitigation Measures

10.7.1 Based on the potential landscape and visual impacts identified, a series of mitigation measures during construction and operation phases is recommended to mitigate any adverse impacts and is listed in the table below and illustrated in **Figure 10.14**.

Table 10.9 Preliminary Landscape Mitigation Measures for Construction Phase and Operation Phase

ID No.	Preliminary Landscape Mitigation Measures	Implementation Agency
CM1	Tree Preservation All existing trees to be retained should be carefully protected during the works. Tree protection works should be in accordance with DEVB *TC(W) No. 4/2020 – Tree Preservation* and *Tree Management Practice Note No. 1 – Tree Preservation during Construction*.	CEDD (Quarry Operator)
CM2	Erection of Decorative Screen Hoarding Screen hoarding should be erected around the construction site during the construction / operation to reduce the visual impact caused by the works. Greening measures, such as colour variations or graphic patterns of the hoarding, should be adopted to improve the visual appearance.	CEDD (Quarry Operator)
CM3	Management of Construction Activities and Facilities Construction activities and temporary site facilities shall be properly managed to minimize landscape and visual impacts. All works areas, plant, machinery, storage areas and temporary structures shall be confined within designated site boundaries and arranged in an orderly manner. Temporary facilities shall adopt subdued, non-reflective colours to reduce visual intrusion. Good site housekeeping practices shall be implemented, including regular removal of waste materials, proper covering of stockpiles, and avoidance of unnecessary disturbance to retained vegetation.	CEDD (Quarry Operator)
CM4	Reinstatement of the affected landscaped area Upon completion of the construction works, all temporarily affected landscape areas shall be reinstated to conditions comparable to or better than the original state. Affected vegetations shall be replanted with similar or suitable native species where practicable. An establishment period shall be provided to ensure proper plant establishment and replacement of any failed planting.	CEDD (Quarry Operator)

Table 10.10 Preliminary Landscape and Visual Mitigation Measures for Operation Phase

ID No.	Preliminary Landscape and Visual Mitigation Measures	Implementation Agency
OM1	Sensitive and Aesthetically Pleasing Design Sensitive and aesthetically pleasing design should be incorporated in the proposed development to help blend the structures with the adjacent landscape and visual context.	CEDD (Quarry Operator)
OM2	Compensatory Planting Preservation for compensation of vegetation. Whip trees, woodland shrubs and/or climber mix at a spacing from around 500mm to 2,500mm will be compensated. The compensatory planting will follow the guidelines of DEVB *TC(W) No. 4/2020* on tree preservation. The proposed planting species should be with reference to the *Guiding Principles on Use of Native Plant Species in Public Works Projects* issued by DEVB, where possible.	CEDD (Quarry Operator)
OM3	Buffer Screen Planting Buffer screen planting shall be provided along the boundaries and in areas facing sensitive receivers to reduce visual impacts arising from the proposed development. The buffer planting shall be of sufficient density and height at maturity to provide long-term screening and visual integration with the adjacent environment.	CEDD (Quarry Operator)
OM4	Landscape Treatments on Slope or Retaining Structure Landscape treatment shall be applied to exposed slopes and retaining structures to minimise visual impact and integrate them with the surrounding landscape. Measures may include hydroseeding, shrub planting, and climber planting.	CEDD (Quarry Operator)
CM1	Tree Preservation All existing trees to be retained should be carefully protected during construction. Tree protection works should be in accordance with DEVB *TC(W) No. 4/2020 – Tree Preservation* and *Tree Management Practice Note No. 1 – Tree Preservation during Construction*.	CEDD (Quarry Operator)
CM2	Erection of Decorative Screen Hoarding Screen hoarding should be erected around the construction site during the construction / operation to reduce the visual impact caused by the works. Greening measures, such as colour variations or graphic patterns of the hoarding, should be adopted to improve the visual appearance.	CEDD (Quarry Operator)

10.7.2 The mitigation measures for the construction phase listed above should be implemented as early as possible in order to minimize the landscape and visual impacts in the construction phase. The mitigation measures for the operation phase listed above should be adopted during the detailed design and be built as part of the construction works at the last phase of the construction period so that they are in place at the date of commissioning of the quarry operation.

10.8 Preliminary Evaluation of Residual Impacts

Landscape Impact

10.8.1 The potential significance of the impacts on LRs and LCAs during the construction and operation phases, before and after mitigation, is provided in **Table 10.11**. The assessment followed the proposed methodology and assumed that the appropriate mitigation measures identified in **Table 10.9** and **Table 10.10** would be implemented, and the full effect of the soft landscape mitigation measures would be realized after ten years.

10.8.2 Under the proposed construction for ancillary operations and associated site formation work, the Project will have a predicted impact on the hillside vegetation (LR1) and scattered shrubland along the coastal area of LR3. Approximately 2,200 sqm. of hillside vegetation with around 165 nos. of existing trees along Tsing Yi North Coastal Road (LR1) and approximately 14,500 sqm. of coastal landscape with around 600 nos. of existing trees along Wok Tai Wan and Cheung Shue Tau (LR3) will be affected by the proposed works. The change is considered localized and the magnitude of change for LR1 and LR3 are considered as slight and moderate, respectively. The sensitivity of LR1 is high and the resultant unmitigated landscape impact is moderate while the sensitivity of LR3 is medium and the resultant unmitigated landscape impact is moderate. With the implementation of proposed mitigation measures, including tree compensation by woodland planting mix, the residual impact for both LR1 and LR3 will be reduced from moderate to slight for the Proposed Scenario and will further be reduced to negligible when the compensatory planting on the soil cut slopes and berm planter becomes mature in year 10 of operation.

10.8.3 There would be localized impact on the transportation corridor landscape (LCA2). There are approximately 14,500 sqm. of existing natural rocky landscape with around 600 nos. of existing trees and approximately 2,200 sqm. of hillside vegetation with around 165 nos. of existing trees will be affected by the portal development and associated site formation works in LCA2. The magnitude of change is considered as slight. The sensitivity of LCA2 is low. The resultant unmitigated landscape impact is considered as slight. With the implementation of proposed mitigation measures, it is anticipated there would be slight residual impact for the Proposed Scenario and will be further reduced to negligible when the proposed planting becomes mature in year 10 of operation.

10.8.4 Considering there would be no construction works and associated developments / aboveground works in the waterbody of Rambler Channel Sea Waterbody (LR2), Strait Landscape (LCA1), Industrial Urban Landscape (LCA3) and Upland and Hillside Landscape (LCA4), it is predicted that there would be no impact to these LR and LCAs. The sensitivity of these LR and LCAs is low to high. The resultant magnitude of change is considered as negligible.

10.9 Appraisal of Visual Changes

10.9.1 **VP1: Ting Kau Beach (Figure 10.07)**

- **Visual Composition:** VP1 comprises the open sky view, Ting Kau Bridge, vegetated hillside, Ting Kau Beach, Rambler Channel, low-rise industrial cluster and high-rise residential buildings in Tsing Yi area in the background.
- **Visual Obstruction:** Given the far viewing distance, the existing view to the hillside greenery will be slightly blocked by the Proposed Ngau Kok Wan Portal.
- **Visual Change:** The value of this view is primarily attached to the visual amenity of the open sky view, vegetated hillside and Rambler Channel. Although the Proposed Ngau Kok Wan Portal slightly blocked the vegetated hillside, the view to the open sky and vegetated hillside remain largely unchanged. Thus, the effect of visual changes on public

viewers from this VP is graded as *slight*.

- The proposed development will be incorporated with a sensitive and aesthetically pleasing design. Taking into account the sensitive design measures, the visual impact is anticipated from the Proposed Development is *slight*.

10.9.2 VP2: Approach Beach (Figure 10.08)

- **Visual Composition**: VP2 comprises the open sky view, Ting Kau Bridge, Tsing Ma Bridge, vegetated hillside, Approach Beach, Rambler Channel and low-rise industrial cluster.
- **Visual Obstruction:** Given the far viewing distance, the existing view to the hillside greenery will be slightly blocked by the Proposed Ngau Kok Wan Portal.
- **Visual Change:** The value of this view is primarily attached to the visual amenity of the open sky view, vegetated hillside and Rambler Channel. Although the Proposed Ngau Kok Wan Portal slightly blocked the vegetated hillside, the view to the open sky and vegetated hillside remain largely unchanged. Thus, the effect of visual changes on public viewers from this VP is qualitatively graded as *slight*.
- The proposed development will be incorporated with sensitive and aesthetically pleasing design. Taking into account the sensitive design measures, the visual impact is anticipated from the Proposed Development is *slight*.

10.9.3 VP3: Minibus stop on Tam Kon Shan Road near Cheung Shue Tau (Figure 10.09)

- **Visual Composition:** VP3 comprises the open sky view, vegetated slopes and trees.
- **Visual Obstruction:** Tam Kon Shan Portal will partially replace the existing vegetated slope and trees.
- **Visual Change:** The value of this view is primarily attached to the visual amenity of the open sky view and vegetated slope. A portion of natural vegetation slope and trees will be removed. Since a portion of the natural vegetation slope will be removed which the existing view to the hillside greenery will be permanently affected. Thus, the effect of visual changes on public viewers from this VP is qualitatively graded as *slight*. However, the open sky view and a large portion of the vegetated hillside still remain unchanged. Taking into account the sensitive design measures, the visual impact is anticipated from the Proposed Development is *slight*.

10.9.4 VP4: Hoi Mei Wan Beach (Figure 10.10)

- **Visual Composition:** VP4 comprises the open sky view, Ting Kau Bridge, Tsing Ma Bridge, vegetated hillside, Hoi Mei Wan Beach, Rambler Channel and residential buildings in Tsing Yi area.
- **Visual Obstruction:** The Proposed Ngau Kok Wan Portal and conveyor belt system at Wok Tai Wan slightly blocked the vegetated hillside.
- **Visual Change:** The value of this view is primarily attached to the visual amenity of the open sky view, vegetated hillside and Rambler Channel. Although the Proposed Ngau Kok Wan Portal and conveyor belt at Wok Tai Wan slightly blocked the vegetated hillside, the view to the open sky and vegetated hillside remain largely unchanged. Thus, the effect of visual changes on public viewers from this VP is qualitatively graded as *slight*. The proposed development will be incorporated with a sensitive and aesthetically pleasing design. Taking into account the sensitive design measures, the visual impact is anticipated from the Proposed Development is *slight*.

10.9.5 VP5: Ma Wan Tung Wan Beach (Figure 10.11)

- **Visual Composition:** VP5 comprises the open sky view, Ting Kau Bridge, Tsing Ma Bridge, vegetated hillside, Ma Wan Beach, Ma Wan Channel, Park Island Pier and residential buildings in Tsing Yi area.
- **Visual Obstruction:** Given the far viewing distance, the existing view to the hillside greenery will be slightly blocked by the proposed conveyor belt system at Wok Tai Wan.
- **Visual Change:** The value of this view is primarily attached to the visual amenity of the open sky view, vegetated hillside and Ma Wan Channel. Although the proposed

conveyor belt system at Wok Tai Wan slightly blocked the vegetated hillside, the view to the open sky and vegetated hillside remain largely unchanged. Thus, the effect of visual changes on public viewers from this VP is qualitatively graded as *negligible*. The proposed development will be incorporated with a sensitive and aesthetically pleasing design. Taking into account the sensitive design measures, the visual impact is anticipated from the Proposed Development is *negligible*.

10.9.6 **VP6: Tsing Yi Nature Trail (Figure 10.12)**

- **Visual Composition:** VP6 comprises the open sky view, dense vegetation and mountains in the background.
- **Visual Obstruction:** The proposed works will not be visible to the viewers due to the blockage of existing vegetation.
- **Visual Change:** The value of this view is primarily attached to the visual amenity of the open sky view and existing vegetation. Given the proposed works will not be visible to the viewers due to the blockage of existing vegetation. Hence, it is considered that the effect of visual changes on public viewers from this VP is *negligible*. The key visual resources are the vegetation at Tsing Yi Nature Trail and will not be affected. With its limited impact on the existing visual resources at this VP, the visual impact is anticipated from the Proposed Development is *negligible*.

10.9.7 **VP7: Lantau Link Viewing Platform (Figure 10.13)**

- **Visual Composition:** VP7 comprises the open sky view, Tsing Ma Bridge, Ma Wan Channel, vegetated hillsides and Park Island in the background
- **Visual Obstruction:** The proposed works are not visible to the viewers due to the blockage of existing vegetation.
- **Visual Change:** The value of this view is primarily attached to the visual amenity of the open sky view, vegetated hillside and Ma Wan Channel. As the view to the open sky and vegetated hillside can still be kept, the effect of visual changes on public viewers from this VP is qualitatively graded as *negligible*. As the view to the open sky and vegetated hillside can still be kept, the effect of visual changes from this VP is qualitatively graded as *negligible*.

10.10 Evaluation of Overall Visual Impact

10.10.1 The design and layout of the Proposed Development have carefully considered the surrounding contexts and key public viewers located within the visual envelope. The proposed developments have been carefully considered not to create significant visual blockage and to reduce adverse visual impact on the surrounding. Sensitive design measures (including sensitive and aesthetically pleasing design, buffer screen planting, landscape treatments on slope or retaining structure, and compensatory planting) have been introduced to minimize adverse visual impacts arising from the Proposed Development.

10.10.2 The introduction of the Proposed Development, having considered the sensitivity of public viewers, the visual composition, the visual resources, the effects on public viewers and the effects visual resources, will not generate significant adverse visual impact. The visual change caused by the Proposed Development is not significant when viewed from the identified VPs, ranges from negligible to slight.

10.10.3 The proposed design has catered for the sensitivity of visual experience to the neighbourhood and will continually improve the overall aesthetics and visual interests of the Proposed Development in upcoming architectural design development stages.

Table 10.11 Significance of Landscape Impacts during Construction and Operation Phases

ID No.	Landscape Resource / Character Areas	Sensitivity (Low/ Medium/ High)		Magnitude of Change (Negligible/ Slight/ Moderate/ Substantial)		Impact Significance BEFORE Mitigation (Negligible/ Slight/ Moderate/ Substantial)		Recommended Mitigation Measures	Significance of Residual Impact AFTER Mitigation (Negligible/ Slight/ Moderate/ Substantial)	
		Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation
Landscape Resources										
LR1	Natural Hillside vegetation	High	High	Slight	Slight	Moderate	Moderate	CM1 & CM3 & CM4 & OM2 & OM3 & OM4	Moderate	Negligible
LR2	Rambler Channel Sea Waterbody	High	High	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible
LR3	Coastal Landscape along Wok Tai Wan and Cheung Shue Tau	Medium	Medium	Moderate	Moderate	Moderate	Moderate	CM1 & CM2 & & CM3 & CM4 & OM1 & OM2 & OM3 & OM4	Moderate	Negligible
Landscape Character Areas										
LCA1	Strait Landscape	Medium	Medium	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible
LCA2	Transportation Corridor Landscape	Low	Low	Slight	Slight	Slight	Slight	CM1 & CM2 & & CM3 & CM4 & OM1 & OM2 & OM3 & OM4	Slight	Negligible
LCA3	Industrial Urban Landscape	Low	Low	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible
LCA4	Upland and Hillside Landscape	High	High	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible

Table 10.12 Significance of Visual Impacts during Operation Phase

VP No.	PV ID	Location of VPs	Key PVs	Visual Sensitivity	Magnitude of Change	Recommended Mitigation Measures	Visual Impact AFTER Mitigation
VP1	RE1	Ting Kau Beach	Recreational User of the beaches along Castle Peak Road – New Ting Kau	High	Slight	CM1 & CM2 & OM1 & OM2 & OM3 & OM4	Slight
VP2	RE1	Approach Beach	Recreational User of the beaches along Castle Peak Road – New Ting Kau	High	Slight	CM1 & CM2 & OM1 & OM2 & OM3 & OM4	Slight
VP3	T1	Minibus Stop on Tam Kon Shan Road near Cheung Shue Tau	Travellers at Cheung Shue Tau	Low	Slight	CM1 & CM2 & OM1 & OM2 & OM3 & OM4	Slight
VP4	RE2	Hoi Mei Wan Beach	Recreational User of the beaches along Castle Peak Road – Ting Kau	High	Slight	CM1 & CM2 & OM1 & OM2 & OM3 & OM4	Slight
VP5	RE3	Ma Wan Tung Wan Beach	Recreational User from Ma Wan	Medium	Negligible	CM1 & OM1	Negligible
VP6	RE4	Tsing Yi Nature Trail	Recreational User from Tsing Yi Nature Trail	Low	Negligible	-	Negligible
VP7	RE5	Lantau Link Viewing Platform	Recreational User from Lantau Link Viewing Platform	High	Negligible	-	Negligible

Remark: RE = Recreational; T = Traveller

10.11 Conclusion

10.11.1 With the implementation of the proposed preliminary mitigation measures, it is considered that the proposed developments would be unlikely to induce significant adverse landscape and visual impact.

11 CULTURAL HERITAGE

11.1 Introduction

11.1.1 This section presents any cultural heritage resources identified within the Project Boundary and assesses the potential impact on the identified resources due to the construction and operation of the Project.

11.2 Environmental Legislation and Standards

11.2.1 Legislation and standards that are alluded to under this Study for cultural heritage impact assessment include the following:

- Antiquities and Monuments Ordinance (A&MO) (Cap. 53); and
- Chapter 10 of the HKPSG.

11.3 Assessment Methodology

11.3.1 A desktop review including but not limited to the following sources of information, was conducted to identify any cultural heritage resources:

- List of 1,444 Historic Buildings with Assessment Results [7];
- List of New Items for Grading Assessment with Assessment Results [8];
- Declared and Proposed Monuments in Hong Kong [9];
- List of Sites of Archaeological Interest in Hong Kong [10];
- Government Historic Sites Identified by Antiquities and Monuments Office [11];
- The previous PER under the Pilot Study;
- Historical maps related to the Project Boundary; and
- Aerial photographs of the Project Boundary.

11.4 Description of Baseline Condition

11.4.1 According to the findings of desktop studies, there is no declared or proposed monument, historic building, site of archaeological interest (SAI), or Government historic sites located within 500m of the Project Boundary. The nearest cultural heritage resource is the Ting Kau Kiln SAI, located about 1km away from the Project Boundary.

11.5 Identification and Evaluation of Potential Impacts

11.5.1 As no cultural heritage resource is identified at or in the vicinity of the Project Boundary, no impact on terrestrial archaeology and built heritage is anticipated during both construction and operation phases of the Project.

11.6 Mitigation Measures

11.6.1 As there is no impact on cultural heritage resources, no mitigation measures are required.

11.7 Conclusion

11.7.1 Based on the best available information, no cultural heritage resource is identified at or in the vicinity of the Project Boundary. The nearest cultural heritage resource is the Ting Kau Kiln SAI, located about 1km away from the Project Boundary. No impact on terrestrial

[7] Antiquities Advisory Board. *List of the 1,444 Historic Buildings with Assessment Results (as at 10 October 2025)* https://www.aab.gov.hk/filemanager/aab/en/content_29/AAB-SM-chi.pdf
[8] Antiquities Advisory Board. *List of New Items for Grading Assessment with Assessment Results (as at 11 September 2025)* https://www.aab.gov.hk/filemanager/aab/en/content_29/list_new_items_assessed.pdf
[9] Antiquities and Monuments Office. *Declared and Proposed Monuments in Hong Kong (as at 10 October 2024)* https://www.amo.gov.hk/filemanager/amo/common/form/List%20of%20Declared%20Monuments%20and%20Proposed%20Monuments.pdf
[10] Antiquities and Monuments Office. *List of Sites of Archaeological Interest in Hong Kong (as at Nov 2012)* https://www.amo.gov.hk/filemanager/amo/common/form/list_archaeolog_site_eng.pdf
[11] Antiquities and Monuments Office. *Government Historic Sites Identified by AMO (as at May 2022)* https://www.amo.gov.hk/filemanager/amo/common/form/build_hia_government_historic_sites.pdf

archaeology and built heritage is anticipated during both the construction and operation phases of the Project.

12 HAZARD TO LIFE

12.1 Introduction

12.1.1 This section presents a review of potential risks related to the explosives under the Project and the Potentially Hazardous Installation (PHI) in the vicinity of the Project.

12.1.2 Apart from explosives, no other dangerous goods (DGs) will be involved (i.e. storage, transport, and use) during both construction and operation phases of the Project. A Hazard Assessment Register is presented in **Appendix 12.1**.

12.1.3 There is no on-site storage of explosives under the TYNUQ Project. The TYNUQ Project only involves the transport and use of explosives during the operation phase. Mines Division/CEDD, which is the statutory authority for explosives (Category 1 Dangerous Goods), quarrying, and blasting in Hong Kong, enforces compliance with the Dangerous Goods Ordinance (Cap. 295) and the relevant statutory requirements for blasting permissions, conveyance, and site supervision in the Project. These measures ensure safe handling of explosives, proper blast design, execution, and monitoring to minimise risks to public safety, structures, slopes, and off-site populations. Given that the statutory authority will directly administer the operation phase of the Project, all the transport and use of explosives will be properly handled by competent personnel in accordance with the guidelines and requirements governed by CEDD. In addition, as the Project does not constitute a DP under EIAO and does not fall within the consultation zone of any PHI, a quantitative risk assessment (QRA) is considered not necessary.

12.2 Review of Potential Risk Related to Use of Explosives

12.2.1 In view of the project programme and size of the Underground Quarry Site, D&B method is considered to be more feasible and economical as a shorter time is required for the rock excavation and underground quarrying compared to other construction methods. Therefore, the use of explosives is required for quarrying.

12.2.2 Explosives present a hazard to both properties and people. This hazard manifests itself in the following ways:

- Blast and pressure wave;
- Flying fragments or missiles;
- Thermal radiation; and
- Ground shock.

12.2.3 In the case of explosions, the biggest damage is usually caused by the blast effects. The blast and pressure waves can cause injury to sensitive human organs such as ears and lungs. However, considerable overpressures are required for fatalities to occur, and consequently, people need to be fairly close to the scene of the direct explosion effects to be significant.

12.2.4 Other effects due to the blast or overpressure are associated with damage to buildings and other structures/ objects or the impact of debris and fragments from damaged building structures, and the vehicle or container in which the explosives are held. Moreover, injury may occur when people are displaced or swept away, or due to the violent movement of internal organs within the body.

12.2.5 An explosion may result in the formation of a short duration fireball since the fuel content of the emulsion is oxidised. However, it is generally the case that the thermal hazards from an explosive detonation event are of less concern than the blast and fragment hazards.

12.2.6 The transportation, handling, storage and use of explosives could increase the risks to the population in the surroundings during the operation phase (i.e. quarry activities) of the Project.

12.2.7 The explosives to be used in this Project, including detonator and cartridge explosives, will be delivered by Mines/CEDD and this Project will also be administered by Mines/CEDD. The explosives would be delivered to the Site each day and the delivery of explosives from

Government Explosives Depots to the blasting site is controlled by the Explosives Delivery Unit of the Mines/CEDD. Provision of a Project magazine and/or storage of explosives on-site overnight are not anticipated. Therefore, risk assessment for overnight storage and off-site transport of explosives is not necessary. The tentative delivery point, explosive transportation route and blasting sites are shown in **Figure 12.02**.

12.2.8 A blast design will be prepared to determine the quantity and type of explosives to be used, taking into account the sensitive receivers at the blasting location. The blast design will be prepared by the Blasting Engineer, in collaboration with the Registered Shotfirer, checked and approved by the Blasting Competent Supervisor, and then submitted to Mines/CEDD for auditing prior to implementation. All vulnerable sensitivity receivers in the area, such as underground gas mains, man-made slopes and retaining walls, will be identified in the blast design to minimise the damage caused by vibration. In addition, the tunnel portals are likely to be constructed by mechanical excavation methods based on the geological conditions. Blast door(s) will be installed at the tunnel portal prior to commencement of any blasting activity and they will be kept closed during blasting to ensure safety. As such, minimal hazard to life impacts in relation to the use of explosives is expected.

12.2.9 The following relevant best practices and procedures should be followed for the use and on-site transport of explosives by the contractor:

- Implement speed limit within the construction sites;
- Prohibit mixing the explosives with other flammable substances;
- Transport detonators from explosives separately;
- Carry out checking of the registered contractor's blasting method statement;
- Check (including both document and site checks) and satisfy, for each blast, that the registered contractor's blast design and precautionary measures comply with the plans approved by the Building Authority and the blasting permit requirements;
- Verify on site that the ground conditions and geology are as stated or assumed in the blasting assessment, and that the provisions in the method statement and the preventive, protective, and precautionary measures are adequate for the conditions as encountered on site;
- Ensure that the preventive measures, if required, have been properly carried out prior to commencement of the blasting works;
- Prepare regular reports with records of the condition of the site, sensitive receivers, adjacent grounds, structures, and services, etc. after each phase of blasting operation and completion of related works;
- Inspect the construction of preventive works, if required, for the sensitive receivers.
- Inspect the provision and installation of all necessary protective and precautionary measures prior to each blast, in accordance with the blast design;
- Monitor the site operations and working methods to ensure that they meet the safety requirements set out in the blasting permission;
- Inspect and monitor the conditions of all sensitive receivers regularly and carry out reviews of the quality of monitoring for the sensitive receivers before and after each blast;
- A Resident Explosives Supervisor (RES) shall remain on-site to check that all the explosives delivered to the site are either used, destroyed, or returned to a Government explosives depot;
- Unused explosives, such as some small quantities of explosives left over from a blast, should be destroyed on-site by a registered shot-firer, in accordance with procedures set out in the method statement, and witnessed by the Blasting Engineer and RES; and
- Safety procedures recommended by the manufacturer must be followed in the destruction of the explosives.

12.2.10 The following relevant best practices or regulations should be followed for the on-site transport of explosives:

- The vehicle should be powered by a diesel engine;
- The vehicle should be kept clean, in sound mechanical condition, and roadworthy;

- The vehicle should display a red flag, flashing light, and be equipped with a dry powder fire extinguisher when explosives are carried;
- The Registered Shotfirer and Resident Explosive Supervisor should ride with the vehicle;
- All the detailed arrangement of on-site transportation of explosives should be documented in the Blasting Method Statement by the Contractor and submitted to the Mines Division for approval.

12.3 Review of Potential Risk Related to PHI

12.3.1 The Project Site does not fall within any consultation zones of PHIs. The nearest PHI, i.e. Shell Hong Kong Limited – Tsing Yi LPG/Oil Terminal, is located at about 1.4km south of the Project Boundary (**Figure 12.01** refers). With no existing or potential hazardous sources located in the vicinity, no potential risk impact is therefore anticipated during both construction and operation phases of the Project.

12.4 Conclusion

12.4.1 Before the delivery of explosives, the Contractor is required to apply for blasting permission from the Mines Division under the Dangerous Goods (Control) Regulation (Cap. 295G) and submit a Blasting Assessment Report (BAR) and a Blasting Method Statement (BMS) to the Mines Division for approval. Any adverse effects and risks arising from the transport, storage, and use of explosives for blasting will be assessed in the BAR and safe handling of explosives will be assessed in BMS in accordance with Mines Division Guidance Notes No.7.

12.4.2 On arrival of the explosives at a site, the discharge (blasting) permit holder's designated representative (a registered shotfirer) must check and count the explosives against the information shown on the conveyance permit(s) and issue voucher(s), in the presence of a Mines Division representative (an Explosives Officer) and a resident explosives supervisor (RES), a member of the resident site staff registered with Mines Division (or an escorting security guard (ESG) if there is no RES for the project). Loading of explosives into the blast holes must commence immediately, and firing must take place as soon as practicable. The discharge (blasting) permit holder and registered shot firer are responsible for the safety and security of all explosives on a site. In the event of an incident, they must take all necessary steps to protect public safety and maintain the security of explosives in accordance with the method statement. For any matters not specifically covered by the method statement, they must exercise competent judgment.

12.4.3 A review of the potential risks related to the use of explosives under the Project and the PHI in the vicinity of the Project has been conducted. During the construction phase, the initial sections of the Main Access Tunnel, which are expected to be less than 30m long from the portals, leading to the Underground Quarry Site, will be excavated using mechanical breaking methods only. The use of explosives will not be adopted for these initial sections during the construction phase; hence, hazard-to-life impact during the construction phase is not anticipated. During the operation phase, the use of explosives is required for the rock excavation within the remaining sections of the Main Access Tunnel and underground quarrying using the D&B method. Considering that blast doors will be installed and kept closed during blasting to ensure safety, minimal hazard to life impacts in relation to the use of explosives is expected. There would be no overnight storage and off-site transport of explosives risk required, and, therefore, risk assessment for overnight storage and off-site transport of explosives is not necessary.

12.4.4 Given that there are no existing or potential hazardous sources located in the vicinity of the Project Site and that the nearest PHI is located at about 1.4km south of the Project Boundary, no potential risk impact related to PHI is anticipated during both construction and operation phases of the Project.

13 OVERALL CONCLUSIONS

13.1.1 This PER has examined key environmental aspects related to the construction and operation of the Project, including air quality, noise, water quality, waste management, land contamination, terrestrial ecology, landscape and visual impact, cultural heritage, and hazards to life. Literature reviews were conducted to establish baseline environmental conditions. Major environmental elements and sensitive receivers in the vicinity of the Project Site have been identified and considered. Potential impacts on these sensitive receivers were identified, and a preliminary assessment was carried out based on the best available engineering information. Standard environmental practices and mitigation measures have been proposed to minimize these potential impacts.

Figures

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- ROCK CRUSHING
- CONCRETE PRODUCTION
- ASPHALT PRODUCTION

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

CHEUNG ON ESTATE

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

ACCESS ROAD

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pit
Plot File by: WANGDF
PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_701.dgn
2026/5/20

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
土木顧問公司

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STATUS
狀況

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATION OF THE PROJECT

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 2.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- PUBLIC HOUSING DEVELOPMENT AT TSING YI ROAD WEST, TSING YI
- TSING YI – LANTAU LINK

REMARK:
THE LOCATIONS OF CONCURRENT PROJECTS SHOWN IN THIS FIGURE ARE FOR ILLUSTRATIVE PURPOSE ONLY.

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

CHEUNG ON ESTATE

NORTHWEST TSING YI INTERCHANGE

ACCESS ROAD

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

SHEUNG TSING HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
2026/5/20
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_723.dgn

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PROJECT
項目
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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STATUS
階段

SCALE
比例
A3 1 : 10000

DIMENSION UNIT
尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號
60733229

AGREEMENT NO.
協議編號
CE 79/2023 (GE)

SHEET TITLE
圖表名稱
LOCATION OF CONCURRENT PROJECTS

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 3.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

TAM KON SHAN ROAD

A06

CHEUNG ON ESTATE

NGAU KOK WAN PORTALS

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

A03

CHEUNG WANG ESTATE

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

SHEK WAN

A01

KAM CHUK KOK

ASR	DESCRIPTION	LAND USE	ASSESSMENT HEIGHTS (mAG)
A01	SAI TSO WAN CONCRETE BATCHING PLANT ADMINISTRATIVE BUILDING	OFFICE	N/A
A02	LANTAU LINK ADMINISTRATION BUILDING	OFFICE	1.5, 5, 10, 15
A03	INTERCHANGE VEHICLE MAINTENANCE WORKSHOPS	WORKSHOP	1.5, 5, 10
A04	LANTAU LINK VISITORS CENTRE	RECREATIONAL	1.5, 5, 10
A05	THE HONG KONG SHIPYARD LTD ADMINISTRATIVE OFFICE	OFFICE	1.5, 5, 10, 15, 20
A06	STORE	BUSINESS	1.5, 5, 10
A07	HOBBY NANA CAFÉ (COFFEE SHOP)	COMMERCIAL	1.5, 5
A08	HOBBY NANA CAFÉ (MODEL TRAIN SHOP)	COMMERCIAL	1.5, 5

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltt
20260520
Plot File by: WANGDP
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_702.dgn

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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STATUS
狀況

SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATION OF REPRESENTATIVE AIR SENSITIVE RECEIVERS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- EXISTING SPECIFIED PROCESS
- CONCURRENT PROJECT

REMARK:
THE LOCATIONS OF CONCURRENT PROJECTS SHOWN IN THIS FIGURE ARE FOR ILLUSTRATIVE PURPOSE ONLY.

HONG KONG CONCRETE COMPANY LIMITED

QUON HING CONCRETE COMPANY LIMITED

HONG KONG CEMENT COMPANY LIMITED

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

ACCESS ROAD

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

ANDERSON CONCRETE LIMITED

ALLIANCE CONSTRUCTION MATERIALS LIMITED

ASPHALT SURFACES (INTERNATIONAL) LIMITED (AP-5)

PUBLIC HOUSING DEVELOPMENT AT TSING YI ROAD WEST, TSING YI

TSING YI - LANTAU LINK

KAM CHUK KOK

TSING MA BRIDGE

SHEUNG TONG HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
2026/4/3
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_742.dgn

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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I/R 修訂	DATE 日期	DESCRIPTION 內容簡要	CHK. 核對

STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖表名稱

LOCATION OF EXISTING EMISSION SOURCES AND CONCURRENT PROJECTS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.02

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

65

70

75

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 65 CONTOUR

REMARK:

CURRENT AQO: 75 $\mu g/m^3$

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED 10th HIGHEST CUMULATIVE DAILY RSP CONCENTRATION AT 1.5 mAG ($\mu g/m^3$) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.03

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltPlot File by: WANGJPPATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_750.dgn2026/6/18

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

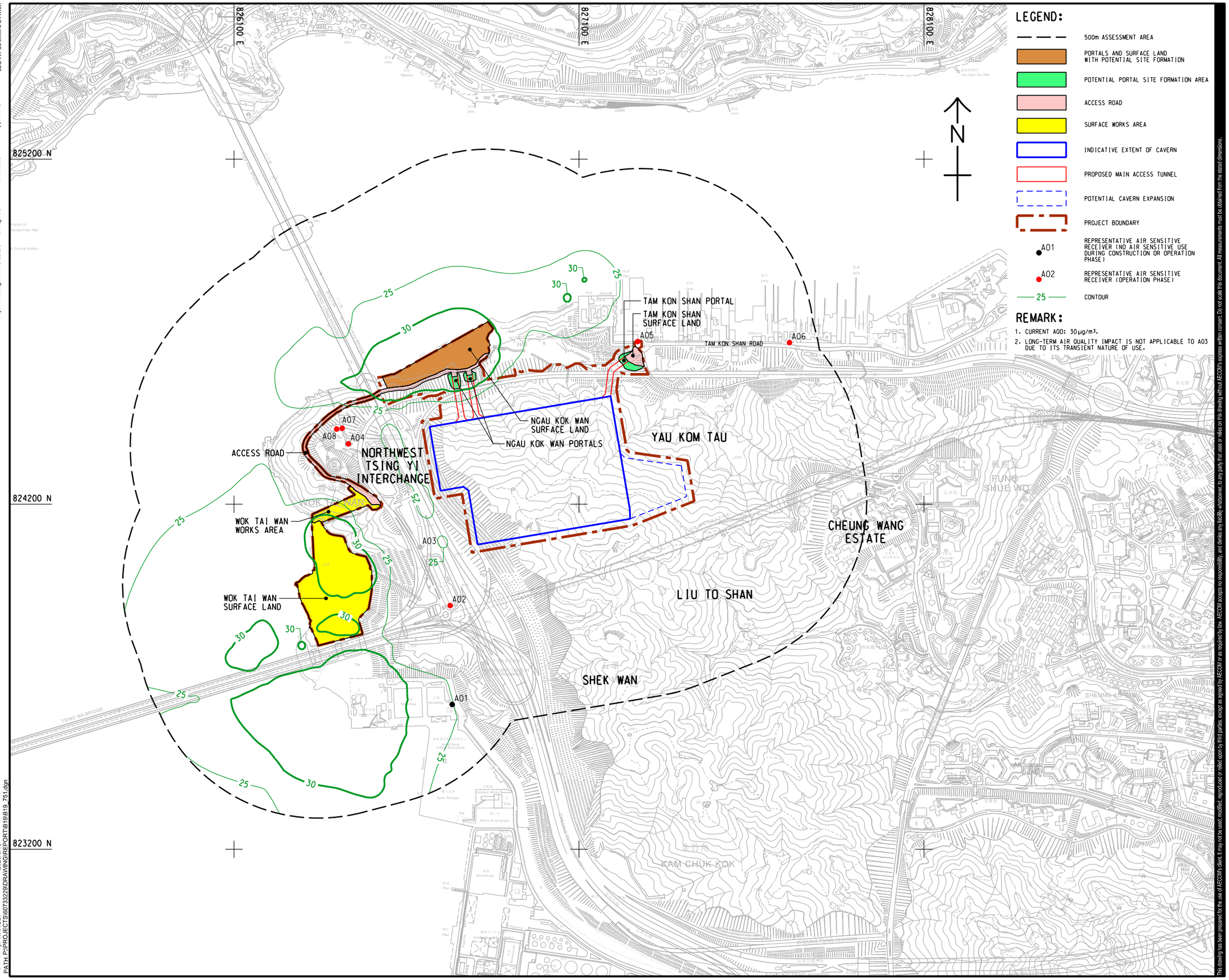
827100 E

828100 E

825200 N

824200 N

823200 N



LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 25 — CONTOUR

REMARK:

1. CURRENT AQO: 30 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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Civil Engineering and Development Department

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STATUS
狀態

SCALE
比例
A3 1 : 10000

DIMENSION UNIT
尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號
60733229

AGREEMENT NO.
協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
CONTOUR OF PREDICTED CUMULATIVE ANNUAL RSP CONCENTRATION AT 1.5 mAG (μg/m^3) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 4.04

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_751.dgn
2026/6/18

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A01

A02

A03

A04

A05

A06

A07

A08

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

FUNG SHUE WO

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

32.5

35

37.5

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 32.5 CONTOUR

REMARK:

CURRENT AQO: 37.5 μg/m^3

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
狀況

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED 19th HIGHEST CUMULATIVE DAILY FSP CONCENTRATION AT 1.5 mAG (μg/m^3) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.05

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltPlot File by: WANGJP2026/6/18PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_752.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 14 CONTOUR

REMARK:

1. CURRENT AQO: 15 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

TAM KON SHAN PORTAL
TAM KON SHAN SURFACE LAND
NGAU KOK WAN SURFACE LAND
NGAU KOK WAN PORTALS
TAM KON SHAN ROAD
A05
A06
A07
A08
A04
A03
A02
A01
ACCESS ROAD
NORTHWEST TSING YI INTERCHANGE
WOK TAI WAN
WOK TAI WAN WORKS AREA
WOK TAI WAN SURFACE LAND
YAU KOM TAU
CHEUNG WANG ESTATE
LIU TO SHAN
SHEK WAN
KAM CHUK KOK
FUNG SHUE WO
TSING YI NORTH COAST ROAD
TSING MA BRIDGE
TSING TSING HIGHWAY
SHEUNG K

14 14.5 15

V:\BAKU\S95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
2026/6/18
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_753.dgn

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例: A3 1 : 10000
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
CONTOUR OF PREDICTED CUMULATIVE ANNUAL FSP CONCENTRATION AT 1.5 mAG (μg/m³) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 4.06

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 150 — CONTOUR

REMARK:

CURRENT AQO: 200 μg/m^3

TAM KON SHAN PORTAL
TAM KON SHAN SURFACE LAND
NGAU KOK WAN SURFACE LAND
TAM KON SHAN ROAD
A05
A06
ACCESS ROAD
A07
A08
A04
NORTHWEST TSING YI INTERCHANGE
NGAU KOK WAN PORTALS
YAU KOM TAU
FUNG SHUE WO
WOK TAI WAN
WOK TAI WAN WORKS AREA
WOK TAI WAN SURFACE LAND
A03
A02
A01
CHEUNG WANG ESTATE
LIU TO SHAN
SHEK WAN
KAM CHUK KOK
TSING MA BRIDGE
TSING TSUEN HIGHWAY

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PROJECT
項目
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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土木工程拓展署
Civil Engineering and Development Department

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例: A3 1 : 10000
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
CONTOUR OF PREDICTED 19th HIGHEST CUMULATIVE HOURLY NO_2 CONCENTRATION AT 1.5 mAG (μg/m^3) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 4.07

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2026/5/21
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_754.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 100 CONTOUR

REMARK:

CURRENT AQO: 120 $\mu g/m^3$

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

A07

A08

A04

NORTHWEST TSING YI INTERCHANGE

ACCESS ROAD

YAU KOM TAU

WOK TAI WAN WORKS AREA

A03

CHEUNG WANG ESTATE

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

SHEK WAN

A01

TSING MA BRIDGE

KAM CHUK KOK

SHEUNG TONG HIGHWAY

60 80 100 120

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PROJECT
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STATUS
狀況

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
次分圖

PROJECT NO. 項目編號	AGREEMENT NO. 合約編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED 10th HIGHEST CUMULATIVE DAILY NO_2 CONCENTRATION AT 1.5 mAG ($\mu g/m^3$) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.08

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

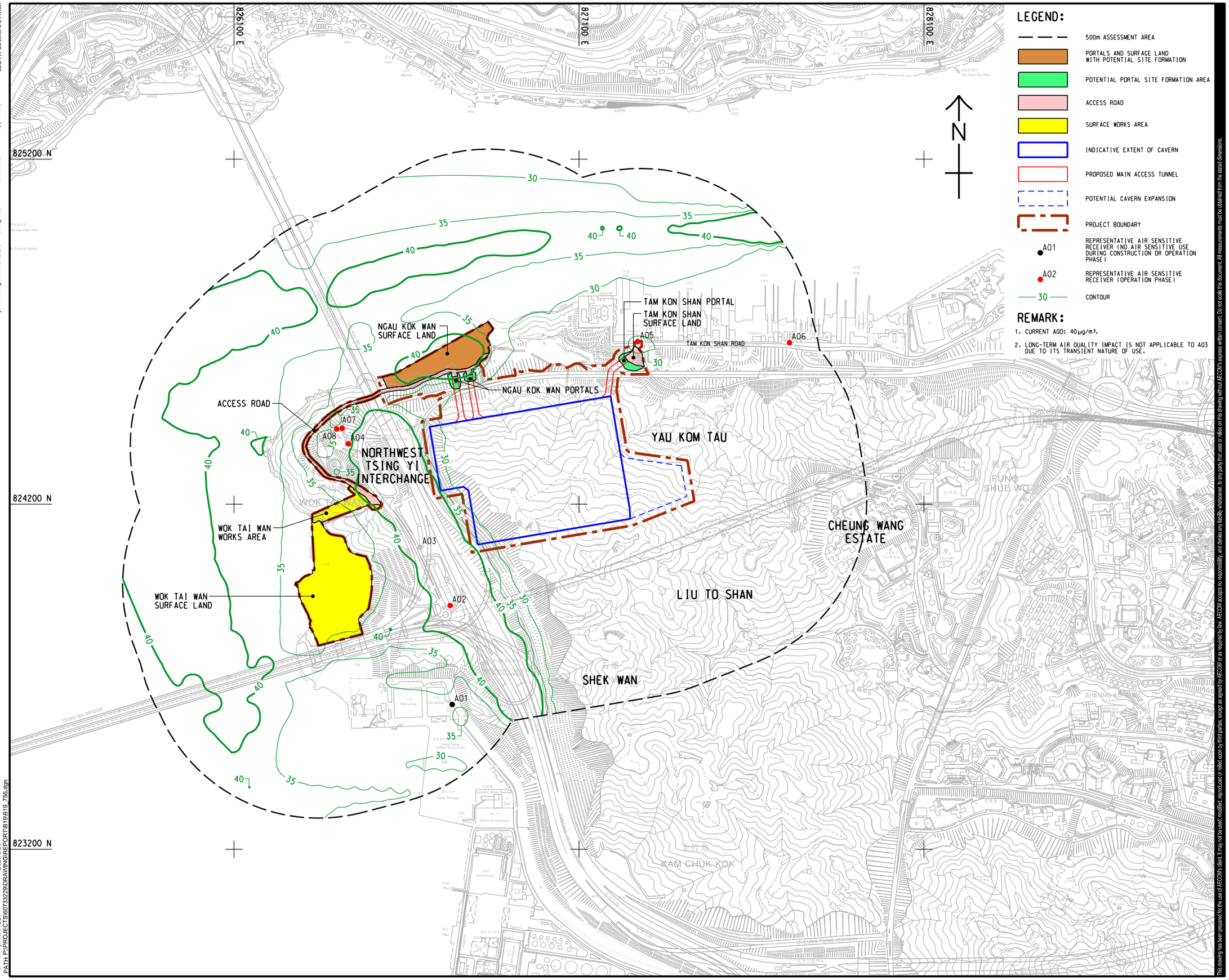
827100 E

828100 E

825200 N

824200 N

823200 N



LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 30 — CONTOUR

REMARK:

1. CURRENT AQO: 40 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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狀態

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL NO_2 CONCENTRATION AT 1.5 mAG (μg/m³) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.09

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2026/5/26
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_756.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

SHEUNG TONG HIGHWAY

A01

A02

A03

A04

A05

A06

A07

A08

30

60

90

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 30 CONTOUR

REMARK:

CURRENT AQO: 500 $\mu g/m^3$

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SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED 4 th HIGHEST CUMULATIVE 10-MIN SO_2 CONCENTRATION AT 1.5 mAG ($\mu g/m^3$) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.10

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Plot File by: WANGDF
PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_757.dgn
2026/5/21

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

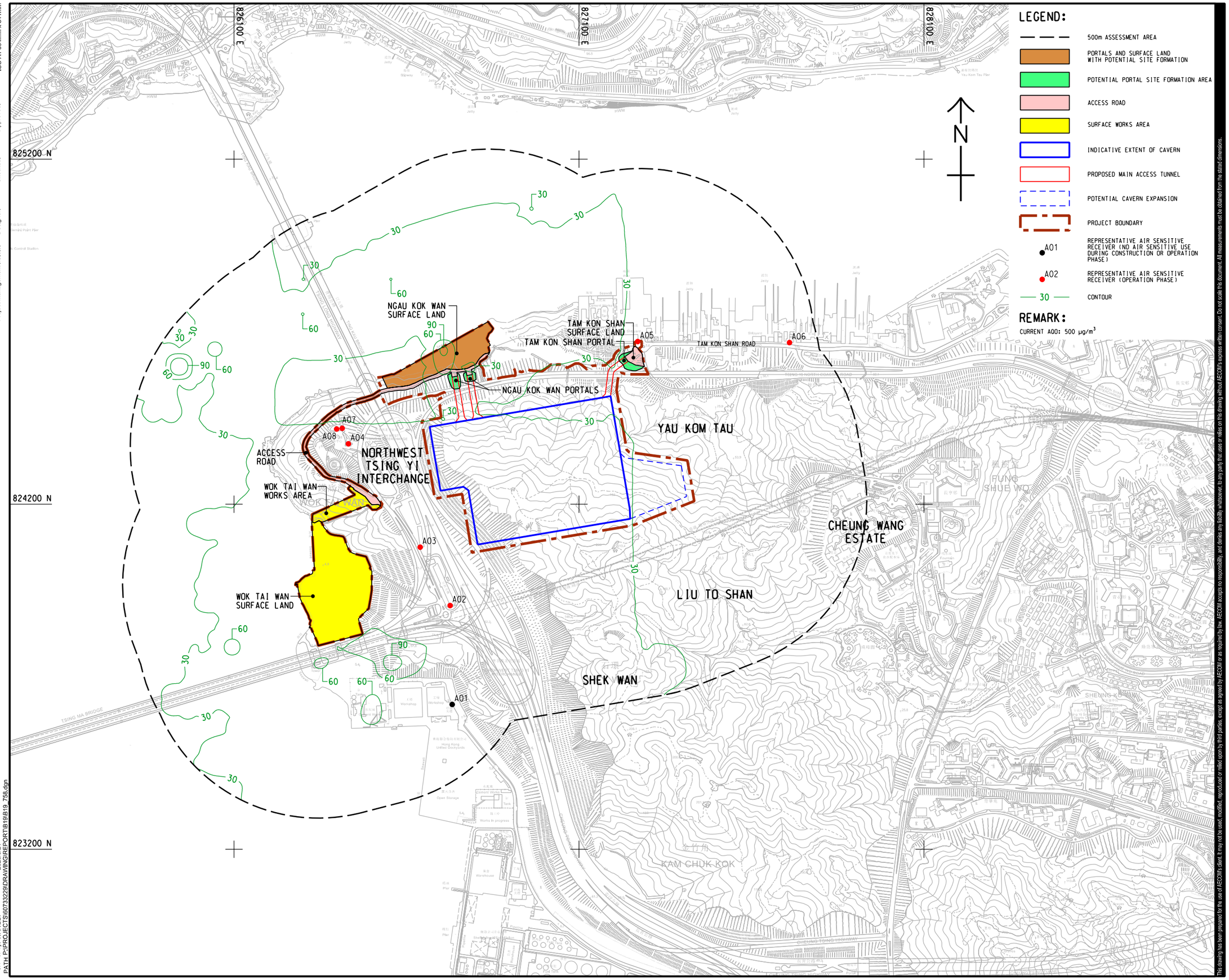
827100 E

828100 E

825200 N

824200 N

823200 N



LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 30 CONTOUR

REMARK:

CURRENT AQO: 500 $\mu g/m^3$

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED 4 th HIGHEST CUMULATIVE 10-MIN SO_2 CONCENTRATION AT 5 mAG ($\mu g/m^3$) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.11

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PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_758.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN

WOK TAI WAN SURFACE LAND

A03

A02

A01

10

15

YAU KOM TAU

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

SHEUNG KWAI

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 10 — CONTOUR

REMARK:

CURRENT AQO: 40 μg/m³

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
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PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED 4 th HIGHEST CUMULATIVE DAILY SO_2 CONCENTRATION AT 1.5 mAG (μg/m³) (OPERATION PHASE, YEAR 2028)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.12

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Plot Date: 2026/5/21
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_759.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

ACCESS ROAD

A07

A08

A04

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

A03

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

EIAO-TM: 5 OU/m^3

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2026/5/21Plot File by: WANGDFPATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_771.dgn

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階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 5-SECOND ODOUR CONCENTRATION AT 1.5 mAG (OU/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.24

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

EIAO-TM: 5 OU/m^3

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

A05

A06

TAM KON SHAN ROAD

ACCESS ROAD

A07

A08

A04

NORTHWEST TSING YI INTERCHANGE

NGAU KOK WAN PORTALS

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

SHEUNG TONG HIGHWAY

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
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PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 5-SECOND ODOUR CONCENTRATION AT 5 mAG (OU/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.25

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

EIAO-TM: 5 OU/m^3

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2026/5/21Plot File by: WANGIDFPATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_773.dgn

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Civil Engineering and Development Department

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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 5-SECOND ODOUR CONCENTRATION AT 10 mAG (OU/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.26

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

A05

A06

NGAU KOK WAN PORTALS

YAU KOM TAU

ACCESS ROAD

A07

A08

A04

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

SHEUNG KWAI

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

EIAO-TM: 5 OU/m^3

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 5-SECOND ODOUR CONCENTRATION AT 15 mAG (OU/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.27

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

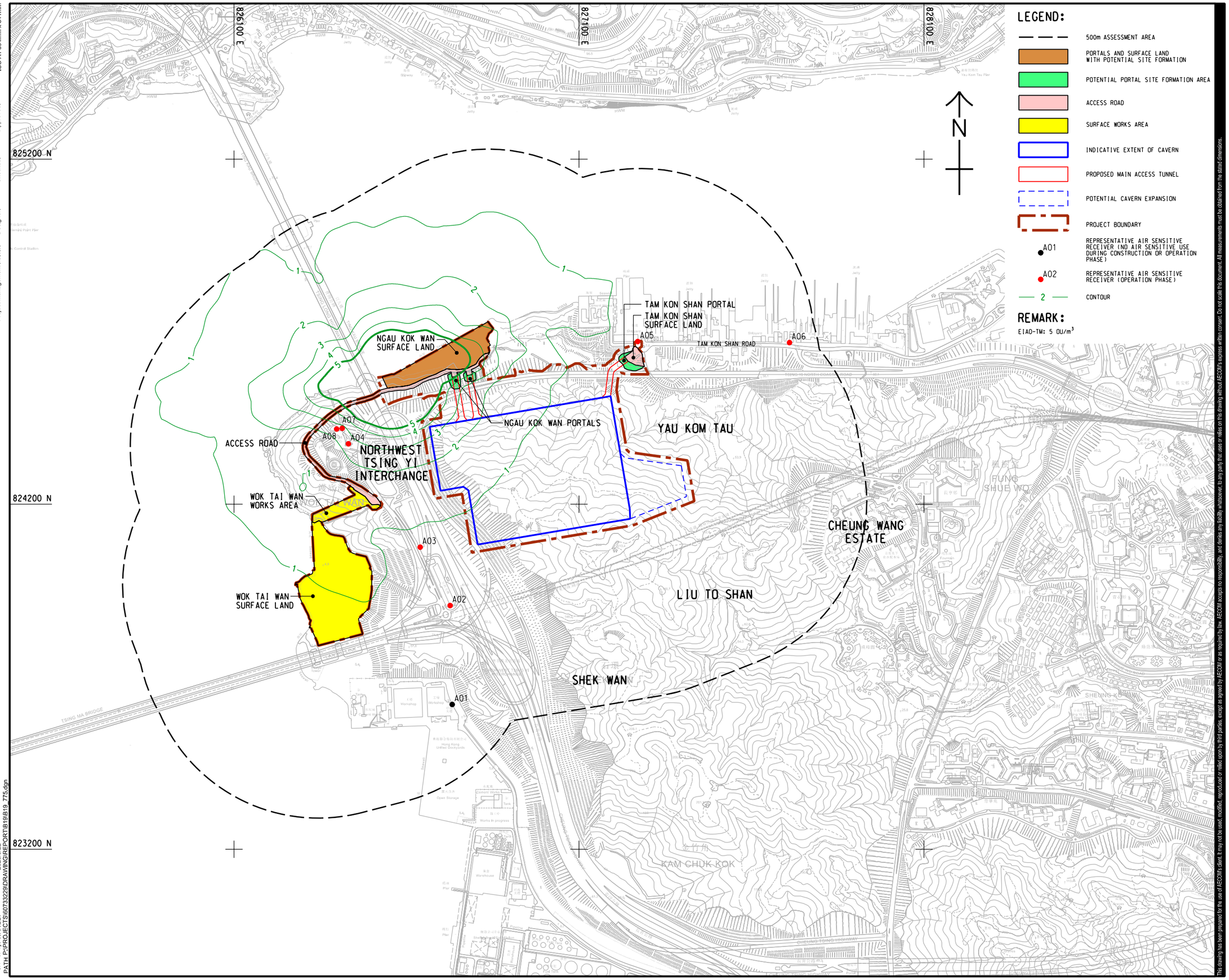
827100 E

828100 E

825200 N

824200 N

823200 N



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SCALE 比例: A3 1 : 10000
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
CONTOUR OF PREDICTED HIGHEST CUMULATIVE 5-SECOND ODOUR CONCENTRATION AT 20 mAG (OU/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 4.28

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

0.1

0.15

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

0.2

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

A03

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING TSING HIGHWAY

SHEUNG KWAI

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.1 CONTOUR

REMARK:

ACCEPTABLE AMBIENT CONCENTRATION STANDARDS OF USEPA'S NATIONAL AIR TOXICS INFORMATION CLEARINGHOUSE (NATICH) - DATA BASE REPORT ON STATE, LOCAL AND EPA AIR TOXICS ACTIVITIES: 7 μg/m³

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
CONTOUR OF PREDICTED HIGHEST CUMULATIVE DAILY BITUMEN FUME CONCENTRATION AT 1.5 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 4.29

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.2 CONTOUR

REMARK:

ACCEPTABLE AMBIENT CONCENTRATION STANDARDS OF USEPA'S NATIONAL AIR TOXICS INFORMATION CLEARINGHOUSE (NATICH) - DATA BASE REPORT ON STATE, LOCAL AND EPA AIR TOXICS ACTIVITIES: 7 μg/m³

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

YAU KOM TAU

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING TSUEN ROAD

TSING YI NORTH COAST ROAD

SHEUNG KWAI CHUNG

A01 A02 A03 A04 A05 A06 A07 A08

0.2 0.15

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
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PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
CONTOUR OF PREDICTED HIGHEST CUMULATIVE DAILY BITUMEN FUME CONCENTRATION AT 5 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 4.30

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PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_777.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

A01

A02

A03

A04

A05

A06

A07

A08

1

4

7

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 1 CONTOUR

REMARK:

ACCEPTABLE AMBIENT CONCENTRATION STANDARDS OF USEPA'S NATIONAL AIR TOXICS INFORMATION CLEARINGHOUSE (NATICH) - DATA BASE REPORT ON STATE, LOCAL AND EPA AIR TOXICS ACTIVITIES: 7 μg/m³

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

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SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE DAILY BITUMEN FUME CONCENTRATION AT 10 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.31

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Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_778.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

1

0.5

0.5

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

A03

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.5 CONTOUR

REMARK:

ACCEPTABLE AMBIENT CONCENTRATION STANDARDS OF USEPA'S NATIONAL AIR TOXICS INFORMATION CLEARINGHOUSE (NATICH) - DATA BASE REPORT ON STATE, LOCAL AND EPA AIR TOXICS ACTIVITIES: 7 μg/m³

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KEY PLAN
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PROJECT NO. 項目編號: 60733229

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SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE DAILY BITUMEN FUME CONCENTRATION AT 15 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.32

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

NGAU KOK WAN PORTALS

TAM KON SHAN ROAD

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

A01 A02 A03 A04 A05 A06 A07 A08

1 2

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 1 CONTOUR

REMARK:

ACCEPTABLE AMBIENT CONCENTRATION STANDARDS OF USEPA'S NATIONAL AIR TOXICS INFORMATION CLEARINGHOUSE (NATICH) - DATA BASE REPORT ON STATE, LOCAL AND EPA AIR TOXICS ACTIVITIES: 7 μg/m³

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SHEET TITLE
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CONTOUR OF PREDICTED HIGHEST CUMULATIVE DAILY BITUMEN FUME CONCENTRATION AT 20 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.33

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ISO A1 594mm x 841mm

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Checked:

Designer:

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TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

A01

A02

A03

A04

A05

A06

A07

A08

16

20

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 16 CONTOUR

REMARK:

AIR POLLUTANTS AND HEALTH PROTECTION CONCENTRATION LEVELS, TECHNICAL MEMORANDUM FOR ISSUING AIR POLLUTION ABATEMENT NOTICES TO CONTROL AIR POLLUTION FROM STATIONARY POLLUTING PROCESSES, HKEPD: 98.1μg/m³

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SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

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索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE HOURLY FORMALDEHYDE CONCENTRATION AT 1.5 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.34

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltt
Plot File by: WANGJP
20/8/5/21
PATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_781.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 16 CONTOUR

REMARK:

AIR POLLUTANTS AND HEALTH PROTECTION CONCENTRATION LEVELS. TECHNICAL MEMORANDUM FOR ISSUING AIR POLLUTION ABATEMENT NOTICES TO CONTROL AIR POLLUTION FROM STATIONARY POLLUTING PROCESSES. HKEPD: 98.1μg/m³

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顧問公司

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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE HOURLY FORMALDEHYDE CONCENTRATION AT 5 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.35

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltPlot Date: 20/8/5/21Plot File by: WANGJPPATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_782.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

6.5

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 6.5 CONTOUR

REMARK:

1. THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 9 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL FORMALDEHYDE CONCENTRATION AT 1.5 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.36

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltt
20/8/5/26
Plot File by: WANGJP
PATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_783.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

6.5

7

7.5

8

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 7 CONTOUR

REMARK:

1. THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 9μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO AO3 DUE TO ITS TRANSIENT NATURE OF USE.

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SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL FORMALDEHYDE CONCENTRATION AT 10 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.37

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltPlot Date: 2026/5/26Plot File by: WANGJPPATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_784.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

YAU KOM TAU

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

FUNG SHUE WO

CHEUNG WANG ESTATE

A03

A02

WOK TAI WAN SURFACE LAND

LIU TO SHAN

A01

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

SHEUNG KWAI

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 — CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 3 μg/m³

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR BENZENE CONCENTRATION AT 1.5 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.38

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2026/5/21Plot File by: WANGIDFPATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_785.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

A05

A06

NGAU KOK WAN PORTALS

YAU KOM TAU

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

SHEUNG KWAI

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 3 μg/m³

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR BENZENE CONCENTRATION AT 5 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.39

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot File by: WANGDF 2026/5/21
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_786.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 3 μg/m³

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

FUNG SHUE WO

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

V:\BAKU\S95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pfc
2026/5/21
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_787.dgn

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SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR BENZENE CONCENTRATION AT 10 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.40

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 3μg/m³

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

NGAU KOK WAN SURFACE LAND

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

YAU KOM TAU

A07

A08

A04

NORTHWEST TSING YI INTERCHANGE

ACCESS ROAD

WOK TAI WAN WORKS AREA

A03

CHEUNG WANG ESTATE

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2026/5/21Plot File by: WANGIDFPATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_788.dgn

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR BENZENE CONCENTRATION AT 15 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.41

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

A01

A02

A03

A04

A05

A06

A07

A08

2

3

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 2 CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 3 μg/m³

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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR BENZENE CONCENTRATION AT 20 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.42

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot File by: WANGDF 2026/5/21
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_789.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

A05

A06

0.0002602

0.0002602

0.0002602

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

A03

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- -0.0002602- CONTOUR

REMARK:

GUIDELINES FOR VENTILATION REQUIREMENT IN BUILDINGS: 0.000873 μg/m³

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

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CONSULTANT
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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE DAILY BENZO(A)PYRENE CONCENTRATION AT 1.5 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.43

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PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_794.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

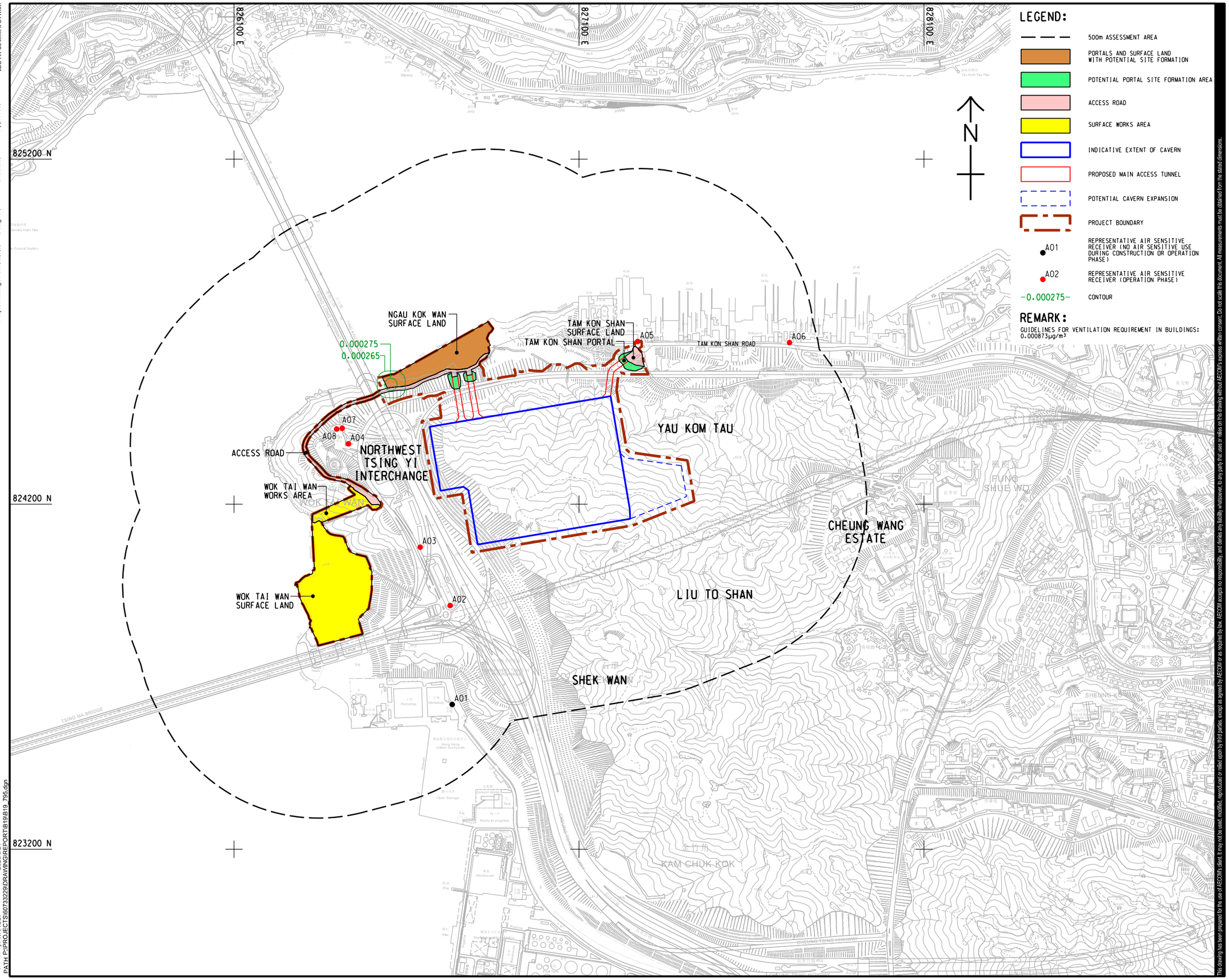
827100 E

828100 E

825200 N

824200 N

823200 N



LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- -0.000275- CONTOUR

REMARK:

GUIDELINES FOR VENTILATION REQUIREMENT IN BUILDINGS: 0.000873μg/m³

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE DAILY BENZO(A)PYRENE CONCENTRATION AT 10 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.44

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

0.2

0.1

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

A03

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

SHEUNG KAT

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.1 — CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 0.2 μg/m³

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PROJECT 項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE 圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE HOURLY NICKEL CONCENTRATION AT 1.5 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER 圖紙編號

60733229/B19/FIGURE 4.45

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

0.2

NGAU KOK WAN PORTALS

0.1

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

A03

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.1 — CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 0.2 μg/m³

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PROJECT 項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE 圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE HOURLY NICKEL CONCENTRATION AT 5 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER 圖紙編號

60733229/B19/FIGURE 4.46

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

YAU KOM TAU

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

A01

A02

A03

A04

A05

A06

A07

A08

0.012

0.013

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.012 — CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 0.015μg/m³

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR ARSENIC CONCENTRATION AT 1.5 mAG ($\mu g/m^3$) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.47

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PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_798.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

0.012

0.013

0.012

0.013

0.012

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

A03

A02

WOK TAI WAN SURFACE LAND

A01

LIU TO SHAN

CHEUNG WANG ESTATE

FUNG SHUE WO

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

SHEUNG KWAI

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.012 — CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 0.015μg/m³

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR ARSENIC CONCENTRATION AT 5 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.48

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

0.01

0.015

0.015

NGAU KOK WAN PORTALS

A07

A08

A04

0.01

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

A03

CHEUNG WANG ESTATE

FUNG SHUE WO

WOK TAI WAN SURFACE LAND

A02

LIU TO SHAN

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

SHEUNG KWAI

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.015 — CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 0.015μg/m³

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SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR ARSENIC CONCENTRATION AT 10 mAG ($\mu g/m^3$) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.49

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ISO A1 594mm x 841mm

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Designer:

Initials:

Project Management

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

0.012

0.013

0.014

0.015

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A03

A02

A01

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

FUNG SHUE WO

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.012 CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 0.015μg/m³

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR ARSENIC CONCENTRATION AT 15 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.50

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot File by: WANGDF 2026/5/21
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_726.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

NGAU KOK WAN PORTALS

TAM KON SHAN ROAD

A05

A06

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

A07

A08

A04

A03

A02

A01

YAU KOM TAU

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

0.012

0.013

0.014

0.015

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

SHEUNG TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.012 — CONTOUR

REMARK:

THE OFFICE OF ENVIRONMENTAL HEALTH HAZARD ASSESSMENT: 0.015μg/m³

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
工程顧問公司

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED HIGHEST CUMULATIVE 8-HOUR ARSENIC CONCENTRATION AT 20 mAG ($\mu g/m^3$) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.51

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot File by: WANGDF 2026/5/21
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_727.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

0.0048

0.0058

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

A05

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

A03

A02

WOK TAI WAN SURFACE LAND

A01

SHEK WAN

CHEUNG WANG ESTATE

LIU TO SHAN

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG TONG HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.0048 — CONTOUR

REMARK:

1. WORLD HEALTH ORGANIZATION AIR QUALITY GUIDELINE: 0.02 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL NICKEL CONCENTRATION AT 1.5 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.52

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
2026/5/26
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_728.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.005 — CONTOUR

REMARK:

1. WORLD HEALTH ORGANIZATION AIR QUALITY GUIDELINE: 0.02 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

0.005
0.005
0.0055
0.0055
0.006
0.005
0.0055
0.005

NGAU KOK WAN SURFACE LAND
NGAU KOK WAN PORTALS
TAM KON SHAN SURFACE LAND
TAM KON SHAN PORTAL
TAM KON SHAN ROAD
A05
A06
A07
A08
A04
ACCESS ROAD
NORTHWEST TSING YI INTERCHANGE
YAU KOM TAU
WOK TAI WAN WORKS AREA
WOK TAI WAN
A03
A02
WOK TAI WAN SURFACE LAND
A01
CHEUNG WANG ESTATE
LIU TO SHAN
SHEK WAN
KAM CHUK KOK
TSING MA BRIDGE
SHEUNG TONG HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
2026/5/26
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_729.dgn

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL NICKEL CONCENTRATION AT 5 mAG (μg/m^3) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.53

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

0.01

0.02

0.01

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

TAM KON SHAN ROAD

A06

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

A03

A02

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

A01

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.02 — CONTOUR

REMARK:

1. WORLD HEALTH ORGANIZATION AIR QUALITY GUIDELINE: 0.02 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL NICKEL CONCENTRATION AT 10 mAG ($\mu g/m^3$) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.54

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2026/5/26
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_730.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

0.01

0.02

A01

A02

A03

A04

A05

A06

A07

A08

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

YAU KOM TAU

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

FUNG SHUE WO

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.01 — CONTOUR

REMARK:

1. WORLD HEALTH ORGANIZATION AIR QUALITY GUIDELINE: 0.02 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 10000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL NICKEL CONCENTRATION AT 15 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.55

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pltfilehnew\CSWP-75(color).plt
Plot Date: 2026/5/26
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_731.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

A05

A06

TAM KON SHAN ROAD

0.01

0.015

NGAU KOK WAN PORTALS

A07

A08

A04

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

A03

CHEUNG WANG ESTATE

FUNG SHUE WO

A02

LIU TO SHAN

WOK TAI WAN SURFACE LAND

0.01

A01

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

TSING TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- A01 — REPRESENTATIVE AIR SENSITIVE RECEIVER (NO AIR SENSITIVE USE DURING CONSTRUCTION OR OPERATION PHASE)
- A02 — REPRESENTATIVE AIR SENSITIVE RECEIVER (OPERATION PHASE)
- 0.01 — CONTOUR

REMARK:

1. WORLD HEALTH ORGANIZATION AIR QUALITY GUIDELINE: 0.02 μg/m³.
2. LONG-TERM AIR QUALITY IMPACT IS NOT APPLICABLE TO A03 DUE TO ITS TRANSIENT NATURE OF USE.

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

CONTOUR OF PREDICTED CUMULATIVE ANNUAL NICKEL CONCENTRATION AT 20 mAG (μg/m³) (OPERATION PHASE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 4.56

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot File by: WANGDF 2026/5/26
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_732.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N01

N02

N03

N04

N05

N06

N07

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

NORTHWEST TSING YI INTERCHANGE

ACCESS ROAD

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

YAU KOM TAU

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

FUNG SHUE WO

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

SHEUNG TSING HIGHWAY

N

LEGEND:

- 300m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- REPRESENTATIVE NOISE SENSITIVE RECEIVER (NSR)

REPRESENTATIVE NSR	NSR ID	LAND USE	APPROXIMATE DISTANCE FROM THE PROJECT BOUNDARY, m
SUNNY VILLA	N01	RESIDENTIAL	755
AZTEC LODGE	N02	RESIDENTIAL	894
VILLA COTE D'AZUR	N03	RESIDENTIAL	737
CHEUNG WANG ESTATE	N04	RESIDENTIAL	389
S.K.H. TSING YI CHU YAN PRIMARY SCHOOL	N05	EDUCATIONAL	396
MOUNT HAVEN	N06	RESIDENTIAL	566
QUEEN'S COLLEGE OLD BOYS' ASSOCIATION SECONDARY SCHOOL	N07	EDUCATIONAL	903

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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狀況

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATION OF REPRESENTATIVE NOISE SENSITIVE RECEIVERS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 5.01

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pit
2026/5/20
Plot File by: WANGDF
PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_703.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N01

N02

N03

N04

N05

N06

N07

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

FUNG SHUE WO

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

SHEUNG TONG HIGHWAY

N

LEGEND:

- 300m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- REPRESENTATIVE NOISE SENSITIVE RECEIVER (NSR)
- WORKS AREA WITH CONVEYOR BELT SYSTEM
- ROCK CRUSHING
- CONCRETE PRODUCTION
- ASPHALT PRODUCTION

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltz
2026/5/20
Plot File by: WANGDF
PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_704.dgn

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
CEDD Civil Engineering and Development Department

CONSULTANT
工程顧問公司

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ISSUE/REVISION
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I/R 修訂	DATE 日期	DESCRIPTION 修訂內容	CHK. 核對

STATUS
狀況

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATIONS OF MAJOR FIXED NOISE SOURCES

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 5.02

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

825200 N

824200 N

823200 N

WM4

LEGEND:

- 500m ASSESSMENT AREA
- EPD MARINE STATION
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- WATER SENSITIVE RECEIVERS
- SECONDARY CONTACT RECREATION SUBZONE

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

CHEUNG ON ESTATE

W1

W3

NGAU KOK WAN PORTALS

W4

W2

W12

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

W11

WOK TAI WAN

W5

W11

WOK TAI WAN WORKS AREA

W7

W6

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

W10

LIU TO SHAN

W9

SHEK WAN

W8

TSING MA BRIDGE

KAM CHUK KOK

SHEUNG TSING HIGHWAY

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STATUS
狀態

SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATION OF WATER SENSITIVE RECEIVERS AND EPD MARINE WATER QUALITY MONITORING STATIONS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 6.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826400 E

826900 E

827400 E

824850 N

824350 N

823850 N

823350 N

N

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- ASSESSMENT AREA UNDER PREVIOUS PRELIMINARY ENVIRONMENTAL REVIEW UNDER CE 57/2018(GE)
- EIA-314/2025 LAND CONTAMINATION ASSESSMENT AREA UNDER TSING YI – LANTAU LINK – INVESTIGATION, DESIGN AND CONSTRUCTION

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NORTHWEST TSING YI INTERCHANGE

ACCESS ROAD

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

YAU KOM TAU

LIU TO SHAN

SHEK WAN

TSING LONG HIGHWAY

TING KAU BRIDGE

LANTAU LINK

TSING YI NORTH COASTAL ROAD

NORTH WEST TSING YI INTERCHANGE

WOK TAI WAN

SHEK WAN

Seawall

Pier

Jetty

Cement Works

Tank

Shipyard

Viewing Platform

Bridge Tower

Underpass

HWM

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
狀態

SCALE 比例
A3 1 : 5000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SITE LOCATION PLAN AND LAND CONTAMINATION ASSESSMENT AREA UNDER PREVIOUS STUDY

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 8.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826400 E

826900 E

827400 E

824850 N

824350 N

823850 N



PHOTO 5928: BARGING POINT
(DATE TAKEN: 8 APRIL 2025)



PHOTO 3252: RUBBER CONVEYOR BELTS IN MATERIAL STORAGE AREA
(DATE TAKEN: 8 APRIL 2025)



PHOTO 3220: UNLOADING PLATFORM AND HOPPER
(DATE TAKEN: 8 APRIL 2025)



PHOTO 3389: ACCESS ROAD
(DATE TAKEN: 8 APRIL 2025)

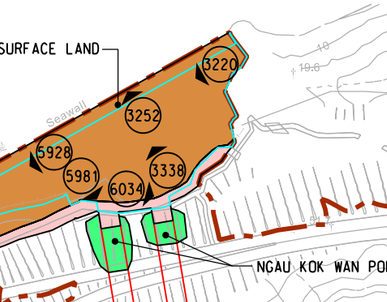




PHOTO 5981: MATERIAL STORE FOR MIST MACHINE AND CHEMICAL STORAGE AREA
(DATE TAKEN: 8 APRIL 2025)



PHOTO 6034: RECORDER HOUSE
(DATE TAKEN: 8 APRIL 2025)



PHOTO 0425: NATURAL HILLSIDE
(DATE TAKEN: 19 MARCH 2025)

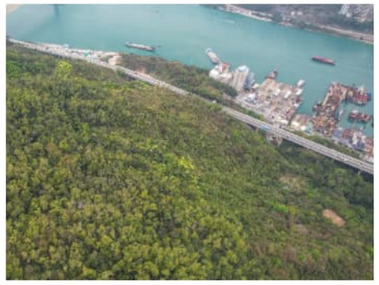


PHOTO 0409: NATURAL HILLSIDE
(DATE TAKEN: 17 MARCH 2025)



PHOTO 3338: WEIGHBRIDGE, STOCKPILING AREA AND CRUSHING AND SCREENING FACILITIES
(DATE TAKEN: 8 APRIL 2025)

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- POTENTIALLY CONTAMINATED AREA
- 3389 LOCATION AND DIRECTION OF PHOTOGRAPH TAKEN / PHOTO ID

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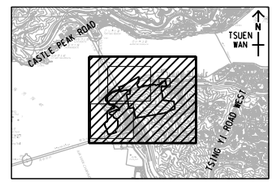
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 5000	METRES

KEY PLAN A3 1 : 100000
索引圖



PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOGRAPHIC RECORDS OF SITE WALKOVER AND DRONE SURVEY

SHEET 1 OF 5

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 8.02

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826400 E

826600 E

826800 E

824800 N

824600 N

824400 N



PHOTO 3258: STOCKPILING AREA
(DATE TAKEN: 8 APRIL 2025)



PHOTO 3251: CRUSHING AND SCREENING FACILITIES
(DATE TAKEN: 8 APRIL 2025)



PHOTO 0318: DSD WORKS AREA OF CONTRACT NO. DC/2020/05 RELOCATION OF SHA TIN SEWAGE TREATMENT WORKS TO CAVERNS - MAIN CAVERNS CONSTRUCTION AND NATURAL HILLSIDE
(DATE TAKEN: 18 SEPTEMBER 2023)



PHOTO 5998: CHEMICAL STORAGE AREA IN MATERIAL STORE
(DATE TAKEN: 8 APRIL 2025)



PHOTO 5962: STOCKPILING AREA
(DATE TAKEN: 8 APRIL 2025)

PHOTO 3284: MATERIAL STORE
(DATE TAKEN: 8 APRIL 2025)

PHOTO 3321: SITE OFFICE
(DATE TAKEN: 8 APRIL 2025)



PHOTO 5878: PLASTIC PIPES IN MATERIAL STORAGE AREA
(DATE TAKEN: 8 APRIL 2025)

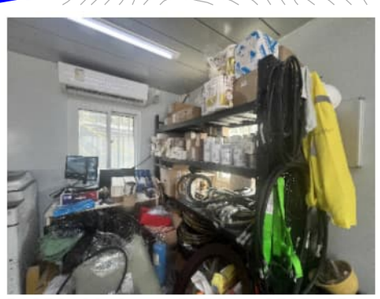


PHOTO 6042: MATERIAL STORAGE AREA FOR MACHINE PARTS IN RECORDER HOUSE
(DATE TAKEN: 8 APRIL 2025)

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- PROJECT BOUNDARY
- POTENTIALLY CONTAMINATED AREA
- 0318 LOCATION AND DIRECTION OF PHOTOGRAPH TAKEN / PHOTO ID

N

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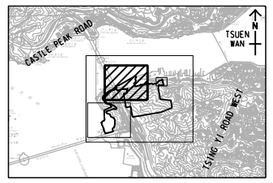
I/R 修訂	DATE 日期	DESCRIPTION 內容簡要	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 2000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A3 1 : 100000



PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOGRAPHIC RECORDS OF SITE WALKOVER AND DRONE SURVEY

SHEET 2 OF 5

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 8.03

ISO A1 594mm x 841mm

Approved:

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Designer:

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PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_708.dgn

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:



PHOTO 3020: TAM KON SHAN ROAD
(DATE TAKEN: 8 APRIL 2025)



PHOTO 3073: DRILL RIG
(DATE TAKEN: 8 APRIL 2025)

PHOTO 3026: CEDD WORKS AREA
OF CONTRACT NO. GE/2022/08
GROUND INVESTIGATION -
NEW TERRITORIES EAST
(DATE TAKEN: 8 APRIL 2025)

PHOTO 5679: CHEMICAL WASTE
COLLECTION BIN AND
COMPRESSED NITROGEN CYLINDER
IN CHANGING ROOM
(DATE TAKEN: 8 APRIL 2025)

PHOTO 3063: CHEMICAL
STORAGE CABINET
(DATE TAKEN: 8 APRIL 2025)

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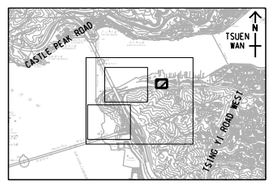
ISSUE/REVISION
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例: A3 1 : 500
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A3 1 : 100000



PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PHOTOGRAPHIC RECORDS OF SITE WALKOVER AND DRONE SURVEY

SHEET 3 OF 5

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 8.04

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9/7/2026
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ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:



PHOTO 3082: NATURAL HILLSIDE
(DATE TAKEN: 8 APRIL 2025)



PHOTO 5664: DIESEL OIL IN CHEMICAL STORAGE CABINET
(DATE TAKEN: 8 APRIL 2025)

PHOTO 5649: LUBRICATING OIL ON WOODEN PRANK OF AN ELEVATED WORKING PLATFORM WITH WOODEN SIDEBOARDS
(DATE TAKEN: 8 APRIL 2025)

PHOTO 5642: WATER PUMP
(DATE TAKEN: 8 APRIL 2025)

PHOTO 5655: MATERIAL STORAGE AREA FOR DRILL RODS AND ELEVATED WORKING PLATFORM
(DATE TAKEN: 8 APRIL 2025)

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PROJECT
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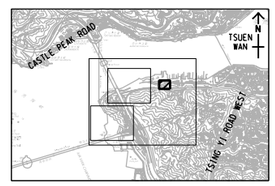
ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE: A3 1 : 500
DIMENSION UNIT: METRES

KEY PLAN A3 1 : 100000



PROJECT NO.: 60733229
AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
PHOTOGRAPHIC RECORDS OF SITE WALKOVER AND DRONE SURVEY

SHEET 4 OF 5

SHEET NUMBER
60733229/B19/FIGURE 8.05

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Plot File by: WANGZP
PATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\PAIPA_318.dgn

826200 E

826600 E

826900 E

824200 N

824000 N

823800 N



PHOTO 0361: DIESEL OIL DRUM
(DATE TAKEN: 20 OCTOBER 2025)



PHOTO 0367: STOCKPILE OF ROCKS
(DATE TAKEN: 20 OCTOBER 2025)



PHOTO 9757: BARGING POINT
(DATE TAKEN: 20 OCTOBER 2025)



PHOTO 0349: REST ROOM
(DATE TAKEN: 20 OCTOBER 2025)

ACCESS ROAD

WOK TAI WAN WORKS AREA

NORTH WEST TSING YI INTERCHANGE

0361

0367

9757

0349

9738

WOK TAI WAN
SURFACE LAND

LANTAU LINK



PHOTO 9738: STOCKPILE OF ROCKS
(DATE TAKEN: 20 OCTOBER 2025)

LEGEND:

- ACCESS ROAD
- SURFACE WORKS AREA
- PROJECT BOUNDARY
- 0361 LOCATION AND DIRECTION OF PHOTOGRAPH TAKEN / PHOTO ID

N

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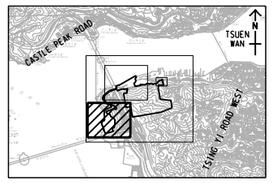
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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 2000	METRES

KEY PLAN 索引圖 A3 1 : 100000



PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOGRAPHIC RECORDS OF SITE WALKOVER AND DRONE SURVEY

SHEET 5 OF 5

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 8.06

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ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

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PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_711.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826400 E

826900 E

827400 E

827900 E

824850 N

824350 N

823850 N

N

NGAU KOK WAN SURFACE LAND

CWP NO. 1

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

INCIDENT NO. 1

INCIDENT NO. 4

INCIDENT NO. 5

INCIDENT NO. 3

INCIDENT NO. 6

INCIDENT NO. 2

ACCESS ROAD

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

LIU TO SHAN

SHEK WAN

TSING LONG HIGHWAY

TING KAU BRIDGE

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

LANTAU LINK

Seawall

HWM

Pier

Jetty

Cement Works

Shipyard

Tank

Viewing Platform

Bridge Tower

MTR (AIR)

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- CHEMICAL WASTE PRODUCER (CWP)
- FIRE SERVICES DEPARTMENT'S (FSD'S) INCIDENT RECORDS

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
土木工程顧問公司

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
狀況

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 5000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATIONS OF CHEMICAL WASTE PRODUCER AND FIRE SERVICES DEPARTMENT'S INCIDENT RECORDS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 8.07

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

LEGEND:

- 500m ASSESSMENT AREA
- WALK TRANSECT
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- SURFACE WORKS AREA (INCLUDING PORTALS, SURFACE LAND AND POTENTIAL PORTAL SITE FORMATION AREA)
- ACCESS ROAD
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- FS1 FRESHWATER COMMUNITIES SAMPLING POINTS

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

CHEUNG ON ESTATE

FS1

NGAU KOK WAN PORTALS

TSING YI NORTH COASTAL ROAD

FS2

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN

FUNG SHUE WO

CHEUNG WANG ESTATE

WOK TAI WAN SURFACE LAND

LIU TO SHAN

FS3

SHEK WAN

TSING MA BRIDGE

KAM CHUK KOK

CHEUNG TSING HIGHWAY

SHENNG K

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltz
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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Civil Engineering and Development Department

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狀況

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 合約編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

ECOLOGICAL ASSESSMENT AREA, WALK TRANSECTS AND FRESHWATER COMMUNITIES SAMPLING POINTS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 9.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

NGAU KOK WAN PORTALS

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

CHEUNG WANG ESTATE

TSING MA BRIDGE

KAM CHUK KOK

CHEUNG TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- SURFACE WORKS AREA (INCLUDING PORTALS, SURFACE LAND AND POTENTIAL PORTAL SITE FORMATION AREA)
- ACCESS ROAD
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

HABITATS

- MIXED WOODLAND
- SHRUBLAND
- PLANTATION
- MODIFIED WATERCOURSE
- NATURAL WATERCOURSE
- DEVELOPED AREA

SPECIES OF CONSERVATION IMPORTANCE

FLORA:

- P1 *AQUILARIA SINENSIS*
- P2 *ARALIA CHINENSIS*
- P3 *DIOSPYROS VACCINIOIDES*
- P3* CLUSTER OF *DIOSPYROS VACCINIOIDES*

FAUNA:

- A1* BLACK KITE (IN FLIGHT)
- A2 BLACK-THROATED LAUGHINGTHRUSH
- A3 COLLARED SCOPS OWL
- A4* CRESTED GOSHAWK (IN FLIGHT)
- A5* LITTLE EGRET (IN FLIGHT)
- M1 GREATER BENT-WINGED BAT
- M2 JAPANESE PIPISTRELLE
- M3 LESSER YELLOW BAT
- M4 SHORT-NOSED FRUIT BAT
- M5 UNKNOWN VESPERTILIONIDAE SPECIES 1
- M6 UNKNOWN VESPERTILIONIDAE SPECIES 2
- H1 FOUR-CLAWED GECKO
- F1 HONG KONG FRESHWATER CRAB

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PROJECT 項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

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STATUS 階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE 圖紙名稱

HABITAT MAP AND LOCATION OF SPECIES OF CONSERVATION IMPORTANCE

SHEET NUMBER 圖紙編號

60733229/B19/FIGURE 9.02

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826100 E

827100 E

828100 E

N

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

NGAU KOK WAN WORKS AREA

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

TAM KON SHAN PORTAL

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

CHEUNG WANG ESTATE

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL

LANDSCAPE RESOURCES

- HILLSIDE VEGETATION ALONG TSING YI NORTH COASTAL ROAD
- RAMBLER CHANNEL SEA WATERBODY
- COASTAL LANDSCAPE ALONG WOK TAI WAN AND CHEUNG SHUE TAU

LANDSCAPE CHARACTER AREAS

- STRAIT LANDSCAPE
- TRANSPORTATION CORRIDOR LANDSCAPE
- INDUSTRIAL URBAN LANDSCAPE
- UPLAND AND HILLSIDE LANDSCAPE

ISO A1 594mm x 841mm

Approved:

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LANDSCAPE RESOURCES & LANDSCAPE CHARACTER AREAS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

824900 E

826500 E

828100 E

825200 N

823600 N

823200 N

N

+74.5mPD

+76.5mPD

+172.0mPD

+150.8mPD

+182.0mPD

+134.7mPD

RE1

VP1 TING KAU BEACH

RE2

VP4 HOI MEI WAN BEACH

VP2 APPROACH BEACH

CASTLE PEAK ROAD-TING KAU

CASTLE PEAK ROAD-NEW TING KAU

TUEN MUN ROAD

TSING LONG HIGHWAY

TING KAU BRIDGE

NGAU KOK WAN SURFACE LAND

ABOVE GROUND STRUCTURE +40mPD

NGAU KOK WAN PORTALS

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

CHEUNG SHUE TAU

+23.1mPD

T1

VP3 MINIBUS STOP ON TAM KON SHAN ROAD NEAR CHEUNG SHUE TAU

+16.1mPD

CHEUNG ON ESTATE

+107.5mPD

+26.9mPD

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

+165.0mPD

+64.1mPD

YAU KOM TAU MAIN ACCESS TUNNEL APPROX.10m (H) x 16m (W)

NORTHWEST TSING YI INTERCHANGE

RE5

RE4

VP6 TSING YI NATURE TRAIL

WOK TAI WAN WORKS AREA

CONVEYOR BELT SYSTEM WITH APPROX. 140m (L), 6m (W) AND 9m (H)

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

LIU TO SHAN

+73.3mPD

+206.7mPD

SHEK WAN

MA WAN

VP5 MA WAN TING WAN BEACH

RE3

LANTAU LINK (TSING MA BRIDGE)

+207mPD

CHEUNG TSING HIGHWAY

PV ID	PUBLIC VIEWERS
RE1	RECREATIONAL USER OF THE BEACHES ALONG CASTLE PEAK ROAD - NEW TING KAU
RE2	RECREATIONAL USER OF THE BEACHES ALONG CASTLE PEAK ROAD - TING KAU
RE3	RECREATIONAL USER FROM MA WAN
RE4	RECREATIONAL USER FROM TSING YI NATURE TRAIL
RE5	RECREATIONAL USER FROM LANTAU LINK VIEWING PLATFORM
T1	TRAVELLERS AT CHEUNG SHUE TAU

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- VISUAL ENVELOPE
- RE1 PUBLIC VIEWERS
- VP1 PUBLIC VIEWING POINTS (AT GRADE)
- +16.1mPD BUILDING HEIGHT

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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Civil Engineering and Development Department

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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 16000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

VISUAL ENVELOPE, PUBLIC VIEWERS (PVs) AND PROPOSED PUBLIC VIEWING POINTS

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.02

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

825500 E

826500 E

825200 N

824200 N

823200 N

N

LEGEND:

- PROPOSED MAIN ACCESS TUNNEL
- SURFACE WORKS AREA (INCLUDING PORTALS, SURFACE LAND AND POTENTIAL SITE FORMATION AREA)
- ACCESS ROAD
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- 500m ASSESSMENT AREA
- BOUNDARY OF EXISTING OUTLINE ZONING PLAN
- PROPOSED ANCILLARY OPERATION AREA
- INDICATIVE EXTENT OF SLOPE WORKS
- ACCESS ROAD
- INDICATIVE EXTENT OF NATURAL TERRAIN HAZARD MITIGATION MEASURES
- INDICATIVE EXTENT OF CAVERN
- +5mPD — PROPOSED FORMATION LEVEL
- OU — OTHER SPECIFIED USES
- AREA SHOWN AS ROAD

- CDA — COMPREHENSIVE DEVELOPMENT AREA
- O — OPEN SPACE
- V — VILLAGE TYPE DEVELOPMENT
- G/IC — GOVERNMENT, INSTITUTION OR COMMUNITY
- GB — GREEN BELT
- R(A) — RESIDENTIAL (GROUP A)
- R(C) — RESIDENTIAL (GROUP C)
- R(B) — RESIDENTIAL (GROUP B)
- I — INDUSTRIAL

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

+5mPD

OU (CEMENT PLANT)

OU (BMIU)

OU (RTRU)

GB

TAM KON SHAN SURFACE LAND

+6mPD

TAM KON SHAN ROAD

TAM KON SHAN PORTAL

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

OU (VP)

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

OU (VENTILATION BUILDING)

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG ON ESTATE

CHEUNG WANG ESTATE

FUNG SHUE WO

SHENG KUNG HUI

OU (TBA FOR TSING YI VILLAGER)

G/IC

O

V

R(A)

R(B)

I

AECOM

PROJECT

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT

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SCALE — **DIMENSION UNIT**

A3 1 : 10000 — METRES

KEY PLAN

PROJECT NO. — **AGREEMENT NO.**

60733229 — CE 79/2023 (GE)

SHEET TITLE

EXISTING OUTLINE ZONING PLAN

SHEET NUMBER

60733229/B19/FIGURE 10.03

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826600 E

826700 E

824700 N

824600 N

N

LEGEND:

- INDICATIVE AREA FOR CONCRETE BATCHING OPERATIONS
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE AREA FOR ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS
- INDICATIVE STRUCTURE
- INDICATIVE INTERNAL CIRCULATION
- INDICATIVE AREA FOR ROCK PROCESSING OPERATIONS
- INDICATIVE RETAINING STRUCTURE
- PROPOSED MAIN ACCESS TUNNEL
- INDICATIVE CONVEYOR BELT SYSTEM

* THE SCHEMATIC LAYOUT ARRANGEMENTS OF THE ANCILLARY OPERATIONS AT NGAU KOK WAN SURFACE LAND ARE INDICATIVE ONLY, SUBJECT TO THE CONTRACTOR'S DESIGN IN THE CONSTRUCTION / OPERATION PHASES

INDICATIVE ARRANGEMENT OF ROCK CRUSHING COMPLEX (R1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

ROCK PROCESSING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

INDICATIVE ARRANGEMENT OF CONCRETE BATCHING COMPLEX (C1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

ASPHALT PRODUCTION OR CONCRETE BATCHING OPERATIONS (MAX. 35m OR +40mPD HIGH)

INDICATIVE ARRANGEMENT OF ASPHALT/CONCRETE PRODUCTION COMPLEX (A1), INCLUDING SILOS, LOADING AND UNLOADING SPACES (MAX. +40mPD HIGH)

RETAINING WALL (APPROX. 10m HIGH)

RETAINING WALL (APPROX. 20m HIGH)

NGAU KOK WAN PORTAL

MAIN ACCESS TUNNEL OF 10m (H) x 16m (W)

TSING YI NORTH COASTAL ROAD

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

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階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 1000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

INDICATIVE LAYOUT AT NGAU KOK WAN PORTAL

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.04

826200 E

826400 E

824200 N

824000 N

823800 N

WOK TAI WAN

鑊尾灣

WOK TAI WAN

CONVEYOR BELT SYSTEM
(APPROX. 140m (L),
6m (W) AND 9m (H))

WTW SURFACE LAND FOR STOCKPILING
MAX. HEIGHT +40mPD

NORTH WEST TSING YI INTERCHANGE

N

NOTE:

1. THE SCHEMATIC LAYOUT ARRANGEMENT OF THE CONVEYOR BELT SYSTEM AT WOK TAI WAN WORKS AREA ARE INDICATIVE ONLY, SUBJECT TO THE CONTRACTOR'S DESIGN IN THE CONSTRUCTION / OPERATION PHASES.

LEGEND:

INDICATIVE INTERNAL CIRCULATION

STOCKPILE

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階段

SCALE 比例
A3 1 : 1000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

INDICATIVE LAYOUT
AT WOK TAI WAN

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.05

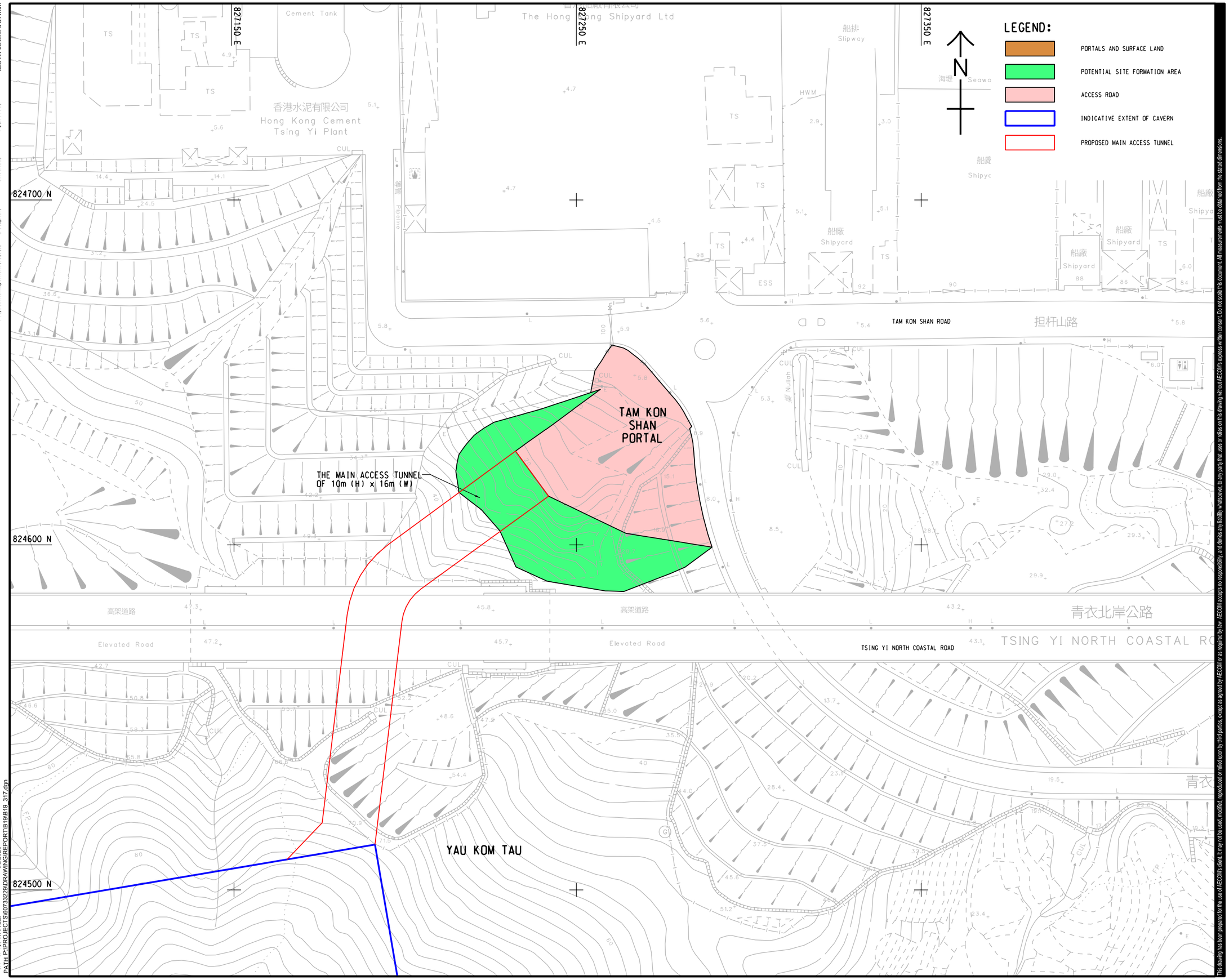
ISO A1 594mm x 841mm

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Checked:

Designer:

Project Management Initials:



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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

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CONSULTANT
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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 1000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

INDICATIVE LAYOUT
AT TAM KON SHAN PORTAL

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.06

Y:\BAKUS95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltPlot File by: WANG2P4/3/2026PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_317.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

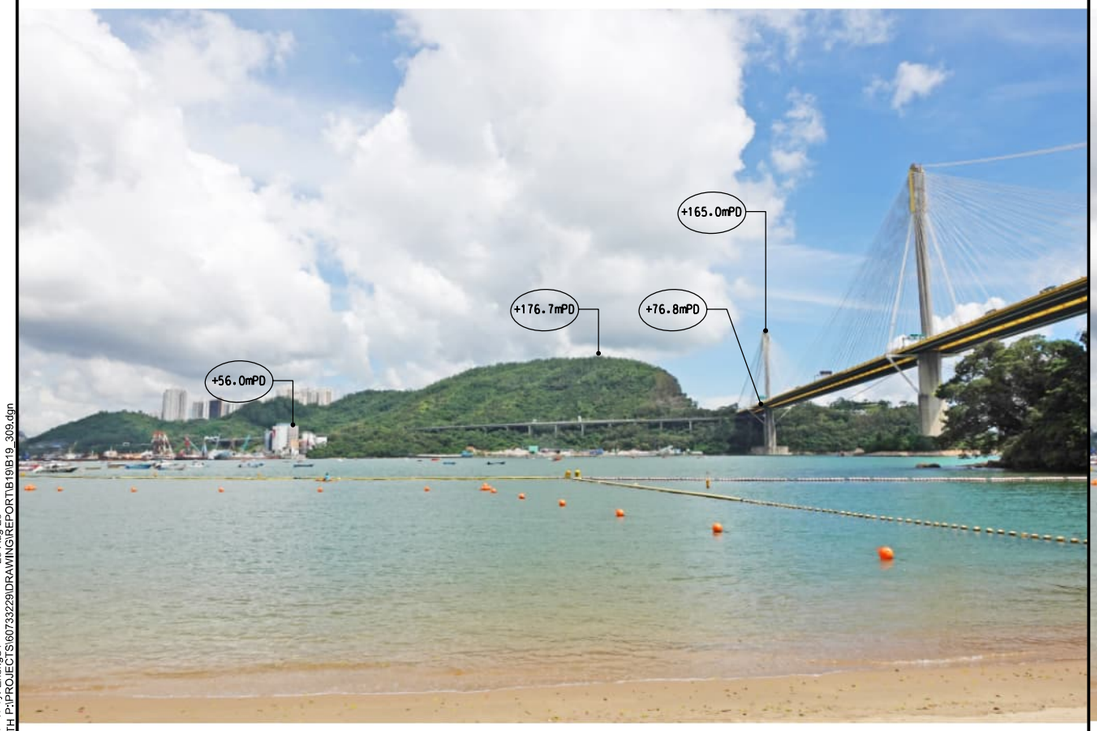
Designer:

Project Management Initials:

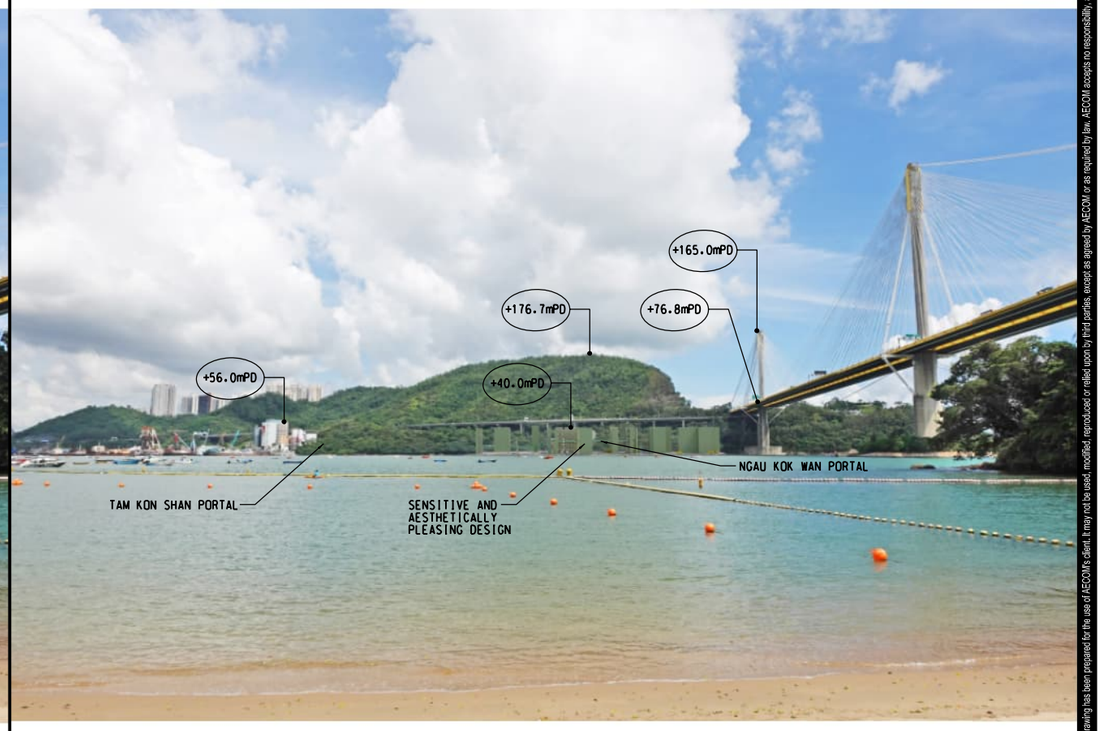
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 1 - BASELINE SCENARIO



VIEWPOINT 1 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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階段

SCALE 比例: -

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 1 OF 7)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.07

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
Plot Date: 25-Aug-26
Plot File by: Zhengs51
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_309.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

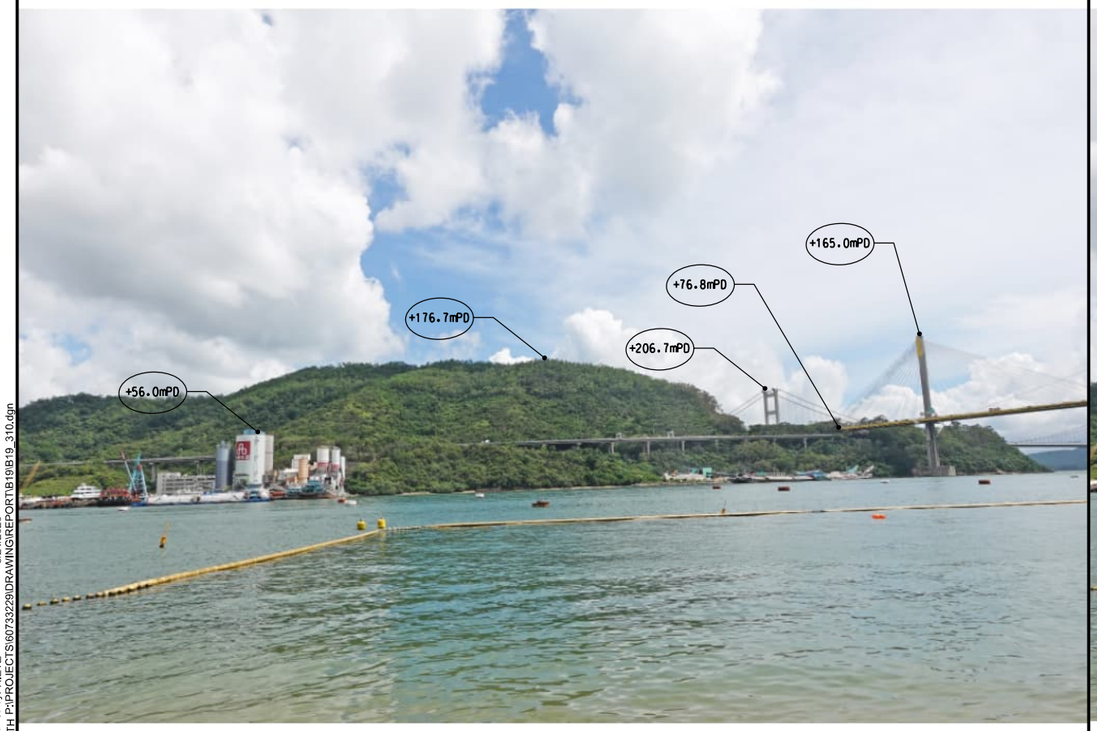
Designer:

Project Management Initials:

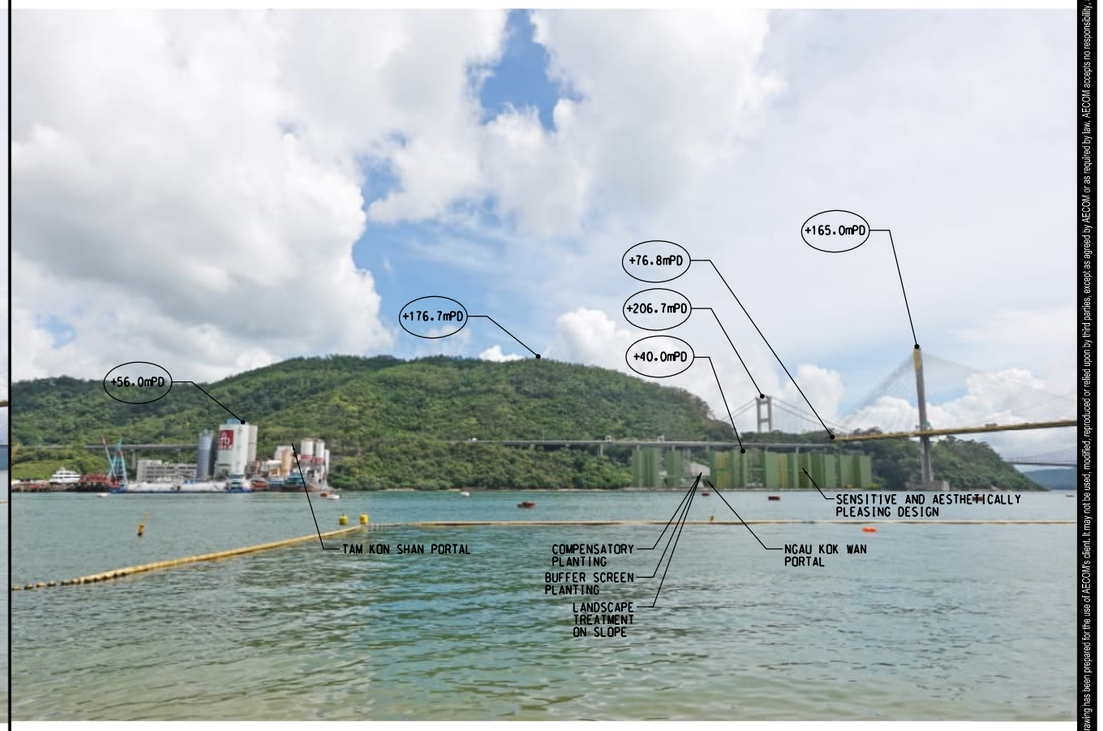
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 2 - BASELINE SCENARIO



VIEWPOINT 2 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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STATUS
階段

SCALE 比例: -

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 2 OF 7)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.08

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pltf file\new\CSWP-75(color).pltf
8/24/2026
Plot File by: XIEYZ
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_310.dgn

ISO A1 594mm x 841mm

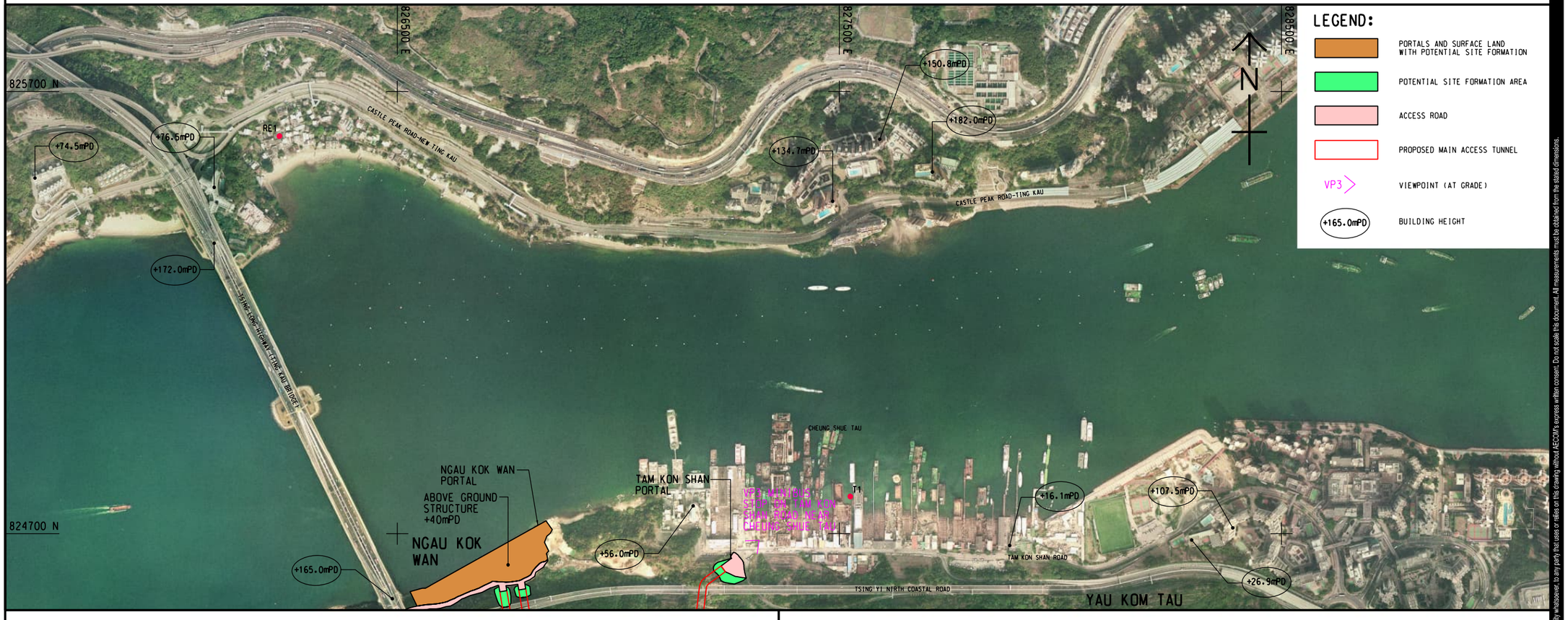
Approved:

Checked:

Designer:

Project Management Initials:

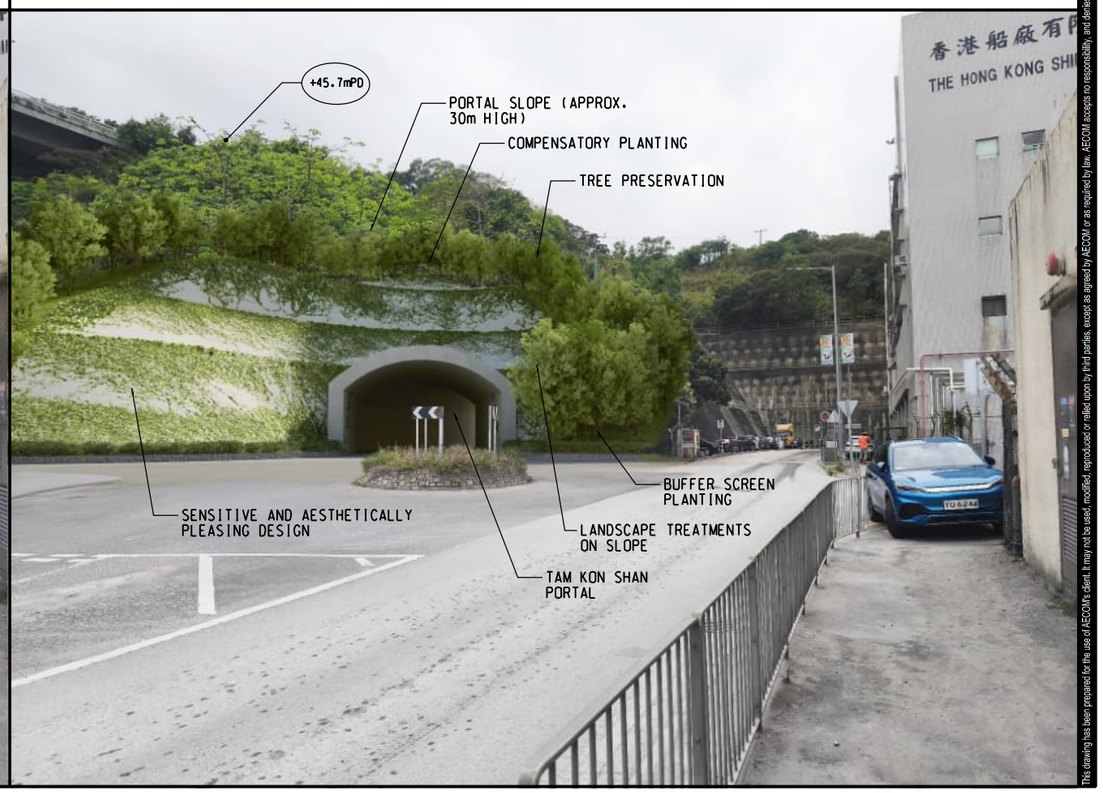
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 3 - BASELINE SCENARIO



VIEWPOINT 3 - PROPOSED SCENARIO WITH MITIGATION MEASURES



V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltb
8/24/2026
Plot File by: XIETZ
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_311.dgn

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SCALE 比例 -

DIMENSION UNIT 尺寸單位 METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號 60733229

AGREEMENT NO. 協議編號 CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 3 OF 7)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.09

ISO A1 594mm x 841mm

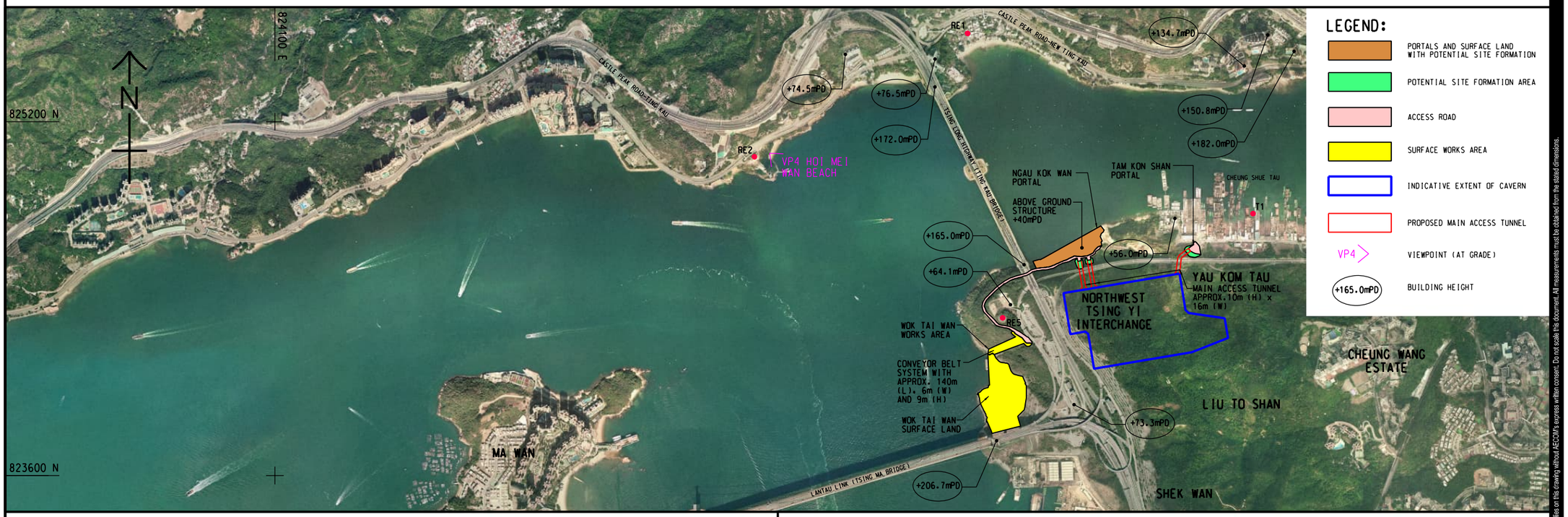
Approved:

Checked:

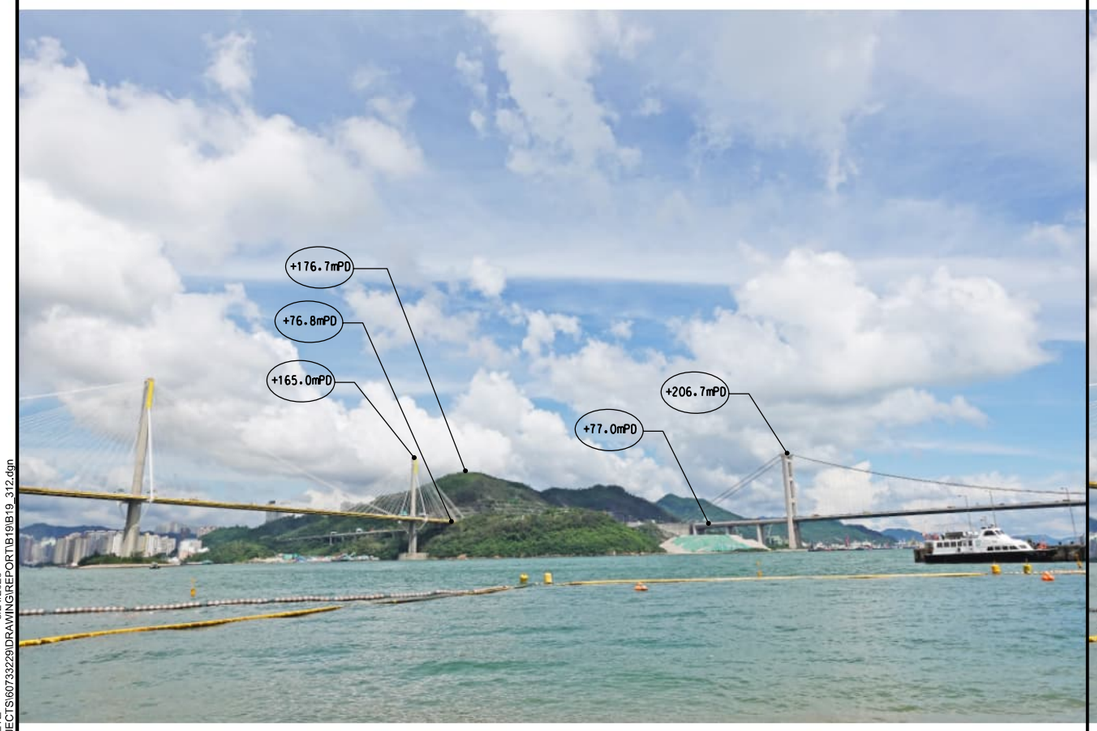
Designer:

Project Management Initials:

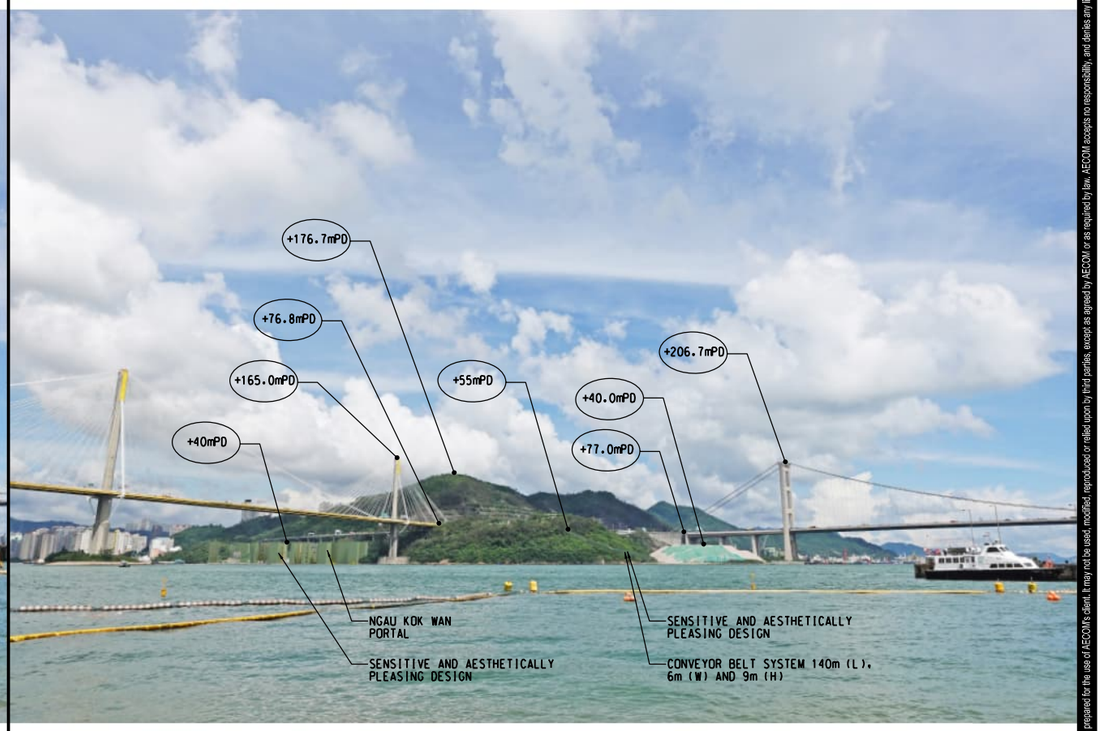
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 4 - BASELINE SCENARIO



VIEWPOINT 4 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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階段

SCALE 比例: -

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 4 OF 7)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.10

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Plot Date: 8/24/2026
Plot File by: XIEYZ
PATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_312.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

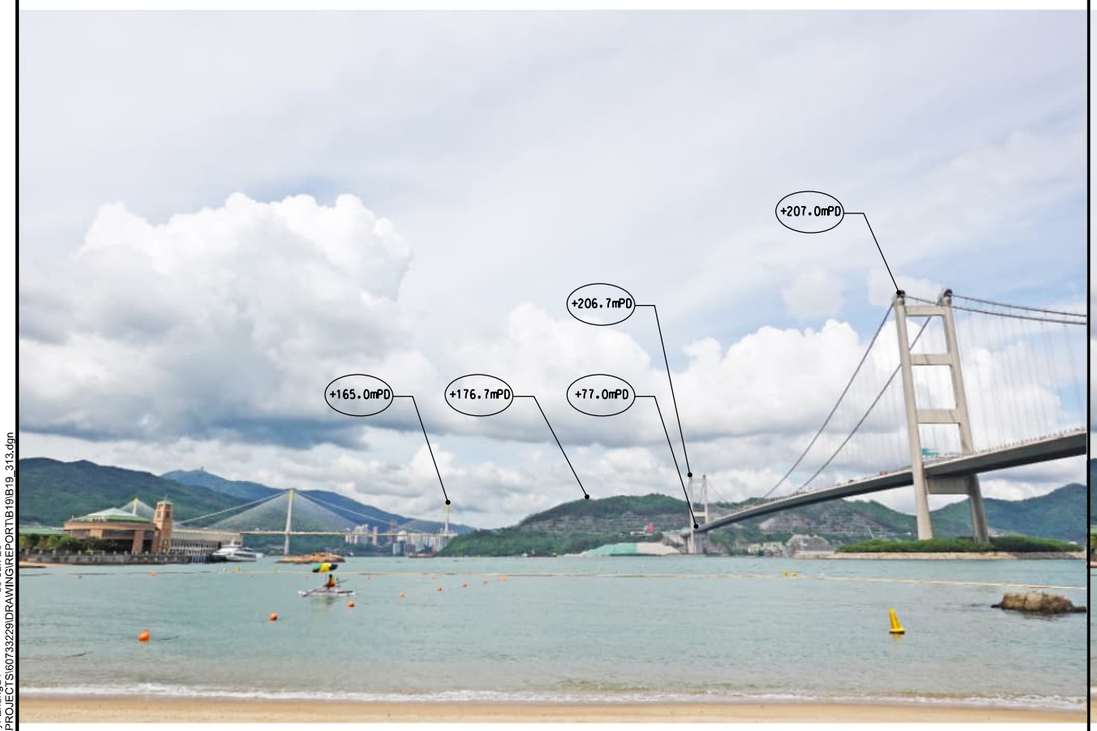
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Project Management Initials:

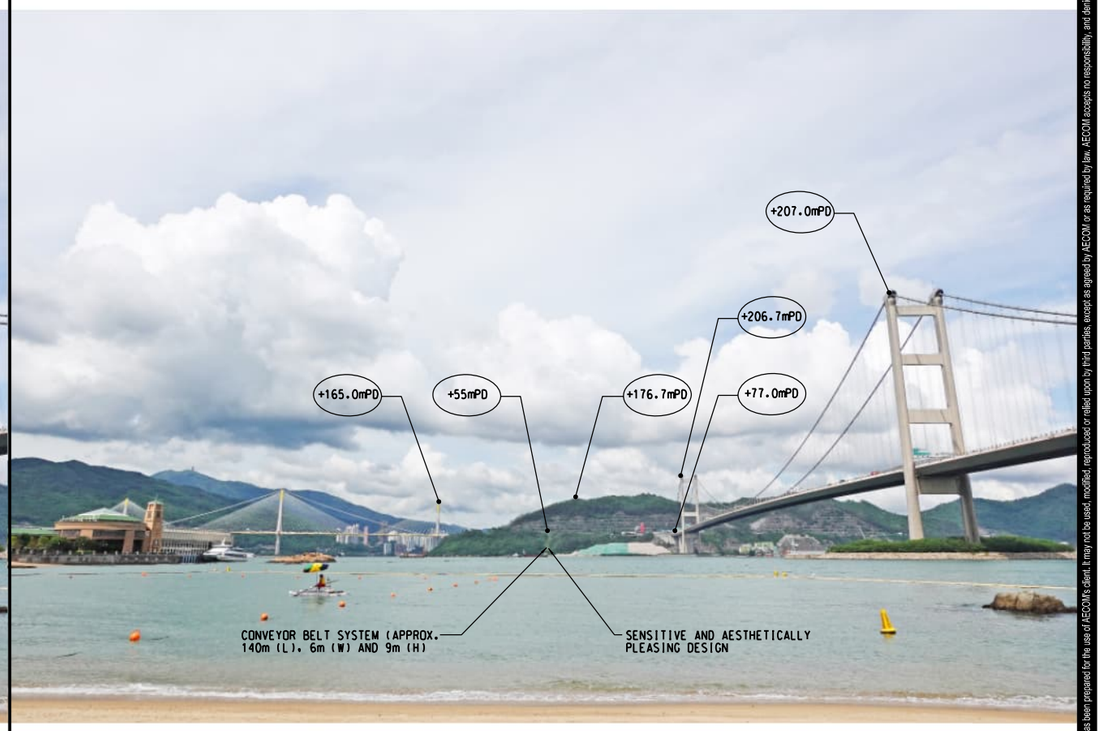
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 5 - BASELINE SCENARIO



VIEWPOINT 5 - PROPOSED SCENARIO WITH MITIGATION MEASURES



V:\BAK\US95-BAK\CSW\Pio\dtn\Create Plt file\new\CSWP-75(color).plt
30-Jun-26
Plot File by: ZhengS1
PATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_313.dgn

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階段

SCALE 比例: -

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

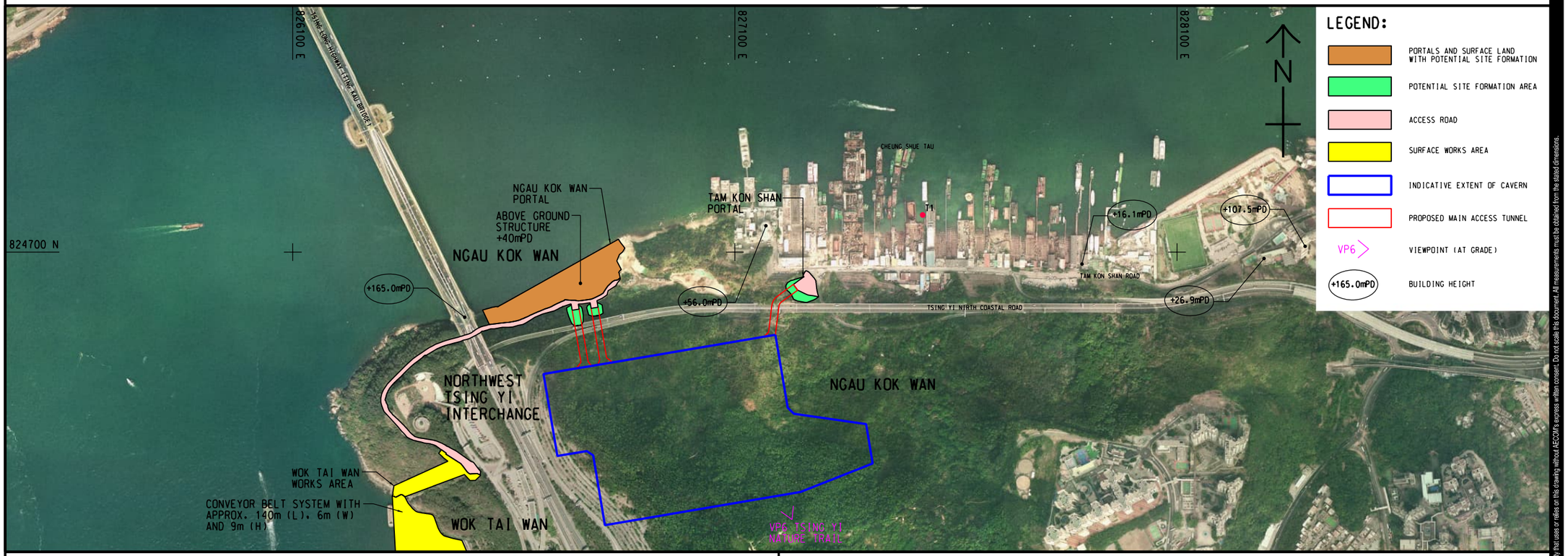
PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 5 OF 7)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.11

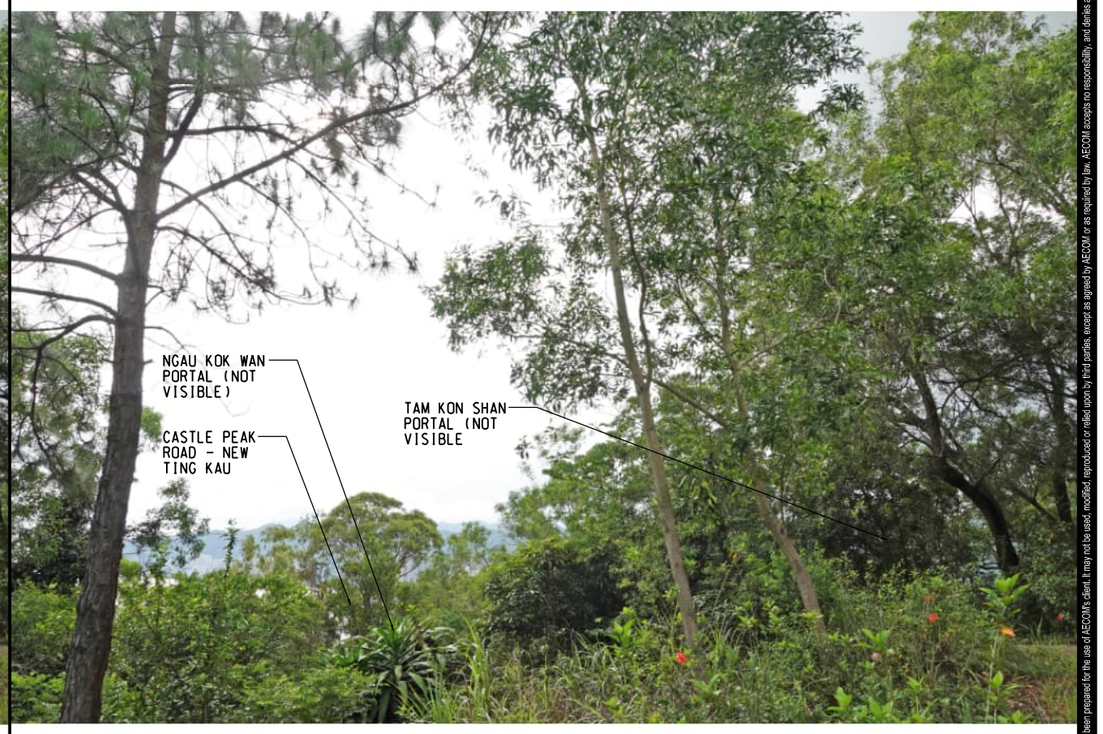
LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 6 - BASELINE SCENARIO



VIEWPOINT 6 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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階段

SCALE 比例: -
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 6 OF 7)

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 10.12

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

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Plot File by: XIEYZ
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_314.dgn
8/24/2026

ISO A1 594mm x 841mm

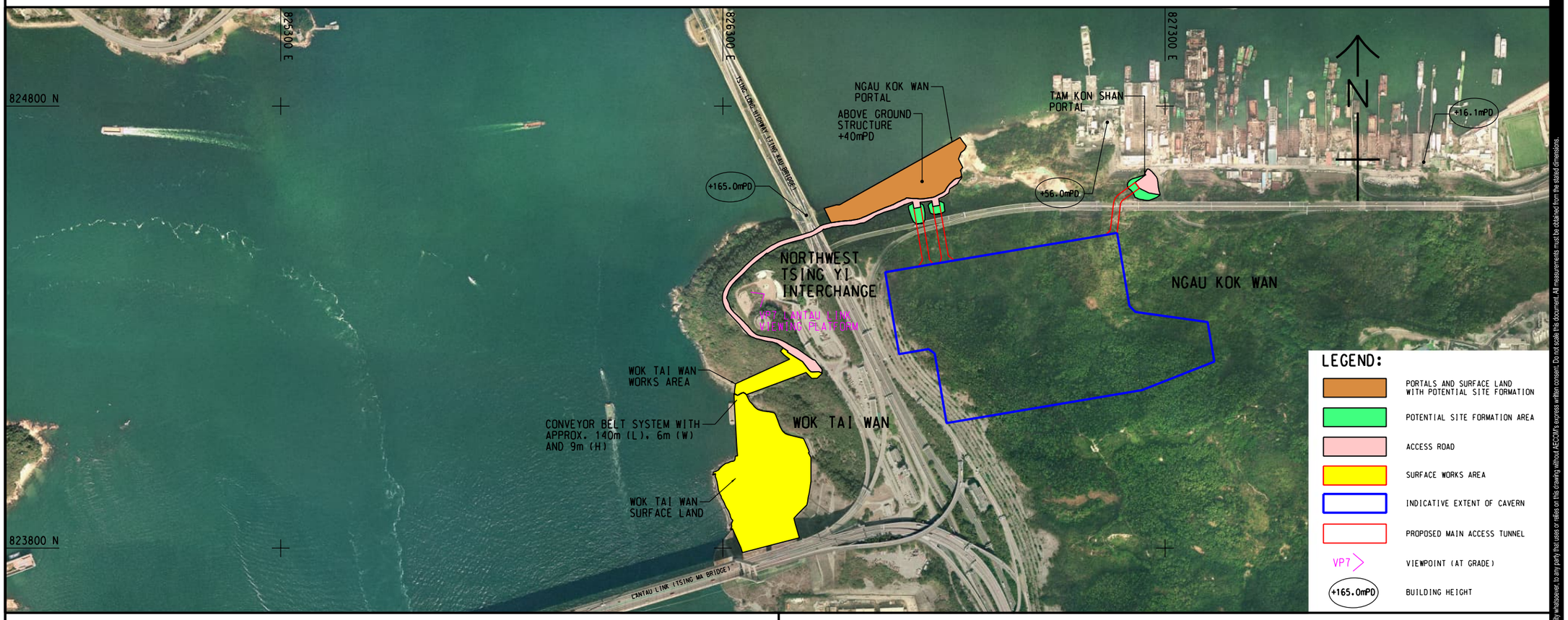
Approved:

Checked:

Designer:

Project Management Initials:

LOCATION PLAN OF PHOTOMONTAGE VIEWPOINT



VIEWPOINT 7 - BASELINE SCENARIO



VIEWPOINT 7 - PROPOSED SCENARIO WITH MITIGATION MEASURES



V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
8/24/2026
Plot File by: XIETZ
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階段

SCALE
比例

-

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT

(SHEET 7 OF 7)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 10.13

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

N

825200 N

824200 N

823200 N

LEGEND:

- PORTALS AND SURFACE LAND
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL

PROPOSED LANDSCAPE MITIGATION MEASURES:

CM1	TREE PRESERVATION DURING CONSTRUCTION
CM2	ERECTION OF DECORATIVE SCREEN HOARDING
CM3	MANAGEMENT OF CONSTRUCTION ACTIVITIES AND FACILITIES
CM4	REINSTATEMENT OF THE AFFECTED LANDSCAPED AREA
OM1	SENSITIVE AND AESTHETICALLY PLEASING DESIGN
OM2	COMPENSATORY PLANTING
OM3	BUFFER SCREEN PLANTING
OM4	LANDSCAPE TREATMENTS ON SLOPE OR RETAINING STRUCTURE

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

OM1

CM2

CM4

CM1

CM3

OM3

OM4

OM2

TAM KON SHAN SURFACE LAND

OM3

CM1

OM1

CM3

CM2

CM4

OM2

TAM KON SHAN PORTAL

OM4

TAM KON SHAN ROAD

YAU KOM TAU

OM1

WOK TAI WAN WORKS AREA

CM1

WOK TAI WAN SURFACE LAND

WOK TAI WAN

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

SHEK WAN

KAM CHUK KOK

TSING YI NORTH COASTAL ROAD

TSING MA BRIDGE

CHEUNG TONG HIGHWAY

Hong Kong Unified Dockyards

Cement Works

Open Storage

Works in progress

Workshop

Warehouse

Shekwan Road Recreation Ground

SHEUNG K

V:\BA\CUS95-BA\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltt
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PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_318.dgn
6/15/2026

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狀態

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PROPOSED LANDSCAPE MITIGATION MEASURES

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 10.14

826400 E
826900 E
827400 E
824850 N
824350 N
823850 N

NGAU KOK WAN SURFACE LAND
NGAU KOK WAN PORTALS
TAM KON SHAN SURFACE LAND
TAM KON SHAN PORTAL
ACCESS ROAD
WOK TAI WAN WORKS AREA
WOK TAI WAN SURFACE LAND
NORTHWEST TSING YI INTERCHANGE
YAU KOM TAU
LIU TO SHAN
SHEK WAN
CONSULTATION ZONE OF SHELL HK LIMITED TSING YI LPG/OIL TERMINAL

TSING LONG HIGHWAY
TING KAU BRIDGE
TAM KON SHAN ROAD
LANTAU LINK
Cement Works
Shipyard
Seawall
Pier
Jetty
HWM
WOK TAI WAN
SHEK WAN

N

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- CONSULTATION ZONE OF POTENTIALLY HAZARDOUS INSTALLATION

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

V:\BAK\US95-BAK\CSW\Plotdrv\Create Plt file\new\CSWP-75(color).plt
Plot File by: WANGDF
PATH: P:\PROJECT\60733229\DRAWING\REPORT\B19\B19_722.dgn
2026/5/20

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CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容簡要	CHK. 核對

STATUS
狀態

SCALE 比例
A3 1 : 5000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
LOCATION OF CONSULTATION ZONE OF PHI IN THE VICINITY OF THE PROJECT

SHEET NUMBER
圖紙編號
60733229/B19/FIGURE 12.01

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826500 E

827000 E

824500 N

824000 N

EXPLOSIVE UNLOADING POINT

LEGEND:

- SURFACE LAND
- ACCESS ROAD
- BLAST EXTENT (INDICATIVE)
- MAIN ACCESS TUNNEL
- EXPLOSIVE TRANSPORTATION ROUTE

N

TSING LONG HIGHWAY

TING KAU BRIDGE

青衣北岸公路

汀九橋

Seawall

海堤

HWM

Cement Works

水泥廠

Tank

Shipyard

船廠

青衣北交匯處

NORTH WEST TSING YI INTERCHANGE

Viewing Platform

觀景台

YAU KOM TAU

油柑頭

WOK TAI WAN

鑊底灣

青衣西岸線

LANTAU LINK

Bridge Tower

青衣北岸公路及東涌線隧道

港鐵(機場快線及東涌線)隧道

SHEK WAN

石環

NORTH WEST TSING YI INTERCHANGE

V:\BAKU\S95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltPlot file by: WANG2PPATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_319.dgn5/26/2026

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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A3 1 : 4000

DIMENSION UNIT
尺寸單位

METRES

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CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

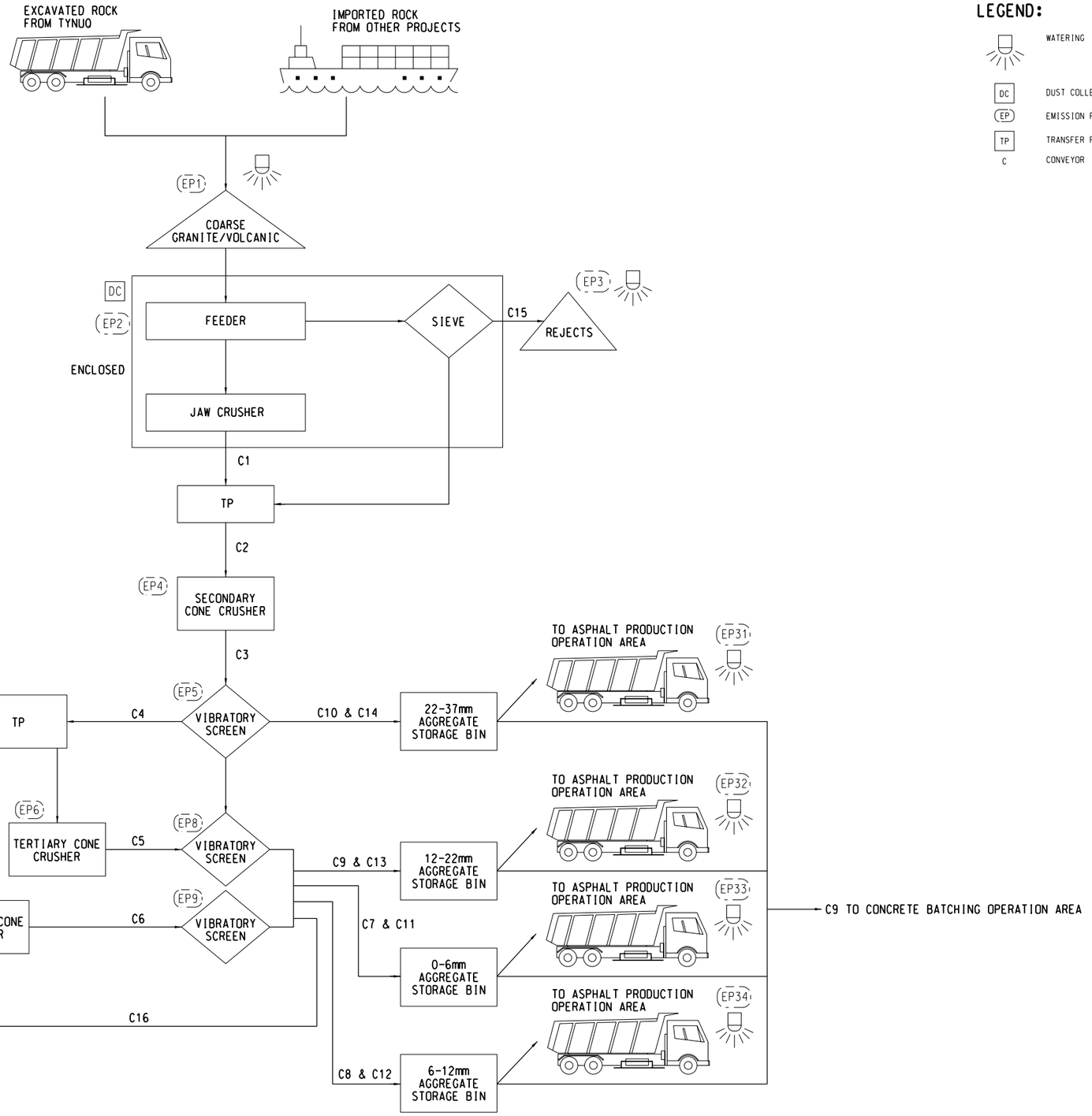
BLASTING EXTENT AND EXPLOSIVE ONSITE TRANSPORTATION ROUTE (INDICATIVE)

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 12.02

Appendices

Appendix 4.1



LEGEND:

- WATERING
- DC — DUST COLLECTOR
- EP — EMISSION POINT
- TP — TRANSFER POINT
- C — CONVEYOR

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狀況

SCALE 比例: N.T.S.

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SCHEMATIC DIAGRAM FOR THE ROCK PROCESSING OPERATION

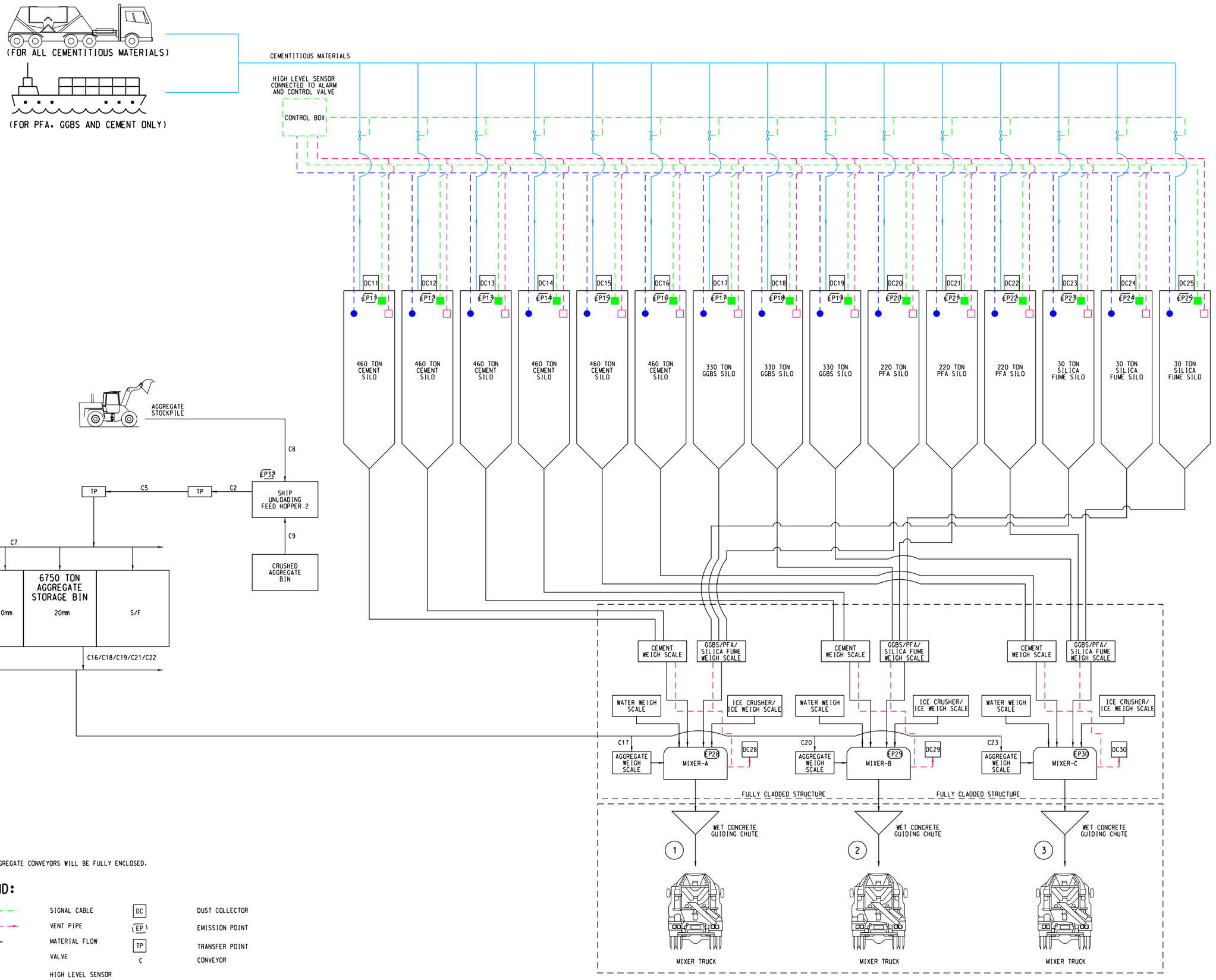
SHEET NUMBER
圖紙編號

60733229/SK3041

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Plot File by: XIEYZ 2/10/2026
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK3041.dgn



NOTE:

1. ALL AGGREGATE CONVEYORS WILL BE FULLY ENCLOSED.

LEGEND:

- - - - -	SIGNAL CABLE	DC	DUST COLLECTOR
- - - - - →	VENT PIPE	EP	EMISSION POINT
→	MATERIAL FLOW	TP	TRANSFER POINT
⋈	VALVE	C	CONVEYOR
■	HIGH LEVEL SENSOR		
□	LEVEL SENSOR		
●	PRESSURE GUAGE		

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SCALE 比例: A3 1 : 500
DIMENSION UNIT 尺寸單位: METRES

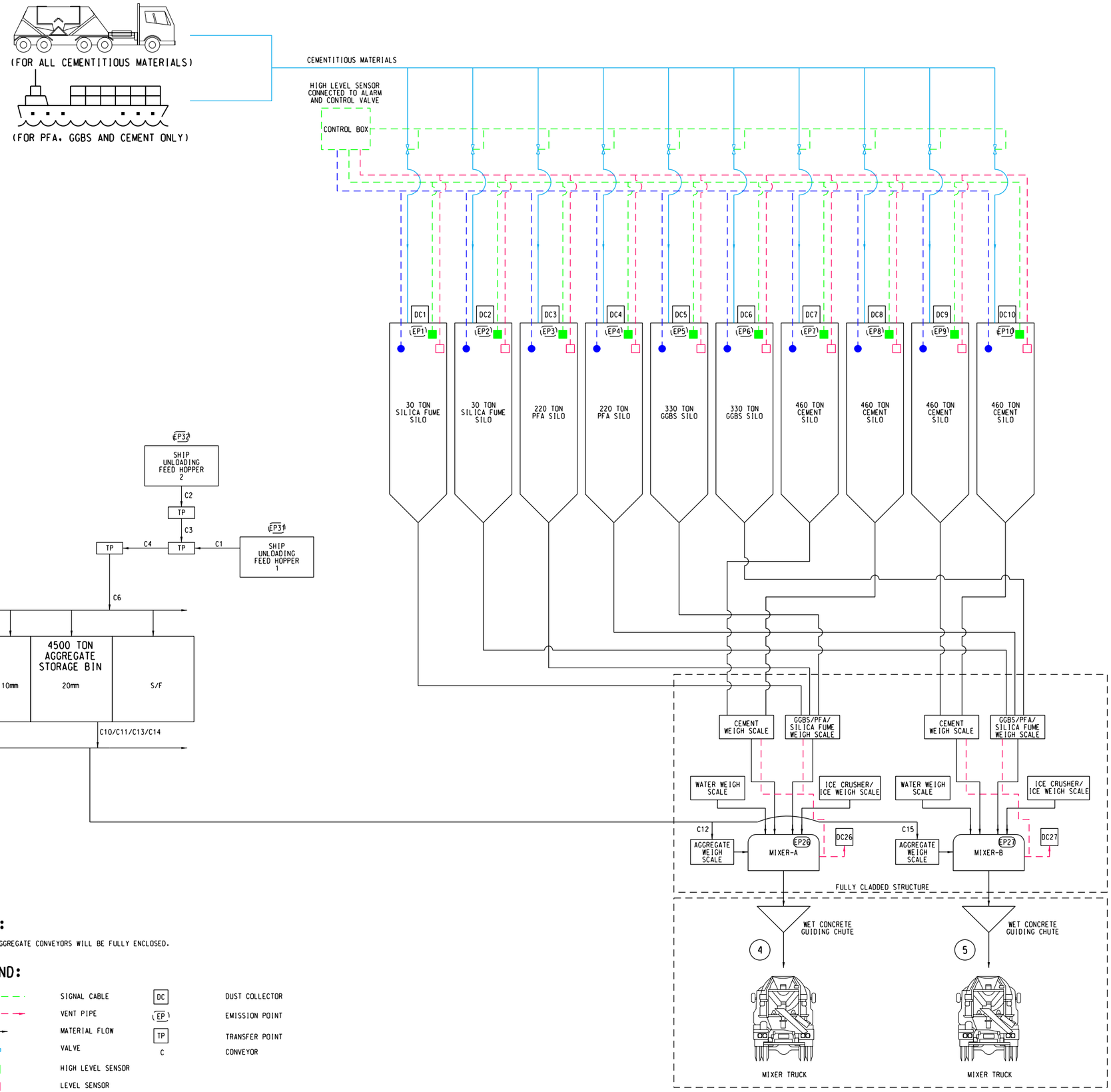
KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
SCHEMATIC DIAGRAM FOR THE CONCRETE BATCHING OPERATION 1 TO 3

SHEET NUMBER
圖紙編號
60733229/SK3016

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm



NOTE:

1. ALL AGGREGATE CONVEYORS WILL BE FULLY ENCLOSED.

LEGEND:

	SIGNAL CABLE	DC	DUST COLLECTOR
	VENT PIPE	EP	EMISSION POINT
	MATERIAL FLOW	TP	TRANSFER POINT
	VALVE	C	CONVEYOR
	HIGH LEVEL SENSOR		
	LEVEL SENSOR		
	PRESSURE GUAGE		

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:
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階段

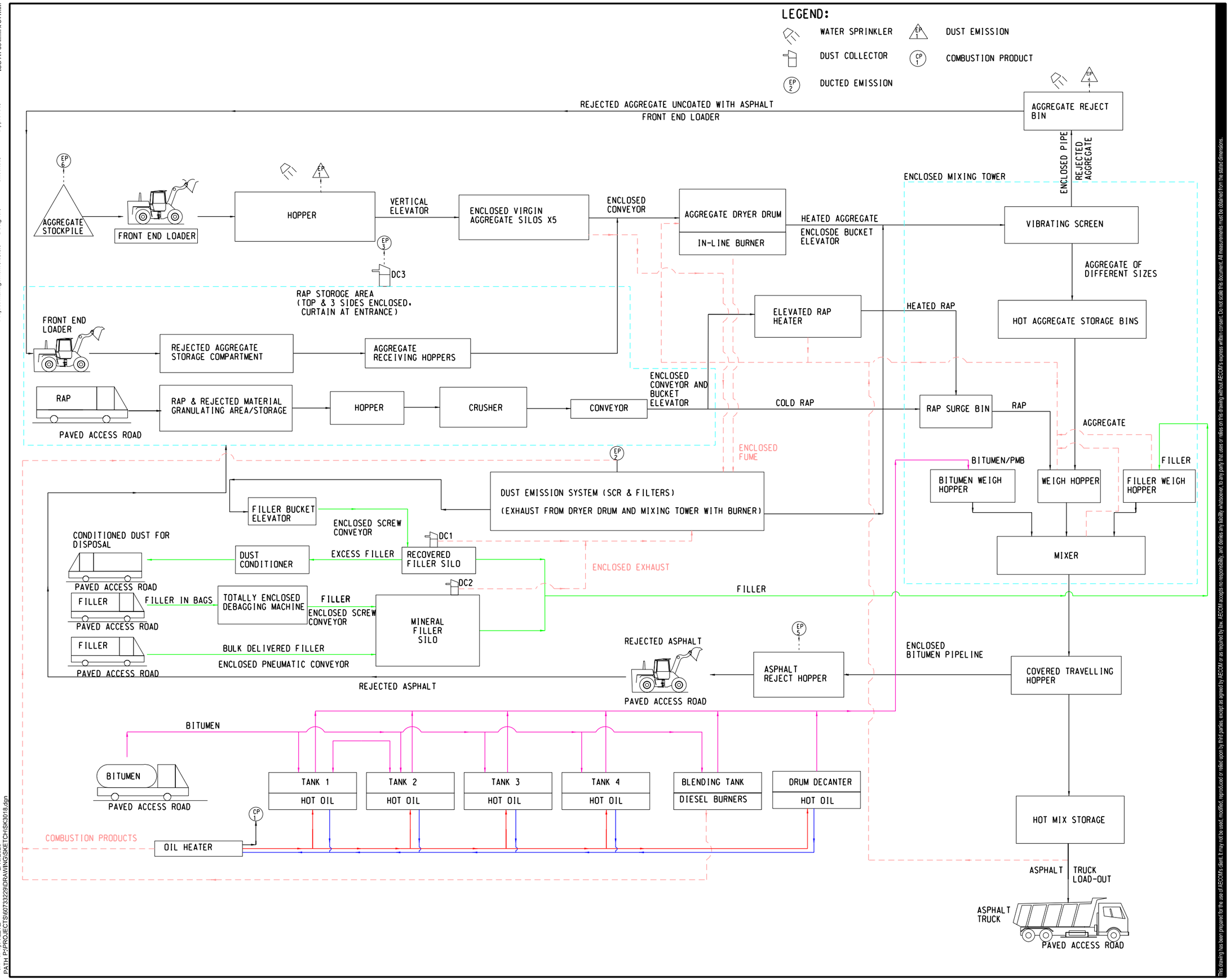
SCALE 比例: A3 1 : 500
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
SCHEMATIC DIAGRAM FOR THE CONCRETE BATCHING OPERATION 4 TO 5

SHEET NUMBER
圖紙編號
60733229/SK3017



ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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Plot File by: XIEYZ
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK3018.dgn

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
N.T.S.	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	AGREEMENT NO. 協議編號
60733229	CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
SCHEMATIC DIAGRAM FOR THE ASPHALT PRODUCTION OPERATION

SHEET NUMBER
圖紙編號
60733229/SK3018

Appendix 4.2

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Concrete Batching Operation

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Concrete Batching Operation	Dust Collector on Silica Fume Silo Source ID: CBP01 - 02, 23-25	Exhaust from Dust Collector (g/s)			Maximum Emission Concentration (mg/m3)	9	from design engineer
					Flow Rate (m3/hr)	2000	from design engineer
		RSP		**2.6667E-03**	Ratio RSP to TSP (Controlled)	0.53	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)"
		FSP		**1.2121E-03**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Cement Silo / Cement Supplement Silo"
	Dust Collector on PFA Silo Source ID: CBP03-04, 20-22	Exhaust from Dust Collector (g/s)			Maximum Emission Concentration (mg/m3)	9	from design engineer
					Flow Rate (m3/hr)	2000	from design engineer
		RSP		**2.6667E-03**	Ratio RSP to TSP (Controlled)	0.53	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)"
		FSP		**1.2121E-03**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Cement Silo / Cement Supplement Silo"
	Dust Collector on GGBS Silo Source ID: CBP05-06, 17-19	Exhaust from Dust Collector (g/s)			Maximum Emission Concentration (mg/m3)	9	from design engineer
					Flow Rate (m3/hr)	2000	from design engineer
		RSP		**2.6667E-03**	Ratio RSP to TSP (Controlled)	0.53	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)"
		FSP		**1.2121E-03**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Cement Silo / Cement Supplement Silo"
	Dust Collector on Cement Silo Source ID: CBP07-16	Exhaust from Dust Collector (g/s)			Maximum Emission Concentration (mg/m3)	9	from design engineer
					Flow Rate (m3/hr)	2000	from design engineer
		RSP		**1.7000E-03**	Ratio RSP to TSP (Controlled)	0.34	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)"
		FSP		**7.7273E-04**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Cement Silo / Cement Supplement Silo"
	Dust Collector on Mixers Source ID: CBP26 - 30	Exhaust from Dust Collector (g/s)			TSP emission factor (mg/m3)	9	from design engineer
					Flow Rate (m3/hr)	12000	from design engineer
		RSP		**9.1304E-03**	Ratio RSP to TSP (Controlled)	0.30	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)"
		FSP		**4.1502E-03**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Mixer & Weigh Hoppers"

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Concrete Batching Operation

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Unloading of Aggregate to Hopper 1 by Conveyor belt	Spoil handling (g/s·m^2)			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
					TSP Particle size multiplier, k	0.74	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP Particle size multiplier, k	0.35	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP Particle size multiplier, k	0.053	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					Moisture content, M (%)	4	provided by design engineer
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	750	from design engineer
					Area of the storage (m^2)	25	from design engineer
					Dust Suppression Efficiency for PM (6 - 10µm)	90	for dust suppression by water sprays
					Dust Suppression Efficiency for PM (2.5 - 6µm)	65	from Table B.2.3, Appendix B.2, USEPA AP-42
					Dust Suppression Efficiency for PM (0 - 2.5µm)	40	
	Source ID: CBP31						
					TSP emission factor, E (kg/Mg)	4.60E-04	by formula above
					RSP emission factor, E (kg/Mg)	2.18E-04	by formula above
		RSP		**7.0365E-04**	FSP emission factor, E (kg/Mg)	3.30E-05	by formula above
		FSP		**1.6483E-04**	Mitigated PM(>10µm) emission factor (kg/Mg)	2.43E-05	
					Mitigated PM(2.5 - 10µm) emission factor (kg/Mg)	6.47E-05	
					Mitigated PM(2.5) emission factor (kg/Mg)	1.98E-05	
					Mitigated PM(>10µm) emission rate (g/s)	5.05E-03	
					Mitigated PM(2.5 - 10µm) emission rate (g/s)	1.35E-02	
					Mitigated PM(2.5) emission rate (g/s)	4.12E-03	
	Unloading of Aggregate to Hopper 2 by Conveyor belt	Spoil handling (g/s·m^2)			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
					TSP Particle size multiplier, k	0.74	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP Particle size multiplier, k	0.35	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP Particle size multiplier, k	0.053	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					Moisture content, M (%)	4	provided by design engineer
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	1550	from design engineer
					Area of the storage (m^2)	25	from design engineer
					Dust Suppression Efficiency for PM (6 - 10µm)	90	for dust suppression by water sprays
					Dust Suppression Efficiency for PM (2.5 - 6µm)	65	from Table B.2.3, Appendix B.2, USEPA AP-42
					Dust Suppression Efficiency for PM (0 - 2.5µm)	40	
	Source ID: CBP32						
					TSP emission factor, E (kg/Mg)	4.60E-04	by formula above
					RSP emission factor, E (kg/Mg)	2.18E-04	by formula above
		RSP		**1.4542E-03**	FSP emission factor, E (kg/Mg)	3.30E-05	by formula above
		FSP		**3.4066E-04**	Mitigated PM(>10µm) emission factor (kg/Mg)	2.43E-05	
					Mitigated PM(2.5 - 10µm) emission factor (kg/Mg)	6.47E-05	
					Mitigated PM(2.5) emission factor (kg/Mg)	1.98E-05	
					Mitigated PM(>10µm) emission rate (g/s)	1.04E-02	
					Mitigated PM(2.5 - 10µm) emission rate (g/s)	2.78E-02	
					Mitigated PM(2.5) emission rate (g/s)	8.52E-03	

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Proposed Concrete Batching Operation

											RSP Emission Rate		FSP Emission Rate	
Source ID	**Schematic Diagram**	**Emission Point**	**Source**	**Type**	**X**	**Y**	**Base Elevation (m)**	**Release Height (mAG)**	**No. of Vertices**	**Exit Temperature (K)**	**Working Hour**	**Working hours**	**Non-working hours**	**Working hours**	**Non-working hours**
CBP01	Concrete Batching Operation (SK3016-SK3017)	EP1	Silica Fume Silo	POINT	826663.82	824602.34	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP02		EP2	Silica Fume Silo	POINT	826668.52	824593.39	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP03		EP3	PFA Silo	POINT	826659.70	824604.22	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP04		EP4	PFA Silo	POINT	826665.23	824606.81	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP05		EP5	GGBS Silo	POINT	826662.41	824598.92	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP06		EP6	GGBS Silo	POINT	826668.17	824601.63	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP07		EP7	Cement Silo	POINT	826665.11	824593.75	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP08		EP8	Cement Silo	POINT	826670.29	824596.57	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP09		EP9	Cement Silo	POINT	826667.82	824588.92	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP10		EP10	Cement Silo	POINT	826673.11	824591.39	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP11		EP11	Cement Silo	POINT	826719.13	824609.63	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP12		EP12	Cement Silo	POINT	826721.95	824604.34	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP13		EP13	Cement Silo	POINT	826724.19	824612.10	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP14		EP14	Cement Silo	POINT	826726.89	824607.16	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP15		EP15	Cement Silo	POINT	826729.01	824614.81	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP16		EP16	Cement Silo	POINT	826731.95	824609.87	5.00	26.00	-	0	07:00 - 19:00	1.7000E-03	0.0000E+00	7.7273E-04	0.0000E+00
CBP17		EP17	GGBS Silo	POINT	826734.31	824617.52	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP18		EP18	GGBS Silo	POINT	826737.37	824612.69	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP19		EP19	GGBS Silo	POINT	826739.48	824619.75	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP20		EP20	PFA Silo	POINT	826742.31	824615.87	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP21		EP21	PFA Silo	POINT	826744.19	824622.93	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP22		EP22	PFA Silo	POINT	826747.02	824618.11	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP23		EP23	Silica Fume Silo	POINT	826722.66	824608.10	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP24		EP24	Silica Fume Silo	POINT	826733.13	824613.87	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP25		EP25	Silica Fume Silo	POINT	826743.02	824619.52	5.00	26.00	-	0	07:00 - 19:00	2.6667E-03	0.0000E+00	1.2121E-03	0.0000E+00
CBP26		EP26	Mixer	POINT	826664.17	824601.28	5.00	26.00	-	0	07:00 - 19:00	9.1304E-03	0.0000E+00	4.1502E-03	0.0000E+00
CBP27		EP27	Mixer	POINT	826667.94	824594.57	5.00	26.00	-	0	07:00 - 19:00	9.1304E-03	0.0000E+00	4.1502E-03	0.0000E+00
CBP28		EP28	Mixer	POINT	826724.01	824608.75	5.00	26.00	-	0	07:00 - 19:00	9.1304E-03	0.0000E+00	4.1502E-03	0.0000E+00
CBP29		EP29	Mixer	POINT	826734.12	824614.33	5.00	26.00	-	0	07:00 - 19:00	9.1304E-03	0.0000E+00	4.1502E-03	0.0000E+00
CBP30		EP30	Mixer	POINT	826741.95	824619.00	5.00	26.00	-	0	07:00 - 19:00	9.1304E-03	0.0000E+00	4.1502E-03	0.0000E+00
CBP31		EP31	Unloading Aggregate to Hopper	AREAPOLY	826724.81	824657.44	5.00	3.00	4	-	07:00 - 19:00	7.0365E-04	0.0000E+00	1.6483E-04	0.0000E+00
CBP32		EP32	Unloading Aggregate to Hopper	AREAPOLY	826735.22	824658.71	5.00	3.00	4	-	07:00 - 19:00	1.4542E-03	0.0000E+00	3.4066E-04	0.0000E+00

Remarks:

1. Source parameters (exit temperature, velocity, stack diameter, and release height) are obtained from engineer.

2. Emission rate for Area source ($g/s/m^2$) = Emission rate (g/s) / Area

Location of Vertices for AREAPOLY

	Vertex 1		Vertex 2		Vertex 3		Vertex 4	
Source ID	X	Y	X	Y	X	Y	X	Y
CBP31	826724.81	824657.44	826729.93	824660.09	826731.92	824656.24	826726.80	824653.59
CBP32	826735.22	824658.71	826740.21	824661.39	826742.31	824657.47	826737.32	824654.80

Hourly Profile for CBP01-32 (daily)

Hour	**CBP01-32**
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Hourly Profile for CBP01-32 (annual)

Hour	**CBP01-32**
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	0.9000
Hour 9	0.9000
Hour 10	0.9000
Hour 11	0.9000
Hour 12	0.9000
Hour 13	0.9000
Hour 14	0.9000
Hour 15	0.9000
Hour 16	0.9000
Hour 17	0.9000
Hour 18	0.9000
Hour 19	0.9000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Rock Processing Operation

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Rock Processing Operation	**Exhaust from Feeder and Jaw Crusher**	**Unloading of rocks into Feeder** Unloading - Unfragmented Stone (g/s)			Handling rate (Mg/hr)	800	from engineer
					Area of storage (m^2)	25.4	
		RSP	**1.7778E-03**	**1.7778E-03**	RSP emission factor (kg/Mg)	8.00E-06	emission factor of RSP for "Truck Unloading - Fragmented Stone", from USEPA AP-42, Section 11.19.2, 8/04 ed,Table 11.19.2-1
		FSP	**5.2288E-04**	**5.2288E-04**	FSP emission factor (kg/Mg)	2.35E-06	
					% fraction of FSP	2.94E-01	from USEPA AP-42, Appendix B.2, 9/90 ed., pp B.2-13
		Stone Crushing at Jaw Crusher Primary Crushing (g/s)			Handling rate (Mg/hr)	800	from engineer
		RSP	**6.0000E-02**	6.0000E-02	RSP emission factor (kg/Mg)	2.70E-04	wet suppression, controlled RSP emission factor is used. RSP emission factor of the tertiary crushing (controlled) is used as there is no data for RSP arising from the primary crushing, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, note n of Table 11.19.2-1,
		FSP	**1.1111E-02**	1.1111E-02	FSP emission factor (kg/Mg)	5.00E-05	wet suppression, controlled FSP emission factor is used. FSP emission factor of the tertiary crushing (controlled) is used as there is no data for FSP arising from the primary crushing, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, note n of Table 11.19.2-1,
		Screening after the Primary Crushing Process (g/s)			Handling rate (Mg/hr)	792	from engineer
		RSP	**8.1400E-02**	8.1400E-02	RSP emission factor (kg/Mg)	3.70E-04	wet suppression, controlled RSP emission factor for screening is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed,Table 11.19.2-1
		FSP	**5.5000E-03**	5.5000E-03	FSP emission factor (kg/Mg)	2.50E-05	wet suppression, controlled FSP emission factor for screening is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, Table 11.19.2-1
		Subtotal (g/s)			Dust removal efficiency (%)	90.0	enclosure with dust collector, with reference to Technical Background Document on Control of Fugitive Dust at Cement Manufacturing Facilities, 3/98 ed, Section 3.3.6 (90% for conservative assumption)
	Source ID: SCP02	**RSP** **FSP**	**1.4318E-01** **1.7134E-02**	**1.4318E-02** **1.7134E-03**			
	Stone Crushing at Secondary Cone Crusher	Secondary Crushing (g/s)			Handling rate (Mg/hr)	792	from engineer
	Source ID: SCP04	**RSP**	**5.9400E-02**	5.9400E-02	RSP emission factor (kg/Mg)	2.70E-04	wet suppression, controlled RSP emission factor is used. RSP emission factor of the tertiary crushing (controlled) is used as there is no data for RSP arising from the secondary crushing, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, note n of Table 11.19.2-1,
		FSP	**1.1000E-02**	1.1000E-02	FSP emission factor (kg/Mg)	5.00E-05	wet suppression, controlled FSP emission factor is used. FSP emission factor of the tertiary crushing (controlled) is used as there is no data for FSP arising from the secondary crushing, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, note n of Table 11.19.2-1,

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Rock Processing Operation

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Rock Processing Operation	**Screening after the Secondary Crushing Process**	Screening (g/s)			Handling rate (Mg/hr)	792	from engineer
	Source ID: SCP05	**RSP**	**8.1400E-02**	8.1400E-02	RSP emission factor (kg/Mg)	3.70E-04	wet suppression, controlled RSP emission factor for screening is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, Table 11.19.2-1
		FSP	**5.5000E-03**	5.5000E-03	FSP emission factor (kg/Mg)	2.50E-05	wet suppression, controlled FSP emission factor for screening is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, Table 11.19.2-1
	Stone Crushing at Tertiary Cone Crusher	Tertiary Crushing (g/s)			Handling rate (Mg/hr)	760	from engineer
	Source ID: SCP06,SCP07	**RSP**	**5.7000E-02**	5.7000E-02	RSP emission factor (kg/Mg)	2.70E-04	wet suppression, controlled RSP emission factor for tertiary crushing is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, Table 11.19.2-1
		FSP	**1.0556E-02**	1.0556E-02	FSP emission factor (kg/Mg)	5.00E-05	wet suppression, controlled FSP emission factor for tertiary crushing is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, Table 11.19.2-1
	Screening after the Tertiary Crushing Process	Emission from Screening after the Tertiary Crushing Process (g/s)			Handling rate (Mg/hr)	760	from engineer
	Source ID: SCP08, SCP09	**RSP**	**7.8111E-02**	7.8111E-02	RSP emission factor (kg/Mg)	3.70E-04	wet suppression, controlled RSP emission factor for screening is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, Table 11.19.2-1
		FSP	**5.2778E-03**	5.2778E-03	FSP emission factor (kg/Mg)	2.50E-05	wet suppression, controlled FSP emission factor for screening is used, with reference to USEPA AP-42, Section 11.19.2, 8/04 ed, Table 11.19.2-1

	Total Processing Capacity (Mg/hr)
Proposed Crusher	800

Type of Vehicles	**Full load Weight (US ton)**	**Net Weight (US ton)**
Dump truck	39.67	15.43

Maximum Throughtput of Crusher

Aggregate type	**Ratio of Loading**	**Mass of Loading (Mg/hr)**
0-6mm	45.00%	360
6-12mm	15.00%	120
12-22mm	35.00%	280
22-37mm	4.00%	32
reject aggregate	1.00%	8

Remarks
Provided by project engineer

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Proposed Rock Processing Operation

Source ID	Schematic Diagram	Emission Point	Source	Type	X	Y	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	Working Hour	RSP Emission Rate		FSP Emission Rate	
													Working hours	Non-working hours	Working hours	Non-working hours
SCP02	Rock Processing Operation (SK3041)	EP2	Feeder, Jaw Crusher and Screening	POINT	826828.46	824659.28	5.00	15.00	0	1.00	0.50	07:00 - 19:00	1.4318E-02	0.0000E+00	1.7134E-03	0.0000E+00
SCP04		EP4	Secondary Crushing	POINT	826841.59	824702.64	5.00	12.00	0	1.00	0.50	07:00 - 19:00	5.9400E-02	0.0000E+00	1.1000E-02	0.0000E+00
SCP05		EP5	Screening	POINT	826797.29	824671.15	5.00	12.00	0	1.00	0.50	07:00 - 19:00	8.1400E-02	0.0000E+00	5.5000E-03	0.0000E+00
SCP06		EP6	Tertiary Crushing	POINT	826838.59	824708.18	5.00	10.00	0	1.00	0.50	07:00 - 19:00	5.7000E-02	0.0000E+00	1.0556E-02	0.0000E+00
SCP07		EP7	Tertiary Crushing	POINT	826835.74	824712.61	5.00	10.00	0	1.00	0.50	07:00 - 19:00	5.7000E-02	0.0000E+00	1.0556E-02	0.0000E+00
SCP08		EP8	Screening	POINT	826795.07	824676.53	5.00	10.00	0	1.00	0.50	07:00 - 19:00	7.8111E-02	0.0000E+00	5.2778E-03	0.0000E+00
SCP09		EP9	Screening	POINT	826792.86	824681.28	5.00	10.00	0	1.00	0.50	07:00 - 19:00	7.8111E-02	0.0000E+00	5.2778E-03	0.0000E+00

Remarks:

1. Source parameters (exit temperature, velocity, stack diameter, and release height) are obtained from engineer.
2. Emission rate for Area source ($g/s/m^2$) = Emission rate (g/s) / Area

Hourly Profile for SCP02, SCP04-09

Hour	SCP02, SCP04-09
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Stockpiles

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Rock Processing Operation	**Aggregate Handling and Storage of Excavated and Imported Rock**	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			Moisture content, M (%)	0.55	from AP-42, Section 11.19.2, 8/04 ed., Table 11.19.2-1, Remark b
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	800	from engineer
					Area of Storage (m^2)	660.4	
					Dust removal efficiency (%)	90.0	water spraying with sprinklers, with reference to USEPA AP-42 Section 11.19.1, Page 11.19.1-5, 11/95 ed.
		RSP	**1.18E-03**	1.18E-04	RSP Particle size multiplier, k	3.50E-01	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP emission factor, E (kg/Mg)	3.50E-03	
	Source ID: Stkp01	**FSP**	**1.78E-04**	1.78E-05	FSP Particle size multiplier, k	5.30E-02	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP emission factor, E (kg/Mg)	5.30E-04	
Rock Processing Operation	**Material handling of Rejects**	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			Moisture content, M (%)	0.55	from AP-42, Section 11.19.2, 8/04 ed., Table 11.19.2-1, Remark b
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	8	from engineer
					Area of Storage (m^2)	33.4	
					Dust removal efficiency (%)	90.0	water spraying with sprinklers, with reference to USEPA AP-42 Section 11.19.1, Page 11.19.1-5, 11/95 ed.
		RSP	**2.33E-04**	2.33E-05	RSP Particle size multiplier, k	3.50E-01	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP emission factor, E (kg/Mg)	3.50E-03	
	Source ID: Stkp03	**FSP**	**3.52E-05**	3.52E-06	FSP Particle size multiplier, k	5.30E-02	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP emission factor, E (kg/Mg)	5.30E-04	
Asphalt Production	**Aggregate Handling and Storage of Excavated Rock**	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			Moisture content, M (%)	0.55	from AP-42, Section 11.19.2, 8/04 ed., Table 11.19.2-1, Remark b
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	440	from engineer
					Area of Storage (m^2)	619.7	
					Dust removal efficiency (%)	90.0	water spraying with sprinklers, with reference to USEPA AP-42 Section 11.19.1, Page 11.19.1-5, 11/95 ed.
		RSP	**6.91E-04**	6.91E-05	RSP Particle size multiplier, k	3.50E-01	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP emission factor, E (kg/Mg)	3.50E-03	
	Source ID: Stkp02	**FSP**	**1.05E-04**	1.05E-05	FSP Particle size multiplier, k	5.30E-02	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP emission factor, E (kg/Mg)	5.30E-04	

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Stockpiles

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Wok Tai Wan	**Aggregate handling and storage at Stockpiles for Production**	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			Moisture content, M (%)	0.55	from AP-42, Section 11.19.2, 8/04 ed., Table 11.19.2-1, Remark b
					Average wind speed, U (m/s)	2.27	mean wind speed extracted from WRF (Grid 31,37)
					Loading rate of materials (Mg/hr)	600	from engineer
					Area of Storage (m^2)	400.0	
					Dust removal efficiency (%)	90.0	water spraying with sprinklers, with reference to USEPA AP-42 Section 11.19.1, Page 11.19.1-5, 11/95 ed.
		RSP	**1.48E-03**	1.48E-04	RSP Particle size multiplier, k	3.50E-01	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP emission factor, E (kg/Mg)	3.56E-03	
	Source ID: Stkp06	**FSP**	**2.25E-04**	2.25E-05	FSP Particle size multiplier, k	5.30E-02	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP emission factor, E (kg/Mg)	5.39E-04	
Wok Tai Wan	**Aggregate handling and storage at Stockpiles for Production**	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			Moisture content, M (%)	0.55	from AP-42, Section 11.19.2, 8/04 ed., Table 11.19.2-1, Remark b
					Average wind speed, U (m/s)	2.27	mean wind speed extracted from WRF (Grid 31,37)
					Loading rate of materials (Mg/hr)	132	from engineer
					Area of Storage (m^2)	400	
					Dust removal efficiency (%)	90.0	water spraying with sprinklers, with reference to USEPA AP-42 Section 11.19.1, Page 11.19.1-5, 11/95 ed.
		RSP	**3.26E-04**	3.26E-05	RSP Particle size multiplier, k	3.50E-01	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP emission factor, E (kg/Mg)	3.56E-03	
	Source ID: Stkp07	**FSP**	**4.94E-05**	4.94E-06	FSP Particle size multiplier, k	5.30E-02	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP emission factor, E (kg/Mg)	5.39E-04	
Wok Tai Wan	**Aggregate handling and storage at Stockpiles for Production**	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			Moisture content, M (%)	0.55	from AP-42, Section 11.19.2, 8/04 ed., Table 11.19.2-1, Remark b
					Average wind speed, U (m/s)	2.27	mean wind speed extracted from WRF (Grid 31,37)
					Loading rate of materials (Mg/hr)	132	from engineer
					Area of Storage (m^2)	400	
					Dust removal efficiency (%)	90.0	water spraying with sprinklers, with reference to USEPA AP-42 Section 11.19.1, Page 11.19.1-5, 11/95 ed.
		RSP	**3.26E-04**	3.26E-05	RSP Particle size multiplier, k	3.50E-01	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP emission factor, E (kg/Mg)	3.56E-03	
	Source ID: Stkp08	**FSP**	**4.94E-05**	4.94E-06	FSP Particle size multiplier, k	5.30E-02	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP emission factor, E (kg/Mg)	5.39E-04	

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Stockpiles

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Stockpiles	**Wind Erosion**	Wind Erosion ($g/s \cdot m^2$)			Emission Rate = Emission Factor*10^6/(10000*365*24*60*60)*(Percentage Active/100)		
					TSP emission factor (Mg/hectare/yr)	0.85	AP-42, 5th ed., Table 11.9.4
					Percentage area actively operating (%)	100	
					Emission height (m)	0.5	
					RSP emission factor (Mg/hectare/yr)	0.4021	
		RSP	**1.275E-06**		% fraction of TSP	0.47	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
	Source ID: Stkp01-05	**FSP**	**1.941E-07**		FSP emission factor (Mg/hectare/yr)	0.0612	
					% fraction of TSP	0.07	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4

Type of Vehicles	**Full load Weight (ton)**	**Net Weight (ton)**
Dump truck	36	14

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Stockpiles

Source ID	Schematic Diagram	Emission Point	Source	Type	X	Y	Base Elevation (m)	Release Height (mAG)	No. of Vertices	Working Hour	RSP Emission Rate		FSP Emission Rate	
											Working hours	Non-working hours	Working hours	Non-working hours
Stkp01	Rock Processing Operation (SK3041)	EP1	Aggregate Stockpile	AREAPOLY	826756.97	824673.42	5.00	0.00	6	07:00 - 19:00	1.1910E-04	0.0000E+00	1.8037E-05	0.0000E+00
Stkp02			Aggregate Stockpile	AREAPOLY	826546.85	824547.64	5.00	0.00	6	00:00 - 24:00	7.0335E-05	0.0000E+00	1.0652E-05	0.0000E+00
Stkp03	Rock Processing Operation (SK3041)	EP3	Aggregate Stockpile	AREAPOLY	826824.66	824665.61	5.00	0.00	4	07:00 - 19:00	2.4552E-05	0.0000E+00	3.7189E-06	0.0000E+00
Stkp04			Aggregate Stockpile	AREAPOLY	826366.23	824088.74	6.00	0.00	6	00:00 - 24:00	1.2749E-06	0.0000E+00	1.9406E-07	0.0000E+00
Stkp05			Aggregate Stockpile	AREAPOLY	826325.27	824146.38	6.00	0.00	6	00:00 - 24:00	1.2749E-06	0.0000E+00	1.9406E-07	0.0000E+00
Stkp06			Aggregate Stockpile	AREAPOLY	826382.87	824112.60	6.00	0.00	4	07:00 - 19:00	1.4837E-04	0.0000E+00	2.2468E-05	0.0000E+00
Stkp07			Aggregate Stockpile	AREAPOLY	826430.11	824074.10	6.00	0.00	4	07:00 - 19:00	3.2642E-05	0.0000E+00	4.9429E-06	0.0000E+00
Stkp08			Aggregate Stockpile	AREAPOLY	826490.82	824012.72	6.00	0.00	4	07:00 - 19:00	3.2642E-05	0.0000E+00	4.9429E-06	0.0000E+00

Remarks:

1. Source parameters (exit temperature, velocity, stack diameter, and release height) are obtained from engineer.

2. Emission rate for Area source (g/s/m^2) = Emission rate (g/s) / Area

Location of Vertices for AREAPOLY

	Vertex 1		Vertex 2		Vertex 3		Vertex 4		Vertex 5		Vertex 6	
Source ID	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
Stkp01	826756.97	824673.42	826762.99	824676.69	826770.05	824664.53	826787.83	824666.76	826795.68	824649.76	826783.78	824632.76
Stkp02	826546.85	824547.64	826561.37	824555.36	826565.29	824548.03	826591.96	824561.37	826597.32	824544.37	826549.99	824537.57
Stkp03	826824.66	824665.61	826823.99	824672.77	826828.62	824673.21	826829.29	824666.05				
Stkp04	826366.23	824088.74	826422.51	824093.67	826438.68	824061.41	826484.28	824044.68	826501.18	823963.79	826374.07	823958.96
Stkp05	826325.27	824146.38	826350.63	824149.58	826378.71	824114.07	826418.13	824103.80	826422.18	824093.81	826327.89	824085.66
Stkp06	826382.87	824112.60	826407.43	824106.43	826403.62	824091.27	826378.97	824097.12				
Stkp07	826430.11	824074.10	826443.39	824052.53	826430.08	824044.33	826416.52	824065.72				
Stkp08	826490.82	824012.72	826495.63	823987.85	826480.28	823984.89	826475.15	824009.69				

Hourly Profile for Stkp01, Stkp03

Hour	
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Hourly Profile for Stkp02

Hour	daily	annual
Hour 1	1.0000	0.4000
Hour 2	1.0000	0.4000
Hour 3	1.0000	0.4000
Hour 4	1.0000	0.4000
Hour 5	1.0000	0.4000
Hour 6	1.0000	0.4000
Hour 7	1.0000	0.4000
Hour 8	1.0000	0.4000
Hour 9	1.0000	0.4000
Hour 10	1.0000	0.4000
Hour 11	1.0000	0.4000
Hour 12	1.0000	0.4000
Hour 13	1.0000	0.4000
Hour 14	1.0000	0.4000
Hour 15	1.0000	0.4000
Hour 16	1.0000	0.4000
Hour 17	1.0000	0.4000
Hour 18	1.0000	0.4000
Hour 19	1.0000	0.4000
Hour 20	1.0000	0.4000
Hour 21	1.0000	0.4000
Hour 22	1.0000	0.4000
Hour 23	1.0000	0.4000
Hour 24	1.0000	0.4000

Hourly Profile for Stkp04-05

Hour	
Hour 1	1.0000
Hour 2	1.0000
Hour 3	1.0000
Hour 4	1.0000
Hour 5	1.0000
Hour 6	1.0000
Hour 7	1.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	1.0000
Hour 21	1.0000
Hour 22	1.0000
Hour 23	1.0000
Hour 24	1.0000

Hourly Profile for Stkp06-08

Hour	
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Daily estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Ngau Kok Wan	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	0700-1900				Average truck weight, W (tons)	25	average of unladen and laden vehicles
					Number of trips per hour (trips/hr)	258	incoming and outgoing vehicles
		RSP	1.4321E-03	**1.1886E-04**	RSP emission factor, E (g/VKT)	1.60E+02	by formula above
		FSP	3.4647E-04	**2.8757E-05**	FSP emission factor, E (g/VKT)	3.87E+01	by formula above
	0000-0700,1900-0000[1]				Average truck weight, W (tons)	13	average of unladen and laden vehicles for asphalt production
					Number of trips per hour (trips/hr)	126	incoming and outgoing vehicles for asphalt production
		RSP	3.5598E-04	**2.9546E-05**	RSP emission factor, E (g/VKT)	8.14E+01	by formula above
	Source ID: HR01	FSP	8.6123E-05	**7.14822E-06**	FSP emission factor, E (g/VKT)	1.97E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	23	average of unladen and laden mixer trucks and PFA tanker
					Number of trips per hour (trips/hr)	61	incoming and outgoing mixer trucks and PFA tanker to/from concrete batching operation
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	3.0619E-04	**2.5413E-05**	RSP emission factor, E (g/VKT)	1.44E+02	by formula above
	Source ID: HR02	FSP	7.4077E-05	**6.1484E-06**	FSP emission factor, E (g/VKT)	3.49E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	23	average of unladen and laden mixer trucks and PFA tanker
					Number of trips per hour (trips/hr)	41	incoming and outgoing mixer trucks and PFA tanker to/from concrete batching operation
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	2.0412E-04	**1.6942E-05**	RSP emission factor, E (g/VKT)	1.44E+02	by formula above
	Source ID: HR03	FSP	4.9385E-05	**4.0989E-06**	FSP emission factor, E (g/VKT)	3.49E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Daily estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	0700-1900				Average truck weight, W (tons)	26	average of unladen and laden vehicles
					Number of trips per hour (trips/hr)	166	incoming and outgoing vehicles
		RSP	9.4360E-04	**7.8319E-05**	RSP emission factor, E (g/VKT)	1.64E+02	by formula above
		FSP	2.2829E-04	**1.8948E-05**	FSP emission factor, E (g/VKT)	3.96E+01	by formula above
	0000-0700,1900-0000[1]				Average truck weight, W (tons)	20	average of unladen and laden vehicles for asphalt production
					Number of trips per hour (trips/hr)	126	incoming and outgoing vehicles for asphalt production
		RSP	5.5816E-04	**4.6328E-05**	RSP emission factor, E (g/VKT)	1.28E+02	by formula above
	Source ID: HR04, HR15	FSP	1.3504E-04	**1.1208E-05**	FSP emission factor, E (g/VKT)	3.09E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	0700-1900				Average truck weight, W (tons)	28	average of unladen and laden dump trucks
					Number of trips per hour (trips/hr)	70	incoming and outgoing dump trucks
		RSP	4.2567E-04	**3.5331E-05**	RSP emission factor, E (g/VKT)	1.75E+02	by formula above
		FSP	1.0299E-04	**8.5478E-06**	FSP emission factor, E (g/VKT)	4.24E+01	by formula above
	0000-0700,1900-0000[1]				Average truck weight, W (tons)	16	average of unladen and laden vehicles for asphalt production
					Number of trips per hour (trips/hr)	40	incoming and outgoing vehicles for asphalt production
		RSP	1.3745E-04	**1.1408E-05**	RSP emission factor, E (g/VKT)	9.90E+01	by formula above
	Source ID: HR05-08	FSP	3.3254E-05	**2.7601E-06**	FSP emission factor, E (g/VKT)	2.39E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Daily estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	27	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	126	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	Source ID:	RSP	7.3943E-04	**6.1372E-05**	RSP emission factor, E (g/VKT)	1.69E+02	by formula above
	HR16-17	FSP	1.7889E-04	**1.4848E-05**	FSP emission factor, E (g/VKT)	4.09E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of unladen and laden vehicles to/from ASP
					Number of trips per hour (trips/hr)	86	incoming and outgoing vehicles to/from ASP
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	Source ID:	RSP	3.3609E-04	**2.7896E-05**	RSP emission factor, E (g/VKT)	1.13E+02	by formula above
	HR18	FSP	8.1312E-05	**6.7489E-06**	FSP emission factor, E (g/VKT)	2.72E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	86	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	Source ID:	RSP	3.3609E-04	**2.7896E-05**	RSP emission factor, E (g/VKT)	1.13E+02	by formula above
	HR12	FSP	8.1312E-05	**6.7489E-06**	FSP emission factor, E (g/VKT)	2.72E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Daily estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road	Paved Haul Road			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
		($g/s \cdot m^2$)					
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	86	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	3.3609E-04	**2.7896E-05**	RSP emission factor, E (g/VKT)	1.13E+02	by formula above
	Source ID:						
	HR13	FSP	8.1312E-05	**6.7489E-06**	FSP emission factor, E (g/VKT)	2.72E+01	by formula above
	Paved Haul Road	Paved Haul Road			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
		($g/s \cdot m^2$)					
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	22	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	114	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	5.4542E-04	**4.5270E-05**	RSP emission factor, E (g/VKT)	1.38E+02	by formula above
	Source ID:						
	HR14	FSP	1.3196E-04	**1.0952E-05**	FSP emission factor, E (g/VKT)	3.33E+01	by formula above
	Paved Haul Road	Paved Haul Road			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
		($g/s \cdot m^2$)					
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of laden and unladen loader in rock processing operation
					Number of trips per hour (trips/hr)	228	loaders in rock processing operation
					Width of the road (m)	3.5	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	2.0102E-03	**1.6685E-04**	RSP emission factor, E (g/VKT)	1.11E+02	by formula above
	Source ID:						
	HR21	FSP	4.8634E-04	**4.0366E-05**	FSP emission factor, E (g/VKT)	2.69E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Daily estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road Aggregate Loaders in asphalt production	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of laden and unladen aggregate loaders in asphalt production
					Number of trips per hour (trips/hr)	168	aggregate loaders in asphalt production
					Width of the road (m)	3.5	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	Source ID: HR23	RSP	1.4812E-03	**1.2294E-04**	RSP emission factor, E (g/VKT)	1.11E+02	by formula above
		FSP	3.5835E-04	**2.9743E-05**	FSP emission factor, E (g/VKT)	2.69E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	28	average of unladen and laden dump trucks to/from asphalt production
					Number of trips per hour (trips/hr)	40	incoming and outgoing dump trucks to/from asphalt production
					Width of the road (m)	20	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	Source ID: HR22	RSP	9.7297E-05	**8.0756E-06**	RSP emission factor, E (g/VKT)	1.75E+02	by formula above
		FSP	2.3540E-05	**1.9538E-06**	FSP emission factor, E (g/VKT)	4.24E+01	by formula above

Notes:
1- Traffic on HR01, HR04-08 and HR15 during 0000-0700 and 1900-0000 is due to vehicle movement for asphalt production, which has a 24-hour operation period.

Vehicle Movement for Rock Processing Operation

Type of Vehicles	No. of Trips per Hour	Full load Weight (US ton)	Net Weight (US ton)
Loader	114	22.0	13.2

Vehicle Movement for Concrete Batching Operation

Type of Vehicles	No. of Vehicle per Hour	Full load Weight (US ton)	Net Weight (US ton)
Cement/PFA tanker	1	46.3	15.4
Mixer Truck	50	33.1	12.1

Vehicle Movement for Asphalt Production

Type of Vehicles	No. of Trips per Hour	Full load Weight (US ton)	Net Weight (US ton)
Asphalt Truck	16	39.7	15.4
Bitumen Tanker	6	22.0	13.2
RAP Truck	21	39.7	15.4
Aggregate Loader	84	22.0	13.2
Filler Loader	2	22.0	13.2
RAP Loader	8	22.0	13.2
Foul Batch Loader	4	22.0	13.2
Dump truck	20	39.7	15.4

Vehicle movement from Quarry

Type of Vehicles	No. of Trips per Hour	Full load Weight (US ton)	Net Weight (US ton)
Dump truck	15	39.7	15.4

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Daily Estimation)

										RSP Emission Rate		FSP Emission Rate	
Source ID	**Source**	**Type**	**X**	**Y**	**Base Elevation (m)**	**Release Height (mAG)**	**No. of Vertices**	**Szinit**	**Working Hour**	**Working hours**	**Non-working hours**	**Working hours**	**Non-working hours**
HR01	paved haul road	AREAPOLY	826711.00	824588.93	5.00	3.31	4	3.07581	00:00 - 24:00	1.1886E-04	0.0000E+00	2.8757E-05	0.0000E+00
HR02	paved haul road	AREAPOLY	826743.10	824624.02	5.00	3.31	4	3.07581	07:00 - 19:00	2.5413E-05	0.0000E+00	6.1484E-06	0.0000E+00
HR03	paved haul road	AREAPOLY	826657.40	824605.22	5.00	3.31	4	3.07581	07:00 - 19:00	1.6942E-05	0.0000E+00	4.0989E-06	0.0000E+00
HR04	paved haul road	AREAPOLY	826700.88	824596.97	5.00	3.31	4	3.07581	00:00 - 24:00	7.8319E-05	0.0000E+00	1.8948E-05	0.0000E+00
HR05	paved haul road	AREAPOLY	826711.47	824597.88	5.00	3.31	4	3.07581	00:00 - 24:00	3.5331E-05	0.0000E+00	8.5478E-06	0.0000E+00
HR06	paved haul road	AREAPOLY	826755.63	824597.70	5.00	3.31	4	3.07581	00:00 - 24:00	3.5331E-05	0.0000E+00	8.5478E-06	0.0000E+00
HR07	paved haul road	AREAPOLY	826774.39	824623.21	5.00	3.31	4	3.07581	00:00 - 24:00	3.5331E-05	0.0000E+00	8.5478E-06	0.0000E+00
HR08	paved haul road	AREAPOLY	826764.86	824620.14	5.00	3.31	4	3.07581	00:00 - 24:00	3.5331E-05	0.0000E+00	8.5478E-06	0.0000E+00
HR12	paved haul road	AREAPOLY	826617.83	824606.29	5.00	3.31	4	3.07581	00:00 - 24:00	2.7896E-05	0.0000E+00	6.7489E-06	0.0000E+00
HR13	paved haul road	AREAPOLY	826605.78	824599.46	5.00	3.31	4	3.07581	00:00 - 24:00	2.7896E-05	0.0000E+00	6.7489E-06	0.0000E+00
HR14	paved haul road	AREAPOLY	826543.81	824564.28	5.00	3.31	4	3.07581	00:00 - 24:00	4.5270E-05	0.0000E+00	1.0952E-05	0.0000E+00
HR15	paved haul road	AREAPOLY	826675.72	824588.17	5.00	3.31	4	3.07581	00:00 - 24:00	7.8319E-05	0.0000E+00	1.8948E-05	0.0000E+00
HR16	paved haul road	AREAPOLY	826666.81	824585.05	5.00	3.31	4	3.07581	00:00 - 24:00	6.1372E-05	0.0000E+00	1.4848E-05	0.0000E+00
HR17	paved haul road	AREAPOLY	826634.49	824573.75	5.00	3.31	4	3.07581	00:00 - 24:00	6.1372E-05	0.0000E+00	1.4848E-05	0.0000E+00
HR18	paved haul road	AREAPOLY	826634.17	824574.09	5.00	3.31	4	3.07581	00:00 - 24:00	2.7896E-05	0.0000E+00	6.7489E-06	0.0000E+00
HR21	paved haul road	AREAPOLY	826791.46	824645.35	5.00	3.31	4	3.07581	07:00 - 19:00	1.6685E-04	0.0000E+00	4.0366E-05	0.0000E+00
HR22	paved haul road	AREAPOLY	826627.47	824566.90	5.00	3.31	4	3.07581	00:00 - 24:00	8.0756E-06	0.0000E+00	1.9538E-06	0.0000E+00
HR23	paved haul road	AREAPOLY	826584.91	824558.61	5.00	3.31	4	3.07581	00:00 - 24:00	1.2294E-04	0.0000E+00	2.9743E-05	0.0000E+00

Remarks:

1. release height = weighted average vehicle height *1.7 /2; initial vertical dimention = weighted avergae vehicle height *1.7/2.15

2. Emission rate for Area source (g/s/m^2) = Emission rate (g/s) / Area

Location of Vertices for AREAPOLY

	Vertex 1		Vertex 2		Vertex 3		Vertex 4	
Source ID	X	Y	X	Y	X	Y	X	Y
HR01	826711.00	824588.93	826701.59	824589.38	826702.04	824598.04	826711.40	824597.46
HR02	826743.10	824624.02	826747.42	824616.40	826707.37	824593.67	826703.05	824601.29
HR03	826657.40	824605.22	826664.82	824609.06	826675.72	824588.17	826668.19	824584.37
HR04	826700.88	824596.97	826703.70	824588.92	826678.54	824580.12	826675.72	824588.17
HR05	826711.47	824597.88	826757.48	824595.72	826757.06	824586.97	826711.06	824589.13
HR06	826755.63	824597.70	826778.43	824601.64	826779.96	824592.76	826757.17	824588.82
HR07	826774.39	824623.21	826781.36	824601.15	826772.77	824598.43	826765.80	824620.49
HR08	826764.86	824620.14	826738.45	824667.18	826746.64	824671.78	826773.06	824624.74
HR12	826617.83	824606.29	826622.77	824597.59	826610.72	824590.76	826605.78	824599.46
HR13	826605.78	824599.46	826610.76	824590.68	826548.79	824555.51	826543.81	824564.28
HR14	826543.81	824564.28	826548.66	824555.74	826530.98	824545.70	826526.13	824554.25
HR15	826675.72	824588.17	826678.55	824580.07	826669.64	824576.95	826666.81	824585.05
HR16	826666.81	824585.05	826669.60	824577.07	826637.29	824565.76	826634.49	824573.75
HR17	826634.49	824573.75	826637.42	824565.40	826628.82	824562.39	826625.90	824570.75
HR18	826634.17	824574.09	826625.43	824570.33	826614.92	824594.73	826623.66	824598.50
HR21	826791.46	824645.35	826816.91	824660.52	826821.48	824652.86	826796.03	824637.69
HR22	826627.47	824566.90	826630.58	824559.63	826598.36	824545.87	826595.26	824553.13
HR23	826584.91	824558.61	826579.14	824573.66	826586.81	824576.50	826592.61	824561.33

Hourly Profile no vehicles of asphalt production

Hour	**HR02-HR03, HR21**
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Hourly Profile vehicles of asphalt production

Hour	**HR12-HR14, HR16-HR18,HR22-HR23**
Hour 1	1.0000
Hour 2	1.0000
Hour 3	1.0000
Hour 4	1.0000
Hour 5	1.0000
Hour 6	1.0000
Hour 7	1.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	1.0000
Hour 21	1.0000
Hour 22	1.0000
Hour 23	1.0000
Hour 24	1.0000

Hourly Profile vehicles of all ancillary operations

Hour	**HR01**
Hour 1	0.2486
Hour 2	0.2486
Hour 3	0.2486
Hour 4	0.2486
Hour 5	0.2486
Hour 6	0.2486
Hour 7	0.2486
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.2486
Hour 21	0.2486
Hour 22	0.2486
Hour 23	0.2486
Hour 24	0.2486

Appendix 4.2 Calculation of Emission Rates from Project

Hourly Profile	vehicles of all ancillary operations
Hour	**HR04&HR15**
Hour 1	0.5915
Hour 2	0.5915
Hour 3	0.5915
Hour 4	0.5915
Hour 5	0.5915
Hour 6	0.5915
Hour 7	0.5915
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.5915
Hour 21	0.5915
Hour 22	0.5915
Hour 23	0.5915
Hour 24	0.5915

Hourly Profile	vehicles of all ancillary operations
Hour	**HR05-HR08**
Hour 1	0.3229
Hour 2	0.3229
Hour 3	0.3229
Hour 4	0.3229
Hour 5	0.3229
Hour 6	0.3229
Hour 7	0.3229
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.3229
Hour 21	0.3229
Hour 22	0.3229
Hour 23	0.3229
Hour 24	0.3229

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Annual Estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Ngau Kok Wan	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	0700-1900				Average truck weight, W (tons)	25	average of unladen and laden vehicles
					Number of trips per hour (trips/hr)	172	incoming and outgoing vehicles
		RSP	9.3741E-04	**7.7805E-05**	RSP emission factor, E (g/VKT)	1.57E+02	by formula above
		FSP	2.2679E-04	**1.8824E-05**	FSP emission factor, E (g/VKT)	3.79E+01	by formula above
	0000-0700,1900-0000[1]				Average truck weight, W (tons)	8	average of unladen and laden vehicles for asphalt production
					Number of trips per hour (trips/hr)	50	incoming and outgoing vehicles for asphalt production
		RSP	8.4466E-05	**7.01064E-06**	RSP emission factor, E (g/VKT)	4.83E+01	by formula above
	Source ID: HR01	FSP	2.0435E-05	**1.69612E-06**	FSP emission factor, E (g/VKT)	1.17E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	23	average of unladen and laden mixer trucks and PFA tanker
					Number of trips per hour (trips/hr)	55	incoming and outgoing mixer trucks and PFA tanker to/from concrete batching operation
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	2.7557E-04	**2.2872E-05**	RSP emission factor, E (g/VKT)	1.44E+02	by formula above
	Source ID: HR02	FSP	6.6670E-05	**5.5336E-06**	FSP emission factor, E (g/VKT)	3.49E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	23	average of unladen and laden mixer trucks and PFA tanker
					Number of trips per hour (trips/hr)	37	incoming and outgoing mixer trucks and PFA tanker to/from concrete batching operation
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	1.8371E-04	**1.5248E-05**	RSP emission factor, E (g/VKT)	1.44E+02	by formula above
	Source ID: HR03	FSP	4.4446E-05	**3.6891E-06**	FSP emission factor, E (g/VKT)	3.49E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Annual Estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	0700-1900				Average truck weight, W (tons)	25	average of unladen and laden vehicles
					Number of trips per hour (trips/hr)	86	incoming and outgoing vehicles
		RSP	4.7953E-04	**3.9801E-05**	RSP emission factor, E (g/VKT)	1.60E+02	by formula above
		FSP	1.1602E-04	**9.6293E-06**	FSP emission factor, E (g/VKT)	3.87E+01	by formula above
	0000-0700,1900-0000[1]				Average truck weight, W (tons)	16	average of unladen and laden vehicles for asphalt production
					Number of trips per hour (trips/hr)	50	incoming and outgoing vehicles for asphalt production
		RSP	1.7068E-04	**1.4167E-05**	RSP emission factor, E (g/VKT)	9.75E+01	by formula above
	Source ID: HR04, HR15	FSP	4.1294E-05	**3.4274E-06**	FSP emission factor, E (g/VKT)	2.36E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	0700-1900				Average truck weight, W (tons)	28	average of unladen and laden dump trucks
					Number of trips per hour (trips/hr)	46	incoming and outgoing dump trucks
		RSP	2.7973E-04	**2.3217E-05**	RSP emission factor, E (g/VKT)	1.75E+02	by formula above
		FSP	6.7676E-05	**5.6171E-06**	FSP emission factor, E (g/VKT)	4.24E+01	by formula above
	0000-0700,1900-0000[1]				Average truck weight, W (tons)	10	average of unladen and laden vehicles for asphalt production
					Number of trips per hour (trips/hr)	16	incoming and outgoing vehicles for asphalt production
		RSP	3.3135E-05	**2.7502E-06**	RSP emission factor, E (g/VKT)	5.96E+01	by formula above
	Source ID: HR05-08	FSP	8.0165E-06	**6.6537E-07**	FSP emission factor, E (g/VKT)	1.44E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Annual Estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	27	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	50	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	2.9577E-04	**2.4549E-05**	RSP emission factor, E (g/VKT)	1.69E+02	by formula above
	Source ID: HR16-17	FSP	7.1557E-05	**5.9393E-06**	FSP emission factor, E (g/VKT)	4.09E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of unladen and laden vehicles to/from ASP
					Number of trips per hour (trips/hr)	34	incoming and outgoing vehicles to/from ASP
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	1.3444E-04	**1.1158E-05**	RSP emission factor, E (g/VKT)	1.13E+02	by formula above
	Source ID: HR18	FSP	3.2525E-05	**2.6996E-06**	FSP emission factor, E (g/VKT)	2.72E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	34	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	1.3444E-04	**1.1158E-05**	RSP emission factor, E (g/VKT)	1.13E+02	by formula above
	Source ID: HR12	FSP	3.2525E-05	**2.6996E-06**	FSP emission factor, E (g/VKT)	2.72E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Annual Estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	34	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	1.3444E-04	**1.1158E-05**	RSP emission factor, E (g/VKT)	1.13E+02	by formula above
	Source ID: HR13	FSP	3.2525E-05	**2.6996E-06**	FSP emission factor, E (g/VKT)	2.72E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	22	average of unladen and laden vehicles to/from asphalt production
					Number of trips per hour (trips/hr)	46	incoming and outgoing vehicles to/from asphalt production
					Width of the road (m)	8	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	2.1817E-04	**1.8108E-05**	RSP emission factor, E (g/VKT)	1.38E+02	by formula above
	Source ID: HR14	FSP	5.2782E-05	**4.3809E-06**	FSP emission factor, E (g/VKT)	3.33E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of laden and unladen loader in rock processing operation
					Number of trips per hour (trips/hr)	228	loaders in rock processing operation
					Width of the road (m)	3.5	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	2.0102E-03	**1.6685E-04**	RSP emission factor, E (g/VKT)	1.11E+02	by formula above
	Source ID: HR21	FSP	4.8634E-04	**4.0366E-05**	FSP emission factor, E (g/VKT)	2.69E+01	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Annual Estimation)

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
	Paved Haul Road Aggregate Loaders in asphalt production	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	18	average of laden and unladen aggregate loaders in asphalt production
					Number of trips per hour (trips/hr)	67	aggregate loaders in asphalt production
					Width of the road (m)	3.5	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	Source ID: HR23	RSP	5.9248E-04	**4.9176E-05**	RSP emission factor, E (g/VKT)	1.11E+02	by formula above
		FSP	1.4334E-04	**1.1897E-05**	FSP emission factor, E (g/VKT)	2.69E+01	by formula above
	Paved Haul Road	Paved Haul Road ($g/s \cdot m^2$)			Emission factor (g/VKT) = k*(sL)^0.91*(W)^1.02		from USEPA AP-42, Section 13.2.1, 01/11 ed.
					RSP Particle size multiplier, k (g/VKT)	0.62	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					FSP Particle size multiplier, k (g/VKT)	0.15	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Road surface silt loading, sL (g/m2)	12	from USEPA AP-42, Section 13.2.1, 01/11 ed.
					Average truck weight, W (tons)	28	average of unladen and laden dump trucks to/from asphalt production
					Number of trips per hour (trips/hr)	16	incoming and outgoing dump trucks to/from asphalt production
					Width of the road (m)	20	from engineer
					Dust removal efficiency (%)	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
	Source ID: HR22	RSP	3.8919E-05	**3.2303E-06**	RSP emission factor, E (g/VKT)	1.75E+02	by formula above
		FSP	9.4158E-06	**7.8151E-07**	FSP emission factor, E (g/VKT)	4.24E+01	by formula above

Notes:

1- Traffic on HR01, HR04-08 and HR15 during 0000-0700 and 1900-0000 is due to vehicle movement for asphalt production, which has a 24-hour operation period.

Vehicle Movement for Rock Processing Operation

Type of Vehicles	No. of Trips per Hour	Full load Weight (US ton)	Net Weight (US ton)
Loader	114	22.0	13.2

Vehicle Movement for Concrete Batching Operation

Type of Vehicles	No. of Vehicle per Hour	Full load Weight (US ton)	Net Weight (US ton)
Cement/PFA tanker	0.9	46.3	15.4
Mixer Truck	45	33.1	12.1

Vehicle Movement for Asphalt Production

Type of Vehicles	No. of Trips per Hour	Full load Weight (US ton)	Net Weight (US ton)
Asphalt Truck	6.4	39.7	15.4
Bitumen Tanker	2.4	22.0	13.2
RAP Truck	8.4	39.7	15.4
Aggregate Loader	33.6	22.0	13.2
Filler Loader	0.8	22.0	13.2
RAP Loader	3.2	22.0	13.2
Foul Batch Loader	1.6	22.0	13.2
Dump truck	8	39.7	15.4

Vehicle movement from Quarry

Type of Vehicles	No. of Trips per Hour	Full load Weight (US ton)	Net Weight (US ton)
Dump truck	15	39.7	15.4

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Proposed Paved Surface Haul Roads assessing Ancillary Operations (Annual estimation)

										RSP Emission Rate		FSP Emission Rate	
Source ID	**Source**	**Type**	**X**	**Y**	**Base Elevation (m)**	**Release Height (mAG)**	**No. of Vertices**	**Szinit**	**Working Hour**	**Working hours**	**Non-working hours**	**Working hours**	**Non-working hours**
HR01	paved haul road	AREAPOLY	826711.00	824588.93	5.00	3.31	4	3.07581	00:00 - 24:00	7.7805E-05	0.0000E+00	1.8824E-05	0.0000E+00
HR02	paved haul road	AREAPOLY	826743.10	824624.02	5.00	3.31	4	3.07581	07:00 - 19:00	2.2872E-05	0.0000E+00	5.5336E-06	0.0000E+00
HR03	paved haul road	AREAPOLY	826657.40	824605.22	5.00	3.31	4	3.07581	07:00 - 19:00	1.5248E-05	0.0000E+00	3.6891E-06	0.0000E+00
HR04	paved haul road	AREAPOLY	826700.88	824596.97	5.00	3.31	4	3.07581	00:00 - 24:00	3.9801E-05	0.0000E+00	9.6293E-06	0.0000E+00
HR05	paved haul road	AREAPOLY	826711.47	824597.88	5.00	3.31	4	3.07581	00:00 - 24:00	2.3217E-05	0.0000E+00	5.6171E-06	0.0000E+00
HR06	paved haul road	AREAPOLY	826755.63	824597.70	5.00	3.31	4	3.07581	00:00 - 24:00	2.3217E-05	0.0000E+00	5.6171E-06	0.0000E+00
HR07	paved haul road	AREAPOLY	826774.39	824623.21	5.00	3.31	4	3.07581	00:00 - 24:00	2.3217E-05	0.0000E+00	5.6171E-06	0.0000E+00
HR08	paved haul road	AREAPOLY	826764.86	824620.14	5.00	3.31	4	3.07581	00:00 - 24:00	2.3217E-05	0.0000E+00	5.6171E-06	0.0000E+00
HR12	paved haul road	AREAPOLY	826617.83	824606.29	5.00	3.31	4	3.07581	00:00 - 24:00	1.1158E-05	0.0000E+00	2.6996E-06	0.0000E+00
HR13	paved haul road	AREAPOLY	826605.78	824599.46	5.00	3.31	4	3.07581	00:00 - 24:00	1.1158E-05	0.0000E+00	2.6996E-06	0.0000E+00
HR14	paved haul road	AREAPOLY	826543.81	824564.28	5.00	3.31	4	3.07581	00:00 - 24:00	1.8108E-05	0.0000E+00	4.3809E-06	0.0000E+00
HR15	paved haul road	AREAPOLY	826675.72	824588.17	5.00	3.31	4	3.07581	00:00 - 24:00	3.9801E-05	0.0000E+00	9.6293E-06	0.0000E+00
HR16	paved haul road	AREAPOLY	826666.81	824585.05	5.00	3.31	4	3.07581	00:00 - 24:00	2.4549E-05	0.0000E+00	5.9393E-06	0.0000E+00
HR17	paved haul road	AREAPOLY	826634.49	824573.75	5.00	3.31	4	3.07581	00:00 - 24:00	2.4549E-05	0.0000E+00	5.9393E-06	0.0000E+00
HR18	paved haul road	AREAPOLY	826634.17	824574.09	5.00	3.31	4	3.07581	00:00 - 24:00	1.1158E-05	0.0000E+00	2.6996E-06	0.0000E+00
HR21	paved haul road	AREAPOLY	826791.46	824645.35	5.00	3.31	4	3.07581	07:00 - 19:00	1.6685E-04	0.0000E+00	4.0366E-05	0.0000E+00
HR22	paved haul road	AREAPOLY	826627.47	824566.90	5.00	3.31	4	3.07581	00:00 - 24:00	3.2303E-06	0.0000E+00	7.8151E-07	0.0000E+00
HR23	paved haul road	AREAPOLY	826584.91	824558.61	5.00	3.31	4	3.07581	00:00 - 24:00	4.9176E-05	0.0000E+00	1.1897E-05	0.0000E+00

Remarks:

1. release height = weighted average vehicle height *1.7 /2; initial vertical dimention = weighted avergae vehicle height *1.7/2.15

2. Emission rate for Area source (g/s/m^2) = Emission rate (g/s) / Area

Location of Vertices for AREAPOLY

	Vertex 1		Vertex 2		Vertex 3		Vertex 4	
Source ID	X	Y	X	Y	X	Y	X	Y
HR01	826711.00	824588.93	826701.59	824589.38	826702.04	824598.04	826711.40	824597.46
HR02	826743.10	824624.02	826747.42	824616.40	826707.37	824593.67	826703.05	824601.29
HR03	826657.40	824605.22	826664.82	824609.06	826675.72	824588.17	826668.19	824584.37
HR04	826700.88	824596.97	826703.70	824588.92	826678.54	824580.12	826675.72	824588.17
HR05	826711.47	824597.88	826757.48	824595.72	826757.06	824586.97	826711.06	824589.13
HR06	826755.63	824597.70	826778.43	824601.64	826779.96	824592.76	826757.17	824588.82
HR07	826774.39	824623.21	826781.36	824601.15	826772.77	824598.43	826765.80	824620.49
HR08	826764.86	824620.14	826738.45	824667.18	826746.64	824671.78	826773.06	824624.74
HR12	826617.83	824606.29	826622.77	824597.59	826610.72	824590.76	826605.78	824599.46
HR13	826605.78	824599.46	826610.76	824590.68	826548.79	824555.51	826543.81	824564.28
HR14	826543.81	824564.28	826548.66	824555.74	826530.98	824545.70	826526.13	824554.25
HR15	826675.72	824588.17	826678.55	824580.07	826669.64	824576.95	826666.81	824585.05
HR16	826666.81	824585.05	826669.60	824577.07	826637.29	824565.76	826634.49	824573.75
HR17	826634.49	824573.75	826637.42	824565.40	826628.82	824562.39	826625.90	824570.75
HR18	826634.17	824574.09	826625.43	824570.33	826614.92	824594.73	826623.66	824598.50
HR21	826791.46	824645.35	826816.91	824660.52	826821.48	824652.86	826796.03	824637.69
HR22	826627.47	824566.90	826630.58	824559.63	826598.36	824545.87	826595.26	824553.13
HR23	826584.91	824558.61	826579.14	824573.66	826586.81	824576.50	826592.61	824561.33

Hourly Profile no vehicles of asphalt production

Hour	**HR02-HR03, HR21**
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Hourly Profile vehicles of asphalt production

Hour	**HR12-HR14, HR16-HR18,HR22-HR23**
Hour 1	1.0000
Hour 2	1.0000
Hour 3	1.0000
Hour 4	1.0000
Hour 5	1.0000
Hour 6	1.0000
Hour 7	1.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	1.0000
Hour 21	1.0000
Hour 22	1.0000
Hour 23	1.0000
Hour 24	1.0000

Hourly Profile vehicles of all ancillary operations

Hour	**HR01**
Hour 1	0.0901
Hour 2	0.0901
Hour 3	0.0901
Hour 4	0.0901
Hour 5	0.0901
Hour 6	0.0901
Hour 7	0.0901
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0901
Hour 21	0.0901
Hour 22	0.0901
Hour 23	0.0901
Hour 24	0.0901

Appendix 4.2 Calculation of Emission Rates from Project

Hourly Profile vehicles of all ancillary operations

Hour	**HR04&HR15**
Hour 1	0.3559
Hour 2	0.3559
Hour 3	0.3559
Hour 4	0.3559
Hour 5	0.3559
Hour 6	0.3559
Hour 7	0.3559
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.3559
Hour 21	0.3559
Hour 22	0.3559
Hour 23	0.3559
Hour 24	0.3559

Hourly Profile vehicles of all ancillary operations

Hour	**HR05-HR08**
Hour 1	0.1185
Hour 2	0.1185
Hour 3	0.1185
Hour 4	0.1185
Hour 5	0.1185
Hour 6	0.1185
Hour 7	0.1185
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.1185
Hour 21	0.1185
Hour 22	0.1185
Hour 23	0.1185
Hour 24	0.1185

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Quarry

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Quarry	**Quarrying**	Blasting (g/s)			Emission Rate (kg/blast) = 0.00022 (Horizontal Area)^1.5		from USEPA AP-42, 10/98 ed., Section 11.9
					Blasting Face Area (m^2)	200	from Engineer
					Blast per day	1	from Engineer
					Blast in 1 hour	1	Maximum number of blast in 1 hour
					Blasting period of the day	12:00-15:00	12:00 - 15:00 from Engineer. 12:00 - 13:00 is assumed as conservative case
					% of dust suppression	91.7	by watering
					TSP emission factor (kg/blast)	6.22E-01	by formula above
		RSP	**8.988E-02**	**7.460E-03**	% fraction of RSP	0.52	from USEPA AP-42, 10/98 ed., Section 11.9, Table 11.9-2
		FSP	**5.185E-03**	**4.304E-04**	% fraction of FSP	0.03	from USEPA AP-42, 10/98 ed., Section 11.9, Table 11.9-2
		Spoil Handling (g/s)			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42, 11/06ed., Section 13.2.4
					Particle size mutipler for TSP, k	0.74	from USEPA AP-42, 11/06 ed., Section 13.2.4
					Particle size mutipler for RSP, k	0.35	from USEPA AP-42, 11/06 ed., Section 13.2.4
					Particle size mutipler for FSP, k	0.053	from USEPA AP-42, 11/06 ed., Section 13.2.4
					Material moisture content, M (%)	0.7	for crushed limestone from USEPA AP-42, 11/06 ed., Table 13.2.4-1
					Average wind speed, U (m/s)	0.1	Assume minimum wind speed inside the tunnel
					Maximum Spoil Handling Rate (Mg/hr)	260	from engineer
					% of dust suppression	91.7	by watering
		RSP	**3.162E-03**	**2.625E-04**	RSP emission factor (kg/Mg)	4.38E-05	by formula above
		FSP	**4.789E-04**	**3.975E-05**	FSP emission factor (kg/Mg)	6.63E-06	by formula above
		Unpaved Haul Road inside Cavern (g/s) Dump Truck			Emission factor (g/VKT) = k*(s/12)^a*(W/3)^b*281.9		from USEPA AP-42, 11/06ed., Section 13.2.2
					Surface Material Silt Content, s (%)	10	for plant road of Stone quarrying, from Table 13.2.2-1, AP-42, 11/06 ed.
					Mean Vehicle Weight, W (US ton)	27.6	Average value of full load weight and net weight of truck provided by Engineer
					Number of Vehicle per hour	15	from engineer
					Travelling Distance (m) per vehicle	2600	round-trip from portal to blasting area
					% of dust suppression	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	**1.054E+01**	**8.752E-01**	Particle Size Multiplier for RSP, k	1.5	from USEPA AP-42, 11/06 ed., Table 13.2.2-2
					a	0.9	
					b	0.45	
					RSP emission factor (g/vehicle-meter-travelled)	0.973	by formula above
		FSP	**1.054E+00**	**8.752E-02**	Particle Size Multiplier for FSP, k	0.15	from USEPA AP-42, 11/06 ed., Table 13.2.2-2
					a	0.9	
					b	0.45	
					FSP emission factor (g/vehicle-meter-travelled)	0.097	by formula above

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Quarry

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Quarry		Unpaved Haul Road inside cavern			Emission factor (g/VKT) = k*(s/12)^a*(W/3)^b*281.9		from USEPA AP-42, 11/06ed., Section 13.2.2
		(g/s)			Surface Material Silt Content, s (%)	10	for plant road of Stone quarrying, from Table 13.2.2-1, AP-42, 11/06 ed.
					Mean Vehicle Weight, W (US ton)	19.8	Average value of incoming vehicles
		Other vehicles to Ngau Kok Wan from Tam Kon Shan			Number of Vehicle per hour	94	from engineer
					Travelling Distance (m) per vehicle	734	from Tam Kon Shan portal to Ngau Kok Wan Portal
					% of dust suppression	91.7	watering every hour, the removal efficiency estimated based on USEPA Control of Open Fugitive dust sources (EPA-450/3-88-008), 9/92 ed, in recent EIA studies are 91.7%.
		RSP	**1.609E+01**	**1.336E+00**	Particle Size Multiplier for RSP, k	1.5	from USEPA AP-42, 11/06 ed., Table 13.2.2-2
					a	0.9	
					b	0.45	
					RSP emission factor (g/vehicle-meter-travelled)	0.840	by formula above
		FSP	**1.609E+00**	**1.336E-01**	Particle Size Multiplier for FSP, k	0.15	from USEPA AP-42, 11/06 ed., Table 13.2.2-2
					a	0.9	
					b	0.45	
					FSP emission factor (g/vehicle-meter-travelled)	0.084	by formula above
Quarry	**Exhaust from Portal**	Subtotal			% of dust suppression	85	to be treated by dust filter at exhaust
		(g/s)					
	Source ID:	**During Blasting**[1]					
	BP01, BP02	**RSP**	**4.415E-01**	**6.622E-02**			from 12:00 to 13:00
		FSP	**4.400E-02**	**6.599E-03**			from 12:00 to 13:00
		Non-Blasting[2]					
		RSP	**1.106E+00**	**1.658E-01**			Working hours other than blasting hour
		FSP	**1.106E-01**	**1.658E-02**			Working hours other than blasting hour

Notes:

1- Emisisons during blasting hour include emisisons from blasting, spoil handling and emisisons from dump trucks on unpaved haul road inside cavern. The emissions are equally distributed to the two portals.

2- Emisisons during non-blasting hour include emisisons from spoil handling and emisisons from dump trucks, and other vehicles to Ngau Kok Wan from Tam Kon Shan, on unpaved haul road inside cavern. The emissions are equally distributed to the two portals.

Vehicles in Quarry

Type of Vehicles	**No. of Trips per Hour**	**Full load Weight (US ton)**	**Net Weight (US ton)**
Dump truck	15	39.67	15.43

Vehicle for Concrete Batching Operation

Type of Vehicles	**No. of Vehicle per Hour**	**Full load Weight (US ton)**	**Net Weight (US ton)**
Cement/PFA tanker	1	46.3	15.4
Mixer Truck	50	33.1	12.1

Vehicles for Asphalt Production

Type of Vehicles	**No. of Trips per Hour**	**Full load Weight (US ton)**	**Net Weight (US ton)**
Asphalt Truck	16	39.7	15.4
Bitumen Tanker	6	22.0	13.2
RAP Truck	21	39.7	15.4

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Proposed Quarry

Portal Exhaust

										RSP Emission Rate (g/s)		FSP Emission Rate (g/s)	
Source ID	**Source**	**Type**	**X**	**Y**	**Base Elevation (m)**	**Release Height (mAG)**	**Syinit**	**Szinit**	**Working Hour**	**Working hours**	**Non-working hours**	**Working hours**	**Non-working hours**
BP01	Portal Exhaust	VOLUME	826740.38	824570.05	5.00	5.00	3.72	4.65	07:00 - 19:00	1.6583E-01	0.0000E+00	1.6584E-02	0.0000E+00
BP02	Portal Exhaust	VOLUME	826782.15	824574.10	5.00	5.00	3.72	4.65	07:00 - 19:00	1.6583E-01	0.0000E+00	1.6584E-02	0.0000E+00

Remarks:

1. Source parameters (exit temperature, velocity, stack diameter, and release height) are obtained from engineer.

Hourly Profile for BP01-BP02

Hour	RSP	FSP
Hour 1	0.0000	0.0000
Hour 2	0.0000	0.0000
Hour 3	0.0000	0.0000
Hour 4	0.0000	0.0000
Hour 5	0.0000	0.0000
Hour 6	0.0000	0.0000
Hour 7	0.0000	0.0000
Hour 8	1.0000	1.0000
Hour 9	1.0000	1.0000
Hour 10	1.0000	1.0000
Hour 11	1.0000	1.0000
Hour 12	1.0000	1.0000
Hour 13	0.3993	0.3979
Hour 14	1.0000	1.0000
Hour 15	1.0000	1.0000
Hour 16	1.0000	1.0000
Hour 17	1.0000	1.0000
Hour 18	1.0000	1.0000
Hour 19	1.0000	1.0000
Hour 20	0.0000	0.0000
Hour 21	0.0000	0.0000
Hour 22	0.0000	0.0000
Hour 23	0.0000	0.0000
Hour 24	0.0000	0.0000

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Quarry

Vehicular emisison from cavern haul road (portal emission)

Description	No. of Portal Sources	No. of Volume Sources	Hour	Total Emission Rate				Emission Rate (1st - 3rd Volume Sources)				Emission Rate (the 4th Volume Source)				Emission Rate (the 5th - 7th Volume Sources)			
				NO	NO2	RSP	FSP	NO	NO2	RSP	FSP	NO	NO2	RSP	FSP	NO	NO2	RSP	FSP
				(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)	(g/s)
Vehicular Emission on Cavern Haul Road	2	7 for each of the 2 portal sources	0000-0100	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			0100-0200	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			0200-0300	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			0300-0400	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			0400-0500	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			0500-0600	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			0600-0700	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			0700-0800	1.8815E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			0800-0900	1.8815E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			0900-1000	1.8816E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1000-1100	1.8816E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1100-1200	1.8816E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6978E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1200-1300	6.9988E-02	1.5974E-02	2.6159E-03	2.4067E-03	6.6655E-03	1.5214E-03	2.4913E-04	2.2921E-04	4.9991E-03	1.1410E-03	1.8685E-04	1.7191E-04	3.3327E-03	7.6068E-04	1.2457E-04	1.1461E-04
			1300-1400	1.8816E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1400-1500	1.8816E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1500-1600	1.8816E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1600-1700	1.8815E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7919E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9597E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1700-1800	1.8816E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1800-1900	1.8815E-01	4.2945E-02	7.0326E-03	6.4703E-03	1.7920E-02	4.0900E-03	6.6977E-04	6.1622E-04	1.3440E-02	3.0675E-03	5.0233E-04	4.6216E-04	8.9598E-03	2.0450E-03	3.3489E-04	3.0811E-04
			1900-2000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			2000-2100	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			2100-2200	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			2200-2300	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
			2300-0000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Remark

1. 2/3 of the total emission from the portal is distributed to the sources at the first 50m and 1/3 of the total emission is distributed to the source at the second 50m. The middle volume source (the 4th volume source) wouldhave an average emission rate of a volume source in the first half of the portal source length and the second half of the portal source length

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Proposed Quarry

Vehicular emisison from cavern haul road (portal emission)

										RSP Emission Rate (g/s)		FSP Emission Rate (g/s)		NO Emission Rate (g/s)		NO2 Emission Rate (g/s)	
Source ID	**Source**	**Type**	**X**	**Y**	**Base Elevation (m)**	**Release Height (mAG)**	**Syinit**	**Szinit**	**Working Hour**	**Working hours**	**Non-working hours**	**Working hours**	**Non-working hours**	**Working hours**	**Non-working hours**	**Working hours**	**Non-working hours**
V101	Portal Emission	VOLUME	826739.22	824577.69	5.00	5.00	7.44	4.65	07:00 - 19:00	6.6977E-04	0.0000E+00	6.1622E-04	0.0000E+00	1.7920E-02	0.0000E+00	4.0900E-03	0.0000E+00
V102	Portal Emission	VOLUME	826736.44	824593.24	5.00	5.00	7.44	4.65	07:00 - 19:00	6.6977E-04	0.0000E+00	6.1622E-04	0.0000E+00	1.7920E-02	0.0000E+00	4.0900E-03	0.0000E+00
V103	Portal Emission	VOLUME	826733.99	824608.95	5.00	5.00	7.44	4.65	07:00 - 19:00	6.6977E-04	0.0000E+00	6.1622E-04	0.0000E+00	1.7920E-02	0.0000E+00	4.0900E-03	0.0000E+00
V104	Portal Emission	VOLUME	826731.42	824624.79	5.00	5.00	7.44	4.65	07:00 - 19:00	5.0233E-04	0.0000E+00	4.6216E-04	0.0000E+00	1.3440E-02	0.0000E+00	3.0675E-03	0.0000E+00
V105	Portal Emission	VOLUME	826728.60	824640.36	5.00	5.00	7.44	4.65	07:00 - 19:00	3.3489E-04	0.0000E+00	3.0811E-04	0.0000E+00	8.9598E-03	0.0000E+00	2.0450E-03	0.0000E+00
V106	Portal Emission	VOLUME	826725.75	824655.68	5.00	5.00	7.44	4.65	07:00 - 19:00	3.3489E-04	0.0000E+00	3.0811E-04	0.0000E+00	8.9598E-03	0.0000E+00	2.0450E-03	0.0000E+00
V107	Portal Emission	VOLUME	826722.67	824671.21	5.00	5.00	7.44	4.65	07:00 - 19:00	3.3489E-04	0.0000E+00	3.0811E-04	0.0000E+00	8.9598E-03	0.0000E+00	2.0450E-03	0.0000E+00
V201	Portal Emission	VOLUME	826780.97	824582.31	5.00	5.00	7.44	4.65	07:00 - 19:00	6.6977E-04	0.0000E+00	6.1622E-04	0.0000E+00	1.7920E-02	0.0000E+00	4.0900E-03	0.0000E+00
V202	Portal Emission	VOLUME	826778.17	824598.16	5.00	5.00	7.44	4.65	07:00 - 19:00	6.6977E-04	0.0000E+00	6.1622E-04	0.0000E+00	1.7920E-02	0.0000E+00	4.0900E-03	0.0000E+00
V203	Portal Emission	VOLUME	826775.49	824613.98	5.00	5.00	7.44	4.65	07:00 - 19:00	6.6977E-04	0.0000E+00	6.1622E-04	0.0000E+00	1.7920E-02	0.0000E+00	4.0900E-03	0.0000E+00
V204	Portal Emission	VOLUME	826772.86	824629.36	5.00	5.00	7.44	4.65	07:00 - 19:00	5.0233E-04	0.0000E+00	4.6216E-04	0.0000E+00	1.3440E-02	0.0000E+00	3.0675E-03	0.0000E+00
V205	Portal Emission	VOLUME	826770.22	824645.22	5.00	5.00	7.44	4.65	07:00 - 19:00	3.3489E-04	0.0000E+00	3.0811E-04	0.0000E+00	8.9598E-03	0.0000E+00	2.0450E-03	0.0000E+00
V206	Portal Emission	VOLUME	826767.65	824660.89	5.00	5.00	7.44	4.65	07:00 - 19:00	3.3489E-04	0.0000E+00	3.0811E-04	0.0000E+00	8.9598E-03	0.0000E+00	2.0450E-03	0.0000E+00
V207	Portal Emission	VOLUME	826765.15	824676.61	5.00	5.00	7.44	4.65	07:00 - 19:00	3.3489E-04	0.0000E+00	3.0811E-04	0.0000E+00	8.9598E-03	0.0000E+00	2.0450E-03	0.0000E+00

Remarks:

1. Dimension of portals are obtained from engineer.

Hourly Profile

Hour	
Hour 1	0.0000
Hour 2	0.0000
Hour 3	0.0000
Hour 4	0.0000
Hour 5	0.0000
Hour 6	0.0000
Hour 7	0.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	0.3720
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	0.0000
Hour 21	0.0000
Hour 22	0.0000
Hour 23	0.0000
Hour 24	0.0000

Appendix 4.2 Calculation of Emission Rates from Project

Tsing Yi North Underground Quarry

Summary of Cavern Haul Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Cavern Haul Road 1	C101	827249.16	824629.04	827196.51	824585.45	31,38	3.9	3.3	3.1	22.0	34.0
Cavern Haul Road 1	C102	827196.51	824585.45	827178.43	824494.92	31,38	3.9	3.3	3.1	22.0	61.0
Cavern Haul Road 1	C103	827178.43	824494.92	826808.49	824435.08	31,38	3.9	3.3	3.1	22.0	90.0
Cavern Haul Road 2	C201	826808.49	824435.08	826782.15	824574.10	31,38	3.9	3.3	3.1	22.0	44.0
Cavern Haul Road 3	C301	826808.49	824435.08	826764.56	824426.77	31,38	3.9	3.3	3.1	22.0	82.0
Cavern Haul Road 4	C401	826764.56	824426.77	826740.38	824570.05	31,38	3.9	3.3	3.1	22.0	49.0
Cavern Haul Road 5	C501	826764.56	824426.77	826678.02	824414.40	31,38 31,37	3.9	3.3	3.1	22.0	93.0
Cavern Haul Road 5	C502	826678.02	824414.40	826704.48	824250.61	31,37	3.9	3.3	3.1	22.0	114.0
Cavern Haul Road 5	C503	826704.48	824250.61	826783.67	824262.88	31,37	3.9	3.3	3.1	22.0	130.0
Cavern Haul Road 5	C504	826783.67	824262.88	826811.56	824095.57	31,37	3.9	3.3	3.1	22.0	133.0
Cavern Haul Road 5	C505	826811.56	824095.57	827247.67	824169.19	31,37	3.9	3.3	3.1	22.0	193.0
Cavern Haul Road 5	C506	827247.67	824169.19	827405.69	824225.91	32,37	3.9	3.3	3.1	22.0	159.0
Cavern Haul Road 5	C507	827405.69	824225.91	827399.01	824268.06	32,37	3.9	3.3	3.1	22.0	106.0

Appendix 4.2 Calculation of Emission Rates from Project

Tsing Yi North Underground Quarry

Summary of Meteorological Data

Grid (I,J)	Hour	Annual Minimum		Month Minimum																					
				January		February		March		April		May		June		July		August		September		October		November		December	
		Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH
Custom	0000-0100	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0100-0200	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0200-0300	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0300-0400	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0400-0500	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0500-0600	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0600-0700	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0700-0800	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0800-0900	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	0900-1000	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1000-1100	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1100-1200	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1200-1300	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1300-1400	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1400-1500	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1500-1600	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1600-1700	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1700-1800	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1800-1900	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	1900-2000	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	2000-2100	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	2100-2200	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	2200-2300	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16
Custom	2300-0000	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16	9	16

Appendix 4.2 Calculation of Emission Rates from Project

Tsing Yi North Underground Quarry

Summary of Meteorological Data

Grid (I,J)	Hour	Month Average																							
		January		February		March		April		May		June		July		August		September		October		November		December	
		Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH
Custom	0000-0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0100-0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0200-0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0300-0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0400-0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0500-0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0600-0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0700-0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0800-0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	0900-1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1000-1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1100-1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1200-1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1300-1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1400-1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1500-1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1600-1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1700-1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1800-1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	1900-2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	2000-2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	2100-2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	2200-2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Custom	2300-0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.2 Calculation of Emission Rates from Project

Traffic Data / Modeling Parameters For AERMOD (Cavern Haul Roads, Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Cavern Haul Road 1	C1	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0700-0800	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0800-0900	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	0900-1000	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1000-1100	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1100-1200	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1200-1300	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1300-1400	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1400-1500	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1500-1600	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1600-1700	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1700-1800	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1800-1900	94	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 1	C1	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0700-0800	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0800-0900	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	0900-1000	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1000-1100	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1100-1200	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1200-1300	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1300-1400	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1400-1500	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1500-1600	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1600-1700	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1700-1800	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1800-1900	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 2	C2	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.2 Calculation of Emission Rates from Project

Traffic Data / Modeling Parameters For AERMOD (Cavern Haul Roads, Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Cavern Haul Road 3	C3	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0700-0800	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0800-0900	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	0900-1000	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1000-1100	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1100-1200	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1200-1300	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1300-1400	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1400-1500	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1500-1600	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1600-1700	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1700-1800	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1800-1900	47	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 3	C3	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0700-0800	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0800-0900	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	0900-1000	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1000-1100	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1100-1200	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1200-1300	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1300-1400	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1400-1500	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1500-1600	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1600-1700	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1700-1800	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1800-1900	77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 4	C4	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.2 Calculation of Emission Rates from Project

Traffic Data / Modeling Parameters For AERMOD (Cavern Haul Roads, Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Cavern Haul Road 5	C5	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0700-0800	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0800-0900	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	0900-1000	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1000-1100	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1100-1200	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1200-1300	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1300-1400	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1400-1500	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1500-1600	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1600-1700	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1700-1800	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1800-1900	30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Cavern Haul Road 5	C5	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.2 Calculation of Emission Rates from Project

Particle Size Distribution of Process

Aggregate Handling, Storage Pile and Quarrying		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 2.5	1.25	7%	15%	100%
2.5 - 5.0	3.75	20%	42%	-
5.0 - 10.0	7.50	20%	43%	-
10.0 - 15.0	12.50	18%	-	-
15.0 - 30.0	22.50	35%	-	-

Remark: Dervied from aerodynamic particle size multiplier (k) of Section 13.2.4, 11/06 ed., AP-42, USEPA

Unloading Aggregate to Hopper (Controlled by Water Spray)		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 2.5	1.25	18%	23%	100%
2.5 - 10.0	6.25	59%	77%	-
10.0 - 30.0	20.00	22%	-	-

Remark: Derived from the emission factors estimated from Section 13.2.4, 11/06 ed., AP-42, USEPA

RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)

Source	**Uncontrolled Emission Factor (kg/Mg)**		**Controlled Emission Factor (kg/Mg)**		**Uncontrolled RSP-to-TSP Ratio**	**Controlled RSP-to-TSP Ratio**
	TSP	**RSP**	**TSP**	**RSP**		
Cement unloading to elevated storage silo (pneumatic)	0.36	0.24	0.00050	0.00017	0.6667	**0.3400**
Cement supplement unloading to elevated storage silo (pneumatic)	1.57	0.65	0.0045	0.0024	0.4140	**0.5333**
Weigh hopper loading	0.0026	0.0013	-	-	**0.5000**	-
Mixer loading (central mix)	0.286	0.078	0.0092	0.0028	0.2727	**0.3043**

Remark:

(a) Reference from Table 11.12-1 Emission Factors for Concrete Batching, Chapter 11.12 Concrete Batching, AP-42, USEPA (Version 01/12)

Particle Size Distribution of General Concrete Batching Process (Controlled by Fabric Filter)

Particale Size Range [a]	**Average Partical Size** [a]	**% before Removal** [a]	**Removal Efficiency %** [b]	**% after Removal**	**Normalised Fraction** [c]	**Normalised Fraction for PM10** [c, d]
≤ 1.0	0.50	4	99.0%	0.04	7%	12%
1.0 - 2.0	1.50	7	99.0%	0.07	12%	21%
2.0 - 2.5	2.25	4	99.0%	0.04	7%	12%
2.5 - 3.0	2.75	3	99.5%	0.015	3%	5%
3.0 - 4.0	3.50	7	99.5%	0.035	6%	11%
4.0 - 5.0	4.50	5	99.5%	0.025	4%	8%
5.0 - 6.0	5.50	4	99.5%	0.02	3%	6%
6.0 - 10	8.00	17	99.5%	0.085	15%	26%
10 - 30	20.00	49	99.5%	0.245	43%	-

Remark:

(a) Derived from Table B.2.2 "Description of Particle Size Categories" for Category 3 “Mechanically Generated Aggregate, Unprocessed Ores”, Page B.2-13 of Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95) (see below)

(b) Control efficiency of fabric filter on different size of particle refers to Table B.2-3 Typical Collection Efficiencies of Various Particulate Control Device, Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95) (see below)

(c) Normalised Fraction = % after normal of each particale size range / sum of % after removal of all particle size ranges

(d) Sum of normalizsed fraction maintains 100% in air dispersion model by applying percentage in 6 decimal places.

Appendix 4.2 Calculation of Emission Rates from Project

Particle Size Distribution of Process

Dust collector on Cement Silo / Cement Supplement Silo		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 1.0	0.50	N/A	12%	27%
1.0 - 2.0	1.50	N/A	21%	47%
2.0 - 2.5	2.25	N/A	12%	27%
2.5 - 3.0	2.75	N/A	5%	-
3.0 - 4.0	3.50	N/A	11%	-
4.0 - 5.0	4.50	N/A	8%	-
5.0 - 6.0	5.50	N/A	6%	-
6.0 - 10	8.00	N/A	26%	-
10.0 - 30.0	20.00	N/A	-	-

Remark:

(a) Size distribution for RSP refers to Normalised Fraction for PM10 of Table "Particle Size Distribution of General Concrete Batching Process (Controlled by Fabric Filter)"

Dust collector on Mixer & Weigh Hoppers		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 1.0	0.50	N/A	12%	27%
1.0 - 2.0	1.50	N/A	21%	47%
2.0 - 2.5	2.25	N/A	12%	27%
2.5 - 3.0	2.75	N/A	5%	-
3.0 - 4.0	3.50	N/A	11%	-
4.0 - 5.0	4.50	N/A	8%	-
5.0 - 6.0	5.50	N/A	6%	-
6.0 - 10	8.00	N/A	26%	-
10.0 - 30.0	20.00	N/A	-	-

Remark:

(a) Size distribution for RSP refers to Normalised Fraction for PM10 of Table "Particle Size Distribution of General Concrete Batching Process (Controlled by Fabric Filter)"

Unloading of Unfragmented Stone		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 1.0	0.50	4%	8%	27%
1.0 - 2.0	1.50	7%	14%	47%
2.0 - 2.5	2.25	4%	8%	27%
2.5 - 3.0	2.75	3%	6%	-
3.0 - 4.0	3.50	7%	14%	-
4.0 - 5.0	4.50	5%	10%	-
5.0 - 6.0	5.50	4%	8%	-
6.0 - 10	8.00	17%	33%	-
10 - 30	20.00	49%	-	-

Remark:

(a) Reference from Table B.2.2 "Description of Particle Size Categories" for Category 3 “Mechanically Generated Aggregate, Unprocessed Ores”, Page B.2-13 of Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95)

Appendix 4.2 Calculation of Emission Rates from Project

Particle Size Distribution of Process

Crushing (Primary, Secondary, Tertiary)		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 2.5	1.25	N/A	19%	100%
2.5 - 10	6.25	N/A	81%	-
10 - 30	20	N/A	-	-

Remark:
(a) Derived from Table 11.19.2-1, Section 11.19, 8/04 ed., AP-42, USEPA
(b) With reference to the note n of above Table 11.19.2-1 AP-42, emission factor for tertiary crusher is used as an upper limit for primary and secondary crushing

Screening (Primary, Secondary, Tertiary)		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 2.5	1.25	N/A	7%	100%
2.5 - 10	6.25	N/A	93%	-
10 - 30	20	N/A	-	-

Remark:

(a) Derived from Table 11.19.2-1, Section 11.19, 8/04 ed., AP-42, USEPA

(b) With reference to the note n of above Table 11.19.2-1 AP-42, emission factor for tertiary crusher is used as an upper limit for primary and secondary crushing

Batch Mix Dryer, Hot Screen and mixer (Fabric Filter)		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 1	0.5	N/A	76.9%	91%
1 - 2.5	1.75	N/A	7.7%	9%
2.5 - 5	3.75	N/A	7.7%	-
5 - 10	7.5	N/A	7.7%	-
10 - 15	12.5	N/A	-	-

Remark: Derived from Table 11.1-2, Section 11.1, 3/04 ed., AP-42, USEPA

Appendix 4.2 Calculation of Emission Rates from Project

Particle Size Distribution of Process

Industrial Boiler FIRING DISTILLATE OIL (Uncontrolled)		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 0.625	0.3125	N/A	4%	17%
0.625 - 1	0.8125	N/A	12%	50%
1 - 1.25	1.125	N/A	2%	8%
1.25 - 2.5	1.875	N/A	6%	25%
2.5 - 6	4.25	N/A	36%	-
6 - 10	8	N/A	40%	-
10 - 15	12.5	N/A	-	-

Remark: Derived from Table 1.3-6, Section 1.3, 5/10 ed., AP-42, USEPA

Paved Haul Road		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 2.5	1.25	N/A	24%	100%
2.5 - 10	6.25	N/A	76%	-
10 - 15	12.5	N/A	-	-
15 - 30	22.5	N/A	-	-

Remark: Derived from Table 13.2.1-1, Section 13.2.1, 1/11 ed., AP-42, USEPA

Unpaved Haul Road		for TSP	for RSP	for FSP
Particale Size Range	**Average Partical Size**	**Percentage**	**Percentage**	**Percentage**
≤ 2.5	1.25	N/A	10%	100%
2.5 - 10	6.25	N/A	90%	-
10 - 30	30	N/A	-	-

Remark: Derived from Page 13.2.2-4, Section 13.2.2, 11/06 ed., AP-42, USEPA

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Asphalt Production

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Asphalt Production	Loading of Aggregate to Cold Aggregate Hopper	Spoil handling (g/s·m2)			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
					RSP Particle size multiplier, k	0.35	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP Particle size multiplier, k	0.05	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					Moisture content, M (%)	6	from design engineer with reference to typical asphalt production
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	90	from design engineer
					Area of storage (m^2)	39.1	
					Dust Suppression Efficiency for PM (6 - 10µm)	90	for dust suppression by water sprays
					Dust Suppression Efficiency for PM (2.5 - 6µm)	65	from Table B.2.3, Appendix B.2, USEPA AP-42
					Dust Suppression Efficiency for PM (0 - 2.5µm)	40	
					RSP emission factor, E (kg/Mg)	1.23E-04	by formula above
		RSP		**3.0668E-05**	FSP emission factor, E (kg/Mg)	1.87E-05	by formula above
		FSP		**7.1842E-06**	Mitigated PM(2.5 - 10µm) emission factor (kg/Mg)	3.67E-05	
					Mitigated PM(2.5) emission factor (kg/Mg)	1.12E-05	
	Source ID: AP01				Mitigated PM(2.5 - 10µm) emission rate (g/s)	9.18E-04	
					Mitigated PM(2.5) emission rate (g/s)	2.81E-04	
Asphalt Production	Dust Emission System	Spoil handling at 5 enclosed virgin aggregate silos			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
	Source ID: AP02	(g/s)			RSP Particle size multiplier, k	0.35	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP Particle size multiplier, k	0.05	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					Moisture content, M (%)	6	from design engineer with reference to typical asphalt production
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	90	from design engineer
					Dust Suppression Efficiency for PM (6 - 10µm)	90	for dust suppression by water sprays
					Dust Suppression Efficiency for PM (2.5 - 6µm)	65	from Table B.2.3, Appendix B.2, USEPA AP-42
					Dust Suppression Efficiency for PM (0 - 2.5µm)	40	
					RSP emission factor, E (kg/Mg)	1.23E-04	by formula above
		RSP		**1.1984E-03**	FSP emission factor, E (kg/Mg)	1.87E-05	by formula above
		FSP		**2.8073E-04**	Mitigated PM(2.5 - 10µm) emission factor (kg/Mg)	3.67E-05	
					Mitigated PM(2.5) emission factor (kg/Mg)	1.12E-05	
					Mitigated PM(2.5 - 10µm) emission rate (g/s)	9.18E-04	
					Mitigated PM(2.5) emission rate (g/s)	2.81E-04	
		Dust Collector 1 on Recovered Filler Silo			TSP emission factor (mg/m3)	9	from design engineer
		Exhaust from Dust Collector (g/s)			Flow Rate (m3/hr)	14000	from design engineer
							The process is fully enclosed, thus exhaust emission is the only emission
		RSP		**1.8667E-02**	Ratio RSP to TSP (Controlled)	0.53	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)"
		FSP		**8.4848E-03**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Cement Silo / Cement Supplement Silo"

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Asphalt Production

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Asphalt Production	Dust Emission System Source ID: AP02	Dust Collector 2 on Mineral Filler Silo Exhaust from Dust Collector (g/s)			TSP emission factor (mg/m3)	9	from design engineer
					Flow Rate (m3/hr)	14000	from design engineer
							The process is fully enclosed, thus exhaust emission is the only emission
		RSP		**1.8667E-02**	Ratio RSP to TSP (Controlled)	0.53	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)"
		FSP		**8.4848E-03**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Cement Silo / Cement Supplement Silo"
		Exhaust from Dryer Drum and Mixing Tower - Connected Dryer, Hot Screens and Mixer (g/s)			Processing Capacity (Mg/hr)	208	from design engineer
		RSP		**7.8000E-01**	RSP emission factor (kg/Mg)	1.35E-02	Total PM-10 emission factor for Fabric Filter is used because the exhaust from dryer drum and mixing tower is connected to baghouse, with reference to USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-1.
		FSP		**7.3378E-01**	FSP emission factor (kg/Mg)	1.27E-02	Total PM-2.5 is the sum of filterable PM-2.5 (USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-2), condensable inorganic PM and condensable organic PM (USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-1). Figures for Fabric Filter are used because the exhaust from dryer drum and mixing tower is connected to baghouse
		Fuel Oil Combustion in Dryer, Hot Screens and Mixer (g/s)			Sulphur content by weight (%)	1.00E-03	Ultra-low-sulfur diesel (ULSD) is used in industrial and its fuel sulphur content is at ≤ 0.001% w/w, with reference to EPD
					Maximum fuel consumption rate (L/hr)	1867	from design engineer
		RSP	6.2227E-02	6.2227E-02	RSP emission factor (g/L)	1.20E-01	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-6
		FSP	1.5557E-02	1.5557E-02	FSP emission factor (g/L)	3.00E-02	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-6
		SO_2		8.8362E-03	SO_2 emission factor (g/L)	1.70E-02	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-1
		NOx	1.2445E+00	1.2445E+00	NOx emission factor (g/L)	2.40E+00	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-1

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Asphalt Production

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Asphalt Production	Dust Emission System Source ID: AP02	Truck Load out from Hot Mix Silo - Connected to the Baghouse Batch mix plant load-out (g/s)			Emission factor (kg/Mg) = $(0.000181 + 0.00141(-V)e^{((0.0251)(T+460)-20.43)})*0.5$		from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
					Asphalt volatility, V	-0.5	Default value, from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
					HMA mix temperature, T (°F)	325	Default value, from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
					Loading rate of materials (Mg/hr)	208	from design engineer
		RSP	1.5078E-02	1.5078E-02			Total PM is assumed to be predominantly PM-2.5 since emissions consist of condensed vapors, with reference to USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
		FSP	1.5078E-02	1.5078E-02	FSP emission factor (kg/Mg)	2.61E-04	from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
		Fuel Oil Combustion in the Bitumen Heating System (g/s)			Sulphur content by weight (%)	1.00E-03	Ultra-low-sulfur diesel (ULSD) is used in industrial and its fuel sulphur content is at ≤ 0.001% w/w, with reference to EPD
					Maximum fuel consumption rate (L/hr)	164.1	from design engineer
		RSP	5.4716E-03	5.4716E-03	RSP emission factor (kg/1000L)	1.20E-01	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-6
		FSP	1.3679E-03	1.3679E-03	FSP emission factor (kg/1000L)	3.00E-02	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-6
		SO_2		7.7696E-04	SO_2 emission factor (kg/1000L)	1.70E-02	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-1
		NOx	1.0943E-01	1.0943E-01	NOx emission factor (kg/1000L)	2.40E+00	from USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-1
		Sub-total			Removal efficiency by SCR (%)	80	mean SCR efficiency, from USEPA AP-42, section 1.3, 5/10 ed, pp. 1.3-8
					Removal efficiency by filter (%)	99.0	from design engineer
		RSP		9.0131E-03			
		FSP		7.8303E-03			
		SO_2		9.6131E-03			
		NOx		2.7079E-01			

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Asphalt Production

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Asphalt Production	Loading of RAP and Rejected Aggregrate to Storage and Hopper inside RAP storage area	Exhaust from Dust Collector			TSP emission factor (mg/m3)	9	from design engineer
					Flow Rate (m3/hr)	5000	from design engineer
	Source ID: AP03	**TSP**		**1.2500E-02**			
		RSP		**6.6667E-03**	Ratio RSP to TSP (Controlled)	0.53	Refer to Table "RSP-to-TSP Ratio of Concrete Batching Process (by Emission Factors)" shown on P. 30 of Appendix 6.1
		FSP		**3.0303E-03**	Ratio FSP to RSP (Controlled)	0.45	Refer to Table "Dust collector on Cement Silo / Cement Supplement Silo" shown on P. 31 of Appendix 6.1
	Aggregate unloading at Aggregate Reject Bin	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			RSP Particle size multiplier, k	0.35	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP Particle size multiplier, k	0.05	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					Moisture content, M (%)	1	from design engineer
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Unloading rate of aggregate (Mg/hr)	9.0	from design engineer
					Area of storage (m^2)	2.5	from engineer
					Dust Suppression Efficiency for PM (6 - 10µm)	90	for dust suppression by water sprays
					Dust Suppression Efficiency for PM (2.5 - 6µm)	65	from Table B.2.3, Appendix B.2, USEPA AP-42
					Dust Suppression Efficiency for PM (0 - 2.5µm)	40	
					RSP emission factor, E (kg/Mg)	1.52E-03	by formula above
		RSP		**5.8426E-04**	FSP emission factor, E (kg/Mg)	2.30E-04	by formula above
	Source ID: AP04	**FSP**		**1.3686E-04**	Mitigated PM(2.5 - 10µm) emission factor (kg/Mg)	4.50E-04	
					Mitigated PM(2.5) emission factor (kg/Mg)	1.38E-04	
					Mitigated PM(2.5 - 10µm) emission rate (g/s)	1.13E-03	
					Mitigated PM(2.5) emission rate (g/s)	3.45E-04	

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Asphalt Production

Location	Source	Emission Rates	Unmitigated	Mitigated	Parameters		Remarks
Asphalt Production	Load-out to Foul Batch Hopper	Batch mix plant load-out			Emission factor = 0.000181 + 0.00141(-V)$e^{((0.0251)(T+460)-20.43)}$		from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
		($g/s \cdot m^2$)			Asphalt volatility, V	-0.5	Default value, from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
	Source ID: AP05				HMA mix temperature, T (°F)	325	Default value, from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
					Loading rate of materials (Mg/hr)	2	from design engineer
					Area of storage (m^2)	2.5	from engineer
		RSP	5.9834E-05	5.9834E-05			Total PM is assumed to be predominantly PM-2.5 since emissions consist of condensed vapors, with reference to USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
		FSP	5.9834E-05	5.9834E-05	FSP emission factor (kg/Mg)	2.61E-04	from USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-14
	Loading of aggregate to dump trucks	Spoil handling			Emission Factor (kg/Mg) = k*(0.0016)*(U/2.2)^1.3/(M/2)^1.4		from USEPA AP-42 Section 13.2.4, 11/06 ed.
		($g/s \cdot m^2$)			RSP Particle size multiplier, k	0.35	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					FSP Particle size multiplier, k	0.05	from USEPA AP-42 Section 13.2.4, 11/06 ed.
					Moisture content, M (%)	6	from design engineer with reference to typical asphalt production plant
					Average wind speed, U (m/s)	2.24	mean wind speed extracted from WRF (Grid 31,38)
					Loading rate of materials (Mg/hr)	15	from design engineer
					Area of storage (m^2)	17	
					Dust Suppression Efficiency for PM (6 - 10µm)	90	for dust suppression by water sprays
					Dust Suppression Efficiency for PM (2.5 - 6µm)	65	from Table B.2.3, Appendix B.2, USEPA AP-42
					Dust Suppression Efficiency for PM (0 - 2.5µm)	40	
					RSP emission factor, E (kg/Mg)	1.23E-04	by formula above
		RSP		**1.1731E-05**	FSP emission factor, E (kg/Mg)	1.87E-05	by formula above
	Source ID: AP31-34	**FSP**		**2.7481E-06**	Mitigated PM(2.5 - 10µm) emission factor (kg/Mg)	3.67E-05	
					Mitigated PM(2.5) emission factor (kg/Mg)	1.12E-05	
					Mitigated PM(2.5 - 10µm) emission rate (g/s)	1.53E-04	
					Mitigated PM(2.5) emission rate (g/s)	4.67E-05	

Appendix 4.2 Calculation of Emission Rates from Project

Emission Source Listing in AERMOD

Proposed Asphalt Production

Source ID	Schematic Diagram	Emission Point	Source	Type	X	Y	Base Elevation (m)	Release Height (mAG)	No. of Vertices	Exit Temperature (K)	Working Hour	RSP Emission Rate		FSP Emission Rate		NOx Emission Rate		SO2 Emission Rate		Bitumen Fume Emission Rate		Odour Emission Rate	
												Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours	Working hours	Non-working hours
AP01	Asphalt Production (SK3018)	EP1	Cold Aggregate Hopper	AREAPOLY	826561.06	824561.17	5.00	5.00	4	0	00:00 - 24:00	3.0668E-05	0.0000E+00	7.1842E-06	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
AP02		EP2	Dust Emission System	POINT	826549.21	824558.36	5.00	23.00	-	0	00:00 - 24:00	9.0131E-03	0.0000E+00	7.8303E-03	0.0000E+00	2.7079E-01	0.0000E+00	9.6131E-03	0.0000E+00	7.3333E-02	0.0000E+00	1.9725E+04	0.0000E+00
AP03		EP3	Dust Collector at RAP Storage	POINT	826531.33	824546.84	5.00	13.50	-	0	00:00 - 24:00	6.6667E-03	0.0000E+00	3.0303E-03	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
AP04		EP4	Aggregate Reject Bin	POINT	826534.04	824550.39	5.00	13.50	-	0	00:00 - 24:00	5.8426E-04	0.0000E+00	1.3686E-04	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
AP05		EP5	Foul Batch Hopper	AREAPOLY	826527.02	824556.61	5.00	4.00	4	0	00:00 - 24:00	5.9834E-05	0.0000E+00	5.9834E-05	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
AP31	Rock Processing Operation (SK3041)	EP31	Dump Truck	AREAPOLY	826757.32	824657.72	5.00	4.00	4	0	00:00 - 24:00	1.1731E-05	0.0000E+00	2.7481E-06	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
AP32		EP32	Dump Truck	AREAPOLY	826763.56	824647.70	5.00	4.00	4	0	00:00 - 24:00	1.1731E-05	0.0000E+00	2.7481E-06	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
AP33		EP33	Dump Truck	AREAPOLY	826770.24	824637.50	5.00	4.00	4	0	00:00 - 24:00	1.1731E-05	0.0000E+00	2.7481E-06	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
AP34		EP34	Dump Truck	AREAPOLY	826776.22	824628.10	5.00	4.00	4	0	00:00 - 24:00	1.1731E-05	0.0000E+00	2.7481E-06	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00

Remarks:

1. Source parameters (exit temperature, velocity, stack diameter, and release height) are obtained from engineer.

Location of Vertices for AREAPOLY

	Vertex 1		Vertex 2		Vertex 3		Vertex 4	
Source ID	X	Y	X	Y	X	Y	X	Y
AP01	826561.06	824561.17	826578.27	824569.91	826579.85	824566.80	826562.64	824558.06
AP05	826527.02	824556.61	826528.43	824557.41	826529.21	824556.01	826527.80	824555.22
AP31	826757.32	824657.72	826759.85	824659.40	826762.95	824654.75	826760.43	824653.06
AP32	826763.56	824647.70	826766.09	824649.38	826769.19	824644.72	826766.67	824643.04
AP33	826770.24	824637.50	826772.77	824639.19	826775.87	824634.53	826773.35	824632.85
AP34	826776.22	824628.10	826778.74	824629.78	826781.85	824625.12	826779.33	824623.44

Hourly Profile	Daily
Hour	
Hour 1	1.0000
Hour 2	1.0000
Hour 3	1.0000
Hour 4	1.0000
Hour 5	1.0000
Hour 6	1.0000
Hour 7	1.0000
Hour 8	1.0000
Hour 9	1.0000
Hour 10	1.0000
Hour 11	1.0000
Hour 12	1.0000
Hour 13	1.0000
Hour 14	1.0000
Hour 15	1.0000
Hour 16	1.0000
Hour 17	1.0000
Hour 18	1.0000
Hour 19	1.0000
Hour 20	1.0000
Hour 21	1.0000
Hour 22	1.0000
Hour 23	1.0000
Hour 24	1.0000

Hourly Profile	Annual
Hour	
Hour 1	0.4000
Hour 2	0.4000
Hour 3	0.4000
Hour 4	0.4000
Hour 5	0.4000
Hour 6	0.4000
Hour 7	0.4000
Hour 8	0.4000
Hour 9	0.4000
Hour 10	0.4000
Hour 11	0.4000
Hour 12	0.4000
Hour 13	0.4000
Hour 14	0.4000
Hour 15	0.4000
Hour 16	0.4000
Hour 17	0.4000
Hour 18	0.4000
Hour 19	0.4000
Hour 20	0.4000
Hour 21	0.4000
Hour 22	0.4000
Hour 23	0.4000
Hour 24	0.4000

Appendix 4.2 Calculation of Emission Rates from Project

Proposed Asphalt Production

Calculation of Bitumen Fume

Concentration limit of Bitumen Fume (mg/m3):	5
Bitumen Fume Emission Rate (g/s):	7.333E-02
Asphalt production rate (Mg/hr)[1]:	208
Exhaust flow rate (m3/hr)[1]:	52800
Exhaust flow rate (m3/s)[1]:	14.67

Calculation of Non-PAH Hazardous Air Pollutants, PAH HAPs and Non-HAP Organic Compounds

Species	Emission Factor lb/ton[2]	Emission Factor kg/Mg	Emission Rate g/s
Non-PAH Hazardous Air Pollutants			
Acetaldehyde	3.200E-04	1.600E-04	9.244E-03
Benzene	2.800E-04	1.400E-04	8.089E-03
Ethylbenzene	2.200E-03	1.100E-03	6.356E-02
Formaldehyde	7.400E-04	3.700E-04	2.138E-02
Quinone	2.700E-04	1.350E-04	7.800E-03
Toluene	1.000E-03	5.000E-04	2.889E-02
Xylene	2.700E-03	1.350E-03	7.800E-02
PAH HAPs			
2-Methylnaphthalene	7.100E-05	3.550E-05	2.051E-03
Acenaphthene	9.000E-07	4.500E-07	2.600E-05
Acenaphthylene	5.800E-07	2.900E-07	1.676E-05
Anthracene	2.100E-07	1.050E-07	6.067E-06
Benzo(a)anthracene	4.600E-09	2.300E-09	1.329E-07
Benzo(a)pyrene	3.100E-10	1.550E-10	8.956E-09
Benzo(b)fluoranthene	9.400E-09	4.700E-09	2.716E-07
Benzo(g,h,i)perylene	5.000E-10	2.500E-10	1.444E-08
Benzo(k)fluoranthene	1.300E-08	6.500E-09	3.756E-07
Chrysene	3.800E-09	1.900E-09	1.098E-07
Dibenz(a,h)anthracene	9.500E-11	4.750E-11	2.744E-09
Fluoranthene	1.600E-07	8.000E-08	4.622E-06
Fluorene	1.600E-06	8.000E-07	4.622E-05
Indeno(1,2,3-cd)pyrene	3.000E-10	1.500E-10	8.667E-09
Naphthalene	3.600E-05	1.800E-05	1.040E-03
Phenanthrene	2.600E-06	1.300E-06	7.511E-05
Pyrene	6.200E-08	3.100E-08	1.791E-06
Non-HAP organic compound			
Benzaldehyde	1.300E-04	6.500E-05	3.756E-03
Butyraldehyde/ Isobutyraldehyde	3.000E-05	1.500E-05	8.667E-04
Crotonaldehyde	2.900E-05	1.450E-05	8.378E-04
Hexanal	2.400E-05	1.200E-05	6.933E-04

Remark:
[1] Provided by engineer
[2] USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-9 (No.2 fuel oil-fired dryer, hot screens and mixer with fabric filter)

Appendix 4.2 Calculation of Emission Rates from Project

Exhaust flow rate (m3/hr)[1]: 52800

Exhaust flow rate (m3/s)[1]: 14.67

Species	Emission Factor lb/ton	Emission Factor kg/Mg	Emission Rate g/s	Emission Rate mg/m3	Odour Threshold (ppm)	Odour Threshold (mg/m^3)	Relative Odour Strength (OU/m3)
Non-PAH Hazardous Air Pollutants							
Acetaldehyde	3.200E-04	1.600E-04	9.244E-03	6.303E-01	1.50E-03	2.70E-03	2.33E+02
Benzene	2.800E-04	1.400E-04	8.089E-03	5.515E-01	4.70E-01	1.50E+00	3.67E-01
Ethylbenzene	2.200E-03	1.100E-03	6.356E-02	4.333E+00	9.21E-02	2.70E-01	1.60E+01
Formaldehyde	7.400E-04	3.700E-04	2.138E-02	1.458E+00	2.70E-02	3.32E-02	4.40E+01
Quinone	2.700E-04	1.350E-04	7.800E-03	5.318E-01	1.06E-02	4.69E-02	1.13E+01
Toluene	1.000E-03	5.000E-04	2.889E-02	1.970E+00	2.10E-02	7.91E-02	2.49E+01
Xylene	2.700E-03	1.350E-03	7.800E-02	5.318E+00	1.20E-02	5.21E-02	1.02E+02
PAH HAPs							
2-Methylnaphtalene	7.100E-05	3.550E-05	2.051E-03	1.398E-01	6.90E-04	4.01E-03	3.48E+01
Acenaphthene	9.000E-07	4.500E-07	2.600E-05	1.773E-03	8.00E-02	5.05E-01	3.51E-03
Naphthalene	3.600E-05	1.800E-05	1.040E-03	7.091E-02	1.30E-03	6.81E-03	1.04E+01
Non-HAP organic compound							
Benzaldehyde	1.300E-04	6.500E-05	3.756E-03	2.561E-01	1.50E-03	6.51E-03	3.93E+01
Butyraldehyde/ Isobutyraldehyde	3.000E-05	1.500E-05	8.667E-04	5.909E-02	3.00E-04	8.85E-04	6.68E+01
Crotonaldehyde	2.900E-05	1.450E-05	8.378E-04	5.712E-02	2.00E-02	5.73E-02	9.97E-01
Hexanal	2.400E-05	1.200E-05	6.933E-04	4.727E-02	2.50E-02	1.02E-01	4.62E-01

Total Odour Concentration (OU/m3):	5.8474E+02
Total Odour Emission Rate (OU/s):	8.5762E+03
Conversion Multiplier for Stability Classes A - F [2]:	2.3000E+00
Emission Rate with 5-second Peak Factor (OU/s)	**1.9725E+04**

Remark:
[1] Provided by engineer
[2] Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales, Table 6.1

Appendix 4.2 Calculation of Emission Rates from Project

Estimation of Heavy Metal Emission

Emission of dryer Drum and Mixing Tower

Production Capacity (Mg/hr)[1]: 208

Metal	Emission Factor (lb/ton)	Emission Factor (kg/Mg)	Emission rate (g/s)
Arsenic	4.60E-07	2.30E-07	1.33E-05
Barium	1.50E-06	7.50E-07	4.33E-05
Beryllium	1.50E-07	7.50E-08	4.33E-06
Cadmium	6.10E-07	3.05E-07	1.76E-05
Chromium	5.70E-07	2.85E-07	1.65E-05
Hexavalent chromium	4.80E-08	2.40E-08	1.39E-06
Copper	2.80E-06	1.40E-06	8.09E-05
Lead	8.90E-07	4.45E-07	2.57E-05
Maganese	6.90E-06	3.45E-06	1.99E-04
Mercury	4.10E-07	2.05E-07	1.18E-05
Nickel	3.00E-06	1.50E-06	8.67E-05
Selenium	4.90E-07	2.45E-07	1.42E-05
Zinc	6.80E-06	3.40E-06	1.96E-04
Total:			7.11E-04

Remark:

[1] Provided by the design engineer

[2] USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-11

Emission of Bitumen Heating System

Maximum fuel consumption rate (10^3L/hr) [1] 0.164146667

Metal	Emission Factor (lb/10^3 Gal	Emission Factor (kg/10^3L)	Emission rate (g/s)
Arsenic	1.32E-03	1.58E-04	7.22E-06
Barium	-	-	-
Beryllium	2.78E-05	3.34E-06	1.52E-07
Cadmium	3.98E-04	4.78E-05	2.18E-06
Chromium	8.45E-04	1.01E-04	4.62E-06
Hexavalent chromium	-	-	-
Copper	1.76E-03	2.11E-04	9.63E-06
Lead	1.51E-03	1.81E-04	8.26E-06
Maganese	3.00E-03	3.60E-04	1.64E-05
Mercury	1.13E-04	1.36E-05	6.18E-07
Nickel	8.45E-02	1.01E-02	4.62E-04
Selenium	6.83E-04	8.20E-05	3.74E-06
Zinc	2.91E-02	3.49E-03	1.59E-04
Total:			6.74E-04

Remark:

[1] Provided by the design engineer

[2] Fuel similar to distillate oil is used to power the Bitumen Heating System, the species in the exhaust emission refer to USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-10.
However, the emission factors in the table (Table 1.3-10) are based on fuel consumption in energy. As only fuel consumption in litre is available by the engineer,
emission factors from "Uncontrolled No. 6 Fuel Oil Combustion" (USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-11) which is expected to have more emissions are adopted as a conservative approach

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

826800 E

827500 E

824900 N

824200 N

823500 N

SHEET 1 OF 3

SHEET 2 OF 3

SHEET 3 OF 3

NORTHWEST TSING YI INTERCHANGE

TAM KON SHAN ROAD

YAU KOM TAU

LIU TO SHAN

SHEK WAN

MA WAN CHANNEL

N

LEGEND:

- PROJECT BOUNDARY
- ROCK PROCESSING POINT SOURCE
- CONCRETE BATCHING POINT SOURCE
- CONCRETE BATCHING AREA SOURCE
- QUARRY VOLUME SOURCE
- PORTAL EMISSION VOLUME SOURCE
- ASPHALT PRODUCTION POINT SOURCE
- ASPHALT PRODUCTION AREA SOURCE
- PAVED HAUL ROAD
- STOCKPILE
- CAVERN HAUL ROAD

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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業主

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Civil Engineering and Development Department

CONSULTANT
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ISSUE/REVISION
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 6000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATION OF PROJECT EMISSION SOURCES (KEYPLAN)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 4.2

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2026/5/21
Plot File by: WANGIJF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_790.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

NOTE:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NO. 60733229/B19/APPENDIX 4.2.1 TO 4.2.3.

LEGEND:

- PROJECT BOUNDARY
- ROCK PROCESSING POINT SOURCE
- CONCRETE BATCHING POINT SOURCE
- CONCRETE BATCHING AREA SOURCE
- QUARRY VOLUME SOURCE
- PORTAL EMISSION VOLUME SOURCE
- ASPHALT PRODUCTION POINT SOURCE
- ASPHALT PRODUCTION AREA SOURCE
- PAVED HAUL ROAD
- STOCKPILE
- CAVERN HAUL ROAD

826600 E

826700 E

826800 E

824600 N

824500 N

N

SCP07 SCP06 SCP04 SCP09 SCP08 SCP05 SCP02 STKP03

V107 V106 V105 V104 V207 V206 V205 V204 V203 V202 V201 V102 V101 V103

CBP31 CBP32 AP31 AP32 AP33 AP34 STKP01 HR08 HR21 HR07 HR06

CBP03 CBP04 CBP01 CBP26 CBP06 CBP05 CBP27 CBP08 CBP07 CBP02 CBP10 CBP09 HR03 HR04 HR15 HR01 HR05 HR02

CBP21 CBP25 CBP22 CBP19 CBP17 CBP30 CBP15 CBP29 CBP13 CBP20 CBP11 CBP24 CBP28 CBP18 CBP23 CBP16 CBP14 CBP12

HR12 HR13 HR18 HR17 HR16 HR23 HR22 HR14 AP05 AP02 AP01 AP04 AP03 STKP02

BP01 BP02

海堤 Seawall

Road 道路

Elevated Road 高架道路

Nullah 渠

Graves 墓地

CUL

CUT LINE A-A
SEE DRAWING NO. 60733229/B19/APPENDIX 4.2.2

C401 C201

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AECOM

PROJECT
項目
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主
土木工程拓展署 Civil Engineering and Development Department

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ISSUE/REVISION
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I/R 修訂	DATE 日期	DESCRIPTION 修改說明	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 1000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
INDICATIVE LOCATION OF PROJECT EMISSION SOURCES

SHEET 1 OF 3

SHEET NUMBER
圖紙編號
60733229/B19/APPENDIX 4.2.1

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

CUT LINE A-A

SEE DRAWING NO. 60733229/B19/APPENDIX 4.2.1

826800 E

827000 E

827200 E

C101

C102

C103

C201

C301

C501

C502

C503

C504

C505

C506

C507

824300 N

824100 N

N

NOTE:

1. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60733229/B19/APPENDIX 4.2.1 TO 4.2.3.

LEGEND:

- PROJECT BOUNDARY
- ROCK PROCESSING POINT SOURCE
- CONCRETE BATCHING POINT SOURCE
- CONCRETE BATCHING AREA SOURCE
- QUARRY VOLUME SOURCE
- PORTAL EMISSION VOLUME SOURCE
- ASPHALT PRODUCTION POINT SOURCE
- ASPHALT PRODUCTION AREA SOURCE
- PAVED HAUL ROAD
- STOCKPILE
- CAVERN HAUL ROAD

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2026/5/21
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I/R 修訂	DATE 日期	DESCRIPTION 內容/摘要	CHK. 核核

STATUS
階段

SCALE
比例

A3 1 : 2000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

INDICATIVE LOCATION OF PROJECT EMISSION SOURCES

SHEET 2 OF 3

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 4.2.2

ISO A1 594mm x 841mm

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Checked:

Designer:

Project Management Initials:

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LEGEND:

- PROJECT BOUNDARY
- ROCK PROCESSING POINT SOURCE
- CONCRETE BATCHING POINT SOURCE
- CONCRETE BATCHING AREA SOURCE
- QUARRY VOLUME SOURCE
- PORTAL EMISSION VOLUME SOURCE
- ASPHALT PRODUCTION POINT SOURCE
- ASPHALT PRODUCTION AREA SOURCE
- PAVED HAUL ROAD
- STOCKPILE
- CAVERN HAUL ROAD

826300 E

826400 E

826500 E

824100 N

824000 N

STKP05

STKP06

STKP07

STKP04

STKP08

WEST TSING YI INTERCHANGE

Flat Rock

Nullah

Graves

Rubble

Seawall

HWM

CUL

N

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Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_783.dgn
2026/3/21

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核准

STATUS
狀況

SCALE 比例: A3 1 : 1000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

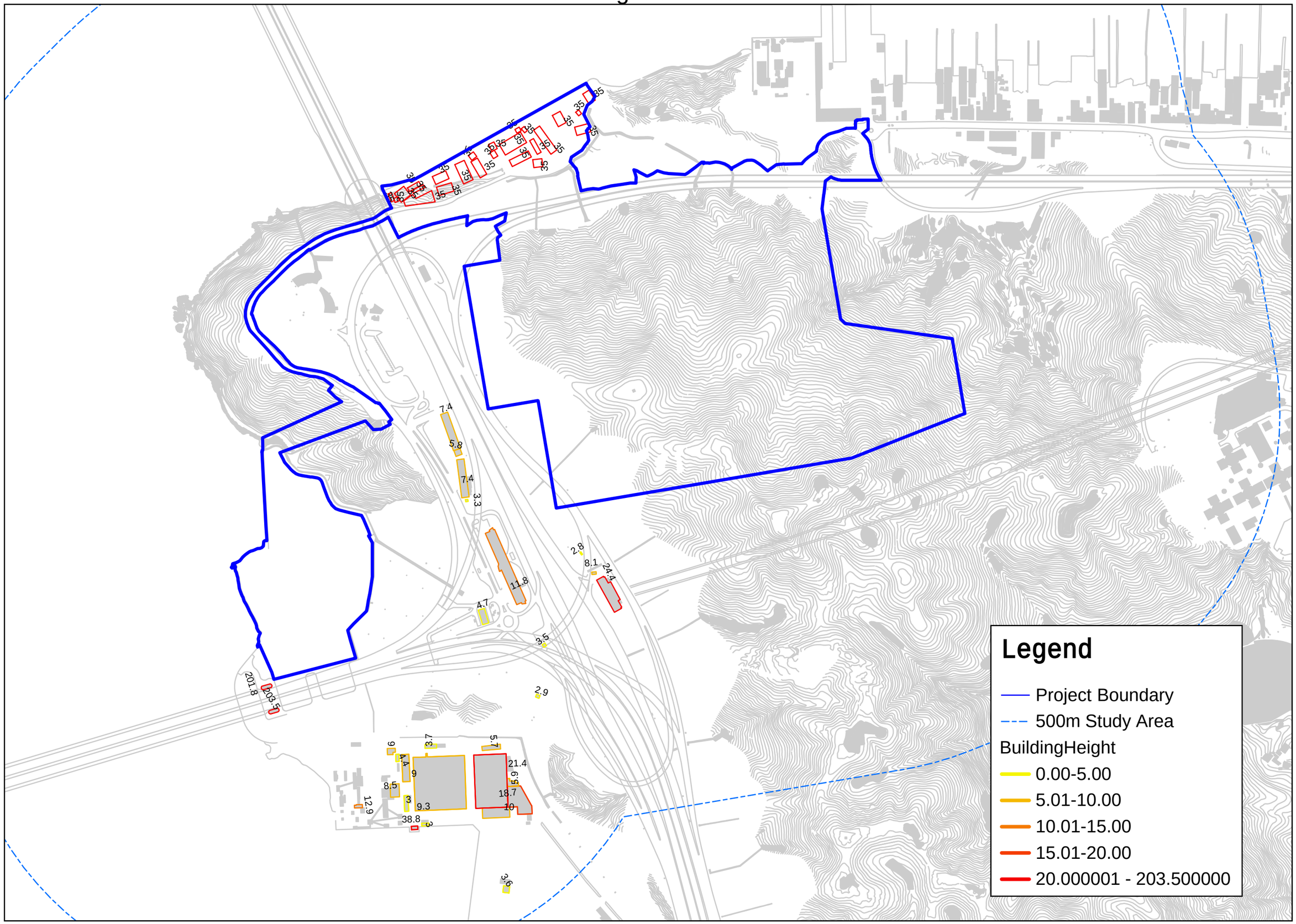
INDICATIVE LOCATION OF PROJECT EMISSION SOURCES

SHEET 3 OF 3

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 4.2.3

Building Downwash



Appendix 4.3

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Existing Cement Works by Anderson Concrete Limited

													Long-term Assessment								Short-term Assessment [3]	
													RSP Emission Rate [1][2]				FSP Emission Rate [1][2]				RSP Emission Rate [1][2]	FSP Emission Rate [1][2]
Source ID	Type	Source Descriptions [1]	X [1]	Y [1]	Xinit [1]	Yinit [1]	Orientation Angle (Degree) [1]	Area (m^2) [1]	Szint [1]	Stack Diameter (m) [1]	Height (mAG) [1]	Exit Temperature (K) [1]	Exit Velocity (m/s) [1]	0700-1900	1900-2300	2300-0600	0600-0700	0700-1900	1900-2300	2300-0600	0600-0700	0000 - 2400	0000 - 2400
STW_EP1	POINT	Dust Collector on Cement Silos	826498.50	823612.05	-	-	-	-	-	0.23	31.0	Ambient	58.9	8.122E-03	8.122E-03	8.122E-03	8.122E-03	3.692E-03	3.692E-03	3.692E-03	3.692E-03	8.122E-03	3.692E-03
STW_EP2	POINT	Dust Collector on Cement Silos	826507.55	823612.37	-	-	-	-	-	0.23	31.0	Ambient	58.9	8.122E-03	8.122E-03	8.122E-03	8.122E-03	3.692E-03	3.692E-03	3.692E-03	3.692E-03	8.122E-03	3.692E-03
STW_EP3	POINT	Dust Collector on Cement Silos	826537.76	823613.42	-	-	-	-	-	0.23	31.0	Ambient	47.9	6.611E-03	6.611E-03	6.611E-03	6.611E-03	3.005E-03	3.005E-03	3.005E-03	3.005E-03	6.611E-03	3.005E-03
STW_EP4	POINT	Dust Collector on Cement Silos	826537.92	823608.93	-	-	-	-	-	0.23	31.0	Ambient	47.9	6.611E-03	6.611E-03	6.611E-03	6.611E-03	3.005E-03	3.005E-03	3.005E-03	3.005E-03	6.611E-03	3.005E-03
STW_EP5	POINT	Dust Collector on Cement Silos	826538.07	823604.43	-	-	-	-	-	0.23	31.0	Ambient	58.9	8.122E-03	8.122E-03	8.122E-03	8.122E-03	3.692E-03	3.692E-03	3.692E-03	3.692E-03	8.122E-03	3.692E-03
STW_EP6	POINT	Dust Collector on Cement Silos	826533.26	823613.26	-	-	-	-	-	0.23	31.0	Ambient	58.9	8.122E-03	8.122E-03	8.122E-03	8.122E-03	3.692E-03	3.692E-03	3.692E-03	3.692E-03	8.122E-03	3.692E-03
STW_EP7	POINT	Dust Collector on CSF Silos	826533.42	823608.77	-	-	-	-	-	0.23	31.0	Ambient	19.2	4.148E-03	4.148E-03	4.148E-03	4.148E-03	1.886E-03	1.886E-03	1.886E-03	1.886E-03	4.148E-03	1.886E-03
STW_EP8	POINT	Dust Collector on Cement Silos	826533.58	823604.27	-	-	-	-	-	0.23	31.0	Ambient	19.2	2.644E-03	2.644E-03	2.644E-03	2.644E-03	1.202E-03	1.202E-03	1.202E-03	1.202E-03	2.644E-03	1.202E-03
STW_EP9	POINT	Weigh Hopper Loading	826529.25	823612.08	-	-	-	-	-	0.23	14.2	Ambient	1.0	6.922E-04	2.076E-04	6.922E-05	6.922E-05	2.036E-04	6.107E-05	2.036E-05	2.036E-05	6.922E-04	2.036E-04
STW_EP10	POINT	Weigh Hopper Loading	826533.68	823608.53	-	-	-	-	-	0.23	14.2	Ambient	1.0	6.922E-04	2.076E-04	6.922E-05	6.922E-05	2.036E-04	6.107E-05	2.036E-05	2.036E-05	6.922E-04	2.036E-04
STW_EP11	POINT	Weigh Hopper Loading	826538.44	823603.99	-	-	-	-	-	0.23	14.2	Ambient	1.0	6.922E-04	2.076E-04	6.922E-05	6.922E-05	2.036E-04	6.107E-05	2.036E-05	2.036E-05	6.922E-04	2.036E-04
STW_EP12	POINT	Dust Collector on Mixers	826527.95	823612.03	-	-	-	-	-	0.23	14.2	Ambient	19.2	2.367E-03	7.101E-04	2.367E-04	2.367E-04	1.076E-03	3.228E-04	1.076E-04	1.076E-04	2.367E-03	1.076E-03
STW_EP13	POINT	Dust Collector on Mixers	826532.38	823608.48	-	-	-	-	-	0.23	14.2	Ambient	19.2	2.367E-03	7.101E-04	2.367E-04	2.367E-04	1.076E-03	3.228E-04	1.076E-04	1.076E-04	2.367E-03	1.076E-03
STW_EP14	POINT	Dust Collector on Mixers	826537.14	823603.95	-	-	-	-	-	0.23	14.2	Ambient	19.2	2.367E-03	7.101E-04	2.367E-04	2.367E-04	1.076E-03	3.228E-04	1.076E-04	1.076E-04	2.367E-03	1.076E-03
STW_EP16	POINT	Unloading of aggregates (Mixed with sand)	826475.29	823553.69	-	-	-	-	-	0.23	7.8	Ambient	1.0	2.958E-02	2.958E-02	2.958E-02	2.958E-02	6.930E-03	6.930E-03	6.930E-03	6.930E-03	2.958E-02	6.930E-03
STW_EP17A	AREA	Paved Haul Road inside CBP	826543.48	823689.70	54.41	6.00	179.26	326.46	0.00001	-	0.5	-	-	3.960E-05	4.260E-05	5.920E-06	3.960E-06	9.570E-06	1.030E-05	1.430E-06	9.570E-07	4.260E-05	1.030E-05
STW_EP17B	AREA	Paved Haul Road inside CBP	826491.85	823686.66	6.00	22.65	176.32	135.90	0.00001	-	0.5	-	-	3.960E-05	4.260E-05	5.920E-06	3.960E-06	9.570E-06	1.030E-05	1.430E-06	9.570E-07	4.260E-05	1.030E-05
STW_EP17C	AREA	Paved Haul Road inside CBP	826490.74	823663.91	3.50	12.40	176.00	43.40	0.00001	-	0.5	-	-	1.800E-05	1.980E-05	2.630E-06	1.800E-06	4.350E-06	4.800E-06	6.360E-07	4.350E-07	1.980E-05	4.800E-06
STW_EP17D	AREA	Paved Haul Road inside CBP	826491.55	823651.53	3.50	40.00	179.17	140.00	0.00001	-	0.5	-	-	1.800E-05	1.980E-05	2.630E-06	1.800E-06	4.350E-06	4.800E-06	6.360E-07	4.350E-07	1.980E-05	4.800E-06
STW_EP17E	AREA	Paved Haul Road inside CBP	826492.23	823611.78	3.50	16.90	175.52	59.15	0.00001	-	0.5	-	-	1.800E-05	2.300E-05	4.320E-06	1.800E-06	4.350E-06	5.570E-06	1.050E-06	4.350E-07	2.300E-05	5.570E-06
STW_EP17F	AREA	Paved Haul Road inside CBP	826493.34	823597.04	3.50	27.70	90.07	96.95	0.00001	-	0.5	-	-	0.000E+00	1.540E-05	0.000E+00	0.000E+00	0.000E+00	3.720E-06	0.000E+00	0.000E+00	1.540E-05	3.720E-06
STW_EP17G	AREA	Paved Haul Road inside CBP	826521.20	823586.29	26.87	3.50	180.00	94.05	0.00001	-	0.5	-	-	0.000E+00	4.260E-06	0.000E+00	0.000E+00	0.000E+00	1.030E-06	0.000E+00	0.000E+00	4.260E-06	1.030E-06
STW_EP17H	AREA	Paved Haul Road inside CBP	826521.53	823575.56	25.91	3.50	180.00	90.69	0.00001	-	0.5	-	-	0.000E+00	4.260E-06	0.000E+00	0.000E+00	0.000E+00	1.030E-06	0.000E+00	0.000E+00	4.260E-06	1.030E-06
STW_EP17I	AREA	Paved Haul Road inside CBP	826527.19	823586.29	5.98	3.50	180.00	20.93	0.00001	-	0.5	-	-	0.000E+00	1.120E-05	0.000E+00	0.000E+00	0.000E+00	2.700E-06	0.000E+00	0.000E+00	1.120E-05	2.700E-06
STW_EP17J	AREA	Paved Haul Road inside CBP	826527.19	823575.56	5.65	3.50	180.00	19.78	0.00001	-	0.5	-	-	0.000E+00	1.120E-05	0.000E+00	0.000E+00	0.000E+00	2.700E-06	0.000E+00	0.000E+00	1.120E-05	2.700E-06
STW_EP17K	AREA	Paved Haul Road inside CBP	826493.69	823595.04	3.50	28.00	174.40	98.00	0.00001	-	0.5	-	-	1.800E-05	2.140E-05	4.320E-06	1.800E-06	4.350E-06	5.170E-06	1.050E-06	4.350E-07	2.140E-05	5.170E-06
STW_EP17L	AREA	Paved Haul Road inside CBP	826494.91	823570.23	3.50	25.00	104.00	87.50	0.00001	-	0.5	-	-	1.800E-05	2.140E-05	4.320E-06	1.800E-06	4.350E-06	5.170E-06	1.050E-06	4.350E-07	2.140E-05	5.170E-06
STW_EP17M	AREA	Paved Haul Road inside CBP	826535.11	823572.27	20.00	3.50	155.62	70.00	0.00001	-	0.5	-	-	1.800E-05	2.140E-05	4.320E-06	1.800E-06	4.350E-06	5.170E-06	1.050E-06	4.350E-07	2.140E-05	5.170E-06
STW_EP17N	AREA	Paved Haul Road inside CBP	826541.19	823602.16	14.00	31.00	180.00	434.00	0.00001	-	0.5	-	-	4.490E-06	1.090E-05	1.080E-06	4.490E-07	1.090E-06	2.640E-06	2.620E-07	1.090E-07	1.090E-05	2.640E-06
STW_EP17O	AREA	Paved Haul Road inside CBP	826539.61	823650.99	14.00	35.00	178.00	490.00	0.00001	-	0.5	-	-	1.250E-05	1.330E-05	1.890E-06	1.250E-06	3.030E-06	3.230E-06	4.560E-07	3.030E-07	1.330E-05	3.230E-06
STW_EP17P	AREA	Paved Haul Road inside CBP	826510.86	823658.85	3.50	30.00	102.00	105.00	0.00001	-	0.5	-	-	5.000E-05	5.340E-05	7.550E-06	5.000E-06	1.210E-05	1.290E-05	1.830E-06	1.210E-06	5.340E-05	1.290E-05
STW_EP17Q	AREA	Paved Haul Road inside CBP	826491.74	823664.87	3.50	20.00	107.00	70.00	0.00001	-	0.5	-	-	5.000E-05	5.340E-05	7.550E-06	5.000E-06	1.210E-05	1.290E-05	1.830E-06	1.210E-06	5.340E-05	1.290E-05
STW_EP17R	AREA	Paved Haul Road inside CBP	826523.12	823654.00	10.50	10.00	178.00	105.00	0.00001	-	0.5	-	-	3.500E-05	1.050E-05	3.500E-06	3.500E-06	8.470E-06	2.540E-06	8.470E-07	8.470E-07	3.500E-05	8.470E-06
STW_EP18	AREA	Unloading of aggregates (Mixed with sand)	826515.20	823594.11	5.60	2.30	0.00	12.88	0.00001	-	6.0	-	-	0.00E+00	7.93E-04	0.00E+00	0.00E+00	0.00E+00	1.86E-04	0.00E+00	0.00E+00	7.927E-04	1.857E-04
STW_EP19	AREA	Unloading of aggregates (Mixed with sand)	826515.38	823583.29	5.60	2.30	0.00	12.88	0.00001	-	6.0	-	-	0.00E+00	7.93E-04	0.00E+00	0.00E+00	0.00E+00	1.86E-04	0.00E+00	0.00E+00	7.927E-04	1.857E-04
STW_EP20	AREA	Unloading of aggregates (Mixed with sand)	826515.81	823572.26	5.60	2.30	0.00	12.88	0.00001	-	6.0	-	-	0.00E+00	7.93E-04	0.00E+00	0.00E+00	0.00E+00	1.86E-04	0.00E+00	0.00E+00	7.927E-04	1.857E-04

Notes:

[1] The stack parameters, and emission rates of RSP and FSP of the emission sources refer to the approved EIA Report of Tsing Yi - Lantau Link (EIA-314/2025).

[2] The units of emission rates are g/s and g/s-m^2 for point sources and area sources, respectively

[3] For short-term assessment (i.e., Daily RSP/FSP), the maximum emission rates are adopted for every hour as a conservative approach.

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Existing Cement Works by Alliance Construction Materials Limited

Source ID	Exhaust Gas Flow Rate (m^3/h) [1]	Type	X [2]	Y [2]	Xinit [1]	Yinit [1]	Orientation Angle (Degree) [2]	Area (m^2) [1]	Szint [1]	Stack Diameter (m) [1]	Height (mAG) [1]	Exit Temperature (K) [1]	Exit Velocity (m/s) [1]	Working Hours [1]	RSP Emission [1],[3]	FSP Emission [1],[3]
G_EP1	N.A.	AREA	826459.21	823552.68	6	6	0	36	0.00001	-	1.0	Ambient	-	0000 - 2400	9.197E-07	1.393E-07
G_EP1A	N.A.	AREA	826455.83	823533.42	15.8	36.5	194.00	576.70	0.00001	-	1.0	Ambient	-	0000 - 2400	1.332E-04	2.016E-05
G_EP2	N.A.	AREA	826449.35	823564.82	3	5	357	15	0.00001	-	1.0	Ambient	-	0000 - 2400	3.626E-07	5.491E-08
G_EP3	4200	POINT	826447.00	823639.00	-	-	-	-	-	0.29	19.8	Ambient	17.3	0000 - 2400	5.833E-02	5.833E-02
G_EP4	4200	POINT	826448.00	823626.00	-	-	-	-	-	0.29	19.8	Ambient	17.3	0000 - 2400	5.833E-02	5.833E-02
G_EP5	1780	POINT	826484.00	823634.00	-	-	-	-	-	0.16	27.5	Ambient	25.5	0000 - 2400	2.472E-02	2.472E-02
G_EP6	1780	POINT	826484.00	823631.00	-	-	-	-	-	0.16	22.5	Ambient	25.5	0000 - 2400	2.472E-02	2.472E-02
G_EP7	1780	POINT	826484.00	823627.00	-	-	-	-	-	0.16	27.5	Ambient	25.5	0000 - 2400	2.472E-02	2.472E-02
G_EP8	1780	POINT	826484.00	823624.00	-	-	-	-	-	0.16	27.5	Ambient	25.5	0000 - 2400	2.472E-02	2.472E-02
G_EP9	1780	POINT	826484.00	823621.00	-	-	-	-	-	0.16	22.5	Ambient	25.5	0000 - 2400	2.472E-02	2.472E-02
G_EP10A	N.A.	AREA	826541.74	823691.62	40.00	3.50	179.26	140.00	0.00001	-	0.0	Ambient	-	0000 - 2400	1.123E-04	2.716E-05
G_EP10B	N.A.	AREA	826502.34	823688.33	3.50	45.00	181.20	157.50	0.00001	-	0.0	Ambient	-	0000 - 2400	1.123E-04	2.716E-05
G_EP11	1780	POINT	826477.00	823627.00	-	-	-	-	-	0.16	10.0	Ambient	25.5	0000 - 2400	2.472E-02	2.472E-02
G_EP12	1780	POINT	826477.00	823625.00	-	-	-	-	-	0.16	10.0	Ambient	25.5	0000 - 2400	2.472E-02	2.472E-02
G_EP13	3000	POINT	826442.00	823551.00	-	-	-	-	-	0.26	6.3	Ambient	15.6	0000 - 2400	4.167E-02	4.167E-02
G_EP14	4800	POINT	826439.00	823622.00	-	-	-	-	-	0.29	6.4	Ambient	19.7	0000 - 2400	6.667E-02	6.667E-02
G_EP16	1800	POINT	826442.00	823632.00	-	-	-	-	-	0.21	9.8	Ambient	14.9	0000 - 2400	2.500E-02	2.500E-02
G_EP17	1800	POINT	826452.00	823633.00	-	-	-	-	-	0.26	9.8	Ambient	9.2	0000 - 2400	2.500E-02	2.500E-02
G_EP18	N.A.	AREA	826451.04	823579.59	2	2	180.00	4.00	0.00001	-	1.0	Ambient	-	0000 - 2400	3.429E-06	5.193E-07
G_EP19	N.A.	AREA	826456.05	823533.25	15.8	36.5	195.70	576.70	0.00001	-	1.0	Ambient	-	0000 - 2400	1.332E-05	2.016E-06

Notes:

[1] The stack parameters, and emission rates of RSP and FSP of the emission sources refer to the approved EIA Report of Tsing Yi - Lantau Link (EIA-314/2025).
[2] The coordinates and orientation angle of the emission sources refer to refer to the approved EIA Report of Tsing Yi - Lantau Link (EIA-314/2025).
[3] The units of emission rates are g/s and g/s-m^2 for point sources and area sources, respectively

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Existing Tar and Bitumen Works by Asphalt Surfaces (International) Limited

Source	Type[1]	X1[2]	Y1[2]	X2[2]	Y2[2]	Elevation	Height (mAG) [1]	Temperature (K) [1]	Exit Velocity (m/s) [1]	Diameter (m) [1]	Width (m) [1]	Length (m) [1]	Angle (degree) [2]	Initial Vertical Dimension (m)	RSP Emission Rate (g/s or g/m^2/s) [1]	FSP Emission Rate (g/s or g/m^2/s) [1]	NOx Emission Rate (g/s or g/m^2/s) [1]	SO2 Emission Rate (g/s or g/m^2/s) [1],[3]	Bitumen Emisison Rate (g/s) [1]	Odour Emission Rate (OU/s) [1]	Working Hours
AP5_EP1	POINT	826461.00	823598.00	-	-	5.20	16.00	383.15	21.05	1.25	-	-	-	-	2.400E-01	2.400E-01	3.0000	1.109E+00	2.750E-03	6.451E-03	0000 - 2400
AP5_EP2	POINT	826471.93	823593.46	-	-	5.20	15.00	-	0.00	4.37	3.00	5.00	-	-	4.722E-04	4.722E-04	-	-	-	-	0000 - 2400
AP5_EP3	POINT	826471.00	823575.00	-	-	5.20	5.00	493.15	6.88	0.25	-	-	-	-	2.733E-03	2.733E-03	2.733E-02	1.832E-02	-	3.862E-01	0000 - 2400
AP5_EP4A	AREA	826543.40	823689.70	54.41	6.00	5.20	0.00	-	-	-	5.00	10.00	179.26	3.07581	3.255E-06	7.876E-07	-	-	-		0000 - 2400
AP5_EP4B	AREA	826492.12	823686.26	6.00	60.00	5.20	0.00	-	-	-	5.00	32.50	176.31	3.07581	3.255E-06	7.876E-07	-	-	-		0000 - 2400
AP5_EP4C	AREA	826495.68	823626.76	6.00	20.41	5.20	0.00	-	-	-	5.00	32.50	176.32	3.07581	3.255E-06	7.876E-07	-	-	-		0000 - 2400
AP5_EP4D	AREA	826494.15	823608.97	15.18	6.00	5.20	0.00	-	-	-	5.00	105.00	176.37	3.07581	3.255E-06	7.876E-07	-	-	-		0000 - 2400
AP5_EP5	AREA	826448.10	823577.24	3.50	3.50	5.20	4.30	-	-	-	3.50	3.50	0.00	0.00001	8.580E-07	8.580E-07	-	-	-		0000 - 2400
AP5_EP6	AREA	826457.15	823574.26	10.00	8.00	5.20	3.00	-	-	-	10.00	8.00	0.00	0.00001	8.448E-05	8.448E-05	-	-	-		0000 - 2400
AP5_EP7	AREA	826446.79	823603.24	3.00	5.00	5.20	3.00	-	-	-	3.00	5.00	0.00	0.00001	2.540E-06	2.540E-06	-	-	-		0000 - 2400
AP5_EP8	AREA	826477.39	823576.38	10.00	8.00	5.20	3.00	-	-	-	10.00	8.00	0.00	0.00001	1.314E-07	1.314E-07	-	-	-		0000 - 2400
AP5_EP9	AREA	826469.48	823550.64	3.00	5.00	5.20	1.00	-	-	-	3.00	5.00	0.00	0.00001	1.126E-06	1.126E-06	-	-	-		0000 - 2400
AP5_EP10	AREA	826480.49	823510.83	15.80	36.50	5.20	1.00	-	-	-	36.50	15.80	192.97	0.00001	1.252E-04	1.896E-05	-	-	-		0000 - 2400
AP5_EP11	POINT	826477.00	823595.00	-	-	5.20	3.00	493.15	10.74	0.20	-	-	-	-	2.000E-03	7.850E-02	2.000E-02	1.570E-02	2.500E-05	3.600E-01	0000 - 2400
AP5_EP12	AREA	826455.00	823568.00	0.80	0.60	5.20	2.50	-	-	-	0.80	0.60	0.00	0.00001	5.748E-05	5.748E-05	-	-	-	-	0000 - 2400
AP5_EP13	AREA	826481.00	823587.00	0.50	0.40	5.20	0.00	-	-	-	0.50	0.40	0.00	0.00001	2.168E-05	2.168E-05	-	-	-	-	0000 - 2400
AP5_EP15	POINT	826465.90	823582.30	-	-	5.20	4.50	0.00	0.50	0.45	0.40	0.40	-	-	-	-	-	-	4.000E-10	-	0000 - 2400
AP5_EP16	POINT	826461.20	823582.00	-	-	5.20	2.50	0.00	0.50	0.05	-	-	-	-	-	-	-	-	1.964E-11	-	0000 - 2400
AP5_EP17	POINT	826462.30	823576.10	-	-	5.20	4.50	0.00	0.50	0.05	-	-	-	-	-	-	-	-	1.964E-11	-	0000 - 2400

Notes:

[1] The stack parameters, and emission rates of RSP, FSP and NOx of the emission sources refer to the approved EIA Report of Tsing Yi - Lantau Link (EIA-314/2025).
The emission rates of SO_2 and bitumen refer to SP Licence of Asphalt Surface (International) Limited extracted from SAMP. The odour emission rate refer to Environmental Assessment Report of Anderson Asphalt Limited (18 April 2024).

[2] The coordinates and orientation angle of the emission sources refer to the approved EIA Report of Tsing Yi - Lantau Link (EIA-314/2025)

[3] The SO2 emission rate is adjusted to one-fifth the rate stated on APCP as the sulphur content of liquid fuel for industrial use has been tightened from 0.005% to 0.001% under the Air Pollution Control (Fuel Restriction) Regulation 2024 (Cap.3111) since 1 April 2025.

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Sources from Existing Tar and Bitumen Works by Asphalt Surfaces (International) Limited under SP Licence No.: L-15-027(5)

Calculation of Non-PAH Hazardous Air Pollutants, PAH HAPs and Non-HAP Organic Compounds

Production Capacity (Mg/hr) [1]: 180

Species	Emission Factor lb/ton[2]	Emission Factor kg/Mg	Emission Rate g/s [3]
Non-PAH Hazardous Air Pollutants			
Acetaldehyde	3.200E-04	1.600E-04	8.000E-03
Benzene	2.800E-04	1.400E-04	7.000E-03
Ethylbenzene	2.200E-03	1.100E-03	5.500E-02
Formaldehyde	7.400E-04	3.700E-04	1.850E-02
Quinone	2.700E-04	1.350E-04	6.750E-03
Toluene	1.000E-03	5.000E-04	2.500E-02
Xylene	2.700E-03	1.350E-03	6.750E-02
PAH HAPs			
2-Methylnaphthalene	7.100E-05	3.550E-05	1.775E-03
Acenaphthene	9.000E-07	4.500E-07	2.250E-05
Acenaphthylene	5.800E-07	2.900E-07	1.450E-05
Anthracene	2.100E-07	1.050E-07	5.250E-06
Benzo(a)anthracene	4.600E-09	2.300E-09	1.150E-07
Benzo(a)pyrene	3.100E-10	1.550E-10	7.750E-09
Benzo(b)fluoranthene	9.400E-09	4.700E-09	2.350E-07
Benzo(g,h,i)perylene	5.000E-10	2.500E-10	1.250E-08
Benzo(k)fluoranthene	1.300E-08	6.500E-09	3.250E-07
Chrysene	3.800E-09	1.900E-09	9.500E-08
Dibenz(a,h)anthracene	9.500E-11	4.750E-11	2.375E-09
Fluoranthene	1.600E-07	8.000E-08	4.000E-06
Fluorene	1.600E-06	8.000E-07	4.000E-05
Indeno(1,2,3-cd)pyrene	3.000E-10	1.500E-10	7.500E-09
Naphthalene	3.600E-05	1.800E-05	9.000E-04
Phenanthrene	2.600E-06	1.300E-06	6.500E-05
Pyrene	6.200E-08	3.100E-08	1.550E-06
Non-HAP organic compound			
Benzaldehyde	1.300E-04	6.500E-05	3.250E-03
Butyraldehyde/ Isobutyraldehyde	3.000E-05	1.500E-05	7.500E-04
Crotonaldehyde	2.900E-05	1.450E-05	7.250E-04
Hexanal	2.400E-05	1.200E-05	6.000E-04

Remark:
[1] Reference made to the SP Licence of Asphalt Surface (International) Limited extracted from SAMP.
[2] USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-9 (No.2 fuel oil-fired dryer, hot screens and mixer with fabric filter)
[3] The emission rate is calcuated by: Emission Factor (kg [Pollutant] / Mg [Asphalt produced]) × Production Capacity (Mg [Asphalt Produced] / hr) × 1 / 3.6

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Sources from Existing Tar and Bitumen Works by Asphalt Surfaces (International) Limited under SP Licence No.: L-15-027(5)
Estimation of Heavy Metal Emission

Emission of dryer Drum and Mixing Tower

Production Capacity (Mg/hr)[1]: 180

Metal	Emission Factor (lb/ton) [2]	Emission Factor (kg/Mg)	Emission rate (g/s)
Arsenic	4.60E-07	2.30E-07	1.15E-05
Barium	1.50E-06	7.50E-07	3.75E-05
Beryllium	1.50E-07	7.50E-08	3.75E-06
Cadmium	6.10E-07	3.05E-07	1.53E-05
Chromium	5.70E-07	2.85E-07	1.43E-05
Hexavalent chromium	4.80E-08	2.40E-08	1.20E-06
Copper	2.80E-06	1.40E-06	7.00E-05
Lead	8.90E-07	4.45E-07	2.23E-05
Maganese	6.90E-06	3.45E-06	1.73E-04
Mercury	4.10E-07	2.05E-07	1.03E-05
Nickel	3.00E-06	1.50E-06	7.50E-05
Selenium	4.90E-07	2.45E-07	1.23E-05
Zinc	6.80E-06	3.40E-06	1.70E-04
Total:			6.16E-04

Remark:
[1] Reference made to the SP Licence of Asphalt Surface (International) Limited extracted from SAMP.
[2] USEPA AP-42, section 11.1, 3/04 ed. Table 11.1-11

Emission of Bitumen Heating System

Maximum fuel consumption rate (10^3L/hr) [1] 0.022

Metal	Emission Factor (lb/10^3 Gal)	Emission Factor (kg/10^3L)	Emission rate (g/s)
Arsenic	1.32E-03	1.58E-04	9.68E-07
Barium	-	-	-
Beryllium	2.78E-05	3.34E-06	2.04E-08
Cadmium	3.98E-04	4.78E-05	2.92E-07
Chromium	8.45E-04	1.01E-04	6.20E-07
Hexavalent chromium	-	-	-
Copper	1.76E-03	2.11E-04	1.29E-06
Lead	1.51E-03	1.81E-04	1.11E-06
Maganese	3.00E-03	3.60E-04	2.20E-06
Mercury	1.13E-04	1.36E-05	8.29E-08
Nickel	8.45E-02	1.01E-02	6.20E-05
Selenium	6.83E-04	8.20E-05	5.01E-07
Zinc	2.91E-02	3.49E-03	2.13E-05
Total:			9.04E-05

Remark:
[1] Reference made to the Supplementary Report for Approved APCP of Asphalt Surfaces (International) Ltd. (September 2024)
[2] Fuel similar to distillate oil is used to power the Bitumen Heating System, the species in the exhaust emission refer to USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-10. However, the emission factors in the table (Table 1.3-10) are based on fuel consumption in energy. As only fuel consumption in litre is available by the engineer, emission factors from "Uncontrolled No. 6 Fuel Oil Combustion" (USEPA AP-42, section 1.3, 5/10 ed. Table 1.3-11) which is expected to have more emissions are adopted as a conservative approach

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Sources from Existing Tar and Bitumen Works by Asphalt Surfaces (International) Limited under SP Licence No.: L-15-027(5)

Estimation of Heavy Metal Emission

Total Emission of Heavy Metal at EP1

Metal	Emission rate (g/s)
Arsenic	1.247E-05
Barium	3.750E-05
Beryllium	3.770E-06
Cadmium	1.554E-05
Chromium	1.487E-05
Hexavalent chromium	1.200E-06
Copper	7.129E-05
Lead	2.336E-05
Maganese	1.747E-04
Mercury	1.033E-05
Nickel	1.370E-04
Selenium	1.275E-05
Zinc	1.913E-04
Total	7.061E-04

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Existing Cement Works by Hong Kong Cement Co. Ltd [1]

Source ID	Type	X1	Y1	X2	Y2	Height (mAG)	Width (m) / Angle (degree)	Exit Temp. (K)	Exit velocity (m/s)	Stack Diameter (m)	Szint	Working Hours	RSP Emission Rate [2]	FSP Emission Rate [2]
HKCE1	POINT	827176.00	824760.00	-	-	45.00	-	0	6.67	0.52	-	0000-2400	4.250E-03	1.932E-03
HKCE2	POINT	827181.00	824760.00	-	-	45.00	-	0	6.67	0.52	-	0000-2400	4.250E-03	1.932E-03
HKCE3	POINT	827178.00	824763.00	-	-	20.05	-	0	19.62	0.52	-	0000-2400	2.242E-02	1.019E-02
HKCE4	POINT	827176.00	824739.00	-	-	45.00	-	0	6.67	0.52	-	0000-2400	4.250E-03	1.932E-03
HKCE5	POINT	827181.00	824739.00	-	-	45.00	-	0	6.67	0.52	-	0000-2400	4.250E-03	1.932E-03
HKCE6	POINT	827178.00	824736.00	-	-	20.05	-	0	13.56	0.65	-	0000-2400	2.015E-02	9.159E-03
HKCE9	POINT	827170.00	824737.00	-	-	20.00	-	0	12.03	0.50	-	0000-2400	1.515E-02	6.886E-03

Remarks:
1 - The emission inventory is extracted from Air Pollution Control Plan (dated August, 2023) for Cement Works by Hong Kong Concrete Co. Ltd.
2 - Emission rate of point source is in gram per second (g/s) while the one of area source is in gram per square meter per second (g/m2/s).

Existing Cement works by Hong Kong Concrete Co. Ltd.

Source ID	Type [1]	X1 [2]	Y1 [2]	X2	Y2	Height (mAG) [1]	Width (m) / Angle (degree)	Exit Temp. (K) [1]	Exit velocity (m/s)	Stack Diameter (m) [1]	Szint	Working Hours [1]	RSP Emission Rate [1,3]	FSP/RSP Factor [4]	FSP Emission Rate [3]
HKCO1	POINT	827119.51	824752.66	-	-	28.50	-	0.0	18.74	0.38	-	0000-2400	7.000E-03	0.45	3.182E-03
HKCO2	POINT	827116.17	824752.61	-	-	28.50	-	0.0	18.74	0.38	-	0000-2400	7.000E-03	0.45	3.182E-03
HKCO3	POINT	827112.84	824752.56	-	-	28.50	-	0.0	18.74	0.38	-	0000-2400	7.000E-03	0.45	3.182E-03
HKCO4	POINT	827109.63	824752.51	-	-	28.50	-	0.0	18.74	0.38	-	0000-2400	7.000E-03	0.45	3.182E-03
HKCO5	POINT	827118.91	824762.13	-	-	36.90	-	0.0	18.74	0.38	-	0000-2400	1.984E-02	0.45	9.019E-03
HKCO6	POINT	827109.35	824760.45	-	-	36.00	-	0.0	18.74	0.38	-	0000-2400	1.984E-02	0.45	9.019E-03
HKCO7	POINT	827116.12	824755.98	-	-	28.00	-	0.0	9.90	0.25	-	0000-2400	4.578E-03	0.45	2.081E-03
HKCO8	POINT	827119.46	824759.03	-	-	28.00	-	0.0	12.05	0.27	-	0000-2400	6.869E-03	0.45	3.122E-03
HKCO9	POINT	827112.79	824755.93	-	-	28.00	-	0.0	12.05	0.27	-	0000-2400	6.869E-03	0.45	3.122E-03
HKCO10	POINT	827109.58	824755.88	-	-	28.00	-	0.0	12.05	0.27	-	0000-2400	6.869E-03	0.45	3.122E-03
HKCO11	POINT	827108.82	824750.17	-	-	19.50	-	0.0	14.46	0.25	-	0000-2400	6.411E-03	0.45	2.914E-03
HKCO12	POINT	827119.54	824750.33	-	-	19.50	-	0.0	12.05	0.27	-	0000-2400	6.411E-03	0.45	2.914E-03
HKCO13	POINT	827118.28	824750.32	-	-	19.50	-	0.0	12.05	0.27	-	0000-2400	6.411E-03	0.45	2.914E-03
HKCO15	POINT	827104.91	824755.02	-	-	10.90	-	0.0	12.37	0.27	-	0000-2400	4.122E-03	0.45	1.874E-03
HKCO16	POINT	827104.97	824753.44	-	-	10.90	-	0.0	12.37	0.27	-	0000-2400	4.122E-03	0.45	1.874E-03

Remarks:
1 - Data extracted from Specified Processes License Registry maintained by HKEPD.
2 - The coordinates of the sources refer to satellite image and site visit
3 - Emission rate of point source is in gram per second (g/s) while the one of area source is in gram per square meter per second (g/m2/s).
4 -The FSP-to-RSP ratio refer to "Particle Size Distribution of General Concrete Batching Process (Controlled by Fabric Filter) (Applied for FSP Calculation)"

Existing Cement works by Quon Hing Concrete Company Limited [1]

Source ID	Type	X1	Y1	X2	Y2	Height (mAG)	Width (m) / Angle (degree)	Exit Temp. (K)	Exit velocity (m/s)	Stack Diameter (m)	Szint	Working Hours	RSP Emission Rate [2]	FSP Emission Rate [2]
QHC1	POINT	827146.00	824735.00	-	-	28.00	-	0.00	1.33	1.07	-	0700-1900	4.061E-03	1.846E-03
QHC2	POINT	827146.00	824732.00	-	-	28.00	-	0.00	2.01	1.07	-	0700-1900	6.139E-03	2.790E-03
QHC3	POINT	827142.00	824732.00	-	-	28.00	-	0.00	1.33	1.07	-	0700-1900	6.370E-03	2.896E-03
QHC4	POINT	827139.00	824732.00	-	-	28.00	-	0.00	14.84	0.22	-	0700-1900	1.889E-03	8.586E-04
QHC5	POINT	827139.00	824735.00	-	-	28.00	-	0.00	1.33	1.07	-	0700-1900	4.061E-03	1.846E-03
QHC6	POINT	827145.00	824740.00	-	-	18.00	-	0.00	1.23	1.07	-	0700-1900	3.333E-03	1.515E-03
QHC7	POINT	827134.00	824735.00	-	-	10.50	-	0.00	14.02	0.19	-	0700-1900	1.250E-03	5.682E-04
QHC8	POINT	827132.00	824769.00	-	-	23.50	-	0.00	2.01	1.07	-	0700-1900	9.630E-03	4.377E-03
QHC9	POINT	827132.00	824777.00	-	-	29.00	-	0.00	2.01	1.07	-	0700-1900	9.630E-03	4.377E-03
QHC10	AREA	827141.80	824799.26	4.64	3.04	10.00	178.44	0.00	-	-	0.00001	0700-1900	1.155E-02	2.707E-03
QHC11a	AREA	827150.07	824723.63	3.00	4.44	0.50	134.83	0.00	-	-	0.00001	0700-1900	1.074E-04	2.598E-05
QHC11b	AREA	827150.94	824752.98	3.00	29.36	0.50	178.58	0.00	-	-	0.00001	0700-1900	3.128E-05	7.568E-06
QHC11c	AREA	827150.40	824773.62	3.00	20.76	0.50	178.83	0.00	-	-	0.00001	0700-1900	7.338E-05	1.775E-05
QHC11d	AREA	827145.80	824753.36	10.74	3.00	0.50	101.56	0.00	-	-	0.00001	0700-1900	4.211E-05	1.019E-05
QHC11e	AREA	827144.14	824728.78	3.00	7.93	0.50	134.76	0.00	-	-	0.00001	0700-1900	7.630E-05	1.846E-05

Remarks:
1 - The emission inventory is extracted from Air Pollution Control Plan (dated August, 2023) for Cement Works by Hong Kong Concrete Co. Ltd.
2 - Emission rate of point source is in gram per second (g/s) while the one of area source is in gram per square meter per second ($g/m^2/s$).

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Particle Size Distribution of General Concrete Batching Process (Controlled by Fabric Filter) (Applied for FSP Calculation)

Perentage of Particle Size Range

Particale Size Range [a]	Average Partical Size [a]	% before Removal [a]	Removal Efficiency % [b]	% after Removal	ormalised Fractio	Normalised Fraction for PM10 Model [c]	Normalised Fraction for PM2.5 Model [c]
≤ 1.0	0.50	4	99.0%	4.0%	7%	12%	27%
1.0 ≤ 2.0	1.50	7	99.0%	7.0%	12%	21%	47%
2.0 ≤ 2.5	2.25	4	99.0%	4.0%	7%	12%	27%
2.5 ≤ 3.0	2.75	3	99.5%	1.5%	3%	5%	-
3.0 ≤ 4.0	3.50	7	99.5%	3.5%	6%	11%	-
4.0 ≤ 5.0	4.50	5	99.5%	2.5%	4%	8%	-
5.0 ≤ 6.0	5.50	4	99.5%	2.0%	3%	6%	-
6.0 ≤ 10	8.00	17	99.5%	8.5%	15%	26%	-
10 ≤ 30	20.00	49	99.5%	24.5%	43%	-	-

Remarks

(a) Deducted from Table B.2.2 "Description of Particle Size Categories" for Category 3 “Mechanically Generated Aggregate, Unprocessed Ores”, Page B.2-13 of Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95) (see below)

(b) Control efficiency of fabric filter on different size of particle refers to Table B.2-3 Typical Collection Efficiencies of Various Particulate Control Device, Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95) (see below)
(c) Normalised Fraction = % after normal of each particale size range / sum of % after removal of all particle size ranges

Cumulative Perentage of Particle Size

Particale Size [a]	Cumulative % before Removal [a]	Cumulative % after Removal [b]
≤ 1.0	4	7%
≤ 2.0	11	19%
≤ 2.5	15	26%
≤ 3.0	18	29%
≤ 4.0	25	35%
≤ 5.0	30	39%
≤ 6.0	34	43%
≤ 10	51	57%
≤ 30	100	100%

Remarks

(a) Reference from Table B.2.2 "Description of Particle Size Categories" for Category 3 “Mechanically Generated Aggregate, Unprocessed Ores”, Page B.2-13 of Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95) (see below)

(b) Deducted from Normalised Fraction of Table "Percentage of Partical Size Range"

Emission Ratio for FSP calculation

FSP-to-RSP ratio (Uncontrolled)	**0.294**
FSP-to-RSP ratio (Controlled)	**0.455**
FSP-to-TSP ratio (Uncontrolled)	**0.150**

Remarks

(a) Deducted from Table "Percentage of Partical Size Range"

Appendix 4.3 Emission Inventory of Adjacent Industrial Emissions

Table B.2-2. DESCRIPTION OF PARTICLE SIZE CATEGORIES

Particle Size, µm	Cumulative % ≤ Stated Size (Uncontrolled)	Minimum Value	Maximum Value	Standard Deviation
1.0[a]	4			
2.0[a]	11			
2.5	15	3	35	7
3.0[a]	18			
4.0[a]	25			
5.0[a]	30			
6.0	34	15	65	13
10.0	51	23	81	14

[a] Value calculated from data reported at 2.5, 6.0, and 10.0 µm. No statistical parameters are given for the calculated value.

Remarks

(a) Reference from Table B.2.2 "Description of Particle Size Categories" for Category 3 “Mechanically Generated Aggregate, Unprocessed Ores”, Page B.2-13 of Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95)

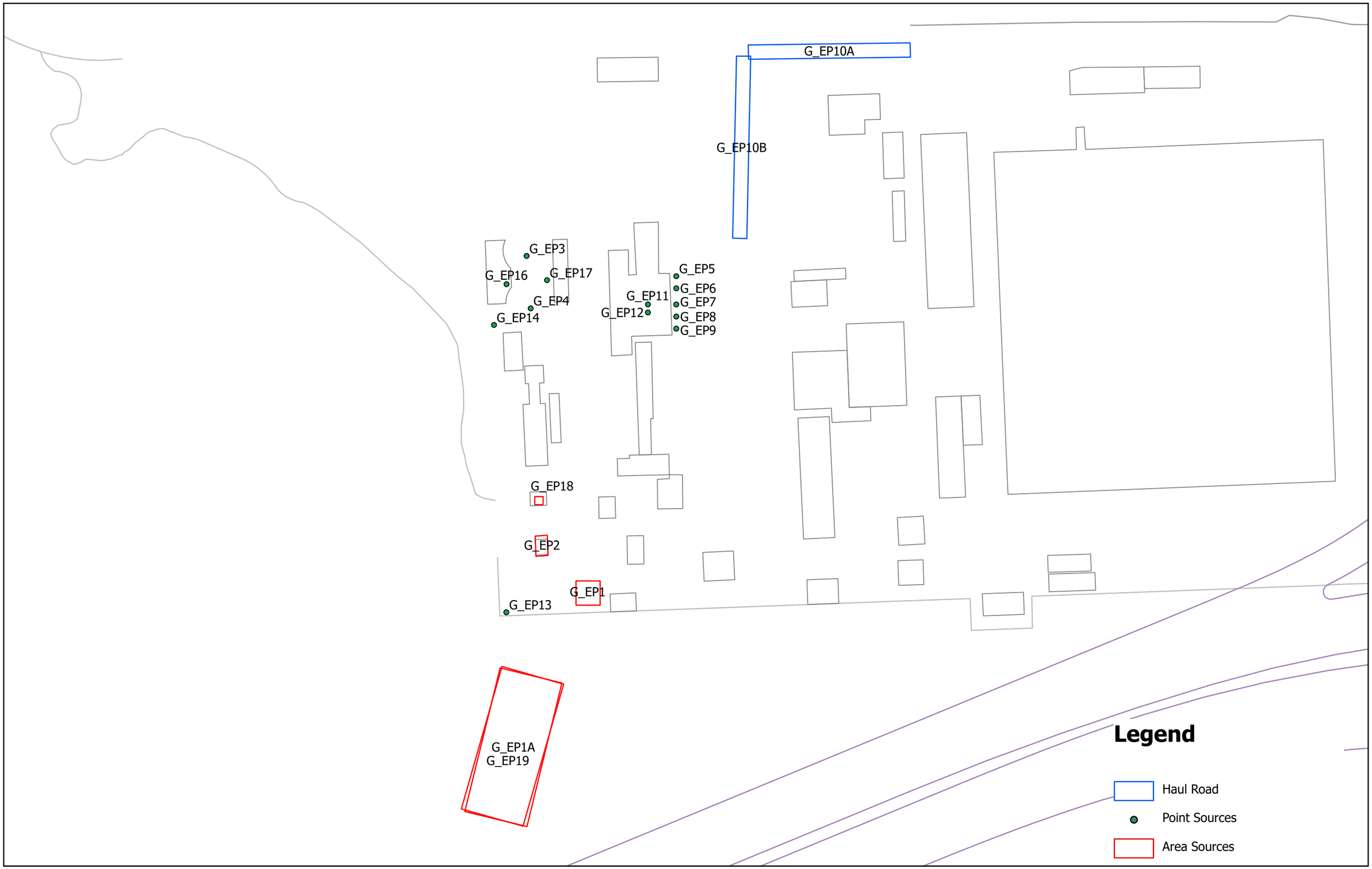
Table B.2-3. TYPICAL COLLECTION EFFICIENCIES OF VARIOUS PARTICULATE CONTROL DEVICES[a]
(%)

AIRS Code[b]	Type Of Collector	Particle Size (µm)		
		0 - 2.5	2.5 - 6	6 - 10
016	Fabric filter - high temperature	99	99.5	99.5
017	Fabric filter - med temperature	99	99.5	99.5
018	Fabric filter - low temperature	99	99.5	99.5

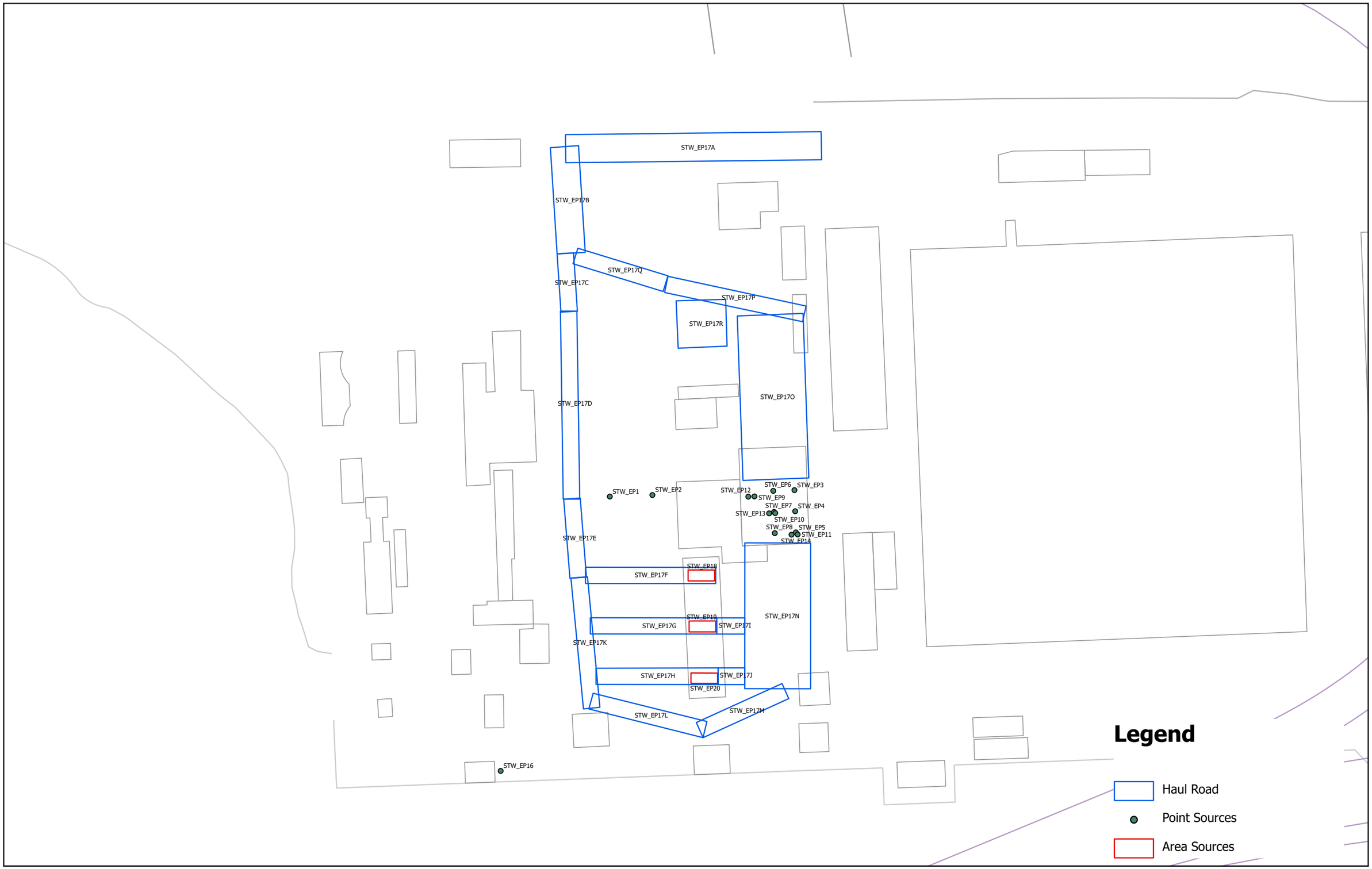
Remarks

(a) Reference from Table B.2-3. "Typical Collection Efficiencies of Various Particulate Control Devices", Page B.2-21 of Appendix B.2 Generalized Particle Size Distributions, AP-42, USEPA (Version 1/95)

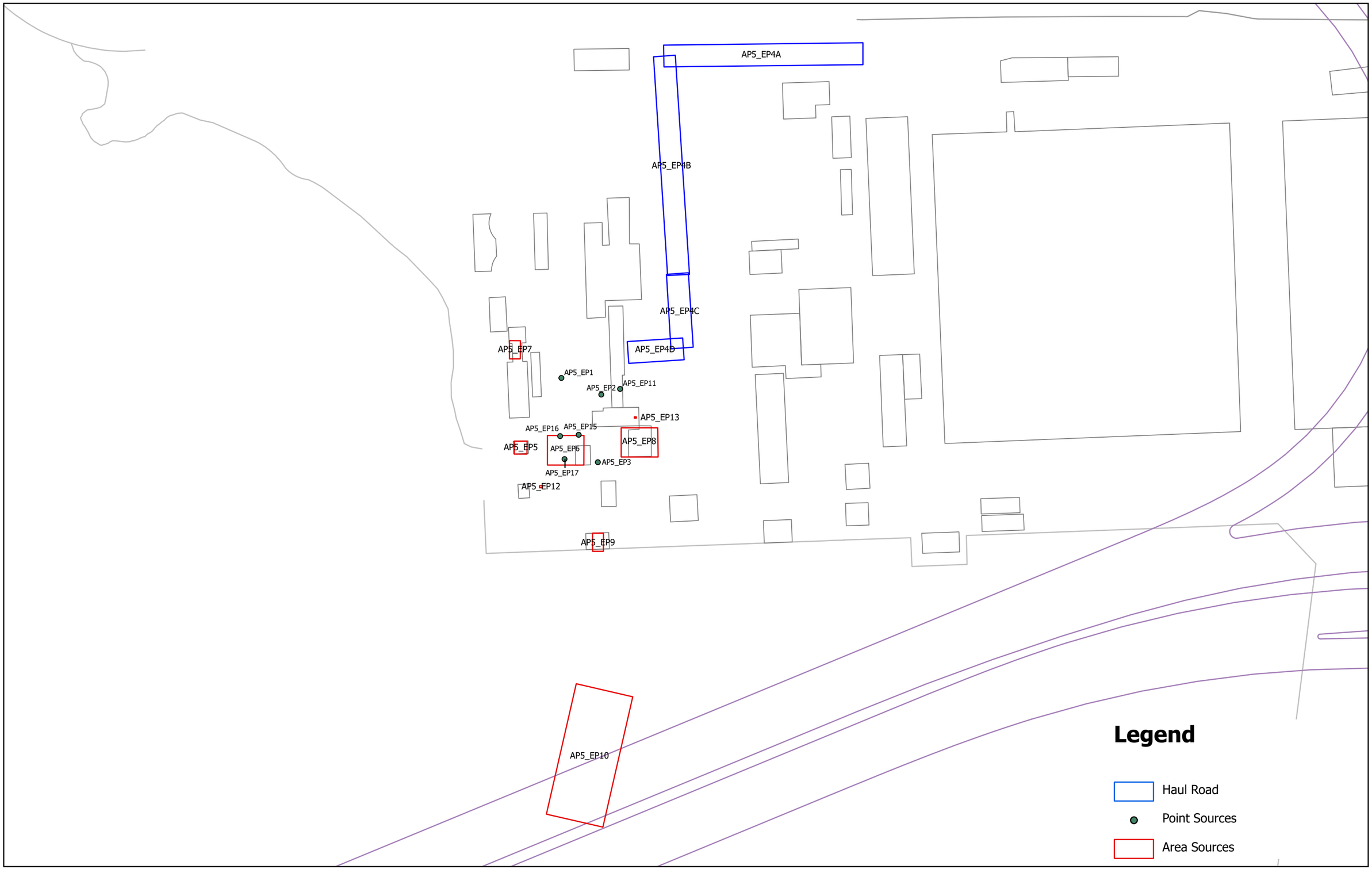
Locations of Industrial Sources
(Alliance Construction Materials Limited Concrete Batching Plant)

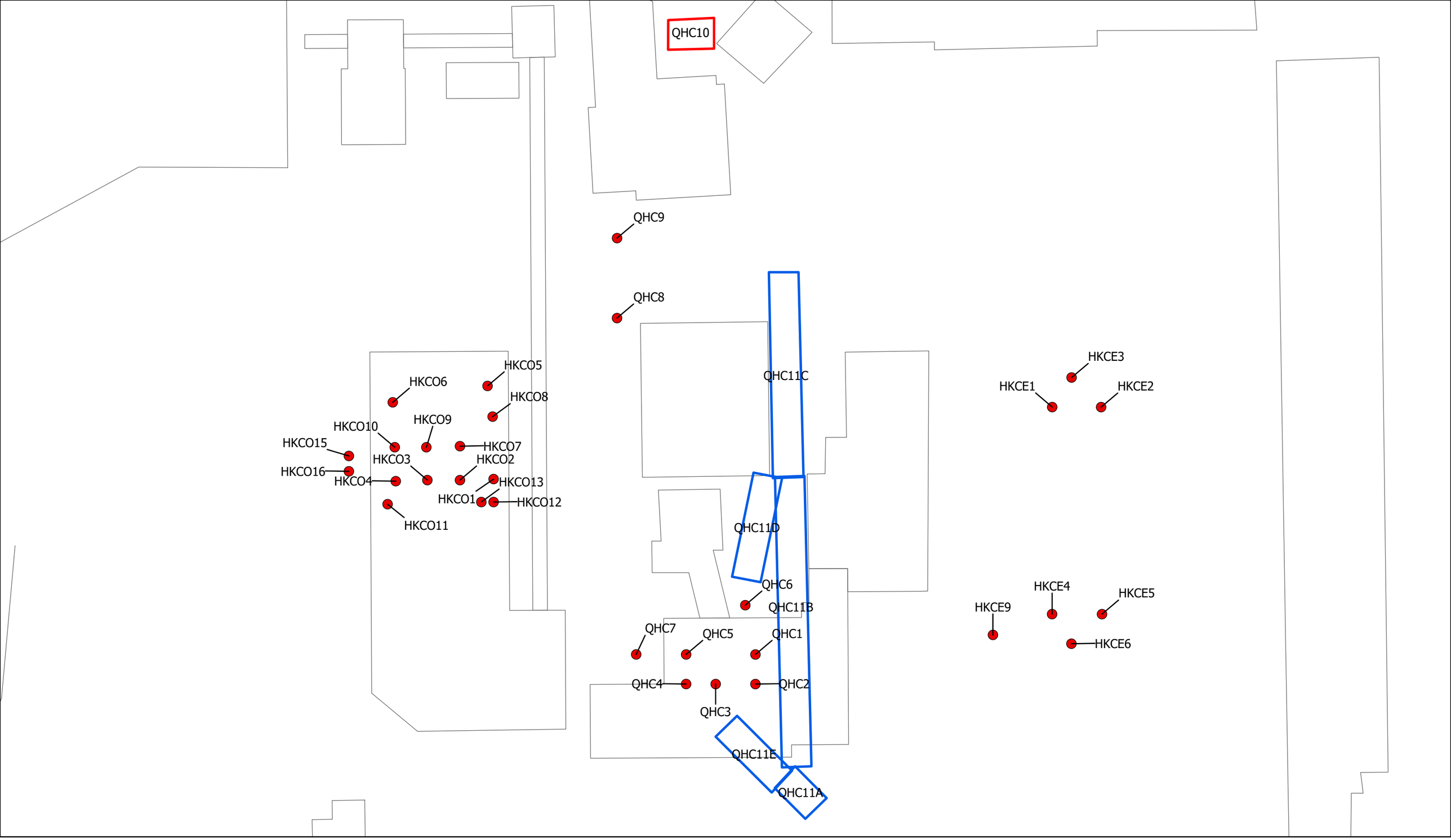


Locations of Industrial Sources
Anderson Concrete Limited (STW)



Locations of Industrial Sources
Asphalt Surfaces (International) Limited





Location of Adjacent Industrial Emission Points (Quon Hing Concrete Co. Ltd., Hong Kong Cement Co. Ltd, and Hong Kong Concrete Co. Ltd.)

Legend

- POINT Sources
- AREA Source
- Haul Road

Appendix 4.4

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic to Rock Processing Operation (Route 1)

Speed Distribution

Speed distribution by vessel type (Route 1)

Speed Range (knots)	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	16 - 18	18 - 20	20 - 22	22 - 24	24 - 26	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40	40 - 42	42 - 44	44 - 46	46 - 48	48 - 50	Total
Speed Median (knots)	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	
RTV	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100.00%

Operation Mode by Vessel Speed

Vessel Speed	Operation Mode
0	Hotelling
1	Maneuvering
8	Slow Cruise
12	Fairway Cruise

Hourly Traffic Volume of Marine Traffic

Route #
1

Hourly Traffic Volume

Vessel ID	Vessel Category	Vessel Type	0000 - 0100	0100 - 0200	0200 - 0300	0300 - 0400	0400 - 0500	0500 - 0600	0600 - 0700	0700 - 0800	0800 - 0900	0900 - 1000	1000 - 1100	1100 - 1200	1200 - 1300	1300 - 1400	1400 - 1500	1500 - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1900 - 2000	2000 - 2100	2100 - 2200	2200 - 2300	2300 - 2400
R1_RTV03M	RTV	Dry Bulk Carrier	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
R1_RTV03H	RTV	Dry Bulk Carrier	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0

Remark

1. The speed distribution and hourly traffic volume are provided from Project Engineer, based on project design
2. The hourly traffic volume for each vessel ID is used as their hourly profile in air dispersion modelling.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 1)

Load Factor by Vessel

Vessel Category	Vessel Type	Engine Category	GRT/DWT/PAX Sub-group	Fairway Cruise	Slow Cruise	Maneuvering	Hotelling
RTV	Fully Cellular Container Vessel	Main Engine	GRT >= 1000	0.45	0.45	0.3	0
RTV	Conventional Cargo Vessel	Main Engine	GRT >= 1000	0.45	0.45	0.3	0

Remark

1. The load factors refers to Study on Marine Vessels Emission Inventory (MVEIS):
- Load factors of main engine of RTV (Table 4-7)
- Load factors of auxiliary engine of RTV (Table 4-10)

Emission Factors by Vessel

Vessel Category	Vessel Type	Engine Category	Engine Type [1]	Fuel [2]	GRT/DWT/PAX Sub-group [3]	Engine Power (kW) [4]	Baseline Specific Fuel Consumption (g/kWh) [5]	NOx Emission Factors (g/kWh) [6]	SO_2 Emission Factors (g/kWh) [7]	RSP Emission Factors (g/kWh) [8]	FSP Emission Factor (g/kWh) [9]
RTV	Dry Bulk Carrier	Main Engine	Diesel Engine	Fuel with sulphur content not exceeding 0.5%	GRT >= 1000	744.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01
RTV	Dry Bulk Carrier	Auxiliary Engine	-	-	GRT >= 1000	448.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01

Remarks

1. The main engine type of RTV refers to S4.2.6 of MVEIS.
2. According to the Air Pollution Control (Fuel for Vessels) Regulation stipulates the use of fuel with sulphur content of 0.5% for all vessels within Hong Kong waters.
3. The GRT sub-group refers to Table 4-5 of MVEIS; the highest GRT for each vessel type is adopted as a conservative approach.
4. Average engine power main engine power of RTV makes reference to Table 4-5 of MVEIS, while auxiliary engine power of RTV is given by Engineer.
5. BSFC of RTV makes reference to Table 4-16 of MVEIS.
6. The NOx emission factor refers to MVEIS and IMO Fourth Greenhouse Gas Study 2020:- NOx emission of RTV (Table 4-16, MVEIS)
7. The SO2 emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:SO2 EF = BSFC x 2 x 0.97753 x Fuel Sulphur Fraction
8. The RSP emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:PM10 EF = 0.23 + BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024)
9. RSP to FSP conversion factor of 0.97 is used, with reference to paragraph 4.2.32 of MVEIS.

Emission Factors by Engine Category by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Engine Category	Load Factor	NOx Emission Factors (g/hr) [1,2]	SO_2 Emission Factors (g/hr) [1,2]	RSP Emission Factors (g/hr) [1,2]	FSP Emission Factor (g/hr) [1,2]
RTV	Dry Bulk Carrier	1	Maneuvering	Main Engine	0.300	2.2320E+03	4.6473E+02	3.7128E+01	3.6014E+01
RTV	Dry Bulk Carrier	1	Maneuvering	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01
RTV	Dry Bulk Carrier	1	Hotelling	Main Engine	0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
RTV	Dry Bulk Carrier	1	Hotelling	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remarks

1. The load factor makes reference to the table 'Load Factor by Vessel'.
2. The calculations of the emission factor of each engine type refer to the following equation: Emission Factor of an Engine Type (g/hr) = Engine Power (kW) * Emission Factor (g/kWh) * Engine Load Factor.

Composite Emission Factors by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Composite NOx Emission Factors (g/hr) [1]	Composite SO2 Emission Factors (g/hr) [1]	Composite RSP Emission Factors (g/hr) [1]	Composite FSP Emission Factor (g/hr) [1]
RTV	Dry Bulk Carrier	1	Maneuvering	4.1584E+03	8.6584E+02	6.9173E+01	6.7098E+01
RTV	Dry Bulk Carrier	1	Hotelling	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remark

1. Total Emission Rate is determined by this equation : Main Engine Emission Rate + Auxiliary Engine Emission Rate + Auxiliary Boiler Emission Rate (if applicable).

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 1)

Vessel Parameters by Vessel

Vessel Category	Vessel Type	Parameter Group	Source Type	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	Remarks
RTV	Dry Bulk Carrier	Group 3 of RTV	POINT	1.3	6	503.15	25	0.8	1, 2, 3

Remarks

1.The release height of the vessels are determined by on-site observations.

2. The exhaust temperature refer to the journal article: Dong, Thi Minh Hao & Xuan Phuong Nguyen. (2019). Exhaust Gas Recovery from Marine Diesel Engine in Order to Reduce the Toxic Emission and Save Energy: A Mini Review. Journal of Mechanical Engineering Research & Developments, 42(5):143-147. https://doi.org/10.26480/jmerd.05.2019.143.147. Given that other emission sources identified in this study (i.e., industrial/vehicular emission sources) mostly affect the air quality at a lower level, the lowest temperature of documented in this article was adopted as a conservative approach.

3. The stack parameters, except release height and exit temperature, refer to approved EIA - "Route 11 (Section between Yuen Long and North Lantau)" (EIA-297/2023).

Total Emission Rate of the Marine Emission

Route #
1

Total Emission Rate

Vessel ID	Vessel Category	Vessel Type	Route Code [1]	Average Speed (Knot) [2]	Operation Mode	Distance (nautical miles) [3]	Time-in-mode (hr)	NOx Emission Rate (g/s-vessel) [4]	SO_2 Emission Rate (g/s-vessel) [4]	RSP Emission Rate (g/s-vessel) [4]	FSP Emission Rate (g/s-vessel) [4]
R1_RTV03M	RTV	Dry Bulk Carrier	1	1	Maneuvering	3.11E-01	3.11E-01	3.5907E-01	7.4762E-02	5.9729E-03	5.7937E-03
R1_RTV03H	RTV	Dry Bulk Carrier	1	0	Hotelling	0.00E+00	1.00E+00	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03

Remark

1. Despite the actual routes, all general marine vessels are considered travelling in the water at the nearest and safe distance from the project site / nearby shipyards.

2. The average speed is calculated from the speed distribution for each vessel on each route.

3. The distance is measured for each route.

4. The calculations of emission factors refer to the following equation: Emission Factor (g/s-vessel) = Composite Emission Factor (g/hr) * Time-in-mode (hr) / 3600.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 1)

Emission Inventory

Source ID	Vessel ID	Vessel Category	Vessel Type	Source Type	X	Y	Number of Point Sources	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	NOx Emission Rate (g/s/vessel)	SO_2 Emission Rate (g/s/vessel)	RSP Emission Rate (g/s/vessel)	FSP Emission Rate (g/s/vessel)
R1_RTV03H_01	R1_RTV03H	RTV	Dry Bulk Carrier	POINT	826754.79	824686.0919	1	1.3	6	503.15	25	0.8	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03
R1_RTV03M_01	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826736.9388	824695.1091	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_02	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826719.3531	824704.6335	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_03	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826701.9009	824714.4013	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_04	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826683.7203	824722.6904	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_05	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826664.5401	824728.3219	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_06	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826644.9948	824732.555	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_07	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826625.3322	824736.2111	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_08	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826605.5933	824739.4295	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_09	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826585.7783	824742.1387	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_10	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826565.8912	824744.2532	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_11	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826545.9438	824745.6875	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_12	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826525.9576	824746.4006	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_13	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826505.9583	824746.5356	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_14	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826485.9586	824746.6219	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_15	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826465.9595	824746.472	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_16	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826445.972	824745.7879	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_17	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826426.0138	824744.5067	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_18	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826406.1	824742.6578	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_19	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826386.2401	824740.2989	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_20	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826366.3879	824737.8739	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_21	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826346.4916	824735.8446	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_22	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826326.5593	824734.2022	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_23	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826306.6277	824732.5516	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_24	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826286.7339	824730.497	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_25	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826266.8863	824728.035	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_26	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826247.0718	824725.3175	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_27	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826227.2745	824722.4775	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_28	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826207.4979	824719.4968	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_29	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826187.7312	824716.451	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_30	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826167.9412	824713.5613	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_31	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826148.1183	824710.9064	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_32	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826128.287	824708.3142	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_33	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826108.4677	824705.632	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_34	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826088.64	824703.013	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_35	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826068.776	824700.6863	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_36	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826048.8886	824698.5673	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_37	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826028.9875	824696.5812	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_38	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	826009.1093	824694.381	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_39	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	825989.2947	824691.6685	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_40	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	825969.5435	824688.5253	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_41	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	825949.8571	824685.0016	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_42	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	825930.312	824680.7665	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_43	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	825910.9725	824675.677	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_44	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	825891.9781	824669.4317	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04
R1_RTV03M_45	R1_RTV03M	RTV	Dry Bulk Carrier	POINT	825890.4405	824668.8239	45	1.3	6	503.15	25	0.8	1.2220E-02	2.5444E-03	2.0327E-04	1.9717E-04

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic to Concrete Batching Operation (Route 2)

Speed Distribution

Speed distribution by vessel type (Route 2)

Speed Range (knots)	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	16 - 18	18 - 20	20 - 22	22 - 24	24 - 26	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40	40 - 42	42 - 44	44 - 46	46 - 48	48 - 50	Total
Speed Median (knots)	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	
RTV	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100.00%

Operation Mode by Vessel Speed

Vessel Speed	Operation Mode
0	Hotelling
1	Maneuvering
8	Slow Cruise
12	Fairway Cruise

Hourly Traffic Volume of Marine Traffic

Route #
2

Hourly Traffic Volume

Vessel ID	Vessel Category	Vessel Type	0000 - 0100	0100 - 0200	0200 - 0300	0300 - 0400	0400 - 0500	0500 - 0600	0600 - 0700	0700 - 0800	0800 - 0900	0900 - 1000	1000 - 1100	1100 - 1200	1200 - 1300	1300 - 1400	1400 - 1500	1500 - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1900 - 2000	2000 - 2100	2100 - 2200	2200 - 2300	2300 - 2400
R2_RTV03M	RTV	Dry Bulk Carrier	0	0	2	0	0	0	2	2	0	0	0	2	2	0	0	0	2	2	0	0	0	2	0	0
R2_RTV03H	RTV	Dry Bulk Carrier	0	0	0	2	2	2	0	0	2	2	2	0	0	2	2	2	0	0	2	2	2	0	0	0

Remark

1. The speed distribution and hourly traffic volume are provided from Project Engineer, based on project design
2. The hourly traffic volume for each vessel ID is used as their hourly profile in air dispersion modelling.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 2)

Load Factor by Vessel

Vessel Category	Vessel Type	Engine Category	GRT/DWT/PAX Sub-group	Fairway Cruise	Slow Cruise	Maneuvering	Hotelling
RTV	Fully Cellular Container Vessel	Main Engine	GRT >= 1000	0.45	0.45	0.3	0
RTV	Conventional Cargo Vessel	Main Engine	GRT >= 1000	0.45	0.45	0.3	0

Remark

1. The load factors refers to Study on Marine Vessels Emission Inventory (MVEIS):
- Load factors of main engine of RTV (Table 4-7)
- Load factors of auxiliary engine of RTV (Table 4-10)

Emission Factors by Vessel

Vessel Category	Vessel Type	Engine Category	Engine Type [1]	Fuel [2]	GRT/DWT/PAX Sub-group [3]	Engine Power (kW) [4]	Baseline Specific Fuel Consumption (g/kWh) [5]	NOx Emission Factors (g/kWh) [6]	SO_2 Emission Factors (g/kWh) [7]	RSP Emission Factors (g/kWh) [8]	FSP Emission Factor (g/kWh) [9]
RTV	Dry Bulk Carrier	Main Engine	Diesel Engine	Fuel with sulphur content not exceeding 0.5%	GRT >= 1000	744.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01
RTV	Dry Bulk Carrier	Auxiliary Engine	-	-	GRT >= 1000	448.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01

Remarks

1. The main engine type of RTV refers to S4.2.6 of MVEIS.
2. According to the Air Pollution Control (Fuel for Vessels) Regulation stipulates the use of fuel with sulphur content of 0.5% for all vessels within Hong Kong waters.
3. The GRT sub-group refers to Table 4-5 of MVEIS; the highest GRT for each vessel type is adopted as a conservative approach.
4. Average engine power main engine power of RTV makes reference to Table 4-5 of MVEIS, while auxiliary engine power of RTV is given by Engineer.
5. BSFC of RTV makes reference to Table 4-16 of MVEIS.
6. The NOx emission factor refers to MVEIS and IMO Fourth Greenhouse Gas Study 2020:- NOx emission of RTV (Table 4-16, MVEIS)
7. The SO2 emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:SO2 EF = BSFC x 2 x 0.97753 x Fuel Sulphur Fraction
8. The RSP emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:PM10 EF = 0.23 + BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024)
9. RSP to FSP conversion factor of 0.97 is used, with reference to paragraph 4.2.32 of MVEIS.

Emission Factors by Engine Category by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Engine Category	Load Factor	NOx Emission Factors (g/hr) [1,2]	SO_2 Emission Factors (g/hr) [1,2]	RSP Emission Factors (g/hr) [1,2]	FSP Emission Factor (g/hr) [1,2]
RTV	Dry Bulk Carrier	2	Maneuvering	Main Engine	0.300	2.2320E+03	4.6473E+02	3.7128E+01	3.6014E+01
RTV	Dry Bulk Carrier	2	Maneuvering	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01
RTV	Dry Bulk Carrier	2	Hotelling	Main Engine	0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
RTV	Dry Bulk Carrier	2	Hotelling	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remarks

1. The load factor makes reference to the table 'Load Factor by Vessel'.
2. The calculations of the emission factor of each engine type refer to the following equation: Emission Factor of an Engine Type (g/hr) = Engine Power (kW) * Emission Factor (g/kWh) * Engine Load Factor.

Composite Emission Factors by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Composite NOx Emission Factors (g/hr) [1]	Composite SO2 Emission Factors (g/hr) [1]	Composite RSP Emission Factors (g/hr) [1]	Composite FSP Emission Factor (g/hr) [1]
RTV	Dry Bulk Carrier	2	Maneuvering	4.1584E+03	8.6584E+02	6.9173E+01	6.7098E+01
RTV	Dry Bulk Carrier	2	Hotelling	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remark

1. Total Emission Rate is determined by this equation : Main Engine Emission Rate + Auxiliary Engine Emission Rate + Auxiliary Boiler Emission Rate (if applicable).

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 2)

Vessel Parameters by Vessel

Vessel Category	Vessel Type	Parameter Group	Source Type	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	Remarks
RTV	Dry Bulk Carrier	Group 3 of RTV	POINT	1.30	6	503.15	25.00	0.80	1, 2, 3

Remarks

1.The release height of the vessels are determined by on-site observations.

2. The exhaust temperature refer to the journal article: Dong, Thi Minh Hao & Xuan Phuong Nguyen. (2019). Exhaust Gas Recovery from Marine Diesel Engine in Order to Reduce the Toxic Emission and Save Energy: A Mini Review. Journal of Mechanical Engineering Research & Developments, 42(5):143-147. https://doi.org/10.26480/jmerd.05.2019.143.147. Given that other emission sources identified in this study (i.e., industrial/vehicular emission sources) mostly affect the air quality at a lower level, the lowest temperature of documented in this article was adopted as a conservative approach.

3. The stack parameters, except release height and exit temperature, refer to approved EIA - "Route 11 (Section between Yuen Long and North Lantau)" (EIA-297/2023).

Total Emission Rate of the Marine Emission

Route #
2

Total Emission Rate

Vessel ID	Vessel Category	Vessel Type	Route Code [1]	Average Speed (Knot) [2]	Operation Mode	Distance (nautical miles) [3]	Time-in-mode (hr)	NOx Emission Rate (g/s-vessel) [4]	SO_2 Emission Rate (g/s-vessel) [4]	RSP Emission Rate (g/s-vessel) [4]	FSP Emission Rate (g/s-vessel) [4]
R2_RTV03M	RTV	Dry Bulk Carrier	2	1	Maneuvering	3.11E-01	3.11E-01	3.5907E-01	7.4762E-02	5.9729E-03	5.7937E-03
R2_RTV03H	RTV	Dry Bulk Carrier	2	0	Hotelling	0.00E+00	1.00E+00	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03

Remark

1. Despite the actual routes, all general marine vessels are considered travelling in the water at the nearest and safe distance from the project site / nearby shipyards.

2. The average speed is calculated from the speed distribution for each vessel on each route.

3. The distance is measured for each route.

4. The calculations of emission factors refer to the following equation: Emission Factor (g/s-vessel) = Composite Emission Factor (g/hr) * Time-in-mode (hr) / 3600.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 2)

Emission Inventory

Source ID	Vessel ID	Vessel Category	Vessel Type	Source Type	X	Y	Number of Point Sources	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	NOx Emission Rate (g/s/vessel)	SO_2 Emission Rate (g/s/vessel)	RSP Emission Rate (g/s/vessel)	FSP Emission Rate (g/s/vessel)
R2_RTV03H_01	R2_RTV03H	RTV	Dry Bulk Carrier	POINT	826717.0621	824662.4712	1	1.30	6.00	503.15	25.00	0.80	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03
R2_RTV03M_01	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826697.065	824662.8121	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_02	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826677.0689	824663.2078	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_03	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826657.0734	824663.6326	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_04	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826637.0772	824664.02	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_05	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826617.0784	824664.2172	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_06	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826597.0813	824663.9374	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_07	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826577.1123	824662.8545	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_08	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826557.2087	824660.9059	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_09	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826537.3754	824658.3326	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_10	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826517.5287	824655.8658	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_11	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826497.6309	824653.8497	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_12	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826477.7171	824651.9942	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_13	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826457.8285	824649.8897	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_14	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826437.9956	824647.3142	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_15	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826418.2296	824644.266	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_16	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826398.528	824640.826	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_17	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826378.8824	824637.0783	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_18	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826359.2842	824633.0899	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_19	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826339.7043	824629.0124	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_20	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826320.0987	824625.0604	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_21	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826300.4622	824621.2651	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_22	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826280.7942	824617.6361	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_23	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826261.1085	824614.1046	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_24	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826241.442	824610.4678	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_25	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826221.8334	824606.5317	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_26	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826202.2914	824602.2772	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_27	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826182.8038	824597.7792	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_28	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826163.3564	824593.1105	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_29	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826143.9363	824588.3293	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_30	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826124.5099	824583.5738	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_31	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826105.0649	824578.8951	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_32	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826085.5979	824574.3089	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_33	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826066.105	824569.8336	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_34	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826046.5827	824565.489	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_35	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826027.0272	824561.2959	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_36	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	826007.436	824557.2734	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_37	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825987.8076	824553.4364	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_38	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825968.1425	824549.7922	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_39	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825948.4429	824546.3388	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_40	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825928.713	824543.0637	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_41	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825908.9575	824539.9461	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_42	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825889.209	824536.7877	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_43	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825869.5874	824532.924	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_44	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825850.2161	824527.9656	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_45	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825831.4551	824521.086	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04
R2_RTV03M_46	R2_RTV03M	RTV	Dry Bulk Carrier	POINT	825818.2833	824511.6009	46	1.30	6.00	503.15	25.00	0.80	1.2426E-02	2.5873E-03	2.0670E-04	2.0050E-04

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic travelling between Ngau Kok Wan and Wok Tai Wan (Route 3)

1. The speed distribution and hourly traffic volume are provided from Project Engineer, based on project design
2. The hourly traffic volume for each vessel ID is used as their hourly profile in air dispersion modelling.

Speed distribution by vessel type (Route 3)

Speed Range (knots)	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	16 - 18	18 - 20	20 - 22	22 - 24	24 - 26	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40	40 - 42	42 - 44	44 - 46	46 - 48	48 - 50	Total
Speed Median (knots)	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	
RTV	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100.00%

Operation Mode by Vessel Speed

Vessel Speed	Operation Mode
0	Hotelling
1	Maneuvering
8	Slow Cruise
12	Fairway Cruise

Hourly Traffic Volume of Marine Traffic

Route #
3

Hourly Traffic Volume

Vessel ID	Vessel Category	Vessel Type	0000 - 0100	0100 - 0200	0200 - 0300	0300 - 0400	0400 - 0500	0500 - 0600	0600 - 0700	0700 - 0800	0800 - 0900	0900 - 1000	1000 - 1100	1100 - 1200	1200 - 1300	1300 - 1400	1400 - 1500	1500 - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1900 - 2000	2000 - 2100	2100 - 2200	2200 - 2300	2300 - 2400
R3_RTV03M	RTV	Dry Bulk Carrier	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0
R3_RTV03H	RTV	Dry Bulk Carrier	0	0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	0	0	0	0	0	0	0

Remark

1. The speed distribution and hourly traffic volume are provided from Project Engineer, based on project design
2. The hourly traffic volume for each vessel ID is used as their hourly profile in air dispersion modelling.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 3)

Load Factor by Vessel

Vessel Category	Vessel Type	Engine Category	GRT/DWT/PAX Sub-group	Fairway Cruise	Slow Cruise	Maneuvering	Hotelling
RTV	Fully Cellular Container Vessel	Main Engine	GRT >= 1000	0.45	0.45	0.3	0
RTV	Conventional Cargo Vessel	Main Engine	GRT >= 1000	0.45	0.45	0.3	0

Remark

1. The load factors refers to Study on Marine Vessels Emission Inventory (MVEIS):
- Load factors of main engine of RTV (Table 4-7)
- Load factors of auxiliary engine of RTV (Table 4-10)

Emission Factors by Vessel

Vessel Category	Vessel Type	Engine Category	Engine Type [1]	Fuel [2]	GRT/DWT/PAX Sub-group [3]	Engine Power (kW) [4]	Baseline Specific Fuel Consumption (g/kWh) [5]	NOx Emission Factors (g/kWh) [6]	SO_2 Emission Factors (g/kWh) [7]	RSP Emission Factors (g/kWh) [8]	FSP Emission Factor (g/kWh) [9]
RTV	Dry Bulk Carrier	Main Engine	Diesel Engine	Fuel with sulphur content not exceeding 0.5%	GRT >= 1000	744.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01
RTV	Dry Bulk Carrier	Auxiliary Engine	-	-	GRT >= 1000	448.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01

Remarks

1. The main engine type of RTV refers to S4.2.6 of MVEIS.
2. According to the Air Pollution Control (Fuel for Vessels) Regulation stipulates the use of fuel with sulphur content of 0.5% for all vessels within Hong Kong waters.
3. The GRT sub-group refers to Table 4-5 of MVEIS; the highest GRT for each vessel type is adopted as a conservative approach.
4. Average engine power main engine power of RTV makes reference to Table 4-5 of MVEIS, while auxiliary engine power of RTV is given by Engineer.
5. BSFC of RTV makes reference to Table 4-16 of MVEIS.
6. The NOx emission factor refers to MVEIS and IMO Fourth Greenhouse Gas Study 2020:- NOx emission of RTV (Table 4-16, MVEIS)
7. The SO2 emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:SO2 EF = BSFC x 2 x 0.97753 x Fuel Sulphur Fraction
8. The RSP emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:PM10 EF = 0.23 + BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024)
9. RSP to FSP conversion factor of 0.97 is used, with reference to paragraph 4.2.32 of MVEIS.

Emission Factors by Engine Category by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Engine Category	Load Factor	NOx Emission Factors (g/hr) [1,2]	SO_2 Emission Factors (g/hr) [1,2]	RSP Emission Factors (g/hr) [1,2]	FSP Emission Factor (g/hr) [1,2]
RTV	Dry Bulk Carrier	3	Maneuvering	Main Engine	0.300	2.2320E+03	4.6473E+02	3.7128E+01	3.6014E+01
RTV	Dry Bulk Carrier	3	Maneuvering	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01
RTV	Dry Bulk Carrier	3	Hotelling	Main Engine	0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
RTV	Dry Bulk Carrier	3	Hotelling	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remarks

1. The load factor makes reference to the table 'Load Factor by Vessel'.
2. The calculations of the emission factor of each engine type refer to the following equation: Emission Factor of an Engine Type (g/hr) = Engine Power (kW) * Emission Factor (g/kWh) * Engine Load Factor.

Composite Emission Factors by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Composite NOx Emission Factors (g/hr) [1]	Composite SO2 Emission Factors (g/hr) [1]	Composite RSP Emission Factors (g/hr) [1]	Composite FSP Emission Factor (g/hr) [1]
RTV	Dry Bulk Carrier	3	Maneuvering	4.1584E+03	8.6584E+02	6.9173E+01	6.7098E+01
RTV	Dry Bulk Carrier	3	Hotelling	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remark

1. Total Emission Rate is determined by this equation : Main Engine Emission Rate + Auxiliary Engine Emission Rate + Auxiliary Boiler Emission Rate (if applicable).

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 3)

Vessel Parameters by Vessel

Vessel Category	Vessel Type	Parameter Group	Source Type	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	Remarks
RTV	Dry Bulk Carrier	Group 3 of RTV	POINT	1.30	6	503.15	25.00	0.80	1, 2, 3

Remarks

1.The release height of the vessels are determined by on-site observations.

2. The exhaust temperature refer to the journal article: Dong, Thi Minh Hao & Xuan Phuong Nguyen. (2019). Exhaust Gas Recovery from Marine Diesel Engine in Order to Reduce the Toxic Emission and Save Energy: A Mini Review. Journal of Mechanical Engineering Research & Developments, 42(5):143-147. https://doi.org/10.26480/jmerd.05.2019.143.147. Given that other emission sources identified in this study (i.e., industrial/vehicular emission sources) mostly affect the air quality at a lower level, the lowest temperature of documented in this article was adopted as a conservative approach.

3. The stack parameters, except release height and exit temperature, refer to approved EIA - "Route 11 (Section between Yuen Long and North Lantau)" (EIA-297/2023).

Total Emission Rate of the Marine Emission

Route #
3

Total Emission Rate

Vessel ID	Vessel Category	Vessel Type	Route Code [1]	Average Speed (Knot) [2]	Operation Mode	Distance (nautical miles) [3]	Time-in-mode (hr)	NOx Emission Rate (g/s-vessel) [4]	SO_2 Emission Rate (g/s-vessel) [4]	RSP Emission Rate (g/s-vessel) [4]	FSP Emission Rate (g/s-vessel) [4]
R3_RTV03M	RTV	Dry Bulk Carrier	3	1	Maneuvering	3.11E-01	3.11E-01	3.5907E-01	7.4762E-02	5.9729E-03	5.7937E-03
R3_RTV03H	RTV	Dry Bulk Carrier	3	0	Hotelling	0.00E+00	1.00E+00	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03

Remark

1. Despite the actual routes, all general marine vessels are considered travelling in the water at the nearest and safe distance from the project site / nearby shipyards.

2. The average speed is calculated from the speed distribution for each vessel on each route.

3. The distance is measured for each route.

4. The calculations of emission factors refer to the following equation: Emission Factor (g/s-vessel) = Composite Emission Factor (g/hr) * Time-in-mode (hr) / 3600.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 3)

Emission Inventory

Source ID	Vessel ID	Vessel Category	Vessel Type	Source Type	X	Y	Number of Point Sources	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	NOx Emission Rate (g/s/vessel)	SO_2 Emission Rate (g/s/vessel)	RSP Emission Rate (g/s/vessel)	FSP Emission Rate (g/s/vessel)
R3_RTV03H_01	R3_RTV03H	RTV	Dry Bulk Carrier	POINT	826326.8587	824116.1911	1	1.30	6.00	503.15	25.00	0.80	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03
R3_RTV03M_01	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826308.7185	824124.6126	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_02	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826290.7421	824133.3782	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_03	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826272.9461	824142.5044	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_04	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826255.3491	824152.0087	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_05	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826237.9722	824161.9094	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_06	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826220.8391	824172.2262	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_07	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826203.9767	824182.9796	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_08	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826187.4152	824194.1908	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_09	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826171.1894	824205.8823	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_10	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826155.3383	824218.0769	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_11	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826139.9065	824230.7977	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_12	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826124.9448	824244.0681	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_13	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826110.5109	824257.9103	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_14	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826096.6702	824272.3454	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_15	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826083.4969	824287.3916	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_16	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826071.0746	824303.0633	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_17	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826059.4973	824319.3687	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_18	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826048.8693	824336.3077	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_19	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826039.306	824353.8691	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_20	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826030.9325	824372.0275	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_21	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826023.8833	824390.7391	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_22	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826018.2999	824409.9383	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_23	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826014.3286	824429.5338	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_24	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826012.1181	824449.4041	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_25	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826011.8174	824469.3936	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_26	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826013.576	824489.3066	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_27	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826017.5467	824508.8968	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_28	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826023.8919	824527.8488	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_29	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826032.7144	824545.7825	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_30	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826042.8566	824563.0173	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_31	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826054.0694	824579.5731	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_32	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826066.6288	824595.1282	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_33	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826080.7641	824609.2612	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_34	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826096.5183	824621.5606	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_35	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826113.6553	824631.8503	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_36	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826131.7618	824640.3291	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_37	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826150.4469	824647.4532	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_38	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826169.4406	824653.7144	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_39	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826188.5814	824659.5127	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_40	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826207.7757	824665.1321	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_41	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826226.977	824670.7275	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_42	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826246.2016	824676.2424	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_43	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826265.4841	824681.5506	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_44	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826284.8622	824686.4977	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_45	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826304.3639	824690.9308	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_46	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826323.996	824694.7445	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_47	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826343.7431	824697.9097	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 3)

Emission Inventory

Source ID	Vessel ID	Vessel Category	Vessel Type	Source Type	X	Y	Number of Point Sources	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	NOx Emission Rate (g/s/vessel)	SO_2 Emission Rate (g/s/vessel)	RSP Emission Rate (g/s/vessel)	FSP Emission Rate (g/s/vessel)
R3_RTV03M_48	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826363.5781	824700.468	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 3)

Emission Inventory

Source ID	Vessel ID	Vessel Category	Vessel Type	Source Type	X	Y	Number of Point Sources	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	NOx Emission Rate (g/s/vessel)	SO_2 Emission Rate (g/s/vessel)	RSP Emission Rate (g/s/vessel)	FSP Emission Rate (g/s/vessel)
R3_RTV03M_49	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826383.474	824702.5012	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_50	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826403.4096	824704.1015	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_51	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826423.3701	824705.3537	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_52	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826443.3462	824706.3286	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_53	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826463.3319	824707.0828	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_54	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826483.3235	824707.6608	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_55	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826503.3197	824708.0377	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_56	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826523.3195	824708.0825	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_57	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826543.3173	824707.8003	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_58	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826563.3082	824707.2026	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_59	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826583.2875	824706.2991	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_60	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826603.2512	824705.0979	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_61	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826623.1953	824703.6053	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_62	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826643.1158	824701.8255	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_63	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826663.0087	824699.76	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_64	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826682.8695	824697.4067	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_65	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826702.6932	824694.7581	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_66	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826722.4724	824691.7963	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_67	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826742.1949	824688.4777	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04
R3_RTV03M_68	R3_RTV03M	RTV	Dry Bulk Carrier	POINT	826754.79	824686.0919	68	1.30	6.00	503.15	25.00	0.80	1.2408E-02	2.5836E-03	2.0641E-04	2.0021E-04

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic to Wok Tai Wan (Route 4)

Speed Distribution

Speed distribution by vessel type (Route 4)

Speed Range (knots)	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	16 - 18	18 - 20	20 - 22	22 - 24	24 - 26	26 - 28	28 - 30	30 - 32	32 - 34	34 - 36	36 - 38	38 - 40	40 - 42	42 - 44	44 - 46	46 - 48	48 - 50	Total
Speed Median (knots)	1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45	47	49	
RTV	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100.00%

Operation Mode by Vessel Speed

Vessel Speed	Operation Mode
0	Hotelling
1	Maneuvering
8	Slow Cruise
12	Fairway Cruise

Hourly Traffic Volume of Marine Traffic

Route #
4

Hourly Traffic Volume

Vessel ID	Vessel Category	Vessel Type	0000 - 0100	0100 - 0200	0200 - 0300	0300 - 0400	0400 - 0500	0500 - 0600	0600 - 0700	0700 - 0800	0800 - 0900	0900 - 1000	1000 - 1100	1100 - 1200	1200 - 1300	1300 - 1400	1400 - 1500	1500 - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1900 - 2000	2000 - 2100	2100 - 2200	2200 - 2300	2300 - 2400
R4_RTV03M	RTV	Dry Bulk Carrier	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
R4_RTV03H	RTV	Dry Bulk Carrier	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0

Remark

1. The speed distribution and hourly traffic volume are provided from Project Engineer, based on project design
2. The hourly traffic volume for each vessel ID is used as their hourly profile in air dispersion modelling.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 4)

Load Factor by Vessel

Vessel Category	Vessel Type	Engine Category	GRT/DWT/PAX Sub-group	Fairway Cruise	Slow Cruise	Maneuvering	Hotelling
RTV	Dry Bulk Carrier	Main Engine	GRT >= 1000	0.45	0.45	0.3	0
RTV	Dry Bulk Carrier	Main Engine	GRT >= 1000	0.43	0.43	0.43	0.43

Remark

1. The load factors refers to Study on Marine Vessels Emission Inventory (MVEIS):
- Load factors of main engine of RTV (Table 4-7)
- Load factors of auxiliary engine of RTV (Table 4-10)

Emission Factors by Vessel

Vessel Category	Vessel Type	Engine Category	Engine Type [1]	Fuel [2]	GRT/DWT/PAX Sub-group [3]	Engine Power (kW) [4]	Baseline Specific Fuel Consumption (g/kWh) [5]	NOx Emission Factors (g/kWh) [6]	SO_2 Emission Factors (g/kWh) [7]	RSP Emission Factors (g/kWh) [8]	FSP Emission Factor (g/kWh) [9]
RTV	Dry Bulk Carrier	Main Engine	Diesel Engine	Fuel with sulphur content not exceeding 0.5%	GRT >= 1000	744.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01
RTV	Dry Bulk Carrier	Auxiliary Engine	-	-	GRT >= 1000	448.00	213.00	1.0000E+01	2.0821E+00	1.6634E-01	1.6135E-01

Remarks

1. The main engine type of RTV refers to S4.2.6 of MVEIS.
2. According to the Air Pollution Control (Fuel for Vessels) Regulation stipulates the use of fuel with sulphur content of 0.5% for all vessels within Hong Kong waters.
3. The GRT sub-group refers to Table 4-5 of MVEIS; the highest GRT for each vessel type is adopted as a conservative approach.
4. Average engine power main engine power of RTV makes reference to Table 4-5 of MVEIS, while auxiliary engine power of RTV is given by Engineer.
5. BSFC of RTV makes reference to Table 4-16 of MVEIS.
6. The NOx emission factor refers to MVEIS and IMO Fourth Greenhouse Gas Study 2020:- NOx emission of RTV (Table 4-16, MVEIS)
7. The SO2 emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:SO2 EF = BSFC x 2 x 0.97753 x Fuel Sulphur Fraction
8. The RSP emission factor is calculated based on the formula stated in Paragraph 4.2.31 of MVEIS:PM10 EF = 0.23 + BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024)
9. RSP to FSP conversion factor of 0.97 is used, with reference to paragraph 4.2.32 of MVEIS.

Emission Factors by Engine Category by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Engine Category	Load Factor	NOx Emission Factors (g/hr) [1,2]	SO_2 Emission Factors (g/hr) [1,2]	RSP Emission Factors (g/hr) [1,2]	FSP Emission Factor (g/hr) [1,2]
RTV	Dry Bulk Carrier	4	Maneuvering	Main Engine	0.300	2.2320E+03	4.6473E+02	3.7128E+01	3.6014E+01
RTV	Dry Bulk Carrier	4	Maneuvering	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01
RTV	Dry Bulk Carrier	4	Hotelling	Main Engine	0.000	0.0000E+00	0.0000E+00	0.0000E+00	0.0000E+00
RTV	Dry Bulk Carrier	4	Hotelling	Auxiliary Engine	0.430	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remarks

1. The load factor makes reference to the table 'Load Factor by Vessel'.
2. The calculations of the emission factor of each engine type refer to the following equation: Emission Factor of an Engine Type (g/hr) = Engine Power (kW) * Emission Factor (g/kWh) * Engine Load Factor.

Composite Emission Factors by Vessel

Vessel Category	Vessel Type	Route Code	Operation Mode	Composite NOx Emission Factors (g/hr) [1]	Composite SO2 Emission Factors (g/hr) [1]	Composite RSP Emission Factors (g/hr) [1]	Composite FSP Emission Factor (g/hr) [1]
RTV	Dry Bulk Carrier	4	Maneuvering	4.1584E+03	8.6584E+02	6.9173E+01	6.7098E+01
RTV	Dry Bulk Carrier	4	Hotelling	1.9264E+03	4.0110E+02	3.2045E+01	3.1083E+01

Remark

1. Total Emission Rate is determined by this equation : Main Engine Emission Rate + Auxiliary Engine Emission Rate + Auxiliary Boiler Emission Rate (if applicable).

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 4)

Vessel Parameters by Vessel

Vessel Category	Vessel Type	Parameter Group	Source Type	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	Remarks
RTV	Dry Bulk Carrier	Group 3 of RTV	POINT	1.30	6	503.15	25.00	0.80	1, 2, 3

Remarks

1.The release height of the vessels are determined by on-site observations.

2. The exhaust temperature refer to the journal article: Dong, Thi Minh Hao & Xuan Phuong Nguyen. (2019). Exhaust Gas Recovery from Marine Diesel Engine in Order to Reduce the Toxic Emission and Save Energy: A Mini Review. Journal of Mechanical Engineering Research & Developments, 42(5):143-147. https://doi.org/10.26480/jmerd.05.2019.143.147. Given that other emission sources identified in this study (i.e., industrial/vehicular emission sources) mostly affect the air quality at a lower level, the lowest temperature of documented in this article was adopted as a conservative approach.

3. The stack parameters, except release height and exit temperature, refer to approved EIA - "Route 11 (Section between Yuen Long and North Lantau)" (EIA-297/2023).

Total Emission Rate of the Marine Emission

Route #
4

Total Emission Rate

Vessel ID	Vessel Category	Vessel Type	Route Code [1]	Average Speed (Knot) [2]	Operation Mode	Distance (nautical miles) [3]	Time-in-mode (hr)	NOx Emission Rate (g/s-vessel) [4]	SO_2 Emission Rate (g/s-vessel) [4]	RSP Emission Rate (g/s-vessel) [4]	FSP Emission Rate (g/s-vessel) [4]
R4_RTV03M	RTV	Dry Bulk Carrier	4	1	Maneuvering	3.11E-01	3.11E-01	3.5907E-01	7.4762E-02	5.9729E-03	5.7937E-03
R4_RTV03H	RTV	Dry Bulk Carrier	4	0	Hotelling	0.00E+00	1.00E+00	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03

Remark

1. Despite the actual routes, all general marine vessels are considered travelling in the water at the nearest and safe distance from the project site / nearby shipyards.

2. The average speed is calculated from the speed distribution for each vessel on each route.

3. The distance is measured for each route.

4. The calculations of emission factors refer to the following equation: Emission Factor (g/s-vessel) = Composite Emission Factor (g/hr) * Time-in-mode (hr) / 3600.

Appendix 4.4 Calculation of Project Induced Marine Emission Source

Marine Traffic (Route 4)

Emission Inventory

Source ID	Vessel ID	Vessel Category	Vessel Type	Source Type	X	Y	Number of Point Sources	Base Elevation (m)	Release Height (mAG)	Exit Temperature (K)	Exit Velocity (m/s)	Diameter (m)	NOx Emission Rate (g/s/vessel)	SO_2 Emission Rate (g/s/vessel)	RSP Emission Rate (g/s/vessel)	FSP Emission Rate (g/s/vessel)
R4_RTV03H_01	R4_RTV03H	RTV	Dry Bulk Carrier	POINT	826327.3881	824106.5433	1	1.30	6.00	503.15	25.00	0.80	5.3511E-01	1.1142E-01	8.9013E-03	8.6343E-03
R4_RTV03M_01	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826307.4901	824108.5603	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_02	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826287.5924	824110.5806	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_03	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826267.6924	824112.5788	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_04	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826247.7847	824114.4974	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_05	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826227.8588	824116.2146	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_06	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826207.9027	824117.5312	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_07	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826187.9184	824118.3101	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_08	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826167.9216	824118.6566	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_09	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826147.9221	824118.776	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_10	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826127.9221	824118.8043	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_11	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826107.9221	824118.8044	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_12	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826087.9223	824118.7244	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_13	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826067.9235	824118.5045	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_14	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826047.9276	824118.1037	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_15	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826027.9379	824117.468	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_16	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	826007.96	824116.5315	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_17	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825988.0028	824115.2302	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_18	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825968.0746	824113.54	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_19	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825948.1764	824111.526	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_20	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825928.2962	824109.3401	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_21	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825908.4162	824107.1534	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_22	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825888.5265	824105.0556	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_23	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825868.6297	824103.0263	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_24	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825848.7275	824101.0507	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_25	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825828.8209	824099.1201	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_26	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825808.9104	824097.2306	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04
R4_RTV03M_27	R4_RTV03M	RTV	Dry Bulk Carrier	POINT	825793.9233	824095.8387	27	1.30	6.00	503.15	25.00	0.80	1.2360E-02	2.5735E-03	2.0560E-04	1.9943E-04

Figure A

Figure B

Figure C

Legend

500m Assessment Boundary

Project Boundary

Route

Route 1 (To Stone Crushing Facility)

Route 2 (To Concrete Batching Facility)

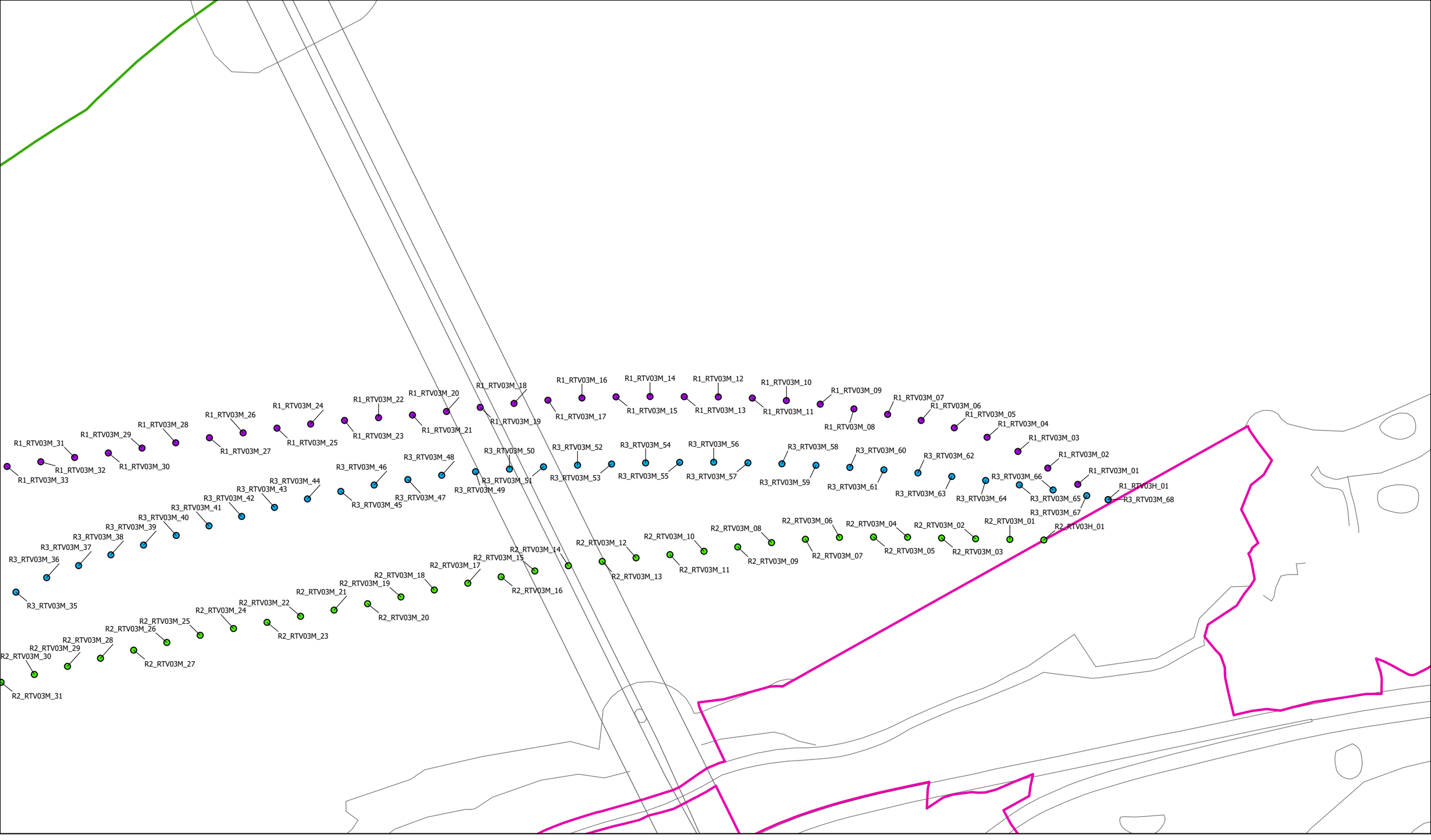
Route 3 (Between Ngau Kok Wan and Wok Tai Wan)

Route 4 (To Wok Tai Wan)

N

Location of Project-Induced Marine Emission Sources (Key Plan)

0 0.15 0.3 0.6 Kilometers



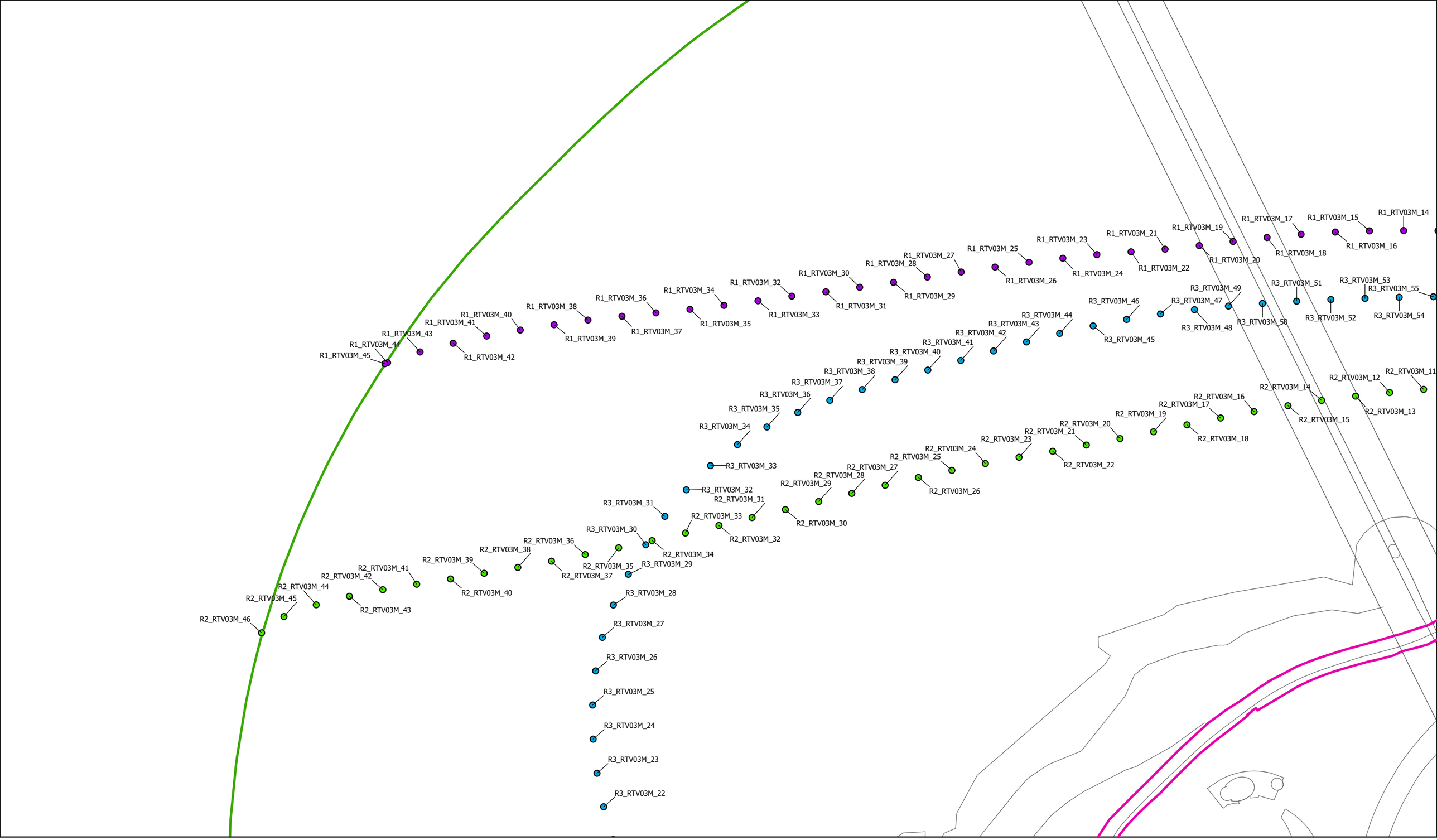
N

0 0.04 0.07 0.14 Kilometers

Location of Project-Induced Marine Emission Sources (Figure A)

Legend

- 500m Assessment Boundary
- Project Boundary
- Route 1 (To Stone Crushing Facility)
- Route 2 (To Concrete Batching Facility)
- Route 3 (Between Ngau Kok Wan and Wok Tai Wan)
- Route 4 (To Wok Tai Wan)



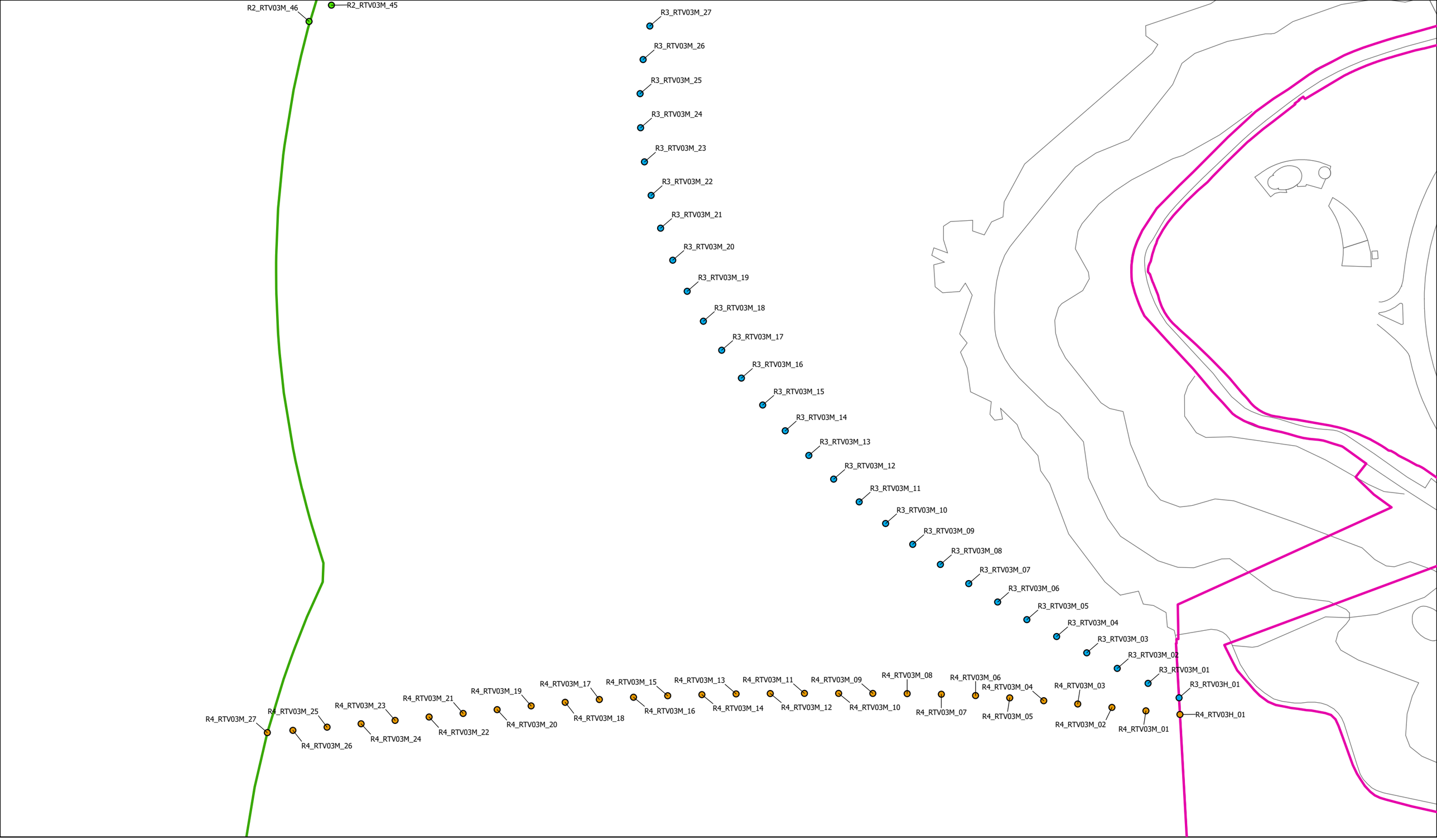
N

0 0.04 0.07 0.14 Kilometers

Location of Project-Induced Marine Emission Sources (Figure B)

Legend

- 500m Assessment Boundary
- Project Boundary
- Route 1 (To Stone Crushing Facility)
- Route 2 (To Concrete Batching Facility)
- Route 3 (Between Ngau Kok Wan and Wok Tai Wan)
- Route 4 (To Wok Tai Wan)



N

0 0.04 0.07 0.14 Kilometers

Location of Project-Induced Marine Emission Sources (Figure C)

Legend

- 500m Assessment Boundary
- Project Boundary
- Route 1 (To Stone Crushing Facility)
- Route 2 (To Concrete Batching Facility)
- Route 3 (Between Ngau Kok Wan and Wok Tai Wan)
- Route 4 (To Wok Tai Wan)

Appendix D

Preliminary Environmental Review Report

(Part 2 of 2)

Appendix 4.5

Appendix 4.5 Calculation of Vehicular Emission

[redacted]

From [redacted]
Sent: Wednesday, December 3, 2025 10:17 AM
To: [redacted]
Cc: [redacted]
Subject: Re: CE 79/2023 (GE) TYNUQ - Technical Note on Traffic Forecast for Environmental Impact Assessment – Issue 1 (Ref. B20e-01)

This Message Is From an External Sender
This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Dear [redacted]

We generally do not provide comments on traffic figures specifically prepared for Environmental Impact Assessments, as such assessments fall outside our purview.

Nonetheless, if the traffic projections in your submission align reasonably with existing data sources, such as officially approved Traffic Impact Assessments, the Annual Traffic Census, or traffic models endorsed by the TD, we would have no adverse comments on the forecast provided.

Regards,
[redacted]
E/TY,TD

[redacted]

Date: 02/12/2025 04:43 PM

Subject: CE 79/2023 (GE) TYNUQ - Technical Note on Traffic Forecast for Environmental Impact Assessment – Issue 1 (Ref. B20e-01)

Dear [redacted],

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
Technical Note on Traffic Forecast for Environmental Impact Assessment – Issue 1 (Ref. B20e-01)

To facilitate our study on the environmental impact assessment for the captioned project, we are pleased to submit the Technical Note on Traffic Forecast for Environmental Impact Assessment for your review and agreement. A hard copy is being sent to your office.

We would be grateful to have your reply to us on or before 9 December 2025, and grateful if you could also copy your reply to CGE/Mines, GEO, CEDD (fax no. 2714 0193). A nil return is required for record purposes.

Should you have any queries, please contact our [redacted] or me at [redacted]

Thank you.

Regards,

[redacted]

AECOM

[attachment "20250572AG.pdf" deleted by Kinco Kin Chun WONG/TD/HKSARG]

Appendix 4.5 Calculation of Vehicular Emissions

Estimation of Vehicular Emission for the Study Area with EMFAC-HK model

Open road emission contributes to the cumulative air quality in the Study Area during the operation phase. As NO_2 and particulate matters are the key pollutants for the operation phase, the estimation shall also focus on vehicular emission in NO_2 and particulate matters namely RSP and FSP. EMFAC-HK v4.3 model and SAMPv2.1 are adopted to estimate the vehicular emission rates of NOx and particulate matters including RSP and FSP. The input parameters and model assumptions made in EMFAC-HK model are summarised as follows:

Model Year

EMFAC-HK considers 45 years of model years for the estimation of vehicular emission. The model years start from 45 years preceding the year of interest to the year of interest as the final model year. The following table summarizes the starting and final model years of the assessment year implemented in EMFAC-HK.

Table 1 Starting and Final model years in EMFAC-HK

Scenario Year	Starting Model Year	Final Model Year
2028	1984	2028
2030	1986	2030
2033	1989	2033
2043	1999	2043
2048	2004	2048

Vehicle Emission Standard Implementation Programme and Technology fraction

The “2018 Licensed Vehicle by Age and Technology Group Fractions” provided in EPD’s website, are adopted in this assessment. Since the provided exhaust technology fractions are only up to Year 2018 at the time of the assessment, those after Year 2018 has been adopted by default in EMFAC-HK in accordance with EPD’s Guideline on Modelling Vehicle Emissions – Appendix III “Implementation Schedule of Vehicle Emission Standards in Hong Kong (Updated as in May 2020)” and Appendix IV “EMFAC-HK Technology Group Indexes (Released in January 2021)”.

Vehicle Population

As recommended in the EPD’s Guideline on Modelling Vehicle Emissions, default vehicle populations forecast in EMFAC-HK was used.

Vehicle Accrual

The default accrual rates in EMFAC-HK are estimated from the local mileage data adjusted to reflect the total VKT for each vehicle class. The default value was used.

Vehicle Kilometre Travel (VKT)

The “vehicle fleet” refers to all motor vehicles operating on roads within this assessment area. The modelled fleet was broken down into 18 vehicle classes based on the information in the Transport Monthly Digest and vehicle population provided by EPD.

Vehicle-kilometer-travelled (VKT) represents the total distance travelled on a weekday. The VKT is calculated by multiplying the number of vehicles, which based on the highest predicted hourly traffic flow, and the length of road travelled in the assessment area. The diurnal variation of VKT in the assessment area was provided by the traffic consultant, and the input in the model is by vehicle/fuel/hour.

Vehicle Speed

Vehicle speed on each road link at each hour was provided by the traffic consultant. All the vehicle classes on the same road link were assumed to have the same travelling speed, except medium goods vehicles, heavy goods vehicles, buses and public light buses.

In accordance with the Road Traffic Ordinance, for any road with design speed limit of 70 kph or above, the speed limit for medium goods vehicles, heavy goods vehicles and buses would be limited to not more than 70 kph. Thus, the speeds of medium goods vehicles, heavy goods vehicles and buses from the flow speed or 70 kph, whichever is lower, were adopted. For the public light buses, the speed limit should be limited to post speed of the carriageway or 80 kph, whichever is lower, were adopted.

Temperature and Humidity Profile

The WRF meteorological data are extracted from PATHv3.0 to estimate the vehicular emission factors. For the estimation of air quality impact of short-term NO_2 (i.e., hourly NO_2 and daily NO_2) , short-term and long-term RSP (i.e., daily RSP and annual RSP) and short-term and long-term FSP (i.e., daily FSP and annual FSP), an approach of using daily profile of lowest temperature and relative humidity data in each hour for each month was adopted. For long-term NO_2 (i.e., annual NO_2), an approach of using daily profile of averaged temperature and relative humidity data in each hour for each month was adopted.

Trips

Start emissions of all 18 vehicles classes were assigned on local / rural roads with post speed of 50 km/hr with the number of trips for each vehicle class assumed directly proportional to VKT (Trips per VKT) and is estimated by the following formula:

$$\begin{aligned} &Trip\ for\ local\ or\ rural\ roads\ within\ the\ study\ area \\ &= VKT\ for\ local\ or\ rural\ roads\ within\ the\ study\ area \\ &\times \frac{Trip\ for\ local\ or\ rural\ roads\ within\ Hong\ Kong}{VKT\ for\ all\ roads\ within\ Hong\ Kong\ \times\ Proportion\ of\ roads\ with\ potential\ start\ emission} \end{aligned}$$

Default trips and VKT values from EMFAC-HK are used in SAMP v2.1. The proportion of local and rural roads within Hong Kong refer to the latest Annual Traffic Census 2024 (3.74%). VKT within the study area was calculated by multiplying the number of vehicles by the distance travelled within the study area.

The highest NO_X (and the corresponding NO and NO_2), RSP and FSP start emission factors for each vehicle class among different soak time were adopted as a conservative approach.

Estimation of Composite Vehicular Emission Factor

Referring to the EPD's Guideline on Modelling Vehicle Emissions, "Emfac mode" was used for calculating emission factors in terms of grams of pollutants emitted per vehicle activity. It was applied for this Project, since it provides the emission factors according to the actual hourly travelling speeds of vehicles of each road.

Assuming that NO_X is comprised of NO and NO_2 only, the hourly emission of NO was calculated as the difference in emissions between NO_X and NO_2 extracted from EMFAC-HK for each vehicle type.

The hourly emissions of NOx, RSP and FSP were divided by the number of vehicles and the distance travelled to obtain the emission factors in gram per miles per vehicle. In addition, the "zero emission vehicle scenario" of SAMPv2.1, which consider the projected population and proportion of zero emission vehicles (ZEV), such as electric vehicles, is enabled to provide more realistic estimation. The projections of ZEV for different vehicle classes, according to the *Summary of assumptions for projecting vehicle population & emissions* by EPD. The calculated 24-hour emission rates of 18 vehicle classes for each road are then adopted in the subsequent air dispersion modelling (i.e. AERMOD).

Vehicular Emission Burden by EMFAC-HK

Vehicular emission burden (Emission from Open Roads and Tunnels) for NOx, RSP and FSP were calculated based on the traffic forecast, SAMPv2.1 and EMFAC-HK v4.3 model. The vehicular emission burden for Traffic Design Scenarios A and B summarized as below:

Table 2 Vehicular Emission Burden of Open Road Sources and Tunnels

Year	Vehicular Emission Burden (Tonne Per Year)					
	RSP		FSP		NOx	
2028	**2.60**		**2.39**		**62.82**	
2030	2.11		1.94		49.07	
Traffic Scenario	**A**	**B**	**A**	**B**	**A**	**B**
2033	1.27	1.29	1.17	1.19	29.78	30.52
2038	0.68	0.70	0.62	0.64	18.54	19.17
2043	0.60	0.62	0.55	0.57	14.47	14.98

Remark:
[1] The annual lowest temperature and relative humidity are adopted to estimate the annual vehicular emission burden.

Tsing Yi North Underground Quarry

Summary of Open Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Road 1	101	826033.66	823675.70	825802.35	823607.96	30,37	2.0	79.1	1.6	19.5	0.0
Road 1	102	826265.05	823744.87	826033.66	823675.70	31,37 30,37	2.0	75.8	1.6	19.5	0.0
Road 1	103	826443.60	823798.24	826265.05	823744.87	31,37	2.0	64.2	1.6	19.5	7.0
Road 1	104	826532.40	823828.20	826443.60	823798.24	31,37	2.0	62.0	1.6	24.0	8.0
Road 2	201	825941.95	823629.03	825814.33	823591.10	30,37	2.0	78.8	1.6	19.5	0.0
Road 2	202	826139.14	823687.81	825941.95	823629.03	30,37	2.0	77.2	1.6	19.5	0.0
Road 2	203	826376.20	823758.42	826139.14	823687.81	31,37 30,37	2.0	69.1	1.6	19.5	5.0
Road 2	204	826505.81	823797.10	826376.20	823758.42	31,37	2.0	64.4	1.6	19.5	6.0
Road 3	301	826594.96	823883.86	826528.39	823833.40	31,37	2.1	9.2	1.6	20.4	60.0
Road 4	401	826530.24	823821.55	826617.50	823846.41	31,37	1.9	9.5	1.5	15.4	60.0
Road 4	402	826617.50	823846.41	826711.75	823858.54	31,37	1.9	11.2	1.5	15.4	60.0
Road 4	403	826711.75	823858.54	826793.73	823839.77	31,37	1.9	12.6	1.5	21.4	60.0
Road 4	404	826793.73	823839.77	826831.32	823819.71	31,37	1.9	12.8	1.5	21.3	60.0
Road 5	501	826505.30	823799.75	826569.48	823818.43	31,37	1.9	36.2	1.5	16.2	33.0
Road 5	502	826569.48	823818.43	826644.07	823835.10	31,37	1.9	30.1	1.5	16.2	39.0
Road 6	601	826504.78	823794.44	826565.35	823802.71	31,37	2.1	36.4	1.7	15.1	33.0
Road 6	602	826565.35	823802.71	826681.44	823813.60	31,37	2.1	9.4	1.7	15.1	60.0
Road 6	603	826681.44	823813.60	826749.54	823833.71	31,37	2.1	16.2	1.7	15.6	60.0
Road 6	604	826749.54	823833.71	826802.51	823873.10	31,37	2.1	18.7	1.7	16.0	62.0
Road 6	605	826802.51	823873.10	826834.79	823938.19	31,37	2.1	17.4	1.7	17.6	63.0
Road 6	606	826834.79	823938.19	826838.22	823985.03	31,37	2.1	13.7	1.7	17.5	65.0
Road 6	607	826838.22	823985.03	826828.15	824034.87	31,37	2.1	3.7	1.7	17.2	73.0
Road 7	701	826614.35	823920.72	826591.05	823885.85	31,37	2.0	9.4	1.6	15.0	59.0
Road 7	702	826629.22	823977.85	826614.35	823920.72	31,37	2.0	5.8	1.6	15.0	60.0
Road 7	703	826622.87	824037.21	826629.22	823977.85	31,37	2.0	6.4	1.6	15.2	57.0
Road 7	704	826602.92	824088.38	826622.87	824037.21	31,37	2.0	2.9	1.6	15.2	57.0
Road 8	801	826627.41	824222.24	826654.67	824154.46	31,37	2.4	2.0	1.9	14.8	62.7
Road 8	802	826654.67	824154.46	826663.91	824104.73	31,37	2.4	2.0	1.9	14.8	63.9
Road 8	803	826663.91	824104.73	826665.01	824059.22	31,37	2.4	2.0	1.9	15.8	65.3
Road 8	804	826665.01	824059.22	826662.62	824018.69	31,37	2.4	9.3	1.9	16.0	60.0
Road 8	805	826662.62	824018.69	826634.44	823933.88	31,37	2.4	10.2	1.9	16.0	60.0
Road 8	806	826634.44	823933.88	826599.19	823883.08	31,37	2.4	8.6	1.9	16.0	60.0
Road 9	901	826548.08	824181.43	826579.77	824129.14	31,37	2.0	1.7	1.6	18.0	54.8
Road 9	902	826579.77	824129.14	826598.28	824083.73	31,37	2.0	1.7	1.6	19.6	56.0
Road 10	1001	826554.05	824184.08	826568.67	824166.14	31,37	2.6	2.2	2.0	11.5	54.8
Road 10	1002	826568.67	824166.14	826596.76	824127.25	31,37	2.6	2.2	2.0	11.5	55.6
Road 10	1003	826596.76	824127.25	826635.72	824051.82	31,37	2.6	2.2	2.0	12.3	58.2
Road 11	1101	826518.03	824227.74	826551.58	824182.76	31,37	2.1	2.4	1.7	19.0	52.1
Road 12	1201	826717.16	824587.80	826611.03	824541.02	31,38	3.7	3.2	2.9	9.0	14.0
Road 12	1202	826611.03	824541.02	826532.00	824528.77	31,38	3.7	3.2	2.9	9.0	20.0
Road 12	1203	826532.00	824528.77	826491.68	824508.44	31,38	3.7	3.2	2.9	9.0	32.0
Road 12	1204	826491.68	824508.44	826422.00	824486.51	31,38	3.7	3.2	2.9	9.0	35.0

Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Open Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Road 18	1803	827366.90	824580.90	827067.20	824580.70	31,38	2.0	15.7	1.6	14.8	28.0
Road 19	1901	827555.40	824571.40	827622.40	824570.10	32,38	2.1	11.8	1.7	14.8	25.0
Road 19	1902	827455.40	824571.30	827555.40	824571.40	32,38	2.1	12.8	1.7	14.8	25.0
Road 19	1903	827368.60	824570.90	827455.40	824571.30	32,38	2.1	13.8	1.7	14.8	25.0
Road 19	1904	827368.60	824570.90	827081.80	824570.90	31,38	2.1	15.8	1.7	14.8	25.0
Road 20	2001	827284.93	824641.91	827272.88	824660.59	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2002	827289.30	824618.10	827285.37	824641.46	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2003	827292.30	824604.10	827289.30	824618.10	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2004	827299.60	824586.10	827292.30	824604.10	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2005	827314.80	824563.90	827299.60	824586.10	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2006	827335.40	824546.70	827314.80	824563.90	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2007	827354.20	824536.90	827335.40	824546.70	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2008	827377.90	824531.60	827354.20	824536.90	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2009	827377.90	824531.60	827454.60	824530.90	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2010	827454.60	824530.90	827480.40	824531.60	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2011	827480.40	824531.60	827514.30	824536.60	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2012	827514.30	824536.60	827566.90	824551.50	32,38	2.6	2.2	2.1	12.0	0.0
Road 20	2013	827566.90	824551.50	827622.40	824561.60	32,38	2.6	2.2	2.1	12.0	0.0
Road 21	2101	827622.10	824564.90	827801.09	824570.96	32,38	2.2	1.8	1.7	20.5	0.0
Road 22	2201	827290.18	824666.10	827662.99	824661.55	32,38	2.7	2.3	2.1	11.0	0.0
Road 22	2202	827662.99	824661.55	827740.22	824655.12	32,38	2.7	2.3	2.1	11.0	0.0
Road 23	2301	827297.72	824661.89	827285.37	824641.46	32,38	2.8	2.4	2.2	11.0	0.0
Road 23	2302	827297.90	824661.97	827665.06	824659.27	32,38	2.8	2.4	2.2	11.0	0.0
Road 23	2303	827665.24	824659.33	827740.21	824652.83	32,38	2.8	2.4	2.2	11.0	0.0
Road 24	2401	827740.22	824655.12	827803.32	824649.85	32,38	2.1	1.8	1.7	11.0	0.0
Road 25	2501	827740.21	824652.83	827804.42	824648.08	32,38	2.7	2.3	2.1	11.0	0.0
Road 26	2601	827260.00	824661.80	827195.69	824661.15	31,38	2.8	2.4	2.2	11.0	0.0
Road 26	2602	827290.18	824666.10	827260.00	824661.80	32,38	2.8	2.4	2.2	11.0	0.0
Road 27	2701	827272.88	824660.59	827195.20	824657.97	31,38	2.8	2.4	2.2	11.0	0.0
Road 28	2801	826267.71	825014.04	826552.77	824439.88	31,38	2.1	68.7	1.7	21.1	0.0
Road 28	2802	826552.77	824439.88	826599.16	824344.40	31,38 31,37	2.1	1.8	1.7	21.1	66.9
Road 29	2901	826530.82	824430.04	826633.59	824224.56	31,38 31,37	2.2	1.9	1.8	24.4	63.6
Road 29	2902	826246.30	825007.68	826530.41	824430.93	31,38	2.2	68.8	1.8	21.1	0.0
Road 30	3001	826628.02	824369.74	826634.07	824325.22	31,37	2.2	1.9	1.7	16.0	61.4
Road 30	3002	826634.07	824325.22	826659.26	824251.79	31,37	2.2	1.9	1.7	15.5	62.4
Road 30	3003	826659.26	824251.79	826687.35	824198.29	31,37	2.2	1.9	1.7	13.2	63.2
Road 31	3101	826601.12	824344.73	826642.28	824270.51	31,37	2.3	2.0	1.8	15.1	63.0
Road 31	3102	826642.28	824270.51	826687.35	824198.29	31,37	2.3	2.0	1.8	14.1	63.2
Road 32	3201	826595.97	824344.40	826664.99	824197.97	31,37	2.1	1.8	1.6	19.7	62.6
Road 32	3202	826664.99	824197.97	826732.48	824071.02	31,37	2.1	1.8	1.6	20.8	62.6
Road 32	3203	826732.48	824071.02	826818.41	823944.07	31,37	2.1	1.8	1.6	20.9	62.8
Road 32	3204	826818.41	823944.07	826897.86	823817.01	31,37	2.1	1.8	1.6	21.5	51.6

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Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Open Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Road 12	1205	826422.00	824486.51	826368.45	824450.38	31,38	3.7	3.2	2.9	9.0	40.0
Road 12	1206	826368.45	824450.38	826309.42	824388.44	31,38 31,37	3.7	3.2	2.9	9.0	49.0
Road 12	1207	826309.42	824388.44	826303.34	824357.89	31,37	3.7	3.2	2.9	9.0	52.0
Road 12	1208	826303.34	824357.89	826363.29	824285.86	31,37	3.7	3.2	2.9	9.0	61.0
Road 12	1209	826363.29	824285.86	826420.84	824270.43	31,37	3.7	3.2	2.9	9.0	65.0
Road 12	1210	826420.84	824270.43	826518.22	824215.25	31,37	3.7	3.2	2.9	9.0	56.0
Road 13	1301	826716.52	824589.41	826609.74	824543.28	31,38	3.7	3.2	2.9	9.0	14.0
Road 13	1302	826609.74	824543.28	826531.68	824531.02	31,38	3.7	3.2	2.9	9.0	20.0
Road 13	1303	826531.68	824531.02	826491.68	824510.70	31,38	3.7	3.2	2.9	9.0	32.0
Road 13	1304	826491.68	824510.70	826421.68	824489.09	31,38	3.7	3.2	2.9	9.0	35.0
Road 13	1305	826421.68	824489.09	826367.81	824453.28	31,38	3.7	3.2	2.9	9.0	40.0
Road 13	1306	826367.81	824453.28	826308.45	824390.70	31,38 31,37	3.7	3.2	2.9	9.0	49.0
Road 13	1309	826361.03	824281.99	826420.39	824266.51	31,37	3.7	3.2	2.9	9.0	52.0
Road 13	1310	826420.39	824266.51	826520.39	824209.41	31,37	3.7	3.2	2.9	9.0	61.0
Road 13	1307	826308.45	824390.70	826301.03	824357.80	31,37	3.7	3.2	2.9	9.0	65.0
Road 13	1308	826301.03	824357.80	826361.03	824281.99	31,37	3.7	3.2	2.9	9.0	56.0
Road 14	1401	826485.09	824270.28	826516.48	824228.62	31,37	2.2	1.8	1.7	19.0	50.7
Road 14	1402	826466.28	824318.24	826485.09	824270.28	31,37	2.2	1.8	1.7	19.7	50.7
Road 14	1403	826464.65	824358.44	826466.28	824318.24	31,37	2.2	1.8	1.7	18.7	52.8
Road 14	1404	826471.27	824401.40	826464.65	824358.44	31,37	2.2	1.8	1.7	18.7	54.5
Road 14	1405	826506.02	824453.09	826471.27	824401.40	31,38 31,37	2.2	1.8	1.7	18.7	55.7
Road 15	1501	826506.02	824453.09	826552.07	824468.79	31,38	2.5	2.1	1.9	12.8	56.4
Road 15	1502	826552.07	824468.79	826587.29	824457.14	31,38	2.5	2.1	1.9	12.9	56.4
Road 15	1503	826587.29	824457.14	826608.28	824431.99	31,38	2.5	2.1	1.9	13.0	57.6
Road 15	1504	826608.28	824431.99	826628.02	824369.74	31,38 31,37	2.5	2.1	1.9	16.0	58.9
Road 16	1601	827067.20	824580.70	826981.13	824577.71	31,38	2.0	16.6	1.6	14.5	35.0
Road 16	1602	826981.13	824577.71	826889.76	824565.80	31,38	2.0	18.4	1.6	14.5	35.0
Road 16	1603	826889.76	824565.80	826623.88	824509.82	31,38	2.0	23.6	1.6	14.7	32.0
Road 16	1604	826623.88	824509.82	826575.88	824497.23	31,38	2.0	19.6	1.6	14.7	37.0
Road 16	1605	826575.88	824497.23	826537.55	824479.32	31,38	2.0	10.8	1.6	14.7	46.0
Road 16	1606	826537.55	824479.32	826506.02	824453.09	31,38	2.0	5.4	1.6	14.2	52.0
Road 17	1701	827081.80	824570.90	826951.56	824564.00	31,38	2.1	19.2	1.7	14.8	32.0
Road 17	1702	826951.56	824564.00	826881.00	824553.30	31,38	2.1	9.9	1.7	14.8	43.0
Road 17	1703	826881.00	824553.30	826811.46	824537.84	31,38	2.1	18.9	1.7	14.8	37.0
Road 17	1704	826811.46	824537.84	826759.13	824523.58	31,38	2.1	27.9	1.7	14.8	28.0
Road 17	1705	826759.13	824523.58	826715.04	824507.89	31,38	2.1	18.5	1.7	14.8	39.0
Road 17	1706	826715.04	824507.89	826677.01	824481.11	31,38	2.1	10.5	1.7	14.8	47.0
Road 17	1707	826677.01	824481.11	826649.28	824443.92	31,38	2.1	1.8	1.7	14.8	57.1
Road 17	1708	826649.28	824443.92	826635.05	824408.61	31,38 31,37	2.1	1.8	1.7	15.6	57.1
Road 17	1709	826635.05	824408.61	826628.02	824369.74	31,37	2.1	1.8	1.7	15.6	58.9
Road 18	1801	827460.90	824580.10	827800.53	824581.27	32,38	2.0	11.7	1.6	14.8	25.0
Road 18	1802	827366.90	824580.90	827460.90	824580.10	32,38	2.0	31.7	1.6	14.8	22.0

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Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Open Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Road 32	3205	826897.86	823817.01	826978.49	823613.32	31,37	2.1	1.8	1.6	18.6	60.8
Road 32	3206	826978.49	823613.32	827007.46	823513.05	31,37	2.1	1.8	1.6	16.9	60.0
Road 33	3301	826687.35	824198.29	826731.09	824145.99	31,37	2.2	1.9	1.8	18.9	66.5
Road 33	3302	826731.09	824145.99	826800.99	824079.84	31,37	2.2	1.9	1.8	19.0	70.2
Road 33	3303	826800.99	824079.84	826830.42	824033.98	31,37	2.2	1.9	1.8	19.5	73.9
Road 34	3401	826634.52	824225.12	826759.93	823970.35	31,37	2.2	1.9	1.8	25.6	62.4
Road 35	3501	826752.92	823968.47	826761.04	823938.01	31,37	2.6	2.2	2.1	12.3	61.0
Road 35	3502	826761.04	823938.01	826758.24	823914.76	31,37	2.6	2.2	2.1	12.3	61.7
Road 36	3601	826756.59	823915.09	826747.11	823902.92	31,37	2.6	2.2	2.0	11.6	61.7
Road 36	3602	826747.11	823902.92	826737.32	823893.40	31,37	2.6	2.2	2.0	11.6	61.7
Road 36	3603	826737.32	823893.40	826708.73	823877.06	31,37	2.6	2.2	2.0	11.0	60.9
Road 37	3701	826717.25	823881.93	826696.26	823930.74	31,37	2.1	1.8	1.7	12.0	60.1
Road 38	3801	826635.67	824051.91	826708.73	823877.06	31,37	2.6	2.2	2.0	12.0	60.1
Road 39	3901	826759.79	823915.09	826771.52	823890.28	31,37	2.5	2.2	2.0	13.8	62.3
Road 39	3902	826771.52	823890.28	826786.34	823871.45	31,37	2.5	2.2	2.0	13.8	62.3
Road 39	3903	826786.34	823871.45	826798.99	823848.63	31,37	2.5	2.2	2.0	11.5	62.3
Road 39	3904	826798.99	823848.63	826814.32	823816.62	31,37	2.5	2.2	2.0	11.5	70.1
Road 39	3905	826814.32	823816.62	826852.39	823745.17	31,37	2.5	2.2	2.0	11.7	61.1
Road 40	4001	826792.79	823805.44	826736.26	823845.01	31,37	2.6	2.2	2.0	11.5	59.9
Road 40	4002	826736.26	823845.01	826708.73	823877.06	31,37	2.6	2.2	2.0	13.2	60.6
Road 41	4101	826831.14	824036.53	826917.07	823900.49	31,37	2.5	2.1	2.0	16.2	75.4
Road 42	4201	826917.07	823900.49	826945.65	823815.32	31,37	2.5	2.2	2.0	12.2	73.9
Road 42	4202	826945.65	823815.32	826963.43	823753.52	31,37	2.5	2.2	2.0	12.2	76.3
Road 42	4203	826963.43	823753.52	826971.42	823680.76	31,37	2.5	11.4	2.0	12.8	67.0
Road 42	4204	826971.42	823680.76	826961.82	823648.32	31,37	2.5	16.5	2.0	13.0	62.0
Road 42	4205	826961.82	823648.32	826931.01	823623.87	31,37	2.5	16.1	2.0	12.4	61.0
Road 42	4206	826931.01	823623.87	826889.40	823624.89	31,37	2.5	13.9	2.0	13.9	60.0
Road 42	4207	826889.40	823624.89	826849.04	823658.57	31,37	2.5	9.7	2.0	13.7	60.0
Road 42	4208	826849.04	823658.57	826821.87	823701.89	31,37	2.5	2.2	2.0	13.7	65.6
Road 42	4209	826821.87	823701.89	826809.95	823738.00	31,37	2.5	2.2	2.0	12.3	63.3
Road 42	4210	826809.95	823738.00	826806.98	823764.46	31,37	2.5	2.2	2.0	11.9	59.8
Road 42	4211	826806.98	823764.46	826792.79	823805.44	31,37	2.5	2.2	2.0	11.9	59.8
Road 43	4301	826917.07	823900.49	826945.87	823846.21	31,37	2.3	1.9	1.8	12.2	74.7
Road 43	4302	826945.87	823846.21	826964.90	823794.82	31,37	2.3	1.9	1.8	12.1	73.9
Road 43	4303	826964.90	823794.82	826981.86	823734.02	31,37	2.3	1.9	1.8	12.1	69.5
Road 43	4304	826981.86	823734.02	826990.73	823679.63	31,37	2.3	1.9	1.8	12.1	67.3
Road 44	4401	826987.81	823683.13	827005.45	823568.56	31,37	2.0	1.7	1.6	14.8	61.6
Road 45	4501	826831.84	823824.58	826898.77	823790.10	31,37	2.0	12.0	1.6	13.8	62.0
Road 45	4502	826898.77	823790.10	826946.75	823755.85	31,37	2.0	9.1	1.6	17.2	63.0
Road 45	4503	826946.75	823755.85	826986.98	823680.55	31,37	2.0	6.5	1.6	16.0	64.0
Road 46	4601	826830.90	823816.27	826872.91	823782.14	31,37	1.9	11.2	1.5	16.2	62.0
Road 46	4602	826872.91	823782.14	826900.70	823749.90	31,37	1.9	10.4	1.5	16.0	62.0

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Tsing Yi North Underground Quarry

Summary of Open Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Road 46	4603	826900.70	823749.90	826930.85	823697.61	31,37	1.9	11.4	1.5	16.0	61.0
Road 46	4604	826930.85	823697.61	826966.23	823603.91	31,37	1.9	1.6	1.5	15.9	70.0
Road 46	4605	826966.23	823603.91	826985.76	823541.78	31,37	1.9	1.6	1.5	16.0	63.8
Road 47	4701	826643.55	823836.76	826675.07	823841.84	31,37	1.8	9.5	1.4	13.4	60.0
Road 47	4702	826675.07	823841.84	826706.59	823842.70	31,37	1.8	11.1	1.4	13.4	60.0
Road 47	4703	826706.59	823842.70	826769.83	823827.72	31,37	1.8	9.1	1.4	16.0	62.0
Road 47	4704	826769.83	823827.72	826817.82	823804.88	31,37	1.8	10.6	1.4	21.7	61.0
Road 47	4705	826817.82	823804.88	826863.94	823772.73	31,37	1.8	8.6	1.4	21.3	63.0
Road 47	4706	826863.94	823772.73	826920.24	823694.85	31,37	1.8	9.2	1.4	21.2	62.0
Road 47	4707	826934.12	823654.09	826970.01	823548.54	31,37	1.8	1.5	1.4	15.5	65.1
Road 47	4708	826920.24	823694.85	826934.12	823654.09	31,37	1.8	1.5	1.4	15.5	67.6
Road 48	4801	826856.82	823748.60	826913.93	823645.47	31,37	2.2	1.9	1.7	21.4	61.1
Road 48	4802	826913.93	823645.47	826949.63	823567.69	31,37	2.2	1.9	1.7	19.5	60.2
Road 49	4901	826643.65	823833.33	826674.04	823835.42	31,37	2.1	10.0	1.7	13.5	60.0
Road 49	4902	826674.04	823835.42	826706.18	823835.73	31,37	2.1	11.4	1.7	13.5	60.0
Road 49	4903	826706.18	823835.73	826735.22	823826.96	31,37	2.1	11.4	1.7	16.6	60.0
Road 49	4904	826735.22	823826.96	826769.51	823812.43	31,37	2.1	10.9	1.7	20.3	60.0
Road 49	4905	826769.51	823812.43	826812.44	823772.43	31,37	2.1	10.9	1.7	16.4	60.0
Road 49	4906	826812.44	823772.43	826868.43	823700.75	31,37	2.1	10.0	1.7	17.3	60.0
Road 49	4907	826868.43	823700.75	826907.12	823632.63	31,37	2.1	4.1	1.7	17.3	61.0
Road 49	4908	826907.12	823632.63	826937.21	823563.79	31,37	2.1	1.8	1.7	13.5	61.4
Road 50	5001	826792.79	823805.44	826813.37	823782.84	31,37	2.7	2.3	2.2	13.3	59.9
Road 50	5002	826813.37	823782.84	826832.51	823740.75	31,37	2.7	2.3	2.2	14.3	62.0
Road 50	5003	826832.51	823740.75	826845.67	823705.86	31,37	2.7	2.3	2.2	14.3	59.4
Road 50	5004	826845.67	823705.86	826886.94	823642.83	31,37	2.7	2.3	2.2	14.3	60.6
Road 50	5005	826886.94	823642.83	826917.70	823582.24	31,37	2.7	2.3	2.2	13.7	59.5
Road 50	5006	826917.70	823582.24	826929.32	823559.20	31,37	2.7	2.3	2.2	13.7	59.9
Road 51	5101	826761.99	823972.01	826821.24	823849.39	31,37	2.2	1.9	1.7	21.3	61.8
Road 51	5102	826821.24	823849.39	826860.94	823750.15	31,37	2.2	1.9	1.7	21.3	61.1
Road 52	5201	827740.21	824652.83	827741.85	824624.28	32,38	2.8	2.4	2.2	15.0	0.0
Road 52	5202	827741.85	824624.28	827762.18	824605.33	32,38	2.8	2.4	2.2	15.0	0.0
Road 52	5203	827762.18	824605.33	827800.27	824599.62	32,38	2.8	2.4	2.2	15.0	0.0
Road 53	5301	826720.71	823691.10	826550.03	823689.10	31,37	2.4	2.0	1.9	16.0	6.3
Road 53	5302	826737.88	823629.52	826720.71	823691.10	31,37	2.4	2.0	1.9	16.0	6.3
Road 53	5303	826763.71	823584.54	826737.88	823629.52	31,37	2.4	2.0	1.9	16.0	5.6
Road 53	5304	826759.47	823557.42	826763.71	823584.54	31,37	2.4	2.0	1.9	14.5	5.6
Road 53	5305	826823.90	823477.09	826759.47	823557.42	31,37	2.4	2.0	1.9	14.3	5.4
Road 54	5401	826716.84	823687.23	826549.39	823685.55	31,37	2.5	2.1	2.0	16.0	6.3
Road 54	5402	826733.69	823629.20	826717.49	823686.26	31,37	2.5	2.1	2.0	16.0	6.3
Road 54	5403	826760.32	823584.69	826733.69	823629.20	31,37	2.5	2.1	2.0	16.0	5.6
Road 54	5404	826755.63	823557.29	826760.32	823584.69	31,37	2.5	2.1	2.0	14.5	5.6
Road 54	5405	826820.07	823476.97	826755.63	823557.29	31,37	2.5	2.1	2.0	14.3	5.4

Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Open Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Road 101	10101	826296.46	823414.42	826088.10	823327.46	30,36 31,36 31,37	0.0	79.6	0.0	21.3	0.0
Road 101	10102	826424.43	823467.27	826296.46	823414.42	31,37	0.0	77.6	0.0	21.3	0.0
Road 101	10103	826565.18	823525.54	826424.43	823467.27	31,37	0.0	75.6	0.0	21.3	0.0
Road 102	10201	826313.14	823400.01	826100.48	823311.80	30,36	0.0	79.6	0.0	21.3	0.0
Road 102	10202	826430.60	823448.55	826313.14	823400.01	31,37	0.0	77.6	0.0	21.3	0.0
Road 102	10203	826547.96	823497.09	826430.60	823448.55	31,37	0.0	75.6	0.0	21.3	0.0
Road 103	10301	826564.66	823522.55	826647.70	823546.41	31,37	0.0	75.0	0.0	16.4	0.0
Road 103	10302	826647.70	823546.41	826681.80	823551.82	31,37	0.0	73.5	0.0	16.4	1.0
Road 103	10303	826681.80	823551.82	826717.54	823551.13	31,37	0.0	69.0	0.0	16.4	5.0
Road 103	10304	826717.54	823551.13	826759.25	823548.34	31,37	0.0	68.8	0.0	19.6	5.0
Road 103	10305	826759.25	823548.34	826799.83	823538.90	31,37	0.0	67.2	0.0	19.5	6.0
Road 103	10306	826799.83	823538.90	826853.28	823517.38	31,37	0.0	67.8	0.0	19.6	5.0
Road 103	10307	826853.28	823517.38	826910.94	823479.81	31,37	0.0	32.2	0.0	19.6	40.0
Road 104	10401	826547.13	823500.74	826633.27	823529.70	31,37	0.0	75.2	0.0	14.1	0.0
Road 104	10402	826633.27	823529.70	826695.38	823536.31	31,37	0.0	72.5	0.0	14.1	2.0
Road 104	10403	826695.38	823536.31	826761.82	823528.96	31,37	0.0	68.8	0.0	14.3	5.0
Road 104	10404	826761.82	823528.96	826833.70	823506.77	31,37	0.0	67.0	0.0	17.5	6.0
Road 104	10405	826833.70	823506.77	826891.98	823470.52	31,37	0.0	65.4	0.0	17.8	7.0
Road 105	10501	826593.85	824085.39	826601.76	824042.98	31,37	0.0	3.8	0.0	13.4	58.0
Road 105	10502	826601.76	824042.98	826592.26	824004.67	31,37	0.0	17.4	0.0	13.4	47.0
Road 105	10503	826592.26	824004.67	826558.96	823957.30	31,37	0.0	30.2	0.0	14.4	34.0
Road 105	10504	826558.96	823957.30	826509.17	823894.43	31,37	0.0	30.7	0.0	14.3	30.0
Road 105	10505	826509.17	823894.43	826488.02	823849.48	31,37	0.0	36.6	0.0	14.2	18.0
Road 105	10506	826488.02	823849.48	826490.26	823804.19	31,37	0.0	28.3	0.0	16.3	23.0
Road 105	10507	826490.26	823804.19	826516.71	823763.54	31,37	0.0	26.5	0.0	16.5	24.0
Road 105	10508	826516.71	823763.54	826562.02	823741.25	31,37	0.0	21.6	0.0	16.3	31.0
Road 105	10509	826562.02	823741.25	826637.71	823726.03	31,37	0.0	13.5	0.0	16.5	43.0
Road 105	10510	826637.71	823726.03	826670.25	823703.31	31,37	0.0	25.5	0.0	14.2	35.0
Road 105	10511	826670.25	823703.31	826689.90	823671.52	31,37	0.0	57.5	0.0	14.4	7.0
Road 105	10512	826689.90	823671.52	826692.97	823634.97	31,37	0.0	62.5	0.0	14.4	6.0
Road 105	10513	826692.97	823634.97	826685.12	823602.53	31,37	0.0	64.1	0.0	14.4	6.0
Road 105	10514	826685.12	823602.53	826661.62	823573.98	31,37	0.0	67.5	0.0	14.4	6.0
Road 105	10515	826661.62	823573.98	826624.53	823552.74	31,37	0.0	72.8	0.0	14.4	2.0
Road 105	10516	826624.53	823552.74	826563.12	823527.97	31,37	0.0	73.7	0.0	13.4	2.0
Road 106	10601	826547.34	823493.88	826588.03	823507.91	31,37	0.0	75.2	0.0	13.4	0.0
Road 106	10602	826588.03	823507.91	826639.65	823519.07	31,37	0.0	74.4	0.0	13.4	0.0
Road 106	10603	826639.65	823519.07	826696.10	823523.02	31,37	0.0	70.3	0.0	13.2	3.0
Road 106	10604	826696.10	823523.02	826739.15	823516.90	31,37	0.0	66.2	0.0	13.2	5.0
Road 106	10605	826739.15	823516.90	826791.57	823502.81	31,37	0.0	63.2	0.0	14.3	6.0
Road 106	10606	826791.57	823502.81	826834.72	823484.29	31,37	0.0	61.6	0.0	14.3	6.0
Road 106	10607	826834.72	823484.29	826891.25	823446.27	31,37	0.0	57.5	0.0	14.3	7.0
Road 106	106_2	826639.65	823519.07	826696.10	823523.02	31,37	0.0	70.3	0.0	13.2	3.0

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 1	1	80	80.0	N	0000-0100	779	56.8%	25.5%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.8%	2.9%	0.8%	0.0%	100.0%
Road 1	1	80	80.0	N	0100-0200	507	55.8%	25.0%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.7%	3.2%	0.9%	0.0%	100.0%
Road 1	1	80	80.0	N	0200-0300	370	54.8%	24.4%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	4.7%	3.5%	1.1%	0.0%	100.0%
Road 1	1	80	80.0	N	0300-0400	292	53.8%	23.9%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.7%	3.8%	1.3%	0.0%	100.0%
Road 1	1	80	80.0	N	0400-0500	320	52.9%	23.4%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	4.6%	4.1%	1.3%	0.0%	100.0%
Road 1	1	80	80.0	N	0500-0600	553	52.0%	22.9%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.6%	4.4%	1.1%	0.0%	100.0%
Road 1	1	80	80.0	N	0600-0700	1182	51.1%	22.4%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	4.6%	4.8%	1.0%	0.0%	100.0%
Road 1	1	80	80.0	N	0700-0800	2390	50.1%	21.8%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	4.6%	5.1%	1.2%	0.0%	100.0%
Road 1	1	80	80.0	N	0800-0900	2760	56.0%	17.9%	0.1%	6.0%	2.2%	1.7%	3.3%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	4.1%	3.3%	1.1%	0.0%	100.0%
Road 1	1	80	80.0	N	0900-1000	2255	51.5%	18.7%	0.1%	8.5%	3.1%	2.3%	4.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	4.2%	2.0%	1.5%	0.0%	100.0%
Road 1	1	80	80.0	N	1000-1100	1943	48.9%	19.0%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	4.2%	1.5%	1.9%	0.0%	100.0%
Road 1	1	80	80.0	N	1100-1200	1843	48.8%	20.1%	0.1%	9.2%	3.3%	2.9%	5.6%	0.0%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	4.3%	1.4%	1.9%	0.0%	100.0%
Road 1	1	80	80.0	N	1200-1300	2670	45.3%	17.5%	0.1%	10.7%	3.8%	3.8%	7.5%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	4.4%	1.3%	2.2%	0.0%	100.0%
Road 1	1	80	80.0	N	1300-1400	2729	43.7%	16.8%	0.1%	12.6%	4.5%	3.9%	7.7%	0.0%	0.1%	0.6%	0.8%	0.4%	1.0%	0.0%	4.2%	1.3%	2.3%	0.0%	100.0%
Road 1	1	80	79.2	N	1400-1500	2908	43.8%	17.7%	0.1%	11.2%	4.0%	3.8%	7.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	4.2%	1.7%	2.2%	0.0%	100.0%
Road 1	1	80	78.9	N	1500-1600	2975	43.6%	17.5%	0.1%	13.0%	4.7%	3.3%	6.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	4.1%	1.6%	1.9%	0.0%	100.0%
Road 1	1	80	77.1	N	1600-1700	3167	46.3%	16.0%	0.1%	10.2%	3.7%	3.2%	6.3%	0.0%	0.1%	1.1%	1.4%	0.9%	2.1%	0.0%	4.5%	2.2%	1.9%	0.0%	100.0%
Road 1	1	80	76.2	N	1700-1800	3585	51.3%	16.0%	0.1%	9.2%	3.3%	2.1%	4.1%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	4.6%	4.4%	1.3%	0.0%	100.0%
Road 1	1	80	75.2	N	1800-1900	3917	62.1%	14.6%	0.1%	5.7%	2.0%	1.2%	2.3%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	4.7%	3.0%	0.8%	0.0%	100.0%
Road 1	1	80	80.0	N	1900-2000	3114	60.7%	19.0%	0.0%	4.3%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	5.4%	2.2%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	2000-2100	2426	55.9%	23.7%	0.0%	4.6%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	5.6%	2.2%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	2100-2200	2413	57.2%	23.6%	0.0%	4.7%	1.7%	1.1%	2.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.0%	2.6%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	2200-2300	2348	56.7%	25.6%	0.0%	3.6%	1.3%	1.1%	2.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.4%	2.2%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	2300-0000	1758	55.6%	25.1%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.3%	2.5%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	0000-0100	1033	56.0%	25.1%	0.0%	4.0%	1.5%	1.3%	2.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.8%	2.8%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	0100-0200	673	54.9%	24.6%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.9%	3.1%	1.0%	0.0%	100.0%
Road 2	2	80	80.0	N	0200-0300	493	53.8%	24.0%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	5.0%	3.4%	1.2%	0.0%	100.0%
Road 2	2	80	80.0	N	0300-0400	390	52.8%	23.4%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	5.1%	3.9%	1.4%	0.0%	100.0%
Road 2	2	80	80.0	N	0400-0500	428	51.7%	22.9%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	5.2%	4.3%	1.6%	0.0%	100.0%
Road 2	2	80	80.0	N	0500-0600	741	50.8%	22.3%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	5.3%	4.8%	1.8%	0.0%	100.0%
Road 2	2	80	80.0	N	0600-0700	1588	49.8%	21.8%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	5.4%	5.4%	2.0%	0.0%	100.0%
Road 2	2	80	78.8	N	0700-0800	3218	48.6%	21.2%	0.1%	6.9%	2.5%	2.1%	4.2%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	5.4%	6.1%	2.4%	0.0%	100.0%
Road 2	2	80	75.8	N	0800-0900	3725	54.2%	17.4%	0.1%	7.5%	2.7%	2.1%	4.1%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.3%	3.1%	1.3%	0.0%	100.0%
Road 2	2	80	78.9	N	0900-1000	3089	49.2%	17.9%	0.1%	10.4%	3.7%	2.8%	5.6%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.4%	1.9%	1.7%	0.0%	100.0%
Road 2	2	80	80.0	N	1000-1100	2683	46.3%	18.0%	0.1%	11.1%	4.0%	3.5%	7.0%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.4%	1.4%	2.1%	0.0%	100.0%
Road 2	2	80	80.0	N	1100-1200	2542	46.2%	19.0%	0.1%	11.1%	4.0%	3.5%	6.8%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	3.5%	1.3%	2.1%	0.0%	100.0%
Road 2	2	80	80.0	N	1200-1300	1925	43.3%	15.9%	0.1%	12.8%	4.6%	4.6%	9.1%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	4.6%	1.2%	2.7%	0.0%	100.0%
Road 2	2	80	80.0	N	1300-1400	1985	39.4%	15.2%	0.2%	15.1%	5.4%	4.7%	9.2%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	4.4%	1.2%	2.8%	0.0%	100.0%
Road 2	2	80	80.0	N	1400-1500	2101	39.9%	16.1%	0.1%	13.5%	4.9%	4.6%	9.0%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.4%	1.5%	2.7%	0.0%	100.0%
Road 2	2	80	80.0	N	1500-1600	2152	39.5%	15.9%	0.2%	15.6%	5.6%	4.0%	7.8%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.3%	1.4%	2.4%	0.0%	100.0%
Road 2	2	80	80.0	N	1600-1700	2265	42.5%	14.7%	0.1%	12.4%	4.5%	3.9%	7.6%	0.0%	0.1%	1.0%	1.2%	0.9%	1.9%	0.0%	4.8%	2.0%	2.3%	0.0%	100.0%
Road 2	2	80	80.0	N	1700-1800	2523	47.8%	14.9%	0.1%	11.3%	4.1%	2.6%	5.0%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	4.9%	4.1%	1.6%	0.0%	100.0%
Road 2	2	80	80.0	N	1800-1900	2691	59.3%	13.9%	0.1%	7.2%	2.6%	1.5%	2.9%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	5.1%	2.8%	1.0%	0.0%	100.0%
Road 2	2	80	80.0	N	1900-2000	2125	58.5%	18.3%	0.1%	5.5%	2.0%	1.3%	2.6%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	5.9%	2.2%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2000-2100	1657	53.7%	22.8%	0.1%	5.8%	2.1%	1.3%	2.5%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	6.2%	2.1%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2100-2200	1649	55.0%	22.7%	0.1%	5.9%	2.1%	1.4%	2.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.5%	2.5%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2200-2300	1599	54.6%	24.7%	0.0%	4.6%	1.7%	1.5%	2.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.9%	2.1%	0.9%	0.0%	100.0%
Road 2	2	80	80.0	N	2300-0000	1201	53.4%	24.1%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.9%	2.4%	1.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 3	3	70	70.0	N	0000-0100	253	54.3%	24.4%	0.0%	3.2%	1.1%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.1%	8.1%	2.7%	1.3%	0.0%	100.0%
Road 3	3	70	70.0	N	0100-0200	165	53.2%	23.8%	0.0%	3.5%	1.2%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	8.1%	3.0%	1.7%	0.0%	100.0%
Road 3	3	70	70.0	N	0200-0300	121	52.1%	23.2%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.1%	8.0%	3.3%	2.2%	0.0%	100.0%
Road 3	3	70	70.0	N	0300-0400	96	51.0%	22.6%	0.0%	4.1%	1.5%	1.3%	2.6%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.1%	7.9%	3.6%	2.6%	0.0%	100.0%
Road 3	3	70	70.0	N	0400-0500	105	50.2%	22.2%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.1%	7.9%	3.9%	2.5%	0.0%	100.0%
Road 3	3	70	70.0	N	0500-0600	156	51.2%	22.5%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	5.8%	4.4%	1.9%	0.0%	100.0%
Road 3	3	70	70.0	N	0600-0700	383	49.0%	21.4%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.1%	7.9%	4.6%	1.3%	0.0%	100.0%
Road 3	3	70	70.0	N	0700-0800	777	47.8%	20.8%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.1%	7.8%	5.4%	1.8%	0.0%	100.0%
Road 3	3	70	70.0	N	0800-0900	893	53.7%	17.2%	0.1%	6.0%	2.1%	1.7%	3.3%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	7.0%	3.1%	1.7%	0.0%	100.0%
Road 3	3	70	70.0	N	0900-1000	733	49.2%	17.9%	0.1%	8.4%	3.0%	2.3%	4.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	7.2%	1.9%	2.2%	0.0%	100.0%
Road 3	3	70	70.0	N	1000-1100	633	46.6%	18.1%	0.1%	9.1%	3.3%	2.9%	5.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	7.2%	1.4%	2.6%	0.0%	100.0%
Road 3	3	70	70.0	N	1100-1200	601	46.4%	19.1%	0.1%	9.0%	3.2%	2.8%	5.5%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	7.4%	1.3%	2.6%	0.0%	100.0%
Road 3	3	70	69.8	N	1200-1300	838	42.2%	16.2%	0.1%	10.9%	3.9%	3.9%	7.7%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	7.8%	1.2%	2.9%	0.0%	100.0%
Road 3	3	70	69.4	N	1300-1400	858	40.6%	15.6%	0.1%	12.9%	4.6%	4.0%	7.9%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	7.4%	1.2%	2.9%	0.0%	100.0%
Road 3	3	70	68.5	N	1400-1500	912	40.9%	16.5%	0.1%	11.5%	4.1%	3.9%	7.7%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	7.4%	1.5%	2.8%	0.0%	100.0%
Road 3	3	70	68.2	N	1500-1600	932	40.6%	16.3%	0.1%	13.3%	4.8%	3.4%	6.6%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.1%	7.3%	1.5%	2.5%	0.0%	100.0%
Road 3	3	70	67.1	N	1600-1700	992	43.2%	14.9%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.1%	1.0%	1.3%	0.9%	1.9%	0.0%	8.0%	2.0%	2.4%	0.0%	100.0%
Road 3	3	70	65.9	N	1700-1800	1117	48.1%	15.0%	0.1%	9.5%	3.4%	2.1%	4.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	8.2%	4.1%	1.7%	0.0%	100.0%
Road 3	3	70	65.1	N	1800-1900	1212	58.6%	13.8%	0.1%	5.9%	2.1%	1.2%	2.4%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	8.4%	2.8%	1.2%	0.0%	100.0%
Road 3	3	70	69.3	N	1900-2000	964	57.3%	17.9%	0.0%	4.5%	1.6%	1.1%	2.1%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	9.6%	2.1%	0.7%	0.0%	100.0%
Road 3	3	70	70.0	N	2000-2100	753	52.6%	22.3%	0.0%	4.7%	1.7%	1.1%	2.1%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	10.1%	2.1%	0.8%	0.0%	100.0%
Road 3	3	70	70.0	N	2100-2200	745	54.1%	22.4%	0.1%	4.9%	1.7%	1.1%	2.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	9.0%	2.5%	0.8%	0.0%	100.0%
Road 3	3	70	70.0	N	2200-2300	727	53.5%	24.2%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	9.6%	2.1%	0.9%	0.0%	100.0%
Road 3	3	70	70.0	N	2300-0000	545	52.4%	23.6%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	9.5%	2.3%	1.0%	0.0%	100.0%
Road 4	4	80	80.0	N	0000-0100	526	58.0%	26.0%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.1%	2.9%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	0100-0200	342	57.1%	25.5%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.2%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	0200-0300	249	56.1%	25.0%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.1%	3.6%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	0300-0400	197	55.2%	24.5%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	3.1%	3.9%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0400-0500	216	54.2%	23.9%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.1%	4.2%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0500-0600	373	53.2%	23.4%	0.1%	4.9%	1.7%	1.5%	3.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.0%	4.5%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0600-0700	799	52.2%	22.9%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.0%	4.9%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0700-0800	1613	51.2%	22.3%	0.1%	5.6%	2.0%	1.7%	3.4%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	3.0%	5.2%	0.9%	0.0%	100.0%
Road 4	4	80	80.0	N	0800-0900	1867	57.1%	18.3%	0.1%	6.0%	2.2%	1.7%	3.3%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.7%	3.3%	0.9%	0.0%	100.0%
Road 4	4	80	80.0	N	0900-1000	1522	52.7%	19.1%	0.1%	8.6%	3.1%	2.3%	4.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.8%	2.0%	1.2%	0.0%	100.0%
Road 4	4	80	80.0	N	1000-1100	1311	50.1%	19.4%	0.1%	9.3%	3.3%	2.9%	5.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.8%	1.5%	1.5%	0.0%	100.0%
Road 4	4	80	80.0	N	1100-1200	1242	49.9%	20.6%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.1%	0.5%	0.8%	0.5%	1.3%	0.0%	2.8%	1.4%	1.5%	0.0%	100.0%
Road 4	4	80	80.0	N	1200-1300	1632	46.7%	18.0%	0.1%	10.5%	3.8%	3.8%	7.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.0%	1.7%	2.0%	0.0%	100.0%
Road 4	4	80	79.9	N	1300-1400	1871	45.1%	17.4%	0.1%	12.5%	4.5%	3.9%	7.6%	0.0%	0.1%	0.8%	1.1%	0.8%	1.6%	0.0%	3.0%	2.1%	2.0%	0.0%	100.0%
Road 4	4	80	78.7	N	1400-1500	1997	45.2%	18.3%	0.1%	11.1%	4.0%	3.8%	7.4%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.7%	1.7%	1.9%	0.0%	100.0%
Road 4	4	80	78.4	N	1500-1600	2042	44.9%	18.0%	0.1%	12.8%	4.6%	3.3%	6.4%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.6%	1.6%	1.7%	0.0%	100.0%
Road 4	4	80	77.2	N	1600-1700	2175	47.7%	16.5%	0.1%	10.1%	3.6%	3.2%	6.2%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	2.9%	2.2%	1.6%	0.0%	100.0%
Road 4	4	80	75.7	N	1700-1800	2468	52.7%	16.5%	0.1%	9.0%	3.2%	2.0%	4.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.0%	4.5%	1.1%	0.0%	100.0%
Road 4	4	80	74.5	N	1800-1900	2705	63.6%	14.9%	0.1%	5.6%	2.0%	1.2%	2.3%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	3.5%	2.4%	0.8%	0.0%	100.0%
Road 4	4	80	79.6	N	1900-2000	2150	62.3%	19.5%	0.0%	4.2%	1.5%	1.0%	2.0%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	3.4%	2.3%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	2000-2100	1673	57.4%	24.4%	0.0%	4.5%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	3.6%	2.3%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	2100-2200	1668	58.6%	24.2%	0.0%	4.6%	1.6%	1.1%	2.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.2%	2.7%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	2200-2300	1621	58.1%	26.3%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.4%	2.2%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	2300-0000	1213	57.0%	25.7%	0.0%	3.9%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	3.4%	2.5%	0.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush Approach (Y/N) | Hour | Total Vehicles (Veh/hr

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 9	9	50	45.3	N	0000-0100	219	55.9%	25.1%	0.0%	3.0%	1.1%	1.0%	1.9%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	6.0%	2.8%	1.3%	0.0%	100.0%
Road 9	9	50	46.9	N	0100-0200	143	54.8%	24.5%	0.0%	3.3%	1.2%	1.0%	2.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	5.9%	3.1%	1.8%	0.0%	100.0%
Road 9	9	50	47.7	N	0200-0300	105	53.6%	23.9%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	5.9%	3.4%	2.4%	0.0%	100.0%
Road 9	9	50	48.1	N	0300-0400	83	52.5%	23.3%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	5.8%	3.7%	2.9%	0.0%	100.0%
Road 9	9	50	48.0	N	0400-0500	91	51.7%	22.8%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	5.8%	4.0%	2.7%	0.0%	100.0%
Road 9	9	50	46.5	N	0500-0600	156	51.2%	22.5%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	5.8%	4.4%	1.9%	0.0%	100.0%
Road 9	9	50	42.6	N	0600-0700	331	50.6%	22.1%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	5.8%	4.7%	1.4%	0.0%	100.0%
Road 9	9	50	37.1	N	0700-0800	671	49.4%	21.5%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	5.7%	5.0%	1.0%	0.0%	100.0%
Road 9	9	50	35.8	N	0800-0900	773	55.3%	17.7%	0.1%	5.7%	2.0%	1.6%	3.1%	0.0%	0.1%	0.8%	1.1%	0.8%	1.6%	0.0%	5.1%	3.2%	1.7%	0.0%	100.0%
Road 9	9	50	37.4	N	0900-1000	631	51.0%	18.5%	0.1%	8.1%	2.9%	2.2%	4.3%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	5.3%	2.0%	2.3%	0.0%	100.0%
Road 9	9	50	38.3	N	1000-1100	544	48.4%	18.8%	0.1%	8.7%	3.1%	2.8%	5.4%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	5.3%	1.5%	2.7%	0.0%	100.0%
Road 9	9	50	38.7	N	1100-1200	517	48.2%	19.8%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	5.4%	1.4%	2.8%	0.0%	100.0%
Road 9	9	50	37.2	N	1200-1300	612	46.6%	17.9%	0.1%	8.9%	3.2%	3.2%	6.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	6.3%	1.4%	2.8%	0.0%	100.0%
Road 9	9	50	37.1	N	1300-1400	621	45.2%	17.4%	0.1%	10.6%	3.8%	3.3%	6.4%	0.0%	0.1%	0.7%	0.8%	0.4%	1.0%	0.0%	6.0%	1.4%	2.8%	0.0%	100.0%
Road 9	9	50	36.5	N	1400-1500	665	45.2%	18.3%	0.1%	9.4%	3.4%	3.2%	6.2%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	6.0%	1.7%	2.7%	0.0%	100.0%
Road 9	9	50	36.4	N	1500-1600	679	45.0%	18.1%	0.1%	10.9%	3.9%	2.8%	5.4%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	5.9%	1.6%	2.5%	0.0%	100.0%
Road 9	9	50	35.7	N	1600-1700	729	47.4%	16.3%	0.1%	8.5%	3.0%	2.6%	5.2%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	6.4%	2.2%	2.3%	0.0%	100.0%
Road 9	9	50	34.8	N	1700-1800	834	52.0%	16.2%	0.1%	7.5%	2.7%	1.7%	3.3%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	6.4%	4.5%	1.7%	0.0%	100.0%
Road 9	9	50	34.1	N	1800-1900	925	62.0%	14.6%	0.0%	4.6%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	6.5%	3.0%	1.3%	0.0%	100.0%
Road 9	9	50	36.5	N	1900-2000	738	60.5%	18.9%	0.0%	3.5%	1.2%	0.8%	1.6%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	7.4%	2.2%	0.7%	0.0%	100.0%
Road 9	9	50	38.5	N	2000-2100	575	55.6%	23.6%	0.0%	3.7%	1.3%	0.8%	1.6%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	7.8%	2.2%	0.7%	0.0%	100.0%
Road 9	9	50	38.7	N	2100-2200	570	57.0%	23.6%	0.0%	3.8%	1.4%	0.9%	1.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	6.9%	2.6%	0.8%	0.0%	100.0%
Road 9	9	50	38.8	N	2200-2300	557	56.3%	25.4%	0.0%	2.9%	1.0%	0.9%	1.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	7.4%	2.2%	0.8%	0.0%	100.0%
Road 9	9	50	40.9	N	2300-0000	417	55.3%	24.9%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	7.3%	2.4%	1.0%	0.0%	100.0%
Road 10	10	50	48.0	Y	0000-0100	70	36.2%	16.2%	0.1%	8.0%	2.9%	2.5%	5.0%	1.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	25.0%	0.0%	100.0%
Road 10	10	50	48.4	Y	0100-0200	52	31.2%	13.9%	0.1%	7.7%	2.8%	2.4%	4.8%	0.9%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	33.2%	0.0%	100.0%
Road 10	10	50	48.6	Y	0200-0300	43	27.1%	12.1%	0.1%	7.5%	2.7%	2.3%	4.6%	0.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	39.9%	0.0%	100.0%
Road 10	10	50	48.7	Y	0300-0400	38	23.9%	10.6%	0.1%	7.3%	2.6%	2.3%	4.5%	0.7%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	45.2%	0.0%	100.0%
Road 10	10	50	48.7	Y	0400-0500	40	24.1%	10.7%	0.1%	8.0%	2.9%	2.5%	5.0%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	42.6%	0.0%	100.0%
Road 10	10	50	48.2	Y	0500-0600	58	28.3%	12.4%	0.1%	10.3%	3.7%	3.2%	6.4%	0.9%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.4%	30.2%	0.0%	100.0%
Road 10	10	50	47.0	Y	0600-0700	107	32.2%	14.1%	0.1%	12.8%	4.6%	4.0%	7.9%	1.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.0%	17.5%	0.0%	100.0%
Road 10	10	50	42.5	Y	0700-0800	250	27.3%	11.9%	0.1%	11.9%	4.3%	3.7%	7.3%	0.9%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	2.8%	27.4%	0.0%	100.0%
Road 10	10	50	41.7	Y	0800-0900	281	31.3%	10.0%	0.1%	13.2%	4.8%	3.7%	7.3%	0.7%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.8%	24.5%	0.0%	100.0%
Road 10	10	50	41.9	Y	0900-1000	263	25.2%	9.1%	0.2%	16.4%	5.9%	4.5%	8.8%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	26.5%	0.0%	100.0%
Road 10	10	50	42.2	Y	1000-1100	245	22.1%	8.6%	0.2%	16.4%	5.9%	5.2%	10.2%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	28.6%	0.0%	100.0%
Road 10	10	50	42.5	Y	1100-1200	235	21.8%	9.0%	0.2%	16.1%	5.8%	5.0%	9.9%	0.8%	0.1%	0.4%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	29.7%	0.0%	100.0%
Road 10	10	50	42.5	Y	1200-1300	234	22.1%	8.5%	0.2%	15.2%	5.5%	5.5%	10.7%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	30.0%	0.0%	100.0%
Road 10	10	50	42.2	Y	1300-1400	245	20.8%	8.0%	0.2%	17.7%	6.3%	5.5%	10.8%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	28.8%	0.0%	100.0%
Road 10	10	50	42.0	Y	1400-1500	251	21.7%	8.8%	0.2%	16.3%	5.9%	5.5%	10.8%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.8%	28.2%	0.0%	100.0%
Road 10	10	50	41.9	Y	1500-1600	257	21.6%	8.7%	0.2%	18.8%	6.8%	4.8%	9.4%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.8%	27.2%	0.0%	100.0%
Road 10	10	50	41.9	Y	1600-1700	258	24.3%	8.4%	0.2%	15.7%	5.6%	4.9%	9.7%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.1%	27.1%	0.0%	100.0%
Road 10	10	50	42.0	Y	1700-1800	268	29.3%	9.2%	0.2%	15.4%	5.5%	3.5%	6.8%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	25.5%	0.0%	100.0%
Road 10	10	50	42.6	Y	1800-1900	261	39.8%	9.3%	0.1%	10.7%	3.8%	2.2%	4.4%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.9%	25.5%	0.0%	100.0%
Road 10	10	50	43.2	Y	1900-2000	167	48.5%	15.2%	0.1%	10.1%	3.6%	2.4%	4.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.8%	11.1%	0.0%	100.0%
Road 10	10	50	46.6	Y	2000-2100	134	43.3%	18.4%	0.1%	10.4%	3.7%	2.3%	4.5%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.7%	13.5%	0.0%	100.0%
Road 10	10	50	46.6	Y	2100-2200	135	43.8%	18.1%	0.1%	10.5%	3.8%	2.4%	4.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	13.5%	0.0%	100.0%
Road 10	10	50	46.8	Y	2200-2300	129	44.2%	20.0%	0.1%	8.2%	3.0%	2.6%	5.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	14.2%	0.0%	100.0%
Road 10	10	50	47.3	Y	2300-0000	102	41.0%	18.5%	0.1%	8.7%	3.1%	2.7%	5.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	17.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 11	11	50	46.6	Y	0000-0100	289	51.1%	23.0%	0.0%	4.2%	1.5%	1.3%	2.6%	0.2%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	4.5%	2.6%	7.1%	0.0%	100.0%
Road 11	11	50	47.7	Y	0100-0200	195	48.5%	21.7%	0.0%	4.5%	1.6%	1.4%	2.8%	0.2%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.3%	2.7%	10.2%	0.0%	100.0%
Road 11	11	50	48.2	Y	0200-0300	148	45.9%	20.5%	0.0%	4.7%	1.7%	1.5%	2.9%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.2%	2.9%	13.2%	0.0%	100.0%
Road 11	11	50	48.4	Y	0300-0400	121	43.6%	19.3%	0.1%	4.9%	1.8%	1.5%	3.0%	0.2%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	4.0%	3.1%	16.1%	0.0%	100.0%
Road 11	11	50	48.3	Y	0400-0500	131	43.2%	19.1%	0.1%	5.4%	1.9%	1.7%	3.3%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	4.0%	3.4%	14.9%	0.0%	100.0%
Road 11	11	50	47.4	Y	0500-0600	214	45.0%	19.8%	0.1%	6.1%	2.2%	1.9%	3.8%	0.2%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.2%	3.8%	9.6%	0.0%	100.0%
Road 11	11	50	44.8	Y	0600-0700	438	46.1%	20.2%	0.1%	6.8%	2.5%	2.1%	4.2%	0.2%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	4.4%	4.3%	5.3%	0.0%	100.0%
Road 11	11	50	39.2	Y	0700-0800	921	43.4%	18.9%	0.1%	7.7%	2.8%	2.4%	4.8%	0.2%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	4.2%	4.4%	4.4%	0.0%	100.0%
Road 11	11	50	38.4	Y	0800-0900	1055	48.9%	15.7%	0.1%	7.7%	2.8%	2.2%	4.2%	0.2%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	3.8%	2.8%	7.8%	0.0%	100.0%
Road 11	11	50	39.2	Y	0900-1000	894	43.4%	15.8%	0.1%	10.5%	3.8%	2.9%	5.6%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.8%	1.7%	9.4%	0.0%	100.0%
Road 11	11	50	39.8	Y	1000-1100	789	40.2%	15.6%	0.1%	11.5%	4.1%	3.6%	7.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.7%	1.2%	10.8%	0.0%	100.0%
Road 11	11	50	40.1	Y	1100-1200	751	39.9%	16.5%	0.1%	11.0%	3.9%	3.4%	6.7%	0.2%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	3.7%	1.1%	11.2%	0.0%	100.0%
Road 11	11	50	39.3	Y	1200-1300	846	39.8%	15.3%	0.1%	10.6%	3.8%	3.8%	7.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.6%	1.2%	10.3%	0.0%	100.0%
Road 11	11	50	39.1	Y	1300-1400	866	38.3%	14.8%	0.1%	12.6%	4.5%	3.9%	7.7%	0.0%	0.1%	0.6%	0.5%	0.4%	0.8%	0.0%	4.3%	1.2%	10.2%	0.0%	100.0%
Road 11	11	50	38.8	Y	1400-1500	916	38.8%	15.7%	0.1%	11.3%	4.0%	3.8%	7.5%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	4.4%	1.5%	9.7%	0.0%	100.0%
Road 11	11	50	38.7	Y	1500-1600	936	38.6%	15.5%	0.1%	13.0%	4.7%	3.3%	6.5%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.3%	1.4%	9.3%	0.0%	100.0%
Road 11	11	50	38.4	Y	1600-1700	987	41.4%	14.3%	0.1%	10.4%	3.7%	3.2%	6.4%	0.0%	0.1%	1.0%	1.2%	0.8%	1.9%	0.0%	4.7%	1.9%	8.8%	0.0%	100.0%
Road 11	11	50	38.0	Y	1700-1800	1102	46.5%	14.5%	0.1%	9.4%	3.4%	2.1%	4.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.9%	4.0%	7.5%	0.0%	100.0%
Road 11	11	50	37.7	Y	1800-1900	1186	57.1%	13.4%	0.1%	5.9%	2.1%	1.2%	2.4%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	5.1%	2.7%	6.6%	0.0%	100.0%
Road 11	11	50	39.9	Y	1900-2000	905	58.3%	18.2%	0.0%	4.7%	1.7%	1.1%	2.2%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	6.0%	2.1%	2.6%	0.0%	100.0%
Road 11	11	50	41.9	Y	2000-2100	709	53.3%	22.6%	0.1%	4.9%	1.8%	1.1%	2.1%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	6.9%	2.4%	3.2%	0.0%	100.0%
Road 11	11	50	42.1	Y	2100-2200	705	54.5%	22.5%	0.1%	5.0%	1.8%	1.2%	2.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.6%	2.5%	3.2%	0.0%	100.0%
Road 11	11	50	42.3	Y	2200-2300	686	54.0%	24.4%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	6.0%	2.1%	3.3%	0.0%	100.0%
Road 11	11	50	44.1	Y	2300-0000	519	52.5%	23.7%	0.0%	4.3%	1.5%	1.4%	2.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.9%	2.3%	4.2%	0.0%	100.0%
Road 12	12	50	27.6	Y	0000-0100	20	4.7%	2.1%	0.0%	0.9%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.8%	0.0%	100.0%
Road 12	12	50	27.6	Y	0100-0200	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.7%	0.0%	100.0%
Road 12	12	50	27.6	Y	0200-0300	19	2.2%	1.0%	0.0%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	95.6%	0.0%	100.0%
Road 12	12	50	27.7	Y	0300-0400	19	1.8%	0.8%	0.0%	0.5%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	96.8%	0.0%	100.0%
Road 12	12	50	27.6	Y	0400-0500	19	1.9%	0.8%	0.0%	0.6%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	96.5%	0.0%	100.0%
Road 12	12	50	27.6	Y	0500-0600	20	3.1%	1.4%	0.0%	1.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.8%	0.0%	100.0%
Road 12	12	50	27.5	Y	0600-0700	22	6.0%	2.6%	0.0%	1.2%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.5%	0.0%	100.0%
Road 12	12	50	24.1	Y	0700-0800	77	3.3%	1.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.7%	0.0%	100.0%
Road 12	12	50	24.1	Y	0800-0900	78	4.2%	1.3%	0.0%	1.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.4%	0.0%	100.0%
Road 12	12	50	24.1	Y	0900-1000	78	3.2%	1.2%	0.0%	1.8%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.3%	0.0%	100.0%
Road 12	12	50	24.1	Y	1000-1100	77	2.6%	1.0%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.1%	0.0%	100.0%
Road 12	12	50	24.1	Y	1100-1200	77	2.5%	1.0%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.3%	0.0%	100.0%
Road 12	12	50	24.1	Y	1200-1300	77	2.8%	1.1%	0.0%	1.8%	0.7%	0.6%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.7%	0.0%	100.0%
Road 12	12	50	24.1	Y	1300-1400	78	2.9%	1.2%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1400-1500	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1500-1600	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1600-1700	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.3%	0.0%	100.0%
Road 12	12	50	24.1	Y	1700-1800	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.3%	0.0%	100.0%
Road 12	12	50	24.1	Y	1800-1900	79	5.6%	1.8%	0.0%	1.5%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.2%	0.0%	100.0%
Road 12	12	50	24.1	Y	1900-2000	79	5.6%	1.3%	0.0%	1.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	2000-2100	23	10.6%	4.5%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	2100-2200	23	10.7%	4.7%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	80.0%	0.0%	100.0%
Road 12	12	50	27.5	Y	2300-0000	22	8.1%	3.6%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	84.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush Approach (Y/N) | Hour | Total Vehicles (Veh/hr) | 01 - Private Cars | 02 - Taxi | 03 - Light Goods Vehicles <=2.5t | 04 - Light Goods Vehicles 2.5-3.5t | 05 - Light Goods Vehicles> 3.5t | 06 - Medium Goods Vehicles =15t | 07 - Medium Goods Vehicles 5-24t | 08 -

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 17	17	0.0%	70	67.7	N	0000-0100	320	55.1%	24.7%	0.0%	4.3%	1.5%	1.4%	2.7%	0.1%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	3.7%	2.8%	1.8%	0.0%	100.0%
Road 17	17	0.0%	70	68.5	N	0100-0200	210	53.7%	24.0%	0.0%	4.7%	1.7%	1.5%	2.9%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.6%	3.0%	2.5%	0.0%	100.0%
Road 17	17	0.0%	70	68.9	N	0200-0300	155	52.3%	23.3%	0.1%	5.1%	1.8%	1.6%	3.1%	0.1%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.6%	3.3%	3.2%	0.0%	100.0%
Road 17	17	0.0%	70	69.1	N	0300-0400	123	51.0%	22.6%	0.1%	5.4%	2.0%	1.7%	3.4%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.5%	3.6%	3.8%	0.0%	100.0%
Road 17	17	0.0%	70	69.0	N	0400-0500	135	50.1%	22.1%	0.1%	5.9%	2.1%	1.8%	3.6%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.5%	3.9%	3.6%	0.0%	100.0%
Road 17	17	0.0%	70	68.3	N	0500-0600	232	49.6%	21.8%	0.1%	6.4%	2.3%	2.0%	3.9%	0.1%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.5%	4.2%	2.6%	0.0%	100.0%
Road 17	17	0.0%	70	66.3	N	0600-0700	493	48.9%	21.4%	0.1%	6.8%	2.5%	2.1%	4.2%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.5%	4.6%	1.8%	0.0%	100.0%
Road 17	17	0.0%	70	60.2	N	0700-0800	1006	47.5%	20.7%	0.1%	7.2%	2.6%	2.3%	4.5%	0.1%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.4%	4.9%	2.6%	0.0%	100.0%
Road 17	17	0.0%	70	55.0	N	0800-0900	1163	53.0%	17.0%	0.1%	7.9%	2.8%	2.2%	4.3%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.1%	3.1%	2.3%	0.0%	100.0%
Road 17	17	0.0%	70	60.2	N	0900-1000	972	47.7%	17.3%	0.1%	10.9%	3.9%	3.0%	5.9%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.1%	1.9%	3.0%	0.0%	100.0%
Road 17	17	0.0%	70	63.2	N	1000-1100	848	44.8%	17.4%	0.1%	11.6%	4.2%	3.7%	7.3%	0.1%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.1%	1.4%	3.5%	0.0%	100.0%
Road 17	17	0.0%	70	63.6	N	1100-1200	803	44.6%	18.4%	0.1%	11.6%	4.2%	3.6%	7.1%	0.1%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	3.1%	1.3%	3.6%	0.0%	100.0%
Road 17	17	0.0%	70	65.3	N	1200-1300	526	34.6%	13.3%	0.2%	15.5%	5.6%	5.6%	10.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	5.3%	1.0%	5.5%	0.0%	100.0%
Road 17	17	0.0%	70	65.1	N	1300-1400	548	32.7%	12.6%	0.2%	18.0%	6.5%	5.6%	11.0%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	5.0%	1.0%	5.6%	0.0%	100.0%
Road 17	17	0.0%	70	64.9	N	1400-1500	574	33.4%	13.5%	0.2%	16.3%	5.9%	5.5%	10.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.9%	1.2%	4.8%	0.0%	100.0%
Road 17	17	0.0%	70	64.8	N	1500-1600	589	33.1%	13.3%	0.2%	18.8%	6.7%	4.8%	9.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.9%	1.2%	4.8%	0.0%	100.0%
Road 17	17	0.0%	70	64.6	N	1600-1700	610	36.1%	12.5%	0.2%	15.2%	5.5%	4.8%	9.4%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	5.6%	1.7%	4.7%	0.0%	100.0%
Road 17	17	0.0%	70	64.5	N	1700-1800	662	41.7%	13.0%	0.1%	14.2%	5.1%	3.2%	6.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	5.9%	3.6%	3.8%	0.0%	100.0%
Road 17	17	0.0%	70	64.6	N	1800-1900	681	53.7%	12.6%	0.1%	9.3%	3.4%	1.9%	3.8%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	6.4%	2.6%	3.1%	0.0%	100.0%
Road 17	17	0.0%	70	65.9	N	1900-2000	526	54.0%	16.9%	0.1%	7.3%	2.6%	1.7%	3.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	7.5%	2.0%	1.6%	0.0%	100.0%
Road 17	17	0.0%	70	66.8	N	2000-2100	412	49.5%	21.0%	0.1%	7.7%	2.8%	1.7%	3.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	7.9%	2.0%	1.8%	0.0%	100.0%
Road 17	17	0.0%	70	66.9	N	2100-2200	410	50.6%	20.9%	0.1%	7.9%	2.8%	1.8%	3.6%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	7.0%	2.3%	1.8%	0.0%	100.0%
Road 17	17	0.0%	70	67.0	N	2200-2300	396	50.5%	22.8%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	7.6%	1.9%	1.9%	0.0%	100.0%
Road 17	17	0.0%	70	67.7	N	2300-0000	299	49.1%	22.1%	0.1%	6.7%	2.4%	2.1%	4.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	7.4%	2.2%	2.3%	0.0%	100.0%
Road 18	18	0.0%	70	69.2	N	0000-0100	216	53.8%	24.2%	0.0%	4.0%	1.4%	1.3%	2.5%	0.3%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	5.6%	2.7%	2.3%	0.0%	100.0%
Road 18	18	0.0%	70	69.5	N	0100-0200	142	52.4%	23.4%	0.0%	4.3%	1.6%	1.4%	2.7%	0.3%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	5.5%	3.0%	3.3%	0.0%	100.0%
Road 18	18	0.0%	70	69.6	N	0200-0300	105	50.9%	22.7%	0.0%	4.7%	1.7%	1.5%	2.9%	0.3%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	5.4%	3.2%	4.2%	0.0%	100.0%
Road 18	18	0.0%	70	69.7	N	0300-0400	83	49.5%	22.0%	0.1%	5.0%	1.8%	1.6%	3.1%	0.3%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	5.3%	3.5%	5.2%	0.0%	100.0%
Road 18	18	0.0%	70	69.7	N	0400-0500	91	48.7%	21.5%	0.1%	5.4%	1.9%	1.7%	3.3%	0.3%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	5.3%	3.8%	4.9%	0.0%	100.0%
Road 18	18	0.0%	70	69.4	N	0500-0600	156	48.5%	21.3%	0.1%	5.9%	2.1%	1.8%	3.6%	0.3%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	5.4%	4.1%	3.3%	0.0%	100.0%
Road 18	18	0.0%	70	68.8	N	0600-0700	330	48.0%	21.0%	0.1%	6.4%	2.3%	2.0%	3.9%	0.3%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	5.4%	4.5%	2.1%	0.0%	100.0%
Road 18	18	0.0%	70	67.5	N	0700-0800	675	46.5%	20.3%	0.1%	6.7%	2.4%	2.1%	4.1%	0.3%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	5.3%	4.8%	3.2%	0.0%	100.0%
Road 18	18	0.0%	70	67.2	N	0800-0900	777	52.2%	16.7%	0.1%	7.3%	2.6%	2.1%	4.0%	0.3%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	4.7%	3.0%	2.9%	0.0%	100.0%
Road 18	18	0.0%	70	67.5	N	0900-1000	648	47.0%	17.1%	0.1%	10.2%	3.7%	2.8%	5.5%	0.3%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	4.8%	1.8%	3.6%	0.0%	100.0%
Road 18	18	0.0%	70	67.8	N	1000-1100	565	44.2%	17.1%	0.1%	10.9%	3.9%	3.5%	6.8%	0.3%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	4.7%	1.3%	4.3%	0.0%	100.0%
Road 18	18	0.0%	70	67.9	N	1100-1200	536	44.0%	18.1%	0.1%	10.8%	3.9%	3.4%	6.6%	0.3%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	4.9%	1.2%	4.3%	0.0%	100.0%
Road 18	18	0.0%	70	68.1	N	1200-1300	509	49.0%	18.9%	0.1%	6.5%	2.3%	2.3%	4.6%	0.0%	0.1%	0.8%	0.8%	0.6%	1.3%	0.0%	7.2%	1.5%	4.0%	0.0%	100.0%
Road 18	18	0.0%	70	68.0	N	1300-1400	512	48.1%	18.5%	0.1%	7.9%	2.8%	2.4%	4.8%	0.0%	0.1%	0.7%	0.7%	0.5%	1.0%	0.0%	6.9%	1.5%	4.0%	0.0%	100.0%
Road 18	18	0.0%	70	67.9	N	1400-1500	550	47.8%	19.3%	0.1%	6.9%	2.5%	2.3%	4.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	6.8%	1.8%	3.7%	0.0%	100.0%
Road 18	18	0.0%	70	67.9	N	1500-1600	561	47.6%	19.1%	0.1%	8.1%	2.9%	2.0%	4.0%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	6.7%	1.7%	3.5%	0.0%	100.0%
Road 18	18	0.0%	70	67.7	N	1600-1700	609	49.6%	17.1%	0.1%	6.2%	2.2%	1.9%	3.8%	0.0%	0.2%	1.2%	1.5%	1.0%	2.2%	0.0%	7.3%	2.3%	3.3%	0.0%	100.0%
Road 18	18	0.0%	70	67.4	N	1700-1800	705	53.7%	16.8%	0.1%	5.4%	2.0%	1.2%	2.4%	0.0%	0.1%	0.8%	0.9%	0.7%	1.4%	0.0%	7.2%	4.6%	2.6%	0.0%	100.0%
Road 18	18	0.0%	70	67.2	N	1800-1900	798	62.9%	14.8%	0.0%	3.3%	1.2%	0.7%	1.3%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	7.1%	3.0%	2.1%	0.0%	100.0%
Road 18	18	0.0%	70	67.8	N	1900-2000	636	61.3%	19.2%	0.0%	2.5%	0.9%	0.6%	1.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	8.1%	2.3%	0.9%	0.0%	100.0%
Road 18	18	0.0%	70	68.3	N	2000-2100	496	56.4%	23.9%	0.0%	2.6%	0.9%	0.6%	1.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	8.5%	2.3%	1.0%	0.0%	100.0%
Road 18	18	0.0%	70	68.3	N	2100-2200	491	57.9%	24.0%	0.0%	2.7%	1.0%	0.6%	1.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	7.6%	2.6%	1.1%	0.0%	100.0%
Road 18	18	0.0%	70	68.3	N	2200-2300	482	56.9%	25.7%	0.0%	2.1%	0.7%	0.7%	1.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	8.1%	2.2%	1.1%	0.0%	100.0%
Road 18	18	0.0%	70	68.8	N	2300-0000	360	56.0%	25.2%	0.0%	2.3%	0.8%	0.7%	1.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	8.0%	2.5%	1.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 19	19	0.0%	70	68.9	N	0000-0100	320	55.1%	24.7%	0.0%	4.3%	1.5%	1.4%	2.7%	0.1%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	3.7%	2.8%	1.8%	0.0%	100.0%
Road 19	19	0.0%	70	69.3	N	0100-0200	210	53.7%	24.0%	0.0%	4.7%	1.7%	1.5%	2.9%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.6%	3.0%	2.5%	0.0%	100.0%
Road 19	19	0.0%	70	69.5	N	0200-0300	155	52.3%	23.3%	0.1%	5.1%	1.8%	1.6%	3.1%	0.1%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.6%	3.3%	3.2%	0.0%	100.0%
Road 19	19	0.0%	70	69.6	N	0300-0400	123	51.0%	22.6%	0.1%	5.4%	2.0%	1.7%	3.4%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.5%	3.6%	3.8%	0.0%	100.0%
Road 19	19	0.0%	70	69.5	N	0400-0500	135	50.1%	22.1%	0.1%	5.9%	2.1%	1.8%	3.6%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.5%	3.9%	3.6%	0.0%	100.0%
Road 19	19	0.0%	70	69.2	N	0500-0600	232	49.6%	21.8%	0.1%	6.4%	2.3%	2.0%	3.9%	0.1%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.5%	4.2%	2.6%	0.0%	100.0%
Road 19	19	0.0%	70	68.3	N	0600-0700	493	48.9%	21.4%	0.1%	6.8%	2.5%	2.1%	4.2%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.5%	4.6%	1.8%	0.0%	100.0%
Road 19	19	0.0%	70	66.4	N	0700-0800	1006	47.5%	20.7%	0.1%	7.2%	2.6%	2.3%	4.5%	0.1%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.4%	4.9%	2.6%	0.0%	100.0%
Road 19	19	0.0%	70	65.8	N	0800-0900	1163	53.0%	17.0%	0.1%	7.9%	2.8%	2.2%	4.3%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.1%	3.1%	2.3%	0.0%	100.0%
Road 19	19	0.0%	70	66.4	N	0900-1000	972	47.7%	17.3%	0.1%	10.9%	3.9%	3.0%	5.9%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.1%	1.9%	3.0%	0.0%	100.0%
Road 19	19	0.0%	70	66.8	N	1000-1100	848	44.8%	17.4%	0.1%	11.6%	4.2%	3.7%	7.3%	0.1%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.1%	1.4%	3.5%	0.0%	100.0%
Road 19	19	0.0%	70	66.9	N	1100-1200	803	44.6%	18.4%	0.1%	11.6%	4.2%	3.6%	7.1%	0.1%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	3.1%	1.3%	3.6%	0.0%	100.0%
Road 19	19	0.0%	70	67.8	N	1200-1300	526	34.6%	13.3%	0.2%	15.5%	5.6%	5.6%	10.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	5.3%	1.0%	5.5%	0.0%	100.0%
Road 19	19	0.0%	70	67.7	N	1300-1400	548	32.7%	12.6%	0.2%	18.0%	6.5%	5.6%	11.0%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	5.0%	1.0%	5.6%	0.0%	100.0%
Road 19	19	0.0%	70	67.6	N	1400-1500	574	33.4%	13.5%	0.2%	16.3%	5.9%	5.5%	10.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.9%	1.2%	4.8%	0.0%	100.0%
Road 19	19	0.0%	70	67.5	N	1500-1600	589	33.1%	13.3%	0.2%	18.8%	6.7%	4.8%	9.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.9%	1.2%	4.8%	0.0%	100.0%
Road 19	19	0.0%	70	67.4	N	1600-1700	610	36.1%	12.5%	0.2%	15.2%	5.5%	4.8%	9.4%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	5.6%	1.7%	4.7%	0.0%	100.0%
Road 19	19	0.0%	70	67.4	N	1700-1800	662	41.7%	13.0%	0.1%	14.2%	5.1%	3.2%	6.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	5.9%	3.6%	3.8%	0.0%	100.0%
Road 19	19	0.0%	70	67.4	N	1800-1900	681	53.7%	12.6%	0.1%	9.3%	3.4%	1.9%	3.8%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	6.4%	2.6%	3.1%	0.0%	100.0%
Road 19	19	0.0%	70	68.1	N	1900-2000	526	54.0%	16.9%	0.1%	7.3%	2.6%	1.7%	3.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	7.5%	2.0%	1.6%	0.0%	100.0%
Road 19	19	0.0%	70	68.5	N	2000-2100	412	49.5%	21.0%	0.1%	7.7%	2.8%	1.7%	3.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	7.9%	2.0%	1.8%	0.0%	100.0%
Road 19	19	0.0%	70	68.5	N	2100-2200	410	50.6%	20.9%	0.1%	7.9%	2.8%	1.8%	3.6%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	7.0%	2.3%	1.8%	0.0%	100.0%
Road 19	19	0.0%	70	68.6	N	2200-2300	396	50.5%	22.8%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	7.6%	1.9%	1.9%	0.0%	100.0%
Road 19	19	0.0%	70	68.9	N	2300-0000	299	49.1%	22.1%	0.1%	6.7%	2.4%	2.1%	4.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	7.4%	2.2%	2.3%	0.0%	100.0%
Road 20	20	0.0%	50	49.2	N	0000-0100	29	28.8%	12.9%	0.2%	22.6%	8.1%	7.1%	14.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	1.4%	3.7%	0.0%	100.0%
Road 20	20	0.0%	50	49.5	N	0100-0200	20	27.0%	12.1%	0.2%	23.6%	8.5%	7.5%	14.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	1.6%	3.8%	0.0%	100.0%
Road 20	20	0.0%	50	49.6	N	0200-0300	15	25.3%	11.3%	0.3%	24.6%	8.8%	7.7%	15.2%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	1.6%	4.0%	0.0%	100.0%
Road 20	20	0.0%	50	49.7	N	0300-0400	13	23.7%	10.5%	0.3%	25.5%	9.1%	8.0%	15.7%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	1.7%	4.1%	0.0%	100.0%
Road 20	20	0.0%	50	49.9	N	0400-0500	15	22.3%	9.9%	0.3%	26.3%	9.4%	8.3%	16.2%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.7%	4.2%	0.0%	100.0%
Road 20	20	0.0%	50	49.3	N	0500-0600	26	21.0%	9.2%	0.3%	27.0%	9.7%	8.5%	16.7%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.8%	4.4%	0.0%	100.0%
Road 20	20	0.0%	50	48.3	N	0600-0700	59	15.7%	8.6%	0.3%	27.7%	10.0%	8.7%	17.1%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.8%	4.5%	0.0%	100.0%
Road 20	20	0.0%	50	46.5	N	0700-0800	124	18.5%	8.1%	0.3%	28.4%	10.2%	8.9%	17.5%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.9%	4.6%	0.0%	100.0%
Road 20	20	0.0%	50	45.8	N	0800-0900	147	20.2%	6.5%	0.3%	30.1%	10.8%	8.4%	16.6%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.2%	4.3%	0.0%	100.0%
Road 20	20	0.0%	50	45.5	N	0900-1000	152	14.7%	5.3%	0.4%	33.9%	12.2%	9.2%	18.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.6%	4.7%	0.0%	100.0%
Road 20	20	0.0%	50	45.6	N	1000-1100	145	12.6%	4.9%	0.3%	32.9%	11.8%	10.4%	20.5%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.4%	5.4%	0.0%	100.0%
Road 20	20	0.0%	50	45.9	N	1100-1200	136	12.7%	5.2%	0.3%	33.0%	11.8%	10.3%	20.3%	0.0%	0.0%	0.2%	0.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.4%	5.3%	0.0%	100.0%
Road 20	20	0.0%	50	46.1	N	1200-1300	123	6.5%	2.5%	0.4%	34.5%	12.4%	12.4%	24.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.2%	6.4%	0.0%	100.0%
Road 20	20	0.0%	50	45.7	N	1300-1400	137	5.7%	2.2%	0.4%	37.4%	13.4%	11.6%	22.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.2%	6.0%	0.0%	100.0%
Road 20	20	0.0%	50	45.7	N	1400-1500	137	6.1%	2.5%	0.4%	35.6%	12.8%	12.0%	23.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 20	20	0.0%	50	45.6	N	1500-1600	143	6.0%	2.4%	0.4%	40.4%	14.5%	10.2%	20.1%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 20	20	0.0%	50	45.9	N	1600-1700	133	7.2%	2.5%	0.4%	36.3%	13.0%	11.3%	22.3%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 20	20	0.0%	50	46.3	N	1700-1800	123	9.8%	3.1%	0.4%	39.7%	14.3%	9.0%	17.7%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	4.6%	0.0%	100.0%
Road 20	20	0.0%	50	47.4	N	1800-1900	91	17.6%	4.1%	0.4%	36.5%	13.1%	7.6%	15.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	0.0%	100.0%
Road 20	20	0.0%	50	48.3	N	1900-2000	62	20.2%	6.3%	0.3%	32.6%	11.7%	7.8%	15.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	0.0%	100.0%
Road 20	20	0.0%	50	48.6	N	2000-2100	49	18.3%	7.7%	0.4%	33.9%	12.2%	7.5%	14.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 25	25	50	29.5	N	0000-0100	6	20.0%	9.0%	0.3%	28.1%	10.1%	8.9%	17.5%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	4.6%	0.0%	100.0%
Road 25	25	50	29.7	N	0100-0200	4	18.5%	8.3%	0.3%	29.0%	10.4%	9.1%	18.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	4.7%	0.0%	100.0%
Road 25	25	50	29.7	N	0200-0300	3	17.1%	7.6%	0.3%	29.8%	10.7%	9.4%	18.4%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	4.8%	0.0%	100.0%
Road 25	25	50	29.8	N	0300-0400	3	15.9%	7.0%	0.3%	30.5%	10.9%	9.6%	18.8%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.1%	4.9%	0.0%	100.0%
Road 25	25	50	29.8	N	0400-0500	3	14.8%	6.5%	0.3%	31.1%	11.2%	9.8%	19.2%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.1%	5.0%	0.0%	100.0%
Road 25	25	50	29.5	N	0500-0600	6	13.7%	6.0%	0.3%	31.7%	11.4%	10.0%	19.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.2%	5.1%	0.0%	100.0%
Road 25	25	50	29.0	N	0600-0700	13	12.8%	5.6%	0.3%	32.3%	11.6%	10.1%	19.9%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.2%	5.2%	0.0%	100.0%
Road 25	25	50	27.8	N	0700-0800	27	11.9%	5.2%	0.3%	32.8%	11.8%	10.3%	20.2%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.2%	5.3%	0.0%	100.0%
Road 25	25	50	27.4	N	0800-0900	32	13.0%	4.1%	0.4%	34.6%	12.4%	9.7%	19.0%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	5.0%	0.0%	100.0%
Road 25	25	50	27.1	N	0900-1000	35	9.1%	3.3%	0.4%	37.4%	13.4%	10.2%	20.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.4%	5.2%	0.0%	100.0%
Road 25	25	50	27.2	N	1000-1100	34	7.7%	3.0%	0.4%	35.8%	12.9%	11.4%	22.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 25	25	50	27.4	N	1100-1200	32	7.7%	3.2%	0.4%	36.0%	12.9%	11.3%	22.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 25	25	50	27.3	N	1200-1300	31	6.9%	2.7%	0.4%	34.3%	12.3%	12.3%	24.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 25	25	50	27.0	N	1300-1400	35	6.1%	2.4%	0.4%	37.2%	13.3%	11.5%	22.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 25	25	50	27.0	N	1400-1500	35	6.6%	2.7%	0.4%	35.3%	12.7%	12.0%	23.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.1%	0.0%	100.0%
Road 25	25	50	27.0	N	1500-1600	36	6.4%	2.6%	0.4%	40.1%	14.4%	10.2%	20.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.2%	0.0%	100.0%
Road 25	25	50	27.2	N	1600-1700	34	7.7%	2.7%	0.4%	35.9%	12.9%	11.2%	22.1%	0.0%	0.0%	0.2%	0.2%	0.2%	0.3%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 25	25	50	27.5	N	1700-1800	32	10.5%	3.3%	0.4%	39.2%	14.1%	8.9%	17.5%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	4.6%	0.0%	100.0%
Road 25	25	50	28.2	N	1800-1900	23	18.7%	4.4%	0.4%	35.8%	12.9%	7.5%	14.7%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.8%	0.0%	100.0%
Road 25	25	50	28.8	N	1900-2000	16	21.4%	6.7%	0.3%	31.9%	11.4%	7.6%	14.9%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	3.9%	0.0%	100.0%
Road 25	25	50	29.0	N	2000-2100	13	19.3%	8.2%	0.3%	33.1%	11.9%	7.3%	14.4%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	3.8%	0.0%	100.0%
Road 25	25	50	29.0	N	2100-2200	13	19.2%	8.0%	0.3%	32.9%	11.8%	7.6%	14.9%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.9%	3.9%	0.0%	100.0%
Road 25	25	50	29.1	N	2200-2300	12	20.8%	9.4%	0.3%	27.7%	10.0%	8.8%	17.3%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.5%	0.0%	100.0%
Road 25	25	50	29.3	N	2300-0000	9	19.0%	8.6%	0.3%	28.8%	10.3%	9.1%	17.9%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.7%	0.0%	100.0%
Road 26	26	50	28.7	N	0000-0100	16	5.9%	2.7%	0.4%	36.8%	13.2%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.0	N	0100-0200	11	5.4%	2.4%	0.4%	37.2%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.2	N	0200-0300	9	4.9%	2.2%	0.4%	37.5%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.4	N	0300-0400	8	4.4%	2.0%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.2	N	0400-0500	9	4.1%	1.8%	0.4%	38.0%	13.6%	11.9%	23.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	28.6	N	0500-0600	16	3.7%	1.6%	0.4%	38.2%	13.7%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	28.8	N	0600-0700	38	3.4%	1.5%	0.4%	38.4%	13.8%	12.0%	23.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.6	N	0700-0800	81	3.2%	1.4%	0.4%	38.6%	13.8%	12.1%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.4	N	0800-0900	96	3.4%	1.1%	0.4%	40.5%	14.6%	11.3%	22.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 26	26	50	24.1	N	0900-1000	109	2.3%	0.8%	0.4%	41.7%	15.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 26	26	50	24.1	N	1000-1100	107	1.9%	0.7%	0.4%	39.3%	14.1%	12.5%	24.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 26	26	50	24.3	N	1100-1200	100	1.9%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 26	26	50	24.2	N	1200-1300	107	5.6%	2.1%	0.4%	35.0%	12.6%	12.6%	24.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.5%	0.0%	100.0%
Road 26	26	50	24.0	N	1300-1400	120	4.9%	1.9%	0.4%	37.9%	13.6%	11.7%	23.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 26	26	50	24.0	N	1400-1500	119	5.3%	2.1%	0.4%	36.1%	13.0%	12.2%	24.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 26	26	50	23.9	N	1500-1600	124	5.1%	2.1%	0.4%	40.9%	14.7%	10.4%	20.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 26	26	50	24.0	N	1600-1700	116	6.2%	2.2%	0.4%	36.9%	13.2%	11.5%	22.6%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 26	26	50	24.3	N	1700-1800	107	8.5%	2.7%	0.4%	40.6%	14.6%	9.2%	18.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.7%	0.0%	100.0%
Road 26	26	50	24.8	N	1800-1900	77	15.5%	3.6%	0.4%	37.8%	13.6%	7.9%	15.5%	0.0%	0.0%	0.0%	0.2%	0.2%	0.4%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 26	26	50	26.0	N	1900-2000	52	17.9%	5.6%	0.4%	34.0%	12.2%	8.1%	16.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.2%	0.0%	100.0%
Road 26	26	50	26.8	N	2000-2100	41	16.2%	6.9%	0.4%	35.3%	12.7%	7.8%	15.3%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	4.0%	0.0%	100.0%
Road 26	26	50	26.7	N	2100-2200	42	16.1%	6.7%	0.4%	35.1%	12.6%	8.1%	15.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 26	26	50	27.1	N	2200-2300	37	17.5%	7.9%	0.3%	29.7%	10.7%	9.4%	18.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.9%	0.0%	100.0%
Road 26	26	50	27.6	N	2300-0000	30	15.9%	7.2%	0.3%	30.7%	11.0%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 27	27	50	28.7	N	0000-0100	16	8.6%	3.8%	0.4%	35.2%	12.6%	11.1%	21.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 27	27	50	29.1	N	0100-0200	11	7.8%	3.5%	0.4%	35.7%	12.8%	11.3%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.3	N	0200-0300	9	7.1%	3.2%	0.4%	36.1%	13.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.4	N	0300-0400	7	6.5%	2.9%	0.4%	36.5%	13.1%	11.5%	22.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	29.3	N	0400-0500	9	6.0%	2.6%	0.4%	36.8%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	28.7	N	0500-0600	16	5.5%	2.4%	0.4%	37.1%	13.3%	11.6%	22.9%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 27	27	50	26.9	N	0600-0700	36	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.7	N	0700-0800	78	4.7%	2.0%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.4	N	0800-0900	93	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 27	27	50	24.2	N	0900-1000	104	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	5.7%	0.0%	100.0%
Road 27	27	50	24.2	N	1000-1100	102	2.8%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 27	27	50	24.4	N	1100-1200	96	2.9%	1.2%	0.4%	39.0%	14.0%	12.2%	23.9%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 27	27	50	24.3	N	1200-1300	95	2.3%	0.9%	0.4%	36.9%	13.3%	13.2%	26.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.8%	0.0%	100.0%
Road 27	27	50	24.1	N	1300-1400	108	2.0%	0.8%	0.4%	39.7%	14.2%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 27	27	50	24.1	N	1400-1500	106	2.2%	0.9%	0.4%	38.0%	13.6%	12.8%	25.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.6%	0.0%	100.0%
Road 27	27	50	24.1	N	1500-1600	111	2.1%	0.8%	0.4%	43.0%	15.4%	10.9%	21.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.6%	0.0%	100.0%
Road 27	27	50	24.2	N	1600-1700	102	2.6%	0.9%	0.4%	39.1%	14.0%	12.2%	24.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 27	27	50	24.5	N	1700-1800	92	3.6%	1.1%	0.5%	43.9%	15.8%	9.9%	19.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	5.1%	0.0%	100.0%
Road 27	27	50	25.0	N	1800-1900	63	6.9%	1.6%	0.5%	43.3%	15.6%	9.0%	17.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.6%	0.0%	100.0%
Road 27	27	50	26.6	N	1900-2000	41	8.2%	2.6%	0.4%	40.2%	14.4%	9.6%	18.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 27	27	50	27.3	N	2000-2100	33	7.4%	3.1%	0.4%	41.6%	14.9%	9.2%	18.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.7%	0.0%	100.0%
Road 27	27	50	27.2	N	2100-2200	34	7.3%	3.0%	0.4%	41.1%	14.8%	9.4%	18.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 27	27	50	27.5	N	2200-2300	29	8.1%	3.7%	0.4%	35.4%	12.7%	11.3%	22.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 27	27	50	28.0	N	2300-0000	24	7.2%	3.3%	0.4%	36.0%	12.9%	11.4%	22.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 28	28	80	80.0	N	0000-0100	1409	50.6%	22.7%	0.1%	6.7%	2.4%	2.1%	4.2%	0.3%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	4.8%	2.5%	1.9%	100.0%
Road 28	28	80	80.0	N	0100-0200	928	49.1%	22.0%	0.1%	7.3%	2.6%	2.3%	4.5%	0.3%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	4.7%	2.8%	2.4%	100.0%
Road 28	28	80	80.0	N	0200-0300	686	47.6%	21.2%	0.1%	7.8%	2.8%	2.5%	4.8%	0.3%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	4.6%	3.0%	2.9%	100.0%
Road 28	28	80	80.0	N	0300-0400	549	46.2%	20.5%	0.1%	8.4%	3.0%	2.6%	5.2%	0.3%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.0%	4.6%	3.2%	3.4%	100.0%
Road 28	28	80	80.0	N	0400-0500	606	45.0%	19.9%	0.1%	9.0%	3.2%	2.8%	5.5%	0.3%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	4.5%	3.5%	3.3%	100.0%
Road 28	28	80	80.0	N	0500-0600	1051	44.1%	19.4%	0.1%	9.6%	3.5%	3.0%	5.9%	0.3%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	4.5%	3.8%	2.6%	100.0%
Road 28	28	80	80.0	N	0600-0700	2258	43.1%	18.9%	0.1%	10.2%	3.7%	3.2%	6.3%	0.3%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.4%	4.0%	2.1%	100.0%
Road 28	28	80	68.3	N	0700-0800	4622	41.7%	18.2%	0.1%	10.8%	3.9%	3.4%	6.6%	0.3%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.3%	4.3%	2.7%	100.0%
Road 28	28	80	43.9	N	0800-0900	5359	46.5%	14.9%	0.1%	11.7%	4.2%	3.3%	6.4%	0.3%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	3.8%	2.7%	2.5%	100.0%
Road 28	28	80	61.5	N	0900-1000	4665	40.1%	14.6%	0.2%	15.6%	5.6%	4.2%	8.4%	0.3%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.8%	1.6%	3.1%	100.0%
Road 28	28	80	69.5	N	1000-1100	4150	36.9%	14.3%	0.2%	16.3%	5.8%	5.2%	10.2%	0.3%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	3.6%	1.1%	3.7%	100.0%
Road 28	28	80	71.2	N	1100-1200	3927	36.9%	15.2%	0.2%	16.2%	5.8%	5.1%	10.0%	0.3%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	3.7%	1.0%	3.7%	100.0%
Road 28	28	80	80.0	N	1200-1300	2250	37.9%	14.6%	0.2%	14.5%	5.2%	5.2%	10.2%	0.4%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	1.1%	4.6%	100.0%
Road 28	28	80	80.0	N	1300-1400	2335	36.0%	13.9%	0.2%	17.0%	6.1%	5.3%	10.3%	0.4%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	3.0%	1.1%	4.5%	100.0%
Road 28	28	80	80.0	N	1400-1500	2457	36.6%	14.8%	0.2%	15.3%	5.5%	5.2%	10.2%	0.4%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.0%	1.4%	4.4%	100.0%
Road 28	28	80	80.0	N	1500-1600	2520	36.3%	14.6%	0.2%	17.6%	6.3%	4.5%	8.8%	0.4%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.0%	1.3%	4.0%	100.0%
Road 28	28	80	80.0	N	1600-1700	2621	39.5%	13.6%	0.1%	14.2%	5.1%	4.4%	8.7%	0.4%	0.1%	0.9%	1.2%	0.8%	1.8%	0.0%	0.0%	3.4%	1.9%	3.9%	100.0%
Road 28	28	80	79.6	N	1700-1800	2877	45.1%	14.1%	0.1%	13.1%	4.7%	3.0%	5.8%	0.4%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	3.5%	3.9%	3.0%	100.0%
Road 28	28	80	79.8	N	1800-1900	3003	57.1%	13.4%	0.1%	8.5%	3.1%	1.8%	3.5%	0.4%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	3.7%	2.7%	2.3%	100.0%
Road 28	28	80	80.0	N	1900-2000	2334	57.2%	17.9%	0.1%	6.6%	2.4%	1.6%	3.1%	0.5%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	4.4%	2.1%	1.3%	100.0%
Road 28	28	80	80.0	N	2000-2100	1823	52.5%	22.3%	0.1%	7.0%	2.5%	1.5%	3.0%	0.5%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	4.6%	2.1%	1.4%	100.0%
Road 28	28	80	80.0	N	2100-2200	1818	53.5%	22.1%	0.1%	7.1%	2.6%	1.6%	3.2%	0.5%	0.0%	0.1%	0.4%	0.3%	0.8%	0.0%	0.0%	4.0%	2.4%	1.4%	100.0%
Road 28	28	80	80.0	N	2200-2300	1755	53.5%	24.2%	0.1%	5.5%	2.0%	1.8%	3.5%	0.5%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	4.4%	2.1%	1.5%	100.0%
Road 28	28	80	80.0	N	2300-0000	1324	52.1%	23.5%	0.1%	6.1%	2.2%	1.9%	3.8%	0.5%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	4.3%	2.3%	1.8%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush Approach (Y/N) | Hour | Total Vehicles (Veh/hr) | 01 - Private Cars | 02 - Taxi | 03 - Light Goods Vehicles <=2.5t | 04 - Light Goods Vehicles 2.5-3.5t | 05 -

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 33	33	70	70.0	N	0000-0100	585	50.3%	22.6%	0.1%	5.6%	2.0%	1.8%	3.5%	0.2%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	3.7%	2.5%	5.9%	0.0%	100.0%
Road 33	33	70	70.0	N	0100-0200	393	47.9%	21.4%	0.1%	6.0%	2.2%	1.9%	3.7%	0.2%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.6%	2.7%	8.5%	0.0%	100.0%
Road 33	33	70	70.0	N	0200-0300	297	45.5%	20.3%	0.1%	6.3%	2.3%	2.0%	3.9%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.5%	2.9%	10.9%	0.0%	100.0%
Road 33	33	70	70.0	N	0300-0400	242	43.3%	19.2%	0.1%	6.6%	2.4%	2.1%	4.1%	0.2%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	3.3%	3.0%	13.2%	0.0%	100.0%
Road 33	33	70	70.0	N	0400-0500	264	42.7%	18.9%	0.1%	7.2%	2.6%	2.3%	4.4%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.3%	3.3%	12.3%	0.0%	100.0%
Road 33	33	70	70.0	N	0500-0600	438	43.7%	19.2%	0.1%	8.1%	2.9%	2.5%	5.0%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.4%	3.7%	8.0%	0.0%	100.0%
Road 33	33	70	70.0	N	0600-0700	911	44.2%	19.3%	0.1%	8.9%	3.2%	2.8%	5.5%	0.2%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	3.5%	4.1%	4.7%	0.0%	100.0%
Road 33	33	70	70.0	N	0700-0800	1907	41.8%	18.2%	0.1%	9.1%	3.3%	2.9%	5.6%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.4%	4.3%	2.4%	0.0%	100.0%
Road 33	33	70	70.0	N	0800-0900	2196	46.9%	15.0%	0.1%	10.0%	3.6%	2.8%	5.5%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	3.0%	2.7%	6.6%	0.0%	100.0%
Road 33	33	70	70.0	N	0900-1000	1898	40.8%	14.8%	0.1%	13.4%	4.8%	3.7%	7.2%	0.2%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	3.0%	1.6%	7.8%	0.0%	100.0%
Road 33	33	70	70.0	N	1000-1100	1689	37.5%	14.6%	0.1%	14.0%	5.0%	4.4%	8.7%	0.2%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	2.9%	1.1%	9.0%	0.0%	100.0%
Road 33	33	70	70.0	N	1100-1200	1603	37.3%	15.4%	0.1%	13.9%	5.0%	4.3%	8.5%	0.2%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	2.9%	1.0%	9.3%	0.0%	100.0%
Road 33	33	70	70.0	N	1200-1300	1198	30.6%	11.8%	0.2%	15.7%	5.6%	5.6%	11.1%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	4.0%	0.9%	12.3%	0.0%	100.0%
Road 33	33	70	70.0	N	1300-1400	1251	28.8%	11.1%	0.2%	18.2%	6.5%	5.6%	11.1%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	3.7%	0.9%	11.9%	0.0%	100.0%
Road 33	33	70	70.0	N	1400-1500	1302	29.7%	12.0%	0.2%	16.6%	6.0%	5.6%	11.0%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.8%	1.1%	11.6%	0.0%	100.0%
Road 33	33	70	70.0	N	1500-1600	1336	29.4%	11.8%	0.2%	19.1%	6.9%	4.8%	9.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.7%	1.1%	11.0%	0.0%	100.0%
Road 33	33	70	70.0	N	1600-1700	1370	32.4%	11.2%	0.2%	15.6%	5.6%	4.9%	9.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	4.3%	1.5%	10.8%	0.0%	100.0%
Road 33	33	70	70.0	N	1700-1800	1467	37.9%	11.9%	0.2%	14.8%	5.3%	3.3%	6.6%	0.0%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	4.6%	3.3%	9.4%	0.0%	100.0%
Road 33	33	70	70.0	N	1800-1900	1483	49.6%	11.7%	0.1%	9.9%	3.6%	2.1%	4.1%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	5.0%	2.4%	8.7%	0.0%	100.0%
Road 33	33	70	70.0	N	1900-2000	1095	52.3%	16.4%	0.1%	8.1%	2.9%	1.9%	3.8%	0.0%	0.0%	0.0%	0.8%	0.5%	1.2%	0.0%	6.2%	1.9%	3.7%	0.0%	100.0%
Road 33	33	70	70.0	N	2000-2100	862	47.6%	20.2%	0.1%	8.5%	3.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	6.5%	1.9%	4.4%	0.0%	100.0%
Road 33	33	70	70.0	N	2100-2200	859	48.6%	20.1%	0.1%	8.7%	3.1%	2.0%	3.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.7%	2.2%	4.4%	0.0%	100.0%
Road 33	33	70	70.0	N	2200-2300	828	48.6%	22.0%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	6.2%	1.9%	4.7%	0.0%	100.0%
Road 33	33	70	70.0	N	2300-0000	633	46.7%	21.1%	0.1%	7.4%	2.6%	2.3%	4.6%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	6.0%	2.1%	5.8%	0.0%	100.0%
Road 34	34	80	80.0	N	0000-0100	551	44.0%	19.8%	0.1%	10.6%	3.8%	3.3%	6.6%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	3.6%	2.2%	3.7%	0.0%	100.0%
Road 34	34	80	80.0	N	0100-0200	369	42.0%	18.8%	0.1%	11.3%	4.1%	3.6%	7.0%	0.8%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	3.4%	2.4%	4.8%	0.0%	100.0%
Road 34	34	80	80.0	N	0200-0300	277	40.1%	17.8%	0.1%	11.9%	4.3%	3.8%	7.4%	0.8%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	3.3%	2.5%	5.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0300-0400	225	38.3%	17.0%	0.1%	12.6%	4.5%	4.0%	7.8%	0.7%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	3.2%	2.7%	6.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0400-0500	250	37.1%	16.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.7%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	2.9%	6.6%	0.0%	100.0%
Road 34	34	80	80.0	N	0500-0600	433	36.4%	16.0%	0.2%	14.4%	5.2%	4.5%	8.9%	0.8%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	3.1%	3.1%	4.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0600-0700	933	35.5%	15.6%	0.2%	15.3%	5.5%	4.8%	9.4%	0.8%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.1%	3.3%	3.6%	0.0%	100.0%
Road 34	34	80	80.0	N	0700-0800	1940	33.8%	14.7%	0.2%	15.9%	5.7%	5.0%	9.8%	0.7%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.0%	3.5%	4.7%	0.0%	100.0%
Road 34	34	80	80.0	N	0800-0900	2258	37.5%	12.0%	0.2%	17.2%	6.2%	4.8%	9.4%	0.6%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	2.6%	2.2%	4.3%	0.0%	100.0%
Road 34	34	80	80.0	N	0900-1000	2083	30.6%	11.1%	0.2%	21.6%	7.7%	5.9%	11.6%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	2.4%	1.2%	5.1%	0.0%	100.0%
Road 34	34	80	80.0	N	1000-1100	1904	27.4%	10.6%	0.2%	21.9%	7.9%	7.0%	13.7%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	2.3%	0.8%	5.8%	0.0%	100.0%
Road 34	34	80	80.0	N	1100-1200	1799	27.4%	11.3%	0.2%	21.9%	7.9%	6.8%	13.4%	0.6%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	2.3%	0.8%	5.9%	0.0%	100.0%
Road 34	34	80	80.0	N	1200-1300	2590	36.3%	14.0%	0.1%	14.3%	5.1%	5.1%	10.1%	0.4%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	6.4%	1.1%	4.3%	0.0%	100.0%
Road 34	34	80	79.0	N	1300-1400	2685	34.5%	13.3%	0.2%	16.8%	6.0%	5.2%	10.2%	0.3%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	6.0%	1.1%	4.2%	0.0%	100.0%
Road 34	34	80	78.1	N	1400-1500	2824	35.1%	14.2%	0.2%	15.1%	5.4%	5.1%	10.0%	0.4%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	6.0%	1.3%	4.1%	0.0%	100.0%
Road 34	34	80	77.8	N	1500-1600	2895	34.8%	14.0%	0.2%	17.4%	6.3%	4.4%	8.7%	0.3%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	5.9%	1.3%	3.7%	0.0%	100.0%
Road 34	34	80	76.9	N	1600-1700	3019	37.8%	13.0%	0.1%	14.0%	5.0%	4.4%	8.6%	0.3%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	6.7%	1.8%	3.7%	0.0%	100.0%
Road 34	34	80	76.1	N	1700-1800	3313	43.2%	13.5%	0.1%	12.9%	4.6%	2.9%	5.8%	0.4%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	6.9%	3.7%	2.8%	0.0%	100.0%
Road 34	34	80	76.2	N	1800-1900	3457	54.7%	12.9%	0.1%	8.4%	3.0%	1.7%	3.4%	0.4%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	7.4%	2.6%	2.1%	0.0%	100.0%
Road 34	34	80	80.0	N	1900-2000	2704	54.4%	17.0%	0.1%	6.5%	2.3%	1.5%	3.0%	0.4%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	8.6%	2.0%	1.2%	0.0%	100.0%
Road 34	34	80	80.0	N	2000-2100	2117	49.9%	21.2%	0.1%	6.8%	2.5%	1.5%	3.0%	0.5%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	9.1%	2.0%	1.3%	0.0%	100.0%
Road 34	34	80	80.0	N	2100-2200	2100	51.1%	21.1%	0.1%	7.0%	2.5%	1.6%	3.2%	0.4%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	8.0%	2.3%	1.4%	0.0%	100.0%
Road 34	34	80	80.0	N	2200-2300	2034	50.9%	23.0%	0.1%	5.4%	1.9%	1.7%	3.4%	0.4%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	8.7%	2.0%	1.4%	0.0%	100.0%
Road 34	34	80	80.0	N	2300-0000	1533	49.6%	22.3%	0.1%	6.0%	2.2%	1.9%	3.7%	0.4%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	8.5%	2.2%	1.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 35	35	50	48.8	N	0000-0100	40	32.9%	14.8%	0.1%	8.7%	3.1%	2.7%	5.4%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	28.8%	0.0%	100.0%
Road 35	35	50	49.0	N	0100-0200	30	27.8%	12.4%	0.1%	8.2%	2.9%	2.6%	5.1%	0.7%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	37.5%	0.0%	100.0%
Road 35	35	50	49.1	N	0200-0300	26	23.8%	10.6%	0.1%	7.8%	2.8%	2.4%	4.8%	0.6%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	44.4%	0.0%	100.0%
Road 35	35	50	49.2	N	0300-0400	23	20.7%	9.2%	0.1%	7.5%	2.7%	2.3%	4.6%	0.6%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	49.7%	0.0%	100.0%
Road 35	35	50	49.2	N	0400-0500	24	21.0%	9.3%	0.1%	8.3%	3.0%	2.6%	5.1%	0.6%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	47.0%	0.0%	100.0%
Road 35	35	50	48.9	N	0500-0600	34	25.2%	11.1%	0.1%	10.9%	3.9%	3.4%	6.7%	0.7%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.2%	34.0%	0.0%	100.0%
Road 35	35	50	48.2	N	0600-0700	62	29.3%	12.8%	0.1%	13.8%	5.0%	4.3%	8.5%	0.9%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.7%	20.1%	0.0%	100.0%
Road 35	35	50	48.4	N	0700-0800	147	24.4%	10.6%	0.1%	12.5%	4.5%	3.9%	7.7%	0.8%	0.0%	0.4%	0.6%	0.4%	0.8%	0.0%	0.0%	2.5%	30.8%	0.0%	100.0%
Road 35	35	50	48.3	Y	0800-0900	56	10.7%	3.4%	0.4%	36.0%	12.9%	10.1%	19.8%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	5.2%	0.0%	100.0%
Road 35	35	50	45.0	N	0900-1000	157	22.2%	8.1%	0.2%	17.1%	6.2%	4.7%	9.2%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.9%	29.4%	0.0%	100.0%
Road 35	35	50	45.2	N	1000-1100	147	19.3%	7.5%	0.2%	16.9%	6.1%	5.4%	10.6%	0.6%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	31.5%	0.0%	100.0%
Road 35	35	50	45.4	N	1100-1200	141	19.1%	7.9%	0.2%	16.6%	6.0%	5.2%	10.2%	0.6%	0.0%	0.3%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	32.7%	0.0%	100.0%
Road 35	35	50	46.2	N	1200-1300	116	23.6%	9.1%	0.1%	10.9%	3.9%	3.9%	7.7%	0.0%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	38.5%	0.0%	100.0%
Road 35	35	50	46.1	N	1300-1400	120	22.5%	8.7%	0.1%	12.8%	4.6%	4.0%	7.8%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	37.4%	0.0%	100.0%
Road 35	35	50	46.0	N	1400-1500	123	23.4%	9.5%	0.1%	11.8%	4.2%	4.0%	7.8%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	36.4%	0.0%	100.0%
Road 35	35	50	45.9	N	1500-1600	126	23.3%	9.4%	0.1%	13.7%	4.9%	3.5%	6.8%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	35.5%	0.0%	100.0%
Road 35	35	50	45.9	N	1600-1700	128	25.9%	8.9%	0.1%	11.3%	4.0%	3.5%	6.9%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.2%	34.9%	0.0%	100.0%
Road 35	35	50	45.9	N	1700-1800	135	30.8%	9.6%	0.1%	10.8%	3.9%	2.4%	4.8%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	2.6%	32.7%	0.0%	100.0%
Road 35	35	50	46.0	N	1800-1900	137	40.2%	9.4%	0.1%	7.2%	2.6%	1.5%	3.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.9%	31.8%	0.0%	100.0%
Road 35	35	50	47.9	N	1900-2000	84	50.9%	15.9%	0.1%	7.1%	2.6%	1.7%	3.3%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	1.9%	14.0%	0.0%	100.0%
Road 35	35	50	48.3	N	2000-2100	68	45.2%	19.2%	0.1%	7.3%	2.6%	1.6%	3.1%	0.0%	0.0%	0.1%	0.6%	0.4%	0.8%	0.0%	0.0%	1.8%	17.0%	0.0%	100.0%
Road 35	35	50	48.3	N	2100-2200	68	45.8%	18.9%	0.1%	7.3%	2.6%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	17.0%	0.0%	100.0%
Road 35	35	50	48.3	N	2200-2300	66	45.7%	20.7%	0.1%	5.7%	2.1%	1.8%	3.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	17.7%	0.0%	100.0%
Road 35	35	50	48.6	N	2300-0000	52	42.2%	19.0%	0.1%	6.0%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	22.0%	0.0%	100.0%
Road 36	36	50	48.6	Y	0000-0100	50	38.1%	17.1%	0.1%	7.7%	2.8%	2.4%	4.8%	0.7%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	23.2%	0.0%	100.0%
Road 36	36	50	48.9	Y	0100-0200	37	33.1%	14.8%	0.1%	7.5%	2.7%	2.4%	4.6%	0.6%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.9%	31.0%	0.0%	100.0%
Road 36	36	50	49.1	Y	0200-0300	30	29.0%	12.9%	0.1%	7.2%	2.6%	2.3%	4.4%	0.7%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.8%	38.3%	0.0%	100.0%
Road 36	36	50	49.1	Y	0300-0400	26	25.7%	11.4%	0.1%	7.1%	2.5%	2.2%	4.4%	0.5%	0.0%	0.2%	0.4%	0.3%	0.5%	0.0%	0.0%	1.8%	42.8%	0.0%	100.0%
Road 36	36	50	49.1	Y	0400-0500	28	26.0%	11.5%	0.1%	7.9%	2.8%	2.5%	4.9%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	40.3%	0.0%	100.0%
Road 36	36	50	48.8	Y	0500-0600	41	30.2%	13.3%	0.1%	10.0%	3.6%	3.1%	6.2%	0.6%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	2.6%	28.3%	0.0%	100.0%
Road 36	36	50	47.9	Y	0600-0700	77	34.0%	14.9%	0.1%	12.3%	4.4%	3.8%	7.5%	0.9%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.2%	16.7%	0.0%	100.0%
Road 36	36	50	48.4	Y	0700-0800	178	29.1%	12.7%	0.1%	11.5%	4.1%	3.6%	7.0%	0.8%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.0%	25.7%	0.0%	100.0%
Road 36	36	50	44.2	Y	0800-0900	201	33.3%	10.7%	0.1%	12.8%	4.6%	3.6%	7.0%	0.5%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	22.9%	0.0%	100.0%
Road 36	36	50	44.4	Y	0900-1000	186	27.0%	9.8%	0.2%	16.0%	5.7%	4.4%	8.6%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	1.5%	25.0%	0.0%	100.0%
Road 36	36	50	44.6	Y	1000-1100	173	23.8%	9.3%	0.2%	16.0%	5.7%	5.1%	10.0%	0.5%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	27.1%	0.0%	100.0%
Road 36	36	50	44.8	Y	1100-1200	165	23.5%	9.7%	0.2%	15.7%	5.7%	4.9%	9.7%	0.5%	0.1%	0.4%	0.2%	0.2%	0.4%	0.0%	0.0%	0.7%	28.2%	0.0%	100.0%
Road 36	36	50	45.0	Y	1200-1300	157	21.6%	8.3%	0.2%	15.6%	5.6%	5.6%	11.0%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.6%	29.8%	0.0%	100.0%
Road 36	36	50	44.7	Y	1300-1400	165	20.3%	7.8%	0.2%	18.1%	6.5%	5.6%	11.0%	0.0%	0.0%	0.3%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	28.6%	0.0%	100.0%
Road 36	36	50	44.6	Y	1400-1500	169	21.2%	8.6%	0.2%	16.7%	6.0%	5.7%	11.1%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	28.0%	0.0%	100.0%
Road 36	36	50	44.6	Y	1500-1600	173	21.0%	8.4%	0.2%	19.3%	6.9%	4.9%	9.6%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	27.0%	0.0%	100.0%
Road 36	36	50	44.6	Y	1600-1700	173	23.7%	8.2%	0.2%	16.1%	5.8%	5.0%	9.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.0%	28.1%	0.0%	100.0%
Road 36	36	50	44.7	Y	1700-1800	179	28.8%	9.0%	0.2%	15.8%	5.7%	3.6%	7.0%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	25.5%	0.0%	100.0%
Road 36	36	50	45.0	Y	1800-1900	174	39.2%	9.2%	0.1%	11.0%	4.0%	2.3%	4.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	25.5%	0.0%	100.0%
Road 36	36	50	47.3	Y	1900-2000	111	47.9%	15.0%	0.1%	10.5%	3.8%	2.5%	4.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.8%	11.2%	0.0%	100.0%
Road 36	36	50	47.8	Y	2000-2100	89	42.8%	18.2%	0.1%	10.7%	3.9%	2.4%	4.7%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.7%	13.6%	0.0%	100.0%
Road 36	36	50	47.7	Y	2100-2200	90	43.3%	17.9%	0.1%	10.9%	3.9%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	14.4%	0.0%	100.0%
Road 36	36	50	47.8	Y	2200-2300	86	43.7%	19.7%	0.1%	8.5%	3.1%	2.7%	5.3%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	14.3%	0.0%	100.0%
Road 36	36	50	48.2	Y	2300-0000	68	40.5%	18.2%	0.1%	9.0%	3.2%	2.8%	5.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	17.7%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

**Traffic Data /

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 41	41	70	70.0	N	0000-0100	140	38.7%	17.4%	0.1%	8.2%	2.9%	2.6%	5.1%	0.7%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	1.9%	21.1%	0.0%	100.0%
Road 41	41	70	70.0	N	0100-0200	102	34.0%	15.2%	0.1%	8.0%	2.9%	2.5%	5.0%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	28.4%	0.0%	100.0%
Road 41	41	70	70.0	N	0200-0300	83	30.0%	13.4%	0.1%	7.9%	2.8%	2.5%	4.9%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	34.6%	0.0%	100.0%
Road 41	41	70	70.0	N	0300-0400	72	26.8%	11.9%	0.1%	7.7%	2.8%	2.4%	4.8%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	39.6%	0.0%	100.0%
Road 41	41	70	70.0	N	0400-0500	77	26.9%	11.9%	0.1%	8.5%	3.1%	2.7%	5.3%	0.6%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	2.1%	37.2%	0.0%	100.0%
Road 41	41	70	70.0	N	0500-0600	114	30.7%	13.5%	0.1%	10.7%	3.8%	3.3%	6.6%	0.7%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.6%	25.8%	0.0%	100.0%
Road 41	41	70	70.0	N	0600-0700	217	34.0%	14.9%	0.1%	12.9%	4.6%	4.0%	7.9%	0.8%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.2%	14.8%	0.0%	100.0%
Road 41	41	70	70.0	N	0700-0800	495	29.5%	12.9%	0.1%	12.2%	4.4%	3.8%	7.5%	0.7%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.0%	23.4%	0.0%	100.0%
Road 41	41	70	70.0	N	0800-0900	562	33.6%	10.7%	0.1%	13.5%	4.9%	3.8%	7.4%	0.5%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	0.0%	2.0%	20.8%	0.0%	100.0%
Road 41	41	70	70.0	N	0900-1000	521	27.2%	9.9%	0.2%	16.9%	6.1%	4.6%	9.0%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	1.1%	22.7%	0.0%	100.0%
Road 41	41	70	70.0	N	1000-1100	483	24.0%	9.3%	0.2%	16.9%	6.1%	5.4%	10.6%	0.6%	0.0%	0.3%	0.5%	0.3%	0.6%	0.0%	0.0%	0.7%	24.7%	0.0%	100.0%
Road 41	41	70	70.0	N	1100-1200	462	23.8%	9.8%	0.2%	16.7%	6.0%	5.2%	10.2%	0.6%	0.1%	0.4%	0.2%	0.2%	0.4%	0.0%	0.0%	0.7%	25.6%	0.0%	100.0%
Road 41	41	70	70.0	N	1200-1300	418	26.2%	10.1%	0.1%	13.6%	4.9%	4.9%	9.6%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.8%	27.9%	0.0%	100.0%
Road 41	41	70	70.0	N	1300-1400	434	24.8%	9.6%	0.2%	15.9%	5.7%	4.9%	9.7%	0.0%	0.0%	0.4%	0.4%	0.2%	0.5%	0.0%	0.0%	0.8%	26.9%	0.0%	100.0%
Road 41	41	70	70.0	N	1400-1500	448	25.7%	10.4%	0.2%	14.6%	5.2%	4.9%	9.7%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	26.2%	0.0%	100.0%
Road 41	41	70	70.0	N	1500-1600	458	25.6%	10.3%	0.2%	16.8%	6.1%	4.3%	8.4%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	0.9%	25.3%	0.0%	100.0%
Road 41	41	70	70.0	N	1600-1700	466	28.5%	9.8%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	1.3%	25.0%	0.0%	100.0%
Road 41	41	70	70.0	N	1700-1800	492	33.8%	10.6%	0.1%	13.3%	4.8%	3.0%	5.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	23.1%	0.0%	100.0%
Road 41	41	70	70.0	N	1800-1900	494	44.5%	10.5%	0.1%	9.0%	3.2%	1.9%	3.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	22.4%	0.0%	100.0%
Road 41	41	70	70.0	N	1900-2000	326	52.4%	16.4%	0.1%	8.2%	3.0%	2.0%	3.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	1.9%	9.5%	0.0%	100.0%
Road 41	41	70	70.0	N	2000-2100	260	47.1%	20.0%	0.1%	8.5%	3.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	11.5%	0.0%	100.0%
Road 41	41	70	70.0	N	2100-2200	261	47.7%	19.7%	0.1%	8.6%	3.1%	2.0%	3.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	11.6%	0.0%	100.0%
Road 41	41	70	70.0	N	2200-2300	251	47.9%	21.7%	0.1%	6.7%	2.4%	2.1%	4.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	12.1%	0.0%	100.0%
Road 41	41	70	70.0	N	2300-0000	197	44.9%	20.2%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	15.2%	0.0%	100.0%
Road 42	42	50	47.3	N	0000-0100	98	40.1%	18.0%	0.0%	4.6%	1.7%	1.5%	2.9%	1.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	26.8%	0.0%	100.0%
Road 42	42	50	47.8	N	0100-0200	73	34.4%	15.4%	0.0%	4.4%	1.6%	1.4%	2.7%	0.9%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	35.7%	0.0%	100.0%
Road 42	42	50	48.1	N	0200-0300	61	29.8%	13.3%	0.0%	4.3%	1.5%	1.3%	2.6%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	42.9%	0.0%	100.0%
Road 42	42	50	48.2	N	0300-0400	54	26.2%	11.6%	0.0%	4.1%	1.5%	1.3%	2.6%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	48.6%	0.0%	100.0%
Road 42	42	50	48.1	N	0400-0500	57	26.8%	11.8%	0.0%	4.6%	1.7%	1.5%	2.9%	0.8%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	2.1%	46.2%	0.0%	100.0%
Road 42	42	50	47.6	N	0500-0600	79	32.3%	14.2%	0.1%	6.1%	2.2%	1.9%	3.8%	0.9%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	33.3%	0.0%	100.0%
Road 42	42	50	46.2	N	0600-0700	142	38.1%	16.7%	0.1%	7.9%	2.8%	2.5%	4.8%	1.2%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.6%	19.4%	0.0%	100.0%
Road 42	42	50	40.1	N	0700-0800	335	31.9%	13.9%	0.1%	7.2%	2.6%	2.2%	4.4%	1.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	30.6%	0.0%	100.0%
Road 42	42	50	39.5	N	0800-0900	374	36.9%	11.8%	0.1%	8.1%	2.9%	2.3%	4.5%	0.8%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	2.1%	27.6%	0.0%	100.0%
Road 42	42	50	39.9	N	0900-1000	336	30.9%	11.2%	0.1%	10.5%	3.8%	2.8%	5.6%	0.9%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.2%	30.9%	0.0%	100.0%
Road 42	42	50	40.3	N	1000-1100	308	27.6%	10.7%	0.1%	10.6%	3.8%	3.4%	6.6%	0.9%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	1.6%	33.8%	0.0%	100.0%
Road 42	42	50	40.6	N	1100-1200	297	27.0%	11.1%	0.1%	10.3%	3.7%	3.2%	6.4%	0.9%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	34.9%	0.0%	100.0%
Road 42	42	50	39.7	N	1200-1300	329	23.2%	8.9%	0.1%	13.6%	4.9%	4.9%	9.6%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	32.5%	0.0%	100.0%
Road 42	42	50	39.4	N	1300-1400	342	21.9%	8.4%	0.2%	15.8%	5.7%	4.9%	9.6%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	31.4%	0.0%	100.0%
Road 42	42	50	39.3	N	1400-1500	352	22.8%	9.2%	0.2%	14.6%	5.2%	4.9%	9.7%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	30.6%	0.0%	100.0%
Road 42	42	50	39.3	N	1500-1600	360	22.7%	9.1%	0.2%	16.9%	6.1%	4.3%	8.4%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	29.6%	0.0%	100.0%
Road 42	42	50	39.2	N	1600-1700	364	25.4%	8.8%	0.1%	14.0%	5.0%	4.4%	8.6%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.2%	29.4%	0.0%	100.0%
Road 42	42	50	39.3	N	1700-1800	380	30.4%	9.5%	0.1%	13.6%	4.9%	3.1%	6.0%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	2.6%	27.5%	0.0%	100.0%
Road 42	42	50	39.6	N	1800-1900	377	40.6%	9.5%	0.1%	9.3%	3.3%	1.9%	3.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.9%	27.2%	0.0%	100.0%
Road 42	42	50	44.2	N	1900-2000	239	49.8%	15.6%	0.1%	8.8%	3.2%	2.1%	4.1%	0.0%	0.0%	0.1%	0.8%	0.5%	1.1%	0.0%	0.0%	1.8%	11.8%	0.0%	100.0%
Road 42	42	50	45.2	N	2000-2100	192	44.5%	18.9%	0.1%	9.1%	3.3%	2.0%	3.9%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	0.0%	1.8%	14.4%	0.0%	100.0%
Road 42	42	50	45.2	N	2100-2200	193	45.0%	18.6%	0.1%	9.2%	3.3%	2.1%	4.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	14.4%	0.0%	100.0%
Road 42	42	50	45.4	N	2200-2300	185	45.3%	20.5%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	15.0%	0.0%	100.0%
Road 42	42	50	46.2	N	2300-0000	147	42.0%	18.9%	0.1%	7.6%	2.7%	2.4%	4.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	18.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 43	43	70	70.0	N	0000-0100	41	35.3%	15.9%	0.2%	16.7%	6.0%	5.3%	10.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	7.3%	0.0%	100.0%
Road 43	43	70	70.0	N	0100-0200	28	32.8%	14.7%	0.2%	17.3%	6.2%	5.5%	10.7%	0.0%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.9%	9.4%	0.0%	100.0%
Road 43	43	70	70.0	N	0200-0300	22	30.5%	13.6%	0.2%	17.8%	6.4%	5.6%	11.0%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	11.5%	0.0%	100.0%
Road 43	43	70	70.0	N	0300-0400	18	28.4%	12.6%	0.2%	18.3%	6.6%	5.8%	11.3%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	13.3%	0.0%	100.0%
Road 43	43	70	70.0	N	0400-0500	20	27.3%	12.0%	0.2%	19.4%	7.0%	6.1%	12.0%	0.0%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	2.1%	12.3%	0.0%	100.0%
Road 43	43	70	70.0	N	0500-0600	35	27.0%	11.9%	0.2%	21.0%	7.5%	6.6%	12.9%	0.0%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.3%	8.7%	0.0%	100.0%
Road 43	43	70	70.0	N	0600-0700	75	26.4%	11.5%	0.2%	22.4%	8.0%	7.0%	13.8%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	6.1%	0.0%	100.0%
Road 43	43	70	70.0	N	0700-0800	160	24.5%	10.7%	0.2%	22.6%	8.1%	7.1%	13.9%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.5%	8.1%	0.0%	100.0%
Road 43	43	70	70.0	N	0800-0900	188	27.0%	8.6%	0.3%	24.3%	8.7%	6.8%	13.4%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.6%	7.3%	0.0%	100.0%
Road 43	43	70	70.0	N	0900-1000	186	20.5%	7.5%	0.3%	28.5%	10.2%	7.8%	15.2%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	7.9%	0.0%	100.0%
Road 43	43	70	70.0	N	1000-1100	175	17.8%	6.9%	0.3%	28.1%	10.1%	8.9%	17.5%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.5%	8.7%	0.0%	100.0%
Road 43	43	70	70.0	N	1100-1200	165	17.9%	7.4%	0.3%	28.1%	10.1%	8.8%	17.2%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.5%	8.9%	0.0%	100.0%
Road 43	43	70	70.0	N	1200-1300	88	37.6%	14.5%	0.1%	13.7%	4.9%	4.9%	9.7%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	0.0%	1.1%	10.7%	0.0%	100.0%
Road 43	43	70	70.0	N	1300-1400	92	35.7%	13.8%	0.2%	16.1%	5.8%	5.0%	9.8%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.1%	10.4%	0.0%	100.0%
Road 43	43	70	70.0	N	1400-1500	96	36.4%	14.7%	0.2%	14.5%	5.2%	4.9%	9.7%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.4%	10.0%	0.0%	100.0%
Road 43	43	70	70.0	N	1500-1600	99	36.1%	14.5%	0.2%	16.8%	6.0%	4.2%	8.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	9.5%	0.0%	100.0%
Road 43	43	70	70.0	N	1600-1700	102	39.4%	13.6%	0.1%	13.6%	4.9%	4.2%	8.3%	0.0%	0.1%	0.9%	1.2%	0.8%	1.8%	0.0%	0.0%	1.9%	9.2%	0.0%	100.0%
Road 43	43	70	70.0	N	1700-1800	112	45.2%	14.1%	0.1%	12.6%	4.5%	2.8%	5.6%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.0%	3.9%	7.9%	0.0%	100.0%
Road 43	43	70	70.0	N	1800-1900	117	57.3%	13.4%	0.1%	8.1%	2.9%	1.7%	3.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.7%	7.0%	0.0%	100.0%
Road 43	43	70	70.0	N	1900-2000	87	59.5%	18.6%	0.1%	6.6%	2.4%	1.6%	3.1%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	2.2%	3.0%	0.0%	100.0%
Road 43	43	70	70.0	N	2000-2100	68	54.5%	23.2%	0.1%	6.9%	2.5%	1.5%	3.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.2%	3.5%	0.0%	100.0%
Road 43	43	70	70.0	N	2100-2200	68	55.3%	22.9%	0.1%	7.0%	2.5%	1.6%	3.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.5%	3.6%	0.0%	100.0%
Road 43	43	70	70.0	N	2200-2300	66	55.3%	25.0%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	3.7%	0.0%	100.0%
Road 43	43	70	70.0	N	2300-0000	50	53.5%	24.1%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	4.7%	0.0%	100.0%
Road 44	44	80	80.0	N	0000-0100	283	53.0%	23.8%	0.1%	5.4%	1.9%	1.7%	3.4%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	4.6%	2.7%	1.5%	0.0%	100.0%
Road 44	44	80	80.0	N	0100-0200	185	51.7%	23.1%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	4.6%	2.9%	2.0%	0.0%	100.0%
Road 44	44	80	80.0	N	0200-0300	137	50.4%	22.4%	0.1%	6.4%	2.3%	2.0%	3.9%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	3.6%	2.6%	2.1%	0.0%	100.0%
Road 44	44	80	80.0	N	0300-0400	109	49.0%	21.8%	0.1%	6.8%	2.5%	2.2%	4.2%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	4.4%	3.4%	2.8%	0.0%	100.0%
Road 44	44	80	80.0	N	0400-0500	232	48.0%	21.2%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	4.4%	3.7%	2.7%	0.0%	100.0%
Road 44	44	80	80.0	N	0500-0600	207	47.1%	20.7%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.4%	4.0%	2.2%	0.0%	100.0%
Road 44	44	80	80.0	N	0600-0700	444	46.2%	20.2%	0.1%	8.4%	3.0%	2.6%	5.2%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	0.0%	4.4%	4.3%	1.8%	0.0%	100.0%
Road 44	44	80	80.0	N	0700-0800	906	44.8%	19.5%	0.1%	8.9%	3.2%	2.8%	5.5%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	4.3%	4.6%	2.2%	0.0%	100.0%
Road 44	44	80	77.1	N	0800-0900	1049	50.0%	16.0%	0.1%	9.7%	3.5%	2.7%	5.3%	0.0%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	3.8%	2.9%	2.1%	0.0%	100.0%
Road 44	44	80	79.4	N	0900-1000	893	44.1%	16.0%	0.1%	13.2%	4.7%	3.6%	7.1%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.8%	1.7%	2.7%	0.0%	100.0%
Road 44	44	80	80.0	N	1000-1100	786	41.0%	15.9%	0.1%	13.9%	5.0%	4.4%	8.7%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.7%	1.2%	3.2%	0.0%	100.0%
Road 44	44	80	80.0	N	1100-1200	744	40.9%	16.9%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	3.8%	1.1%	3.2%	0.0%	100.0%
Road 44	44	80	78.5	N	1200-1300	938	45.0%	17.3%	0.1%	10.6%	3.8%	3.8%	7.5%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	4.4%	1.3%	2.7%	0.0%	100.0%
Road 44	44	80	77.9	N	1300-1400	958	43.4%	16.7%	0.1%	12.6%	4.5%	3.9%	7.7%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	0.0%	4.1%	1.3%	2.8%	0.0%	100.0%
Road 44	44	80	76.7	N	1400-1500	1021	43.6%	17.6%	0.1%	11.2%	4.0%	3.8%	7.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.0%	4.1%	1.6%	2.7%	0.0%	100.0%
Road 44	44	80	76.4	N	1500-1600	1044	43.3%	17.4%	0.1%	13.0%	4.7%	3.3%	6.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	1.6%	2.4%	0.0%	100.0%
Road 44	44	80	75.0	N	1600-1700	1111	46.1%	15.9%	0.1%	10.2%	3.7%	3.2%	6.3%	0.0%	0.1%	1.1%	1.4%	0.9%	2.1%	0.0%	0.0%	4.5%	2.2%	2.3%	0.0%	100.0%
Road 44	44	80	73.4	N	1700-1800	1256	51.1%	16.0%	0.1%	9.2%	3.3%	2.1%	4.1%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	4.5%	4.4%	1.6%	0.0%	100.0%
Road 44	44	80	72.2	N	1800-1900	1372	61.9%	14.5%	0.1%	5.7%	2.0%	1.2%	2.3%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	4.6%	2.9%	1.1%	0.0%	100.0%
Road 44	44	80	77.8	N	1900-2000	1088	60.7%	19.0%	0.0%	4.3%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	5.3%	2.2%	0.7%	0.0%	100.0%
Road 44	44	80	80.0	N	2000-2100	848	55.8%	23.7%	0.0%	4.6%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	5.6%	2.2%	0.7%	0.0%	100.0%
Road 44	44	80	80.0	N	2100-2200	843	57.1%	23.6%	0.0%	4.7%	1.7%	1.1%	2.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	4.9%	2.6%	0.8%	0.0%	100.0%
Road 44	44	80	80.0	N	2200-2300	821	56.6%	25.6%	0.0%	3.6%	1.3%	1.1%	2.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	5.3%	2.2%	0.8%	0.0%	100.0%
Road 44	44	80	80.0	N	2300-0000	615	55.5%	25.0%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	5.3%	2.5%	1.0%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 49	49	50	43.7	N	0000-0100	289	54.8%	24.6%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.1%	6.6%	2.8%	0.6%	0.0%	100.0%
Road 49	49	50	45.9	N	0100-0200	188	53.9%	24.1%	0.0%	4.1%	1.5%	1.3%	2.6%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	6.5%	3.1%	0.7%	0.0%	100.0%
Road 49	49	50	47.0	N	0200-0300	138	52.9%	23.6%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.1%	6.5%	3.3%	0.7%	0.0%	100.0%
Road 49	49	50	47.6	N	0300-0400	109	51.9%	23.0%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	6.5%	3.6%	0.8%	0.0%	100.0%
Road 49	49	50	47.3	N	0400-0500	119	50.9%	22.5%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.1%	6.4%	4.0%	0.8%	0.0%	100.0%
Road 49	49	50	45.3	N	0500-0600	207	49.9%	21.9%	0.1%	5.7%	2.0%	1.8%	3.5%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.1%	6.4%	4.3%	0.9%	0.0%	100.0%
Road 49	49	50	39.9	N	0600-0700	443	48.9%	21.4%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	6.3%	4.6%	1.0%	0.0%	100.0%
Road 49	49	50	34.1	N	0700-0800	897	47.8%	20.8%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	6.3%	4.9%	1.0%	0.0%	100.0%
Road 49	49	50	32.4	N	0800-0900	1035	53.5%	17.1%	0.1%	7.0%	2.5%	2.0%	3.9%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	5.6%	3.1%	1.0%	0.0%	100.0%
Road 49	49	50	34.3	N	0900-1000	856	48.7%	17.7%	0.1%	9.8%	3.5%	2.7%	5.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	5.8%	1.9%	1.4%	0.0%	100.0%
Road 49	49	50	35.8	N	1000-1100	742	46.0%	17.8%	0.1%	10.5%	3.8%	3.3%	6.6%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	5.7%	1.4%	1.7%	0.0%	100.0%
Road 49	49	50	36.2	N	1100-1200	703	45.8%	18.9%	0.1%	10.5%	3.8%	3.3%	6.4%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	5.8%	1.3%	1.7%	0.0%	100.0%
Road 49	49	50	39.6	N	1200-1300	413	39.9%	15.4%	0.1%	11.8%	4.2%	4.2%	8.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	9.9%	1.2%	2.2%	0.0%	100.0%
Road 49	49	50	39.4	N	1300-1400	424	38.3%	14.7%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.6%	0.5%	0.4%	0.8%	0.0%	9.4%	1.2%	2.2%	0.0%	100.0%
Road 49	49	50	39.0	N	1400-1500	450	38.6%	15.6%	0.1%	12.4%	4.5%	4.2%	8.3%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	9.4%	1.5%	2.2%	0.0%	100.0%
Road 49	49	50	38.9	N	1500-1600	460	38.4%	15.4%	0.1%	14.4%	5.2%	3.6%	7.2%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.1%	9.2%	1.4%	1.9%	0.0%	100.0%
Road 49	49	50	38.5	N	1600-1700	488	40.9%	14.1%	0.1%	11.4%	4.1%	3.5%	7.0%	0.0%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	10.2%	1.9%	1.8%	0.0%	100.0%
Road 49	49	50	38.1	N	1700-1800	546	45.8%	14.3%	0.1%	10.3%	3.7%	2.3%	4.6%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	10.4%	3.9%	1.2%	0.0%	100.0%
Road 49	49	50	37.8	N	1800-1900	588	56.4%	13.2%	0.1%	6.5%	2.3%	1.3%	2.6%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.1%	10.8%	2.7%	0.7%	0.0%	100.0%
Road 49	49	50	39.4	N	1900-2000	469	54.9%	17.2%	0.1%	4.9%	1.8%	1.2%	2.3%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	12.3%	2.0%	0.6%	0.0%	100.0%
Road 49	49	50	41.2	N	2000-2100	367	50.3%	21.4%	0.1%	5.2%	1.9%	1.1%	2.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	12.9%	2.0%	0.6%	0.0%	100.0%
Road 49	49	50	41.5	N	2100-2200	362	51.9%	21.5%	0.1%	5.3%	1.9%	1.2%	2.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	11.5%	2.4%	0.6%	0.0%	100.0%
Road 49	49	50	41.7	N	2200-2300	354	51.3%	23.2%	0.0%	4.1%	1.5%	1.3%	2.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	12.3%	2.0%	0.7%	0.0%	100.0%
Road 49	49	50	43.7	N	2300-0000	265	50.2%	22.6%	0.0%	4.6%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	12.2%	2.2%	0.7%	0.0%	100.0%
Road 50	50	50	49.3	N	0000-0100	24	28.0%	12.6%	0.2%	20.0%	7.2%	6.3%	12.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	11.0%	0.0%	100.0%
Road 50	50	50	49.5	N	0100-0200	17	25.3%	11.3%	0.2%	20.2%	7.3%	6.4%	12.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	14.3%	0.0%	100.0%
Road 50	50	50	49.6	N	0200-0300	13	23.0%	10.3%	0.2%	20.4%	7.3%	6.4%	12.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.5%	17.3%	0.0%	100.0%
Road 50	50	50	49.7	N	0300-0400	11	21.0%	9.3%	0.2%	20.5%	7.4%	6.5%	12.7%	0.0%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	19.8%	0.0%	100.0%
Road 50	50	50	49.6	N	0400-0500	13	20.2%	8.9%	0.2%	21.7%	7.8%	6.8%	13.4%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	18.2%	0.0%	100.0%
Road 50	50	50	49.4	N	0500-0600	21	20.4%	9.0%	0.2%	23.9%	8.6%	7.5%	14.7%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.7%	12.6%	0.0%	100.0%
Road 50	50	50	48.7	N	0600-0700	46	20.1%	8.8%	0.3%	25.8%	9.3%	8.1%	15.9%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	8.3%	0.0%	100.0%
Road 50	50	50	47.1	N	0700-0800	99	18.4%	8.0%	0.3%	25.6%	9.2%	8.0%	15.7%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	11.4%	0.0%	100.0%
Road 50	50	50	46.6	N	0800-0900	116	20.2%	6.5%	0.3%	27.5%	9.9%	7.7%	15.1%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.2%	10.1%	0.0%	100.0%
Road 50	50	50	46.4	N	0900-1000	119	14.9%	5.4%	0.3%	31.1%	11.2%	8.5%	16.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	10.4%	0.0%	100.0%
Road 50	50	50	46.5	N	1000-1100	114	12.7%	4.9%	0.3%	30.2%	10.9%	9.6%	18.9%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	11.3%	0.0%	100.0%
Road 50	50	50	46.7	N	1100-1200	107	12.8%	5.3%	0.3%	30.2%	10.8%	9.4%	18.6%	0.0%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	11.6%	0.0%	100.0%
Road 50	50	50	48.3	N	1200-1300	49	4.5%	1.7%	0.3%	30.1%	10.8%	10.8%	21.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	20.2%	0.0%	100.0%
Road 50	50	50	48.2	N	1300-1400	54	4.0%	1.5%	0.3%	33.0%	11.9%	10.2%	20.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	18.5%	0.0%	100.0%
Road 50	50	50	48.2	N	1400-1500	54	4.3%	1.7%	0.3%	31.4%	11.3%	10.6%	20.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	18.8%	0.0%	100.0%
Road 50	50	50	48.2	N	1500-1600	56	4.2%	1.7%	0.4%	35.9%	12.9%	9.1%	17.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	17.5%	0.0%	100.0%
Road 50	50	50	48.2	N	1600-1700	53	5.1%	1.8%	0.3%	32.0%	11.5%	10.0%	19.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	18.8%	0.0%	100.0%
Road 50	50	50	48.4	N	1700-1800	49	6.8%	2.1%	0.4%	34.9%	12.5%	7.9%	15.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	18.8%	0.0%	100.0%
Road 50	50	50	48.8	N	1800-1900	37	11.9%	2.8%	0.3%	30.9%	11.1%	6.4%	12.7%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	22.6%	0.0%	100.0%
Road 50	50	50	49.3	N	1900-2000	22	15.6%	4.9%	0.3%	31.7%	11.4%	7.6%	14.9%	0.0%	0.0%	0.0%	0.2%	0.2%	0.4%	0.0%	0.0%	0.6%	12.4%	0.0%	100.0%
Road 50	50	50	49.5	N	2000-2100	18	13.8%	5.9%	0.3%	32.1%	11.5%	7.1%	13.9%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.6%	14.1%	0.0%	100.0%
Road 50	50	50	49.4	N	2100-2200	18	13.7%	5.7%	0.3%	32.0%	11.5%	7.4%	14.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.6%	14.0%	0.0%	100.0%
Road 50	50	50	49.5	N	2200-2300	16	14.8%	6.7%	0.3%	26.8%	9.8%	8.5%	16.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.6%	15.8%	0.0%	100.0%
Road 50	50	50	49.6	N	2300-0000	14	13.1%	5.9%	0.3%	26.9%	9.6%	8.5%	16.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	18.1%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 51	51	80	80.0	N	0000-0100	511	44.9%	20.2%	0.1%	10.7%	3.9%	3.4%	6.7%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	3.8%	2.3%	1.7%	0.0%	100.0%
Road 51	51	80	80.0	N	0100-0200	338	43.3%	19.4%	0.1%	11.6%	4.2%	3.6%	7.2%	0.8%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	3.7%	2.5%	1.9%	0.0%	100.0%
Road 51	51	80	80.0	N	0200-0300	252	41.8%	18.6%	0.1%	12.4%	4.4%	3.9%	7.7%	0.8%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	3.7%	2.6%	2.0%	0.0%	100.0%
Road 51	51	80	80.0	N	0300-0400	202	40.3%	17.9%	0.1%	13.2%	4.7%	4.1%	8.1%	0.8%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.6%	2.8%	2.1%	0.0%	100.0%
Road 51	51	80	80.0	N	0400-0500	226	38.8%	17.1%	0.1%	13.9%	5.0%	4.4%	8.6%	0.8%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	3.5%	3.0%	2.2%	0.0%	100.0%
Road 51	51	80	80.0	N	0500-0600	399	37.4%	16.4%	0.2%	14.7%	5.3%	4.6%	9.1%	0.8%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.4%	3.2%	2.4%	0.0%	100.0%
Road 51	51	80	80.0	N	0600-0700	871	36.0%	15.7%	0.2%	15.4%	5.5%	4.8%	9.5%	0.7%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.3%	3.4%	2.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0700-0800	1793	34.6%	15.1%	0.2%	16.1%	5.8%	5.1%	9.9%	0.7%	0.1%	0.5%	0.6%	0.5%	1.2%	0.0%	3.2%	3.5%	2.6%	0.0%	100.0%
Road 51	51	80	80.0	N	0800-0900	2093	38.3%	12.2%	0.2%	17.4%	6.3%	4.9%	9.6%	0.6%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	2.8%	2.2%	2.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0900-1000	1927	31.3%	11.4%	0.2%	21.9%	7.9%	6.0%	11.7%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	2.6%	1.2%	3.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1000-1100	1757	28.1%	10.9%	0.2%	22.3%	8.0%	7.1%	13.9%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	2.5%	0.9%	3.6%	0.0%	100.0%
Road 51	51	80	80.0	N	1100-1200	1657	28.1%	11.6%	0.2%	22.3%	8.0%	7.0%	13.7%	0.6%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	2.5%	0.8%	3.6%	0.0%	100.0%
Road 51	51	80	80.0	N	1200-1300	2473	36.9%	14.2%	0.2%	14.5%	5.2%	5.2%	10.2%	0.4%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	6.7%	1.1%	2.7%	0.0%	100.0%
Road 51	51	80	80.0	N	1300-1400	2565	35.1%	13.5%	0.2%	16.9%	6.1%	5.3%	10.3%	0.4%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	6.3%	1.1%	2.7%	0.0%	100.0%
Road 51	51	80	79.2	N	1400-1500	2700	35.7%	14.4%	0.2%	15.2%	5.5%	5.2%	10.1%	0.4%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	6.3%	1.3%	2.6%	0.0%	100.0%
Road 51	51	80	78.9	N	1500-1600	2769	35.3%	14.2%	0.2%	17.6%	6.3%	4.5%	8.8%	0.3%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	6.2%	1.3%	2.3%	0.0%	100.0%
Road 51	51	80	78.0	N	1600-1700	2891	38.3%	13.2%	0.1%	14.1%	5.1%	4.4%	8.7%	0.3%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	6.9%	1.8%	2.3%	0.0%	100.0%
Road 51	51	80	77.2	N	1700-1800	3178	43.7%	13.7%	0.1%	13.0%	4.7%	3.9%	5.8%	0.4%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	7.2%	3.8%	1.5%	0.0%	100.0%
Road 51	51	80	77.3	N	1800-1900	3320	55.3%	13.0%	0.1%	8.4%	3.0%	1.8%	3.5%	0.4%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	7.7%	2.6%	0.9%	0.0%	100.0%
Road 51	51	80	80.0	N	1900-2000	2620	54.5%	17.1%	0.1%	6.5%	2.3%	1.5%	3.0%	0.4%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	8.9%	2.0%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	2000-2100	2049	50.0%	21.2%	0.1%	6.8%	2.4%	1.5%	3.0%	0.5%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	9.4%	2.0%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	2100-2200	2031	51.3%	21.2%	0.1%	7.0%	2.5%	1.6%	3.2%	0.5%	0.0%	0.1%	0.4%	0.3%	0.5%	0.0%	8.3%	2.3%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	2200-2300	1968	51.1%	23.1%	0.1%	5.4%	1.9%	1.7%	3.4%	0.4%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	8.9%	2.0%	0.9%	0.0%	100.0%
Road 51	51	80	80.0	N	2300-0000	1481	49.8%	22.5%	0.1%	6.0%	2.2%	1.9%	3.7%	0.4%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	8.8%	2.2%	1.0%	0.0%	100.0%
Road 52	52	50	49.5	N	0000-0100	16	5.9%	2.7%	0.4%	36.8%	13.2%	11.6%	22.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	0.0%	100.0%
Road 52	52	50	49.6	N	0100-0200	11	5.4%	2.4%	0.4%	37.2%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%	0.0%	100.0%
Road 52	52	50	49.7	N	0200-0300	9	4.9%	2.2%	0.4%	37.5%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	0.0%	100.0%
Road 52	52	50	49.8	N	0300-0400	8	4.4%	2.0%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	0.0%	100.0%
Road 52	52	50	49.7	N	0400-0500	9	4.1%	1.8%	0.4%	38.0%	13.6%	11.9%	23.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	0.0%	100.0%
Road 52	52	50	49.5	N	0500-0600	16	3.7%	1.6%	0.4%	38.2%	13.7%	12.0%	23.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	100.0%
Road 52	52	50	48.8	N	0600-0700	38	3.4%	1.5%	0.4%	38.4%	13.8%	12.0%	23.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	100.0%
Road 52	52	50	47.4	N	0700-0800	81	3.2%	1.4%	0.4%	38.6%	13.8%	12.1%	23.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	100.0%
Road 52	52	50	47.0	N	0800-0900	96	3.4%	1.1%	0.4%	40.5%	14.6%	11.3%	22.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	0.0%	100.0%
Road 52	52	50	46.6	N	0900-1000	109	2.3%	0.8%	0.4%	41.7%	15.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 52	52	50	46.5	N	1000-1100	107	1.9%	0.7%	0.4%	39.3%	14.1%	12.5%	24.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.4%	0.0%	100.0%
Road 52	52	50	46.8	N	1100-1200	100	1.9%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	100.0%
Road 52	52	50	46.6	N	1200-1300	107	5.6%	2.1%	0.4%	35.0%	12.6%	12.6%	24.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.5%	0.0%	100.0%
Road 52	52	50	46.2	N	1300-1400	120	4.9%	1.9%	0.4%	37.9%	13.6%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 52	52	50	46.2	N	1400-1500	119	5.3%	2.1%	0.4%	36.1%	13.0%	12.2%	24.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 52	52	50	46.2	N	1500-1600	124	5.1%	2.1%	0.4%	40.9%	14.7%	10.4%	20.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 52	52	50	46.4	N	1600-1700	116	6.2%	2.2%	0.4%	36.9%	13.2%	11.5%	22.6%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 52	52	50	46.8	N	1700-1800	107	8.5%	2.7%	0.4%	40.6%	14.6%	9.2%	18.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	4.7%	0.0%	100.0%
Road 52	52	50	47.8	N	1800-1900	77	15.5%	3.6%	0.4%	37.8%	13.6%	7.9%	15.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 52	52	50	48.5	N	1900-2000	52	17.9%	5.6%	0.4%	34.0%	12.2%	8.1%	16.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	4.2%	0.0%	100.0%
Road 52	52	50	48.8	N	2000-2100	41	16.2%	6.9%	0.4%	35.3%	12.7%	7.8%	15.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	4.0%	0.0%	100.0%
Road 52	52	50	48.8	N	2100-2200	42	16.1%	6.7%	0.4%	35.1%	12.6%	8.1%	15.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 52	52	50	48.9	N	2200-2300	37	17.5%	7.9%	0.3%	29.7%	10.7%	9.4%	18.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	4.9%	0.0%	100.0%
Road 52	52	50	49.1	N	2300-0000	30	15.9%	7.2%	0.3%	30.7%	11.0%	9.7%	19.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	5.0%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

| Road

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 103	103	80	80.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0700-0800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0800-0900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	0900-1000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1000-1100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1100-1200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1200-1300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1300-1400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1400-1500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1500-1600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1600-1700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1700-1800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1800-1900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 103	103	80	80.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0700-0800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0800-0900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	0900-1000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1000-1100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1100-1200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1200-1300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1300-1400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1400-1500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1500-1600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1600-1700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1700-1800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1800-1900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 104	104	80	80.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 105	105	50	50.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0700-0800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0800-0900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	0900-1000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1000-1100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1100-1200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1200-1300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1300-1400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1400-1500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1500-1600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1600-1700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1700-1800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1800-1900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 105	105	50	50.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0700-0800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0800-0900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	0900-1000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1000-1100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1100-1200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1200-1300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1300-1400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1400-1500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1500-1600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1600-1700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1700-1800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1800-1900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 106	106	50	50.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 5	5	50	41.6	N	0000-0100	830	59.3%	26.6%	0.0%	2.7%	1.0%	0.9%	1.7%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.3%	3.0%	0.4%	0.0%	100.0%
Road 5	5	50	44.5	N	0100-0200	538	58.4%	26.1%	0.0%	3.0%	1.1%	1.0%	1.9%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.3%	3.3%	0.5%	0.0%	100.0%
Road 5	5	50	46.0	N	0200-0300	392	57.5%	25.6%	0.0%	3.3%	1.2%	1.0%	2.0%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.3%	3.6%	0.5%	0.0%	100.0%
Road 5	5	50	47.9	N	0300-0400	99	56.6%	25.1%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	2.3%	4.0%	0.6%	0.0%	100.0%
Road 5	5	50	46.5	N	0400-0500	338	55.7%	24.6%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.3%	4.3%	0.6%	0.0%	100.0%
Road 5	5	50	43.9	N	0500-0600	585	54.8%	24.1%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.3%	4.7%	0.7%	0.0%	100.0%
Road 5	5	50	38.2	N	0600-0700	1250	53.8%	23.6%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	2.2%	5.0%	0.7%	0.0%	100.0%
Road 5	5	50	30.6	N	0700-0800	2520	52.8%	23.0%	0.0%	4.8%	1.7%	1.5%	2.9%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	2.2%	5.4%	0.8%	0.0%	100.0%
Road 5	5	50	28.2	N	0800-0900	2918	58.9%	18.9%	0.1%	5.2%	1.9%	1.5%	2.9%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	2.0%	3.4%	0.7%	0.0%	100.0%
Road 5	5	50	31.2	N	0900-1000	2354	54.9%	19.9%	0.1%	7.5%	2.7%	2.0%	4.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.1%	2.1%	1.0%	0.0%	100.0%
Road 5	5	50	33.0	N	1000-1100	2017	52.5%	20.4%	0.1%	8.1%	2.9%	2.6%	5.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	2.1%	1.6%	1.3%	0.0%	100.0%
Road 5	5	50	33.7	N	1100-1200	1912	52.3%	21.6%	0.1%	8.0%	2.9%	2.5%	4.9%	0.0%	0.1%	0.9%	0.5%	0.4%	0.8%	0.0%	2.1%	1.5%	1.3%	0.0%	100.0%
Road 5	5	50	34.9	N	1200-1300	1713	53.0%	20.4%	0.1%	7.2%	2.6%	2.6%	5.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.4%	1.6%	1.3%	0.0%	100.0%
Road 5	5	50	34.7	N	1300-1400	1726	53.8%	19.9%	0.1%	6.6%	3.1%	2.7%	5.3%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	2.3%	1.6%	1.4%	0.0%	100.0%
Road 5	5	50	33.9	N	1400-1500	1862	51.4%	20.8%	0.1%	7.6%	2.7%	2.6%	5.1%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	2.3%	1.9%	1.3%	0.0%	100.0%
Road 5	5	50	33.7	N	1500-1600	1899	51.2%	20.5%	0.1%	8.8%	3.2%	2.2%	4.4%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	2.2%	1.8%	1.1%	0.0%	100.0%
Road 5	5	50	32.7	N	1600-1700	2058	53.4%	18.4%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	2.4%	2.5%	1.1%	0.0%	100.0%
Road 5	5	50	31.4	N	1700-1800	2391	57.6%	18.0%	0.1%	5.9%	2.1%	1.3%	2.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.4%	5.0%	0.7%	0.0%	100.0%
Road 5	5	50	29.9	N	1800-1900	2710	67.3%	15.8%	0.0%	3.5%	1.3%	0.7%	1.5%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	2.3%	3.2%	0.4%	0.0%	100.0%
Road 5	5	50	33.1	N	1900-2000	2173	65.3%	20.4%	0.0%	2.7%	1.0%	0.6%	1.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	2.7%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	35.8	N	2000-2100	1688	60.3%	25.6%	0.0%	2.8%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	2.8%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	36.1	N	2100-2200	1682	61.5%	25.4%	0.0%	2.9%	1.0%	0.7%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	2.5%	2.8%	0.3%	0.0%	100.0%
Road 5	5	50	36.4	N	2200-2300	1642	60.8%	27.5%	0.0%	2.2%	0.8%	0.7%	1.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.7%	2.3%	0.4%	0.0%	100.0%
Road 5	5	50	38.7	N	2300-0000	1223	59.9%	27.0%	0.0%	2.5%	0.9%	0.8%	1.6%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	2.6%	2.7%	0.4%	0.0%	100.0%
Road 6	6	50	44.3	N	0000-0100	533	54.9%	24.6%	0.0%	4.6%	1.7%	1.5%	2.9%	0.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	4.1%	2.8%	1.1%	0.0%	100.0%
Road 6	6	50	46.2	N	0100-0200	348	53.7%	24.0%	0.1%	5.1%	1.8%	1.6%	3.1%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.0%	3.0%	1.4%	0.0%	100.0%
Road 6	6	50	47.0	N	0200-0300	256	52.5%	23.4%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	4.0%	3.3%	1.6%	0.0%	100.0%
Road 6	6	50	47.7	N	0300-0400	203	51.3%	22.8%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	4.0%	3.6%	1.9%	0.0%	100.0%
Road 6	6	50	47.5	N	0400-0500	223	50.2%	22.2%	0.1%	6.4%	2.3%	2.0%	3.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.9%	3.9%	1.9%	0.0%	100.0%
Road 6	6	50	45.7	N	0500-0600	386	49.3%	21.7%	0.1%	6.8%	2.5%	2.1%	4.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.9%	4.2%	1.6%	0.0%	100.0%
Road 6	6	50	40.6	N	0600-0700	828	48.3%	21.2%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.9%	4.5%	1.4%	0.0%	100.0%
Road 6	6	50	34.9	N	0700-0800	1682	47.1%	20.5%	0.1%	7.8%	2.8%	2.4%	4.8%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.8%	4.8%	1.7%	0.0%	100.0%
Road 6	6	50	33.2	N	0800-0900	1948	52.5%	16.8%	0.1%	8.4%	3.0%	2.4%	4.6%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.4%	3.0%	1.6%	0.0%	100.0%
Road 6	6	50	34.8	N	0900-1000	1633	47.1%	17.1%	0.1%	11.7%	4.2%	3.2%	6.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.4%	1.8%	2.1%	0.0%	100.0%
Road 6	6	50	35.9	N	1000-1100	1427	44.1%	17.1%	0.1%	12.4%	4.5%	3.9%	7.7%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.4%	1.3%	2.5%	0.0%	100.0%
Road 6	6	50	36.5	N	1100-1200	1351	44.0%	18.1%	0.1%	12.3%	4.4%	3.9%	7.6%	0.0%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	3.5%	1.2%	2.5%	0.0%	100.0%
Road 6	6	50	38.9	N	1200-1300	929	38.6%	14.9%	0.1%	14.0%	5.0%	5.0%	9.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	5.2%	1.1%	3.3%	0.0%	100.0%
Road 6	6	50	38.6	N	1300-1400	962	36.8%	14.2%	0.2%	16.4%	5.9%	5.1%	10.0%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	4.9%	1.1%	3.4%	0.0%	100.0%
Road 6	6	50	38.3	N	1400-1500	1014	37.3%	15.1%	0.2%	14.7%	5.3%	5.0%	9.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	4.9%	1.4%	3.3%	0.0%	100.0%
Road 6	6	50	38.1	N	1500-1600	1040	37.0%	14.8%	0.2%	17.0%	6.1%	4.3%	8.4%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	4.8%	1.3%	2.9%	0.0%	100.0%
Road 6	6	50	37.8	N	1600-1700	1088	40.0%	13.8%	0.1%	13.6%	4.9%	4.3%	8.4%	0.0%	0.1%	0.9%	1.2%	0.8%	1.8%	0.0%	5.4%	1.9%	2.8%	0.0%	100.0%
Road 6	6	50	37.5	N	1700-1800	1200	45.5%	14.2%	0.1%	12.5%	4.5%	2.8%	5.6%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	5.6%	3.9%	2.1%	0.0%	100.0%
Road 6	6	50	37.5	N	1800-1900	1262	57.2%	13.4%	0.1%	8.0%	2.9%	1.7%	3.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	5.9%	2.7%	1.4%	0.0%	100.0%
Road 6	6	50	39.3	N	1900-2000	991	56.6%	17.7%	0.1%	6.2%	2.2%	1.5%	2.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	6.8%	2.1%	0.9%	0.0%	100.0%
Road 6	6	50	41.2	N	2000-2100	774	52.0%	22.1%	0.1%	6.5%	2.3%	1.4%	2.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	7.2%	2.1%	1.0%	0.0%	100.0%
Road 6	6	50	41.4	N	2100-2200	770	53.2%	22.0%	0.1%	6.7%	2.4%	1.5%	3.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.8%	0.0%	6.4%	2.4%	1.0%	0.0%	100.0%
Road 6	6	50	41.6	N	2200-2300	745	53.0%	23.9%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	6.9%	2.0%	1.1%	0.0%	100.0%
Road 6	6	50	43.7	N	2300-0000	561	51.7%	23.3%	0.1%	5.7%	2.1%	1.8%	3.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	6.8%	2.3%	1.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 7	7	70	70.0	N	0000-0100	264	58.7%	26.3%	0.0%	1.8%	0.6%	0.6%	1.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	5.0%	3.0%	1.0%	0.0%	100.0%
Road 7	7	70	70.0	N	0100-0200	171	57.7%	25.8%	0.0%	1.9%	0.7%	0.6%	1.2%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	4.9%	3.3%	1.4%	0.0%	100.0%
Road 7	7	70	70.0	N	0200-0300	125	56.8%	25.3%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	4.9%	3.6%	1.8%	0.0%	100.0%
Road 7	7	70	70.0	N	0300-0400	99	55.8%	24.8%	0.0%	2.3%	0.8%	0.7%	1.4%	0.0%	0.0%	0.4%	0.8%	0.6%	1.2%	0.0%	4.9%	3.9%	2.3%	0.0%	100.0%
Road 7	7	70	70.0	N	0400-0500	107	55.1%	24.4%	0.0%	2.5%	0.9%	0.8%	1.5%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	4.9%	4.3%	2.1%	0.0%	100.0%
Road 7	7	70	70.0	N	0500-0600	184	54.7%	24.1%	0.0%	2.7%	1.0%	0.8%	1.7%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.9%	4.7%	2.4%	0.0%	100.0%
Road 7	7	70	70.0	N	0600-0700	390	54.2%	23.7%	0.0%	2.9%	1.0%	0.9%	1.8%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	4.9%	5.1%	2.7%	0.0%	100.0%
Road 7	7	70	70.0	N	0700-0800	788	53.1%	23.1%	0.0%	3.1%	1.1%	1.0%	1.9%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	4.9%	5.4%	3.1%	0.0%	100.0%
Road 7	7	70	70.0	N	0800-0900	907	59.6%	19.1%	0.0%	3.4%	1.2%	1.0%	1.9%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	4.4%	3.5%	1.3%	0.0%	100.0%
Road 7	7	70	70.0	N	0900-1000	721	56.4%	20.5%	0.1%	5.0%	1.8%	1.4%	2.7%	0.0%	0.1%	0.5%	1.0%	0.7%	1.4%	0.0%	4.7%	2.2%	1.7%	0.0%	100.0%
Road 7	7	70	70.0	N	1000-1100	612	54.3%	21.1%	0.1%	5.4%	2.0%	1.7%	3.4%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	4.7%	1.6%	2.1%	0.0%	100.0%
Road 7	7	70	70.0	N	1100-1200	582	54.0%	22.3%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.1%	1.0%	0.5%	0.4%	0.8%	0.0%	4.8%	1.5%	2.1%	0.0%	100.0%
Road 7	7	70	70.0	N	1200-1300	720	47.1%	18.2%	0.1%	9.0%	3.2%	3.2%	6.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	5.4%	1.4%	2.7%	0.0%	100.0%
Road 7	7	70	70.0	N	1300-1400	731	45.8%	17.6%	0.1%	10.7%	3.8%	3.3%	6.5%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	5.1%	1.4%	2.7%	0.0%	100.0%
Road 7	7	70	70.0	N	1400-1500	782	45.7%	18.5%	0.1%	9.5%	3.4%	3.2%	6.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	5.1%	1.7%	2.6%	0.0%	100.0%
Road 7	7	70	70.0	N	1500-1600	799	45.5%	18.3%	0.1%	11.0%	3.9%	2.8%	5.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	5.0%	1.6%	2.3%	0.0%	100.0%
Road 7	7	70	70.0	N	1600-1700	858	48.0%	16.5%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	5.5%	2.3%	2.2%	0.0%	100.0%
Road 7	7	70	69.1	N	1700-1800	981	52.6%	16.4%	0.1%	7.6%	2.7%	1.7%	3.4%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	4.9%	5.0%	1.7%	0.0%	100.0%
Road 7	7	70	68.0	N	1800-1900	1088	62.7%	14.7%	0.0%	4.6%	1.7%	1.0%	1.9%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	5.5%	3.0%	1.2%	0.0%	100.0%
Road 7	7	70	70.0	N	1900-2000	867	61.2%	19.2%	0.0%	3.5%	1.3%	0.8%	1.7%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	6.3%	2.3%	0.6%	0.0%	100.0%
Road 7	7	70	70.0	N	2000-2100	676	56.3%	23.9%	0.0%	3.7%	1.3%	0.8%	1.6%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	6.2%	2.2%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	2100-2200	671	57.7%	23.9%	0.0%	3.8%	1.4%	0.9%	1.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.9%	2.6%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	2200-2300	655	57.0%	25.8%	0.0%	2.9%	1.1%	0.9%	1.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.7%	2.3%	0.8%	0.0%	100.0%
Road 7	7	70	70.0	N	2300-0000	490	56.0%	25.2%	0.0%	3.3%	1.2%	1.0%	2.0%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	6.2%	2.7%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	0000-0100	46	47.5%	21.3%	0.0%	4.3%	1.5%	1.4%	2.7%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	16.4%	2.4%	0.7%	0.0%	100.0%
Road 8	8	70	70.0	N	0100-0200	30	46.6%	20.9%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	16.3%	2.6%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	0200-0300	22	45.7%	20.4%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	16.1%	2.9%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	0300-0400	17	44.8%	19.9%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.1%	16.0%	3.1%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	0400-0500	19	43.8%	19.4%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	15.8%	3.4%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0500-0600	33	42.9%	18.9%	0.1%	6.4%	2.3%	2.0%	3.9%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.1%	15.7%	3.7%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0600-0700	71	41.9%	18.4%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.1%	15.6%	3.9%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	0700-0800	143	41.0%	17.9%	0.1%	7.2%	2.6%	2.3%	4.4%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.1%	15.4%	4.2%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0800-0900	164	46.3%	14.8%	0.1%	8.0%	2.9%	2.2%	4.4%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	13.9%	2.7%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	0900-1000	138	41.3%	15.0%	0.1%	10.9%	3.9%	3.0%	5.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	14.0%	1.6%	1.5%	0.0%	100.0%
Road 8	8	70	70.0	N	1000-1100	121	38.5%	15.0%	0.1%	11.6%	4.2%	3.7%	7.3%	0.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	13.7%	1.2%	1.9%	0.0%	100.0%
Road 8	8	70	70.0	N	1100-1200	115	38.5%	15.9%	0.1%	11.5%	4.1%	3.6%	7.1%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	14.1%	1.1%	1.9%	0.0%	100.0%
Road 8	8	70	70.0	N	1200-1300	77	38.3%	14.8%	0.1%	13.2%	4.8%	4.8%	9.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	16.1%	1.1%	2.4%	0.0%	100.0%
Road 8	8	70	70.0	N	1300-1400	336	36.6%	14.1%	0.2%	15.6%	5.6%	4.8%	9.5%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	7.8%	1.1%	2.5%	0.0%	100.0%
Road 8	8	70	70.0	N	1400-1500	355	37.0%	15.0%	0.1%	14.0%	5.0%	4.7%	9.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	7.9%	1.4%	2.4%	0.0%	100.0%
Road 8	8	70	70.0	N	1500-1600	364	36.7%	14.7%	0.2%	16.1%	5.8%	4.1%	8.0%	0.0%	0.1%	0.6%	0.8%	0.5%	1.1%	0.1%	7.7%	1.3%	2.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1600-1700	383	39.5%	13.6%	0.1%	12.9%	4.6%	4.0%	7.9%	0.0%	0.1%	0.9%	1.2%	0.8%	1.8%	0.0%	8.6%	1.9%	2.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1700-1800	424	44.7%	14.0%	0.1%	11.8%	4.2%	2.7%	5.2%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	8.9%	3.8%	1.4%	0.0%	100.0%
Road 8	8	70	70.0	N	1800-1900	449	55.8%	13.1%	0.1%	7.5%	2.7%	1.6%	3.1%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.1%	9.4%	2.7%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	1900-2000	357	54.7%	17.1%	0.1%	5.7%	2.1%	1.4%	2.7%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	10.7%	2.0%	0.7%	0.0%	100.0%
Road 8	8	70	70.0	N	2000-2100	279	50.2%	21.3%	0.1%	6.0%	2.2%	1.3%	2.6%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	11.3%	2.0%	0.7%	0.0%	100.0%
Road 8	8	70	70.0	N	2100-2200	276	51.6%	21.3%	0.1%	6.2%	2.2%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.8%	0.0%	10.0%	2.4%	0.7%	0.0%	100.0%
Road 8	8	70	70.0	N	2200-2300	268	51.2%	23.1%	0.0%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	10.8%	2.0%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	2300-0000	202	50.0%	22.5%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	10.6%	2.2%	0.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 13	13	50	27.6	N	0000-0100	20	4.7%	2.1%	0.0%	0.9%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	90.8%	0.0%	100.0%
Road 13	13	50	27.6	N	0100-0200	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	93.7%	0.0%	100.0%
Road 13	13	50	27.6	N	0200-0300	19	2.2%	1.0%	0.0%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	95.3%	0.0%	100.0%
Road 13	13	50	27.6	N	0300-0400	19	1.8%	0.8%	0.0%	0.5%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	96.2%	0.0%	100.0%
Road 13	13	50	27.6	N	0400-0500	19	1.9%	0.8%	0.0%	0.6%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	95.7%	0.0%	100.0%
Road 13	13	50	27.6	N	0500-0600	20	3.1%	1.4%	0.0%	1.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.3%	92.8%	0.0%	100.0%
Road 13	13	50	27.5	N	0600-0700	22	6.0%	2.6%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	85.5%	0.0%	100.0%
Road 13	13	50	24.1	N	0700-0800	77	3.3%	1.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	91.7%	0.0%	100.0%
Road 13	13	24.1	N	0800-0900	78	4.2%	1.3%	0.0%	1.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.2%	90.4%	0.0%	100.0%	
Road 13	13	24.1	N	0900-1000	78	3.2%	1.2%	0.0%	1.8%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%	91.3%	0.0%	100.0%	
Road 13	13	50	24.1	N	1000-1100	77	2.6%	1.0%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	92.1%	0.0%	100.0%	
Road 13	13	50	24.1	N	1100-1200	77	2.5%	1.0%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	92.5%	0.0%	100.0%	
Road 13	13	50	24.1	N	1200-1300	77	2.8%	1.1%	0.0%	1.5%	0.5%	0.5%	1.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	92.1%	0.0%	100.0%	
Road 13	13	50	24.1	N	1300-1400	77	2.8%	1.1%	0.0%	1.6%	0.7%	0.6%	1.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	91.7%	0.0%	100.0%	
Road 13	13	50	24.1	N	1400-1500	78	2.9%	1.2%	0.0%	1.7%	0.6%	0.6%	1.2%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	91.4%	0.0%	100.0%	
Road 13	13	50	24.1	N	1500-1600	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.1%	91.1%	0.0%	100.0%	
Road 13	13	50	24.1	N	1600-1700	78	3.4%	1.2%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.2%	91.0%	0.0%	100.0%	
Road 13	13	50	24.1	N	1700-1800	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	90.3%	0.0%	100.0%	
Road 13	13	50	24.1	N	1800-1900	79	5.6%	1.3%	0.0%	1.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.3%	90.2%	0.0%	100.0%	
Road 13	13	50	27.4	N	1900-2000	24	13.9%	4.4%	0.0%	2.3%	0.8%	0.5%	1.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.5%	75.7%	0.0%	100.0%	
Road 13	13	50	27.4	N	2000-2100	23	10.6%	4.5%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.4%	80.0%	0.0%	100.0%	
Road 13	13	50	27.4	N	2100-2200	23	10.7%	4.4%	0.0%	2.0%	0.7%	0.5%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	79.9%	0.0%	100.0%	
Road 13	13	50	27.4	N	2200-2300	23	10.4%	4.7%	0.0%	1.5%	0.5%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.4%	80.7%	0.0%	100.0%	
Road 13	13	50	27.5	N	2300-0000	22	8.1%	3.6%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.4%	84.7%	0.0%	100.0%	
Road 14	14	50	46.3	N	0000-0100	334	54.1%	24.3%	0.0%	3.0%	1.1%	1.0%	1.9%	0.2%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	3.9%	2.7%	6.0%	100.0%	
Road 14	14	50	47.4	N	0100-0200	224	51.7%	23.1%	0.0%	3.2%	1.2%	1.0%	2.0%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.8%	2.9%	8.7%	100.0%	
Road 14	14	50	48.0	N	0200-0300	168	49.3%	22.0%	0.0%	3.4%	1.2%	1.1%	2.1%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.6%	3.1%	11.5%	0.0%	100.0%
Road 14	14	50	48.3	N	0300-0400	137	47.1%	20.9%	0.0%	3.6%	1.3%	1.1%	2.2%	0.2%	0.0%	0.3%	0.4%	0.4%	0.7%	0.0%	3.5%	3.3%	14.1%	0.0%	100.0%
Road 14	14	50	48.2	N	0400-0500	148	46.8%	20.7%	0.0%	3.9%	1.4%	1.2%	2.4%	0.2%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	3.5%	3.6%	13.1%	0.0%	100.0%
Road 14	14	50	47.1	N	0500-0600	243	48.5%	21.3%	0.0%	4.5%	1.6%	1.4%	2.8%	0.2%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.7%	4.1%	8.3%	0.0%	100.0%
Road 14	14	50	44.3	N	0600-0700	498	49.6%	21.7%	0.1%	5.0%	1.8%	1.6%	3.1%	0.2%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	3.9%	4.6%	4.5%	0.0%	100.0%
Road 14	14	50	38.7	N	0700-0800	1040	47.1%	20.5%	0.1%	5.1%	1.8%	1.6%	3.2%	0.2%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.7%	4.8%	7.6%	0.0%	100.0%
Road 14	14	50	37.8	N	0800-0900	1191	53.1%	17.0%	0.1%	5.7%	2.0%	1.6%	3.1%	0.2%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.3%	3.1%	6.8%	0.0%	100.0%
Road 14	14	50	38.9	N	0900-1000	985	48.3%	17.5%	0.1%	7.9%	2.8%	2.2%	4.2%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.4%	1.9%	8.3%	0.0%	100.0%
Road 14	14	50	39.6	N	1000-1100	858	45.3%	17.6%	0.1%	8.4%	3.0%	2.7%	5.3%	0.2%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.4%	1.4%	9.6%	0.0%	100.0%
Road 14	14	50	39.9	N	1100-1200	817	45.0%	18.5%	0.1%	8.4%	3.0%	2.6%	5.1%	0.2%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	3.4%	1.3%	10.0%	0.0%	100.0%
Road 14	14	50	38.8	N	1200-1300	927	40.9%	15.8%	0.1%	10.4%	3.7%	3.7%	7.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	4.2%	1.2%	9.6%	0.0%	100.0%
Road 14	14	50	38.6	N	1300-1400	948	39.4%	15.2%	0.1%	12.4%	4.4%	3.8%	7.5%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	4.0%	1.2%	9.4%	0.0%	100.0%
Road 14	14	50	38.3	N	1400-1500	1004	39.8%	16.1%	0.1%	11.1%	4.0%	3.7%	7.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.0%	1.5%	9.0%	0.0%	100.0%
Road 14	14	50	38.2	N	1500-1600	1025	39.6%	15.9%	0.1%	12.8%	4.6%	3.2%	6.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.9%	1.4%	8.6%	0.0%	100.0%
Road 14	14	50	37.8	N	1600-1700	1084	42.4%	14.6%	0.1%	10.2%	3.7%	3.2%	6.3%	0.0%	0.1%	1.0%	1.2%	0.9%	1.9%	0.0%	4.3%	2.0%	8.2%	0.0%	100.0%
Road 14	14	50	37.3	N	1700-1800	1213	47.5%	14.8%	0.1%	9.2%	3.3%	2.1%	4.1%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	4.4%	4.1%	6.9%	0.0%	100.0%
Road 14	14	50	37.0	N	1800-1900	1311	58.1%	13.6%	0.1%	5.8%	2.1%	1.2%	2.4%	0.0%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	2.4%	2.8%	6.0%	0.0%	100.0%
Road 14	14	50	39.3	N	1900-2000	1004	59.0%	18.5%	0.0%	4.6%	1.6%	1.1%	2.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.3%	0.0%	0.9%	0.6%	1.4%	0.0%	100.0%
Road 14	14	50	41.2	N	2000-2100	786	54.1%	23.0%	0.1%	4.8%	1.7%	1.1%	2.1%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	5.7%	2.2%	2.9%	0.0%	100.0%
Road 14	14	50	41.4	N	2100-2200	782	55.3%	22.9%	0.1%	4.9%	1.8%	1.1%	2.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.0%	2.5%	2.9%	0.0%	100.0%
Road 14	14	50	41.6	N	2200-2300	761	54.8%	24.8%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.4%	2.1%	3.0%	0.0%	100.0%
Road 14	14	50	43.5	N	2300-0000	574	53.3%	24.0%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.3%	2.4%	3.9%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 15	15	50	48.2	N	0000-0100	69	42.8%	19.2%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	1.4%	2.2%	22.1%	0.0%	100.0%
Road 15	15	50	48.6	N	0100-0200	50	37.6%	16.8%	0.0%	4.6%	1.7%	1.5%	2.9%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	1.3%	2.1%	30.1%	0.0%	100.0%
Road 15	15	50	48.7	N	0200-0300	41	33.2%	14.8%	0.0%	4.5%	1.6%	1.4%	2.8%	0.1%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	1.1%	2.1%	36.8%	0.0%	100.0%
Road 15	15	50	48.9	N	0300-0400	36	29.6%	13.1%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	1.0%	2.1%	42.2%	0.0%	100.0%
Road 15	15	50	48.8	N	0400-0500	38	30.0%	13.3%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	1.0%	2.3%	39.9%	0.0%	100.0%
Road 15	15	50	48.4	N	0500-0600	55	35.1%	15.5%	0.1%	6.4%	2.3%	2.0%	3.9%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	1.2%	3.0%	28.0%	0.0%	100.0%
Road 15	15	50	47.4	N	0600-0700	101	40.0%	17.5%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	1.4%	3.7%	15.9%	0.0%	100.0%
Road 15	15	50	43.4	N	0700-0800	232	34.4%	15.0%	0.1%	7.4%	2.7%	2.3%	4.6%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	1.3%	3.5%	25.6%	0.0%	100.0%
Road 15	15	50	42.7	N	0800-0900	261	39.6%	12.7%	0.1%	8.3%	3.0%	2.3%	4.6%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	1.1%	2.3%	22.9%	0.0%	100.0%
Road 15	15	50	43.2	N	0900-1000	232	33.6%	12.2%	0.1%	10.9%	3.9%	3.0%	5.8%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	1.1%	1.3%	26.0%	0.0%	100.0%
Road 15	15	50	43.6	N	1000-1100	211	30.1%	11.7%	0.1%	11.1%	4.0%	3.5%	6.9%	0.0%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	1.0%	0.9%	28.7%	0.0%	100.0%
Road 15	15	50	43.8	N	1100-1200	203	29.6%	12.2%	0.1%	10.9%	3.9%	3.4%	6.7%	0.0%	0.1%	0.5%	0.3%	0.2%	0.5%	0.0%	1.0%	0.8%	29.8%	0.0%	100.0%
Road 15	15	50	40.4	N	1200-1300	315	24.0%	9.3%	0.2%	17.4%	6.2%	6.2%	12.3%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.7%	0.7%	21.2%	0.0%	100.0%
Road 15	15	50	39.9	N	1300-1400	332	22.5%	8.7%	0.2%	20.0%	7.2%	6.2%	12.2%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.6%	0.7%	20.3%	0.0%	100.0%
Road 15	15	50	39.8	N	1400-1500	341	23.4%	9.5%	0.2%	18.5%	6.6%	6.2%	12.3%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.7%	0.9%	19.9%	0.0%	100.0%
Road 15	15	50	39.7	N	1500-1600	350	23.1%	9.3%	0.2%	21.3%	7.6%	5.4%	10.6%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.6%	0.8%	19.0%	0.0%	100.0%
Road 15	15	50	39.7	N	1600-1700	352	26.1%	9.0%	0.2%	17.8%	6.4%	5.6%	10.9%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.7%	1.2%	19.0%	0.0%	100.0%
Road 15	15	50	39.8	N	1700-1800	365	31.5%	9.8%	0.2%	17.3%	6.2%	5.9%	7.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	0.8%	2.7%	17.6%	0.0%	100.0%
Road 15	15	50	40.5	N	1800-1900	354	43.0%	10.1%	0.1%	12.1%	4.3%	2.5%	5.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.1%	0.0%	0.9%	2.0%	17.4%	0.0%	100.0%
Road 15	15	50	44.2	N	1900-2000	241	49.2%	15.4%	0.1%	10.8%	3.9%	2.6%	5.1%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	1.3%	1.8%	7.5%	0.0%	100.0%
Road 15	15	50	45.3	N	2000-2100	191	44.4%	18.8%	0.1%	11.2%	4.0%	2.5%	4.8%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	1.3%	1.8%	9.0%	0.0%	100.0%
Road 15	15	50	45.3	N	2100-2200	192	44.9%	18.6%	0.1%	11.3%	4.1%	2.6%	5.1%	0.0%	0.0%	0.1%	0.5%	0.3%	0.8%	0.0%	1.1%	1.8%	9.0%	0.0%	100.0%
Road 15	15	50	45.6	N	2200-2300	183	45.4%	20.5%	0.1%	8.9%	3.2%	2.8%	5.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	1.3%	1.7%	9.5%	0.0%	100.0%
Road 15	15	50	46.4	N	2300-0000	143	42.7%	19.2%	0.1%	9.5%	3.4%	3.0%	5.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	1.2%	1.9%	11.9%	0.0%	100.0%
Road 16	16	70	68.1	N	0000-0100	265	57.0%	25.6%	0.0%	2.6%	0.9%	0.8%	1.6%	0.3%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.4%	0.6%	4.6%	2.9%	1.8%	0.0%	100.0%
Road 16	16	70	68.8	N	0100-0200	173	55.8%	25.0%	0.0%	2.8%	1.0%	0.9%	1.7%	0.3%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.4%	0.5%	4.5%	3.2%	2.6%	0.0%	100.0%
Road 16	16	70	69.1	N	0200-0300	127	54.5%	24.3%	0.0%	3.1%	1.1%	1.0%	1.9%	0.3%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.5%	0.5%	3.6%	3.1%	3.4%	0.0%	100.0%
Road 16	16	70	69.3	N	0300-0400	101	53.3%	23.6%	0.0%	3.3%	1.2%	1.0%	2.0%	0.3%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.4%	0.4%	3.3%	3.3%	4.1%	0.0%	100.0%
Road 16	16	70	69.2	N	0400-0500	110	52.6%	23.2%	0.0%	3.6%	1.3%	1.1%	2.2%	0.3%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.4%	0.4%	3.5%	3.6%	4.4%	0.0%	100.0%
Road 16	16	70	68.6	N	0500-0600	188	52.4%	23.1%	0.0%	3.9%	1.4%	1.2%	2.4%	0.3%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.4%	0.4%	3.7%	4.1%	4.5%	0.0%	100.0%
Road 16	16	70	67.1	N	0600-0700	397	52.0%	22.8%	0.0%	4.2%	1.5%	1.3%	2.6%	0.3%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.4%	0.4%	3.9%	4.6%	4.5%	0.0%	100.0%
Road 16	16	70	64.0	N	0700-0800	807	50.7%	22.1%	0.0%	4.5%	1.6%	1.4%	2.8%	0.3%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	0.4%	0.5%	4.4%	5.2%	5.5%	0.0%	100.0%
Road 16	16	70	63.2	N	0800-0900	929	56.9%	18.2%	0.1%	4.9%	1.8%	1.4%	2.7%	0.2%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	0.4%	0.5%	3.9%	3.3%	2.2%	0.0%	100.0%
Road 16	16	70	64.3	N	0900-1000	753	52.8%	19.2%	0.1%	7.0%	2.5%	1.9%	3.8%	0.3%	0.1%	0.5%	0.8%	0.6%	1.4%	0.0%	0.4%	0.5%	4.1%	2.1%	2.8%	0.0%	100.0%
Road 16	16	70	65.0	N	1000-1100	647	50.3%	19.5%	0.1%	7.6%	2.7%	2.4%	4.7%	0.3%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.4%	0.5%	4.1%	1.5%	3.4%	0.0%	100.0%
Road 16	16	70	65.3	N	1100-1200	614	50.0%	20.6%	0.1%	7.5%	2.7%	2.4%	4.6%	0.3%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.4%	0.5%	4.2%	1.4%	3.5%	0.0%	100.0%
Road 16	16	70	65.2	N	1200-1300	612	49.6%	19.1%	0.1%	8.9%	2.5%	2.5%	4.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.4%	0.5%	4.1%	1.5%	3.6%	0.0%	100.0%
Road 16	16	70	65.1	N	1300-1400	616	48.5%	18.7%	0.1%	8.3%	3.0%	2.6%	5.0%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.4%	0.5%	4.1%	1.0%	3.6%	0.0%	100.0%
Road 16	16	70	64.8	N	1400-1500	662	48.3%	19.5%	0.1%	7.3%	2.6%	2.5%	4.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.4%	0.5%	4.1%	1.0%	3.7%	0.0%	100.0%
Road 16	16	70	64.7	N	1500-1600	675	48.1%	19.3%	0.1%	8.4%	3.0%	2.1%	4.2%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.4%	0.5%	4.1%	1.0%	3.7%	0.0%	100.0%
Road 16	16	70	64.2	N	1600-1700	732	50.2%	17.3%	0.1%	6.5%	2.3%	2.0%	4.0%	0.0%	0.2%	1.2%	1.5%	1.0%	2.2%	0.0%	0.4%	0.5%	4.2%	1.2%	4.5%	0.0%	100.0%
Road 16	16	70	63.6	N	1700-1800	847	54.4%	17.0%	0.1%	5.7%	2.1%	1.3%	2.5%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.4%	0.5%	4.2%	0.9%	2.4%	0.0%	100.0%
Road 16	16	70	63.0	N	1800-1900	957	63.7%	15.0%	0.0%	3.4%	1.2%	0.7%	1.4%	0.0%	0.0%	0.1%	0.5%	0.4%	0.9%	0.0%	0.4%	0.5%	3.0%	1.8%	0.6%	0.0%	100.0%
Road 16	16	70	64.5	N	1900-2000	763	62.2%	19.5%	0.0%	2.6%	0.9%	0.6%	1.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.3%	0.4%	2.7%	2.3%	0.8%	0.0%	100.0%
Road 16	16	70	65.7	N	2000-2100	595	57.2%	24.3%	0.0%	2.7%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.4%	0.5%	3.3%	2.9%	0.9%	0.0%	100.0%
Road 16	16	70	65.8	N	2100-2200	590	58.6%	24.3%	0.0%	2.8%	1.0%	0.6%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.5%	0.5%	2.9%	2.6%	0.9%	0.0%	100.0%
Road 16	16	70	65.9	N	2200-2300	578	57.8%	26.1%	0.0%	2.2%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.4%	0.5%	3.0%	2.2%	1.0%	0.0%	100.0%
Road 16	16	70	66.9	N	2300-0000	431	56.8%	25.6%	0.0%	2.4%	0.9%	0.8%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.5%	0.5%	3.3%	2.5%	1.2%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 21	21	70	68.4	N	0000-0100	473	54.0%	24.2%	0.1%	5.7%	2.0%	1.8%	3.5%	0.1%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	2.5%	2.7%	1.7%	0.0%	100.0%
Road 21	21	70	68.9	N	0100-0200	310	52.5%	23.5%	0.1%	6.1%	2.2%	1.9%	3.8%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.4%	3.0%	2.2%	0.0%	100.0%
Road 21	21	70	69.2	N	0200-0300	229	51.1%	22.8%	0.1%	6.6%	2.4%	2.1%	4.1%	0.1%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.4%	3.2%	2.7%	0.0%	100.0%
Road 21	21	70	69.4	N	0300-0400	183	49.7%	22.1%	0.1%	7.1%	2.6%	2.2%	4.4%	0.1%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.4%	3.5%	3.1%	0.0%	100.0%
Road 21	21	70	69.3	N	0400-0500	201	48.6%	21.5%	0.1%	7.6%	2.7%	2.4%	4.7%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.3%	3.8%	3.0%	0.0%	100.0%
Road 21	21	70	68.8	N	0500-0600	348	47.8%	21.0%	0.1%	8.2%	3.0%	2.6%	5.1%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.3%	4.1%	2.4%	0.0%	100.0%
Road 21	21	70	67.3	N	0600-0700	745	46.8%	20.5%	0.1%	8.8%	3.2%	2.8%	5.4%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.3%	4.4%	1.9%	0.0%	100.0%
Road 21	21	70	64.5	N	0700-0800	1521	45.4%	19.8%	0.1%	9.3%	3.3%	2.9%	5.7%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.2%	4.6%	2.4%	0.0%	100.0%
Road 21	21	70	63.6	N	0800-0900	1766	50.5%	16.2%	0.1%	10.1%	3.6%	2.8%	5.5%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	2.0%	2.9%	2.2%	0.0%	100.0%
Road 21	21	70	64.3	N	0900-1000	1507	44.5%	16.2%	0.1%	13.7%	4.8%	3.7%	7.3%	0.1%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	2.0%	1.7%	2.8%	0.0%	100.0%
Road 21	21	70	64.8	N	1000-1100	1329	41.3%	16.0%	0.2%	14.4%	5.2%	4.6%	9.0%	0.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	1.9%	1.3%	3.4%	0.0%	100.0%
Road 21	21	70	65.1	N	1100-1200	1257	41.2%	17.0%	0.1%	14.3%	5.2%	4.5%	8.8%	0.1%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	2.0%	1.2%	3.4%	0.0%	100.0%
Road 21	21	70	66.6	N	1200-1300	802	33.7%	13.0%	0.2%	17.1%	6.1%	6.1%	12.0%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.5%	1.0%	4.9%	0.0%	100.0%
Road 21	21	70	66.4	N	1300-1400	841	31.6%	12.2%	0.2%	19.7%	7.1%	6.1%	12.0%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	3.3%	1.0%	4.6%	0.0%	100.0%
Road 21	21	70	66.3	N	1400-1500	878	32.4%	13.1%	0.2%	17.9%	6.4%	6.1%	11.9%	0.0%	0.1%	0.6%	0.6%	0.5%	1.0%	0.0%	3.3%	1.2%	4.7%	0.0%	100.0%
Road 21	21	70	66.2	N	1500-1600	902	32.0%	12.9%	0.2%	20.6%	7.4%	5.2%	10.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	3.2%	1.2%	4.2%	0.0%	100.0%
Road 21	21	70	66.2	N	1600-1700	926	35.3%	12.2%	0.2%	16.8%	6.0%	5.3%	10.3%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	3.7%	1.7%	4.2%	0.0%	100.0%
Road 21	21	70	66.1	N	1700-1800	997	41.1%	12.8%	0.2%	15.8%	5.7%	3.6%	7.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.9%	3.5%	3.2%	0.0%	100.0%
Road 21	21	70	66.3	N	1800-1900	1009	53.7%	12.6%	0.1%	10.6%	3.8%	2.2%	4.3%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	4.3%	2.6%	2.5%	0.0%	100.0%
Road 21	21	70	67.2	N	1900-2000	777	54.3%	17.0%	0.1%	8.3%	3.0%	2.0%	3.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.1%	2.0%	1.5%	0.0%	100.0%
Road 21	21	70	67.8	N	2000-2100	608	49.8%	21.1%	0.1%	8.8%	3.2%	1.9%	3.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.4%	2.0%	1.6%	0.0%	100.0%
Road 21	21	70	67.8	N	2100-2200	606	50.8%	21.0%	0.1%	8.9%	3.2%	2.1%	4.0%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	4.7%	2.3%	1.7%	0.0%	100.0%
Road 21	21	70	67.9	N	2200-2300	583	50.9%	23.0%	0.1%	7.0%	2.5%	2.2%	4.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.1%	2.0%	1.8%	0.0%	100.0%
Road 21	21	70	68.4	N	2300-0000	442	49.4%	22.2%	0.1%	7.7%	2.8%	2.4%	4.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.0%	2.2%	2.1%	0.0%	100.0%
Road 22	22	50	26.5	N	0000-0100	45	15.3%	6.9%	0.3%	31.0%	11.1%	9.8%	19.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	5.0%	0.0%	100.0%
Road 22	22	50	27.5	N	0100-0200	31	14.1%	6.3%	0.3%	31.7%	11.4%	10.0%	19.7%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.8%	5.1%	0.0%	100.0%
Road 22	22	50	28.0	N	0200-0300	24	12.9%	5.8%	0.3%	32.4%	11.6%	10.2%	20.1%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.8%	5.2%	0.0%	100.0%
Road 22	22	50	28.4	N	0300-0400	20	11.9%	5.3%	0.3%	33.0%	11.8%	10.4%	20.4%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.3%	0.0%	100.0%
Road 22	22	50	28.1	N	0400-0500	24	11.0%	4.9%	0.4%	33.5%	12.0%	10.5%	20.7%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	5.4%	0.0%	100.0%
Road 22	22	50	26.4	N	0500-0600	44	10.2%	4.5%	0.4%	34.0%	12.2%	10.7%	21.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	5.5%	0.0%	100.0%
Road 22	22	50	24.4	N	0600-0700	99	9.5%	4.2%	0.4%	34.4%	12.4%	10.8%	21.2%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	5.5%	0.0%	100.0%
Road 22	22	50	22.5	N	0700-0800	210	8.8%	3.8%	0.4%	34.8%	12.5%	10.9%	21.4%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	5.6%	0.0%	100.0%
Road 22	22	50	21.9	N	0800-0900	250	9.6%	3.1%	0.4%	36.7%	13.2%	10.3%	20.2%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.6%	5.3%	0.0%	100.0%
Road 22	22	50	21.4	N	0900-1000	274	6.6%	2.4%	0.4%	39.0%	14.0%	10.6%	20.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.5%	0.0%	100.0%
Road 22	22	50	21.5	N	1000-1100	267	5.5%	2.1%	0.4%	37.1%	13.3%	11.8%	23.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.1%	0.0%	100.0%
Road 22	22	50	21.8	N	1100-1200	250	5.6%	2.3%	0.4%	37.3%	13.4%	11.7%	22.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.0%	0.0%	100.0%
Road 22	22	50	21.6	N	1200-1300	258	7.2%	2.8%	0.4%	34.1%	12.3%	12.2%	24.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 22	22	50	21.1	N	1300-1400	288	6.3%	2.4%	0.4%	37.0%	13.3%	11.5%	22.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 22	22	50	21.1	N	1400-1500	287	6.8%	2.8%	0.4%	35.2%	12.6%	11.9%	23.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 22	22	50	21.0	N	1500-1600	300	6.6%	2.7%	0.4%	39.9%	14.3%	10.1%	19.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.2%	0.0%	100.0%
Road 22	22	50	21.3	N	1600-1700	281	8.0%	2.8%	0.4%	35.8%	12.8%	11.2%	22.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.2%	0.4%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 22	22	50	21.8	N	1700-1800	261	10.8%	3.4%	0.4%	39.0%	14.0%	8.8%	17.3%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	4.5%	0.0%	100.0%
Road 22	22	50	23.0	N	1800-1900	194	19.2%	4.5%	0.4%	35.4%	12.7%	7.4%	14.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.8%	0.0%	100.0%
Road 22	22	50	24.0	N	1900-2000	132	22.0%	6.9%	0.3%	31.5%	11.3%	7.5%	14.8%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	3.9%	0.0%	100.0%
Road 22	22	50	24.4	N	2000-2100	105	19.9%	8.4%	0.3%	32.7%	11.8%	7.2%	14.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	3.7%	0.0%	100.0%
Road 22	22	50	24.4	N	2100-2200	107	19.8%	8.2%	0.3%	32.6%	11.7%	7.5%	14.7%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.8%	0.0%	100.0%
Road 22	22	50	24.6	N	2200-2300	96	21.4%	9.7%	0.3%	27.4%	9.8%	8.7%	17.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.5%	0.0%	100.0%
Road 22	22	50	24.8	N	2300-0000	77	19.5%	8.8%	0.3%	28.4%	10.2%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.9%	4.6%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 23	23	50	29.1	N	0000-0100	11	8.6%	3.9%	0.4%	35.1%	12.6%	11.1%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 23	23	50	29.4	N	0100-0200	8	7.8%	3.5%	0.4%	35.6%	12.8%	11.2%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 23	23	50	29.5	N	0200-0300	6	7.1%	3.2%	0.4%	36.1%	12.9%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.8%	0.0%	100.0%
Road 23	23	50	29.6	N	0300-0400	5	6.5%	2.9%	0.4%	36.4%	13.1%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.5	N	0400-0500	6	6.0%	2.7%	0.4%	36.8%	13.2%	11.5%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.1	N	0500-0600	11	5.5%	2.4%	0.4%	37.1%	13.3%	11.6%	22.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	27.9	N	0600-0700	25	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	25.4	N	0700-0800	54	4.7%	2.1%	0.4%	37.5%	13.5%	11.8%	23.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	24.9	N	0800-0900	65	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	0900-1000	73	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	1000-1100	71	2.9%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 23	23	50	24.8	N	1100-1200	67	2.9%	1.2%	0.4%	38.9%	14.0%	12.2%	23.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 23	23	50	24.8	N	1200-1300	67	3.2%	1.2%	0.4%	36.4%	13.1%	13.0%	25.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.7%	0.0%	100.0%
Road 23	23	50	24.7	N	1300-1400	76	2.8%	1.1%	0.4%	39.2%	14.1%	12.1%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 23	23	50	24.7	N	1400-1500	75	3.0%	1.2%	0.4%	37.4%	13.4%	12.7%	24.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.5%	0.0%	100.0%
Road 23	23	50	24.7	N	1500-1600	79	3.0%	1.2%	0.4%	42.4%	15.2%	10.7%	21.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.5%	0.0%	100.0%
Road 23	23	50	24.8	N	1600-1700	73	3.6%	1.2%	0.4%	38.5%	13.8%	12.0%	23.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 23	23	50	24.9	N	1700-1800	66	5.0%	1.6%	0.4%	42.9%	15.4%	9.7%	19.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.0%	0.0%	100.0%
Road 23	23	50	26.3	N	1800-1900	46	9.5%	2.2%	0.4%	41.7%	15.0%	8.7%	17.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 23	23	50	27.6	N	1900-2000	30	11.2%	3.5%	0.4%	38.3%	13.8%	9.1%	18.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.7%	0.0%	100.0%
Road 23	23	50	28.1	N	2000-2100	24	10.1%	4.3%	0.4%	39.7%	14.2%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 23	23	50	28.0	N	2100-2200	25	10.0%	4.1%	0.4%	39.2%	14.1%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 23	23	50	28.2	N	2200-2300	22	11.0%	5.0%	0.4%	33.7%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.5%	0.0%	100.0%
Road 23	23	50	28.5	N	2300-0000	18	9.9%	4.5%	0.4%	34.4%	12.3%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	29.2	N	0000-0100	9	10.3%	4.6%	0.4%	34.1%	12.2%	10.8%	21.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.5%	0.0%	100.0%
Road 24	24	50	29.5	N	0100-0200	6	9.4%	4.2%	0.4%	34.7%	12.5%	10.9%	21.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.6%	0.0%	100.0%
Road 24	24	50	29.6	N	0200-0300	5	8.6%	3.8%	0.4%	35.2%	12.6%	11.1%	21.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.7%	0.0%	100.0%
Road 24	24	50	29.6	N	0300-0400	4	7.8%	3.5%	0.4%	35.6%	12.8%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.7%	0.0%	100.0%
Road 24	24	50	29.6	N	0400-0500	5	7.2%	3.2%	0.4%	36.0%	12.9%	11.3%	22.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.8%	0.0%	100.0%
Road 24	24	50	29.2	N	0500-0600	9	6.7%	2.9%	0.4%	36.3%	13.0%	11.4%	22.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.8%	0.0%	100.0%
Road 24	24	50	28.2	N	0600-0700	21	6.2%	2.7%	0.4%	36.6%	13.1%	11.5%	22.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 24	24	50	26.2	N	0700-0800	45	5.7%	2.5%	0.4%	36.9%	13.2%	11.6%	22.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 24	24	50	25.5	N	0800-0900	54	6.2%	2.0%	0.4%	38.9%	14.0%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	25.0	N	0900-1000	60	4.2%	1.5%	0.4%	40.5%	14.6%	11.0%	21.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 24	24	50	25.0	N	1000-1100	59	3.5%	1.3%	0.4%	38.3%	13.8%	12.2%	23.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 24	24	50	25.3	N	1100-1200	55	3.5%	1.4%	0.4%	38.6%	13.8%	12.1%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 24	24	50	25.2	N	1200-1300	55	3.9%	1.5%	0.4%	36.0%	12.9%	12.9%	25.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.7%	0.0%	100.0%
Road 24	24	50	24.9	N	1300-1400	62	3.4%	1.3%	0.4%	38.8%	13.9%	12.0%	23.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 24	24	50	24.9	N	1400-1500	62	3.7%	1.5%	0.4%	37.0%	13.3%	12.5%	24.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.4%	0.0%	100.0%
Road 24	24	50	24.9	N	1500-1600	65	3.6%	1.4%	0.4%	42.0%	15.1%	10.6%	20.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.5%	0.0%	100.0%
Road 24	24	50	25.0	N	1600-1700	60	4.4%	1.5%	0.4%	38.0%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 24	24	50	25.5	N	1700-1800	55	6.1%	1.9%	0.4%	42.2%	15.2%	9.6%	18.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 24	24	50	26.9	N	1800-1900	39	11.3%	2.7%	0.4%	40.5%	14.5%	8.4%	16.6%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.3%	0.0%	100.0%
Road 24	24	50	28.0	N	1900-2000	26	13.3%	4.2%	0.4%	37.0%	13.3%	8.8%	17.3%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 24	24	50	28.4	N	2000-2100	20	12.0%	5.1%	0.4%	38.3%	13.8%	8.4%	16.6%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.3%	0.0%	100.0%
Road 24	24	50	28.3	N	2100-2200	21	11.9%	4.9%	0.4%	38.0%	13.6%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 24	24	50	28.5	N	2200-2300	18	13.1%	5.9%	0.3%	32.4%	11.6%	10.3%	20.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.3%	0.0%	100.0%
Road 24	24	50	28.8	N	2300-0000	15	11.8%	5.3%	0.3%	33.2%	11.9%	10.5%	20.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.4%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 29	29	80	80.0	N	0000-0100	838	50.7%	22.8%	0.1%	7.0%	2.5%	2.2%	4.3%	0.5%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	3.2%	2.6%	2.4%	0.0%	100.0%
Road 29	29	80	80.0	N	0100-0200	554	49.0%	21.9%	0.1%	7.5%	2.7%	2.4%	4.7%	0.5%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.2%	2.8%	3.2%	0.0%	100.0%
Road 29	29	80	80.0	N	0200-0300	411	47.4%	21.1%	0.1%	8.1%	2.9%	2.5%	5.0%	0.5%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.0%	4.0%	0.0%	100.0%
Road 29	29	80	80.0	N	0300-0400	291	46.2%	20.5%	0.1%	8.6%	3.1%	2.7%	5.3%	0.5%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	3.0%	3.2%	4.7%	0.0%	100.0%
Road 29	29	80	80.0	N	0400-0500	364	44.7%	19.7%	0.1%	9.2%	3.3%	2.9%	5.7%	0.5%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.0%	3.5%	4.5%	0.0%	100.0%
Road 29	29	80	80.0	N	0500-0600	629	44.0%	19.3%	0.1%	10.0%	3.6%	3.1%	6.1%	0.5%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.0%	3.8%	3.4%	0.0%	100.0%
Road 29	29	80	80.0	N	0600-0700	1347	43.1%	18.9%	0.1%	10.6%	3.8%	3.3%	6.6%	0.5%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	3.0%	4.0%	2.5%	0.0%	100.0%
Road 29	29	80	80.0	N	0700-0800	2767	44.5%	18.1%	0.1%	11.2%	4.0%	3.5%	6.9%	0.5%	0.1%	0.7%	0.9%	0.7%	1.4%	0.0%	2.9%	4.2%	3.3%	0.0%	100.0%
Road 29	29	77.5	80.0	N	0800-0900	3211	46.2%	14.8%	0.1%	12.1%	4.3%	3.4%	6.7%	0.4%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.6%	2.7%	3.1%	0.0%	100.0%
Road 29	29	80	79.3	N	0900-1000	2809	39.7%	14.4%	0.2%	16.1%	5.8%	4.4%	8.6%	0.5%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.5%	1.5%	3.8%	0.0%	100.0%
Road 29	29	80	80.0	N	1000-1100	2506	36.5%	14.2%	0.2%	16.7%	6.0%	5.3%	10.4%	0.5%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	2.4%	1.1%	4.4%	0.0%	100.0%
Road 29	29	80	80.0	N	1100-1200	2370	36.4%	15.0%	0.2%	16.6%	6.0%	5.2%	10.2%	0.5%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	2.5%	1.0%	4.5%	0.0%	100.0%
Road 29	29	80	75.9	N	1200-1300	3206	38.6%	14.9%	0.1%	13.3%	4.8%	4.8%	9.4%	0.3%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	6.0%	1.1%	3.8%	0.0%	100.0%
Road 29	29	80	75.0	N	1300-1400	3311	36.9%	14.2%	0.2%	15.6%	5.6%	4.8%	9.5%	0.3%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	5.7%	1.1%	3.8%	0.0%	100.0%
Road 29	29	80	73.9	N	1400-1500	3494	37.4%	15.1%	0.1%	14.0%	5.0%	4.8%	9.3%	0.3%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	5.7%	1.4%	3.7%	0.0%	100.0%
Road 29	29	80	73.5	N	1500-1600	3580	37.0%	14.9%	0.2%	16.2%	5.8%	4.1%	8.1%	0.3%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	5.6%	1.3%	3.3%	0.0%	100.0%
Road 29	29	80	72.3	N	1600-1700	3755	40.0%	13.8%	0.1%	13.0%	4.7%	4.1%	8.0%	0.3%	0.1%	0.9%	1.2%	0.8%	1.8%	0.0%	6.2%	1.9%	3.2%	0.0%	100.0%
Road 29	29	80	71.1	N	1700-1800	4155	45.3%	14.2%	0.1%	11.9%	4.3%	2.7%	5.3%	0.3%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	6.4%	3.9%	2.4%	0.0%	100.0%
Road 29	29	80	70.9	N	1800-1900	4392	56.7%	13.3%	0.1%	7.6%	2.7%	1.6%	3.1%	0.3%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	6.8%	2.7%	1.8%	0.0%	100.0%
Road 29	29	80	77.0	N	1900-2000	3452	56.1%	17.6%	0.1%	5.9%	2.1%	1.4%	2.7%	0.3%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	7.9%	2.1%	1.0%	0.0%	100.0%
Road 29	29	80	80.0	N	2000-2100	2699	51.5%	21.9%	0.1%	6.2%	2.2%	1.4%	2.7%	0.4%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.4%	2.0%	3.7%	0.0%	100.0%
Road 29	29	80	80.0	N	2100-2200	2678	52.7%	21.8%	0.1%	6.3%	2.3%	1.5%	2.9%	0.3%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	7.3%	2.4%	1.2%	0.0%	100.0%
Road 29	29	80	80.0	N	2200-2300	2598	52.4%	23.7%	0.1%	4.9%	1.8%	1.6%	3.1%	0.3%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	7.9%	2.0%	1.2%	0.0%	100.0%
Road 29	29	80	80.0	N	2300-0000	1955	51.2%	23.1%	0.1%	5.4%	1.9%	1.7%	3.4%	0.3%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	7.8%	2.3%	1.4%	0.0%	100.0%
Road 30	30	70	70.0	N	0000-0100	505	54.7%	24.6%	0.0%	4.0%	1.4%	1.3%	2.5%	0.1%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	2.5%	2.8%	4.3%	0.0%	100.0%
Road 30	30	70	70.0	N	0100-0200	335	52.7%	23.6%	0.0%	4.3%	1.5%	1.4%	2.7%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.4%	3.0%	6.2%	0.0%	100.0%
Road 30	30	70	70.0	N	0200-0300	260	50.7%	22.6%	0.0%	4.6%	1.6%	1.4%	2.8%	0.1%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.4%	3.2%	8.1%	0.0%	100.0%
Road 30	30	70	70.0	N	0300-0400	202	48.7%	21.6%	0.1%	4.9%	1.7%	1.5%	3.0%	0.1%	0.0%	0.3%	0.6%	0.4%	0.7%	0.5%	1.1%	0.0%	2.3%	3.4%	9.9%	0.0%	100.0%
Road 30	30	70	70.0	N	0400-0500	220	48.2%	21.3%	0.1%	5.3%	1.9%	1.7%	3.3%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.3%	3.7%	9.2%	0.0%	100.0%
Road 30	30	70	70.0	N	0500-0600	368	48.9%	21.5%	0.1%	5.9%	2.1%	1.8%	3.6%	0.1%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.4%	4.2%	6.0%	0.0%	100.0%
Road 30	30	70	70.0	N	0600-0700	768	49.2%	21.5%	0.1%	6.4%	2.3%	2.0%	4.0%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.4%	4.6%	3.4%	0.0%	100.0%
Road 30	30	70	70.0	N	0700-0800	1587	47.1%	20.5%	0.1%	6.7%	2.4%	2.1%	4.1%	0.1%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.4%	4.8%	5.5%	0.0%	100.0%
Road 30	30	70	70.0	N	0800-0900	1830	52.7%	16.9%	0.1%	7.3%	2.6%	2.0%	4.0%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.1%	3.1%	4.9%	0.0%	100.0%
Road 30	30	70	70.0	N	0900-1000	1529	47.5%	17.2%	0.1%	10.2%	3.6%	2.8%	5.4%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.1%	1.8%	6.0%	0.0%	100.0%
Road 30	30	70	70.0	N	1000-1100	1338	44.4%	17.2%	0.1%	10.8%	3.9%	3.4%	6.7%	0.1%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	2.1%	1.3%	7.0%	0.0%	100.0%
Road 30	30	70	70.0	N	1100-1200	1271	44.2%	18.2%	0.1%	10.7%	3.8%	3.3%	6.6%	0.1%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	2.1%	1.2%	7.3%	0.0%	100.0%
Road 30	30	70	70.0	N	1200-1300	945	35.8%	13.8%	0.1%	13.7%	4.9%	4.9%	9.7%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	3.2%	1.1%	10.0%	0.0%	100.0%
Road 30	30	70	70.0	N	1300-1400	979	34.1%	13.1%	0.2%	16.1%	5.8%	5.0%	9.8%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	3.0%	1.0%	9.8%	0.0%	100.0%
Road 30	30	70	70.0	N	1400-1500	1027	34.8%	14.1%	0.2%	14.5%	5.2%	4.9%	9.7%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.0%	1.3%	9.4%	0.0%	100.0%
Road 30	30	70	70.0	N	1500-1600	1053	34.5%	13.8%	0.2%	16.8%	6.0%	4.3%	8.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.0%	1.2%	8.9%	0.0%	100.0%
Road 30	30	70	70.0	N	1600-1700	1093	37.6%	13.0%	0.1%	13.6%	4.9%	4.2%	8.3%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	3.4%	1.8%	8.7%	0.0%	100.0%
Road 30	30	70	70.0	N	1700-1800	1194	43.1%	13.5%	0.1%	12.6%	4.5%	2.8%	5.6%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	3.5%	3.7%	7.4%	0.0%	100.0%
Road 30	30	70	70.0	N	1800-1900	1244	54.8%	12.9%	0.1%	8.2%	2.9%	1.7%	3.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	3.8%	2.6%	6.6%	0.0%	100.0%
Road 30	30	70	70.0	N	1900-2000	938	56.5%	17.7%	0.1%	6.5%	2.1%	1.4%	2.8%	0.4%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	4.6%	2.1%	2.8%	0.0%	100.0%
Road 30	30	70	70.0	N	2000-2100	736	51.6%	21.9%	0.1%	6.9%	2.5%	1.5%	3.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.8%	2.1%	3.3%	0.0%	100.0%
Road 30	30	70	70.0	N	2100-2200	734	52.6%	21.8%	0.1%	7.0%	2.5%	1.6%	3.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.2%	2.4%	3.3%	0.0%	100.0%
Road 30	30	70	70.0	N	2200-2300	709	52.5%	23.7%	0.1%	5.4%	2.0%	1.7%	3.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.5%	2.0%	3.5%	0.0%	100.0%
Road 30	30	70	70.0	N	2300-0000	539	50.8%	22.9%	0.1%	6.0%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.4%	2.2%	4.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 31	31	80	80.0	N	0000-0100	214	47.5%	21.3%	0.1%	7.1%	2.5%	2.2%	4.4%	0.3%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	4.3%	2.4%	6.3%	0.0%	100.0%
Road 31	31	80	80.0	N	0100-0200	144	45.0%	20.1%	0.1%	7.5%	2.7%	2.4%	4.6%	0.3%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	4.1%	2.5%	8.8%	0.0%	100.0%
Road 31	31	80	80.0	N	0200-0300	109	42.6%	19.0%	0.1%	7.9%	2.8%	2.5%	4.9%	0.3%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	3.9%	2.7%	11.3%	0.0%	100.0%
Road 31	31	80	80.0	N	0300-0400	89	40.4%	17.9%	0.1%	8.2%	2.9%	2.6%	5.1%	0.3%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.8%	2.8%	13.6%	0.0%	100.0%
Road 31	31	80	80.0	N	0400-0500	98	39.7%	17.5%	0.1%	8.9%	3.2%	2.8%	5.5%	0.3%	0.0%	0.4%	0.6%	0.5%	1.0%	0.0%	3.7%	3.1%	12.7%	0.0%	100.0%
Road 31	31	80	80.0	N	0500-0600	163	40.5%	17.8%	0.1%	9.9%	3.6%	3.1%	6.1%	0.3%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.9%	3.5%	8.3%	0.0%	100.0%
Road 31	31	80	80.0	N	0600-0700	340	40.8%	17.8%	0.1%	10.9%	3.9%	3.4%	6.7%	0.3%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.9%	3.8%	5.0%	0.0%	100.0%
Road 31	31	80	80.0	N	0700-0800	715	38.4%	16.7%	0.1%	11.2%	4.0%	3.5%	6.9%	0.3%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	3.8%	5.3%	3.5%	0.0%	100.0%
Road 31	31	80	80.0	N	0800-0900	824	43.0%	13.8%	0.1%	12.2%	4.4%	3.4%	6.7%	0.2%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	3.4%	2.5%	6.9%	0.0%	100.0%
Road 31	31	80	80.0	N	0900-1000	730	36.6%	13.3%	0.2%	16.0%	5.7%	4.3%	8.5%	0.3%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	3.2%	1.4%	8.0%	0.0%	100.0%
Road 31	31	80	80.0	N	1000-1100	656	33.3%	12.9%	0.2%	16.5%	5.9%	5.2%	10.3%	0.3%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	3.1%	1.0%	9.2%	0.0%	100.0%
Road 31	31	80	80.0	N	1100-1200	622	33.2%	13.7%	0.2%	16.4%	5.9%	5.1%	10.1%	0.3%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	3.2%	0.9%	9.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1200-1300	392	32.4%	12.5%	0.1%	13.9%	5.0%	5.0%	9.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	4.5%	1.0%	13.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1300-1400	407	30.7%	11.8%	0.2%	16.3%	5.9%	5.0%	9.9%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	4.2%	0.9%	13.0%	0.0%	100.0%
Road 31	31	80	80.0	N	1400-1500	425	31.5%	12.7%	0.2%	14.8%	5.3%	5.0%	9.8%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	4.3%	1.2%	12.5%	0.0%	100.0%
Road 31	31	80	80.0	N	1500-1600	435	31.2%	12.5%	0.2%	17.1%	6.1%	4.3%	8.5%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	4.2%	1.1%	12.0%	0.0%	100.0%
Road 31	31	80	80.0	N	1600-1700	450	34.2%	11.8%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.8%	1.1%	0.7%	1.5%	0.0%	4.8%	1.6%	11.6%	0.0%	100.0%
Road 31	31	80	80.0	N	1700-1800	487	39.6%	12.4%	0.1%	13.0%	4.7%	2.9%	5.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	5.1%	3.4%	10.2%	0.0%	100.0%
Road 31	31	80	80.0	N	1800-1900	502	50.8%	11.9%	0.1%	8.5%	3.1%	1.8%	3.5%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	5.5%	2.4%	9.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1900-2000	371	53.5%	16.7%	0.1%	7.0%	2.5%	1.7%	3.3%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	6.8%	2.0%	3.8%	0.0%	100.0%
Road 31	31	80	80.0	N	2000-2100	292	48.7%	20.7%	0.1%	7.3%	2.6%	1.6%	3.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	7.0%	2.7%	1.7%	0.0%	100.0%
Road 31	31	80	80.0	N	2100-2200	291	49.8%	20.6%	0.1%	7.4%	2.7%	1.7%	3.4%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	6.2%	2.3%	4.7%	0.0%	100.0%
Road 31	31	80	80.0	N	2200-2300	281	49.6%	22.4%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	6.7%	1.9%	4.9%	0.0%	100.0%
Road 31	31	80	80.0	N	2300-0000	215	47.7%	21.5%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.5%	0.1%	6.5%	2.1%	6.2%	0.0%	100.0%
Road 32	32	80	80.0	N	0000-0100	1267	52.2%	23.4%	0.1%	6.1%	2.2%	1.9%	3.8%	0.3%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	4.6%	2.6%	1.0%	0.0%	100.0%
Road 32	32	80	80.0	N	0100-0200	829	50.9%	22.8%	0.1%	6.7%	2.4%	2.1%	4.1%	0.3%	0.0%	0.2%	0.6%	0.4%	0.8%	0.0%	4.6%	2.9%	1.1%	0.0%	100.0%
Road 32	32	80	80.0	N	0200-0300	610	49.7%	22.1%	0.1%	7.2%	2.6%	2.3%	4.5%	0.3%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	4.5%	3.1%	1.2%	0.0%	100.0%
Road 32	32	80	80.0	N	0300-0400	485	48.5%	21.5%	0.1%	7.8%	2.8%	2.4%	4.8%	0.3%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	4.5%	3.4%	1.3%	0.0%	100.0%
Road 32	32	80	80.0	N	0400-0500	535	47.2%	20.9%	0.1%	8.3%	3.0%	2.6%	5.1%	0.3%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.4%	3.7%	1.3%	0.0%	100.0%
Road 32	32	80	80.0	N	0500-0600	934	46.0%	20.2%	0.1%	8.9%	3.2%	2.8%	5.5%	0.3%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.3%	3.9%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	0600-0700	2016	44.8%	19.6%	0.1%	9.4%	3.4%	2.9%	5.8%	0.3%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	4.3%	4.2%	1.5%	0.0%	100.0%
Road 32	32	80	72.3	N	0700-0800	4102	43.6%	19.0%	0.1%	10.0%	3.6%	3.1%	6.1%	0.3%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.2%	4.5%	1.6%	0.0%	100.0%
Road 32	32	80	68.2	N	0800-0900	4759	48.5%	15.5%	0.1%	10.8%	3.9%	3.0%	5.9%	0.3%	0.1%	0.7%	0.9%	0.7%	1.4%	0.0%	3.7%	2.8%	1.6%	0.0%	100.0%
Road 32	32	80	71.3	Y	0900-1000	4094	42.4%	15.4%	0.2%	14.6%	5.2%	4.0%	7.8%	0.3%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.7%	1.6%	2.0%	0.0%	100.0%
Road 32	32	80	73.8	N	1000-1100	3620	39.3%	15.2%	0.2%	15.3%	5.5%	4.9%	9.6%	0.3%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	3.6%	1.2%	2.5%	0.0%	100.0%
Road 32	32	80	75.2	N	1100-1200	3424	39.2%	16.2%	0.2%	15.2%	5.5%	4.8%	9.4%	0.3%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	3.7%	1.1%	2.4%	0.0%	100.0%
Road 32	32	80	80.0	N	1200-1300	2158	41.7%	16.1%	0.1%	13.3%	4.8%	4.8%	9.4%	0.3%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	3.8%	1.7%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1300-1400	2228	39.8%	15.3%	0.2%	15.7%	5.6%	4.9%	9.5%	0.4%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	2.4%	1.2%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1400-1500	2358	40.3%	16.3%	0.1%	14.0%	5.0%	4.7%	9.3%	0.4%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.4%	1.5%	2.4%	0.0%	100.0%
Road 32	32	80	80.0	N	1500-1600	2417	39.9%	16.0%	0.2%	16.2%	5.8%	4.1%	8.1%	0.4%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.3%	1.4%	2.1%	0.0%	100.0%
Road 32	32	80	80.0	N	1600-1700	2534	43.1%	14.8%	0.1%	12.9%	4.6%	4.0%	8.0%	0.4%	0.1%	1.0%	1.3%	0.9%	1.9%	0.0%	2.6%	2.0%	2.1%	0.0%	100.0%
Road 32	32	80	80.0	N	1700-1800	2818	48.6%	15.2%	0.1%	11.8%	4.2%	2.7%	5.2%	0.4%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	2.7%	4.2%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	1800-1900	2996	60.4%	14.2%	0.1%	7.5%	2.7%	1.6%	3.1%	0.4%	0.0%	0.1%	1.1%	0.7%	1.6%	0.0%	2.8%	2.9%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1900-2000	2361	59.7%	18.7%	0.1%	5.8%	2.1%	1.4%	2.7%	0.5%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	3.3%	2.2%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2000-2100	1839	54.9%	23.3%	0.1%	6.1%	2.2%	1.3%	2.6%	0.5%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	3.4%	2.2%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2100-2200	1836	56.0%	23.1%	0.1%	6.2%	2.2%	1.4%	2.8%	0.5%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.0%	2.6%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2200-2300	1775	55.8%	25.2%	0.1%	4.8%	1.7%	1.5%	3.0%	0.5%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.3%	2.1%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	2300-0000	1333	54.6%	24.6%	0.1%	5.4%	1.9%	1.7%	3.3%	0.5%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.2%	2.4%	0.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 37	37	50	50.0	Y	0000-0100	2	49.6%	22.3%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.6%	0.0%	100.0%
Road 37	37	50	50.0	Y	0100-0200	1	48.0%	21.5%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%
Road 37	37	50	50.0	Y	0200-0300	1	46.5%	20.7%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	1.8%	0.0%	100.0%
Road 37	37	50	50.0	Y	0300-0400	1	44.9%	19.9%	0.1%	12.0%	4.3%	3.8%	7.4%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	3.2%	1.9%	0.0%	100.0%
Road 37	37	50	50.0	Y	0400-0500	1	43.4%	19.2%	0.1%	12.7%	4.6%	4.0%	7.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.1%	0.0%	100.0%
Road 37	37	50	50.0	Y	0500-0600	1	41.9%	18.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.6%	2.2%	0.0%	100.0%
Road 37	37	49.9	50.0	Y	0600-0700	3	40.4%	17.7%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	2.3%	0.0%	100.0%
Road 37	37	49.8	50.0	Y	0700-0800	7	39.0%	17.0%	0.2%	14.9%	5.3%	4.6%	9.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	2.4%	0.0%	100.0%
Road 37	37	49.8	50.0	Y	0800-0900	8	43.0%	13.8%	0.2%	16.0%	5.7%	4.5%	8.8%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.5%	2.3%	0.0%	100.0%
Road 37	37	49.8	50.0	Y	0900-1000	7	35.8%	13.0%	0.2%	20.5%	7.4%	5.6%	11.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%
Road 37	37	50	49.8	Y	1000-1100	6	32.4%	12.6%	0.2%	21.0%	7.5%	6.7%	13.1%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1100-1200	6	32.4%	13.4%	0.2%	21.0%	7.5%	6.6%	12.9%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1200-1300	6	34.5%	13.3%	0.2%	18.6%	6.7%	6.7%	13.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1300-1400	7	32.2%	12.4%	0.2%	15.7%	5.6%	4.9%	9.5%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1400-1500	7	33.1%	13.4%	0.2%	19.5%	7.0%	6.6%	12.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1500-1600	7	32.6%	13.1%	0.2%	22.4%	8.0%	5.7%	11.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%
Road 37	37	49.8	50.0	Y	1600-1700	7	36.2%	12.5%	0.2%	18.4%	6.6%	5.8%	11.3%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	1.7%	3.0%	0.0%	100.0%
Road 37	37	49.8	50.0	Y	1700-1800	8	42.4%	13.3%	0.2%	17.4%	6.3%	3.9%	7.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	2.0%	0.0%	100.0%
Road 37	37	49.8	50.0	Y	1800-1900	8	56.2%	13.2%	0.1%	11.8%	4.2%	2.5%	4.8%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.7%	1.3%	0.0%	100.0%
Road 37	37	49.9	50.0	Y	1900-2000	6	56.8%	17.8%	0.1%	9.3%	3.3%	2.2%	4.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 37	37	49.9	50.0	Y	2000-2100	5	52.3%	22.2%	0.1%	9.8%	3.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 37	37	49.9	50.0	Y	2100-2200	5	52.9%	21.9%	0.1%	9.9%	3.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.2%	0.0%	100.0%
Road 37	37	50	49.9	Y	2200-2300	4	53.4%	24.1%	0.1%	7.8%	2.8%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	1.3%	0.0%	100.0%
Road 37	37	49.9	50.0	Y	2300-0000	3	51.8%	23.3%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	1.4%	0.0%	100.0%
Road 38	38	50	47.9	Y	0000-0100	78	39.1%	17.5%	0.1%	7.3%	2.6%	2.3%	4.5%	0.9%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.0%	22.4%	0.0%	100.0%
Road 38	38	48.3	Y	0100-0200	57	34.1%	15.3%	0.1%	7.1%	2.6%	2.2%	4.4%	0.8%	0.0%	0.2%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	30.1%	0.0%	100.0%
Road 38	38	48.6	Y	0200-0300	47	30.0%	13.4%	0.1%	7.0%	2.5%	2.2%	4.3%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.9%	36.6%	0.0%	100.0%
Road 38	38	48.7	Y	0300-0400	41	26.7%	11.8%	0.1%	6.8%	2.5%	2.1%	4.2%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.9%	41.8%	0.0%	100.0%
Road 38	38	48.6	Y	0400-0500	43	26.9%	11.9%	0.1%	7.6%	2.7%	2.4%	4.7%	0.7%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	0.0%	2.1%	39.3%	0.0%	100.0%
Road 38	38	48.1	Y	0500-0600	64	31.1%	13.7%	0.1%	9.6%	3.4%	3.0%	5.9%	0.8%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	0.0%	2.7%	27.5%	0.0%	100.0%
Road 38	38	46.8	Y	0600-0700	119	35.0%	15.3%	0.1%	11.7%	4.2%	3.7%	7.2%	0.9%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	0.0%	3.3%	15.8%	0.0%	100.0%
Road 38	38	42.0	Y	0700-0800	274	30.1%	13.1%	0.1%	11.0%	3.9%	3.4%	6.8%	0.8%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	3.1%	25.0%	0.0%	100.0%
Road 38	38	41.2	Y	0800-0900	310	34.4%	11.0%	0.1%	12.2%	4.4%	3.4%	6.7%	0.6%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	2.0%	22.3%	0.0%	100.0%
Road 38	38	41.5	Y	0900-1000	285	28.1%	10.2%	0.2%	15.4%	5.5%	4.2%	8.3%	0.7%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	0.0%	1.1%	24.5%	0.0%	100.0%
Road 38	38	41.9	Y	1000-1100	264	24.9%	9.7%	0.2%	15.5%	5.6%	4.9%	9.7%	0.7%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.8%	28.6%	0.0%	100.0%
Road 38	38	42.2	Y	1100-1200	252	24.5%	10.1%	0.2%	15.2%	5.5%	4.8%	9.4%	0.7%	0.1%	0.4%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.7%	27.6%	0.0%	100.0%
Road 38	38	42.9	Y	1200-1300	218	20.6%	7.9%	0.2%	15.4%	5.5%	5.5%	10.8%	0.0%	0.0%	0.3%	0.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.6%	32.0%	0.0%	100.0%
Road 38	38	42.6	Y	1300-1400	229	19.4%	7.5%	0.2%	17.8%	6.4%	5.5%	10.8%	0.0%	0.0%	0.3%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.6%	30.7%	0.0%	100.0%
Road 38	38	42.5	Y	1400-1500	234	20.3%	8.2%	0.2%	16.4%	5.9%	5.6%	10.9%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.8%	30.0%	0.0%	100.0%
Road 38	38	42.4	Y	1500-1600	240	20.1%	8.1%	0.2%	19.0%	6.8%	4.8%	9.5%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.7%	29.0%	0.0%	100.0%
Road 38	38	42.4	Y	1600-1700	352	22.7%	7.8%	0.2%	15.9%	5.7%	5.0%	9.8%	0.0%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	1.1%	29.1%	0.0%	100.0%
Road 38	38	42.5	Y	1700-1800	248	27.6%	8.6%	0.2%	15.6%	5.6%	3.5%	7.0%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.0%	2.4%	27.5%	0.0%	100.0%
Road 38	38	43.0	Y	1800-1900	240	37.7%	8.9%	0.1%	10.9%	3.9%	2.3%	4.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	1.8%	27.7%	0.0%	100.0%
Road 38	38	46.2	Y	1900-2000	150	46.9%	14.7%	0.1%	10.6%	3.8%	2.5%	5.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	0.0%	1.7%	12.3%	0.0%	100.0%
Road 38	38	46.9	Y	2000-2100	121	41.8%	17.7%	0.1%	10.8%	3.9%	2.4%	4.7%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	0.0%	1.7%	14.9%	0.0%	100.0%
Road 38	38	46.9	Y	2100-2200	121	42.3%	17.5%	0.1%	10.9%	3.9%	2.5%	4.9%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	14.9%	0.0%	100.0%
Road 38	38	47.0	Y	2200-2300	116	42.7%	19.3%	0.1%	8.6%	3.1%	2.7%	5.4%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.6%	15.7%	0.0%	100.0%
Road 38	38	47.5	Y	2300-0000	92	39.3%	17.7%	0.1%	9.0%	3.2%	2.9%	5.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	1.7%	19.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 39	39	50	49.7	Y	0000-0100	11	19.8%	8.9%	0.3%	28.2%	10.1%	8.9%	17.5%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	4.6%	0.0%	100.0%
Road 39	39	50	49.8	Y	0100-0200	7	18.3%	8.2%	0.3%	29.1%	10.4%	9.2%	18.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	4.7%	0.0%	100.0%
Road 39	39	50	49.8	Y	0200-0300	6	16.9%	7.5%	0.3%	29.9%	10.7%	9.4%	18.5%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	4.8%	0.0%	100.0%
Road 39	39	50	49.9	Y	0300-0400	5	15.7%	7.0%	0.3%	30.6%	11.0%	9.6%	18.9%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.1%	4.9%	0.0%	100.0%
Road 39	39	50	49.8	Y	0400-0500	6	14.6%	6.5%	0.3%	31.2%	11.2%	9.8%	19.3%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.1%	5.0%	0.0%	100.0%
Road 39	39	50	49.7	Y	0500-0600	10	13.6%	6.0%	0.3%	31.8%	11.4%	10.0%	19.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.2%	5.1%	0.0%	100.0%
Road 39	39	49.3	Y	0600-0700	23	12.7%	5.5%	0.3%	32.4%	11.6%	10.1%	19.9%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.2%	5.2%	0.0%	100.0%
Road 39	39	48.6	Y	0700-0800	48	11.8%	5.1%	0.3%	32.8%	11.8%	10.3%	20.2%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.2%	5.3%	0.0%	100.0%
Road 39	39	48.3	Y	0800-0900	58	12.8%	4.1%	0.4%	34.7%	12.5%	9.7%	19.1%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	5.0%	0.0%	100.0%
Road 39	39	48.1	Y	0900-1000	62	9.0%	3.3%	0.4%	37.5%	13.5%	10.2%	20.1%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.3%	5.2%	0.0%	100.0%
Road 39	39	48.1	Y	1000-1100	60	7.6%	2.9%	0.4%	35.9%	12.9%	11.4%	22.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 39	39	48.3	Y	1100-1200	56	7.6%	3.1%	0.4%	36.1%	12.9%	11.3%	22.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 39	39	49.7	Y	1200-1300	11	36.7%	14.1%	0.2%	17.4%	6.2%	6.2%	12.2%	0.0%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	0.0%	1.1%	3.2%	0.0%	100.0%
Road 39	39	49.7	Y	1300-1400	12	34.4%	13.3%	0.2%	20.1%	7.2%	6.2%	12.2%	0.0%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	0.0%	1.0%	3.2%	0.0%	100.0%
Road 39	39	49.7	Y	1400-1500	12	35.2%	14.2%	0.2%	18.2%	6.5%	6.1%	12.1%	0.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	3.2%	0.0%	100.0%
Road 39	39	49.7	Y	1500-1600	13	34.8%	14.0%	0.2%	20.9%	7.5%	5.3%	10.4%	0.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	2.7%	0.0%	100.0%
Road 39	39	49.7	Y	1600-1700	13	38.3%	13.2%	0.2%	17.1%	6.1%	5.3%	10.5%	0.0%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	0.0%	1.8%	2.7%	0.0%	100.0%
Road 39	39	49.7	Y	1700-1800	14	44.5%	13.9%	0.2%	16.0%	5.8%	3.6%	7.1%	0.0%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	1.9%	0.0%	100.0%
Road 39	39	49.7	Y	1800-1900	14	57.9%	13.6%	0.1%	10.7%	3.8%	2.2%	4.4%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	0.0%	2.8%	1.1%	0.0%	100.0%
Road 39	39	49.8	Y	1900-2000	11	58.3%	18.2%	0.1%	8.4%	3.0%	2.0%	3.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	0.0%	2.1%	1.0%	0.0%	100.0%
Road 39	39	49.8	Y	2000-2100	9	53.7%	22.8%	0.1%	8.8%	3.2%	1.9%	3.8%	0.0%	0.0%	0.1%	0.8%	0.5%	1.1%	0.0%	0.0%	0.0%	2.1%	1.0%	0.0%	100.0%
Road 39	39	49.8	Y	2100-2200	9	54.3%	22.5%	0.1%	8.9%	3.2%	2.1%	4.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	2.5%	1.1%	0.0%	100.0%
Road 39	39	49.8	Y	2200-2300	8	54.7%	24.7%	0.1%	7.0%	2.5%	2.2%	4.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 39	39	49.9	Y	2300-0000	6	53.2%	23.9%	0.1%	7.7%	2.8%	2.5%	4.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	2.4%	1.3%	0.0%	100.0%
Road 40	40	50	46.6	Y	0000-0100	123	37.9%	17.0%	0.1%	7.5%	2.7%	2.4%	4.7%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	23.7%	0.0%	100.0%
Road 40	40	50	47.3	Y	0100-0200	90	32.9%	14.7%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	31.7%	0.0%	100.0%
Road 40	40	50	47.7	Y	0200-0300	74	28.8%	12.8%	0.1%	7.1%	2.5%	2.2%	4.4%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	38.3%	0.0%	100.0%
Road 40	40	50	47.9	Y	0300-0400	65	25.5%	11.3%	0.1%	6.9%	2.5%	2.2%	4.3%	0.6%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	43.5%	0.0%	100.0%
Road 40	40	50	47.8	Y	0400-0500	69	25.7%	11.4%	0.1%	7.7%	2.8%	2.4%	4.7%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	41.0%	0.0%	100.0%
Road 40	40	50	47.0	Y	0500-0600	101	30.0%	13.2%	0.1%	9.8%	3.5%	3.1%	6.0%	0.7%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	2.6%	28.9%	0.0%	100.0%
Road 40	40	50	44.9	Y	0600-0700	187	33.9%	14.9%	0.1%	12.1%	4.3%	3.8%	7.4%	0.9%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.2%	16.7%	0.0%	100.0%
Road 40	40	50	38.4	Y	0700-0800	434	29.0%	12.6%	0.1%	11.2%	4.0%	3.5%	6.9%	0.8%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.0%	26.2%	0.0%	100.0%
Road 40	40	50	37.7	Y	0800-0900	489	33.2%	10.6%	0.1%	12.5%	4.5%	3.5%	6.9%	0.6%	0.1%	0.5%	0.6%	0.5%	1.0%	0.0%	0.0%	1.9%	23.5%	0.0%	100.0%
Road 40	40	50	37.9	Y	0900-1000	453	27.0%	9.8%	0.2%	15.7%	5.6%	4.3%	8.4%	0.7%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	1.0%	25.6%	0.0%	100.0%
Road 40	40	50	38.2	Y	1000-1100	421	23.8%	9.2%	0.2%	15.7%	5.6%	5.0%	9.8%	0.6%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	27.8%	0.0%	100.0%
Road 40	40	50	38.5	Y	1100-1200	403	23.5%	9.7%	0.2%	15.5%	5.6%	4.8%	9.5%	0.7%	0.1%	0.4%	0.2%	0.2%	0.4%	0.0%	0.0%	0.7%	28.8%	0.0%	100.0%
Road 40	40	50	38.9	Y	1200-1300	368	20.5%	7.9%	0.2%	15.5%	5.6%	5.6%	10.9%	0.0%	0.0%	0.3%	0.4%	0.2%	0.5%	0.0%	0.0%	0.6%	31.7%	0.0%	100.0%
Road 40	40	50	38.6	Y	1300-1400	385	19.3%	7.4%	0.2%	18.0%	6.4%	5.6%	10.9%	0.0%	0.0%	0.3%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	30.4%	0.0%	100.0%
Road 40	40	50	38.5	Y	1400-1500	394	20.2%	8.2%	0.2%	16.6%	6.0%	5.6%	11.1%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	29.8%	0.0%	100.0%
Road 40	40	50	38.4	Y	1500-1600	404	20.0%	8.0%	0.2%	19.2%	6.9%	4.9%	9.6%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	28.8%	0.0%	100.0%
Road 40	40	50	38.4	Y	1600-1700	404	22.6%	7.8%	0.2%	16.1%	5.8%	5.0%	9.9%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	1.1%	28.8%	0.0%	100.0%
Road 40	40	50	38.5	Y	1700-1800	417	27.5%	8.6%	0.2%	15.8%	5.7%	3.6%	7.0%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	2.4%	27.3%	0.0%	100.0%
Road 40	40	50	39.0	Y	1800-1900	403	37.7%	8.8%	0.1%	11.1%	4.0%	2.3%	4.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.8%	27.5%	0.0%	100.0%
Road 40	40	50	43.7	Y	1900-2000	252	46.8%	14.7%	0.1%	10.7%	3.8%	2.6%	5.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.7%	12.2%	0.0%	100.0%
Road 40	40	50	44.8	Y	2000-2100	203	41.7%	17.7%	0.1%	11.0%	3.9%	2.4%	4.7%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.7%	14.8%	0.0%	100.0%
Road 40	40	50	44.8	Y	2100-2200	204	42.1%	17.4%	0.1%	11.1%	4.0%	2.5%	5.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	14.8%	0.0%	100.0%
Road 40	40	50	45.0	Y	2200-2300	195	42.6%	19.2%	0.1%	8.7%	3.1%	2.8%	5.4%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.6%	15.6%	0.0%	100.0%
Road 40	40	50	45.9	Y	2300-0000	155	39.3%	17.7%	0.1%	9.1%	3.3%	2.9%	5.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	19.2%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 45	45	80	80.0	N	0000-0100	300	58.9%	26.4%	0.0%	2.2%	0.8%	0.7%	1.3%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.4%	3.0%	0.3%	0.0%	100.0%
Road 45	45	80	80.0	N	0100-0200	195	58.1%	26.0%	0.0%	2.4%	0.9%	0.7%	1.5%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	4.4%	3.3%	0.4%	0.0%	100.0%
Road 45	45	80	80.0	N	0200-0300	142	57.3%	25.5%	0.0%	2.6%	0.9%	0.8%	1.6%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	4.4%	3.6%	0.4%	0.0%	100.0%
Road 45	45	80	80.0	N	0300-0400	111	56.5%	25.1%	0.0%	2.8%	1.0%	0.9%	1.7%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	4.3%	4.0%	0.5%	0.0%	100.0%
Road 45	45	80	80.0	N	0400-0500	122	55.7%	24.6%	0.0%	3.1%	1.1%	1.0%	1.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	4.3%	4.3%	0.5%	0.0%	100.0%
Road 45	45	80	80.0	N	0500-0600	210	54.8%	24.1%	0.0%	3.3%	1.2%	1.0%	2.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.3%	4.7%	0.5%	0.0%	100.0%
Road 45	45	80	80.0	N	0600-0700	448	53.9%	23.6%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	4.3%	5.0%	0.6%	0.0%	100.0%
Road 45	45	80	80.0	N	0700-0800	902	53.0%	23.1%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	4.3%	5.4%	0.6%	0.0%	100.0%
Road 45	45	78.9	N	0800-0900	1041	59.4%	19.0%	0.0%	4.1%	1.5%	1.2%	2.3%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	3.8%	3.4%	0.6%	0.0%	100.0%	
Road 45	45	80	80.0	N	0900-1000	831	55.9%	20.3%	0.1%	6.0%	2.2%	1.6%	3.2%	0.0%	0.1%	0.5%	0.9%	0.7%	1.4%	0.0%	4.1%	2.2%	0.8%	0.0%	100.0%
Road 45	45	80	80.0	N	1000-1100	708	53.7%	20.9%	0.1%	6.5%	2.5%	2.2%	4.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	4.1%	1.6%	1.1%	0.0%	100.0%
Road 45	45	80	80.0	N	1100-1200	672	53.5%	22.0%	0.1%	6.5%	2.3%	2.0%	4.0%	0.0%	0.1%	1.0%	0.5%	0.4%	0.8%	0.0%	4.2%	1.5%	1.0%	0.0%	100.0%
Road 45	45	80	77.7	N	1200-1300	1024	50.0%	19.2%	0.1%	8.3%	3.0%	3.0%	5.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	4.0%	1.5%	1.5%	0.0%	100.0%
Road 45	45	80	77.3	N	1300-1400	1036	48.6%	18.7%	0.1%	8.3%	3.0%	3.1%	6.0%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	3.8%	1.5%	1.6%	0.0%	100.0%
Road 45	45	75.9	N	1400-1500	1113	48.4%	19.6%	0.1%	8.7%	3.1%	3.0%	5.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	3.8%	1.8%	1.5%	0.0%	100.0%	
Road 45	45	75.5	N	1500-1600	1136	48.2%	19.4%	0.1%	10.1%	3.6%	2.6%	5.0%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	3.7%	1.7%	1.3%	0.0%	100.0%	
Road 45	45	73.7	N	1600-1700	1225	50.6%	17.4%	0.1%	7.9%	2.8%	2.5%	4.8%	0.0%	0.2%	1.2%	1.5%	1.0%	2.3%	0.0%	4.1%	2.4%	1.3%	0.0%	100.0%	
Road 45	45	71.5	N	1700-1800	1411	55.1%	17.2%	0.1%	6.9%	2.5%	1.6%	3.1%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	4.0%	4.7%	0.8%	0.0%	100.0%	
Road 45	45	69.3	N	1800-1900	1581	65.0%	15.3%	0.0%	4.2%	1.5%	0.9%	1.7%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	4.0%	3.1%	0.4%	0.0%	100.0%	
Road 45	45	75.1	N	1900-2000	1266	63.2%	19.8%	0.0%	3.2%	1.1%	0.8%	1.5%	0.0%	0.0%	0.1%	1.0%	0.7%	1.4%	0.0%	4.6%	2.3%	0.4%	0.0%	100.0%	
Road 45	45	80	80.0	N	2000-2100	985	58.2%	24.7%	0.0%	3.4%	1.2%	0.7%	1.5%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	4.8%	2.3%	0.4%	0.0%	100.0%
Road 45	45	80	80.0	N	2100-2200	980	59.5%	24.6%	0.0%	3.4%	1.2%	0.8%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.2%	2.7%	0.4%	0.0%	100.0%
Road 45	45	80	80.0	N	2200-2300	956	58.8%	26.6%	0.0%	2.6%	0.9%	0.8%	1.6%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	4.6%	2.3%	0.4%	0.0%	100.0%
Road 45	45	80	80.0	N	2300-0000	713	57.9%	26.1%	0.0%	2.9%	1.1%	0.9%	1.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	4.5%	2.6%	0.5%	0.0%	100.0%
Road 46	46	80	80.0	N	0000-0100	414	60.2%	27.0%	0.0%	2.8%	1.0%	0.9%	1.8%	0.0%	0.0%	0.2%	0.6%	0.4%	0.8%	0.0%	0.8%	3.0%	0.5%	0.0%	100.0%
Road 46	46	80	80.0	N	0100-0200	269	59.3%	26.5%	0.0%	3.1%	1.1%	1.0%	1.9%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	0.8%	3.4%	0.5%	0.0%	100.0%
Road 46	46	80	80.0	N	0200-0300	196	58.3%	26.0%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.8%	3.7%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0300-0400	154	57.4%	25.5%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.1%	0.4%	0.8%	0.6%	1.3%	0.0%	0.8%	4.0%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0400-0500	169	56.5%	25.0%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	0.8%	4.4%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0500-0600	292	55.5%	24.4%	0.0%	4.3%	1.5%	1.3%	2.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.8%	4.7%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	0600-0700	625	54.5%	23.9%	0.0%	4.6%	1.7%	1.4%	2.8%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.8%	5.1%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	0700-0800	1260	53.5%	23.3%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.8%	1.2%	0.8%	1.9%	0.0%	0.8%	5.5%	0.8%	0.0%	100.0%
Road 46	46	80	80.0	N	0800-0900	1461	59.6%	19.1%	0.1%	5.3%	1.9%	1.5%	2.9%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	0.7%	3.5%	0.8%	0.0%	100.0%
Road 46	46	80	80.0	N	0900-1000	1179	55.5%	20.2%	0.1%	7.7%	2.8%	2.1%	4.1%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	0.7%	2.2%	1.1%	0.0%	100.0%
Road 46	46	80	80.0	N	1000-1100	1010	53.0%	20.6%	0.1%	8.3%	3.0%	2.6%	5.2%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.7%	1.6%	1.4%	0.0%	100.0%
Road 46	46	80	80.0	N	1100-1200	958	52.9%	21.8%	0.1%	8.3%	3.0%	2.6%	5.1%	0.0%	0.1%	1.0%	0.5%	0.4%	0.8%	0.0%	0.7%	1.5%	1.3%	0.0%	100.0%
Road 46	46	80	80.0	N	1200-1300	1406	50.9%	19.6%	0.1%	9.0%	3.2%	3.2%	6.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.8%	1.5%	1.6%	0.0%	100.0%
Road 46	46	80	80.0	N	1300-1400	1427	49.4%	19.0%	0.1%	10.7%	3.8%	3.3%	6.5%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.8%	1.5%	1.7%	0.0%	100.0%
Road 46	46	80	80.0	N	1400-1500	1532	49.3%	19.9%	0.1%	9.4%	3.4%	3.2%	6.3%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	0.8%	1.9%	1.6%	0.0%	100.0%
Road 46	46	80	80.0	N	1500-1600	1565	49.0%	19.7%	0.1%	10.9%	3.9%	2.8%	5.4%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	0.8%	1.8%	1.4%	0.0%	100.0%
Road 46	46	80	80.0	N	1600-1700	1679	51.7%	17.8%	0.1%	8.5%	3.1%	2.7%	5.2%	0.0%	0.2%	1.2%	1.5%	1.1%	2.3%	0.0%	0.8%	2.4%	1.4%	0.0%	100.0%
Road 46	46	80	80.0	N	1700-1800	1930	56.4%	17.6%	0.1%	7.5%	2.7%	1.7%	3.4%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.8%	4.8%	0.9%	0.0%	100.0%
Road 46	46	80	80.0	N	1800-1900	2153	66.8%	15.7%	0.0%	4.6%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	0.5%	0.4%	1.0%	0.0%	0.8%	3.2%	0.5%	0.0%	100.0%
Road 46	46	80	80.0	N	1900-2000	1715	65.3%	20.4%	0.0%	3.5%	1.2%	0.8%	1.6%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.9%	2.4%	0.4%	0.0%	100.0%
Road 46	46	80	80.0	N	2000-2100	1332	60.3%	25.6%	0.0%	3.7%	1.3%	0.8%	1.6%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	1.0%	2.4%	0.4%	0.0%	100.0%
Road 46	46	80	80.0	N	2100-2200	1331	61.4%	25.4%	0.0%	3.7%	1.3%	0.9%	1.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.9%	2.8%	0.4%	0.0%	100.0%
Road 46	46	80	80.0	N	2200-2300	1295	60.8%	27.5%	0.0%	2.9%	1.0%	0.9%	1.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.9%	2.3%	0.5%	0.0%	100.0%
Road 46	46	80	80.0	N	2300-0000	966	59.8%	27.0%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.9%	2.6%	0.5%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 47	47	50	45.1	N	0000-0100	499	60.3%	27.1%	0.0%	3.1%	1.1%	1.0%	1.9%	0.0%	0.0%	0.2%	0.6%	0.4%	0.8%	0.0%	0.0%	3.0%	0.5%	0.0%	100.0%
Road 47	47	50	46.8	N	0100-0200	324	59.4%	26.6%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	0.0%	3.4%	0.5%	0.0%	100.0%
Road 47	47	50	47.6	N	0200-0300	236	58.4%	26.0%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.7%	0.6%	0.0%	100.0%
Road 47	47	50	48.1	N	0300-0400	186	57.5%	25.5%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.1%	0.4%	0.8%	0.6%	1.3%	0.0%	0.0%	4.0%	0.6%	0.0%	100.0%
Road 47	47	50	47.9	N	0400-0500	204	56.5%	25.0%	0.0%	4.3%	1.5%	1.3%	2.7%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	0.0%	4.4%	0.7%	0.0%	100.0%
Road 47	47	50	46.4	N	0500-0600	353	55.5%	24.4%	0.0%	4.6%	1.7%	1.4%	2.9%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.0%	4.7%	0.7%	0.0%	100.0%
Road 47	47	50	42.2	N	0600-0700	754	54.5%	23.9%	0.1%	5.0%	1.8%	1.6%	3.0%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	5.1%	0.8%	0.0%	100.0%
Road 47	47	50	36.7	N	0700-0800	1522	53.4%	23.3%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	0.0%	5.5%	0.8%	0.0%	100.0%
Road 47	47	50	35.2	N	0800-0900	1768	59.4%	19.0%	0.1%	5.7%	2.1%	1.6%	3.2%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	0.0%	4.4%	0.7%	0.0%	100.0%
Road 47	47	50	36.9	N	0900-1000	1432	55.2%	20.0%	0.1%	8.2%	2.9%	2.2%	4.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 47	47	50	38.0	N	1000-1100	1230	52.6%	20.4%	0.1%	8.9%	3.2%	2.8%	5.5%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	1.6%	1.4%	0.0%	100.0%
Road 47	47	50	38.5	N	1100-1200	1165	52.5%	21.6%	0.1%	8.8%	3.2%	2.8%	5.4%	0.0%	0.1%	1.0%	0.5%	0.4%	0.8%	0.0%	0.0%	1.6%	1.4%	0.0%	100.0%
Road 47	47	50	38.6	N	1200-1300	1150	54.3%	20.9%	0.1%	7.3%	2.6%	2.6%	5.2%	0.0%	0.1%	0.9%	0.9%	0.6%	1.4%	0.0%	0.0%	1.6%	1.3%	0.0%	100.0%
Road 47	47	50	38.5	N	1300-1400	1160	53.1%	20.5%	0.1%	8.8%	3.2%	2.7%	5.4%	0.0%	0.1%	0.8%	0.8%	0.5%	1.2%	0.0%	0.0%	1.6%	1.4%	0.0%	100.0%
Road 47	47	50	37.9	N	1400-1500	1251	52.6%	21.3%	0.1%	7.7%	2.8%	2.6%	5.1%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	2.0%	1.3%	0.0%	100.0%
Road 47	47	50	37.8	N	1500-1600	1277	52.4%	21.0%	0.1%	9.0%	3.2%	2.3%	4.5%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	1.9%	1.2%	0.0%	100.0%
Road 47	47	50	37.2	N	1600-1700	1381	54.8%	18.9%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.2%	1.3%	1.6%	1.1%	2.5%	0.0%	0.0%	2.6%	1.1%	0.0%	100.0%
Road 47	47	50	36.3	N	1700-1800	1606	59.1%	18.5%	0.1%	6.0%	2.2%	1.4%	2.7%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	0.0%	2.7%	1.0%	0.0%	100.0%
Road 47	47	50	35.4	N	1800-1900	1821	69.0%	16.2%	0.0%	3.6%	1.3%	0.8%	1.5%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	0.0%	3.3%	0.4%	0.0%	100.0%
Road 47	47	50	37.5	N	1900-2000	1456	67.1%	21.0%	0.0%	2.7%	1.0%	0.7%	1.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.5%	0.3%	0.0%	100.0%
Road 47	47	50	39.4	N	2000-2100	1129	62.1%	26.3%	0.0%	2.9%	1.0%	0.6%	1.3%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.5%	0.3%	0.0%	100.0%
Road 47	47	50	39.4	N	2100-2200	1129	63.1%	26.1%	0.0%	3.0%	1.1%	0.7%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.9%	0.3%	0.0%	100.0%
Road 47	47	50	39.4	N	2200-2300	1100	62.5%	28.2%	0.0%	2.3%	0.8%	0.7%	1.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	0.4%	0.0%	100.0%
Road 47	47	50	42.0	N	2300-0000	820	61.6%	27.7%	0.0%	2.5%	0.9%	0.8%	1.6%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	2.7%	0.4%	0.0%	100.0%
Road 48	48	80	80.0	N	0000-0100	768	51.4%	23.1%	0.1%	7.3%	2.6%	2.3%	4.6%	0.5%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	1.2%	0.0%	100.0%
Road 48	48	80	80.0	N	0100-0200	504	50.0%	22.4%	0.1%	8.0%	2.9%	2.5%	4.9%	0.5%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	2.8%	1.3%	0.0%	100.0%
Road 48	48	80	80.0	N	0200-0300	372	48.7%	21.7%	0.1%	8.6%	3.1%	2.7%	5.3%	0.5%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.5%	3.1%	1.4%	0.0%	100.0%
Road 48	48	80	80.0	N	0300-0400	297	47.3%	21.0%	0.1%	9.2%	3.3%	2.9%	5.7%	0.5%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.0%	2.4%	3.3%	1.5%	0.0%	100.0%
Road 48	48	80	80.0	N	0400-0500	328	46.0%	20.3%	0.1%	9.8%	3.5%	3.1%	6.1%	0.5%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	0.0%	2.4%	3.6%	1.6%	0.0%	100.0%
Road 48	48	80	80.0	N	0500-0600	575	44.7%	19.7%	0.1%	10.5%	3.8%	3.3%	6.5%	0.5%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	2.4%	3.8%	1.7%	0.0%	100.0%
Road 48	48	80	80.0	N	0600-0700	1244	43.3%	19.0%	0.1%	11.1%	4.0%	3.5%	6.8%	0.5%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	2.3%	4.1%	1.8%	0.0%	100.0%
Road 48	48	80	80.0	N	0700-0800	2540	42.0%	18.3%	0.1%	11.7%	4.2%	3.7%	7.2%	0.5%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	2.3%	4.3%	1.9%	0.0%	100.0%
Road 48	48	80	79.4	N	0800-0900	2957	46.6%	14.9%	0.1%	12.7%	4.5%	3.5%	7.0%	0.4%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	2.0%	2.7%	1.8%	0.0%	100.0%
Road 48	48	80	80.0	N	0900-1000	2590	40.0%	14.5%	0.2%	16.8%	6.0%	4.6%	9.0%	0.5%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	2.0%	1.6%	2.3%	0.0%	100.0%
Road 48	48	80	80.0	N	1000-1100	2310	36.7%	14.3%	0.2%	17.4%	6.3%	5.5%	10.9%	0.5%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.9%	1.1%	2.8%	0.0%	100.0%
Road 48	48	80	80.0	N	1100-1200	2183	36.7%	15.1%	0.2%	17.4%	6.2%	5.4%	10.7%	0.5%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	1.0%	2.8%	0.0%	100.0%
Road 48	48	80	79.1	N	1200-1300	2780	39.3%	15.1%	0.1%	13.4%	4.8%	4.8%	9.5%	0.4%	0.1%	0.7%	0.5%	0.4%	0.8%	0.0%	0.0%	2.4%	1.7%	2.5%	0.0%	100.0%
Road 48	48	80	78.3	N	1300-1400	2871	37.5%	14.5%	0.2%	15.8%	5.7%	4.9%	9.6%	0.3%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	2.1%	1.5%	2.5%	0.0%	100.0%
Road 48	48	80	77.3	N	1400-1500	3033	38.0%	15.4%	0.1%	14.1%	5.1%	4.8%	9.4%	0.3%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	1.1%	2.3%	0.0%	100.0%
Road 48	48	80	77.0	N	1500-1600	3108	37.7%	15.1%	0.2%	16.3%	5.9%	4.1%	8.1%	0.3%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.9%	1.1%	2.8%	0.0%	100.0%
Road 48	48	80	75.9	N	1600-1700	3263	40.6%	14.0%	0.1%	13.1%	4.7%	4.1%	8.0%	0.3%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	0.0%	2.1%	1.7%	2.3%	0.0%	100.0%
Road 48	48	80	74.9	N	1700-1800	3617	45.9%	14.4%	0.1%	11.9%	4.3%	2.7%	5.3%	0.3%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	6.4%	3.9%	1.4%	0.0%	100.0%
Road 48	48	80	74.6	N	1800-1900	3828	47.5%	13.5%	0.1%	7.6%	2.7%	1.6%	3.1%	0.3%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	6.7%	2.7%	0.8%	0.0%	100.0%
Road 48	48	80	79.6	N	1900-2000	3029	56.4%	17.7%	0.1%	5.8%	2.1%	1.4%	2.7%	0.4%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	7.7%	2.1%	0.7%	0.0%	100.0%
Road 48	48	80	80.0	N	2000-2100	2365	51.8%	22.0%	0.1%	6.2%	2.2%	1.4%	2.7%	0.4%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	8.1%	2.1%	0.7%	0.0%	100.0%
Road 48	48	80	80.0	N	2100-2200	2348	53.1%	22.0%	0.1%	6.3%	2.3%	1.4%	2.8%	0.4%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	7.2%	2.4%	0.7%	0.0%	100.0%
Road 48	48	80	80.0	N	2200-2300	2277	52.8%	23.9%	0.1%	4.9%	1.8%	1.6%	3.0%	0.4%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	7.7%	2.0%	0.8%	0.0%	100.0%
Road 48	48	80	80.0	N	2300-0000	1711	51.6%	23.3%	0.1%	5.4%	1.9%	1.7%	3.4%	0.4%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	7.6%	2.3%	0.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 53	53	50	28.1	N	0000-0100	26	23.3%	10.4%	0.2%	16.7%	6.0%	5.3%	10.4%	23.1%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.2%	2.7%	0.0%	100.0%
Road 53	53	50	28.7	N	0100-0200	18	22.0%	9.9%	0.2%	17.6%	6.3%	5.6%	10.9%	22.5%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%
Road 53	53	50	29.0	N	0200-0300	13	20.9%	9.3%	0.2%	18.5%	6.7%	5.8%	11.5%	21.8%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	3.0%	0.0%	100.0%
Road 53	53	50	29.2	N	0300-0400	11	19.7%	8.8%	0.2%	19.4%	7.0%	6.1%	12.0%	21.3%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	3.1%	0.0%	100.0%
Road 53	53	50	29.1	N	0400-0500	12	18.7%	8.3%	0.2%	20.2%	7.2%	6.3%	12.5%	20.7%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.3%	0.0%	100.0%
Road 53	53	50	28.3	N	0500-0600	22	17.7%	7.8%	0.2%	20.9%	7.5%	6.6%	12.9%	20.2%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.4%	0.0%	100.0%
Road 53	53	50	26.3	N	0600-0700	50	16.8%	7.4%	0.2%	21.6%	7.8%	6.8%	13.3%	19.7%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	3.5%	0.0%	100.0%
Road 53	53	50	24.4	N	0700-0800	104	15.9%	6.9%	0.2%	22.3%	8.0%	7.0%	13.7%	19.3%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.6%	3.6%	0.0%	100.0%
Road 53	53	50	24.2	N	0800-0900	117	18.2%	5.8%	0.3%	24.8%	8.9%	6.9%	13.7%	15.3%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.1%	3.6%	0.0%	100.0%
Road 53	53	50	24.1	N	0900-1000	120	13.3%	4.8%	0.3%	28.0%	10.1%	7.6%	15.0%	15.5%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	0.5%	3.9%	0.0%	100.0%
Road 53	53	50	24.2	N	1000-1100	113	11.6%	4.5%	0.3%	27.6%	9.9%	8.8%	17.3%	14.4%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 53	53	50	24.3	N	1100-1200	107	11.6%	4.8%	0.3%	27.5%	9.9%	8.6%	16.9%	15.0%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.4%	0.0%	100.0%
Road 53	53	50	24.1	N	1200-1300	130	25.1%	9.7%	0.2%	21.5%	7.7%	7.7%	15.2%	6.3%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 53	53	50	23.9	N	1300-1400	138	23.2%	9.0%	0.3%	24.6%	8.8%	7.6%	15.0%	5.6%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	3.9%	0.0%	100.0%
Road 53	53	50	23.9	N	1400-1500	143	24.1%	9.7%	0.2%	22.5%	8.1%	7.6%	15.0%	5.9%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	3.9%	0.0%	100.0%
Road 53	53	50	23.8	N	1500-1600	147	23.8%	9.5%	0.3%	25.9%	9.3%	6.6%	12.9%	5.5%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%
Road 53	53	50	23.9	N	1600-1700	146	27.0%	9.3%	0.2%	21.8%	7.8%	6.8%	13.4%	5.7%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	3.5%	0.0%	100.0%
Road 53	53	50	23.9	N	1700-1800	153	32.5%	10.1%	0.2%	21.2%	7.6%	4.8%	9.4%	6.6%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	2.5%	0.0%	100.0%
Road 53	53	50	24.2	N	1800-1900	144	45.5%	10.7%	0.2%	15.2%	5.4%	3.2%	6.2%	7.3%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.2%	1.6%	0.0%	100.0%
Road 53	53	50	24.6	N	1900-2000	110	46.2%	14.5%	0.1%	12.0%	4.3%	2.9%	5.6%	8.8%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.7%	1.5%	0.0%	100.0%
Road 53	53	50	24.9	N	2000-2100	87	42.2%	17.9%	0.1%	12.6%	4.5%	2.8%	5.5%	9.4%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.7%	1.4%	0.0%	100.0%
Road 53	53	50	24.9	N	2100-2200	87	42.8%	17.7%	0.1%	12.8%	4.6%	2.9%	5.8%	8.9%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	1.5%	0.0%	100.0%
Road 53	53	50	25.0	N	2200-2300	82	43.9%	19.9%	0.1%	10.2%	3.7%	3.2%	6.4%	8.4%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	1.7%	0.0%	100.0%
Road 53	53	50	26.1	N	2300-0000	62	42.2%	19.0%	0.1%	11.1%	4.0%	3.5%	6.9%	8.3%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	1.8%	0.0%	100.0%
Road 54	54	50	26.8	N	0000-0100	49	37.4%	16.8%	0.1%	11.7%	4.2%	3.7%	7.3%	13.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	1.9%	0.0%	100.0%
Road 54	54	50	27.9	N	0100-0200	33	35.9%	16.0%	0.1%	12.6%	4.5%	4.0%	7.8%	13.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	2.0%	0.0%	100.0%
Road 54	54	50	28.4	N	0200-0300	24	34.6%	15.3%	0.1%	13.4%	4.8%	4.2%	8.3%	13.4%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.2%	2.2%	0.0%	100.0%
Road 54	54	50	28.7	N	0300-0400	20	33.0%	14.7%	0.1%	14.2%	5.1%	4.5%	8.8%	13.2%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	2.3%	0.0%	100.0%
Road 54	54	50	28.5	N	0400-0500	22	31.7%	14.0%	0.2%	14.9%	5.4%	4.7%	9.2%	13.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	2.4%	0.0%	100.0%
Road 54	54	50	27.3	N	0500-0600	39	30.4%	13.4%	0.2%	15.7%	5.6%	4.9%	9.7%	12.9%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.6%	2.5%	0.0%	100.0%
Road 54	54	50	24.8	N	0600-0700	86	29.1%	12.8%	0.2%	16.4%	5.9%	5.1%	10.1%	12.7%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.7%	2.6%	0.0%	100.0%
Road 54	54	50	23.5	N	0700-0800	177	27.9%	12.2%	0.2%	17.1%	6.1%	5.4%	10.5%	12.5%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	2.9%	2.7%	0.0%	100.0%
Road 54	54	50	23.2	N	0800-0900	202	31.6%	10.1%	0.2%	18.9%	6.8%	5.3%	10.4%	9.9%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.8%	2.7%	0.0%	100.0%
Road 54	54	50	23.2	N	0900-1000	194	24.8%	9.0%	0.2%	22.8%	8.2%	6.2%	12.2%	10.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	3.2%	0.0%	100.0%
Road 54	54	50	23.3	N	1000-1100	178	22.1%	8.6%	0.2%	23.1%	8.3%	7.3%	14.4%	10.2%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	3.8%	0.0%	100.0%
Road 54	54	50	23.5	N	1100-1200	169	22.0%	9.1%	0.2%	23.0%	8.3%	7.2%	14.1%	10.6%	0.1%	0.4%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	3.7%	0.0%	100.0%
Road 54	54	50	24.0	N	1200-1300	124	10.8%	4.2%	0.3%	29.5%	10.6%	10.6%	20.8%	6.6%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.4%	0.0%	100.0%
Road 54	54	50	23.8	N	1300-1400	136	9.7%	3.7%	0.3%	32.7%	11.7%	10.1%	19.9%	5.7%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.2%	0.0%	100.0%
Road 54	54	50	23.8	N	1400-1500	137	10.3%	4.2%	0.3%	30.7%	11.0%	10.4%	20.4%	6.2%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	5.3%	0.0%	100.0%
Road 54	54	50	23.7	N	1500-1600	142	10.1%	4.1%	0.4%	35.1%	12.6%	8.9%	17.5%	5.7%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 54	54	50	23.8	N	1600-1700	135	12.0%	4.1%	0.3%	30.8%	11.1%	9.6%	18.9%	6.2%	0.0%	0.3%	0.4%	0.2%	0.5%	0.0%	0.0%	0.6%	4.9%	0.0%	100.0%
Road 54	54	50	24.0	N	1700-1800	131	15.5%	4.9%	0.3%	32.2%	11.6%	7.3%	14.3%	7.6%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	3.7%	0.0%	100.0%
Road 54	54	50	24.5	N	1800-1900	106	25.3%	5.9%	0.3%	26.8%	9.6%	5.6%	11.0%	9.9%	0.0%	0.0%	0.4%	0.3%	0.7%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%
Road 54	54	50	24.9	N	1900-2000	77	27.2%	8.5%	0.2%	22.4%	8.1%	5.4%	10.5%	12.6%	0.0%	0.0%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	2.7%	0.0%	100.0%
Road 54	54	50	25.6	N	2000-2100	61	24.5%	10.4%	0.2%	23.2%	8.3%	5.1%	10.1%	13.3%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.0%	2.6%	0.0%	100.0%
Road 54	54	50	25.6	N	2100-2200	62	24.7%	10.2%	0.2%	23.4%	8.4%	5.4%	10.6%	12.5%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	2.8%	0.0%	100.0%
Road 54	54	50	26.0	N	2200-2300	56	26.3%	11.9%	0.2%	19.4%	7.0%	6.2%	12.1%	12.2%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	1.0%	3.2%	0.0%	100.0%
Road 54	54	50	26.8	N	2300-0000	44	24.6%	11.1%	0.2%	20.6%	7.4%	6.5%	12.8%	11.7%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	3.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 101	101	80	80.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0700-0800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0800-0900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	0900-1000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1000-1100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1100-1200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1200-1300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1300-1400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1400-1500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1500-1600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1600-1700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1700-1800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1800-1900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 101	101	80	80.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0700-0800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0800-0900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	0900-1000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1000-1100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1100-1200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1200-1300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1300-1400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1400-1500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1500-1600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1600-1700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1700-1800	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1800-1900	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Road 102	102	80	80.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Traffic Data / Modeling Parameters For AERMOD (Year 2030)

| Road Name | Road ID | Speed Limit (km/hr) | Average

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 1	1	80	80.0	N	0000-0100	970	57.0%	25.6%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.8%	2.9%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	0100-0200	630	56.1%	25.1%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.8%	3.2%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	0200-0300	461	55.1%	24.5%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	3.8%	3.5%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	0300-0400	364	54.1%	24.1%	0.0%	4.6%	1.7%	1.4%	2.8%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	3.7%	3.8%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	0400-0500	399	53.1%	23.5%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.7%	4.1%	0.8%	0.0%	100.0%
Road 1	1	80	80.0	N	0500-0600	691	52.1%	22.9%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.7%	4.4%	0.9%	0.0%	100.0%
Road 1	1	80	80.0	N	0600-0700	1480	51.0%	22.3%	0.1%	5.7%	2.0%	1.8%	3.5%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.7%	4.8%	0.9%	0.0%	100.0%
Road 1	1	80	80.0	N	0700-0800	2991	50.0%	21.8%	0.1%	6.1%	2.2%	1.9%	3.7%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.7%	5.1%	1.0%	0.0%	100.0%
Road 1	1	80	77.7	N	0800-0900	3462	55.8%	17.8%	0.1%	6.6%	2.4%	1.8%	3.6%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	3.2%	3.2%	0.9%	0.0%	100.0%
Road 1	1	80	80.0	N	0900-1000	2842	51.1%	18.6%	0.1%	9.3%	3.4%	2.5%	5.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.4%	2.0%	1.3%	0.0%	100.0%
Road 1	1	80	80.0	N	1000-1100	2455	48.4%	18.8%	0.1%	10.0%	3.6%	3.2%	6.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.3%	1.5%	1.6%	0.0%	100.0%
Road 1	1	80	80.0	N	1100-1200	2327	48.3%	19.9%	0.1%	10.0%	3.6%	3.1%	6.1%	0.0%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	3.4%	1.4%	1.6%	0.0%	100.0%
Road 1	1	80	78.8	N	1200-1300	3064	48.1%	18.5%	0.1%	9.4%	3.4%	3.4%	6.6%	0.0%	0.1%	0.8%	0.8%	0.6%	1.3%	0.0%	3.9%	1.4%	1.7%	0.0%	100.0%
Road 1	1	80	78.3	N	1300-1400	3115	46.6%	18.0%	0.1%	11.2%	4.0%	3.5%	6.8%	0.0%	0.1%	0.7%	0.7%	0.5%	1.0%	0.0%	3.7%	1.4%	1.8%	0.0%	100.0%
Road 1	1	80	77.0	N	1400-1500	3334	46.6%	18.8%	0.1%	9.9%	3.6%	3.4%	6.6%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.7%	1.8%	1.7%	0.0%	100.0%
Road 1	1	80	76.7	N	1500-1600	3407	46.3%	18.6%	0.1%	11.5%	4.1%	2.9%	5.7%	0.0%	0.1%	0.8%	1.0%	0.7%	1.4%	0.0%	3.6%	1.7%	1.5%	0.0%	100.0%
Road 1	1	80	75.1	N	1600-1700	3652	48.9%	16.9%	0.1%	12.0%	4.3%	3.2%	6.4%	0.0%	0.1%	1.2%	1.4%	1.0%	2.2%	0.0%	3.9%	2.3%	1.4%	0.0%	100.0%
Road 1	1	80	73.3	N	1700-1800	4174	53.6%	16.8%	0.1%	8.0%	2.9%	1.8%	3.5%	0.0%	0.1%	0.8%	0.9%	0.7%	1.4%	0.0%	3.9%	4.6%	0.9%	0.0%	100.0%
Road 1	1	80	71.6	N	1800-1900	4625	64.0%	15.0%	0.1%	4.9%	1.7%	1.0%	2.0%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	4.0%	3.1%	0.5%	0.0%	100.0%
Road 1	1	80	77.1	N	1900-2000	3693	62.4%	19.5%	0.0%	3.7%	1.3%	0.9%	1.7%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	4.5%	2.3%	0.5%	0.0%	100.0%
Road 1	1	80	80.0	N	2000-2100	2873	57.5%	24.4%	0.0%	3.9%	1.4%	0.9%	1.7%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	4.8%	3.3%	0.4%	0.0%	100.0%
Road 1	1	80	80.0	N	2100-2200	2859	58.8%	24.3%	0.0%	4.0%	1.4%	0.9%	1.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.2%	2.7%	0.5%	0.0%	100.0%
Road 1	1	80	80.0	N	2200-2300	2786	58.1%	26.3%	0.0%	3.1%	1.1%	1.0%	1.9%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	4.5%	2.2%	0.5%	0.0%	100.0%
Road 1	1	80	80.0	N	2300-0000	2081	57.2%	25.8%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	4.5%	2.5%	0.6%	0.0%	100.0%
Road 2	2	80	80.0	N	0000-0100	974	53.6%	24.1%	0.1%	5.4%	1.9%	1.7%	3.4%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	4.2%	2.7%	1.1%	0.0%	100.0%
Road 2	2	80	80.0	N	0100-0200	637	52.4%	23.4%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.1%	3.0%	1.3%	0.0%	100.0%
Road 2	2	80	80.0	N	0200-0300	468	51.2%	22.8%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	4.1%	3.2%	1.4%	0.0%	100.0%
Road 2	2	80	80.0	N	0300-0400	372	50.0%	22.2%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	4.0%	3.5%	1.6%	0.0%	100.0%
Road 2	2	80	80.0	N	0400-0500	410	48.8%	21.6%	0.1%	7.4%	2.7%	2.3%	4.6%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	4.0%	3.8%	1.7%	0.0%	100.0%
Road 2	2	80	80.0	N	0500-0600	712	47.7%	21.0%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	4.0%	4.1%	1.5%	0.0%	100.0%
Road 2	2	80	80.0	N	0600-0700	1531	46.6%	20.4%	0.1%	8.4%	3.0%	2.6%	5.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.9%	4.4%	1.5%	0.0%	100.0%
Road 2	2	80	80.0	N	0700-0800	3114	45.4%	19.8%	0.1%	8.9%	3.2%	2.8%	5.5%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.9%	4.6%	1.7%	0.0%	100.0%
Road 2	2	80	75.8	N	0800-0900	3612	50.5%	16.2%	0.1%	9.7%	3.5%	2.7%	5.3%	0.0%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	3.4%	2.9%	1.6%	0.0%	100.0%
Road 2	2	80	78.3	N	0900-1000	3070	44.7%	16.2%	0.1%	13.3%	4.8%	3.6%	7.1%	0.0%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	3.4%	1.7%	2.1%	0.0%	100.0%
Road 2	2	80	80.0	N	1000-1100	2699	41.6%	16.2%	0.1%	14.0%	5.0%	4.4%	8.7%	0.0%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	3.4%	1.3%	2.5%	0.0%	100.0%
Road 2	2	80	80.0	N	1100-1200	2554	41.6%	17.1%	0.1%	13.9%	5.0%	4.4%	8.6%	0.0%	0.1%	0.8%	0.4%	0.3%	0.6%	0.0%	3.4%	1.2%	2.5%	0.0%	100.0%
Road 2	2	80	77.4	N	1200-1300	3082	40.0%	15.4%	0.1%	14.3%	5.1%	5.1%	10.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	2.9%	1.2%	2.9%	0.0%	100.0%
Road 2	2	80	76.5	N	1300-1400	3195	38.0%	14.6%	0.2%	16.7%	6.0%	5.2%	10.2%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.7%	1.2%	2.9%	0.0%	100.0%
Road 2	2	80	75.4	N	1400-1500	3370	38.6%	15.6%	0.2%	15.0%	5.4%	5.1%	10.0%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	2.7%	1.5%	2.8%	0.0%	100.0%
Road 2	2	80	75.0	N	1500-1600	3457	38.2%	15.3%	0.2%	17.3%	6.2%	4.4%	8.6%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	2.7%	1.4%	2.5%	0.0%	100.0%
Road 2	2	80	74.1	N	1600-1700	3609	41.4%	14.3%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	1.0%	1.2%	0.8%	1.9%	0.0%	3.0%	1.9%	2.4%	0.0%	100.0%
Road 2	2	80	73.2	N	1700-1800	3983	47.0%	14.7%	0.1%	12.8%	4.6%	2.9%	5.7%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.1%	4.0%	1.7%	0.0%	100.0%
Road 2	2	80	73.3	N	1800-1900	4188	59.2%	13.9%	0.1%	8.2%	2.9%	1.7%	3.4%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	3.3%	2.8%	1.1%	0.0%	100.0%
Road 2	2	80	78.9	N	1900-2000	3286	58.7%	18.4%	0.1%	6.3%	2.3%	1.5%	3.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	3.8%	2.2%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2000-2100	2561	54.0%	22.9%	0.1%	6.7%	2.4%	1.5%	2.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.0%	2.2%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2100-2200	2556	55.0%	22.8%	0.1%	6.8%	2.4%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.5%	2.5%	0.9%	0.0%	100.0%
Road 2	2	80	80.0	N	2200-2300	2470	54.9%	24.8%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.8%	2.1%	0.9%	0.0%	100.0%
Road 2	2	80	80.0	N	2300-0000	1858	53.6%	24.2%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.8%	2.4%	1.1%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 3	3	70	70.0	N	0000-0100	330	55.2%	24.8%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.1%	2.9%	0.6%	0.0%	100.0%
Road 3	3	70	70.0	N	0100-0200	215	54.2%	24.3%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.0%	3.1%	0.7%	0.0%	100.0%
Road 3	3	70	70.0	N	0200-0300	157	53.3%	23.7%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	4.0%	3.4%	0.7%	0.0%	100.0%
Road 3	3	70	70.0	N	0300-0400	124	52.3%	23.2%	0.1%	4.8%	1.7%	1.5%	2.9%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.0%	3.8%	0.7%	0.0%	100.0%
Road 3	3	70	70.0	N	0400-0500	136	51.3%	22.7%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.0%	4.1%	0.8%	0.0%	100.0%
Road 3	3	70	70.0	N	0500-0600	236	50.3%	22.1%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	4.0%	4.4%	0.9%	0.0%	100.0%
Road 3	3	70	70.0	N	0600-0700	506	49.3%	21.6%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.0%	4.8%	1.0%	0.0%	100.0%
Road 3	3	70	70.0	N	0700-0800	1023	48.2%	21.0%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	4.0%	5.2%	1.1%	0.0%	100.0%
Road 3	3	70	65.9	N	0800-0900	1181	54.0%	17.3%	0.1%	6.9%	2.5%	1.9%	3.8%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	4.0%	3.3%	0.9%	0.0%	100.0%
Road 3	3	70	68.7	N	0900-1000	975	49.2%	17.8%	0.1%	9.7%	3.5%	2.6%	5.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.0%	2.0%	1.2%	0.0%	100.0%
Road 3	3	70	70.0	N	1000-1100	844	46.5%	18.0%	0.1%	10.4%	3.7%	3.3%	6.5%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	4.0%	1.5%	1.6%	0.0%	100.0%
Road 3	3	70	70.0	N	1100-1200	800	46.3%	19.1%	0.1%	10.3%	3.7%	3.2%	6.3%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	4.0%	1.4%	1.6%	0.0%	100.0%
Road 3	3	70	66.8	N	1200-1300	1017	42.2%	16.2%	0.1%	11.8%	4.2%	4.2%	8.3%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	4.0%	1.9%	2.2%	0.0%	100.0%
Road 3	3	70	66.2	N	1300-1400	1043	40.5%	15.6%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	4.0%	1.7%	2.2%	0.0%	100.0%
Road 3	3	70	65.2	N	1400-1500	1108	40.8%	16.5%	0.1%	12.4%	4.4%	4.2%	8.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.0%	1.8%	2.2%	0.0%	100.0%
Road 3	3	70	64.8	N	1500-1600	1134	40.5%	16.3%	0.1%	14.3%	5.1%	3.6%	7.1%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	4.0%	1.6%	2.1%	0.0%	100.0%
Road 3	3	70	63.6	N	1600-1700	1201	43.3%	14.9%	0.1%	11.3%	4.1%	3.5%	7.0%	0.0%	0.1%	1.0%	1.3%	0.9%	1.9%	0.0%	4.0%	2.3%	1.4%	0.0%	100.0%
Road 3	3	70	62.3	N	1700-1800	1348	48.3%	15.1%	0.1%	10.2%	3.7%	2.3%	4.6%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	4.0%	4.2%	1.2%	0.0%	100.0%
Road 3	3	70	61.5	N	1800-1900	1454	59.3%	13.9%	0.1%	6.4%	2.3%	1.3%	2.6%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	4.0%	3.1%	0.5%	0.0%	100.0%
Road 3	3	70	66.4	N	1900-2000	1157	58.0%	18.2%	0.1%	4.9%	1.8%	1.2%	2.3%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.0%	2.3%	0.5%	0.0%	100.0%
Road 3	3	70	70.0	N	2000-2100	903	53.3%	22.6%	0.1%	5.2%	1.9%	1.1%	2.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.0%	3.0%	0.4%	0.0%	100.0%
Road 3	3	70	70.0	N	2100-2200	895	54.6%	22.6%	0.1%	5.3%	1.9%	1.2%	2.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.0%	2.7%	0.5%	0.0%	100.0%
Road 3	3	70	70.0	N	2200-2300	871	54.1%	24.5%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.0%	2.5%	0.6%	0.0%	100.0%
Road 3	3	70	70.0	N	2300-0000	653	53.1%	23.9%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	7.9%	2.3%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0000-0100	639	58.0%	26.0%	0.0%	3.5%	1.2%	1.1%	2.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.6%	2.9%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	0100-0200	415	57.0%	25.5%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.6%	3.2%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	0200-0300	303	56.0%	25.0%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.6%	3.5%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0300-0400	239	55.0%	24.4%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	2.5%	3.9%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0400-0500	263	54.0%	23.9%	0.1%	4.9%	1.7%	1.5%	3.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.5%	4.2%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0500-0600	455	53.0%	23.3%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.5%	4.5%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0600-0700	974	52.0%	22.8%	0.1%	5.6%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.5%	4.9%	1.0%	0.0%	100.0%
Road 4	4	80	80.0	N	0700-0800	1968	50.9%	22.2%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	2.5%	5.2%	1.0%	0.0%	100.0%
Road 4	4	80	77.9	N	0800-0900	2281	56.8%	18.2%	0.1%	6.5%	2.3%	1.8%	3.6%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.2%	3.3%	0.9%	0.0%	100.0%
Road 4	4	80	80.0	N	0900-1000	1867	52.1%	18.9%	0.1%	9.2%	3.3%	2.5%	4.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.3%	2.0%	1.3%	0.0%	100.0%
Road 4	4	80	80.0	N	1000-1100	1611	49.4%	19.2%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.3%	1.5%	1.6%	0.0%	100.0%
Road 4	4	80	80.0	N	1100-1200	1527	49.3%	20.3%	0.1%	9.8%	3.5%	3.1%	6.0%	0.0%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	2.3%	1.4%	1.6%	0.0%	100.0%
Road 4	4	80	79.1	N	1200-1300	2047	51.0%	19.7%	0.1%	8.2%	3.0%	2.9%	5.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	2.6%	1.5%	1.5%	0.0%	100.0%
Road 4	4	80	78.7	N	1300-1400	2071	49.7%	19.1%	0.1%	9.9%	3.5%	3.1%	6.0%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	2.5%	1.5%	1.6%	0.0%	100.0%
Road 4	4	80	77.3	N	1400-1500	2227	49.4%	20.0%	0.1%	8.7%	3.1%	2.9%	5.8%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	2.4%	1.9%	1.5%	0.0%	100.0%
Road 4	4	80	77.0	N	1500-1600	2273	49.2%	19.8%	0.1%	10.1%	3.6%	2.6%	5.0%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	2.4%	1.8%	1.3%	0.0%	100.0%
Road 4	4	80	75.3	N	1600-1700	2450	51.7%	17.8%	0.1%	7.8%	2.8%	2.4%	4.8%	0.0%	0.2%	1.2%	1.5%	1.1%	2.3%	0.0%	2.6%	2.4%	1.3%	0.0%	100.0%
Road 4	4	80	73.2	N	1700-1800	2826	56.1%	17.5%	0.1%	6.9%	2.5%	1.6%	3.1%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.6%	4.8%	0.8%	0.0%	100.0%
Road 4	4	80	71.1	N	1800-1900	3171	66.2%	15.5%	0.0%	4.1%	1.5%	0.9%	1.7%	0.0%	0.0%	0.1%	0.9%	0.7%	1.5%	0.0%	2.6%	3.2%	0.4%	0.0%	100.0%
Road 4	4	80	76.7	N	1900-2000	2136	64.4%	20.2%	0.0%	3.1%	1.1%	0.7%	1.5%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	2.9%	2.4%	0.4%	0.0%	100.0%
Road 4	4	80	80.0	N	2000-2100	1971	59.4%	25.2%	0.0%	3.3%	1.2%	0.7%	1.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.1%	2.4%	0.4%	0.0%	100.0%
Road 4	4	80	80.0	N	2100-2200	1964	60.6%	25.1%	0.0%	3.4%	1.2%	0.8%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.7%	2.8%	0.4%	0.0%	100.0%
Road 4	4	80	80.0	N	2200-2300	1915	60.0%	27.1%	0.0%	2.6%	0.9%	0.8%	1.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.9%	2.3%	0.4%	0.0%	100.0%
Road 4	4	80	80.0	N	2300-0000	1429	59.1%	26.6%	0.0%	2.9%	1.0%	0.9%	1.8%	0.0%	0.0%	0.0%	0.4%	0.3%	0.7%	0.0%	2.9%	2.6%	0.5%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

**Traffic Data / Modeling

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 9	9	50	43.3	N	0000-0100	316	56.0%	25.2%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.1%	2.8%	0.7%	0.0%	100.0%
Road 9	9	50	45.6	N	0100-0200	206	55.0%	24.6%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.1%	3.1%	0.7%	0.0%	100.0%
Road 9	9	50	46.8	N	0200-0300	150	54.0%	24.1%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	4.1%	3.4%	0.8%	0.0%	100.0%
Road 9	9	50	47.4	N	0300-0400	119	52.9%	23.5%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.0%	3.7%	0.8%	0.0%	100.0%
Road 9	9	50	47.1	N	0400-0500	131	51.9%	22.9%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.0%	4.0%	0.9%	0.0%	100.0%
Road 9	9	50	45.0	N	0500-0600	227	50.8%	22.4%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	4.0%	4.3%	1.0%	0.0%	100.0%
Road 9	9	50	39.5	N	0600-0700	486	49.8%	21.8%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	4.0%	4.7%	1.0%	0.0%	100.0%
Road 9	9	50	33.3	N	0700-0800	984	47.8%	21.2%	0.1%	6.8%	2.5%	2.1%	4.2%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.9%	5.0%	1.1%	0.0%	100.0%
Road 9	9	50	31.3	N	0800-0900	1139	54.3%	17.4%	0.1%	7.4%	2.7%	2.1%	4.1%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.5%	3.2%	1.1%	0.0%	100.0%
Road 9	9	50	33.3	N	0900-1000	944	49.3%	17.9%	0.1%	10.4%	3.7%	2.8%	5.6%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.6%	1.9%	1.5%	0.0%	100.0%
Road 9	9	50	34.7	N	1000-1100	819	46.5%	18.0%	0.1%	11.1%	4.0%	3.5%	6.9%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.5%	1.4%	1.8%	0.0%	100.0%
Road 9	9	50	35.4	N	1100-1200	776	46.3%	19.1%	0.1%	11.1%	4.0%	3.5%	6.8%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	3.6%	1.3%	1.8%	0.0%	100.0%
Road 9	9	50	27.3	N	1200-1300	1214	30.9%	11.9%	0.2%	19.4%	7.0%	7.0%	13.7%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	3.2%	0.9%	3.6%	0.0%	100.0%
Road 9	9	50	24.4	N	1300-1400	1283	28.8%	11.1%	0.2%	22.3%	8.0%	6.9%	13.6%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	2.9%	0.9%	3.5%	0.0%	100.0%
Road 9	9	50	22.5	N	1400-1500	1333	29.7%	12.0%	0.2%	20.3%	7.3%	6.9%	13.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.0%	1.1%	3.5%	0.0%	100.0%
Road 9	9	50	21.4	N	1500-1600	1373	29.3%	11.7%	0.2%	23.3%	8.4%	5.9%	11.6%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.9%	1.1%	3.0%	0.0%	100.0%
Road 9	9	50	20.7	N	1600-1700	1395	32.6%	11.2%	0.2%	19.3%	6.9%	6.0%	11.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	3.4%	1.5%	3.1%	0.0%	100.0%
Road 9	9	50	20.9	N	1700-1800	1479	38.5%	12.0%	0.2%	18.4%	6.6%	4.2%	8.2%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	3.6%	3.3%	2.1%	0.0%	100.0%
Road 9	9	50	25.4	N	1800-1900	1457	51.8%	12.2%	0.1%	12.6%	4.5%	2.6%	5.2%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	4.1%	2.5%	1.4%	0.0%	100.0%
Road 9	9	50	31.1	N	1900-2000	1121	52.3%	16.4%	0.1%	9.9%	3.6%	2.4%	4.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.9%	1.9%	1.2%	0.0%	100.0%
Road 9	9	50	34.2	N	2000-2100	877	48.0%	20.4%	0.1%	10.5%	3.8%	2.3%	4.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.1%	1.9%	1.2%	0.0%	100.0%
Road 9	9	50	34.4	N	2100-2200	876	48.8%	20.2%	0.1%	10.6%	3.8%	2.4%	4.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.5%	2.2%	1.3%	0.0%	100.0%
Road 9	9	50	34.9	N	2200-2300	838	49.2%	22.2%	0.1%	8.4%	3.0%	2.7%	5.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	4.9%	1.9%	1.4%	0.0%	100.0%
Road 9	9	50	37.4	N	2300-0000	636	47.6%	21.5%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	4.8%	2.1%	1.5%	0.0%	100.0%
Road 10	10	50	48.9	Y	0000-0100	49	47.5%	21.3%	0.1%	10.4%	3.7%	3.3%	6.5%	1.4%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.4%	1.7%	0.0%	100.0%
Road 10	10	50	49.3	Y	0100-0200	32	45.9%	20.5%	0.1%	11.2%	4.0%	3.5%	7.0%	1.4%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	0.0%	2.8%	1.8%	0.0%	100.0%
Road 10	10	50	49.4	Y	0200-0300	24	44.3%	19.7%	0.1%	12.0%	4.3%	3.8%	7.4%	1.4%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	2.8%	1.9%	0.0%	100.0%
Road 10	10	50	49.6	Y	0300-0400	19	42.7%	19.0%	0.1%	12.8%	4.6%	4.0%	7.9%	1.4%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	2.1%	0.0%	100.0%
Road 10	10	50	49.5	Y	0400-0500	21	41.2%	18.2%	0.1%	13.6%	4.9%	4.3%	8.4%	1.3%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	2.2%	0.0%	100.0%
Road 10	10	50	49.1	Y	0500-0600	38	39.7%	17.5%	0.1%	14.3%	5.1%	4.5%	8.8%	1.3%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.3%	0.0%	100.0%
Road 10	10	50	48.0	Y	0600-0700	82	38.3%	16.8%	0.2%	15.0%	5.4%	4.7%	9.3%	1.3%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.6%	2.4%	0.0%	100.0%
Road 10	10	50	45.9	Y	0700-0800	170	36.8%	16.0%	0.2%	15.8%	5.7%	4.9%	9.7%	1.3%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	2.5%	0.0%	100.0%
Road 10	10	50	45.1	Y	0800-0900	198	40.7%	13.0%	0.2%	17.0%	6.1%	4.7%	9.3%	1.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.0%	2.4%	2.4%	0.0%	100.0%
Road 10	10	50	45.3	Y	0900-1000	181	33.4%	12.1%	0.2%	21.5%	7.7%	5.9%	11.5%	1.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.3%	3.0%	0.0%	100.0%
Road 10	10	50	45.6	Y	1000-1100	165	30.1%	11.7%	0.2%	21.9%	7.9%	7.0%	13.7%	1.1%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	0.9%	3.6%	0.0%	100.0%
Road 10	10	50	45.9	Y	1100-1200	156	30.1%	12.4%	0.2%	21.9%	7.9%	6.9%	13.5%	1.2%	0.1%	0.5%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	3.5%	0.0%	100.0%
Road 10	10	50	47.6	Y	1200-1300	82	19.9%	7.7%	0.3%	26.9%	9.7%	9.7%	19.0%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	5.0%	0.0%	100.0%
Road 10	10	50	47.4	Y	1300-1400	90	18.0%	6.9%	0.3%	30.0%	10.8%	9.3%	18.3%	0.0%	0.0%	0.3%	0.3%	0.2%	0.4%	0.0%	0.0%	0.5%	4.8%	0.0%	100.0%
Road 10	10	50	47.4	Y	1400-1500	91	18.9%	7.7%	0.3%	27.9%	10.0%	9.5%	18.6%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	4.9%	0.0%	100.0%
Road 10	10	50	47.3	Y	1500-1600	94	18.5%	7.4%	0.3%	31.9%	11.4%	8.1%	15.9%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 10	10	50	47.4	Y	1600-1700	92	21.5%	7.4%	0.3%	27.4%	9.9%	8.6%	16.9%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	1.0%	4.4%	0.0%	100.0%
Road 10	10	50	47.6	Y	1700-1800	92	27.1%	8.5%	0.3%	27.9%	10.0%	6.3%	12.4%	0.0%	0.0%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	3.2%	0.0%	100.0%
Road 10	10	50	48.0	Y	1800-1900	80	40.9%	9.6%	0.2%	21.5%	7.7%	4.5%	8.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.9%	2.3%	0.0%	100.0%
Road 10	10	50	48.6	Y	1900-2000	59	43.4%	13.6%	0.2%	17.8%	6.4%	4.2%	8.4%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.6%	2.2%	0.0%	100.0%
Road 10	10	50	48.9	Y	2000-2100	46	39.7%	16.9%	0.2%	18.7%	6.7%	4.1%	8.1%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.6%	2.1%	0.0%	100.0%
Road 10	10	50	48.9	Y	2100-2200	47	39.9%	16.5%	0.2%	18.8%	6.7%	4.3%	8.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	2.2%	0.0%	100.0%
Road 10	10	50	49.0	Y	2200-2300	43	41.4%	18.7%	0.2%	15.2%	5.4%	4.8%	9.5%	0.0%	0.0%	0.0%	0.2%	0.2%	0.4%	0.0%	0.0%	1.6%	2.5%	0.0%	100.0%
Road 10	10	50	49.2	Y	2300-0000	34	39.2%	17.7%	0.2%	16.3%	5.9%	5.2%	10.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	2.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 11	11	50	46.1	Y	0000-0100	364	54.9%	24.6%	0.1%	4.9%	1.8%	1.5%	3.0%	0.2%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	3.6%	2.8%	0.8%	0.0%	100.0%
Road 11	11	50	47.4	Y	0100-0200	238	53.8%	24.1%	0.1%	5.3%	1.9%	1.7%	3.3%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.6%	3.0%	0.9%	0.0%	100.0%
Road 11	11	50	48.1	Y	0200-0300	174	52.7%	23.5%	0.1%	5.8%	2.1%	1.8%	3.6%	0.2%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.5%	3.3%	0.9%	0.0%	100.0%
Road 11	11	50	48.5	Y	0300-0400	138	51.5%	22.9%	0.1%	6.3%	2.2%	2.0%	3.9%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.5%	3.6%	1.0%	0.0%	100.0%
Road 11	11	50	48.3	Y	0400-0500	152	50.4%	22.3%	0.1%	6.7%	2.4%	2.1%	4.2%	0.2%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.5%	3.9%	1.1%	0.0%	100.0%
Road 11	11	50	47.0	Y	0500-0600	264	49.2%	21.7%	0.1%	7.2%	2.6%	2.3%	4.4%	0.2%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.4%	4.2%	1.2%	0.0%	100.0%
Road 11	11	50	43.6	Y	0600-0700	569	48.1%	21.1%	0.1%	7.7%	2.8%	2.4%	4.7%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.4%	4.5%	1.2%	0.0%	100.0%
Road 11	11	50	38.3	Y	0700-0800	1153	46.9%	20.4%	0.1%	8.1%	2.9%	2.5%	5.0%	0.2%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.3%	4.8%	1.3%	0.0%	100.0%
Road 11	11	50	37.1	Y	0800-0900	1337	52.3%	16.7%	0.1%	8.8%	3.2%	2.5%	4.9%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.0%	3.3%	1.3%	0.0%	100.0%
Road 11	11	50	38.2	Y	0900-1000	1125	46.7%	17.0%	0.1%	12.2%	4.4%	3.3%	6.5%	0.2%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.0%	1.8%	1.7%	0.0%	100.0%
Road 11	11	50	38.9	Y	1000-1100	984	43.7%	17.0%	0.1%	12.9%	4.6%	4.1%	8.1%	0.2%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.0%	2.0%	1.3%	0.0%	100.0%
Road 11	11	50	39.3	Y	1100-1200	932	43.6%	18.0%	0.1%	12.9%	4.6%	4.0%	7.9%	0.2%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	3.0%	2.1%	1.4%	0.0%	100.0%
Road 11	11	50	35.8	Y	1200-1300	1296	30.2%	11.6%	0.2%	19.9%	7.1%	7.1%	14.0%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	3.0%	0.9%	3.7%	0.0%	100.0%
Road 11	11	50	35.1	Y	1300-1400	1373	28.1%	10.8%	0.2%	22.8%	8.2%	7.1%	13.9%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	2.7%	0.9%	3.6%	0.0%	100.0%
Road 11	11	50	34.8	Y	1400-1500	1424	29.0%	11.7%	0.2%	20.8%	7.5%	7.0%	13.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.8%	1.1%	3.6%	0.0%	100.0%
Road 11	11	50	34.6	Y	1500-1600	1468	28.6%	11.5%	0.2%	23.9%	8.6%	6.0%	11.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.7%	1.0%	3.1%	0.0%	100.0%
Road 11	11	50	34.5	Y	1600-1700	1487	31.9%	11.0%	0.2%	19.8%	7.1%	6.2%	12.1%	0.0%	0.1%	0.8%	0.9%	0.7%	1.4%	0.0%	3.2%	1.5%	3.2%	0.0%	100.0%
Road 11	11	50	34.6	Y	1700-1800	1571	37.9%	11.8%	0.2%	18.9%	6.8%	4.3%	8.4%	0.0%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	3.4%	3.3%	2.2%	0.0%	100.0%
Road 11	11	50	35.5	Y	1800-1900	1537	51.2%	12.0%	0.1%	13.1%	4.7%	2.7%	5.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	3.9%	2.4%	1.4%	0.0%	100.0%
Road 11	11	50	37.9	Y	1900-2000	1180	51.9%	16.2%	0.1%	10.3%	3.7%	2.5%	4.8%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.6%	1.9%	1.3%	0.0%	100.0%
Road 11	11	50	39.6	Y	2000-2100	923	47.6%	20.2%	0.1%	10.9%	3.9%	2.4%	4.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	4.8%	1.9%	1.2%	0.0%	100.0%
Road 11	11	50	39.7	Y	2100-2200	923	48.4%	20.0%	0.1%	11.1%	4.0%	2.5%	5.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.3%	2.2%	1.3%	0.0%	100.0%
Road 11	11	50	39.7	Y	2200-2300	882	48.8%	22.1%	0.1%	8.7%	3.1%	2.8%	5.4%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	4.7%	1.9%	1.4%	0.0%	100.0%
Road 11	11	50	42.2	Y	2300-0000	670	47.2%	21.3%	0.1%	9.5%	3.4%	3.0%	5.9%	0.0%	0.0%	0.2%	0.5%	0.4%	0.7%	0.0%	4.5%	2.1%	1.6%	0.0%	100.0%
Road 12	12	50	27.6	Y	0000-0100	20	4.7%	2.1%	0.0%	0.9%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 12	12	50	27.6	Y	0100-0200	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 12	12	50	27.6	Y	0200-0300	19	2.2%	1.0%	0.0%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 12	12	50	27.7	Y	0300-0400	19	1.8%	0.8%	0.0%	0.5%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 12	12	50	27.6	Y	0400-0500	19	1.9%	0.8%	0.0%	0.6%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 12	12	50	27.6	Y	0500-0600	20	3.1%	1.4%	0.0%	1.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 12	12	50	27.5	Y	0600-0700	22	6.0%	2.6%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	0700-0800	77	3.3%	1.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	0800-0900	78	4.2%	1.3%	0.0%	1.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	0900-1000	78	3.2%	1.2%	0.0%	1.8%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1000-1100	77	2.6%	1.0%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1100-1200	77	2.5%	1.0%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1200-1300	77	2.8%	1.1%	0.0%	1.5%	0.5%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1300-1400	77	2.8%	1.1%	0.0%	1.8%	0.7%	0.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1400-1500	78	2.9%	1.2%	0.0%	1.7%	0.6%	0.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1500-1600	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1600-1700	78	3.4%	1.2%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1700-1800	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1800-1900	79	5.6%	1.3%	0.0%	1.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	1900-2000	24	13.9%	4.4%	0.0%	2.3%	0.8%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	2000-2100	23	10.6%	4.5%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	2100-2200	23	10.7%	4.4%	0.0%	2.0%	0.7%	0.5%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	2200-2300	23	10.4%	4.7%	0.0%	1.5%	0.5%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	100.0%
Road 12	12	50	27.5	Y	2300-0000	22	8.1%	3.6%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	100.0%

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Appendix 4.5

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 17	17	70	66.5	N	0000-0100	492	53.2%	23.9%	0.1%	6.5%	2.3%	2.1%	4.0%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.4%	2.7%	1.1%	0.0%	100.0%
Road 17	17	70	67.7	N	0100-0200	322	51.9%	23.2%	0.1%	7.1%	2.5%	2.2%	4.4%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.3%	2.9%	1.1%	0.0%	100.0%
Road 17	17	70	68.3	N	0200-0300	237	50.6%	22.5%	0.1%	7.6%	2.7%	2.4%	4.7%	0.1%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.3%	3.2%	1.2%	0.0%	100.0%
Road 17	17	70	68.8	N	0300-0400	189	49.3%	21.9%	0.1%	8.2%	3.0%	2.6%	5.1%	0.1%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.3%	3.5%	1.3%	0.0%	100.0%
Road 17	17	70	68.4	N	0400-0500	209	48.0%	21.2%	0.1%	8.8%	3.2%	2.8%	5.4%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.2%	3.7%	1.4%	0.0%	100.0%
Road 17	17	70	67.3	N	0500-0600	364	46.7%	20.6%	0.1%	9.4%	3.4%	2.9%	5.8%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.2%	4.0%	1.5%	0.0%	100.0%
Road 17	17	70	64.0	N	0600-0700	797	45.4%	19.9%	0.1%	9.9%	3.6%	3.1%	6.1%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.2%	4.3%	1.6%	0.0%	100.0%
Road 17	17	70	57.2	N	0700-0800	1603	44.2%	19.2%	0.1%	10.1%	3.8%	3.3%	6.6%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.2%	4.5%	1.7%	0.0%	100.0%
Road 17	17	70	22.4	N	0800-0900	1866	49.0%	15.7%	0.1%	11.4%	4.1%	3.2%	6.3%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	1.9%	2.8%	1.6%	0.0%	100.0%
Road 17	17	70	32.6	N	0900-1000	1611	42.7%	15.5%	0.2%	15.3%	5.5%	4.2%	8.2%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	1.9%	1.7%	2.1%	0.0%	100.0%
Road 17	17	70	41.0	N	1000-1100	1427	39.4%	15.3%	0.2%	16.0%	5.7%	5.1%	10.0%	0.1%	0.1%	0.4%	0.6%	0.5%	1.0%	0.0%	1.8%	1.2%	2.6%	0.0%	100.0%
Road 17	17	70	44.6	N	1100-1200	1349	39.4%	16.2%	0.2%	16.0%	5.7%	5.0%	9.8%	0.1%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	1.9%	1.1%	2.6%	0.0%	100.0%
Road 17	17	70	45.6	N	1200-1300	1173	25.8%	9.9%	0.2%	22.6%	8.1%	8.1%	15.9%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	2.4%	0.8%	4.2%	0.0%	100.0%
Road 17	17	70	41.9	N	1300-1400	1256	23.8%	9.2%	0.3%	25.6%	9.2%	7.9%	15.6%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	2.2%	0.7%	4.1%	0.0%	100.0%
Road 17	17	70	39.7	N	1400-1500	1292	24.7%	10.0%	0.2%	23.6%	8.5%	8.0%	15.7%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	2.2%	0.9%	4.1%	0.0%	100.0%
Road 17	17	70	38.0	N	1500-1600	1335	24.3%	9.8%	0.3%	27.0%	9.7%	6.8%	13.5%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	2.2%	0.9%	3.5%	0.0%	100.0%
Road 17	17	70	38.5	N	1600-1700	1333	27.5%	9.5%	0.2%	22.7%	8.1%	7.1%	13.9%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.6%	1.3%	3.6%	0.0%	100.0%
Road 17	17	70	40.9	N	1700-1800	1377	33.4%	10.4%	0.2%	22.2%	8.0%	5.0%	9.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.8%	2.9%	2.6%	0.0%	100.0%
Road 17	17	70	47.8	N	1800-1900	1294	47.0%	11.0%	0.2%	16.0%	5.7%	3.3%	6.6%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.4%	2.2%	1.7%	0.0%	100.0%
Road 17	17	70	59.8	N	1900-2000	979	48.4%	15.1%	0.1%	12.8%	4.6%	3.1%	6.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.1%	1.8%	1.6%	0.0%	100.0%
Road 17	17	70	64.0	N	2000-2100	767	44.3%	18.8%	0.1%	13.5%	4.8%	3.0%	5.8%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	4.2%	1.8%	1.5%	0.0%	100.0%
Road 17	17	70	64.0	N	2100-2200	769	44.9%	18.6%	0.1%	13.7%	4.9%	3.1%	6.2%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	3.7%	2.1%	1.6%	0.0%	100.0%
Road 17	17	70	64.3	N	2200-2300	729	45.7%	20.7%	0.1%	10.8%	3.9%	3.4%	6.8%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	4.1%	1.8%	1.8%	0.0%	100.0%
Road 17	17	70	67.5	N	2300-0000	557	43.9%	19.8%	0.1%	11.8%	4.2%	3.7%	7.4%	0.0%	0.1%	0.3%	0.2%	0.5%	0.5%	0.0%	3.8%	1.6%	1.9%	0.0%	100.0%
Road 18	18	70	69.0	N	0000-0100	305	54.2%	24.3%	0.0%	4.6%	1.7%	1.5%	2.9%	0.2%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	4.0%	2.7%	1.9%	0.0%	100.0%
Road 18	18	70	69.3	N	0100-0200	200	52.8%	23.6%	0.1%	5.1%	1.8%	1.6%	3.1%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.9%	3.0%	2.6%	0.0%	100.0%
Road 18	18	70	69.5	N	0200-0300	148	51.4%	22.9%	0.1%	5.5%	2.0%	1.7%	3.4%	0.2%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	3.8%	3.3%	3.3%	0.0%	100.0%
Road 18	18	70	69.6	N	0300-0400	118	50.0%	22.2%	0.1%	5.9%	2.1%	1.8%	3.6%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.8%	3.5%	4.0%	0.0%	100.0%
Road 18	18	70	69.5	N	0400-0500	129	49.0%	21.7%	0.1%	6.3%	2.3%	2.0%	3.9%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.8%	3.8%	3.8%	0.0%	100.0%
Road 18	18	70	69.2	N	0500-0600	222	48.5%	21.4%	0.1%	6.8%	2.5%	2.1%	4.2%	0.2%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.8%	4.1%	2.7%	0.0%	100.0%
Road 18	18	70	68.3	N	0600-0700	473	47.8%	21.0%	0.1%	7.4%	2.6%	2.3%	4.5%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.8%	4.5%	2.0%	0.0%	100.0%
Road 18	18	70	66.5	N	0700-0800	966	46.4%	20.2%	0.1%	7.8%	2.8%	2.4%	4.8%	0.2%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.7%	4.7%	2.7%	0.0%	100.0%
Road 18	18	70	65.9	N	0800-0900	1117	51.8%	16.6%	0.1%	8.4%	3.0%	2.4%	4.6%	0.2%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	3.3%	3.0%	2.5%	0.0%	100.0%
Road 18	18	70	66.5	N	0900-1000	940	46.3%	16.8%	0.1%	11.6%	4.2%	3.2%	6.2%	0.2%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.3%	1.8%	3.1%	0.0%	100.0%
Road 18	18	70	66.8	N	1000-1100	823	43.3%	16.8%	0.1%	12.3%	4.4%	3.9%	7.7%	0.2%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	3.3%	1.3%	3.7%	0.0%	100.0%
Road 18	18	70	67.0	N	1100-1200	780	43.2%	17.8%	0.1%	12.3%	4.4%	3.8%	7.5%	0.2%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	3.3%	1.2%	3.8%	0.0%	100.0%
Road 18	18	70	65.6	N	1200-1300	1013	29.1%	11.2%	0.2%	19.7%	7.1%	7.1%	13.9%	0.0%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	3.6%	0.9%	5.0%	0.0%	100.0%
Road 18	18	70	65.3	N	1300-1400	1072	27.1%	10.4%	0.2%	22.6%	8.1%	7.0%	13.8%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	3.3%	0.8%	4.9%	0.0%	100.0%
Road 18	18	70	65.2	N	1400-1500	1111	28.0%	11.3%	0.2%	20.7%	7.4%	7.0%	13.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.4%	1.1%	4.9%	0.0%	100.0%
Road 18	18	70	65.1	N	1500-1600	1145	27.6%	11.1%	0.2%	23.7%	8.5%	6.0%	11.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.3%	1.0%	4.3%	0.0%	100.0%
Road 18	18	70	65.0	N	1600-1700	1159	30.8%	10.6%	0.2%	19.7%	7.1%	6.1%	12.1%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	3.8%	1.5%	4.4%	0.0%	100.0%
Road 18	18	70	65.1	N	1700-1800	1222	36.7%	11.5%	0.2%	18.9%	6.8%	4.3%	8.4%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	4.1%	3.2%	3.3%	0.0%	100.0%
Road 18	18	70	65.5	N	1800-1900	1193	49.7%	11.7%	0.1%	13.1%	4.7%	2.7%	5.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.7%	2.4%	2.6%	0.0%	100.0%
Road 18	18	70	66.8	N	1900-2000	909	50.7%	15.9%	0.1%	10.4%	3.7%	2.5%	4.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	5.7%	1.9%	1.7%	0.0%	100.0%
Road 18	18	70	67.3	N	2000-2100	712	46.4%	19.7%	0.1%	10.9%	3.9%	2.4%	4.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	5.9%	1.9%	1.7%	0.0%	100.0%
Road 18	18	70	67.4	N	2100-2200	712	47.3%	19.6%	0.1%	11.1%	4.0%	2.6%	5.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.2%	2.2%	1.8%	0.0%	100.0%
Road 18	18	70	67.5	N	2200-2300	680	47.7%	21.6%	0.1%	8.7%	3.1%	2.8%	5.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	5.7%	1.8%	2.0%	0.0%	100.0%
Road 18	18	70	68.1	N	2300-0000	518	46.0%	20.7%	0.1%	9.6%	3.4%	3.0%	6.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.6%	2.0%	2.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 19	19	70	68.3	N	0000-0100	492	53.2%	23.9%	0.1%	6.5%	2.3%	2.1%	4.0%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.4%	2.7%	1.1%	0.0%	100.0%
Road 19	19	70	68.9	N	0100-0200	322	51.9%	23.2%	0.1%	7.1%	2.5%	2.2%	4.4%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.3%	2.9%	1.1%	0.0%	100.0%
Road 19	19	70	69.2	N	0200-0300	237	50.6%	22.5%	0.1%	7.6%	2.7%	2.4%	4.7%	0.1%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.3%	3.2%	1.2%	0.0%	100.0%
Road 19	19	70	69.3	N	0300-0400	189	49.3%	21.9%	0.1%	8.2%	3.0%	2.6%	5.1%	0.1%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.3%	3.5%	1.3%	0.0%	100.0%
Road 19	19	70	69.3	N	0400-0500	209	48.0%	21.2%	0.1%	8.8%	3.2%	2.8%	5.4%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.2%	3.7%	1.4%	0.0%	100.0%
Road 19	19	70	68.7	N	0500-0600	364	46.7%	20.6%	0.1%	9.4%	3.4%	2.9%	5.8%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.2%	4.0%	1.5%	0.0%	100.0%
Road 19	19	70	67.2	N	0600-0700	797	45.4%	19.9%	0.1%	9.9%	3.6%	3.1%	6.1%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.2%	4.3%	1.6%	0.0%	100.0%
Road 19	19	70	64.7	N	0700-0800	1603	44.2%	19.2%	0.1%	10.1%	3.8%	3.3%	6.6%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.2%	4.5%	1.7%	0.0%	100.0%
Road 19	19	70	63.2	N	0800-0900	1866	49.0%	15.7%	0.1%	11.4%	4.1%	3.2%	6.3%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	1.9%	2.8%	1.6%	0.0%	100.0%
Road 19	19	70	63.8	N	0900-1000	1611	42.7%	15.5%	0.2%	15.3%	5.5%	4.2%	8.2%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	1.9%	1.7%	2.1%	0.0%	100.0%
Road 19	19	70	64.4	N	1000-1100	1427	39.4%	15.3%	0.2%	16.0%	5.7%	5.1%	10.0%	0.1%	0.1%	0.4%	0.6%	0.5%	1.0%	0.0%	1.8%	1.2%	2.6%	0.0%	100.0%
Road 19	19	70	64.7	N	1100-1200	1349	39.4%	16.2%	0.2%	16.0%	5.7%	5.0%	9.8%	0.1%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	1.9%	1.1%	2.6%	0.0%	100.0%
Road 19	19	70	64.8	N	1200-1300	1173	25.8%	9.9%	0.2%	22.6%	8.1%	8.1%	15.9%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	2.4%	0.8%	4.2%	0.0%	100.0%
Road 19	19	70	64.4	N	1300-1400	1256	23.8%	9.2%	0.3%	25.6%	9.2%	7.9%	15.6%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	2.2%	0.7%	4.1%	0.0%	100.0%
Road 19	19	70	64.3	N	1400-1500	1292	24.7%	10.0%	0.2%	23.6%	8.5%	8.0%	15.7%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	2.2%	0.9%	4.1%	0.0%	100.0%
Road 19	19	70	64.2	N	1500-1600	1335	24.3%	9.8%	0.3%	27.0%	9.7%	6.8%	13.5%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	2.2%	0.9%	3.5%	0.0%	100.0%
Road 19	19	70	64.2	N	1600-1700	1333	27.5%	9.5%	0.2%	22.7%	8.1%	7.1%	13.9%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.6%	1.3%	3.6%	0.0%	100.0%
Road 19	19	70	64.4	N	1700-1800	1377	33.4%	10.4%	0.2%	22.2%	8.0%	5.0%	9.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.8%	2.9%	2.6%	0.0%	100.0%
Road 19	19	70	65.1	N	1800-1900	1294	47.0%	11.0%	0.2%	16.0%	5.7%	3.3%	6.6%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.4%	2.2%	1.7%	0.0%	100.0%
Road 19	19	70	67.3	N	1900-2000	979	48.4%	15.1%	0.1%	12.8%	4.6%	3.1%	6.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.1%	1.8%	1.6%	0.0%	100.0%
Road 19	19	70	67.1	N	2000-2100	767	44.3%	18.8%	0.1%	13.5%	4.8%	3.0%	5.8%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	4.2%	1.8%	1.5%	0.0%	100.0%
Road 19	19	70	67.1	N	2100-2200	769	44.9%	18.6%	0.1%	13.7%	4.9%	3.1%	6.2%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	3.7%	2.1%	1.6%	0.0%	100.0%
Road 19	19	70	67.3	N	2200-2300	729	45.7%	20.7%	0.1%	10.8%	3.9%	3.4%	6.8%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	4.1%	1.8%	1.8%	0.0%	100.0%
Road 19	19	70	67.9	N	2300-0000	557	43.9%	19.8%	0.1%	11.8%	4.2%	3.7%	7.4%	0.0%	0.1%	0.3%	0.2%	0.5%	0.5%	0.0%	3.8%	1.6%	1.9%	0.0%	100.0%
Road 20	20	50	47.9	N	0000-0100	63	15.7%	7.1%	0.2%	18.8%	6.8%	6.0%	11.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	32.4%	0.0%	100.0%
Road 20	20	50	48.3	N	0100-0200	49	12.9%	5.8%	0.2%	17.2%	6.2%	5.4%	10.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	40.4%	0.0%	100.0%
Road 20	20	50	48.5	N	0200-0300	42	10.8%	4.8%	0.2%	16.0%	5.7%	5.0%	9.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	46.4%	0.0%	100.0%
Road 20	20	50	48.6	N	0300-0400	38	9.2%	4.1%	0.2%	15.1%	5.4%	4.7%	9.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	50.8%	0.0%	100.0%
Road 20	20	50	48.5	N	0400-0500	41	9.2%	4.1%	0.2%	16.5%	5.9%	5.2%	10.2%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	47.4%	0.0%	100.0%
Road 20	20	50	47.9	N	0500-0600	60	10.7%	4.7%	0.2%	21.2%	7.6%	6.6%	13.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	34.2%	0.0%	100.0%
Road 20	20	50	46.4	N	0600-0700	111	12.1%	5.3%	0.3%	26.0%	9.3%	8.2%	16.0%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	20.7%	0.0%	100.0%
Road 20	20	50	40.9	N	0700-0800	268	10.0%	4.3%	0.2%	23.3%	8.4%	7.3%	14.3%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	30.2%	0.0%	100.0%
Road 20	20	50	39.9	N	0800-0900	305	11.3%	3.6%	0.3%	25.8%	9.2%	7.2%	14.2%	0.0%	0.0%	0.2%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	26.9%	0.0%	100.0%
Road 20	20	50	39.6	N	0900-1000	320	8.1%	2.9%	0.3%	28.5%	10.2%	7.8%	15.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	26.1%	0.0%	100.0%
Road 20	20	50	39.6	N	1000-1100	311	6.8%	2.6%	0.3%	27.1%	9.7%	8.6%	16.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	27.2%	0.0%	100.0%
Road 20	20	50	39.9	N	1100-1200	297	6.7%	2.8%	0.3%	26.9%	9.7%	8.4%	16.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	28.2%	0.0%	100.0%
Road 20	20	50	40.1	N	1200-1300	280	5.0%	1.9%	0.3%	25.7%	9.2%	9.2%	18.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	30.1%	0.0%	100.0%
Road 20	20	50	39.7	N	1300-1400	304	4.5%	1.7%	0.3%	28.6%	10.3%	8.9%	17.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	27.8%	0.0%	100.0%
Road 20	20	50	39.7	N	1400-1500	303	4.8%	1.9%	0.3%	27.2%	9.8%	9.2%	18.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	28.1%	0.0%	100.0%
Road 20	20	50	39.6	N	1500-1600	313	4.7%	1.9%	0.3%	31.2%	11.2%	7.9%	15.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	26.6%	0.0%	100.0%
Road 20	20	50	39.8	N	1600-1700	298	5.6%	1.9%	0.3%	27.5%	9.9%	8.6%	16.9%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	28.2%	0.0%	100.0%
Road 20	20	50	40.5	N	1700-1800	281	7.5%	2.3%	0.3%	29.6%	10.6%	6.7%	13.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	28.6%	0.0%	100.0%
Road 20	20	50	42.3	N	1800-1900	226	12.3%	2.9%	0.3%	24.9%	8.9%	5.2%	10.2%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	34.0%	0.0%	100.0%
Road 20	20	50	46.2	N	1900-2000	124	17.5%	5.5%	0.3%	27.5%	9.9%	6.6%	12.9%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	18.3%	0.0%	100.0%
Road 20	20	50	46.8	N	2000-2100	102	15.3%	6.5%	0.3%	27.5%	9.9%	6.1%	11.9%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	21.2%	0.0%	100.0%
Road 20	20	50	46.8	N	2100-2200	104	15.3%	6.3%	0.3%	27.5%	9.9%	6.3%	12.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	21.0%	0.0%	100.0%
Road 20	20	50	47.0	N	2200-2300	94	16.2%	7.3%	0.2%	22.7%	8.1%	7.2%	14.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	23.2%	0.0%	100.0%
Road 20	20	50	47.4	N	2300-0000	80	14.1%	6.3%	0.2%	22.4%	8.1%	7.1%	14.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	26.8%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 25	25	50	28.5	N	0000-0100	17	6.8%	3.1%	0.4%	36.3%	13.0%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 25	25	50	29.0	N	0100-0200	12	6.2%	2.8%	0.4%	36.7%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 25	25	50	29.2	N	0200-0300	10	5.6%	2.5%	0.4%	37.0%	13.3%	11.7%	22.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 25	25	50	29.3	N	0300-0400	8	5.1%	2.3%	0.4%	37.3%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 25	25	50	29.2	N	0400-0500	10	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	28.5	N	0500-0600	18	4.3%	1.9%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	26.5	N	0600-0700	40	4.0%	1.7%	0.4%	38.0%	13.7%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	24.5	N	0700-0800	87	3.7%	1.6%	0.4%	38.2%	13.7%	12.0%	23.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	24.2	N	0800-0900	104	4.0%	1.3%	0.4%	40.2%	14.4%	11.2%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 25	25	50	24.0	N	0900-1000	117	2.7%	1.0%	0.4%	41.5%	14.9%	11.3%	22.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 25	25	50	24.0	N	1000-1100	115	2.2%	0.9%	0.4%	39.1%	14.0%	12.4%	24.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	6.0%	0.0%	100.0%
Road 25	25	50	24.1	N	1100-1200	108	2.2%	0.9%	0.4%	39.3%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.3%	6.3%	0.0%	100.0%
Road 25	25	50	24.1	N	1200-1300	108	2.0%	0.8%	0.4%	37.1%	13.3%	13.3%	26.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.6%	6.8%	0.0%	100.0%
Road 25	25	50	23.9	N	1300-1400	122	1.8%	0.7%	0.4%	39.8%	14.3%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	6.3%	0.0%	100.0%
Road 25	25	50	23.9	N	1400-1500	120	1.9%	0.8%	0.4%	38.1%	13.7%	12.9%	25.4%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.4%	6.6%	0.0%	100.0%
Road 25	25	50	23.9	N	1500-1600	126	1.9%	0.7%	0.5%	43.2%	15.5%	10.9%	21.5%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.3%	5.6%	0.0%	100.0%
Road 25	25	50	24.0	N	1600-1700	116	2.3%	0.8%	0.4%	39.3%	14.1%	12.3%	24.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	0.5%	6.3%	0.0%	100.0%
Road 25	25	50	24.3	N	1700-1800	104	3.2%	1.0%	0.5%	44.2%	15.9%	10.0%	19.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.1%	0.0%	100.0%
Road 25	25	50	24.8	N	1800-1900	71	6.1%	1.4%	0.5%	43.8%	15.7%	9.1%	18.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.7%	0.0%	100.0%
Road 25	25	50	26.2	N	1900-2000	46	7.3%	2.3%	0.4%	40.8%	14.6%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.0%	0.0%	100.0%
Road 25	25	50	27.0	N	2000-2100	37	6.6%	2.8%	0.4%	42.1%	15.1%	9.3%	18.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	4.8%	0.0%	100.0%
Road 25	25	50	26.9	N	2100-2200	38	6.5%	2.7%	0.4%	41.6%	14.9%	9.6%	18.8%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 25	25	50	27.2	N	2200-2300	33	7.2%	3.3%	0.4%	36.0%	12.9%	11.4%	22.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 25	25	50	27.7	N	2300-0000	27	6.5%	2.9%	0.4%	36.5%	13.1%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 26	26	50	28.7	N	0000-0100	16	6.0%	2.7%	0.4%	36.8%	13.2%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.1	N	0100-0200	11	5.4%	2.4%	0.4%	37.1%	13.3%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.3	N	0200-0300	9	4.9%	2.2%	0.4%	37.4%	13.4%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.4	N	0300-0400	7	4.5%	2.0%	0.4%	37.7%	13.5%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.3	N	0400-0500	9	4.1%	1.8%	0.4%	38.0%	13.6%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	28.6	N	0500-0600	16	3.8%	1.7%	0.4%	38.2%	13.7%	12.0%	23.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	28.8	N	0600-0700	37	3.5%	1.5%	0.4%	38.4%	13.8%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.6	N	0700-0800	79	3.2%	1.4%	0.4%	38.5%	13.8%	12.1%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.4	N	0800-0900	95	3.5%	1.1%	0.4%	40.5%	14.5%	11.3%	22.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 26	26	50	24.2	N	0900-1000	107	2.3%	0.8%	0.4%	41.7%	15.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 26	26	50	24.2	N	1000-1100	106	1.9%	0.7%	0.4%	39.3%	14.1%	12.5%	24.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	6.4%	0.0%	100.0%
Road 26	26	50	24.3	N	1100-1200	99	1.9%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.3%	6.3%	0.0%	100.0%
Road 26	26	50	24.2	N	1200-1300	105	1.6%	2.1%	0.4%	35.0%	12.6%	12.6%	24.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.5%	0.0%	100.0%
Road 26	26	50	24.0	N	1300-1400	118	4.9%	1.9%	0.4%	37.9%	13.6%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 26	26	50	24.0	N	1400-1500	117	5.3%	2.1%	0.4%	36.1%	13.0%	12.2%	24.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 26	26	50	24.0	N	1500-1600	122	5.1%	2.1%	0.4%	40.9%	14.7%	10.4%	20.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 26	26	50	24.1	N	1600-1700	114	6.2%	2.2%	0.4%	36.9%	13.2%	11.5%	22.6%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 26	26	50	24.3	N	1700-1800	105	8.5%	2.7%	0.4%	40.6%	14.6%	9.2%	18.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.7%	0.0%	100.0%
Road 26	26	50	24.8	N	1800-1900	76	15.5%	3.6%	0.4%	37.8%	13.6%	7.9%	15.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 26	26	50	26.0	N	1900-2000	51	17.9%	5.6%	0.4%	34.0%	12.2%	8.1%	16.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.2%	0.0%	100.0%
Road 26	26	50	26.9	N	2000-2100	41	16.2%	6.9%	0.4%	35.3%	12.7%	7.8%	15.3%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	4.0%	0.0%	100.0%
Road 26	26	50	26.8	N	2100-2200	42	16.1%	6.7%	0.4%	35.1%	12.6%	8.1%	15.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 26	26	50	27.1	N	2200-2300	37	17.5%	7.9%	0.3%	29.7%	10.7%	9.4%	18.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.9%	0.0%	100.0%
Road 26	26	50	27.7	N	2300-0000	30	15.9%	7.2%	0.3%	30.7%	11.0%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 27	27	50	28.7	N	0000-0100	15	8.6%	3.8%	0.4%	35.2%	12.6%	11.1%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 27	27	50	29.1	N	0100-0200	11	7.8%	3.5%	0.4%	35.7%	12.8%	11.3%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.3	N	0200-0300	9	7.1%	3.2%	0.4%	36.1%	13.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.4	N	0300-0400	7	6.5%	2.9%	0.4%	36.5%	13.1%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	29.3	N	0400-0500	9	6.0%	2.6%	0.4%	36.8%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	28.7	N	0500-0600	16	5.5%	2.4%	0.4%	37.1%	13.3%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 27	27	50	27.0	N	0600-0700	36	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.7	N	0700-0800	77	4.7%	2.0%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.5	N	0800-0900	92	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 27	27	50	24.3	N	0900-1000	102	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	5.7%	0.0%	100.0%
Road 27	27	50	24.3	N	1000-1100	101	2.8%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	6.3%	0.0%	100.0%
Road 27	27	50	24.4	N	1100-1200	94	2.9%	1.2%	0.4%	39.0%	14.0%	12.2%	23.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 27	27	50	24.4	N	1200-1300	94	2.3%	0.9%	0.4%	36.9%	13.2%	13.2%	26.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.6%	6.8%	0.0%	100.0%
Road 27	27	50	24.2	N	1300-1400	106	2.0%	0.8%	0.4%	39.6%	14.2%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	6.3%	0.0%	100.0%
Road 27	27	50	24.2	N	1400-1500	105	2.2%	0.9%	0.4%	38.0%	13.6%	12.8%	25.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	6.6%	0.0%	100.0%
Road 27	27	50	24.1	N	1500-1600	110	2.1%	0.9%	0.4%	43.0%	15.4%	10.9%	21.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.3%	5.6%	0.0%	100.0%
Road 27	27	50	24.3	N	1600-1700	101	2.6%	1.0%	0.4%	39.1%	14.0%	12.2%	24.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.1%	0.4%	6.3%	0.0%	100.0%
Road 27	27	50	24.5	N	1700-1800	91	3.6%	1.1%	0.5%	43.9%	15.8%	9.9%	19.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.1%	0.0%	100.0%
Road 27	27	50	25.0	N	1800-1900	63	7.0%	1.6%	0.5%	43.3%	15.5%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.6%	0.0%	100.0%
Road 27	27	50	26.7	N	1900-2000	41	8.3%	2.6%	0.4%	40.2%	14.4%	9.6%	18.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 27	27	50	27.4	N	2000-2100	33	7.5%	3.2%	0.4%	41.5%	14.9%	9.2%	18.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.5%	0.0%	100.0%
Road 27	27	50	27.3	N	2100-2200	33	7.4%	3.1%	0.4%	41.0%	14.7%	9.4%	18.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	4.8%	0.0%	100.0%
Road 27	27	50	27.6	N	2200-2300	29	8.2%	3.7%	0.4%	35.4%	12.7%	11.2%	22.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 27	27	50	28.0	N	2300-0000	24	7.3%	3.3%	0.4%	35.9%	12.9%	11.4%	22.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 28	28	80	80.0	N	0000-0100	740	46.9%	21.1%	0.1%	7.4%	2.6%	2.3%	4.6%	0.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	9.2%	2.4%	1.2%	0.0%	100.0%
Road 28	28	80	80.0	N	0100-0200	486	45.7%	20.4%	0.1%	8.0%	2.9%	2.5%	5.0%	0.6%	0.0%	0.2%	0.5%	0.3%	0.8%	0.1%	9.0%	2.6%	1.3%	0.0%	100.0%
Road 28	28	80	80.0	N	0200-0300	359	44.4%	19.8%	0.1%	8.6%	3.1%	2.7%	5.3%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	8.9%	2.8%	1.4%	0.0%	100.0%
Road 28	28	80	80.0	N	0300-0400	286	43.2%	19.2%	0.1%	9.3%	3.3%	2.9%	5.7%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	8.7%	3.0%	1.5%	0.0%	100.0%
Road 28	28	80	80.0	N	0400-0500	317	41.9%	18.5%	0.1%	9.9%	3.5%	3.1%	6.1%	0.6%	0.1%	0.4%	0.7%	0.5%	1.0%	0.1%	8.6%	3.3%	1.6%	0.0%	100.0%
Road 28	28	80	80.0	N	0500-0600	555	40.7%	17.9%	0.1%	10.5%	3.8%	3.3%	6.5%	0.6%	0.1%	0.5%	0.7%	0.5%	1.1%	0.1%	8.4%	3.5%	1.7%	0.0%	100.0%
Road 28	28	80	80.0	N	0600-0700	1202	39.5%	17.3%	0.1%	11.1%	4.0%	3.5%	6.8%	0.6%	0.1%	0.5%	0.8%	0.6%	1.2%	0.1%	8.3%	3.7%	1.8%	0.0%	100.0%
Road 28	28	80	80.0	N	0700-0800	2455	38.3%	16.7%	0.1%	11.7%	4.2%	3.7%	7.2%	0.6%	0.1%	0.6%	0.9%	0.6%	1.3%	0.1%	8.2%	3.9%	1.9%	0.0%	100.0%
Road 28	28	80	79.1	N	0800-0900	2838	42.8%	13.7%	0.1%	12.8%	4.6%	3.6%	7.0%	0.5%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	7.3%	2.5%	1.8%	0.0%	100.0%
Road 28	28	80	80.0	N	0900-1000	2504	36.5%	13.2%	0.2%	16.8%	6.0%	4.6%	9.0%	0.6%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	7.0%	1.4%	2.3%	0.0%	100.0%
Road 28	28	80	80.0	N	1000-1100	2238	33.4%	13.0%	0.2%	17.4%	6.3%	5.5%	10.9%	0.6%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	6.7%	1.0%	2.8%	0.0%	100.0%
Road 28	28	80	80.0	N	1100-1200	2117	33.3%	13.7%	0.2%	17.4%	6.2%	5.4%	10.7%	0.6%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	6.9%	0.9%	2.8%	0.0%	100.0%
Road 28	28	80	80.0	N	1200-1300	1517	38.9%	15.0%	0.1%	14.0%	5.0%	5.0%	9.9%	0.6%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.8%	1.2%	2.6%	0.0%	100.0%
Road 28	28	80	80.0	N	1300-1400	1570	37.1%	14.3%	0.2%	16.4%	5.9%	5.1%	10.0%	0.6%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	4.5%	1.1%	2.6%	0.0%	100.0%
Road 28	28	80	80.0	N	1400-1500	1657	37.6%	15.2%	0.2%	14.7%	5.3%	5.0%	9.8%	0.6%	0.1%	0.7%	0.8%	0.5%	1.1%	0.0%	4.5%	1.4%	2.6%	0.0%	100.0%
Road 28	28	80	80.0	N	1500-1600	1699	37.3%	15.0%	0.2%	17.0%	6.1%	4.3%	8.5%	0.6%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	4.4%	1.3%	2.2%	0.0%	100.0%
Road 28	28	80	80.0	N	1600-1700	1776	40.3%	13.9%	0.1%	13.6%	4.9%	4.3%	8.4%	0.6%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	4.9%	1.9%	2.2%	0.0%	100.0%
Road 28	28	80	80.0	N	1700-1800	1962	45.7%	14.3%	0.1%	12.5%	4.5%	2.8%	5.6%	0.6%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	5.1%	3.9%	1.5%	0.0%	100.0%
Road 28	28	80	80.0	N	1800-1900	2065	57.5%	13.5%	0.1%	8.0%	2.9%	1.7%	3.3%	0.6%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	5.4%	2.7%	0.9%	0.0%	100.0%
Road 28	28	80	80.0	N	1900-2000	1629	56.7%	17.8%	0.1%	6.2%	2.2%	1.5%	2.9%	0.7%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	5.3%	2.1%	0.8%	0.0%	100.0%
Road 28	28	80	80.0	N	2000-2100	1272	52.1%	22.1%	0.1%	6.5%	2.3%	1.4%	2.8%	0.8%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	6.6%	2.1%	0.7%	0.0%	100.0%
Road 28	28	80	80.0	N	2100-2200	1265	53.3%	22.0%	0.1%	6.6%	2.4%	1.5%	3.0%	0.7%	0.0%	0.1%	0.4%	0.3%	0.8%	0.0%	5.8%	2.4%	0.8%	0.0%	100.0%
Road 28	28	80	80.0	N	2200-2300	1224	53.1%	24.0%	0.1%	5.2%	1.9%	1.6%	3.2%	0.7%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	6.3%	2.0%	0.8%	0.0%	100.0%
Road 28	28	80	80.0	N	2300-0000	920	51.9%	23.4%	0.1%	5.7%	2.1%	1.8%	3.6%	0.7%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	6.2%	2.3%	0.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

| Road Name | Road ID | Speed

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 33	33	70	70.0	N	0000-0100	660	51.0%	22.9%	0.1%	6.5%	2.3%	2.1%	4.1%	0.2%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	3.3%	2.6%	3.3%	0.0%	100.0%
Road 33	33	70	70.0	N	0100-0200	438	49.1%	22.0%	0.1%	7.0%	2.5%	2.2%	4.4%	0.2%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.2%	2.8%	4.5%	0.0%	100.0%
Road 33	33	70	70.0	N	0200-0300	326	47.3%	21.1%	0.1%	7.5%	2.7%	2.4%	4.7%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.0%	5.7%	0.0%	100.0%
Road 33	33	70	70.0	N	0300-0400	263	45.5%	20.2%	0.1%	8.0%	2.9%	2.5%	4.9%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	3.1%	3.2%	6.9%	0.0%	100.0%
Road 33	33	70	70.0	N	0400-0500	289	44.6%	19.7%	0.1%	8.6%	3.1%	2.7%	5.3%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.0%	3.5%	6.5%	0.0%	100.0%
Road 33	33	70	70.0	N	0500-0600	494	44.3%	19.5%	0.1%	9.4%	3.4%	2.9%	5.8%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.1%	3.8%	4.5%	0.0%	100.0%
Road 33	33	70	70.0	N	0600-0700	1050	43.8%	19.2%	0.1%	10.1%	3.6%	3.2%	6.2%	0.2%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	3.1%	4.1%	3.0%	0.0%	100.0%
Road 33	33	70	70.0	N	0700-0800	2167	42.0%	18.3%	0.1%	10.5%	3.8%	3.3%	6.5%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.0%	4.3%	4.3%	0.0%	100.0%
Road 33	33	70	70.0	N	0800-0900	2511	46.8%	15.0%	0.1%	11.4%	4.1%	3.2%	6.3%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.6%	2.7%	3.9%	0.0%	100.0%
Road 33	33	70	70.0	N	0900-1000	2185	40.5%	14.7%	0.2%	15.2%	5.5%	4.1%	8.2%	0.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	2.6%	1.6%	4.7%	0.0%	100.0%
Road 33	33	70	70.0	N	1000-1100	1946	37.2%	14.4%	0.2%	15.9%	5.7%	5.0%	9.9%	0.1%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	2.5%	1.1%	5.5%	0.0%	100.0%
Road 33	33	70	70.0	N	1100-1200	1843	37.1%	15.3%	0.2%	15.8%	5.7%	4.9%	9.7%	0.1%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	2.5%	1.0%	5.6%	0.0%	100.0%
Road 33	33	70	70.0	N	1200-1300	1759	26.9%	10.4%	0.2%	20.6%	7.4%	7.4%	14.5%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	2.7%	0.8%	7.0%	0.0%	100.0%
Road 33	33	70	70.0	N	1300-1400	1870	24.9%	9.6%	0.2%	23.5%	8.4%	7.3%	14.3%	0.0%	0.0%	0.4%	0.4%	0.2%	0.5%	0.0%	2.5%	0.8%	6.8%	0.0%	100.0%
Road 33	33	70	70.0	N	1400-1500	1929	25.9%	10.5%	0.2%	21.6%	7.8%	7.3%	14.4%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.6%	1.0%	6.7%	0.0%	100.0%
Road 33	33	70	70.0	N	1500-1600	1989	25.5%	10.2%	0.3%	24.8%	8.9%	6.3%	12.3%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.5%	0.9%	6.1%	0.0%	100.0%
Road 33	33	70	70.0	N	1600-1700	1999	28.7%	9.9%	0.2%	20.7%	7.4%	6.5%	12.7%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	2.9%	1.4%	6.2%	0.0%	100.0%
Road 33	33	70	70.0	N	1700-1800	2085	34.5%	10.8%	0.2%	20.1%	7.2%	4.5%	8.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.2%	3.0%	5.1%	0.0%	100.0%
Road 33	33	70	70.0	N	1800-1900	2001	47.5%	11.2%	0.1%	14.2%	5.1%	3.0%	5.8%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.7%	2.3%	4.4%	0.0%	100.0%
Road 33	33	70	70.0	N	1900-2000	1497	49.5%	15.5%	0.1%	11.5%	4.1%	2.7%	5.4%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.5%	1.8%	2.4%	0.0%	100.0%
Road 33	33	70	70.0	N	2000-2100	1175	45.2%	19.2%	0.1%	12.0%	4.3%	2.7%	5.2%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	4.7%	1.8%	2.6%	0.0%	100.0%
Road 33	33	70	70.0	N	2100-2200	1176	45.9%	19.0%	0.1%	12.2%	4.4%	2.8%	5.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.2%	2.1%	2.7%	0.0%	100.0%
Road 33	33	70	70.0	N	2200-2300	1120	46.5%	21.0%	0.1%	9.6%	3.5%	3.1%	6.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	4.6%	1.8%	2.9%	0.0%	100.0%
Road 33	33	70	70.0	N	2300-0000	857	44.6%	20.1%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.4%	2.0%	3.4%	0.0%	100.0%
Road 34	34	80	80.0	N	0000-0100	675	56.8%	25.5%	0.0%	3.1%	1.1%	1.0%	2.0%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.9%	2.9%	2.1%	0.0%	100.0%
Road 34	34	80	80.0	N	0100-0200	442	55.4%	24.8%	0.0%	3.4%	1.2%	1.1%	2.1%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.9%	3.1%	3.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0200-0300	326	54.0%	24.0%	0.0%	3.7%	1.3%	1.2%	2.3%	0.7%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	2.8%	3.4%	4.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0300-0400	259	52.6%	23.3%	0.0%	4.0%	1.4%	1.3%	2.5%	0.7%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.8%	3.7%	4.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0400-0500	283	51.8%	22.9%	0.0%	4.3%	1.6%	1.4%	2.7%	0.7%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.8%	4.0%	4.6%	0.0%	100.0%
Road 34	34	80	80.0	N	0500-0600	482	51.7%	22.8%	0.0%	4.7%	1.7%	1.5%	2.9%	0.7%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.8%	4.4%	3.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0600-0700	1019	51.4%	22.5%	0.1%	5.1%	1.8%	1.6%	3.1%	0.7%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.8%	4.8%	1.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0700-0800	2078	49.9%	21.7%	0.1%	5.4%	1.9%	1.7%	3.3%	0.7%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	2.8%	5.1%	2.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0800-0900	2395	55.9%	17.9%	0.1%	5.9%	2.1%	1.7%	3.2%	0.5%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.5%	3.2%	2.6%	0.0%	100.0%
Road 34	34	80	80.0	N	0900-1000	1963	51.3%	18.6%	0.1%	8.3%	3.0%	2.3%	4.5%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.6%	2.0%	3.3%	0.0%	100.0%
Road 34	34	80	80.0	N	1000-1100	1696	48.6%	18.9%	0.1%	9.0%	3.2%	2.8%	5.6%	0.7%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.6%	1.5%	4.0%	0.0%	100.0%
Road 34	34	80	80.0	N	1100-1200	1610	48.3%	19.9%	0.1%	8.9%	3.2%	2.8%	5.5%	0.7%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	2.6%	1.4%	4.1%	0.0%	100.0%
Road 34	34	80	80.0	N	1200-1300	1065	20.2%	7.8%	0.2%	18.9%	6.8%	6.8%	13.3%	0.9%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	15.5%	0.6%	7.5%	0.0%	100.0%
Road 34	34	80	80.0	N	1300-1400	1124	18.8%	7.3%	0.2%	21.7%	7.8%	6.7%	13.2%	0.8%	0.0%	0.3%	0.3%	0.2%	0.4%	0.0%	14.3%	0.6%	7.2%	0.0%	100.0%
Road 34	34	80	80.0	N	1400-1500	1159	19.6%	7.9%	0.2%	20.0%	7.2%	6.8%	13.3%	0.9%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	14.7%	0.7%	7.1%	0.0%	100.0%
Road 34	34	80	80.0	N	1500-1600	1191	19.3%	7.8%	0.2%	23.0%	8.3%	5.8%	11.4%	0.8%	0.0%	0.3%	0.4%	0.3%	0.6%	0.1%	14.3%	0.7%	6.6%	0.0%	100.0%
Road 34	34	80	80.0	N	1600-1700	1212	21.5%	7.4%	0.2%	18.9%	6.8%	5.9%	11.6%	0.8%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	16.6%	1.0%	6.5%	0.0%	100.0%
Road 34	34	80	80.0	N	1700-1800	1267	25.8%	8.1%	0.2%	18.4%	6.6%	4.2%	8.2%	0.9%	0.0%	0.4%	0.5%	0.3%	0.7%	0.0%	18.2%	2.2%	5.5%	0.0%	100.0%
Road 34	34	80	80.0	N	1800-1900	1222	35.3%	8.3%	0.1%	12.9%	4.6%	2.7%	5.3%	1.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.1%	21.0%	1.7%	4.8%	0.0%	100.0%
Road 34	34	80	80.0	N	1900-2000	937	35.9%	11.2%	0.1%	10.2%	3.6%	2.4%	4.8%	1.2%	0.0%	0.1%	0.5%	0.4%	0.8%	0.1%	24.9%	1.3%	2.4%	0.0%	100.0%
Road 34	34	80	80.0	N	2000-2100	745	32.4%	13.7%	0.1%	10.5%	3.8%	2.3%	4.6%	1.3%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	25.7%	1.3%	2.7%	0.0%	100.0%
Road 34	34	80	80.0	N	2100-2200	725	33.8%	14.0%	0.1%	11.0%	3.9%	2.5%	5.0%	1.3%	0.0%	0.0%	0.2%	0.2%	0.4%	0.0%	23.2%	1.5%	2.8%	0.0%	100.0%
Road 34	34	80	80.0	N	2200-2300	702	33.7%	15.2%	0.1%	8.5%	3.1%	2.7%	5.3%	1.2%	0.0%	0.0%	0.2%	0.1%	0.3%	0.2%	25.1%	1.3%	3.0%	0.0%	100.0%
Road 34	34	80	80.0	N	2300-0000	537	32.4%	14.6%	0.1%	9.3%	3.3%	3.0%	5.8%	1.2%	0.0%	0.1%	0.2%	0.2%	0.4%	0.2%	24.3%	1.4%	3.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 35	35	50	48.6	N	0000-0100	51	42.2%	19.0%	0.1%	5.3%	1.9%	1.7%	3.3%	0.7%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	22.4%	0.0%	100.0%
Road 35	35	50	48.9	N	0100-0200	37	37.0%	16.5%	0.1%	5.2%	1.9%	1.6%	3.2%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	30.4%	0.0%	100.0%
Road 35	35	50	49.1	N	0200-0300	30	32.6%	14.5%	0.1%	5.1%	1.8%	1.6%	3.1%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	37.1%	0.0%	100.0%
Road 35	35	50	49.2	N	0300-0400	26	29.0%	12.9%	0.1%	5.0%	1.8%	1.6%	3.1%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	42.5%	0.0%	100.0%
Road 35	35	50	49.1	N	0400-0500	28	29.4%	13.0%	0.1%	5.6%	2.0%	1.7%	3.4%	0.5%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	40.1%	0.0%	100.0%
Road 35	35	50	48.0	N	0500-0600	41	34.4%	15.1%	0.1%	7.1%	2.6%	2.2%	4.4%	0.6%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	2.9%	28.1%	0.0%	100.0%
Road 35	35	50	48.0	N	0600-0700	76	39.1%	17.1%	0.1%	8.8%	3.2%	2.8%	5.4%	0.7%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.7%	16.0%	0.0%	100.0%
Road 35	35	50	45.0	N	0700-0800	174	33.6%	14.6%	0.1%	8.2%	3.0%	2.6%	5.1%	0.6%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	4.5%	25.7%	0.0%	100.0%
Road 35	35	50	44.5	N	0800-0900	196	38.6%	12.3%	0.1%	9.2%	3.3%	2.6%	5.1%	0.5%	0.1%	0.5%	0.8%	0.5%	1.1%	0.0%	0.0%	2.2%	23.0%	0.0%	100.0%
Road 35	35	50	44.9	N	0900-1000	175	32.4%	11.8%	0.1%	11.9%	4.3%	3.3%	6.4%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.3%	25.9%	0.0%	100.0%
Road 35	35	50	45.1	N	1000-1100	160	29.0%	11.3%	0.1%	12.1%	4.4%	3.8%	7.6%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	28.4%	0.0%	100.0%
Road 35	35	50	45.3	N	1100-1200	154	28.5%	11.8%	0.1%	11.9%	4.3%	3.7%	7.3%	0.6%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	29.5%	0.0%	100.0%
Road 35	35	50	46.6	N	1200-1300	103	27.9%	10.7%	0.1%	6.7%	2.4%	2.4%	4.7%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	42.3%	0.0%	100.0%
Road 35	35	50	46.6	N	1300-1400	105	27.1%	10.4%	0.1%	8.0%	2.9%	2.5%	4.9%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	41.7%	0.0%	100.0%
Road 35	35	50	46.3	N	1400-1500	109	27.9%	11.3%	0.1%	7.3%	2.6%	2.5%	4.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.1%	40.2%	0.0%	100.0%
Road 35	35	50	46.5	N	1500-1600	111	27.9%	11.2%	0.1%	8.5%	3.0%	2.1%	4.2%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	39.5%	0.0%	100.0%
Road 35	35	50	46.4	N	1600-1700	115	30.5%	10.5%	0.1%	6.9%	2.5%	2.1%	4.2%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	1.4%	38.1%	0.0%	100.0%
Road 35	35	50	46.3	N	1700-1800	124	35.3%	11.0%	0.1%	6.4%	2.3%	1.5%	2.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	0.9%	34.9%	0.0%	100.0%
Road 35	35	50	46.2	N	1800-1900	131	44.1%	10.4%	0.0%	4.1%	1.5%	0.9%	1.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	32.7%	0.0%	100.0%
Road 35	35	50	48.1	N	1900-2000	81	55.4%	17.4%	0.0%	4.0%	1.4%	1.0%	1.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.0%	14.0%	0.0%	100.0%
Road 35	35	50	48.4	N	2000-2100	66	49.3%	20.9%	0.0%	4.1%	1.5%	0.9%	1.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.0%	17.3%	0.0%	100.0%
Road 35	35	50	48.4	N	2100-2200	66	50.0%	20.7%	0.0%	4.2%	1.5%	1.0%	1.9%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.3%	17.3%	0.0%	100.0%
Road 35	35	50	48.4	N	2200-2300	64	49.5%	22.4%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	17.7%	0.0%	100.0%
Road 35	35	50	48.7	N	2300-0000	51	45.9%	20.7%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.4%	22.3%	0.0%	100.0%
Road 36	36	50	48.4	Y	0000-0100	61	45.0%	20.2%	0.1%	5.1%	1.8%	1.6%	3.1%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	18.9%	0.0%	100.0%
Road 36	36	50	48.0	Y	0100-0200	44	40.1%	17.9%	0.1%	7.3%	2.6%	2.3%	4.5%	0.8%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	15.3%	0.0%	100.0%
Road 36	36	50	49.0	Y	0200-0300	35	35.9%	16.0%	0.1%	7.5%	2.7%	2.4%	4.6%	0.8%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.3%	32.2%	0.0%	100.0%
Road 36	36	50	49.1	Y	0300-0400	30	32.3%	14.4%	0.1%	5.0%	1.8%	1.6%	3.1%	0.4%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.3%	37.4%	0.0%	100.0%
Road 36	36	50	49.0	Y	0400-0500	32	32.7%	14.4%	0.1%	5.5%	2.0%	1.7%	3.4%	0.4%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	35.2%	0.0%	100.0%
Road 36	36	50	48.7	Y	0500-0600	48	37.3%	16.4%	0.1%	6.9%	2.5%	2.2%	4.2%	0.5%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	24.1%	0.0%	100.0%
Road 36	36	50	47.7	Y	0600-0700	91	41.4%	18.1%	0.1%	8.3%	3.0%	2.6%	5.1%	0.6%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	3.9%	13.5%	0.0%	100.0%
Road 36	36	50	44.4	Y	0700-0800	204	36.3%	15.8%	0.1%	8.0%	2.9%	2.5%	4.9%	0.5%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.7%	22.0%	0.0%	100.0%
Road 36	36	50	43.8	Y	0800-0900	231	41.5%	13.3%	0.1%	8.9%	3.2%	2.5%	4.9%	0.4%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.0%	2.4%	19.6%	0.0%	100.0%
Road 36	36	50	44.2	Y	0900-1000	204	35.3%	12.8%	0.1%	11.6%	4.2%	3.2%	6.2%	0.5%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	22.4%	0.0%	100.0%
Road 36	36	50	44.6	Y	1000-1100	185	31.8%	12.3%	0.1%	11.9%	4.3%	3.8%	7.4%	0.5%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	24.8%	0.0%	100.0%
Road 36	36	50	44.8	Y	1100-1200	178	31.4%	12.9%	0.1%	11.7%	4.2%	3.7%	7.2%	0.5%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	25.8%	0.0%	100.0%
Road 36	36	50	45.4	Y	1200-1300	144	24.6%	9.5%	0.1%	13.0%	4.7%	4.6%	9.1%	0.6%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	31.9%	0.0%	100.0%
Road 36	36	50	45.3	Y	1300-1400	149	23.3%	9.0%	0.2%	15.2%	5.4%	4.7%	9.2%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	30.8%	0.0%	100.0%
Road 36	36	50	45.2	Y	1400-1500	154	24.2%	9.8%	0.1%	13.9%	5.0%	4.7%	9.3%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	30.0%	0.0%	100.0%
Road 36	36	50	45.1	Y	1500-1600	157	24.1%	9.7%	0.2%	16.1%	5.8%	4.1%	8.0%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	0.0%	0.9%	29.1%	0.0%	100.0%
Road 36	36	50	45.1	Y	1600-1700	159	26.9%	9.3%	0.1%	13.3%	4.8%	4.2%	8.2%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	28.7%	0.0%	100.0%
Road 36	36	50	45.1	Y	1700-1800	168	32.0%	10.0%	0.1%	12.8%	4.6%	2.9%	5.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.7%	26.8%	0.0%	100.0%
Road 36	36	50	45.3	Y	1800-1900	168	42.2%	9.9%	0.1%	8.7%	3.1%	1.8%	3.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.0%	26.1%	0.0%	100.0%
Road 36	36	50	47.4	Y	1900-2000	108	51.3%	16.1%	0.1%	8.2%	2.9%	2.0%	3.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.2%	0.0%	0.0%	1.9%	11.2%	0.0%	100.0%
Road 36	36	50	47.9	Y	2000-2100	86	45.8%	19.5%	0.1%	8.4%	3.0%	1.9%	3.6%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	0.0%	1.8%	13.7%	0.0%	100.0%
Road 36	36	50	47.9	Y	2100-2200	87	46.4%	19.2%	0.1%	8.5%	3.1%	2.0%	3.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	13.7%	0.0%	100.0%
Road 36	36	50	47.9	Y	2200-2300	83	46.6%	21.0%	0.1%	6.6%	2.4%	2.1%	4.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	14.3%	0.0%	100.0%
Road 36	36	50	48.3	Y	2300-0000	66	43.3%	19.5%	0.1%	7.0%	2.5%	2.2%	4.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	17.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

**Traffic Data / Modeling Parameters For

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 41	41	70	70.0	N	0000-0100	95	50.0%	22.5%	0.0%	3.5%	1.3%	1.1%	2.2%	1.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	14.1%	0.0%	100.0%
Road 41	41	70	70.0	N	0100-0200	66	45.8%	20.5%	0.0%	3.6%	1.3%	1.1%	2.2%	1.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	0.0%	2.6%	20.0%	0.0%	100.0%
Road 41	41	70	70.0	N	0200-0300	52	42.0%	18.7%	0.0%	3.7%	1.3%	1.2%	2.3%	0.9%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	25.3%	0.0%	100.0%
Road 41	41	70	70.0	N	0300-0400	44	38.6%	17.1%	0.0%	3.8%	1.3%	1.2%	2.3%	0.9%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	2.7%	30.0%	0.0%	100.0%
Road 41	41	70	70.0	N	0400-0500	47	38.9%	17.2%	0.0%	4.1%	1.5%	1.3%	2.5%	0.9%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	3.0%	28.1%	0.0%	100.0%
Road 41	41	70	70.0	N	0500-0600	72	43.1%	18.9%	0.1%	5.0%	1.8%	1.6%	3.1%	1.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.7%	18.7%	0.0%	100.0%
Road 41	41	70	70.0	N	0600-0700	140	46.6%	20.4%	0.1%	5.9%	2.1%	1.8%	3.6%	1.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.4%	10.2%	0.0%	100.0%
Road 41	41	70	70.0	N	0700-0800	306	42.1%	18.3%	0.1%	5.6%	2.1%	1.8%	3.6%	1.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.3%	17.1%	0.0%	100.0%
Road 41	41	70	70.0	N	0800-0900	347	47.9%	15.3%	0.1%	6.4%	2.3%	1.8%	3.5%	0.9%	0.1%	0.7%	0.9%	0.7%	1.4%	0.0%	0.0%	2.8%	15.2%	0.0%	100.0%
Road 41	41	70	70.0	N	0900-1000	296	42.2%	15.3%	0.1%	8.7%	3.1%	2.4%	4.7%	1.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	1.6%	18.0%	0.0%	100.0%
Road 41	41	70	70.0	N	1000-1100	264	38.8%	15.1%	0.1%	9.1%	3.3%	2.9%	5.7%	1.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	1.2%	20.3%	0.0%	100.0%
Road 41	41	70	70.0	N	1100-1200	252	38.3%	15.8%	0.1%	9.0%	3.2%	2.8%	5.5%	1.1%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	1.1%	21.1%	0.0%	100.0%
Road 41	41	70	70.0	N	1200-1300	282	28.1%	10.8%	0.2%	15.5%	5.6%	5.6%	10.9%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	20.5%	0.0%	100.0%
Road 41	41	70	70.0	N	1300-1400	295	26.5%	10.2%	0.2%	18.0%	6.5%	5.6%	10.9%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	19.7%	0.0%	100.0%
Road 41	41	70	70.0	N	1400-1500	305	27.4%	11.1%	0.2%	16.5%	5.9%	5.6%	10.9%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	19.1%	0.0%	100.0%
Road 41	41	70	70.0	N	1500-1600	313	27.2%	10.9%	0.2%	19.0%	6.8%	4.8%	9.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	18.3%	0.0%	100.0%
Road 41	41	70	70.0	N	1600-1700	317	30.3%	10.4%	0.2%	15.7%	5.6%	4.9%	9.6%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	1.4%	18.2%	0.0%	100.0%
Road 41	41	70	70.0	N	1700-1800	336	35.9%	11.2%	0.2%	15.0%	5.4%	3.4%	6.7%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	3.1%	16.5%	0.0%	100.0%
Road 41	41	70	70.0	N	1800-1900	335	47.6%	11.2%	0.1%	10.2%	3.7%	2.1%	4.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.3%	15.9%	0.0%	100.0%
Road 41	41	70	70.0	N	1900-2000	232	53.4%	16.7%	0.1%	8.9%	3.2%	2.1%	4.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.0%	6.6%	0.0%	100.0%
Road 41	41	70	70.0	N	2000-2100	184	48.4%	20.6%	0.1%	9.3%	3.3%	2.0%	4.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	8.1%	0.0%	100.0%
Road 41	41	70	70.0	N	2100-2200	185	49.0%	20.3%	0.1%	9.4%	3.4%	2.2%	4.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	8.1%	0.0%	100.0%
Road 41	41	70	70.0	N	2200-2300	177	49.3%	22.3%	0.1%	7.3%	2.6%	2.3%	4.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	8.5%	0.0%	100.0%
Road 41	41	70	70.0	N	2300-0000	137	46.7%	21.0%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.1%	10.7%	0.0%	100.0%
Road 42	42	50	47.9	N	0000-0100	91	50.9%	22.9%	0.0%	3.6%	1.3%	1.1%	2.2%	1.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	12.7%	0.0%	100.0%
Road 42	42	50	48.4	N	0100-0200	63	46.9%	21.0%	0.0%	3.7%	1.3%	1.2%	2.3%	1.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	18.0%	0.0%	100.0%
Road 42	42	50	48.7	N	0200-0300	49	43.3%	19.3%	0.0%	3.7%	1.3%	1.2%	2.3%	1.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	23.0%	0.0%	100.0%
Road 42	42	50	48.9	N	0300-0400	41	40.1%	17.8%	0.0%	3.8%	1.4%	1.2%	2.4%	0.9%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	27.4%	0.0%	100.0%
Road 42	42	50	48.8	N	0400-0500	44	40.2%	17.8%	0.0%	4.2%	1.5%	1.3%	2.6%	1.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.1%	25.6%	0.0%	100.0%
Road 42	42	50	48.3	N	0500-0600	69	44.1%	19.4%	0.1%	5.1%	1.8%	1.6%	3.1%	1.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.8%	16.9%	0.0%	100.0%
Road 42	42	50	46.9	N	0600-0700	135	47.2%	20.7%	0.1%	5.9%	2.1%	1.8%	3.6%	1.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.4%	9.1%	0.0%	100.0%
Road 42	42	50	42.7	N	0700-0800	292	43.0%	18.7%	0.1%	5.9%	2.1%	1.8%	3.6%	1.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.4%	15.4%	0.0%	100.0%
Road 42	42	50	41.8	N	0800-0900	332	48.8%	15.6%	0.1%	6.5%	2.3%	1.8%	3.6%	0.9%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	2.8%	13.7%	0.0%	100.0%
Road 42	42	50	42.7	N	0900-1000	283	43.2%	15.7%	0.1%	8.9%	3.2%	2.4%	4.7%	1.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	1.7%	16.2%	0.0%	100.0%
Road 42	42	50	43.3	N	1000-1100	251	39.8%	15.5%	0.1%	9.3%	3.3%	2.9%	5.8%	1.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	18.4%	0.0%	100.0%
Road 42	42	50	43.5	N	1100-1200	240	39.4%	16.2%	0.1%	9.1%	3.3%	2.9%	5.6%	1.1%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	1.1%	19.2%	0.0%	100.0%
Road 42	42	50	44.2	N	1200-1300	184	22.5%	8.7%	0.2%	16.6%	6.0%	5.9%	11.7%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	26.1%	0.0%	100.0%
Road 42	42	50	43.9	N	1300-1400	193	21.1%	8.1%	0.2%	19.1%	6.9%	5.9%	11.7%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	25.0%	0.0%	100.0%
Road 42	42	50	43.8	N	1400-1500	198	22.0%	8.9%	0.2%	17.7%	6.3%	6.0%	11.7%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.8%	24.4%	0.0%	100.0%
Road 42	42	50	43.7	N	1500-1600	203	21.8%	8.8%	0.2%	20.4%	7.3%	5.2%	10.2%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.8%	23.5%	0.0%	100.0%
Road 42	42	50	43.8	N	1600-1700	204	24.7%	8.5%	0.2%	17.1%	6.1%	5.3%	10.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.2%	23.5%	0.0%	100.0%
Road 42	42	50	43.9	N	1700-1800	211	29.9%	9.3%	0.2%	16.7%	6.0%	3.8%	7.4%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	2.6%	22.0%	0.0%	100.0%
Road 42	42	50	44.3	N	1800-1900	204	40.8%	9.6%	0.1%	11.7%	4.2%	2.4%	4.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.9%	22.0%	0.0%	100.0%
Road 42	42	50	46.8	N	1900-2000	134	48.5%	15.2%	0.1%	10.8%	3.9%	2.6%	5.1%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.5%	9.6%	0.0%	100.0%
Road 42	42	50	47.4	N	2000-2100	107	43.6%	18.5%	0.1%	11.1%	4.0%	2.5%	4.8%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.7%	11.6%	0.0%	100.0%
Road 42	42	50	47.3	N	2100-2200	107	44.0%	18.2%	0.1%	11.2%	4.0%	2.6%	5.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	11.6%	0.0%	100.0%
Road 42	42	50	47.5	N	2200-2300	102	44.5%	20.1%	0.1%	8.9%	3.2%	2.8%	5.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	12.2%	0.0%	100.0%
Road 42	42	50	47.9	N	2300-0000	81	41.5%	18.7%	0.1%	9.4%	3.4%	3.0%	5.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	15.2%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 43	43	70	70.0	N	0000-0100	4	28.8%	12.9%	0.0%	4.4%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.5%	45.6%	0.0%	100.0%
Road 43	43	70	70.0	N	0100-0200	3	22.7%	10.2%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.3%	56.0%	0.0%	100.0%
Road 43	43	70	70.0	N	0200-0300	3	18.4%	8.2%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.2%	63.2%	0.0%	100.0%
Road 43	43	70	70.0	N	0300-0400	3	15.5%	6.9%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.1%	68.2%	0.0%	100.0%
Road 43	43	70	70.0	N	0400-0500	3	16.1%	7.1%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.2%	66.0%	0.0%	100.0%
Road 43	43	70	70.0	N	0500-0600	6	21.7%	9.5%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	52.8%	0.0%	100.0%
Road 43	43	70	70.0	N	0600-0700	16	29.2%	12.8%	0.1%	8.0%	2.9%	2.5%	4.9%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.7%	34.5%	0.0%	100.0%
Road 43	43	70	70.0	N	0700-0800	55	21.8%	9.5%	0.1%	6.6%	2.4%	2.0%	4.0%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.2%	49.4%	0.0%	100.0%
Road 43	43	70	70.0	N	0800-0900	16	25.9%	8.3%	0.1%	7.6%	2.7%	2.1%	4.2%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.5%	45.6%	0.0%	100.0%
Road 43	43	70	70.0	N	0900-1000	15	20.9%	7.6%	0.1%	9.4%	3.4%	2.6%	5.0%	0.0%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.8%	48.9%	0.0%	100.0%
Road 43	43	70	70.0	N	1000-1100	14	18.1%	7.0%	0.1%	9.2%	3.3%	2.9%	5.8%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.5%	51.8%	0.0%	100.0%
Road 43	43	70	70.0	N	1100-1200	14	17.6%	7.2%	0.1%	9.0%	3.2%	2.8%	5.5%	0.0%	0.0%	0.3%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	53.2%	0.0%	100.0%
Road 43	43	70	70.0	N	1200-1300	98	38.6%	14.9%	0.1%	13.5%	4.8%	4.8%	9.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.1%	9.8%	0.0%	100.0%
Road 43	43	70	70.0	N	1300-1400	101	36.7%	14.2%	0.2%	15.8%	5.7%	4.9%	9.6%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.1%	9.6%	0.0%	100.0%
Road 43	43	70	70.0	N	1400-1500	107	37.4%	15.1%	0.1%	14.2%	5.1%	4.8%	9.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.4%	9.2%	0.0%	100.0%
Road 43	43	70	70.0	N	1500-1600	109	37.1%	14.9%	0.2%	16.4%	5.9%	4.2%	8.2%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	8.7%	0.0%	100.0%
Road 43	43	70	70.0	N	1600-1700	113	40.4%	13.9%	0.1%	13.2%	4.8%	4.1%	8.1%	0.0%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	0.0%	1.9%	8.5%	0.0%	100.0%
Road 43	43	70	70.0	N	1700-1800	125	46.1%	14.4%	0.1%	12.2%	4.4%	2.8%	5.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	4.0%	7.2%	0.0%	100.0%
Road 43	43	70	70.0	N	1800-1900	131	58.2%	13.7%	0.1%	7.9%	2.8%	1.6%	3.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	0.0%	2.8%	6.4%	0.0%	100.0%
Road 43	43	70	70.0	N	1900-2000	98	60.1%	18.8%	0.1%	6.3%	2.3%	1.5%	3.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	2.2%	2.7%	0.0%	100.0%
Road 43	43	70	70.0	N	2000-2100	77	55.1%	23.4%	0.1%	6.7%	2.4%	1.5%	2.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.2%	3.2%	0.0%	100.0%
Road 43	43	70	70.0	N	2100-2200	77	55.9%	23.1%	0.1%	6.8%	2.4%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.6%	3.2%	0.0%	100.0%
Road 43	43	70	70.0	N	2200-2300	74	55.9%	25.3%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	3.4%	0.0%	100.0%
Road 43	43	70	70.0	N	2300-0000	56	54.1%	24.4%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	4.3%	0.0%	100.0%
Road 44	44	80	80.0	N	0000-0100	424	57.5%	25.8%	0.0%	3.4%	1.2%	1.1%	2.1%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	3.1%	2.9%	1.0%	100.0%
Road 44	44	80	80.0	N	0100-0200	276	56.4%	25.2%	0.0%	3.7%	1.3%	1.2%	2.3%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.1%	3.2%	1.3%	100.0%
Road 44	44	80	80.0	N	0200-0300	202	55.3%	24.7%	0.0%	4.0%	1.4%	1.3%	2.5%	0.6%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.1%	3.5%	1.6%	100.0%
Road 44	44	80	80.0	N	0300-0400	160	54.2%	24.1%	0.0%	4.3%	1.6%	1.4%	2.7%	0.7%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.0%	3.8%	1.9%	100.0%
Road 44	44	80	80.0	N	0400-0500	260	53.4%	23.6%	0.0%	4.7%	1.7%	1.5%	2.9%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	3.0%	4.1%	1.8%	100.0%
Road 44	44	80	80.0	N	0500-0600	302	52.5%	23.1%	0.1%	5.1%	1.8%	1.6%	3.1%	0.7%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	3.0%	4.5%	1.4%	100.0%
Road 44	44	80	80.0	N	0600-0700	644	51.7%	22.6%	0.1%	5.4%	1.9%	1.7%	3.3%	0.8%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	3.0%	4.8%	1.5%	100.0%
Road 44	44	80	73.5	N	0700-0800	1305	50.5%	22.0%	0.1%	5.8%	2.1%	1.8%	3.6%	0.8%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	0.0%	3.0%	5.2%	1.5%	100.0%
Road 44	44	80	69.7	N	0800-0900	1510	56.4%	18.0%	0.1%	6.3%	2.3%	1.8%	3.5%	0.5%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	0.0%	2.6%	3.3%	1.4%	100.0%
Road 44	44	80	74.0	N	0900-1000	1236	51.8%	18.8%	0.1%	8.9%	3.2%	2.4%	4.8%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	2.7%	2.0%	1.8%	100.0%
Road 44	44	80	76.8	N	1000-1100	1067	49.1%	19.1%	0.1%	9.6%	3.4%	3.0%	6.0%	0.8%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	2.7%	1.5%	2.2%	100.0%
Road 44	44	80	78.1	N	1100-1200	1011	49.0%	20.2%	0.1%	9.5%	3.4%	3.0%	5.9%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	0.0%	2.8%	1.4%	2.2%	100.0%
Road 44	44	80	71.1	N	1200-1300	1320	46.7%	18.0%	0.1%	10.3%	3.7%	3.7%	7.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	3.1%	1.4%	2.4%	100.0%
Road 44	44	80	70.4	N	1300-1400	1347	45.0%	17.4%	0.1%	12.2%	4.4%	3.8%	7.4%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	0.0%	3.0%	1.4%	2.5%	100.0%
Road 44	44	80	68.7	N	1400-1500	1437	45.2%	18.3%	0.1%	10.9%	3.9%	3.7%	7.2%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	2.9%	1.7%	2.4%	100.0%
Road 44	44	80	68.2	N	1500-1600	1470	44.9%	18.0%	0.1%	12.6%	4.5%	3.2%	6.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	2.9%	1.6%	2.1%	100.0%
Road 44	44	80	58.1	N	1600-1700	1566	47.6%	16.4%	0.1%	9.9%	3.5%	3.1%	6.1%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	0.0%	3.2%	2.2%	2.0%	100.0%
Road 44	44	80	45.2	N	1700-1800	1778	52.6%	16.4%	0.1%	8.8%	3.2%	2.0%	3.9%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	3.2%	4.5%	1.4%	100.0%
Road 44	44	80	34.9	N	1800-1900	1952	63.4%	14.9%	0.1%	5.4%	2.0%	1.1%	2.2%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.3%	3.0%	1.0%	100.0%
Road 44	44	80	69.9	N	1900-2000	1549	62.1%	19.5%	0.0%	4.1%	1.5%	1.0%	1.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	3.7%	2.3%	0.6%	100.0%
Road 44	44	80	76.1	N	2000-2100	1206	57.3%	24.3%	0.0%	4.4%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	0.6%	0.4%	1.2%	0.0%	0.0%	3.9%	2.3%	0.7%	100.0%
Road 44	44	80	76.6	N	2100-2200	1202	58.4%	24.2%	0.0%	4.5%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.8%	0.0%	0.0%	3.5%	2.7%	0.7%	100.0%
Road 44	44	80	77.2	N	2200-2300	1169	57.9%	26.2%	0.0%	3.5%	1.2%	1.1%	2.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	3.7%	2.2%	0.7%	100.0%
Road 44	44	80	80.0	N	2300-0000	874	56.9%	25.6%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	3.7%	2.5%	0.8%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

| Road Name | Road ID |

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 49	49	50	43.4	N	0000-0100	317	58.6%	26.3%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	6.0%	3.0%	0.3%	0.0%	100.0%
Road 49	49	50	45.7	N	0100-0200	205	57.9%	25.9%	0.0%	1.8%	0.7%	0.6%	1.1%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	6.0%	3.3%	0.3%	0.0%	100.0%
Road 49	49	50	46.8	N	0200-0300	149	57.2%	25.5%	0.0%	2.0%	0.7%	0.6%	1.2%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	6.0%	3.6%	0.3%	0.0%	100.0%
Road 49	49	50	47.5	N	0300-0400	117	56.5%	25.1%	0.0%	2.2%	0.8%	0.7%	1.3%	0.0%	0.0%	0.4%	0.8%	0.6%	1.2%	0.0%	6.0%	4.0%	0.3%	0.0%	100.0%
Road 49	49	50	47.3	N	0400-0500	128	55.7%	24.6%	0.0%	2.3%	0.8%	0.7%	1.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	6.0%	4.3%	0.4%	0.0%	100.0%
Road 49	49	50	45.3	N	0500-0600	220	54.9%	24.2%	0.0%	2.5%	0.9%	0.8%	1.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	6.0%	4.7%	0.4%	0.0%	100.0%
Road 49	49	50	39.9	N	0600-0700	469	54.1%	23.7%	0.0%	2.7%	1.0%	0.9%	1.7%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	6.0%	5.1%	0.4%	0.0%	100.0%
Road 49	49	50	34.1	N	0700-0800	943	53.3%	23.2%	0.0%	2.9%	1.0%	0.9%	1.8%	0.0%	0.1%	0.8%	1.2%	0.8%	1.9%	0.0%	6.0%	5.5%	0.5%	0.0%	100.0%
Road 49	49	50	32.5	N	0800-0900	1085	59.9%	19.1%	0.0%	3.2%	1.1%	0.9%	1.8%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	5.3%	3.5%	0.5%	0.0%	100.0%
Road 49	49	50	35.0	N	0900-1000	859	56.9%	20.6%	0.0%	4.7%	1.7%	1.3%	2.5%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	5.7%	2.2%	0.7%	0.0%	100.0%
Road 49	49	50	36.5	N	1000-1100	732	54.5%	21.3%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	5.8%	1.7%	0.8%	0.0%	100.0%
Road 49	49	50	37.0	N	1100-1200	691	54.6%	22.5%	0.1%	5.1%	1.8%	1.6%	3.1%	0.0%	0.1%	1.0%	0.5%	0.4%	0.8%	0.0%	5.9%	1.5%	0.8%	0.0%	100.0%
Road 49	49	50	38.1	N	1200-1300	568	50.4%	19.4%	0.1%	6.8%	2.4%	2.4%	4.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	7.2%	1.5%	1.3%	0.0%	100.0%
Road 49	49	50	38.0	N	1300-1400	571	49.3%	19.0%	0.1%	8.2%	2.9%	2.5%	5.0%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	7.0%	1.5%	1.3%	0.0%	100.0%
Road 49	49	50	37.5	N	1400-1500	616	49.0%	19.8%	0.1%	7.2%	2.6%	2.4%	4.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	6.9%	1.8%	1.3%	0.0%	100.0%
Road 49	49	50	37.3	N	1500-1600	628	48.8%	19.6%	0.1%	8.4%	3.0%	2.1%	4.2%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	6.7%	1.8%	1.1%	0.0%	100.0%
Road 49	49	50	36.6	N	1600-1700	683	50.8%	17.5%	0.1%	6.5%	2.3%	2.0%	4.0%	0.0%	0.2%	1.2%	1.5%	1.0%	2.3%	0.0%	7.3%	2.4%	1.0%	0.0%	100.0%
Road 49	49	50	35.6	N	1700-1800	793	54.8%	17.1%	0.1%	5.6%	2.0%	1.3%	2.5%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	7.2%	4.7%	0.7%	0.0%	100.0%
Road 49	49	50	34.6	N	1800-1900	898	64.0%	15.0%	0.0%	3.4%	1.2%	0.7%	1.4%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	7.1%	3.1%	0.4%	0.0%	100.0%
Road 49	49	50	36.7	N	1900-2000	725	61.7%	19.3%	0.0%	2.5%	0.9%	0.6%	1.2%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	8.0%	2.3%	0.3%	0.0%	100.0%
Road 49	49	50	38.7	N	2000-2100	565	56.8%	24.1%	0.0%	2.7%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	8.4%	2.3%	0.3%	0.0%	100.0%
Road 49	49	50	38.9	N	2100-2200	559	58.4%	24.1%	0.0%	2.7%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	7.4%	2.7%	0.3%	0.0%	100.0%
Road 49	49	50	39.0	N	2200-2300	548	57.4%	26.0%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	7.9%	2.2%	0.3%	0.0%	100.0%
Road 49	49	50	41.1	N	2300-0000	408	56.7%	25.5%	0.0%	2.4%	0.8%	0.7%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.1%	7.9%	2.5%	0.4%	0.0%	100.0%
Road 50	50	50	49.4	N	0000-0100	22	30.4%	13.6%	0.2%	21.7%	7.8%	6.8%	13.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	1.8%	0.0%	100.0%
Road 50	50	50	49.6	N	0100-0200	15	28.5%	12.7%	0.2%	22.7%	8.2%	7.2%	14.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	1.6%	0.0%	100.0%
Road 50	50	50	49.7	N	0200-0300	11	26.8%	11.9%	0.2%	23.7%	8.5%	7.5%	14.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	1.7%	0.0%	100.0%
Road 50	50	50	49.7	N	0300-0400	9	25.2%	11.2%	0.3%	24.6%	8.8%	7.7%	15.2%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.8%	0.0%	100.0%
Road 50	50	50	49.7	N	0400-0500	11	23.7%	10.5%	0.3%	25.4%	9.1%	8.0%	15.7%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.8%	0.0%	100.0%
Road 50	50	50	49.5	N	0500-0600	19	22.3%	9.8%	0.3%	26.2%	9.4%	8.2%	16.1%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.9%	0.0%	100.0%
Road 50	50	50	48.8	N	0600-0700	43	21.0%	9.2%	0.3%	26.9%	9.7%	8.4%	16.6%	0.0%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	0.0%	2.0%	4.3%	0.0%	100.0%
Road 50	50	50	47.4	N	0700-0800	91	19.8%	8.6%	0.3%	27.6%	9.9%	8.6%	17.0%	0.0%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	0.0%	2.0%	4.4%	0.0%	100.0%
Road 50	50	50	47.0	N	0800-0900	107	21.6%	6.9%	0.3%	29.3%	10.5%	8.2%	16.1%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.3%	4.2%	0.0%	100.0%
Road 50	50	50	46.8	N	0900-1000	110	15.8%	5.7%	0.3%	33.1%	11.9%	9.0%	17.7%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.6%	4.6%	0.0%	100.0%
Road 50	50	50	46.9	N	1000-1100	105	13.6%	5.3%	0.3%	32.3%	11.6%	10.2%	20.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.4%	5.3%	0.0%	100.0%
Road 50	50	50	47.1	N	1100-1200	98	13.7%	5.6%	0.3%	32.4%	11.6%	10.1%	19.9%	0.0%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.4%	5.2%	0.0%	100.0%
Road 50	50	50	48.7	N	1200-1300	41	5.3%	2.0%	0.4%	35.2%	12.6%	12.6%	24.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.2%	6.5%	0.0%	100.0%
Road 50	50	50	48.5	N	1300-1400	46	4.6%	1.8%	0.4%	38.1%	13.7%	11.8%	23.2%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%	6.1%	0.0%	100.0%
Road 50	50	50	48.5	N	1400-1500	46	5.0%	2.0%	0.4%	36.3%	13.0%	12.3%	24.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 50	50	50	48.5	N	1500-1600	48	4.8%	1.9%	0.4%	41.1%	14.8%	10.4%	20.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.4%	0.0%	100.0%
Road 50	50	50	48.6	N	1600-1700	45	5.9%	2.0%	0.4%	37.1%	13.3%	11.6%	22.8%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 50	50	50	48.8	N	1700-1800	41	8.0%	2.5%	0.4%	40.9%	14.7%	9.3%	18.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.7%	4.8%	0.0%	100.0%
Road 50	50	50	49.1	N	1800-1900	30	14.7%	3.5%	0.4%	38.3%	13.8%	8.0%	15.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%	100.0%
Road 50	50	50	49.4	N	1900-2000	20	17.1%	5.3%	0.4%	34.6%	12.4%	8.3%	16.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	4.2%	0.0%	100.0%
Road 50	50	50	49.5	N	2000-2100	16	15.4%	6.5%	0.4%	35.9%	12.9%	7.9%	15.6%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.6%	4.1%	0.0%	100.0%
Road 50	50	50	49.5	N	2100-2200	16	15.3%	6.3%	0.4%	35.6%	12.8%	8.2%	16.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.7%	4.2%	0.0%	100.0%
Road 50	50	50	49.6	N	2200-2300	14	16.7%	7.5%	0.3%	30.2%	10.8%	9.6%	18.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.6%	4.9%	0.0%	100.0%
Road 50	50	50	49.7	N	2300-0000	12	15.1%	6.8%	0.3%	31.1%	11.2%	9.9%	19.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.7%	5.1%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 51	51	80	80.0	N	0000-0100	623	58.0%	26.0%	0.0%	3.0%	1.1%	0.9%	1.8%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.1%	2.9%	0.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0100-0200	405	57.1%	25.5%	0.0%	3.3%	1.2%	1.0%	2.0%	0.7%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.2%	0.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0200-0300	295	56.2%	25.0%	0.0%	3.6%	1.3%	1.1%	2.2%	0.7%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.1%	3.6%	0.6%	0.0%	100.0%
Road 51	51	80	80.0	N	0300-0400	233	55.2%	24.5%	0.0%	3.9%	1.4%	1.2%	2.4%	0.7%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	3.1%	3.9%	0.6%	0.0%	100.0%
Road 51	51	80	80.0	N	0400-0500	255	54.3%	24.0%	0.0%	4.2%	1.5%	1.3%	2.6%	0.7%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.1%	4.2%	0.7%	0.0%	100.0%
Road 51	51	80	80.0	N	0500-0600	441	53.3%	23.5%	0.0%	4.5%	1.6%	1.4%	2.8%	0.7%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.1%	4.6%	0.7%	0.0%	100.0%
Road 51	51	80	80.0	N	0600-0700	943	52.3%	22.9%	0.1%	4.8%	1.7%	1.5%	3.0%	0.7%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.1%	4.9%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0700-0800	1904	51.4%	22.4%	0.1%	5.1%	1.8%	1.6%	3.2%	0.7%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	3.1%	5.2%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0800-0900	2199	57.4%	18.4%	0.1%	5.6%	2.0%	1.6%	3.1%	0.5%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.7%	3.3%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0900-1000	1788	53.1%	19.3%	0.1%	8.0%	2.9%	2.2%	4.3%	0.7%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.8%	2.1%	1.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1000-1100	1536	50.6%	19.6%	0.1%	8.6%	3.1%	2.7%	5.4%	0.7%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	2.8%	1.5%	1.4%	0.0%	100.0%
Road 51	51	80	80.0	N	1100-1200	1456	50.4%	20.8%	0.1%	8.6%	3.1%	2.7%	5.3%	0.7%	0.1%	0.9%	0.5%	0.4%	0.8%	0.0%	2.9%	1.4%	1.4%	0.0%	100.0%
Road 51	51	80	80.0	N	1200-1300	962	19.4%	7.5%	0.2%	20.2%	7.3%	7.3%	14.3%	1.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	17.2%	0.6%	3.7%	0.0%	100.0%
Road 51	51	80	80.0	N	1300-1400	1019	18.0%	6.9%	0.2%	23.1%	8.3%	7.2%	14.1%	0.9%	0.0%	0.3%	0.3%	0.2%	0.4%	0.1%	15.8%	0.5%	3.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1400-1500	1050	18.7%	7.6%	0.2%	21.3%	7.6%	7.2%	14.2%	1.0%	0.0%	0.3%	0.3%	0.4%	0.3%	0.6%	0.0%	16.3%	0.7%	3.7%	0.0%	100.0%
Road 51	51	80	80.0	N	1500-1600	1080	18.5%	7.4%	0.3%	24.5%	8.8%	6.2%	12.2%	0.9%	0.0%	0.3%	0.4%	0.3%	0.6%	0.1%	15.8%	0.7%	3.2%	0.0%	100.0%
Road 51	51	80	80.0	N	1600-1700	1098	20.6%	7.1%	0.2%	20.2%	7.3%	6.3%	12.4%	0.9%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	18.3%	1.0%	3.2%	0.0%	100.0%
Road 51	51	80	80.0	N	1700-1800	1143	24.7%	7.7%	0.2%	15.7%	5.6%	3.6%	7.0%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	20.1%	2.1%	2.3%	0.0%	100.0%
Road 51	51	80	80.0	N	1800-1900	1091	34.3%	8.1%	0.1%	13.9%	5.0%	2.9%	5.7%	1.2%	0.0%	0.1%	0.6%	0.4%	0.9%	0.1%	23.6%	1.6%	1.5%	0.0%	100.0%
Road 51	51	80	80.0	N	1900-2000	856	34.0%	10.6%	0.1%	10.7%	3.9%	2.6%	5.0%	1.4%	0.0%	0.1%	0.5%	0.4%	0.8%	0.1%	27.3%	1.3%	1.3%	0.0%	100.0%
Road 51	51	80	80.0	N	2000-2100	679	30.7%	13.1%	0.1%	11.2%	4.0%	2.5%	4.8%	1.4%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	28.2%	1.2%	1.3%	0.0%	100.0%
Road 51	51	80	80.0	N	2100-2200	660	32.2%	13.3%	0.1%	11.7%	4.2%	2.7%	5.3%	1.4%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	25.5%	1.5%	1.4%	0.0%	100.0%
Road 51	51	80	80.0	N	2200-2300	638	32.1%	14.5%	0.1%	9.1%	3.3%	2.9%	5.7%	1.3%	0.0%	0.0%	0.2%	0.1%	0.3%	0.2%	27.6%	1.2%	1.5%	0.0%	100.0%
Road 51	51	80	80.0	N	2300-0000	486	30.9%	13.9%	0.1%	9.9%	3.6%	3.1%	6.2%	1.3%	0.0%	0.1%	0.2%	0.2%	0.4%	0.2%	26.9%	1.4%	1.6%	0.0%	100.0%
Road 52	52	50	49.1	N	0000-0100	27	3.5%	1.6%	0.4%	38.3%	13.8%	12.1%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	49.4	N	0100-0200	19	3.1%	1.4%	0.4%	38.6%	13.8%	12.2%	23.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	49.5	N	0200-0300	15	2.8%	1.3%	0.4%	38.8%	13.9%	12.2%	24.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	49.6	N	0300-0400	13	2.6%	1.1%	0.4%	38.9%	14.0%	12.2%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	49.5	N	0400-0500	15	2.4%	1.0%	0.4%	39.1%	14.0%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	49.1	N	0500-0600	28	2.2%	1.0%	0.4%	39.2%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	47.9	N	0600-0700	65	2.0%	0.9%	0.4%	39.3%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	45.5	N	0700-0800	139	1.8%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	44.7	N	0800-0900	167	2.0%	0.6%	0.4%	41.4%	14.9%	11.6%	22.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	100.0%
Road 52	52	50	44.0	N	0900-1000	190	1.3%	0.5%	0.4%	42.3%	15.2%	11.5%	22.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	100.0%
Road 52	52	50	43.9	N	1000-1100	187	1.1%	0.4%	0.4%	39.8%	14.3%	12.6%	24.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	44.3	N	1100-1200	175	1.1%	0.5%	0.4%	40.0%	14.4%	12.5%	24.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	44.1	N	1200-1300	182	3.2%	1.2%	0.4%	36.4%	13.1%	13.0%	25.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Road 52	52	50	43.5	N	1300-1400	205	2.8%	1.1%	0.4%	39.2%	14.1%	12.1%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	100.0%
Road 52	52	50	43.5	N	1400-1500	203	3.0%	1.2%	0.4%	37.4%	13.4%	12.7%	24.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	100.0%
Road 52	52	50	43.3	N	1500-1600	212	3.0%	1.2%	0.4%	42.4%	15.2%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	100.0%
Road 52	52	50	43.8	N	1600-1700	196	3.6%	1.2%	0.4%	38.5%	13.8%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.2%	100.0%
Road 52	52	50	44.5	N	1700-1800	178	5.0%	1.6%	0.4%	42.9%	15.4%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	100.0%
Road 52	52	50	46.3	N	1800-1900	124	9.5%	2.2%	0.4%	41.7%	15.0%	8.7%	17.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	100.0%
Road 52	52	50	47.6	N	1900-2000	82	11.2%	3.5%	0.4%	38.3%	13.8%	9.1%	18.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.4%	100.0%
Road 52	52	50	48.1	N	2000-2100	65	10.1%	4.3%	0.4%	39.7%	14.2%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.4%	100.0%
Road 52	52	50	48.0	N	2100-2200	67	10.0%	4.1%	0.4%	39.2%	14.1%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.5%	100.0%
Road 52	52	50	48.2	N	2200-2300	58	11.0%	5.0%	0.4%	33.7%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.4%	100.0%
Road 52	52	50	48.5	N	2300-0000	48	9.9%	4.5%	0.4%	34.3%	12.3%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.6%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

**Traffic Data / Modeling

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 103	103	80	80.0	N	0000-0100	661	57.1%	25.7%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	0.8%	0.0%	100.0%
Road 103	103	80	80.0	N	0100-0200	431	56.0%	25.0%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	0.9%	0.0%	100.0%
Road 103	103	80	80.0	N	0200-0300	316	54.8%	24.4%	0.1%	6.0%	2.1%	1.9%	3.7%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	1.0%	0.0%	100.0%
Road 103	103	80	80.0	N	0300-0400	251	53.6%	23.8%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	1.0%	0.0%	100.0%
Road 103	103	80	80.0	N	0400-0500	276	52.4%	23.2%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.1%	1.1%	0.0%	100.0%
Road 103	103	80	80.0	N	0500-0600	480	51.2%	22.5%	0.1%	7.4%	2.7%	2.3%	4.6%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	0.0%	4.4%	1.2%	0.0%	100.0%
Road 103	103	80	80.0	N	0600-0700	1525	51.4%	22.5%	0.1%	7.5%	2.7%	2.3%	4.6%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	4.6%	1.2%	0.0%	100.0%
Road 103	103	80	80.0	N	0700-0800	2095	50.3%	21.9%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	5.0%	1.3%	0.0%	100.0%
Road 103	103	80	80.0	N	0800-0900	2441	54.1%	17.3%	0.1%	9.1%	3.3%	2.5%	5.0%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	3.1%	1.3%	0.0%	100.0%
Road 103	103	80	80.0	N	0900-1000	2051	48.4%	17.6%	0.1%	12.5%	4.5%	3.4%	6.7%	0.0%	0.1%	0.9%	1.5%	0.9%	2.2%	0.0%	0.0%	4.2%	1.8%	0.0%	100.0%
Road 103	103	80	80.0	N	1000-1100	1794	45.3%	17.6%	0.1%	13.3%	4.8%	4.2%	8.3%	0.0%	0.1%	0.9%	1.5%	0.9%	2.2%	0.0%	0.0%	4.2%	1.9%	0.0%	100.0%
Road 103	103	80	80.0	N	1100-1200	1697	45.2%	18.6%	0.1%	13.2%	4.7%	4.1%	8.1%	0.0%	0.1%	0.8%	1.5%	0.9%	2.1%	0.0%	0.0%	4.1%	1.8%	0.0%	100.0%
Road 103	103	80	80.0	N	1200-1300	1524	46.5%	17.9%	0.1%	11.8%	4.2%	4.2%	8.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	4.1%	2.2%	0.0%	100.0%
Road 103	103	80	80.0	N	1300-1400	1564	44.6%	17.2%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	0.0%	3.4%	2.2%	0.0%	100.0%
Road 103	103	80	80.0	N	1400-1500	1665	44.9%	18.2%	0.1%	12.4%	4.4%	4.2%	8.2%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	3.8%	1.9%	0.0%	100.0%
Road 103	103	80	80.0	N	1500-1600	1705	44.5%	17.9%	0.1%	14.3%	5.1%	3.6%	7.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	3.4%	1.6%	1.9%	100.0%
Road 103	103	80	80.0	N	1600-1700	1802	47.7%	16.4%	0.1%	11.3%	4.1%	3.5%	7.0%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	0.0%	3.7%	2.2%	1.8%	0.0%	100.0%
Road 103	103	80	80.0	N	1700-1800	2031	53.0%	16.6%	0.1%	10.2%	3.7%	2.3%	4.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	4.6%	1.2%	0.0%	100.0%
Road 103	103	80	79.5	N	1800-1900	2203	64.6%	15.2%	0.1%	6.4%	2.3%	1.3%	2.6%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.1%	0.7%	0.0%	100.0%
Road 103	103	80	80.0	N	1900-2000	1738	63.7%	20.0%	0.1%	4.9%	1.8%	1.2%	2.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.4%	0.6%	0.0%	100.0%
Road 103	103	80	80.0	N	2000-2100	1350	58.8%	25.0%	0.1%	5.2%	1.9%	1.1%	2.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.3%	0.6%	0.0%	100.0%
Road 103	103	80	80.0	N	2100-2200	1353	59.7%	24.7%	0.1%	5.3%	1.9%	1.2%	2.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	0.6%	0.0%	100.0%
Road 103	103	80	80.0	N	2200-2300	1309	59.5%	26.9%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 103	103	80	80.0	N	2300-0000	981	58.3%	26.3%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.6%	0.7%	0.0%	100.0%
Road 104	104	80	80.0	N	0000-0100	381	49.2%	22.1%	0.1%	9.9%	3.6%	3.1%	6.2%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.6%	0.0%	100.0%
Road 104	104	80	80.0	N	0100-0200	252	47.6%	21.3%	0.1%	10.7%	3.9%	3.4%	6.7%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%
Road 104	104	80	80.0	N	0200-0300	187	46.0%	20.5%	0.1%	11.5%	4.1%	3.6%	7.1%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	1.9%	0.0%	100.0%
Road 104	104	80	80.0	N	0300-0400	150	44.5%	19.7%	0.1%	12.3%	4.4%	3.9%	7.6%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	0.0%	3.1%	2.0%	0.0%	100.0%
Road 104	104	80	80.0	N	0400-0500	167	42.9%	19.0%	0.1%	13.0%	4.7%	4.1%	8.0%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	2.1%	0.0%	100.0%
Road 104	104	80	80.0	N	0500-0600	295	41.4%	18.2%	0.1%	13.8%	4.9%	4.3%	8.5%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.5%	2.2%	0.0%	100.0%
Road 104	104	80	80.0	N	0600-0700	642	39.9%	17.5%	0.2%	14.5%	5.2%	4.5%	8.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.7%	2.3%	0.0%	100.0%
Road 104	104	80	80.0	N	0700-0800	1319	38.5%	16.8%	0.2%	15.2%	5.5%	4.8%	9.3%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	3.9%	2.4%	0.0%	100.0%
Road 104	104	80	80.0	N	0800-0900	1546	42.4%	13.6%	0.2%	16.3%	5.9%	4.6%	9.0%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.5%	2.3%	0.0%	100.0%
Road 104	104	80	80.0	N	0900-1000	1401	35.2%	12.8%	0.2%	20.9%	7.5%	5.7%	11.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%
Road 104	104	80	80.0	N	1000-1100	1270	31.8%	12.3%	0.2%	21.4%	7.7%	6.8%	13.3%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	3.5%	0.0%	100.0%
Road 104	104	80	80.0	N	1100-1200	1198	31.8%	13.1%	0.2%	21.4%	7.7%	6.7%	13.1%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%
Road 104	104	80	80.0	N	1200-1300	1151	50.4%	19.4%	0.1%	9.5%	3.4%	3.4%	6.7%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.0%	1.5%	1.8%	0.0%	100.0%
Road 104	104	80	80.0	N	1300-1400	1171	48.8%	18.8%	0.1%	11.4%	4.1%	3.5%	6.9%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	1.5%	1.8%	0.0%	100.0%
Road 104	104	80	80.0	N	1400-1500	1255	48.8%	19.7%	0.1%	10.0%	3.6%	3.4%	6.7%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	1.8%	1.7%	0.0%	100.0%
Road 104	104	80	80.0	N	1500-1600	1283	48.5%	19.5%	0.1%	11.6%	4.2%	2.9%	5.8%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	0.0%	1.8%	1.5%	0.0%	100.0%
Road 104	104	80	80.0	N	1600-1700	1372	51.3%	17.7%	0.1%	9.1%	3.3%	2.8%	5.6%	0.0%	0.2%	1.2%	1.5%	1.0%	2.3%	0.0%	0.0%	2.4%	1.5%	0.0%	100.0%
Road 104	104	80	80.0	N	1700-1800	1571	56.1%	17.5%	0.1%	8.1%	2.9%	1.8%	3.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	4.8%	0.9%	0.0%	100.0%
Road 104	104	80	80.0	N	1800-1900	1744	66.9%	15.7%	0.1%	4.9%	1.8%	1.0%	2.0%	0.0%	0.0%	0.1%	0.5%	0.4%	0.9%	0.0%	0.0%	3.2%	0.5%	0.0%	100.0%
Road 104	104	80	80.0	N	1900-2000	1385	65.5%	20.5%	0.0%	3.7%	1.3%	0.9%	1.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.4%	0.5%	0.0%	100.0%
Road 104	104	80	80.0	N	2000-2100	1075	60.5%	25.7%	0.0%	4.0%	1.4%	0.9%	1.7%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.4%	0.5%	0.0%	100.0%
Road 104	104	80	80.0	N	2100-2200	1076	61.5%	25.4%	0.0%	4.0%	1.5%	0.9%	1.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.8%	0.5%	0.0%	100.0%
Road 104	104	80	80.0	N	2200-2300	1045	61.1%	27.6%	0.0%	3.1%	1.1%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	0.5%	0.0%	100.0%
Road 104	104	80	80.0	N	2300-0000	781	60.1%	27.1%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	2.7%	0.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 105	105	50	49.6	N	0000-0100	16	46.5%	20.9%	0.1%	11.6%	4.2%	3.7%	7.2%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	1.9%	0.0%	100.0%
Road 105	105	50	49.8	N	0100-0200	10	44.8%	20.0%	0.1%	12.5%	4.5%	3.9%	7.8%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	2.0%	0.0%	100.0%
Road 105	105	50	49.8	N	0200-0300	8	43.1%	19.2%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	2.2%	0.0%	100.0%
Road 105	105	50	49.9	N	0300-0400	6	41.4%	18.4%	0.1%	14.2%	5.1%	4.5%	8.8%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	2.3%	0.0%	100.0%
Road 105	105	50	49.8	N	0400-0500	7	39.9%	17.6%	0.2%	15.0%	5.4%	4.7%	9.3%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.1%	2.4%	0.0%	100.0%
Road 105	105	50	49.7	N	0500-0600	12	38.3%	16.9%	0.2%	15.8%	5.7%	4.9%	9.7%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	2.5%	0.0%	100.0%
Road 105	105	50	49.3	N	0600-0700	27	36.8%	16.1%	0.2%	16.5%	5.9%	5.2%	10.2%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.4%	2.7%	0.0%	100.0%
Road 105	105	50	48.6	N	0700-0800	56	35.3%	15.4%	0.2%	17.3%	6.2%	5.4%	10.6%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.5%	2.8%	0.0%	100.0%
Road 105	105	50	48.4	N	0800-0900	66	38.9%	12.4%	0.2%	18.5%	6.7%	5.2%	10.2%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.4%	2.7%	0.0%	100.0%
Road 105	105	50	48.4	N	0900-1000	61	31.5%	11.5%	0.2%	23.2%	8.3%	6.3%	12.4%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	4.2%	3.2%	0.0%	100.0%
Road 105	105	50	48.5	N	1000-1100	56	28.2%	10.9%	0.2%	23.5%	8.4%	7.5%	14.7%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	5.0%	3.8%	0.0%	100.0%
Road 105	105	50	48.6	N	1100-1200	52	28.3%	11.7%	0.2%	23.5%	8.4%	7.4%	14.5%	0.0%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	0.0%	4.8%	3.8%	0.0%	100.0%
Road 105	105	50	38.1	N	1200-1300	416	2.8%	1.1%	0.4%	36.6%	13.1%	13.1%	25.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.7%	0.0%	100.0%
Road 105	105	50	37.2	N	1300-1400	469	2.4%	0.9%	0.4%	39.4%	14.1%	12.2%	24.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 105	105	50	37.3	N	1400-1500	464	2.6%	1.1%	0.4%	37.7%	13.5%	12.7%	25.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.5%	0.0%	100.0%
Road 105	105	50	37.1	N	1500-1600	485	2.6%	1.0%	0.4%	42.7%	15.3%	10.8%	21.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.6%	0.0%	100.0%
Road 105	105	50	37.6	N	1600-1700	448	3.2%	1.1%	0.4%	38.8%	13.9%	12.1%	23.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 105	105	50	38.6	N	1700-1800	405	4.4%	1.4%	0.5%	43.4%	15.6%	9.8%	19.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.0%	0.0%	100.0%
Road 105	105	50	41.6	N	1800-1900	280	8.4%	2.0%	0.4%	42.4%	15.2%	8.8%	17.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 105	105	50	44.5	N	1900-2000	184	9.9%	3.1%	0.4%	39.1%	14.1%	9.3%	18.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%
Road 105	105	50	45.6	N	2000-2100	146	8.9%	3.8%	0.4%	40.5%	14.5%	8.9%	17.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 105	105	50	45.5	N	2100-2200	150	8.8%	3.7%	0.4%	40.1%	14.4%	9.2%	18.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	4.7%	0.0%	100.0%
Road 105	105	50	46.0	N	2200-2300	131	9.8%	4.4%	0.4%	34.4%	12.4%	10.9%	21.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.3%	0.2%	0.5%	0.1%	6.6%	2.1%	100.0%
Road 105	105	50	46.7	N	2300-0000	108	8.7%	3.9%	0.4%	35.1%	12.6%	11.1%	21.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.4%	0.3%	0.6%	0.1%	6.5%	2.3%	100.0%
Road 106	106	50	46.2	N	0000-0100	179	53.8%	24.2%	0.1%	7.1%	2.5%	2.2%	4.4%	0.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	0.0%	2.7%	1.2%	0.0%	100.0%
Road 106	106	50	47.2	N	0100-0200	117	52.4%	23.5%	0.1%	7.7%	2.8%	2.4%	4.8%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	1.3%	0.0%	100.0%
Road 106	106	50	48.1	N	0200-0300	86	51.1%	22.8%	0.1%	8.3%	3.0%	2.6%	5.2%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.2%	1.3%	0.0%	100.0%
Road 106	106	50	48.5	N	0300-0400	69	49.7%	22.1%	0.1%	8.9%	3.2%	2.8%	5.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	1.4%	0.0%	100.0%
Road 106	106	50	48.3	N	0400-0500	76	48.3%	21.4%	0.1%	9.6%	3.4%	3.0%	5.9%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	1.5%	0.0%	100.0%
Road 106	106	50	47.0	N	0500-0600	133	47.0%	20.7%	0.1%	10.2%	3.6%	3.2%	6.3%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	1.6%	0.0%	100.0%
Road 106	106	50	43.5	N	0600-0700	288	45.6%	20.0%	0.1%	10.8%	3.9%	3.4%	6.6%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	0.0%	4.3%	1.7%	0.0%	100.0%
Road 106	106	50	38.1	N	0700-0800	587	44.3%	19.3%	0.1%	11.4%	4.1%	3.6%	7.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.5%	1.8%	0.0%	100.0%
Road 106	106	50	36.8	N	0800-0900	686	48.9%	15.7%	0.1%	12.3%	4.4%	3.4%	6.7%	0.0%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	2.8%	1.8%	0.0%	100.0%
Road 106	106	50	37.6	N	0900-1000	597	42.3%	15.4%	0.2%	16.4%	5.9%	4.5%	8.8%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	2.3%	2.1%	0.0%	100.0%
Road 106	106	50	38.2	N	1000-1100	531	38.9%	15.1%	0.2%	17.1%	6.1%	5.4%	10.7%	0.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	3.2%	2.8%	0.0%	100.0%
Road 106	106	50	38.7	N	1100-1200	501	39.0%	16.1%	0.2%	17.0%	6.1%	5.3%	10.5%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	1.1%	2.7%	0.0%	100.0%
Road 106	106	50	34.3	N	1200-1300	746	28.6%	11.0%	0.2%	21.9%	7.9%	7.9%	15.5%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	4.0%	0.0%	100.0%
Road 106	106	50	33.5	N	1300-1400	797	26.4%	10.2%	0.3%	24.9%	8.9%	7.7%	15.2%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	4.0%	0.0%	100.0%
Road 106	106	50	33.2	N	1400-1500	822	27.4%	11.1%	0.2%	22.8%	8.2%	7.7%	15.2%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	4.0%	0.0%	100.0%
Road 106	106	50	32.9	N	1500-1600	849	27.0%	10.8%	0.3%	26.2%	9.4%	6.6%	13.0%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 106	106	50	33.0	N	1600-1700	850	30.5%	10.5%	0.2%	21.9%	7.9%	6.9%	13.5%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	1.4%	3.5%	0.0%	100.0%
Road 106	106	50	33.3	N	1700-1800	885	36.7%	11.5%	0.2%	21.3%	7.7%	4.8%	9.5%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	3.2%	2.5%	0.0%	100.0%
Road 106	106	50	34.7	N	1800-1900	844	50.9%	12.0%	0.2%	15.1%	5.4%	3.2%	6.2%	0.0%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.4%	1.6%	0.0%	100.0%
Road 106	106	50	37.6	N	1900-2000	638	52.4%	16.4%	0.1%	12.1%	4.4%	2.9%	5.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	1.9%	1.5%	0.0%	100.0%
Road 106	106	50	39.3	N	2000-2100	498	48.1%	20.4%	0.1%	12.8%	4.6%	2.8%	5.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	1.4%	0.0%	100.0%
Road 106	106	50	39.3	N	2100-2200	502	48.5%	20.1%	0.1%	12.9%	4.6%	3.0%	5.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	1.5%	0.0%	100.0%
Road 106	106	50	39.7	N	2200-2300	476	49.4%	22.3%	0.1%	10.2%	3.7%	3.3%	6.4%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	1.9%	1.7%	0.0%	100.0%
Road 106	106	50	41.8	N	2300-0000	363	47.6%	21.4%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.5%	1.8%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)</ant

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 5	5	50	45.7	N	0000-0100	413	58.2%	26.1%	0.0%	2.5%	0.9%	0.8%	1.6%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.6%	2.9%	0.4%	0.0%	100.0%
Road 5	5	50	47.2	N	0100-0200	268	57.3%	25.7%	0.0%	2.8%	1.0%	0.9%	1.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.6%	3.2%	0.4%	0.0%	100.0%
Road 5	5	50	47.9	N	0200-0300	195	56.5%	25.2%	0.0%	3.0%	1.1%	0.9%	1.9%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	4.6%	3.6%	0.5%	0.0%	100.0%
Road 5	5	50	48.4	N	0300-0400	154	55.6%	24.7%	0.0%	3.5%	1.2%	1.0%	2.0%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	4.6%	3.9%	0.5%	0.0%	100.0%
Road 5	5	50	48.2	N	0400-0500	168	54.8%	24.2%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	4.6%	4.3%	0.6%	0.0%	100.0%
Road 5	5	50	46.9	N	0500-0600	290	53.9%	23.7%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.5%	4.6%	0.6%	0.0%	100.0%
Road 5	5	50	43.3	N	0600-0700	620	53.0%	23.2%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	4.5%	5.0%	0.7%	0.0%	100.0%
Road 5	5	50	38.0	N	0700-0800	1249	52.0%	22.7%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	4.5%	5.3%	0.7%	0.0%	100.0%
Road 5	5	50	36.8	N	0800-0900	1441	58.2%	18.6%	0.0%	4.8%	1.7%	1.3%	2.6%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	4.0%	3.4%	0.7%	0.0%	100.0%
Road 5	5	50	38.3	N	0900-1000	1160	54.4%	19.8%	0.1%	6.9%	2.5%	1.9%	3.7%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	4.2%	2.1%	1.0%	0.0%	100.0%
Road 5	5	50	39.3	N	1000-1100	992	52.1%	20.2%	0.1%	7.5%	2.7%	2.4%	4.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	4.3%	1.6%	1.2%	0.0%	100.0%
Road 5	5	50	39.6	N	1100-1200	941	51.9%	21.4%	0.1%	7.4%	2.7%	2.3%	4.6%	0.0%	0.1%	0.9%	0.5%	0.4%	0.8%	0.0%	4.4%	1.5%	1.2%	0.0%	100.0%
Road 5	5	50	35.5	N	1200-1300	1606	53.0%	20.4%	0.1%	7.1%	2.6%	2.6%	5.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.5%	1.6%	1.3%	0.0%	100.0%
Road 5	5	50	35.4	N	1300-1400	1618	53.8%	20.0%	0.1%	8.6%	3.1%	2.7%	5.2%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	2.5%	1.6%	1.4%	0.0%	100.0%
Road 5	5	50	34.6	N	1400-1500	1745	51.4%	20.8%	0.1%	7.5%	2.7%	2.5%	5.0%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	2.4%	1.9%	1.3%	0.0%	100.0%
Road 5	5	50	34.4	N	1500-1600	1780	51.2%	20.5%	0.1%	8.7%	3.1%	2.2%	4.4%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	2.4%	1.8%	1.1%	0.0%	100.0%
Road 5	5	50	33.5	N	1600-1700	1930	53.4%	18.4%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	2.6%	2.5%	1.1%	0.0%	100.0%
Road 5	5	50	32.2	N	1700-1800	2243	57.6%	18.0%	0.1%	5.9%	2.1%	1.3%	2.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.5%	4.9%	0.7%	0.0%	100.0%
Road 5	5	50	30.9	N	1800-1900	2543	67.2%	15.8%	0.0%	3.5%	1.3%	0.7%	1.4%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	2.5%	3.2%	0.4%	0.0%	100.0%
Road 5	5	50	33.9	N	1900-2000	2039	65.2%	20.4%	0.0%	2.7%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	2.8%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	36.5	N	2000-2100	1584	60.2%	25.6%	0.0%	2.8%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.0%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	36.7	N	2100-2200	1579	61.4%	25.4%	0.0%	2.9%	1.0%	0.7%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	2.6%	2.8%	0.3%	0.0%	100.0%
Road 5	5	50	36.9	N	2200-2300	1541	60.7%	27.4%	0.0%	2.2%	0.8%	0.7%	1.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.8%	2.3%	0.4%	0.0%	100.0%
Road 5	5	50	39.1	N	2300-0000	1148	59.8%	27.0%	0.0%	2.5%	0.9%	0.8%	1.5%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	2.8%	2.6%	0.4%	0.0%	100.0%
Road 6	6	50	43.8	N	0000-0100	548	48.9%	22.0%	0.1%	8.4%	3.0%	2.6%	5.2%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	4.0%	2.5%	1.7%	0.0%	100.0%
Road 6	6	50	45.8	N	0100-0200	361	47.4%	21.2%	0.1%	9.1%	3.2%	2.9%	5.6%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.9%	2.7%	2.0%	0.0%	100.0%
Road 6	6	50	46.9	N	0200-0300	268	45.9%	20.5%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.8%	2.9%	2.3%	0.0%	100.0%
Road 6	6	50	47.5	N	0300-0400	215	44.4%	19.7%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	3.7%	3.1%	2.5%	0.0%	100.0%
Road 6	6	50	47.2	N	0400-0500	238	43.1%	19.1%	0.1%	11.1%	4.0%	3.5%	6.8%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.7%	3.3%	2.6%	0.0%	100.0%
Road 6	6	50	45.0	N	0500-0600	416	41.9%	18.4%	0.1%	11.8%	4.2%	3.7%	7.3%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.6%	3.6%	2.3%	0.0%	100.0%
Road 6	6	50	39.5	N	0600-0700	901	40.7%	17.8%	0.1%	12.5%	4.5%	3.9%	7.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.6%	3.8%	2.2%	0.0%	100.0%
Road 6	6	50	33.0	N	0700-0800	1848	39.2%	17.1%	0.1%	13.1%	4.7%	4.1%	8.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	3.5%	4.0%	2.5%	0.0%	100.0%
Road 6	6	50	30.9	N	0800-0900	2152	43.5%	13.9%	0.1%	14.2%	5.1%	4.0%	7.8%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	3.1%	2.5%	2.4%	0.0%	100.0%
Road 6	6	50	31.9	N	0900-1000	1916	36.8%	13.3%	0.2%	18.4%	6.6%	5.0%	9.9%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	2.9%	1.4%	3.0%	0.0%	100.0%
Road 6	6	50	32.9	N	1000-1100	1723	33.5%	13.0%	0.2%	19.0%	6.8%	6.0%	11.9%	0.0%	0.0%	0.4%	0.6%	0.4%	0.8%	0.0%	2.8%	1.0%	3.5%	0.0%	100.0%
Road 6	6	50	33.7	N	1100-1200	1627	33.5%	13.8%	0.2%	19.0%	6.8%	5.9%	11.7%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	2.9%	0.9%	3.5%	0.0%	100.0%
Road 6	6	50	33.7	N	1200-1300	1541	27.8%	10.7%	0.2%	21.0%	7.6%	7.5%	14.8%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	3.1%	0.8%	4.3%	0.0%	100.0%
Road 6	6	50	32.9	N	1300-1400	1640	25.7%	9.9%	0.3%	24.0%	8.6%	7.4%	14.6%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	2.8%	0.8%	4.3%	0.0%	100.0%
Road 6	6	50	32.5	N	1400-1500	1694	26.7%	10.8%	0.2%	22.0%	7.9%	7.4%	14.6%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.9%	1.0%	4.2%	0.0%	100.0%
Road 6	6	50	32.2	N	1500-1600	1748	26.3%	10.5%	0.3%	25.2%	9.0%	6.4%	12.6%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.8%	0.9%	3.7%	0.0%	100.0%
Road 6	6	50	32.2	N	1600-1700	1759	29.5%	10.2%	0.2%	21.0%	7.5%	6.6%	12.9%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	3.3%	1.4%	3.8%	0.0%	100.0%
Road 6	6	50	32.4	N	1700-1800	1839	35.4%	11.1%	0.2%	20.3%	7.3%	4.6%	9.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.6%	3.0%	2.8%	0.0%	100.0%
Road 6	6	50	33.7	N	1800-1900	1767	48.7%	11.4%	0.1%	14.3%	5.1%	3.0%	5.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.2%	2.3%	1.9%	0.0%	100.0%
Road 6	6	50	36.7	N	1900-2000	1346	49.8%	15.6%	0.1%	11.4%	4.1%	2.7%	5.3%	0.0%	0.0%	0.1%	0.8%	0.5%	1.1%	0.0%	5.0%	1.8%	1.5%	0.0%	100.0%
Road 6	6	50	38.6	N	2000-2100	1054	45.6%	19.4%	0.1%	12.0%	4.3%	2.6%	5.2%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	5.3%	1.8%	1.5%	0.0%	100.0%
Road 6	6	50	38.7	N	2100-2200	1054	46.4%	19.2%	0.1%	12.2%	4.4%	2.8%	5.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.6%	2.1%	1.6%	0.0%	100.0%
Road 6	6	50	39.0	N	2200-2300	1004	46.9%	21.2%	0.1%	9.6%	3.4%	3.1%	6.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	5.1%	1.8%	1.8%	0.0%	100.0%
Road 6	6	50	40.9	N	2300-0000	766	45.2%	20.4%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.0%	2.0%	2.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 7	7	70	70.0	N	0000-0100	320	56.6%	25.4%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.1%	2.8%	0.6%	0.0%	100.0%
Road 7	7	70	70.0	N	0100-0200	208	55.7%	24.9%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.1%	3.2%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	0200-0300	152	54.7%	24.4%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	4.0%	3.5%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	0300-0400	120	53.7%	23.8%	0.0%	4.8%	1.7%	1.5%	2.9%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.0%	3.8%	0.8%	0.0%	100.0%
Road 7	7	70	70.0	N	0400-0500	132	52.7%	23.3%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	4.0%	4.1%	0.8%	0.0%	100.0%
Road 7	7	70	70.0	N	0500-0600	229	51.6%	22.7%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.6%	1.0%	0.7%	1.4%	0.0%	3.9%	4.4%	0.9%	0.0%	100.0%
Road 7	7	70	70.0	N	0600-0700	490	50.6%	22.2%	0.1%	5.9%	2.1%	1.8%	3.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	3.9%	4.7%	0.9%	0.0%	100.0%
Road 7	7	70	69.3	N	0700-0800	991	49.5%	21.6%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.8%	5.3%	1.0%	0.0%	100.0%
Road 7	7	70	66.9	N	0800-0900	1147	55.3%	17.7%	0.1%	6.8%	2.5%	1.9%	3.8%	0.0%	0.1%	0.8%	1.1%	0.7%	1.6%	0.0%	3.5%	3.2%	1.0%	0.0%	100.0%
Road 7	7	70	69.6	N	0900-1000	944	50.5%	18.3%	0.1%	9.6%	3.5%	2.6%	5.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.6%	2.0%	1.3%	0.0%	100.0%
Road 7	7	70	70.0	N	1000-1100	817	47.8%	18.6%	0.1%	10.3%	3.7%	3.3%	6.4%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.5%	1.5%	1.7%	0.0%	100.0%
Road 7	7	70	70.0	N	1100-1200	774	47.6%	19.6%	0.1%	10.3%	3.7%	3.2%	6.3%	0.0%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	3.6%	1.3%	1.6%	0.0%	100.0%
Road 7	7	70	66.0	N	1200-1300	1071	41.4%	15.9%	0.1%	13.3%	4.8%	4.8%	9.4%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	3.6%	1.2%	2.5%	0.0%	100.0%
Road 7	7	70	65.2	N	1300-1400	1106	39.5%	15.2%	0.2%	15.6%	5.6%	4.8%	9.5%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	3.4%	1.2%	2.5%	0.0%	100.0%
Road 7	7	70	64.2	N	1400-1500	1170	39.9%	16.2%	0.1%	14.0%	5.0%	4.7%	9.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.4%	1.5%	2.4%	0.0%	100.0%
Road 7	7	70	63.8	N	1500-1600	1200	39.6%	15.9%	0.2%	16.2%	5.8%	4.1%	8.0%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.3%	1.4%	2.1%	0.0%	100.0%
Road 7	7	70	62.9	N	1600-1700	1259	42.7%	14.7%	0.1%	12.9%	4.6%	4.0%	7.9%	0.0%	0.1%	1.0%	1.3%	0.9%	1.9%	0.0%	3.7%	2.0%	2.1%	0.0%	100.0%
Road 7	7	70	61.8	N	1700-1800	1400	48.1%	15.0%	0.1%	11.8%	4.2%	3.7%	5.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.8%	4.1%	1.4%	0.0%	100.0%
Road 7	7	70	61.6	N	1800-1900	1488	59.9%	14.1%	0.1%	7.5%	2.7%	1.6%	3.1%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	4.0%	2.9%	0.8%	0.0%	100.0%
Road 7	7	70	66.7	N	1900-2000	1174	59.0%	18.5%	0.1%	5.7%	2.1%	1.4%	2.7%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	4.9%	2.2%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	2000-2100	915	54.3%	23.1%	0.1%	6.1%	2.2%	1.3%	2.6%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.9%	2.2%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	2100-2200	911	55.4%	22.9%	0.1%	6.2%	2.2%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.3%	2.5%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	2200-2300	883	55.2%	25.0%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.7%	2.1%	0.8%	0.0%	100.0%
Road 7	7	70	70.0	N	2300-0000	663	54.0%	24.3%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.6%	2.4%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	0000-0100	32	41.9%	18.8%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	23.7%	2.1%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	0100-0200	21	41.0%	18.3%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.2%	23.4%	2.3%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	0200-0300	15	40.1%	17.9%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.2%	23.2%	2.5%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	0300-0400	12	39.2%	17.4%	0.1%	6.2%	2.2%	2.0%	3.8%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.2%	23.0%	2.8%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0400-0500	13	38.3%	16.9%	0.1%	6.7%	2.4%	2.1%	4.1%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.2%	22.7%	3.0%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	0500-0600	23	37.4%	16.5%	0.1%	7.1%	2.6%	2.2%	4.4%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.2%	22.5%	3.2%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	0600-0700	50	36.5%	16.0%	0.1%	7.6%	2.7%	2.4%	4.7%	0.0%	0.1%	0.5%	0.8%	0.5%	1.1%	0.2%	22.2%	3.4%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0700-0800	101	35.6%	15.5%	0.1%	8.1%	2.9%	2.5%	5.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.2%	22.0%	3.6%	1.3%	0.0%	100.0%
Road 8	8	70	70.0	N	0800-0900	114	40.6%	13.0%	0.1%	8.9%	3.2%	2.5%	4.9%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.1%	19.9%	2.4%	1.3%	0.0%	100.0%
Road 8	8	70	70.0	N	0900-1000	98	35.6%	12.9%	0.1%	12.1%	4.3%	3.3%	6.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	19.8%	1.4%	1.7%	0.0%	100.0%
Road 8	8	70	70.0	N	1000-1100	86	33.1%	12.9%	0.1%	12.8%	4.6%	4.1%	8.0%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.1%	19.3%	1.0%	2.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1100-1200	82	32.9%	13.6%	0.1%	12.7%	4.5%	4.0%	7.8%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.1%	19.7%	0.9%	2.0%	0.0%	100.0%
Road 8	8	70	70.0	N	1200-1300	229	30.1%	11.6%	0.2%	16.6%	5.9%	5.9%	11.7%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	17.8%	0.9%	3.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1300-1400	239	28.4%	10.9%	0.2%	19.2%	6.9%	6.0%	11.7%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	11.0%	0.9%	3.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1400-1500	250	29.1%	11.8%	0.2%	17.4%	6.3%	5.9%	11.6%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	11.2%	1.1%	3.0%	0.0%	100.0%
Road 8	8	70	70.0	N	1500-1600	257	28.7%	11.5%	0.2%	20.1%	7.2%	5.1%	10.0%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.1%	10.9%	1.0%	2.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1600-1700	265	31.4%	10.8%	0.2%	16.3%	5.8%	5.1%	10.0%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	12.4%	1.5%	2.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1700-1800	286	36.6%	11.4%	0.2%	15.3%	5.5%	3.5%	6.8%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	13.2%	3.1%	1.8%	0.0%	100.0%
Road 8	8	70	70.0	N	1800-1900	290	47.7%	11.2%	0.1%	10.2%	3.7%	2.1%	4.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.1%	14.5%	2.3%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1900-2000	229	47.1%	14.7%	0.1%	7.8%	2.8%	1.9%	3.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.1%	16.7%	1.7%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	2000-2100	180	43.0%	18.2%	0.1%	8.2%	3.0%	1.8%	3.6%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	17.5%	1.7%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	2100-2200	177	44.5%	18.4%	0.1%	8.5%	3.1%	2.0%	3.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	15.6%	2.0%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	2200-2300	131	44.2%	20.0%	0.1%	6.6%	2.4%	2.1%	4.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	16.8%	1.7%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	2300-0000	129	43.0%	19.4%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.1%	16.5%	1.9%	1.2%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 13	13	50	29.9	N	0000-0100	2	49.6%	22.3%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.6%	0.0%	100.0%
Road 13	13	50	29.9	N	0100-0200	1	48.0%	21.5%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%
Road 13	13	50	29.9	N	0200-0300	1	46.5%	20.7%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	1.8%	0.0%	100.0%
Road 13	13	50	30.0	N	0300-0400	1	44.9%	19.9%	0.1%	12.0%	4.3%	3.8%	7.4%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	1.9%	0.0%	100.0%
Road 13	13	50	29.9	N	0400-0500	1	43.4%	19.2%	0.1%	12.7%	4.6%	4.0%	7.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.1%	0.0%	100.0%
Road 13	13	50	29.9	N	0500-0600	1	41.9%	18.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.6%	2.2%	0.0%	100.0%
Road 13	13	50	29.8	N	0600-0700	3	40.4%	17.7%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	2.3%	0.0%	100.0%
Road 13	13	50	29.6	N	0700-0800	7	39.0%	17.0%	0.1%	14.9%	5.3%	4.6%	9.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	2.4%	0.0%	100.0%
Road 13	13	50	29.5	N	0800-0900	8	43.0%	13.8%	0.2%	16.0%	5.7%	4.5%	8.8%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.5%	2.3%	0.0%	100.0%
Road 13	13	50	29.5	N	0900-1000	7	35.8%	13.0%	0.2%	20.5%	7.4%	5.6%	11.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%
Road 13	13	50	29.6	N	1000-1100	6	32.4%	12.6%	0.2%	21.0%	7.5%	6.7%	13.1%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 13	13	50	29.6	N	1100-1200	6	32.4%	13.4%	0.2%	21.0%	7.5%	6.6%	12.9%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%
Road 13	13	50	29.6	N	1200-1300	6	34.5%	13.3%	0.2%	18.6%	6.7%	6.7%	13.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 13	13	50	29.5	N	1300-1400	7	32.2%	12.4%	0.2%	21.4%	7.7%	6.6%	13.0%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 13	13	50	29.5	N	1400-1500	7	33.1%	13.4%	0.2%	19.5%	7.0%	6.6%	12.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	3.4%	0.0%	100.0%
Road 13	13	50	29.5	N	1500-1600	7	32.6%	13.1%	0.2%	22.4%	8.0%	5.7%	11.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%
Road 13	13	50	29.5	N	1600-1700	7	36.2%	12.5%	0.2%	18.4%	6.6%	5.8%	11.3%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	1.7%	3.0%	0.0%	100.0%
Road 13	13	50	29.5	N	1700-1800	8	42.4%	13.3%	0.2%	17.4%	6.3%	3.9%	7.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	2.0%	0.0%	100.0%
Road 13	13	50	29.5	N	1800-1900	8	56.2%	13.2%	0.1%	11.8%	4.2%	2.5%	4.8%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.7%	1.3%	0.0%	100.0%
Road 13	13	50	29.7	N	1900-2000	6	56.8%	17.8%	0.1%	9.3%	3.3%	2.2%	4.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 13	13	50	29.7	N	2000-2100	5	52.3%	22.2%	0.1%	9.8%	3.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 13	13	50	29.7	N	2100-2200	5	52.9%	21.9%	0.1%	9.9%	3.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.2%	0.0%	100.0%
Road 13	13	50	29.7	N	2200-2300	4	53.4%	24.1%	0.1%	7.8%	2.8%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	1.3%	0.0%	100.0%
Road 13	13	50	29.8	N	2300-0000	3	51.8%	23.3%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	1.4%	0.0%	100.0%
Road 14	14	50	45.1	N	0000-0100	441	52.5%	23.6%	0.1%	4.9%	1.8%	1.6%	3.1%	0.2%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	3.0%	2.6%	5.0%	100.0%
Road 14	14	50	46.6	N	0100-0200	294	50.3%	22.5%	0.1%	5.3%	1.9%	1.7%	3.3%	0.2%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	2.9%	7.1%	100.0%
Road 14	14	50	47.6	N	0200-0300	221	48.1%	21.4%	0.1%	5.6%	2.0%	1.8%	3.5%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	3.0%	9.2%	100.0%
Road 14	14	50	47.8	N	0300-0400	179	46.1%	20.4%	0.1%	5.9%	2.1%	1.9%	3.7%	0.1%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.7%	3.2%	11.2%	100.0%
Road 14	14	50	47.6	N	0400-0500	195	45.4%	20.1%	0.1%	6.4%	2.3%	2.0%	4.0%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	2.7%	3.5%	10.5%	100.0%
Road 14	14	50	46.1	N	0500-0600	326	46.2%	20.3%	0.1%	7.1%	2.6%	2.2%	4.4%	0.2%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	2.8%	3.9%	6.8%	100.0%
Road 14	14	50	42.1	N	0600-0700	680	46.5%	20.4%	0.1%	7.8%	2.8%	2.5%	4.8%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	2.8%	4.4%	4.0%	100.0%
Road 14	14	50	36.1	N	0700-0800	1415	44.3%	19.3%	0.1%	8.1%	2.9%	2.5%	5.0%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	2.7%	4.5%	6.3%	100.0%
Road 14	14	50	34.8	N	0800-0900	1631	49.6%	15.9%	0.1%	8.9%	3.2%	2.5%	4.9%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	2.4%	2.9%	5.6%	100.0%
Road 14	14	50	36.0	N	0900-1000	1389	43.8%	15.9%	0.1%	12.1%	4.3%	3.3%	6.5%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	2.4%	1.7%	6.8%	100.0%
Road 14	14	50	36.8	N	1000-1100	1226	40.6%	15.8%	0.1%	12.7%	4.6%	4.0%	7.9%	0.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	2.4%	1.2%	7.8%	100.0%
Road 14	14	50	37.3	N	1100-1200	1164	40.4%	16.7%	0.1%	12.6%	4.5%	3.9%	7.8%	0.2%	0.1%	0.7%	0.7%	0.4%	0.9%	0.0%	0.0%	2.4%	1.1%	8.1%	100.0%
Road 14	14	50	34.4	N	1200-1300	1455	31.5%	12.1%	0.2%	17.4%	6.3%	6.2%	12.3%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	0.9%	8.1%	100.0%
Road 14	14	50	33.8	N	1300-1400	1528	29.5%	11.4%	0.2%	20.1%	7.2%	6.2%	12.3%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	2.5%	0.9%	7.8%	100.0%
Road 14	14	50	33.4	N	1400-1500	1590	30.4%	12.3%	0.2%	18.3%	6.6%	6.2%	12.2%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.5%	1.1%	7.6%	100.0%
Road 14	14	50	33.2	N	1500-1600	1634	30.0%	12.1%	0.2%	21.1%	7.8%	5.3%	10.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.4%	1.1%	7.1%	100.0%
Road 14	14	50	33.0	N	1600-1700	1668	33.3%	11.5%	0.2%	17.3%	6.2%	5.4%	10.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	2.8%	1.6%	7.0%	100.0%
Road 14	14	50	33.0	N	1700-1800	1780	39.1%	12.2%	0.2%	16.4%	5.9%	3.7%	7.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	3.0%	3.4%	5.9%	100.0%
Road 14	14	50	33.7	N	1800-1900	1781	51.7%	12.1%	0.1%	11.1%	4.0%	2.3%	4.6%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	3.4%	2.5%	5.2%	100.0%
Road 14	14	50	37.0	N	1900-2000	1340	53.5%	16.7%	0.1%	8.9%	3.2%	2.1%	4.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	4.1%	2.0%	2.5%	100.0%
Road 14	14	50	38.8	N	2000-2100	1051	48.9%	20.8%	0.1%	9.4%	3.4%	2.1%	4.1%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	4.3%	2.0%	2.8%	100.0%
Road 14	14	50	38.9	N	2100-2200	1051	49.7%	20.6%	0.1%	9.6%	3.4%	2.2%	4.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	3.7%	2.3%	2.9%	100.0%
Road 14	14	50	39.2	N	2200-2300	1008	50.0%	22.6%	0.1%	7.5%	2.7%	2.4%	4.7%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	4.1%	1.9%	3.0%	100.0%
Road 14	14	50	41.1	N	2300-0000	768	48.2%	21.7%	0.1%	8.2%	2.9%	2.6%	5.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	4.0%	2.1%	3.7%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 15	15	50	47.8	N	0000-0100	89	47.0%	21.1%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.5%	4.2%	11.1%	100.0%
Road 15	15	50	48.3	N	0100-0200	63	42.3%	18.9%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.4%	4.2%	17.0%	100.0%
Road 15	15	50	48.6	N	0200-0300	50	38.2%	17.0%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.4%	4.2%	20.5%	100.0%
Road 15	15	50	48.7	N	0300-0400	43	34.7%	15.4%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.4%	3.5%	25.3%	100.0%
Road 15	15	50	48.6	N	0400-0500	46	35.0%	15.5%	0.0%	4.6%	1.7%	1.5%	2.9%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.7%	3.3%	25.0%	100.0%
Road 15	15	50	48.1	N	0500-0600	69	39.7%	17.4%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.1%	2.4%	13.4%	100.0%
Road 15	15	50	46.8	N	0600-0700	131	43.8%	19.2%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	3.7%	2.1%	12.4%	100.0%
Road 15	15	50	42.1	N	0700-0800	292	38.8%	16.9%	0.1%	6.7%	2.4%	2.1%	4.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	3.5%	2.4%	20.5%	100.0%
Road 15	15	50	41.3	N	0800-0900	330	44.3%	14.2%	0.1%	7.4%	2.7%	2.1%	4.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	2.5%	2.3%	18.3%	100.0%
Road 15	15	50	42.0	N	0900-1000	287	38.4%	13.9%	0.1%	9.9%	3.6%	2.7%	5.3%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	1.9%	1.5%	21.2%	100.0%
Road 15	15	50	42.6	N	1000-1100	258	34.9%	13.5%	0.1%	10.3%	3.7%	3.3%	6.4%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.8%	1.1%	23.7%	100.0%
Road 15	15	50	42.9	N	1100-1200	247	34.4%	14.2%	0.1%	10.1%	3.6%	3.2%	6.2%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	1.0%	24.6%	100.0%
Road 15	15	50	39.5	N	1200-1300	372	28.0%	10.8%	0.2%	16.2%	5.8%	5.8%	11.4%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	1.4%	2.1%	16.3%	100.0%
Road 15	15	50	39.2	N	1300-1400	390	26.3%	10.1%	0.2%	18.8%	6.7%	5.8%	11.4%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	1.4%	2.1%	17.6%	100.0%
Road 15	15	50	39.0	N	1400-1500	403	27.2%	11.0%	0.2%	17.2%	6.2%	5.8%	11.4%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.4%	2.1%	17.1%	100.0%
Road 15	15	50	38.9	N	1500-1600	414	27.0%	10.8%	0.2%	19.8%	7.1%	5.0%	9.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	0.0%	1.4%	2.1%	16.3%	100.0%
Road 15	15	50	38.9	N	1600-1700	419	30.1%	10.4%	0.2%	16.4%	5.9%	5.1%	10.1%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	1.6%	3.0%	14.6%	100.0%
Road 15	15	50	38.9	N	1700-1800	443	35.7%	11.2%	0.2%	15.7%	5.7%	3.6%	7.0%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	1.7%	3.1%	14.7%	100.0%
Road 15	15	50	39.3	N	1800-1900	439	47.6%	11.2%	0.1%	10.7%	3.9%	2.2%	4.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.3%	2.3%	14.1%	100.0%
Road 15	15	50	42.8	N	1900-2000	309	52.7%	16.5%	0.1%	9.3%	3.3%	2.2%	4.3%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	1.9%	1.9%	5.9%	100.0%
Road 15	15	50	44.3	N	2000-2100	244	47.8%	20.3%	0.1%	9.6%	3.5%	2.1%	4.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	2.1%	1.9%	5.0%	100.0%
Road 15	15	50	44.3	N	2100-2200	245	48.5%	20.0%	0.1%	9.8%	3.5%	2.2%	4.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	1.9%	5.0%	100.0%
Road 15	15	50	44.5	N	2200-2300	234	48.8%	22.1%	0.1%	7.7%	2.7%	2.4%	4.8%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	2.3%	1.9%	7.5%	100.0%
Road 15	15	50	45.6	N	2300-0000	181	46.3%	20.9%	0.1%	8.3%	3.0%	2.6%	5.1%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.1%	2.5%	9.5%	100.0%
Road 16	16	70	67.5	N	0000-0100	352	53.9%	24.2%	0.1%	5.1%	1.8%	1.6%	3.2%	0.2%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	0.0%	3.4%	2.7%	1.9%	100.0%
Road 16	16	70	68.3	N	0100-0200	231	52.5%	23.5%	0.1%	5.6%	2.0%	1.8%	3.5%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.4%	3.0%	2.5%	100.0%
Road 16	16	70	68.7	N	0200-0300	171	51.1%	22.8%	0.1%	6.0%	2.2%	1.9%	3.7%	0.2%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	0.0%	3.3%	3.2%	3.1%	100.0%
Road 16	16	70	69.0	N	0300-0400	136	49.6%	22.0%	0.1%	6.5%	2.3%	2.0%	4.0%	0.2%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	3.5%	3.7%	100.0%
Road 16	16	70	68.9	N	0400-0500	149	48.6%	21.5%	0.1%	7.0%	2.5%	2.2%	4.3%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	2.7%	3.5%	4.7%	100.0%
Road 16	16	70	68.1	N	0500-0600	257	48.0%	21.1%	0.1%	7.5%	2.7%	2.4%	4.6%	0.2%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	2.8%	3.9%	6.8%	100.0%
Road 16	16	70	65.8	N	0600-0700	550	47.2%	20.7%	0.1%	8.1%	2.9%	2.5%	5.0%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	2.8%	4.4%	4.0%	100.0%
Road 16	16	70	55.7	N	0700-0800	1123	45.7%	19.9%	0.1%	8.5%	3.1%	2.7%	5.2%	0.2%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	2.7%	4.5%	6.3%	100.0%
Road 16	16	70	49.7	N	0800-0900	1300	51.0%	16.3%	0.1%	9.2%	3.3%	2.6%	5.1%	0.2%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	2.4%	2.9%	5.6%	100.0%
Road 16	16	70	54.9	N	0900-1000	1102	45.3%	16.4%	0.1%	12.6%	4.5%	3.4%	6.8%	0.2%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	2.8%	1.7%	6.8%	100.0%
Road 16	16	70	58.8	N	1000-1100	968	42.1%	16.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.2%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	2.8%	1.3%	7.8%	100.0%
Road 16	16	70	60.8	N	1100-1200	917	42.0%	17.3%	0.1%	13.3%	4.8%	4.2%	8.2%	0.2%	0.1%	0.8%	0.4%	0.3%	0.6%	0.0%	0.0%	2.8%	1.2%	3.7%	100.0%
Road 16	16	70	51.1	N	1200-1300	1083	32.7%	12.6%	0.2%	17.8%	6.4%	6.4%	12.6%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	3.4%	1.0%	4.6%	100.0%
Road 16	16	70	48.6	N	1300-1400	1139	30.6%	11.8%	0.2%	20.6%	7.4%	6.4%	12.5%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	2.5%	0.9%	7.8%	100.0%
Road 16	16	70	47.0	N	1400-1500	1187	31.5%	12.7%	0.2%	18.7%	6.7%	6.3%	12.4%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	2.5%	1.1%	7.6%	100.0%
Road 16	16	70	46.1	N	1500-1600	1221	31.1%	12.5%	0.2%	21.5%	7.7%	5.4%	10.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.4%	1.1%	7.1%	100.0%
Road 16	16	70	45.2	N	1600-1700	1249	34.4%	11.8%	0.2%	17.6%	6.3%	5.5%	10.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	2.8%	1.6%	7.0%	100.0%
Road 16	16	70	44.8	N	1700-1800	1337	40.2%	12.6%	0.2%	16.7%	6.0%	3.8%	7.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	3.5%	6.0%	100.0%
Road 16	16	70	47.5	N	1800-1900	1341	53.1%	12.5%	0.1%	11.3%	4.0%	2.3%	4.6%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	3.4%	2.5%	5.2%	100.0%
Road 16	16	70	59.1	N	1900-2000	1032	53.7%	16.8%	0.1%	8.9%	3.2%	2.1%	4.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	4.1%	2.0%	2.5%	100.0%
Road 16	16	70	63.8	N	2000-2100	807	49.2%	20.9%	0.1%	9.3%	3.4%	2.1%	4.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	4.3%	2.0%	2.8%	100.0%
Road 16	16	70	63.9	N	2100-2200	806	50.1%	20.7%	0.1%	9.5%	3.4%	2.2%	4.3%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	3.7%	2.3%	2.9%	100.0%
Road 16	16	70	64.2	N	2200-2300	773	50.4%	22.8%	0.1%	7.4%	2.7%	2.4%	4.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	4.1%	1.9%	3.0%	100.0%
Road 16	16	70	65.5	N	2300-0000	586	48.8%	22.0%	0.1%	8.2%	2.9%	2.6%	5.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	4.0%	2.1%	3.7%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

| Road Name | Road

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 21	21	70	68.1	N	0000-0100	525	46.8%	21.0%	0.1%	9.1%	3.3%	2.9%	5.7%	0.1%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	2.2%	2.4%	5.0%	0.0%	100.0%
Road 21	21	70	68.7	N	0100-0200	353	44.5%	19.9%	0.1%	9.7%	3.5%	3.1%	6.0%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.1%	2.5%	6.8%	0.0%	100.0%
Road 21	21	70	69.0	N	0200-0300	266	42.3%	18.8%	0.1%	10.2%	3.7%	3.2%	6.3%	0.1%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	2.1%	2.7%	8.6%	0.0%	100.0%
Road 21	21	70	69.1	N	0300-0400	217	40.2%	17.8%	0.1%	10.7%	3.8%	3.4%	6.6%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.0%	2.8%	10.2%	0.0%	100.0%
Road 21	21	70	69.0	N	0400-0500	240	39.2%	17.3%	0.1%	11.5%	4.1%	3.6%	7.1%	0.1%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.0%	3.0%	9.5%	0.0%	100.0%
Road 21	21	70	68.4	N	0500-0600	408	39.2%	17.2%	0.1%	12.5%	4.5%	3.9%	7.7%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.0%	3.3%	6.5%	0.0%	100.0%
Road 21	21	70	66.6	N	0600-0700	865	38.8%	17.0%	0.1%	13.5%	4.9%	4.2%	8.3%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.0%	3.6%	4.3%	0.0%	100.0%
Road 21	21	70	62.0	N	0700-0800	1809	36.7%	16.0%	0.1%	14.0%	5.0%	4.4%	8.6%	0.1%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	1.9%	3.8%	6.2%	0.0%	100.0%
Road 21	21	70	57.0	N	0800-0900	2102	40.8%	13.1%	0.2%	15.1%	5.4%	4.2%	8.3%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	1.7%	2.4%	5.5%	0.0%	100.0%
Road 21	21	70	58.9	N	0900-1000	1903	33.9%	12.3%	0.2%	19.4%	7.0%	5.3%	10.4%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	1.6%	1.3%	6.4%	0.0%	100.0%
Road 21	21	70	61.1	N	1000-1100	1728	30.6%	11.9%	0.2%	19.8%	7.1%	6.3%	12.4%	0.1%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	1.5%	0.9%	7.3%	0.0%	100.0%
Road 21	21	70	63.0	N	1100-1200	1634	30.5%	12.6%	0.2%	19.7%	7.1%	6.2%	12.1%	0.1%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	1.5%	0.9%	7.5%	0.0%	100.0%
Road 21	21	70	63.1	N	1200-1300	1505	22.9%	8.8%	0.2%	22.7%	8.1%	8.1%	16.0%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	1.9%	0.7%	8.9%	0.0%	100.0%
Road 21	21	70	61.2	N	1300-1400	1613	21.1%	8.1%	0.3%	25.7%	9.2%	7.9%	15.6%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	1.7%	0.6%	6.5%	0.0%	100.0%
Road 21	21	70	60.5	N	1400-1500	1653	22.0%	8.9%	0.2%	23.7%	8.5%	8.0%	15.8%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	1.8%	0.8%	8.4%	0.0%	100.0%
Road 21	21	70	59.9	N	1500-1600	1707	21.6%	8.7%	0.3%	27.2%	9.8%	6.9%	13.5%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	1.7%	0.8%	7.7%	0.0%	100.0%
Road 21	21	70	60.2	N	1600-1700	1693	24.7%	8.5%	0.2%	23.0%	8.3%	7.2%	14.1%	0.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.0%	1.2%	7.9%	0.0%	100.0%
Road 21	21	70	61.4	N	1700-1800	1731	30.3%	9.5%	0.2%	22.8%	8.2%	5.2%	10.1%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.3%	2.6%	6.7%	0.0%	100.0%
Road 21	21	70	63.6	N	1800-1900	1602	43.2%	10.2%	0.2%	16.6%	6.0%	3.5%	6.8%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	2.7%	2.1%	6.2%	0.0%	100.0%
Road 21	21	70	65.5	N	1900-2000	1168	46.1%	14.4%	0.1%	13.8%	5.0%	3.3%	6.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.4%	1.7%	3.3%	0.0%	100.0%
Road 21	21	70	66.5	N	2000-2100	920	42.0%	17.9%	0.2%	14.5%	5.2%	3.2%	6.3%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	3.5%	1.7%	3.6%	0.0%	100.0%
Road 21	21	70	66.5	N	2100-2200	923	42.6%	17.6%	0.2%	14.6%	5.3%	3.4%	6.6%	0.0%	0.0%	0.0%	0.5%	0.3%	0.6%	0.0%	3.5%	1.9%	3.7%	0.0%	100.0%
Road 21	21	70	66.7	N	2200-2300	873	43.4%	19.6%	0.1%	11.6%	4.2%	3.7%	7.3%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	3.4%	1.7%	4.0%	0.0%	100.0%
Road 21	21	70	67.4	N	2300-0000	674	41.3%	18.6%	0.1%	12.6%	4.5%	4.0%	7.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.3%	1.8%	4.8%	0.0%	100.0%
Road 22	22	50	26.2	N	0000-0100	48	14.1%	6.3%	0.3%	31.7%	11.4%	10.0%	19.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.2%	0.0%	100.0%
Road 22	22	50	27.3	N	0100-0200	34	12.9%	5.8%	0.3%	32.4%	11.7%	10.2%	20.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.3%	0.0%	100.0%
Road 22	22	50	27.9	N	0200-0300	26	11.9%	5.3%	0.3%	33.1%	11.9%	10.4%	20.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	5.3%	0.0%	100.0%
Road 22	22	50	28.2	N	0300-0400	22	10.9%	4.9%	0.4%	33.6%	12.1%	10.6%	20.8%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.8%	5.4%	0.0%	100.0%
Road 22	22	50	27.9	N	0400-0500	26	10.1%	4.5%	0.4%	34.1%	12.3%	10.7%	21.1%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.5%	0.0%	100.0%
Road 22	22	50	26.1	N	0500-0600	47	9.3%	4.1%	0.4%	34.6%	12.4%	10.8%	21.3%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.6%	0.0%	100.0%
Road 22	22	50	24.2	N	0600-0700	107	8.7%	3.8%	0.4%	35.0%	12.6%	11.0%	21.5%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.8%	5.6%	0.0%	100.0%
Road 22	22	50	22.2	N	0700-0800	229	8.0%	3.5%	0.4%	35.3%	12.7%	11.1%	21.8%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.8%	5.7%	0.0%	100.0%
Road 22	22	50	21.5	N	0800-0900	273	8.7%	2.8%	0.4%	37.3%	13.4%	10.4%	20.5%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	5.4%	0.0%	100.0%
Road 22	22	50	21.0	N	0900-1000	300	6.0%	2.2%	0.4%	39.4%	14.1%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.5%	0.0%	100.0%
Road 22	22	50	21.0	N	1000-1100	293	5.0%	1.9%	0.4%	37.4%	13.4%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.1%	0.0%	100.0%
Road 22	22	50	21.3	N	1100-1200	275	5.0%	2.1%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 22	22	50	21.2	N	1200-1300	283	6.5%	2.5%	0.4%	34.5%	12.4%	12.4%	24.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.4%	0.0%	100.0%
Road 22	22	50	20.7	N	1300-1400	316	5.8%	2.2%	0.4%	37.4%	13.4%	11.6%	22.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 22	22	50	20.7	N	1400-1500	315	6.2%	2.5%	0.4%	35.6%	12.8%	12.0%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 22	22	50	20.5	N	1500-1600	328	6.0%	2.4%	0.4%	40.3%	14.5%	10.2%	20.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 22	22	50	20.9	N	1600-1700	307	7.3%	2.5%	0.4%	36.2%	13.0%	11.3%	22.2%	0.0%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 22	22	50	21.4	N	1700-1800	284	9.9%	3.1%	0.4%	39.6%	14.2%	9.0%	17.6%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	4.6%	0.0%	100.0%
Road 22	22	50	22.8	N	1800-1900	209	17.7%	4.2%	0.4%	36.4%	13.1%	7.6%	14.9%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	3.9%	0.0%	100.0%
Road 22	22	50	23.8	N	1900-2000	142	20.4%	6.4%	0.3%	32.5%	11.7%	7.8%	15.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	4.0%	0.0%	100.0%
Road 22	22	50	24.3	N	2000-2100	112	18.4%	7.8%	0.4%	33.8%	12.1%	7.4%	14.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	3.8%	0.0%	100.0%
Road 22	22	50	24.3	N	2100-2200	115	18.3%	7.6%	0.4%	33.6%	12.1%	7.7%	15.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.0%	0.0%	100.0%
Road 22	22	50	24.4	N	2200-2300	102	19.8%	9.0%	0.3%	28.3%	10.2%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.6%	0.0%	100.0%
Road 22	22	50	24.7	N	2300-0000	82	18.1%	8.2%	0.3%	29.3%	10.5%	9.3%	18.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.8%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 23	23	50	29.1	N	0000-0100	11	8.7%	3.9%	0.4%	35.1%	12.6%	11.1%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 23	23	50	29.4	N	0100-0200	8	7.9%	3.5%	0.4%	35.6%	12.8%	11.2%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 23	23	50	29.5	N	0200-0300	6	7.2%	3.2%	0.4%	36.0%	12.9%	11.3%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.8%	0.0%	100.0%
Road 23	23	50	29.6	N	0300-0400	5	6.6%	2.9%	0.4%	36.4%	13.1%	11.4%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.5	N	0400-0500	6	6.0%	2.7%	0.4%	36.7%	13.2%	11.5%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.1	N	0500-0600	11	5.6%	2.4%	0.4%	37.0%	13.3%	11.6%	22.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	27.9	N	0600-0700	25	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	25.4	N	0700-0800	54	4.7%	2.1%	0.4%	37.5%	13.5%	11.8%	23.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	24.9	N	0800-0900	65	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	0900-1000	72	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	1000-1100	71	2.9%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 23	23	50	24.9	N	1100-1200	67	2.9%	1.2%	0.4%	38.9%	14.0%	12.2%	23.9%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 23	23	50	24.8	N	1200-1300	67	3.2%	1.2%	0.4%	36.4%	13.1%	13.0%	25.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.7%	0.0%	100.0%
Road 23	23	50	24.7	N	1300-1400	76	2.8%	1.1%	0.4%	39.1%	14.1%	12.1%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 23	23	50	24.7	N	1400-1500	75	3.1%	1.2%	0.4%	37.4%	13.4%	12.7%	24.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.5%	0.0%	100.0%
Road 23	23	50	24.7	N	1500-1600	78	3.0%	1.2%	0.4%	42.4%	15.2%	10.7%	21.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.5%	0.0%	100.0%
Road 23	23	50	24.8	N	1600-1700	72	3.6%	1.3%	0.4%	38.5%	13.8%	12.0%	23.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 23	23	50	24.9	N	1700-1800	66	5.0%	1.6%	0.4%	42.9%	15.4%	9.7%	19.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.0%	0.0%	100.0%
Road 23	23	50	26.3	N	1800-1900	46	9.5%	2.2%	0.4%	41.6%	15.0%	8.7%	17.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 23	23	50	27.6	N	1900-2000	30	11.3%	3.5%	0.4%	38.3%	13.7%	9.1%	18.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.7%	0.0%	100.0%
Road 23	23	50	28.1	N	2000-2100	24	10.1%	4.3%	0.4%	39.6%	14.2%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 23	23	50	28.0	N	2100-2200	25	10.1%	4.2%	0.4%	39.2%	14.1%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	4.6%	0.0%	100.0%
Road 23	23	50	28.2	N	2200-2300	22	11.1%	5.0%	0.4%	33.6%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.5%	0.0%	100.0%
Road 23	23	50	28.6	N	2300-0000	18	9.9%	4.5%	0.4%	34.3%	12.3%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 24	24	50	28.9	N	0000-0100	13	7.4%	3.3%	0.4%	35.9%	12.9%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 24	24	50	29.2	N	0100-0200	9	6.7%	3.0%	0.4%	36.4%	13.1%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 24	24	50	29.4	N	0200-0300	7	6.1%	2.7%	0.4%	36.7%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 24	24	50	29.5	N	0300-0400	6	5.6%	2.5%	0.4%	37.1%	13.3%	11.7%	22.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 24	24	50	29.4	N	0400-0500	7	5.1%	2.3%	0.4%	37.3%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 24	24	50	28.9	N	0500-0600	13	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 24	24	50	27.5	N	0600-0700	30	4.3%	1.9%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 24	24	50	24.9	N	0700-0800	64	4.0%	1.7%	0.4%	38.0%	13.7%	11.9%	23.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 24	24	50	24.7	N	0800-0900	77	4.3%	1.4%	0.4%	40.0%	14.4%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 24	24	50	24.5	N	0900-1000	86	2.9%	1.0%	0.4%	41.3%	14.8%	11.3%	22.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 24	24	50	24.5	N	1000-1100	85	2.4%	0.9%	0.4%	39.0%	14.0%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 24	24	50	24.6	N	1100-1200	79	2.4%	1.0%	0.4%	39.2%	14.1%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 24	24	50	24.6	N	1200-1300	80	2.7%	1.0%	0.4%	36.7%	13.2%	13.1%	25.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.7%	0.0%	100.0%
Road 24	24	50	24.4	N	1300-1400	90	2.4%	0.9%	0.4%	39.4%	14.2%	12.2%	24.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 24	24	50	24.4	N	1400-1500	89	2.6%	1.0%	0.4%	37.7%	13.5%	12.8%	25.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.6%	0.0%	100.0%
Road 24	24	50	24.4	N	1500-1600	93	2.5%	1.0%	0.4%	42.7%	15.3%	10.8%	21.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.6%	0.0%	100.0%
Road 24	24	50	24.5	N	1600-1700	86	3.1%	1.1%	0.4%	38.8%	13.9%	12.1%	23.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 24	24	50	24.7	N	1700-1800	78	4.2%	1.3%	0.5%	43.5%	15.6%	9.8%	19.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.1%	0.0%	100.0%
Road 24	24	50	25.6	N	1800-1900	54	8.1%	1.9%	0.4%	42.5%	15.3%	8.9%	17.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 24	24	50	27.1	N	1900-2000	35	9.6%	3.0%	0.4%	39.3%	14.1%	9.4%	18.5%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%
Road 24	24	50	27.7	N	2000-2100	28	8.7%	3.7%	0.4%	40.7%	14.6%	9.0%	17.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 24	24	50	27.7	N	2100-2200	29	8.6%	3.5%	0.4%	40.2%	14.4%	9.3%	18.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%
Road 24	24	50	27.9	N	2200-2300	25	9.5%	4.3%	0.4%	34.6%	12.4%	11.0%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	28.3	N	2300-0000	21	8.5%	3.8%	0.4%	35.2%	12.6%	11.2%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 29	29	80	80.0	N	0000-0100	717	56.2%	25.2%	0.0%	3.2%	1.1%	1.0%	2.0%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.8%	2.8%	2.1%	0.0%	100.0%
Road 29	29	80	80.0	N	0100-0200	470	54.8%	24.5%	0.0%	3.5%	1.3%	1.1%	2.2%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.7%	3.1%	2.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0200-0300	346	53.5%	23.8%	0.0%	3.8%	1.4%	1.2%	2.3%	0.6%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.7%	3.4%	3.8%	0.0%	100.0%
Road 29	29	80	80.0	N	0300-0400	272	52.1%	23.1%	0.0%	4.1%	1.5%	1.3%	2.5%	0.6%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	3.6%	3.7%	4.7%	0.0%	100.0%
Road 29	29	80	80.0	N	0400-0500	301	51.3%	22.7%	0.0%	4.4%	1.6%	1.4%	2.7%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.6%	4.0%	4.4%	0.0%	100.0%
Road 29	29	80	80.0	N	0500-0600	512	51.2%	22.5%	0.1%	4.8%	1.7%	1.5%	3.0%	0.6%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	3.6%	4.4%	2.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0600-0700	1084	50.8%	22.2%	0.1%	5.2%	1.9%	1.6%	3.2%	0.7%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.7%	4.8%	1.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0700-0800	2210	49.3%	21.5%	0.1%	5.5%	2.0%	1.7%	3.4%	0.7%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.6%	5.0%	2.8%	0.0%	100.0%
Road 29	29	80	80.0	N	0800-0900	2547	55.3%	17.7%	0.1%	6.0%	2.2%	1.7%	3.3%	0.5%	0.1%	0.8%	1.1%	0.8%	1.6%	0.0%	3.2%	3.2%	2.5%	0.0%	100.0%
Road 29	29	80	80.0	N	0900-1000	2090	50.7%	18.4%	0.1%	8.5%	3.0%	2.3%	4.5%	0.6%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.3%	2.0%	3.2%	0.0%	100.0%
Road 29	29	80	80.0	N	1000-1100	1807	48.0%	18.6%	0.1%	9.1%	3.3%	2.9%	5.7%	0.7%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.3%	1.5%	3.8%	0.0%	100.0%
Road 29	29	80	80.0	N	1100-1200	1715	47.7%	19.7%	0.1%	9.0%	3.2%	2.8%	5.5%	0.7%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	3.4%	1.3%	3.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1200-1300	1556	28.2%	10.9%	0.2%	16.2%	5.8%	5.8%	11.4%	0.6%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	12.4%	0.8%	5.7%	0.0%	100.0%
Road 29	29	80	80.0	N	1300-1400	1625	26.6%	10.2%	0.2%	18.8%	6.7%	5.8%	11.4%	0.6%	0.0%	0.4%	0.4%	0.3%	0.6%	0.1%	11.5%	0.8%	5.6%	0.0%	100.0%
Road 29	29	80	80.0	N	1400-1500	1694	27.3%	11.0%	0.2%	17.1%	6.1%	5.8%	11.4%	0.6%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	11.7%	1.0%	5.5%	0.0%	100.0%
Road 29	29	80	80.0	N	1500-1600	1738	27.0%	10.9%	0.2%	19.7%	7.1%	5.0%	9.8%	0.6%	0.1%	0.5%	0.6%	0.4%	0.8%	0.1%	11.4%	1.0%	5.0%	0.0%	100.0%
Road 29	29	80	80.0	N	1600-1700	1796	29.6%	10.2%	0.2%	16.0%	5.7%	5.0%	9.8%	0.6%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	13.0%	1.4%	4.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1700-1800	1930	34.5%	10.8%	0.2%	15.1%	5.4%	3.4%	6.7%	0.6%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	13.9%	3.0%	3.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1800-1900	1949	45.2%	10.6%	0.1%	10.1%	3.6%	2.1%	4.1%	0.6%	0.0%	0.1%	0.8%	0.5%	1.2%	0.1%	15.4%	2.2%	3.3%	0.0%	100.0%
Road 29	29	80	80.0	N	1900-2000	1517	45.2%	14.1%	0.1%	7.8%	2.8%	1.9%	3.7%	0.8%	0.0%	0.1%	0.7%	0.5%	1.0%	0.1%	17.9%	1.7%	1.7%	0.0%	100.0%
Road 29	29	80	80.0	N	2000-2100	1196	41.1%	17.4%	0.1%	8.2%	2.9%	1.8%	3.6%	0.8%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	18.6%	1.6%	1.8%	0.0%	100.0%
Road 29	29	80	80.0	N	2100-2200	1174	42.6%	17.6%	0.1%	8.5%	3.0%	2.0%	3.8%	0.8%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	16.7%	1.9%	1.9%	0.0%	100.0%
Road 29	29	80	80.0	N	2200-2300	1139	42.3%	19.1%	0.1%	6.6%	2.4%	2.1%	4.1%	0.7%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	18.0%	1.6%	2.0%	0.0%	100.0%
Road 29	29	80	80.0	N	2300-0000	864	41.0%	18.5%	0.1%	7.2%	2.6%	2.3%	4.5%	0.7%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	17.6%	1.8%	2.5%	0.0%	100.0%
Road 30	30	70	70.0	N	0000-0100	550	50.4%	22.6%	0.1%	7.1%	2.6%	2.3%	4.4%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.3%	2.5%	3.8%	0.0%	100.0%
Road 30	30	70	70.0	N	0100-0200	366	48.4%	21.7%	0.1%	7.7%	2.8%	2.4%	4.8%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.2%	2.7%	5.3%	0.0%	100.0%
Road 30	30	70	70.0	N	0200-0300	274	46.4%	20.7%	0.1%	8.2%	2.9%	2.6%	5.0%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.2%	2.9%	6.7%	0.0%	100.0%
Road 30	30	70	70.0	N	0300-0400	221	44.5%	19.8%	0.1%	8.6%	3.1%	2.7%	5.3%	0.1%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.1%	3.1%	8.1%	0.0%	100.0%
Road 30	30	70	70.0	N	0400-0500	244	43.6%	19.3%	0.1%	9.3%	3.3%	2.9%	5.7%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.1%	3.4%	7.6%	0.0%	100.0%
Road 30	30	70	70.0	N	0500-0600	415	43.4%	19.1%	0.1%	10.1%	3.6%	3.2%	6.2%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.1%	3.7%	5.2%	0.0%	100.0%
Road 30	30	70	70.0	N	0600-0700	882	43.0%	18.8%	0.1%	10.9%	3.9%	3.4%	6.7%	0.1%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	2.1%	4.0%	3.4%	0.0%	100.0%
Road 30	30	70	70.0	N	0700-0800	1827	41.1%	17.9%	0.1%	11.4%	4.1%	3.6%	7.0%	0.1%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	2.0%	4.2%	4.9%	0.0%	100.0%
Road 30	30	67.7	N	0800-0900	2120	45.7%	14.6%	0.1%	12.3%	4.4%	3.4%	6.8%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	1.8%	2.7%	4.5%	0.0%	100.0%
Road 30	30	69.1	N	0900-1000	1862	39.1%	14.2%	0.2%	16.3%	5.8%	4.4%	8.7%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	1.8%	1.5%	5.3%	0.0%	100.0%
Road 30	30	70	70.0	N	1000-1100	1667	35.8%	13.9%	0.2%	16.9%	6.1%	5.4%	10.5%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	2.5%	1.1%	6.2%	0.0%	100.0%
Road 30	30	70	70.0	N	1100-1200	1578	35.7%	14.7%	0.2%	16.8%	6.0%	5.3%	10.3%	0.1%	0.1%	0.6%	0.4%	0.2%	0.5%	0.0%	1.7%	1.0%	6.3%	0.0%	100.0%
Road 30	30	70	70.0	N	1200-1300	1585	27.0%	10.4%	0.2%	20.8%	7.5%	7.4%	14.6%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	1.9%	0.8%	7.4%	0.0%	100.0%
Road 30	30	68.9	N	1300-1400	1686	25.0%	9.6%	0.2%	23.7%	8.5%	7.3%	14.4%	0.0%	0.0%	0.4%	0.4%	0.2%	0.5%	0.0%	1.7%	0.8%	7.1%	0.0%	100.0%
Road 30	30	68.5	N	1400-1500	1739	25.9%	10.5%	0.2%	21.7%	7.8%	7.4%	14.5%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	1.8%	1.0%	7.0%	0.0%	100.0%
Road 30	30	68.2	N	1500-1600	1793	25.6%	10.3%	0.3%	24.9%	9.0%	6.3%	12.4%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.1%	1.7%	0.9%	6.4%	0.0%	100.0%
Road 30	30	68.2	N	1600-1700	1800	28.8%	9.9%	0.2%	20.8%	7.5%	6.5%	12.8%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	2.0%	1.4%	6.5%	0.0%	100.0%
Road 30	30	68.5	N	1700-1800	1875	34.7%	10.8%	0.2%	20.3%	7.3%	4.6%	9.0%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.2%	3.0%	5.4%	0.0%	100.0%
Road 30	30	70	70.0	N	1800-1900	1796	47.9%	11.2%	0.1%	14.3%	5.1%	3.0%	5.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	2.6%	2.3%	4.7%	0.0%	100.0%
Road 30	30	70	70.0	N	1900-2000	1337	50.0%	15.7%	0.1%	11.6%	4.2%	2.8%	5.5%	0.0%	0.0%	0.1%	0.8%	0.5%	1.1%	0.0%	3.2%	1.8%	2.5%	0.0%	100.0%
Road 30	30	70	70.0	N	2000-2100	1049	45.7%	19.4%	0.1%	12.2%	4.4%	2.7%	5.3%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	3.3%	1.8%	2.8%	0.0%	100.0%
Road 30	30	70	70.0	N	2100-2200	1052	46.4%	19.2%	0.1%	12.4%	4.4%	2.8%	5.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	2.9%	2.1%	2.9%	0.0%	100.0%
Road 30	30	70	70.0	N	2200-2300	1001	47.0%	21.3%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	3.2%	1.8%	3.1%	0.0%	100.0%
Road 30	30	70	70.0	N	2300-0000	767	45.1%	20.3%	0.1%	10.6%	3.8%	3.4%	6.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.1%	2.0%	3.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 31	31	80	80.0	N	0000-0100	102	42.8%	19.2%	0.1%	10.0%	3.6%	3.2%	6.2%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.1%	9.0%	2.2%	1.6%	0.0%	100.0%
Road 31	31	80	80.0	N	0100-0200	67	41.3%	18.5%	0.1%	10.8%	3.9%	3.4%	6.7%	0.7%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	8.8%	2.3%	1.8%	0.0%	100.0%
Road 31	31	80	80.0	N	0200-0300	50	39.9%	17.8%	0.1%	11.6%	4.2%	3.6%	7.2%	0.7%	0.0%	0.3%	0.5%	0.3%	0.8%	0.1%	8.6%	2.5%	1.9%	0.0%	100.0%
Road 31	31	80	80.0	N	0300-0400	40	38.6%	17.1%	0.1%	12.3%	4.4%	3.9%	7.6%	0.6%	0.0%	0.3%	0.6%	0.4%	0.8%	0.1%	8.4%	2.7%	2.0%	0.0%	100.0%
Road 31	31	80	80.0	N	0400-0500	45	37.2%	16.4%	0.1%	13.1%	4.7%	4.1%	8.1%	0.6%	0.0%	0.3%	0.5%	0.4%	0.9%	0.1%	8.2%	2.9%	2.1%	0.0%	100.0%
Road 31	31	80	80.0	N	0500-0600	79	35.9%	15.8%	0.1%	13.8%	5.0%	4.3%	8.5%	0.6%	0.1%	0.4%	0.7%	0.5%	1.0%	0.1%	8.0%	3.1%	2.2%	0.0%	100.0%
Road 31	31	80	80.0	N	0600-0700	172	34.6%	15.1%	0.2%	14.5%	5.2%	4.6%	9.0%	0.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	7.8%	3.2%	2.3%	0.0%	100.0%
Road 31	31	80	80.0	N	0700-0800	354	33.3%	14.5%	0.2%	15.2%	5.5%	4.8%	9.4%	0.6%	0.1%	0.5%	0.8%	0.5%	1.2%	0.1%	7.6%	3.4%	2.4%	0.0%	100.0%
Road 31	31	80	80.0	N	0800-0900	411	37.1%	11.9%	0.2%	16.5%	5.9%	4.6%	9.1%	0.5%	0.1%	0.5%	0.7%	0.5%	1.1%	0.1%	8.0%	3.1%	2.2%	0.0%	100.0%
Road 31	31	80	80.0	N	0900-1000	376	30.5%	11.1%	0.2%	20.9%	7.5%	5.7%	11.2%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	6.3%	1.2%	2.9%	0.0%	100.0%
Road 31	31	80	80.0	N	1000-1100	342	27.4%	10.6%	0.2%	21.4%	7.7%	6.8%	13.3%	0.5%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	5.9%	0.8%	3.5%	0.0%	100.0%
Road 31	31	80	80.0	N	1100-1200	323	27.4%	11.3%	0.2%	21.3%	7.7%	6.7%	13.1%	0.6%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	6.1%	0.8%	3.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1200-1300	253	36.0%	13.9%	0.2%	15.0%	5.4%	5.4%	10.6%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	7.0%	1.1%	2.8%	0.0%	100.0%
Road 31	31	80	80.0	N	1300-1400	263	34.1%	13.1%	0.2%	17.6%	6.3%	5.4%	10.7%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	6.6%	1.0%	2.8%	0.0%	100.0%
Road 31	31	80	80.0	N	1400-1500	276	34.7%	14.1%	0.2%	15.8%	5.7%	5.4%	10.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	6.7%	1.3%	2.7%	0.0%	100.0%
Road 31	31	80	80.0	N	1500-1600	283	34.4%	13.8%	0.2%	18.2%	6.6%	4.6%	9.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	6.5%	1.2%	2.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1600-1700	295	37.4%	12.9%	0.2%	14.7%	5.3%	4.6%	9.0%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	7.3%	1.8%	2.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1700-1800	323	42.8%	13.4%	0.1%	13.6%	4.9%	3.1%	6.1%	0.0%	0.1%	0.6%	0.8%	0.5%	1.1%	0.0%	7.7%	3.7%	1.6%	0.0%	100.0%
Road 31	31	80	80.0	N	1800-1900	335	54.6%	12.8%	0.1%	8.9%	3.2%	1.8%	3.6%	0.0%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	8.3%	2.6%	0.9%	0.0%	100.0%
Road 31	31	80	80.0	N	1900-2000	264	53.9%	16.9%	0.1%	6.8%	2.4%	1.6%	3.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	9.5%	2.0%	0.8%	0.0%	100.0%
Road 31	31	80	80.0	N	2000-2100	207	49.4%	21.0%	0.1%	7.2%	2.6%	1.6%	3.1%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	10.0%	2.0%	0.8%	0.0%	100.0%
Road 31	31	80	80.0	N	2100-2200	205	50.7%	21.0%	0.1%	7.4%	2.6%	1.7%	3.3%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	8.8%	2.3%	0.9%	0.0%	100.0%
Road 31	31	80	80.0	N	2200-2300	198	50.5%	22.8%	0.1%	5.7%	2.0%	1.8%	3.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	9.5%	1.9%	0.9%	0.0%	100.0%
Road 31	31	80	80.0	N	2300-0000	149	49.2%	22.2%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	9.4%	2.2%	1.0%	0.0%	100.0%
Road 32	32	80	80.0	N	0000-0100	703	47.7%	21.4%	0.1%	7.3%	2.6%	2.3%	4.5%	0.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	8.4%	2.4%	1.2%	0.0%	100.0%
Road 32	32	80	80.0	N	0100-0200	462	46.4%	20.8%	0.1%	8.1%	2.9%	2.5%	4.9%	0.6%	0.0%	0.2%	0.5%	0.3%	0.8%	0.1%	8.2%	2.6%	1.3%	0.0%	100.0%
Road 32	32	80	80.0	N	0200-0300	341	45.2%	20.1%	0.1%	8.5%	3.1%	2.7%	5.3%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	8.1%	2.9%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	0300-0400	272	43.9%	19.5%	0.1%	9.1%	3.3%	2.9%	5.6%	0.6%	0.0%	0.3%	0.6%	0.4%	1.0%	0.1%	8.0%	3.1%	1.5%	0.0%	100.0%
Road 32	32	80	80.0	N	0400-0500	301	42.7%	18.9%	0.1%	9.8%	3.5%	3.1%	6.0%	0.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	7.8%	3.3%	1.6%	0.0%	100.0%
Road 32	32	80	80.0	N	0500-0600	527	41.4%	18.2%	0.1%	10.4%	3.7%	3.3%	6.4%	0.6%	0.1%	0.5%	0.8%	0.5%	1.2%	0.1%	7.7%	3.5%	1.7%	0.0%	100.0%
Road 32	32	80	80.0	N	0600-0700	1140	40.2%	17.6%	0.1%	11.0%	3.9%	3.4%	6.8%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.1%	7.6%	3.8%	1.8%	0.0%	100.0%
Road 32	32	80	80.0	N	0700-0800	2327	39.0%	17.0%	0.1%	11.6%	4.2%	3.6%	7.1%	0.6%	0.1%	0.6%	0.9%	0.6%	1.4%	0.1%	7.4%	4.0%	1.9%	0.0%	100.0%
Road 32	32	80	80.0	N	0800-0900	2692	43.5%	13.9%	0.1%	12.6%	4.5%	3.5%	6.9%	0.4%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	6.6%	2.5%	1.8%	0.0%	100.0%
Road 32	32	80	80.0	N	0900-1000	2368	37.2%	13.5%	0.2%	16.6%	6.0%	4.5%	8.9%	0.5%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	8.4%	1.4%	2.3%	0.0%	100.0%
Road 32	32	80	80.0	N	1000-1100	2114	34.1%	13.2%	0.2%	17.3%	6.2%	5.5%	10.8%	0.5%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	6.1%	1.0%	2.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1100-1200	2000	34.0%	14.0%	0.2%	17.2%	6.2%	5.4%	10.6%	0.5%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	6.3%	1.0%	2.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1200-1300	1519	40.7%	15.7%	0.1%	13.4%	4.8%	4.8%	9.4%	0.6%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	7.5%	1.1%	3.6%	1.2%	2.5%
Road 32	32	80	80.0	N	1300-1400	1569	38.9%	15.0%	0.2%	15.5%	5.6%	4.8%	9.5%	0.6%	0.1%	0.6%	0.6%	0.4%	0.8%	0.0%	3.4%	1.2%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1400-1500	1659	39.3%	15.9%	0.1%	14.1%	5.1%	4.8%	9.4%	0.6%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	3.4%	1.5%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1500-1600	1700	39.0%	15.7%	0.2%	16.3%	5.9%	4.1%	8.1%	0.6%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.3%	1.4%	2.1%	0.0%	100.0%
Road 32	32	80	80.0	N	1600-1700	1782	42.1%	14.5%	0.1%	13.0%	4.7%	4.1%	8.0%	0.6%	0.1%	1.0%	1.2%	0.9%	1.9%	0.0%	3.7%	2.0%	2.1%	0.0%	100.0%
Road 32	32	80	80.0	N	1700-1800	1979	47.5%	14.8%	0.1%	11.9%	4.3%	2.7%	5.3%	0.6%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.8%	4.1%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	1800-1900	2099	59.2%	13.9%	0.1%	7.6%	2.7%	1.6%	3.1%	0.6%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	4.0%	2.8%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1900-2000	1656	58.4%	18.3%	0.1%	5.8%	2.1%	1.4%	2.7%	0.7%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.6%	2.2%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2000-2100	1291	53.7%	22.8%	0.1%	6.2%	2.2%	1.4%	2.7%	0.8%	0.0%	0.1%	0.5%	0.4%	1.0%	0.0%	4.9%	2.1%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2100-2200	1287	54.8%	22.7%	0.1%	6.3%	2.3%	1.4%	2.8%	0.7%	0.0%	0.1%	0.4%	0.3%	0.8%	0.0%	4.3%	2.5%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2200-2300	1245	54.7%	24.7%	0.1%	4.9%	1.7%	1.5%	3.0%	0.7%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.7%	2.1%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	2300-0000	935	53.4%	24.1%	0.1%	5.4%	1.9%	1.7%	3.4%	0.7%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.6%	2.4%	0.9%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush Approach (Y/N) | Hour | Total Vehicles (Veh/hr) | 01 - Private Cars | 02 - Taxi | 03 - Light Goods V

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 37	37	50	50.0	Y	0000-0100	2	49.6%	22.3%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.6%	0.0%	100.0%
Road 37	37	50	50.0	Y	0100-0200	1	48.0%	21.5%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%
Road 37	37	50	50.0	Y	0200-0300	1	46.5%	20.7%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	1.8%	0.0%	100.0%
Road 37	37	50	50.0	Y	0300-0400	1	44.9%	19.9%	0.1%	12.0%	4.3%	3.8%	7.4%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	3.2%	1.9%	0.0%	100.0%
Road 37	37	50	50.0	Y	0400-0500	1	43.4%	19.2%	0.1%	12.7%	4.6%	4.0%	7.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.1%	0.0%	100.0%
Road 37	37	50	50.0	Y	0500-0600	1	41.9%	18.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.6%	2.2%	0.0%	100.0%
Road 37	37	49.9	Y	0600-0700	3	40.4%	17.7%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	2.3%	0.0%	100.0%
Road 37	37	49.8	Y	0700-0800	7	39.0%	17.0%	0.1%	14.9%	5.3%	4.6%	9.1%	0.0%	0.1%	0.6%	1.0%	0.7%	1.4%	0.0%	0.0%	4.0%	2.4%	0.0%	100.0%	
Road 37	37	49.8	Y	0800-0900	8	43.0%	13.8%	0.2%	16.0%	5.7%	4.5%	8.8%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.5%	2.3%	0.0%	100.0%	
Road 37	37	49.8	Y	0900-1000	7	35.8%	13.0%	0.2%	20.5%	7.4%	5.6%	11.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%	
Road 37	37	50	49.8	Y	1000-1100	6	32.4%	12.6%	0.2%	21.0%	7.5%	6.7%	13.1%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.2%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1100-1200	6	32.4%	13.4%	0.2%	21.0%	7.5%	6.6%	12.9%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1200-1300	6	34.5%	13.3%	0.2%	18.6%	6.7%	6.7%	13.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1300-1400	7	32.2%	12.4%	0.2%	21.4%	7.7%	6.6%	13.0%	0.0%	0.1%	0.5%	0.6%	0.3%	0.7%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1400-1500	7	33.1%	13.4%	0.2%	19.5%	7.0%	6.6%	12.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1500-1600	7	32.6%	13.1%	0.2%	22.4%	8.0%	5.7%	11.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%
Road 37	37	50	49.8	Y	1600-1700	7	36.2%	12.5%	0.2%	18.4%	6.6%	5.8%	11.3%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	1.7%	3.0%	0.0%	100.0%
Road 37	37	50	49.8	Y	1700-1800	8	42.4%	13.3%	0.2%	17.4%	6.3%	3.9%	7.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	2.0%	0.0%	100.0%
Road 37	37	50	49.8	Y	1800-1900	8	56.2%	13.2%	0.1%	11.8%	4.2%	2.5%	4.8%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.7%	1.3%	0.0%	100.0%
Road 37	37	49.9	Y	1900-2000	6	56.8%	17.8%	0.1%	9.3%	3.3%	2.2%	4.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%	
Road 37	37	49.9	Y	2000-2100	5	52.3%	22.2%	0.1%	9.8%	3.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%	
Road 37	37	49.9	Y	2100-2200	5	52.9%	21.9%	0.1%	9.9%	3.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.2%	0.0%	100.0%	
Road 37	37	50	49.9	Y	2200-2300	4	53.4%	24.1%	0.1%	7.8%	2.8%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	1.3%	0.0%	100.0%
Road 37	37	49.9	Y	2300-0000	3	51.8%	23.3%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	1.4%	0.0%	100.0%	
Road 38	38	50	48.8	Y	0000-0100	52	48.6%	21.8%	0.1%	9.8%	3.5%	3.1%	6.1%	1.3%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.4%	1.6%	0.0%	100.0%
Road 38	38	49.2	Y	0100-0200	34	47.0%	21.0%	0.1%	10.6%	3.8%	3.3%	6.6%	1.3%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%	
Road 38	38	49.4	Y	0200-0300	25	45.4%	20.2%	0.1%	11.4%	4.1%	3.6%	7.0%	1.3%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	1.8%	0.0%	100.0%	
Road 38	38	49.5	Y	0300-0400	20	43.9%	19.5%	0.1%	12.1%	4.4%	3.8%	7.5%	1.3%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	0.0%	3.1%	2.0%	0.0%	100.0%	
Road 38	38	49.5	Y	0400-0500	23	42.3%	18.7%	0.1%	12.9%	4.6%	4.0%	8.0%	1.3%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	2.1%	0.0%	100.0%	
Road 38	38	49.1	Y	0500-0600	40	40.9%	18.0%	0.1%	13.6%	4.9%	4.3%	8.4%	1.3%	0.1%	0.5%	0.8%	0.5%	1.1%	0.0%	0.0%	3.5%	2.2%	0.0%	100.0%	
Road 38	38	48.8	Y	0600-0700	87	39.4%	17.3%	0.1%	14.3%	5.1%	4.5%	8.8%	1.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.7%	2.3%	0.0%	100.0%	
Road 38	38	45.7	Y	0700-0800	179	38.0%	16.6%	0.2%	15.0%	5.4%	4.7%	9.2%	1.2%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	3.9%	2.4%	0.0%	100.0%	
Road 38	38	44.9	Y	0800-0900	210	42.0%	13.4%	0.2%	16.2%	5.8%	4.5%	8.9%	1.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.0%	2.4%	2.3%	0.0%	100.0%	
Road 38	38	45.2	Y	0900-1000	190	34.8%	12.6%	0.2%	20.7%	7.4%	5.6%	11.1%	1.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%	
Road 38	38	45.5	Y	1000-1100	173	31.4%	12.2%	0.2%	21.2%	7.6%	6.7%	13.2%	1.1%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	3.5%	0.0%	100.0%	
Road 38	38	45.8	Y	1100-1200	163	31.4%	13.0%	0.2%	21.1%	7.6%	6.6%	13.0%	1.1%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%	
Road 38	38	47.7	Y	1200-1300	76	12.6%	4.8%	0.3%	31.1%	11.2%	11.1%	21.9%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%	
Road 38	38	47.5	Y	1300-1400	84	11.2%	4.3%	0.4%	34.1%	12.2%	10.6%	20.8%	0.0%	0.0%	0.2%	0.2%	0.1%	0.2%	0.0%	0.0%	0.3%	5.4%	0.0%	100.0%	
Road 38	38	47.4	Y	1400-1500	85	11.9%	4.8%	0.3%	32.1%	11.5%	10.9%	21.4%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%	
Road 38	38	47.4	Y	1500-1600	88	11.7%	4.7%	0.4%	36.5%	13.1%	9.3%	18.2%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%	
Road 38	38	47.5	Y	1600-1700	84	13.9%	4.8%	0.3%	32.2%	11.6%	10.1%	19.8%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	5.2%	0.0%	100.0%	
Road 38	38	47.7	Y	1700-1800	80	18.1%	5.7%	0.4%	34.0%	12.2%	7.7%	15.1%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	4.0%	0.0%	100.0%	
Road 38	38	48.3	Y	1800-1900	65	29.8%	7.0%	0.3%	28.6%	10.3%	6.0%	11.7%	0.0%	0.0%	0.5%	0.4%	0.4%	0.8%	0.0%	0.0%	1.4%	3.1%	0.0%	100.0%	
Road 38	38	48.8	Y	1900-2000	46	32.9%	10.3%	0.3%	24.5%	8.8%	5.9%	11.5%	0.0%	0.0%	0.1%	0.5%	0.3%	0.8%	0.0%	0.0%	1.2%	3.0%	0.0%	100.0%	
Road 38	38	49.1	Y	2000-2100	36	29.9%	12.7%	0.3%	25.7%	9.2%	5.7%	11.1%	0.0%	0.0%	0.0%	0.4%	0.3%	0.6%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%	
Road 38	38	49.1	Y	2100-2200	37	29.9%	12.4%	0.3%	25.6%	9.2%	5.9%	11.6%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.4%	3.0%	0.0%	100.0%	
Road 38	38	49.1	Y	2200-2300	33	31.6%	14.3%	0.2%	21.5%	7.6%	6.7%	13.2%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.2%	3.4%	0.0%	100.0%	
Road 38	38	49.3	Y	2300-0000	26	29.5%	13.3%	0.2%	22.3%	8.0%	7.1%	13.9%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.3%	3.6%	0.0%	100.0%	

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 39	39	50	49.7	Y	0000-0100	10	17.4%	7.8%	0.3%	29.7%	10.7%	9.4%	18.5%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.9%	4.8%	0.0%	100.0%
Road 39	39	50	49.8	Y	0100-0200	7	16.0%	7.2%	0.3%	30.5%	11.0%	9.6%	18.9%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	4.9%	0.0%	100.0%
Road 39	39	50	49.8	Y	0200-0300	6	14.8%	6.6%	0.3%	31.2%	11.2%	9.8%	19.3%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	5.1%	0.0%	100.0%
Road 39	39	50	49.9	Y	0300-0400	5	13.7%	6.1%	0.3%	31.9%	11.4%	10.0%	19.7%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	5.1%	0.0%	100.0%
Road 39	39	50	49.8	Y	0400-0500	5	12.7%	5.6%	0.3%	32.5%	11.7%	10.2%	20.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	5.2%	0.0%	100.0%
Road 39	39	50	49.7	Y	0500-0600	10	11.8%	5.2%	0.3%	33.0%	11.8%	10.4%	20.3%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.0%	5.3%	0.0%	100.0%
Road 39	39	49.3	Y	0600-0700	22	10.9%	4.8%	0.3%	33.5%	12.0%	10.5%	20.6%	0.0%	0.0%	0.1%	0.2%	0.2%	0.2%	0.3%	0.0%	0.0%	1.0%	5.4%	0.0%	100.0%
Road 39	39	50	48.6	Y	0700-0800	48	10.2%	4.4%	0.3%	33.9%	12.2%	10.6%	20.9%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.0%	5.5%	0.0%	100.0%
Road 39	39	50	48.3	Y	0800-0900	57	11.0%	3.5%	0.4%	35.8%	12.9%	10.0%	19.7%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.6%	5.1%	0.0%	100.0%
Road 39	39	48.1	Y	0900-1000	62	7.7%	2.8%	0.4%	38.3%	13.8%	10.4%	20.5%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.3%	0.0%	0.0%	0.3%	5.4%	0.0%	100.0%
Road 39	39	48.1	Y	1000-1100	60	6.4%	2.5%	0.4%	36.6%	13.1%	11.6%	22.8%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.2%	0.0%	0.0%	0.2%	6.0%	0.0%	100.0%
Road 39	39	50	48.3	Y	1100-1200	56	6.5%	2.7%	0.4%	36.8%	13.2%	11.5%	22.6%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 39	39	49.7	Y	1200-1300	13	41.9%	16.1%	0.2%	14.4%	5.2%	5.2%	10.1%	0.0%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	0.7%	2.6%	0.0%	100.0%
Road 39	39	49.7	Y	1300-1400	14	39.8%	15.3%	0.2%	16.8%	6.0%	5.2%	10.2%	0.0%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.7%	2.7%	0.0%	100.0%
Road 39	39	50	49.7	Y	1400-1500	14	40.3%	16.3%	0.2%	15.1%	5.4%	5.1%	10.0%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	0.7%	2.6%	0.0%	100.0%
Road 39	39	50	49.6	Y	1500-1600	15	39.9%	16.0%	0.2%	17.4%	6.2%	4.4%	8.7%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	0.7%	2.3%	0.0%	100.0%
Road 39	39	49.6	Y	1600-1700	15	43.4%	15.0%	0.1%	14.0%	5.0%	4.4%	8.6%	0.0%	0.1%	1.0%	1.3%	0.9%	1.9%	0.0%	0.0%	1.0%	2.0%	2.2%	0.0%	100.0%
Road 39	39	49.6	Y	1700-1800	17	49.2%	15.4%	0.1%	12.8%	4.6%	2.9%	5.7%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	1.4%	1.5%	4.1%	0.0%	100.0%
Road 39	39	49.6	Y	1800-1900	18	61.7%	14.5%	0.1%	8.2%	3.0%	1.7%	3.4%	0.0%	0.0%	0.1%	1.1%	0.8%	1.6%	0.0%	0.0%	1.8%	0.9%	2.9%	0.0%	100.0%
Road 39	39	49.7	Y	1900-2000	14	61.4%	19.2%	0.1%	6.4%	2.3%	1.5%	3.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	2.3%	1.5%	3.0%	0.0%	100.0%
Road 39	39	49.8	Y	2000-2100	11	56.6%	24.0%	0.1%	6.8%	2.4%	1.5%	2.9%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	0.0%	2.3%	1.5%	2.9%	0.0%	100.0%
Road 39	39	49.8	Y	2100-2200	11	57.4%	23.7%	0.1%	6.8%	2.5%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.6%	0.8%	0.0%	0.0%	100.0%
Road 39	39	49.8	Y	2200-2300	10	57.5%	26.0%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	0.9%	0.0%	0.0%	100.0%
Road 39	39	49.8	Y	2300-0000	8	56.1%	25.3%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.5%	1.0%	0.0%	0.0%	100.0%
Road 40	40	50	47.3	Y	0000-0100	113	46.6%	20.9%	0.1%	7.2%	2.6%	2.3%	4.5%	0.9%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.3%	10.9%	0.0%	100.0%
Road 40	40	50	48.0	Y	0100-0200	78	43.1%	19.3%	0.1%	7.5%	2.7%	2.4%	4.6%	0.8%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.4%	15.3%	0.0%	100.0%
Road 40	40	50	48.4	Y	0200-0300	61	39.9%	17.8%	0.1%	7.7%	2.8%	2.4%	4.7%	0.8%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.5%	19.4%	0.0%	100.0%
Road 40	40	50	48.6	Y	0300-0400	51	37.0%	16.4%	0.1%	7.9%	2.8%	2.5%	4.9%	0.8%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.6%	23.0%	0.0%	100.0%
Road 40	40	50	48.5	Y	0400-0500	55	36.7%	16.2%	0.1%	8.6%	3.1%	2.7%	5.3%	0.8%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	21.4%	0.0%	100.0%
Road 40	40	47.7	Y	0500-0600	88	38.9%	17.1%	0.1%	9.9%	3.6%	3.1%	6.1%	0.9%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	14.1%	0.0%	100.0%	
Road 40	40	45.6	Y	0600-0700	178	40.4%	17.7%	0.1%	11.3%	4.0%	3.5%	6.9%	0.9%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	8.0%	0.0%	100.0%	
Road 40	40	50	48.0	Y	0700-0800	384	37.1%	16.2%	0.1%	11.2%	4.0%	3.5%	6.9%	0.9%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	12.9%	0.0%	100.0%
Road 40	40	39.3	Y	0800-0900	441	41.8%	13.4%	0.1%	12.3%	4.4%	3.5%	6.8%	0.7%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.0%	2.4%	11.4%	0.0%	100.0%	
Road 40	40	39.6	Y	0900-1000	395	35.1%	12.7%	0.2%	16.0%	5.7%	4.4%	8.6%	0.8%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	13.0%	0.0%	100.0%	
Road 40	40	40.0	Y	1000-1100	358	31.6%	12.3%	0.2%	16.3%	5.9%	5.2%	10.2%	0.8%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.3%	14.5%	0.0%	100.0%	
Road 40	40	40.5	Y	1100-1200	340	31.4%	13.0%	0.2%	16.2%	5.8%	5.1%	10.0%	0.8%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	15.1%	0.0%	100.0%	
Road 40	40	43.2	Y	1200-1300	218	20.0%	7.7%	0.2%	19.4%	7.0%	6.9%	13.7%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	10.4%	3.7%	3.7%	100.0%
Road 40	40	42.8	Y	1300-1400	231	18.6%	7.2%	0.2%	22.1%	7.9%	6.9%	13.5%	0.0%	0.0%	0.3%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	21.9%	0.0%	100.0%	
Road 40	40	42.6	Y	1400-1500	236	19.5%	7.9%	0.2%	20.5%	7.4%	6.9%	13.7%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	21.5%	0.0%	100.0%	
Road 40	40	42.5	Y	1500-1600	243	19.3%	7.7%	0.2%	23.6%	8.5%	6.0%	11.8%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	20.5%	0.0%	100.0%	
Road 40	40	42.6	Y	1600-1700	241	22.0%	7.6%	0.2%	20.0%	7.2%	6.2%	12.3%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	20.8%	0.0%	100.0%	
Road 40	40	42.8	Y	1700-1800	245	27.1%	8.5%	0.2%	19.9%	7.1%	4.5%	8.8%	0.0%	0.0%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	19.6%	0.0%	100.0%	
Road 40	40	43.6	Y	1800-1900	229	38.3%	9.0%	0.2%	14.4%	5.2%	3.0%	5.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.7%	8.9%	0.0%	100.0%	
Road 40	40	46.3	Y	1900-2000	151	45.4%	14.2%	0.1%	13.3%	4.8%	3.2%	6.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.7%	3.7%	2.3%	0.6%	100.0%
Road 40	40	47.0	Y	2000-2100	120	40.7%	17.3%	0.1%	13.7%	4.9%	3.0%	5.9%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.6%	10.7%	0.0%	100.0%	
Road 40	40	47.0	Y	2100-2200	121	41.1%	17.0%	0.1%	13.8%	5.0%	3.2%	6.2%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.9%	10.7%	0.0%	100.0%	
Road 40	40	47.1	Y	2200-2300	115	41.9%	18.9%	0.1%	10.9%	3.9%	3.5%	6.8%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.6%	11.4%	0.0%	100.0%	
Road 40	40	47.6	Y	2300-0000	91	38.9%	17.5%	0.1%	11.6%	4.2%	3.7%	7.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	14.0%	0.0%	100.0%	

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 45	45	80	80.0	N	0000-0100	423	58.0%	26.1%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.1%	2.9%	0.5%	0.0%	100.0%
Road 45	45	80	80.0	N	0100-0200	275	57.1%	25.5%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.2%	0.6%	0.0%	100.0%
Road 45	45	80	80.0	N	0200-0300	200	56.2%	25.0%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.1%	3.6%	0.6%	0.0%	100.0%
Road 45	45	80	80.0	N	0300-0400	158	55.2%	24.5%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	3.1%	3.9%	0.7%	0.0%	100.0%
Road 45	45	80	80.0	N	0400-0500	173	54.2%	24.0%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.0%	4.2%	0.7%	0.0%	100.0%
Road 45	45	80	80.0	N	0500-0600	223	54.9%	24.1%	0.0%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.0%	4.5%	0.8%	0.0%	100.0%
Road 45	45	80	80.0	N	0600-0700	642	52.2%	22.9%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.0%	4.9%	0.8%	0.0%	100.0%
Road 45	45	80	80.0	N	0700-0800	1296	52.3%	22.3%	0.1%	5.1%	2.0%	1.7%	3.4%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	3.0%	5.2%	0.9%	0.0%	100.0%
Road 45	45	70.1	N	0800-0900	1500	57.2%	18.3%	0.1%	6.0%	2.2%	1.7%	3.3%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.7%	3.3%	0.9%	0.0%	100.0%	
Road 45	45	74.6	N	0900-1000	1222	52.7%	19.2%	0.1%	8.6%	3.1%	2.3%	4.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.8%	2.1%	1.2%	0.0%	100.0%	
Road 45	45	36.3	N	1000-1100	1052	50.1%	19.5%	0.1%	9.2%	3.3%	2.9%	5.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.8%	1.5%	1.5%	0.0%	100.0%	
Road 45	45	78.6	N	1100-1200	997	50.0%	20.6%	0.1%	9.2%	3.3%	2.9%	5.6%	0.0%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	2.8%	1.4%	1.5%	0.0%	100.0%	
Road 45	45	73.3	N	1200-1300	1220	47.1%	18.1%	0.1%	10.1%	3.6%	3.6%	7.1%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.3%	1.4%	1.9%	0.0%	100.0%	
Road 45	45	72.6	N	1300-1400	1245	45.5%	17.5%	0.1%	12.1%	4.3%	3.7%	7.3%	0.0%	0.1%	0.7%	0.7%	0.5%	1.0%	0.0%	3.2%	1.4%	1.9%	0.0%	100.0%	
Road 45	45	71.0	N	1400-1500	1330	45.6%	18.4%	0.1%	10.7%	3.8%	3.6%	7.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.2%	1.7%	1.9%	0.0%	100.0%	
Road 45	45	70.5	N	1500-1600	1359	45.3%	18.2%	0.1%	12.4%	4.4%	3.1%	6.2%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.1%	1.6%	1.6%	0.0%	100.0%	
Road 45	45	68.7	N	1600-1700	1451	48.0%	16.6%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.1%	1.1%	1.4%	1.0%	2.2%	0.0%	3.4%	2.3%	1.6%	0.0%	100.0%	
Road 45	45	59.7	N	1700-1800	1651	52.9%	16.5%	0.1%	8.7%	3.1%	2.0%	3.9%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.4%	4.5%	1.0%	0.0%	100.0%	
Road 45	45	49.6	N	1800-1900	1816	63.6%	14.9%	0.1%	5.3%	1.9%	1.1%	2.2%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	3.5%	3.0%	0.6%	0.0%	100.0%	
Road 45	45	71.8	N	1900-2000	1446	62.2%	19.5%	0.0%	4.0%	1.5%	1.0%	1.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	4.0%	2.3%	0.5%	0.0%	100.0%	
Road 45	45	77.6	N	2000-2100	1125	57.3%	24.3%	0.0%	4.3%	1.5%	0.9%	1.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	4.2%	2.3%	0.5%	0.0%	100.0%	
Road 45	45	78.0	N	2100-2200	1121	58.5%	24.2%	0.0%	4.4%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.7%	2.7%	0.5%	0.0%	100.0%	
Road 45	45	78.6	N	2200-2300	1091	58.0%	26.2%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.0%	2.2%	0.6%	0.0%	100.0%	
Road 45	45	80.0	N	2300-0000	815	57.0%	25.7%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	4.0%	2.5%	0.6%	0.0%	100.0%	
Road 46	46	80.0	N	0000-0100	226	58.9%	26.4%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	1.5%	3.0%	0.5%	0.0%	100.0%	
Road 46	46	80.0	N	0100-0200	147	57.9%	25.9%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	1.4%	3.3%	0.6%	0.0%	100.0%	
Road 46	46	80.0	N	0200-0300	107	57.0%	25.4%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	1.4%	3.6%	0.6%	0.0%	100.0%	
Road 46	46	80.0	N	0300-0400	84	56.0%	24.8%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	1.4%	3.9%	0.7%	0.0%	100.0%	
Road 46	46	80.0	N	0400-0500	93	55.0%	24.3%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	1.4%	4.3%	0.8%	0.0%	100.0%	
Road 46	46	80.0	N	0500-0600	160	53.9%	23.7%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	1.4%	4.6%	0.8%	0.0%	100.0%	
Road 46	46	80.0	N	0600-0700	343	52.9%	23.2%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	1.4%	5.0%	0.9%	0.0%	100.0%	
Road 46	46	80.0	N	0700-0800	693	51.9%	22.6%	0.1%	5.8%	2.1%	1.8%	3.5%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	1.4%	5.3%	0.9%	0.0%	100.0%	
Road 46	46	80.0	N	0800-0900	804	57.8%	18.5%	0.1%	6.3%	2.2%	1.8%	3.4%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	1.2%	3.4%	0.9%	0.0%	100.0%	
Road 46	46	80.0	N	0900-1000	656	53.2%	19.3%	0.1%	8.9%	3.2%	2.4%	4.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	1.3%	2.1%	1.2%	0.0%	100.0%	
Road 46	46	80.0	N	1000-1100	565	50.6%	19.6%	0.1%	9.6%	3.4%	3.0%	6.0%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	1.4%	2.5%	1.6%	0.0%	100.0%	
Road 46	46	80.0	N	1100-1200	535	50.4%	20.8%	0.1%	9.5%	3.4%	3.0%	5.9%	0.0%	0.1%	0.9%	0.5%	0.4%	0.8%	0.0%	1.3%	1.4%	1.5%	0.0%	100.0%	
Road 46	46	80.0	N	1200-1300	742	54.0%	20.8%	0.1%	6.9%	2.5%	2.5%	4.9%	0.0%	0.1%	0.9%	0.9%	0.6%	1.4%	0.0%	1.5%	1.6%	1.3%	0.0%	100.0%	
Road 46	46	80.0	N	1300-1400	747	52.8%	20.3%	0.1%	8.4%	3.0%	2.6%	5.1%	0.0%	0.1%	0.8%	0.8%	0.5%	1.1%	0.0%	1.5%	1.6%	1.3%	0.0%	100.0%	
Road 46	46	80.0	N	1400-1500	807	52.3%	21.2%	0.1%	7.3%	2.6%	2.5%	4.9%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	1.5%	2.0%	1.3%	0.0%	100.0%	
Road 46	46	80.0	N	1500-1600	823	52.1%	20.9%	0.1%	8.5%	3.1%	2.2%	4.2%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	1.4%	1.9%	1.1%	0.0%	100.0%	
Road 46	46	80.0	N	1600-1700	893	54.4%	18.7%	0.1%	6.6%	2.4%	2.1%	4.0%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	1.6%	2.6%	1.1%	0.0%	100.0%	
Road 46	46	80.0	N	1700-1800	1039	58.5%	18.3%	0.1%	5.7%	2.1%	1.3%	2.5%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	1.5%	5.0%	0.7%	0.0%	100.0%	
Road 46	46	80.0	N	1800-1900	1181	68.1%	16.0%	0.0%	3.4%	1.2%	0.7%	1.4%	0.0%	0.0%	0.1%	0.5%	0.4%	0.8%	0.0%	1.2%	3.4%	0.4%	0.0%	100.0%	
Road 46	46	80.0	N	1900-2000	947	66.1%	20.7%	0.0%	2.6%	0.9%	0.6%	1.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	1.7%	2.4%	0.3%	0.0%	100.0%	
Road 46	46	80.0	N	2000-2100	735	61.1%	25.9%	0.0%	2.7%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	1.8%	2.4%	0.3%	0.0%	100.0%	
Road 46	46	80.0	N	2100-2200	733	62.3%	25.8%	0.0%	2.8%	1.0%	0.6%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	1.6%	2.8%	0.3%	0.0%	100.0%	
Road 46	46	80.0	N	2200-2300	716	61.5%	27.8%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	1.7%	2.4%	0.3%	0.0%	100.0%	
Road 46	46	80.0	N	2300-0000	533	60.7%	27.3%	0.0%	2.4%	0.9%	0.8%	1.5%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	1.7%	2.7%	0.4%	0.0%	100.0%	

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 47	47	50	49.1	N	0000-0100	92	56.7%	25.4%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	0.9%	0.0%	100.0%
Road 47	47	50	49.4	N	0100-0200	60	55.5%	24.8%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.1%	0.9%	0.0%	100.0%
Road 47	47	50	49.5	N	0200-0300	44	54.3%	24.2%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.0%	3.4%	1.0%	0.0%	100.0%
Road 47	47	50	49.6	N	0300-0400	35	53.0%	23.5%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	0.0%	3.7%	1.1%	0.0%	100.0%
Road 47	47	50	49.6	N	0400-0500	38	51.8%	22.9%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	4.0%	1.2%	0.0%	100.0%
Road 47	47	50	49.3	N	0500-0600	67	50.6%	22.3%	0.1%	7.8%	2.8%	2.4%	4.8%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.3%	1.3%	0.0%	100.0%
Road 47	47	50	48.4	N	0600-0700	144	49.4%	21.6%	0.1%	8.3%	3.0%	2.6%	5.1%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.6%	1.3%	0.0%	100.0%
Road 47	47	50	48.8	N	0700-0800	293	48.1%	21.0%	0.1%	8.8%	3.2%	2.8%	5.4%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	4.9%	1.4%	0.0%	100.0%
Road 47	47	50	46.2	N	0800-0900	341	53.4%	17.1%	0.1%	9.5%	3.4%	2.7%	5.2%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	3.1%	1.4%	0.0%	100.0%
Road 47	47	50	46.7	N	0900-1000	288	47.5%	17.3%	0.1%	13.1%	4.7%	3.6%	7.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	1.8%	1.8%	0.0%	100.0%
Road 47	47	50	47.0	N	1000-1100	253	44.3%	17.2%	0.1%	13.8%	5.0%	4.4%	8.6%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	2.3%	0.0%	100.0%
Road 47	47	50	47.2	N	1100-1200	239	44.3%	18.2%	0.1%	13.8%	5.0%	4.3%	8.5%	0.0%	0.1%	0.8%	0.8%	0.4%	0.3%	0.7%	0.0%	1.2%	2.2%	0.0%	100.0%
Road 47	47	50	39.3	N	1200-1300	1023	53.5%	20.6%	0.1%	7.8%	2.8%	2.8%	5.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	1.6%	1.4%	0.0%	100.0%
Road 47	47	50	39.2	N	1300-1400	1034	52.1%	20.1%	0.1%	9.4%	3.4%	2.9%	5.7%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	1.6%	1.5%	0.0%	100.0%
Road 47	47	50	38.7	N	1400-1500	1114	51.8%	20.9%	0.1%	8.2%	3.0%	2.8%	5.5%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	0.0%	1.9%	1.4%	0.0%	100.0%
Road 47	47	50	38.6	N	1500-1600	1137	51.5%	20.7%	0.1%	9.6%	3.4%	2.4%	4.8%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	1.9%	1.2%	0.0%	100.0%
Road 47	47	50	38.0	N	1600-1700	1227	54.0%	18.6%	0.1%	7.4%	2.7%	2.3%	4.6%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	0.0%	2.5%	1.2%	0.0%	100.0%
Road 47	47	50	37.3	N	1700-1800	1422	58.5%	18.3%	0.1%	6.5%	2.3%	1.5%	2.9%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	0.0%	5.0%	0.8%	0.0%	100.0%
Road 47	47	50	36.6	N	1800-1900	1605	68.5%	16.1%	0.0%	3.9%	1.4%	0.8%	1.6%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	0.0%	0.0%	3.3%	0.4%	0.0%
Road 47	47	50	38.5	N	1900-2000	1281	66.8%	20.9%	0.0%	3.0%	1.1%	0.7%	1.4%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	0.0%	2.5%	0.4%	0.0%
Road 47	47	50	40.2	N	2000-2100	994	61.7%	26.2%	0.0%	3.1%	1.1%	0.7%	1.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	0.0%	2.5%	0.4%	0.0%
Road 47	47	50	40.3	N	2100-2200	994	62.8%	26.0%	0.0%	3.2%	1.1%	0.7%	1.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	0.0%	2.9%	0.4%	0.0%
Road 47	47	50	40.6	N	2200-2300	968	62.2%	28.1%	0.0%	2.5%	0.9%	0.8%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	2.4%	0.4%	0.0%
Road 47	47	50	42.9	N	2300-0000	721	61.2%	27.6%	0.0%	2.8%	1.0%	0.9%	1.7%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	0.0%	2.7%	0.4%	0.0%
Road 48	48	80	80.0	N	0000-0100	644	57.4%	25.8%	0.0%	3.4%	1.2%	1.1%	2.1%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	3.0%	2.9%	0.5%	0.0%
Road 48	48	80	80.0	N	0100-0200	418	56.5%	25.3%	0.0%	3.7%	1.3%	1.2%	2.3%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	3.2%	0.6%	0.0%
Road 48	48	80	80.0	N	0200-0300	306	55.5%	24.7%	0.0%	4.0%	1.4%	1.3%	2.5%	0.6%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	3.5%	0.7%	0.0%
Road 48	48	80	80.0	N	0300-0400	241	54.5%	24.2%	0.0%	4.4%	1.6%	1.4%	2.7%	0.6%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	3.8%	0.7%	0.0%
Road 48	48	80	80.0	N	0400-0500	264	53.5%	23.7%	0.0%	4.7%	1.7%	1.5%	2.9%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.1%	4.0%	0.8%	0.0%
Road 48	48	80	80.0	N	0500-0600	458	52.5%	23.1%	0.1%	5.1%	1.8%	1.6%	3.1%	0.7%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.5%	4.5%	0.8%	0.0%
Road 48	48	80	80.0	N	0600-0700	980	51.5%	22.6%	0.1%	5.4%	1.9%	1.7%	3.3%	0.7%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	4.8%	4.8%	0.9%	0.0%
Road 48	48	80	80.0	N	0700-0800	1980	50.5%	22.0%	0.1%	5.8%	2.1%	1.8%	3.6%	0.7%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	0.0%	5.2%	5.2%	0.9%	0.0%
Road 48	48	80	80.0	N	0800-0900	2290	56.4%	18.0%	0.1%	6.3%	2.3%	1.8%	3.5%	0.5%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	0.0%	2.6%	3.3%	0.9%	0.0%
Road 48	48	80	80.0	N	0900-1000	1875	51.8%	18.8%	0.1%	8.9%	3.2%	2.4%	4.8%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	2.7%	2.0%	1.2%	0.0%
Road 48	48	80	80.0	N	1000-1100	1617	49.1%	19.1%	0.1%	9.6%	3.4%	3.0%	6.0%	0.7%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	2.7%	1.5%	1.6%	0.0%
Road 48	48	80	80.0	N	1100-1200	1533	49.0%	20.2%	0.1%	9.5%	3.4%	3.0%	5.9%	0.7%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	0.0%	2.7%	1.4%	1.5%	0.0%
Road 48	48	80	80.0	N	1200-1300	1236	28.0%	10.8%	0.2%	16.8%	6.0%	6.0%	11.9%	0.8%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	13.4%	0.8%	3.1%	0.0%
Road 48	48	80	80.0	N	1300-1400	1293	26.4%	10.2%	0.2%	19.5%	7.0%	6.0%	11.9%	0.7%	0.0%	0.4%	0.4%	0.3%	0.6%	0.1%	0.0%	12.4%	0.8%	3.1%	0.0%
Road 48	48	80	80.0	N	1400-1500	1348	27.1%	11.0%	0.2%	17.7%	6.4%	6.0%	11.8%	0.8%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	12.7%	1.0%	3.1%	0.0%
Road 48	48	80	80.0	N	1500-1600	1384	26.8%	10.8%	0.2%	20.4%	7.3%	5.2%	10.2%	0.7%	0.1%	0.5%	0.6%	0.4%	0.8%	0.1%	0.0%	12.3%	1.0%	2.7%	0.0%
Road 48	48	80	80.0	N	1600-1700	1430	29.4%	10.1%	0.2%	16.6%	6.0%	5.2%	10.2%	0.7%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	14.0%	1.4%	2.7%	0.0%
Road 48	48	80	80.0	N	1700-1800	1536	34.3%	10.7%	0.2%	15.7%	5.6%	3.5%	7.0%	0.8%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	15.0%	2.9%	1.8%	0.0%
Road 48	48	80	80.0	N	1800-1900	1546	45.1%	10.6%	0.1%	10.5%	3.8%	2.2%	4.3%	0.8%	0.0%	0.1%	0.8%	0.5%	1.2%	0.1%	0.0%	16.6%	2.1%	1.1%	0.0%
Road 48	48	80	80.0	N	1900-2000	1222	44.4%	13.9%	0.1%	8.1%	2.9%	1.9%	3.8%	1.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.1%	0.0%	19.1%	1.6%	1.0%	0.0%
Road 48	48	80	80.0	N	2000-2100	962	40.4%	17.2%	0.1%	8.4%	3.0%	1.9%	3.7%	1.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	19.9%	1.6%	1.0%	0.0%
Road 48	48	80	80.0	N	2100-2200	943	41.9%	17.3%	0.1%	8.7%	3.1%	2.0%	4.0%	1.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	17.9%	1.9%	1.0%	0.0%
Road 48	48	80	80.0	N	2200-2300	915	41.7%	18.8%	0.1%	6.8%	2.4%	2.2%	4.2%	0.9%	0.0%	0.0%	0.3%	0.2%	0.4%	0.2%	0.0%	19.2%	1.6%	1.1%	0.0%
Road 48	48	80	80.0	N	2300-0000	692	40.5%	18.2%	0.1%	7.5%	2.7%	2.4%	4.7%	0.9%	0.0%	0.1%	0.3%	0.2%	0.5%	0.2%	0.0%	18.9%	1.8%	1.2%	0.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush Approach (Y/N) | Hour | Total Vehicles (Veh/hr) | 01 - Private Cars | 02 - Taxi | 03 - Light Goods Vehicles <=2

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 53	53	50	28.2	N	0000-0100	26	23.6%	10.6%	0.2%	16.4%	5.9%	5.2%	10.2%	23.5%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.2%	2.7%	0.0%	100.0%
Road 53	53	50	28.7	N	0100-0200	17	22.3%	10.0%	0.2%	17.3%	6.2%	5.5%	10.7%	22.8%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.3%	2.8%	0.0%	100.0%
Road 53	53	50	29.0	N	0200-0300	13	21.1%	9.4%	0.2%	18.2%	6.5%	5.7%	11.3%	22.2%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	2.9%	0.0%	100.0%
Road 53	53	50	29.2	N	0300-0400	11	20.0%	8.9%	0.2%	19.0%	6.8%	6.0%	11.8%	21.7%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	3.1%	0.0%	100.0%
Road 53	53	50	29.1	N	0400-0500	12	19.0%	8.4%	0.2%	19.8%	7.1%	6.2%	12.2%	21.1%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.2%	0.0%	100.0%
Road 53	53	50	28.4	N	0500-0600	22	18.0%	7.9%	0.2%	20.6%	7.4%	6.5%	12.7%	20.6%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.3%	0.0%	100.0%
Road 53	53	50	26.3	N	0600-0700	49	17.1%	7.5%	0.2%	21.3%	7.6%	6.7%	13.1%	20.1%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.6%	3.4%	0.0%	100.0%
Road 53	53	50	24.5	N	0700-0800	102	16.2%	7.0%	0.2%	22.0%	7.9%	6.9%	13.5%	19.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.7%	3.5%	0.0%	100.0%
Road 53	53	80	75.1	N	0800-0900	115	24.3%	10.3%	0.2%	15.2%	5.5%	4.8%	9.5%	19.9%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.9%	2.0%	0.0%	100.0%
Road 53	53	80	71.2	N	0900-1000	118	18.5%	5.9%	0.3%	24.5%	8.8%	6.8%	13.5%	15.7%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.4%	3.5%	0.0%	100.0%
Road 53	53	50	24.2	N	1000-1100	111	13.6%	4.9%	0.3%	27.7%	10.0%	7.5%	14.8%	15.9%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	0.5%	3.9%	0.0%	100.0%
Road 53	53	50	24.2	N	1100-1200	111	11.8%	4.6%	0.3%	27.4%	9.8%	8.7%	17.1%	14.8%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 53	53	50	24.3	N	1200-1300	105	11.8%	4.9%	0.3%	27.2%	9.8%	8.5%	16.7%	15.4%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.4%	0.0%	100.0%
Road 53	53	50	24.0	N	1300-1400	131	24.0%	9.3%	0.2%	22.1%	8.0%	7.9%	15.6%	6.3%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 53	53	50	23.9	N	1400-1500	140	22.2%	8.6%	0.3%	25.2%	9.0%	7.8%	15.3%	5.5%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	4.5%	0.0%	100.0%
Road 53	53	50	23.8	N	1500-1600	144	23.1%	9.3%	0.2%	23.1%	8.3%	7.8%	15.4%	5.9%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	4.0%	0.0%	100.0%
Road 53	53	50	23.8	N	1600-1700	148	22.8%	9.1%	0.3%	26.6%	9.6%	6.7%	13.3%	5.4%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	3.5%	0.0%	100.0%
Road 53	53	50	23.8	N	1700-1800	147	25.9%	8.9%	0.2%	22.4%	8.1%	7.0%	13.8%	5.7%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.2%	3.6%	0.0%	100.0%
Road 53	53	50	23.9	N	1800-1900	153	31.4%	9.8%	0.2%	21.9%	7.9%	5.0%	9.8%	6.5%	0.1%	0.4%	0.6%	0.4%	0.8%	0.0%	0.0%	2.7%	2.6%	0.0%	100.0%
Road 53	53	50	24.2	N	1900-2000	143	44.3%	10.4%	0.2%	15.9%	5.7%	3.3%	6.5%	7.3%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	1.7%	0.0%	100.0%
Road 53	53	50	24.6	N	1900-2000	109	45.2%	14.2%	0.1%	12.6%	4.5%	3.0%	5.9%	8.9%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.7%	1.5%	0.0%	100.0%
Road 53	53	50	24.9	N	2000-2100	86	41.2%	17.5%	0.1%	13.2%	4.7%	2.9%	5.7%	9.5%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.6%	1.5%	0.0%	100.0%
Road 53	53	50	24.9	N	2100-2200	86	41.8%	17.3%	0.1%	13.4%	4.8%	3.1%	6.0%	9.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.9%	1.6%	0.0%	100.0%
Road 53	53	50	25.0	N	2200-2300	81	43.0%	19.4%	0.1%	10.7%	3.8%	3.4%	6.7%	8.5%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	1.7%	0.0%	100.0%
Road 53	53	80	26.1	N	2300-0000	62	41.3%	18.6%	0.1%	11.7%	4.2%	3.7%	7.3%	8.3%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	1.9%	0.0%	100.0%
Road 54	54	80	26.8	N	0000-0100	50	36.5%	16.4%	0.1%	12.4%	4.4%	3.9%	7.7%	13.6%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	2.0%	0.0%	100.0%
Road 54	54	80	27.8	N	0100-0200	33	35.0%	15.6%	0.1%	13.2%	4.8%	4.2%	8.2%	13.3%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	2.1%	0.0%	100.0%
Road 54	54	80	28.3	N	0200-0300	25	33.5%	14.9%	0.1%	14.1%	5.1%	4.4%	8.7%	13.1%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	2.3%	0.0%	100.0%
Road 54	54	80	28.6	N	0300-0400	20	32.1%	14.3%	0.2%	14.9%	5.3%	4.7%	9.2%	12.9%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	2.4%	0.0%	100.0%
Road 54	54	80	28.5	N	0400-0500	23	30.8%	13.6%	0.2%	15.7%	5.6%	4.9%	9.7%	12.8%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.4%	2.5%	0.0%	100.0%
Road 54	54	80	27.2	N	0500-0600	40	29.5%	13.0%	0.2%	16.4%	5.9%	5.1%	10.1%	12.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	2.6%	0.0%	100.0%
Road 54	54	80	24.8	N	0600-0700	88	28.2%	12.3%	0.2%	17.1%	6.2%	5.4%	10.6%	12.4%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	2.8%	0.0%	100.0%
Road 54	54	80	23.4	N	0700-0800	182	27.0%	11.8%	0.2%	17.8%	6.4%	5.6%	11.0%	12.2%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	2.9%	0.0%	100.0%
Road 54	54	50	23.1	N	0800-0900	208	30.5%	9.7%	0.2%	19.6%	7.1%	5.5%	10.8%	9.6%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.8%	2.8%	0.0%	100.0%
Road 54	54	50	23.1	N	0900-1000	200	23.8%	8.6%	0.2%	23.6%	8.5%	6.4%	12.7%	10.3%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.9%	3.3%	0.0%	100.0%
Road 54	54	50	23.2	N	1000-1100	185	21.1%	8.2%	0.2%	23.8%	8.5%	7.6%	14.9%	9.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	3.9%	0.0%	100.0%
Road 54	54	80	23.4	N	1100-1200	175	21.1%	8.7%	0.2%	23.7%	8.5%	7.4%	14.6%	10.3%	0.0%	0.4%	0.2%	0.1%	0.3%	0.0%	0.0%	0.6%	3.8%	0.0%	100.0%
Road 54	54	50	24.0	N	1200-1300	121	11.1%	4.3%	0.3%	29.3%	10.5%	10.5%	20.7%	6.8%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.4%	0.0%	100.0%
Road 54	54	50	23.8	N	1300-1400	132	10.0%	3.8%	0.3%	32.5%	11.7%	10.1%	19.8%	5.8%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.2%	0.0%	100.0%
Road 54	54	50	23.8	N	1400-1500	133	10.6%	4.3%	0.3%	30.4%	10.9%	10.3%	20.2%	6.4%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	5.3%	0.0%	100.0%
Road 54	54	50	23.8	N	1500-1600	138	10.4%	4.2%	0.4%	34.8%	12.5%	8.8%	17.3%	5.8%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 54	54	50	23.9	N	1600-1700	132	12.3%	4.2%	0.3%	30.6%	11.0%	9.5%	18.8%	6.4%	0.0%	0.3%	0.4%	0.3%	0.5%	0.0%	0.0%	0.6%	4.9%	0.0%	100.0%
Road 54	54	50	24.0	N	1700-1800	128	15.9%	5.0%	0.3%	31.9%	11.5%	7.2%	14.2%	7.8%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.4%	3.7%	0.0%	100.0%
Road 54	54	50	24.5	N	1800-1900	104	25.7%	6.0%	0.3%	26.5%	9.5%	5.5%	10.8%	10.1%	0.0%	0.0%	0.5%	0.3%	0.7%	0.0%	0.0%	1.2%	2.8%	0.0%	100.0%
Road 54	54	80	24.9	N	1900-2000	76	27.6%	8.6%	0.2%	22.1%	7.9%	5.3%	10.4%	12.8%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	2.7%	0.0%	100.0%
Road 54	54	50	25.7	N	2000-2100	60	24.9%	10.6%	0.2%	22.9%	8.2%	5.0%	9.9%	13.5%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.0%	2.6%	0.0%	100.0%
Road 54	54	50	25.7	N	2100-2200	61	25.1%	10.4%	0.2%	23.1%	8.3%	5.3%	10.4%	12.7%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	2.7%	0.0%	100.0%
Road 54	54	80	26.1	N	2200-2300	55	26.7%	12.1%	0.2%	19.1%	6.9%	6.1%	11.9%	12.4%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	1.0%	3.1%	0.0%	100.0%
Road 54	54	50	26.9	N	2300-0000	43	25.0%	11.2%	0.2%	20.3%	7.3%	6.4%	12.6%	11.9%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	3.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 101	101	80	80.0	N	0000-0100	877	56.9%	25.6%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	0.8%	0.0%	100.0%
Road 101	101	80	80.0	N	0100-0200	572	55.7%	24.9%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	0.9%	0.0%	100.0%
Road 101	101	80	80.0	N	0200-0300	420	54.5%	24.3%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.0%	3.5%	1.0%	0.0%	100.0%
Road 101	101	80	80.0	N	0300-0400	333	53.3%	23.7%	0.1%	6.6%	2.4%	2.1%	4.1%	0.0%	0.0%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	1.1%	0.0%	100.0%
Road 101	101	80	80.0	N	0400-0500	367	52.1%	23.0%	0.1%	7.1%	2.5%	2.2%	4.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	1.1%	0.0%	100.0%
Road 101	101	80	80.0	N	0500-0600	638	50.9%	22.4%	0.1%	7.6%	2.7%	2.4%	4.7%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	0.0%	4.3%	1.2%	0.0%	100.0%
Road 101	101	80	80.0	N	0600-0700	1373	49.7%	21.8%	0.1%	8.1%	2.9%	2.5%	5.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.0%	4.7%	1.3%	0.0%	100.0%
Road 101	101	80	80.0	N	0700-0800	2786	48.5%	21.1%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	5.0%	1.4%	0.0%	100.0%
Road 101	101	80	79.0	N	0800-0900	3246	53.7%	17.2%	0.1%	9.3%	3.3%	2.6%	5.1%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	5.1%	1.3%	0.0%	100.0%
Road 101	101	80	80.0	N	0900-1000	2733	48.0%	17.4%	0.1%	12.8%	4.6%	3.5%	6.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	7.0%	1.8%	0.0%	100.0%
Road 101	101	80	80.0	N	1000-1100	2395	44.8%	17.4%	0.1%	13.5%	4.9%	4.3%	8.4%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	7.4%	2.2%	0.0%	100.0%
Road 101	101	80	80.0	N	1100-1200	2264	44.8%	18.5%	0.1%	13.5%	4.8%	4.2%	8.3%	0.0%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	0.0%	7.4%	2.2%	0.0%	100.0%
Road 101	101	80	80.0	N	1200-1300	2298	41.9%	16.2%	0.2%	14.4%	5.2%	5.1%	10.1%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	7.1%	2.6%	0.0%	100.0%
Road 101	101	80	80.0	N	1300-1400	2384	39.9%	15.4%	0.2%	16.8%	6.0%	5.2%	10.2%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	0.0%	6.7%	2.7%	0.0%	100.0%
Road 101	101	80	80.0	N	1400-1500	2517	40.4%	16.3%	0.2%	15.1%	5.4%	5.1%	10.0%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	6.9%	2.6%	0.0%	100.0%
Road 101	101	80	80.0	N	1500-1600	2583	40.0%	16.1%	0.2%	17.4%	6.2%	4.4%	8.7%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	6.9%	2.6%	0.0%	100.0%
Road 101	101	80	80.0	N	1600-1700	2693	43.4%	15.0%	0.1%	14.0%	5.0%	4.4%	8.6%	0.0%	0.1%	1.0%	1.3%	0.9%	1.9%	0.0%	0.0%	6.2%	2.2%	0.0%	100.0%
Road 101	101	80	80.0	N	1700-1800	2977	49.2%	15.4%	0.1%	12.8%	4.6%	2.9%	5.7%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	4.2%	1.5%	0.0%	100.0%
Road 101	101	80	80.0	N	1800-1900	3138	61.7%	14.5%	0.1%	8.2%	3.0%	1.7%	3.4%	0.0%	0.0%	0.1%	1.1%	0.8%	1.6%	0.0%	0.0%	2.9%	0.9%	0.0%	100.0%
Road 101	101	80	80.0	N	1900-2000	2455	61.4%	19.2%	0.1%	6.4%	2.3%	1.5%	3.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	2.3%	0.8%	0.0%	100.0%
Road 101	101	80	80.0	N	2000-2100	1909	56.6%	24.0%	0.1%	6.7%	2.4%	1.5%	2.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.3%	0.8%	0.0%	100.0%
Road 101	101	80	80.0	N	2100-2200	1914	57.4%	23.8%	0.1%	6.8%	2.5%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.6%	0.8%	0.0%	100.0%
Road 101	101	80	80.0	N	2200-2300	1845	57.5%	26.0%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	0.9%	0.0%	100.0%
Road 101	101	80	80.0	N	2300-0000	1388	56.1%	25.3%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.5%	1.0%	0.0%	100.0%
Road 102	102	80	80.0	N	0000-0100	707	50.9%	22.8%	0.1%	8.9%	3.2%	2.8%	5.5%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	1.4%	0.0%	100.0%
Road 102	102	80	80.0	N	0100-0200	466	49.3%	22.1%	0.1%	9.6%	3.5%	3.0%	6.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	1.6%	0.0%	100.0%
Road 102	102	80	80.0	N	0200-0300	345	47.8%	21.3%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.0%	0.2%	0.5%	0.4%	0.9%	0.0%	0.0%	3.0%	1.7%	0.0%	100.0%
Road 102	102	80	80.0	N	0300-0400	276	46.3%	20.6%	0.1%	11.1%	4.0%	3.5%	6.9%	0.0%	0.0%	0.3%	0.5%	0.4%	0.9%	0.0%	0.0%	3.2%	1.9%	0.0%	100.0%
Road 102	102	80	80.0	N	0400-0500	307	44.8%	19.8%	0.1%	11.8%	4.2%	3.7%	7.3%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.0%	0.0%	100.0%
Road 102	102	80	80.0	N	0500-0600	540	43.4%	19.1%	0.1%	12.5%	4.5%	3.9%	7.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.6%	2.2%	0.0%	100.0%
Road 102	102	80	80.0	N	0600-0700	1172	41.9%	18.4%	0.1%	13.2%	4.7%	4.1%	8.1%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	3.8%	2.3%	0.0%	100.0%
Road 102	102	80	80.0	N	0700-0800	2402	40.5%	17.7%	0.1%	13.8%	5.0%	4.3%	8.5%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	2.4%	0.0%	100.0%
Road 102	102	80	80.0	N	0800-0900	2812	44.7%	14.3%	0.2%	14.9%	5.3%	4.2%	8.2%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	2.6%	0.0%	100.0%
Road 102	102	80	80.0	N	0900-1000	2512	37.6%	13.7%	0.2%	19.3%	6.9%	5.3%	10.3%	0.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	5.0%	1.5%	0.0%	100.0%
Road 102	102	80	80.0	N	1000-1100	2263	34.2%	13.3%	0.2%	19.9%	7.2%	6.3%	12.4%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	5.2%	1.7%	0.0%	100.0%
Road 102	102	80	80.0	N	1100-1200	2135	34.2%	14.1%	0.2%	19.9%	7.1%	6.2%	12.2%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	5.2%	1.7%	0.0%	100.0%
Road 102	102	80	80.0	N	1200-1300	2143	43.1%	16.6%	0.1%	13.7%	4.9%	4.9%	9.7%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	6.2%	2.1%	0.0%	100.0%
Road 102	102	80	80.0	N	1300-1400	2217	41.0%	15.8%	0.2%	16.1%	5.8%	5.0%	9.8%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	0.0%	6.2%	2.6%	0.0%	100.0%
Road 102	102	80	80.0	N	1400-1500	2345	41.5%	16.8%	0.2%	14.4%	5.2%	4.9%	9.6%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	6.0%	2.6%	0.0%	100.0%
Road 102	102	80	80.0	N	1500-1600	2406	41.1%	16.5%	0.2%	16.6%	6.0%	4.2%	8.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	5.9%	2.2%	0.0%	100.0%
Road 102	102	80	80.0	N	1600-1700	2516	44.4%	15.3%	0.1%	13.3%	4.8%	4.2%	8.2%	0.0%	0.1%	1.1%	1.3%	0.9%	2.0%	0.0%	0.0%	5.4%	2.1%	0.0%	100.0%
Road 102	102	80	80.0	N	1700-1800	2795	50.2%	15.7%	0.1%	12.2%	4.4%	2.8%	5.4%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	4.3%	1.4%	0.0%	100.0%
Road 102	102	80	80.0	N	1800-1900	2968	62.5%	14.7%	0.1%	7.7%	2.8%	1.6%	3.2%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.0%	0.8%	0.0%	100.0%
Road 102	102	80	80.0	N	1900-2000	2327	62.0%	19.4%	0.1%	6.0%	2.1%	1.4%	2.8%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 102	102	80	80.0	N	2000-2100	1809	57.2%	24.3%	0.1%	6.3%	2.3%	1.4%	2.7%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 102	102	80	80.0	N	2100-2200	1813	58.0%	24.0%	0.1%	6.4%	2.3%	1.5%	2.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	0.8%	0.0%	100.0%
Road 102	102	80	80.0	N	2200-2300	1750	58.0%	26.2%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	0.8%	0.0%	100.0%
Road 102	102	80	80.0	N	2300-0000	1315	56.7%	25.5%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.5%	0.9%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 1	1	80	80.0	N	0000-0100	1049	57.1%	25.7%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.5%	2.9%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	0100-0200	682	56.2%	25.1%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.5%	3.2%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	0200-0300	498	55.2%	24.6%	0.0%	4.3%	1.5%	1.4%	2.7%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	3.5%	3.5%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	0300-0400	354	55.3%	24.6%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.6%	3.9%	0.8%	0.0%	100.0%
Road 1	1	80	80.0	N	0400-0500	431	53.2%	23.5%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.4%	4.1%	0.8%	0.0%	100.0%
Road 1	1	80	80.0	N	0500-0600	748	52.2%	22.9%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.4%	4.5%	0.9%	0.0%	100.0%
Road 1	1	80	80.0	N	0600-0700	1602	51.1%	22.4%	0.1%	5.8%	2.1%	1.8%	3.5%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.4%	4.8%	0.9%	0.0%	100.0%
Road 1	1	79.0	80.0	N	0700-0800	3237	50.1%	21.8%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.4%	5.1%	1.0%	0.0%	100.0%
Road 1	1	76.0	80.0	N	0800-0900	3748	55.9%	17.9%	0.1%	6.7%	2.4%	1.9%	3.7%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	3.0%	3.2%	1.0%	0.0%	100.0%
Road 1	1	79.3	80.0	N	0900-1000	3078	51.2%	18.6%	0.1%	9.4%	3.4%	2.6%	5.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.1%	2.0%	1.3%	0.0%	100.0%
Road 1	1	80	80.0	N	1000-1100	3661	48.4%	18.8%	0.1%	10.1%	3.6%	3.2%	6.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.1%	1.5%	1.7%	0.0%	100.0%
Road 1	1	80	80.0	N	1100-1200	2521	48.3%	19.9%	0.1%	10.1%	3.6%	3.1%	6.2%	0.0%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	3.2%	1.4%	1.6%	0.0%	100.0%
Road 1	1	80	75.2	N	1200-1300	3491	42.8%	16.5%	0.1%	12.6%	4.5%	4.5%	8.9%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	3.4%	1.3%	2.3%	0.0%	100.0%
Road 1	1	80	74.3	N	1300-1400	3595	41.0%	15.8%	0.2%	14.8%	5.3%	4.6%	9.0%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	3.2%	1.2%	2.4%	0.0%	100.0%
Road 1	1	80	73.0	N	1400-1500	3812	41.3%	16.7%	0.1%	13.2%	4.7%	4.5%	8.8%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.2%	1.6%	2.3%	0.0%	100.0%
Road 1	1	80	72.6	N	1500-1600	3905	41.0%	16.5%	0.2%	15.3%	5.5%	3.9%	7.6%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.1%	1.5%	2.0%	0.0%	100.0%
Road 1	1	80	71.5	N	1600-1700	4115	44.0%	15.2%	0.1%	12.2%	4.4%	3.8%	7.5%	0.0%	0.1%	1.0%	1.3%	0.9%	2.0%	0.0%	3.5%	2.1%	2.0%	0.0%	100.0%
Road 1	1	80	69.9	N	1700-1800	4599	49.4%	15.4%	0.1%	11.0%	4.0%	2.5%	4.9%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	3.6%	4.2%	1.3%	0.0%	100.0%
Road 1	1	80	69.2	N	1800-1900	4931	60.9%	14.3%	0.1%	7.0%	2.5%	1.4%	2.8%	0.0%	0.0%	0.1%	1.1%	0.7%	1.6%	0.0%	3.7%	2.9%	0.7%	0.0%	100.0%
Road 1	1	80	75.5	N	1900-2000	3898	60.0%	18.8%	0.1%	5.3%	1.9%	1.3%	2.5%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	4.3%	2.2%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	2000-2100	3036	55.2%	23.4%	0.1%	5.6%	2.0%	1.2%	2.4%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.5%	2.2%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	2100-2200	3026	56.3%	23.3%	0.1%	5.7%	2.1%	1.3%	2.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.0%	2.6%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	2200-2300	2934	56.0%	25.3%	0.0%	4.4%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.3%	2.2%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	2300-0000	2201	54.9%	24.7%	0.1%	4.9%	1.8%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.2%	2.4%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	0000-0100	952	52.3%	23.5%	0.1%	6.2%	2.2%	2.0%	3.9%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	4.3%	2.6%	1.2%	0.0%	100.0%
Road 2	2	80	80.0	N	0100-0200	624	51.0%	22.8%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.0%	0.2%	0.6%	0.4%	0.8%	0.0%	4.2%	2.9%	1.4%	0.0%	100.0%
Road 2	2	80	80.0	N	0200-0300	460	49.7%	22.1%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	4.2%	3.1%	1.6%	0.0%	100.0%
Road 2	2	80	80.0	N	0300-0400	366	48.4%	21.5%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	4.1%	3.4%	1.8%	0.0%	100.0%
Road 2	2	80	80.0	N	0400-0500	404	47.2%	20.9%	0.1%	8.4%	3.0%	2.6%	5.2%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.1%	3.7%	1.8%	0.0%	100.0%
Road 2	2	80	80.0	N	0500-0600	703	46.1%	20.3%	0.1%	9.0%	3.2%	2.8%	5.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.0%	3.9%	1.7%	0.0%	100.0%
Road 2	2	80	80.0	N	0600-0700	1516	44.9%	19.7%	0.1%	9.6%	3.4%	3.0%	5.9%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	4.0%	4.2%	1.7%	0.0%	100.0%
Road 2	2	80	78.6	N	0700-0800	3089	43.6%	19.0%	0.1%	10.1%	3.6%	3.2%	6.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.9%	4.5%	1.9%	0.0%	100.0%
Road 2	2	80	75.6	N	0800-0900	3586	48.5%	15.5%	0.1%	11.0%	3.9%	3.1%	6.0%	0.0%	0.1%	0.7%	0.9%	0.7%	1.4%	0.0%	3.5%	2.8%	1.8%	0.0%	100.0%
Road 2	2	80	77.8	N	0900-1000	3089	42.4%	15.4%	0.2%	14.8%	5.3%	4.0%	7.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.4%	1.6%	2.3%	0.0%	100.0%
Road 2	2	80	79.7	N	1000-1100	2734	39.2%	15.2%	0.2%	15.5%	5.6%	4.9%	9.7%	0.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	3.1%	1.2%	2.8%	0.0%	100.0%
Road 2	2	80	80.0	N	1100-1200	2585	39.1%	16.1%	0.2%	15.4%	5.5%	4.8%	9.5%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	3.4%	1.1%	2.8%	0.0%	100.0%
Road 2	2	78.8	80.0	N	1200-1300	3203	41.2%	15.9%	0.1%	13.6%	4.9%	4.9%	9.6%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	2.8%	1.2%	2.7%	0.0%	100.0%
Road 2	2	75.9	80.0	N	1300-1400	3312	39.3%	15.1%	0.2%	16.0%	5.7%	5.0%	9.7%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	2.6%	1.2%	2.8%	0.0%	100.0%
Road 2	2	74.8	80.0	N	1400-1500	3500	39.7%	16.1%	0.1%	14.3%	5.1%	4.9%	9.5%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.6%	1.5%	2.7%	0.0%	100.0%
Road 2	2	80	74.4	N	1500-1600	3589	39.4%	15.8%	0.2%	16.5%	5.9%	4.2%	8.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.6%	1.4%	2.4%	0.0%	100.0%
Road 2	2	73.4	80.0	N	1600-1700	3759	42.6%	14.7%	0.1%	13.2%	4.8%	4.1%	8.1%	0.0%	0.1%	1.0%	1.3%	0.9%	1.9%	0.0%	2.9%	2.0%	2.3%	0.0%	100.0%
Road 2	2	80	72.3	N	1700-1800	4168	48.1%	15.0%	0.1%	12.1%	4.3%	2.7%	5.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.0%	4.1%	1.6%	0.0%	100.0%
Road 2	2	80	72.2	N	1800-1900	4416	60.0%	14.1%	0.1%	7.7%	2.8%	1.6%	3.2%	0.0%	0.0%	0.1%	1.1%	0.7%	1.6%	0.0%	3.1%	2.9%	1.0%	0.0%	100.0%
Road 2	2	80	78.0	N	1900-2000	3472	59.4%	18.6%	0.1%	5.9%	2.1%	1.4%	2.8%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	3.6%	2.2%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2000-2100	2705	54.7%	23.2%	0.1%	6.3%	2.3%	1.4%	2.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	3.8%	2.2%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2100-2200	2700	55.7%	23.1%	0.1%	6.4%	2.3%	1.5%	2.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.4%	2.5%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2200-2300	2611	55.6%	25.1%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.6%	2.1%	0.9%	0.0%	100.0%
Road 2	2	80	80.0	N	2300-0000	1963	54.3%	24.5%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.6%	2.4%	1.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 3	3	70	70.0	N	0000-0100	401	55.7%	25.0%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	5.1%	2.8%	0.6%	0.0%	100.0%
Road 3	3	70	70.0	N	0100-0200	261	54.7%	24.5%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	5.1%	3.1%	0.7%	0.0%	100.0%
Road 3	3	70	70.0	N	0200-0300	191	53.7%	23.9%	0.0%	4.6%	1.6%	1.4%	2.8%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	5.0%	3.5%	0.7%	0.0%	100.0%
Road 3	3	70	70.0	N	0300-0400	139	53.8%	23.9%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	5.0%	3.7%	0.8%	0.0%	100.0%
Road 3	3	70	70.0	N	0400-0500	165	51.7%	22.8%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	5.0%	4.0%	0.9%	0.0%	100.0%
Road 3	3	70	70.0	N	0500-0600	287	50.7%	22.3%	0.1%	5.7%	2.1%	1.8%	3.5%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	4.9%	4.3%	0.9%	0.0%	100.0%
Road 3	3	70	70.0	N	0600-0700	615	49.6%	21.7%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	4.9%	4.6%	1.0%	0.0%	100.0%
Road 3	3	70	68.0	N	0700-0800	1244	48.6%	21.2%	0.1%	6.5%	2.3%	2.0%	4.0%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	4.5%	5.1%	1.0%	0.0%	100.0%
Road 3	3	70	61.9	N	0800-0900	1438	54.2%	17.4%	0.1%	7.1%	2.6%	2.0%	3.9%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	4.3%	3.1%	1.0%	0.0%	100.0%
Road 3	3	70	65.3	N	0900-1000	1188	49.4%	17.9%	0.1%	10.0%	3.6%	2.7%	5.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.5%	1.9%	1.4%	0.0%	100.0%
Road 3	3	70	67.5	N	1000-1100	1030	46.6%	18.1%	0.1%	10.7%	3.8%	3.4%	6.7%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	4.4%	1.4%	1.7%	0.0%	100.0%
Road 3	3	70	68.5	N	1100-1200	976	46.5%	19.1%	0.1%	10.6%	3.8%	3.3%	6.5%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	4.5%	1.3%	1.7%	0.0%	100.0%
Road 3	3	70	32.3	N	1200-1300	1617	38.2%	14.7%	0.2%	14.9%	5.4%	5.4%	10.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.1%	1.1%	2.7%	0.0%	100.0%
Road 3	3	70	23.8	N	1300-1400	1680	36.2%	14.0%	0.2%	17.4%	6.3%	5.4%	10.6%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	3.8%	1.1%	2.8%	0.0%	100.0%
Road 3	3	70	14.9	N	1400-1500	1768	36.8%	14.9%	0.2%	15.7%	5.6%	5.3%	10.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.8%	1.4%	2.7%	0.0%	100.0%
Road 3	3	70	11.3	N	1500-1600	1815	36.5%	14.6%	0.2%	18.1%	6.5%	4.6%	9.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.7%	1.3%	2.4%	0.0%	100.0%
Road 3	3	70	10.0	N	1600-1700	1889	39.6%	13.7%	0.2%	14.6%	5.2%	4.6%	9.0%	0.0%	0.1%	0.9%	1.2%	0.8%	1.8%	0.0%	4.2%	1.5%	2.3%	0.0%	100.0%
Road 3	3	70	10.0	N	1700-1800	2074	45.3%	14.1%	0.1%	13.4%	4.8%	3.0%	6.0%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.4%	3.9%	1.6%	0.0%	100.0%
Road 3	3	70	10.0	N	1800-1900	2162	57.4%	13.5%	0.1%	8.7%	3.1%	1.8%	3.6%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	4.7%	2.7%	0.9%	0.0%	100.0%
Road 3	3	70	47.3	N	1900-2000	1697	56.9%	17.8%	0.1%	6.7%	2.4%	1.6%	3.2%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	5.5%	2.1%	0.8%	0.0%	100.0%
Road 3	3	70	63.9	N	2000-2100	1324	52.3%	22.2%	0.1%	7.1%	2.6%	1.6%	3.1%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.7%	2.1%	0.8%	0.0%	100.0%
Road 3	3	70	64.3	N	2100-2200	1319	53.4%	22.1%	0.1%	7.2%	2.6%	1.7%	3.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.1%	2.4%	0.9%	0.0%	100.0%
Road 3	3	70	69.8	N	2200-2300	1275	53.3%	24.1%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.5%	2.1%	0.9%	0.0%	100.0%
Road 3	3	70	69.8	N	2300-0000	1105	54.8%	24.7%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.4%	2.3%	1.0%	0.0%	100.0%
Road 4	4	80	80.0	N	0000-0100	831	53.5%	24.1%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.4%	2.7%	1.0%	0.0%	100.0%
Road 4	4	80	80.0	N	0100-0200	648	58.0%	26.1%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.5%	2.9%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	0200-0300	421	57.1%	25.5%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.5%	3.2%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	0300-0400	308	56.1%	25.0%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.5%	3.6%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0400-0500	243	55.1%	24.5%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	2.5%	3.9%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0500-0600	266	54.1%	23.9%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.5%	4.2%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0600-0700	461	53.1%	23.4%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.5%	4.5%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0700-0800	987	52.1%	22.8%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.4%	4.9%	0.9%	0.0%	100.0%
Road 4	4	80	80.0	N	0800-0900	1994	51.0%	22.2%	0.1%	5.9%	2.1%	1.8%	3.6%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	2.4%	5.2%	0.9%	0.0%	100.0%
Road 4	4	80	77.6	N	0800-0900	2310	56.9%	18.2%	0.1%	6.4%	2.3%	1.8%	3.5%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.2%	3.3%	0.9%	0.0%	100.0%
Road 4	4	80	80.0	N	0900-1000	1890	52.3%	19.0%	0.1%	9.1%	3.3%	2.5%	4.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.2%	2.0%	1.3%	0.0%	100.0%
Road 4	4	80	80.0	N	1000-1100	1631	49.6%	19.3%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.2%	1.5%	1.6%	0.0%	100.0%
Road 4	4	80	80.0	N	1100-1200	1545	49.4%	20.4%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	2.3%	1.4%	1.6%	0.0%	100.0%
Road 4	4	80	80.0	N	1200-1300	1875	46.8%	18.0%	0.1%	10.5%	3.8%	3.8%	7.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.8%	1.4%	1.9%	0.0%	100.0%
Road 4	4	80	79.5	N	1300-1400	1915	45.1%	17.4%	0.1%	12.5%	4.5%	3.9%	7.6%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	2.7%	1.4%	2.0%	0.0%	100.0%
Road 4	4	80	78.3	N	1400-1500	2043	45.3%	18.3%	0.1%	11.1%	4.0%	3.8%	7.4%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.6%	1.7%	1.9%	0.0%	100.0%
Road 4	4	80	78.0	N	1500-1600	2090	44.9%	18.0%	0.1%	12.8%	4.6%	3.3%	6.4%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.6%	1.6%	1.7%	0.0%	100.0%
Road 4	4	80	76.7	N	1600-1700	2226	47.8%	16.5%	0.1%	10.1%	3.6%	3.2%	6.2%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	2.9%	2.2%	1.6%	0.0%	100.0%
Road 4	4	80	75.2	N	1700-1800	2526	52.8%	16.5%	0.1%	9.0%	3.2%	2.0%	4.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.9%	4.5%	1.1%	0.0%	100.0%
Road 4	4	80	74.0	N	1800-1900	2769	63.7%	15.0%	0.1%	5.6%	2.0%	1.2%	2.3%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	2.9%	3.0%	0.6%	0.0%	100.0%
Road 4	4	80	79.1	N	1900-2000	2201	62.3%	19.5%	0.0%	4.2%	1.5%	1.0%	2.0%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	3.4%	2.3%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	2000-2100	1712	57.5%	24.4%	0.0%	4.5%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	3.5%	2.3%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	2100-2200	1707	58.6%	24.2%	0.0%	4.6%	1.6%	1.1%	2.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.1%	2.7%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	2200-2300	1659	58.1%	26.3%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.4%	2.2%	0.6%	0.0%	100.0%
Road 4	4	80	80.0	N	2300-0000	1241	57.1%	25.7%	0.0%	3.9%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	3.3%	2.5%	0.6%	0.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 9	9	50	40.0	N	0000-0100	472	55.9%	25.1%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.8%	2.8%	0.8%	0.0%	100.0%
Road 9	9	50	43.4	N	0100-0200	308	54.8%	24.5%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.7%	3.1%	0.8%	0.0%	100.0%
Road 9	9	50	45.2	N	0200-0300	226	53.7%	23.9%	0.1%	5.6%	2.0%	1.7%	3.4%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	2.7%	3.4%	0.9%	0.0%	100.0%
Road 9	9	50	46.1	N	0300-0400	179	52.6%	23.3%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.7%	3.7%	1.0%	0.0%	100.0%
Road 9	9	50	45.7	N	0400-0500	197	51.4%	22.7%	0.1%	6.5%	2.3%	2.0%	4.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.7%	4.0%	1.0%	0.0%	100.0%
Road 9	9	50	42.5	N	0500-0600	342	50.3%	22.1%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.6%	4.3%	1.1%	0.0%	100.0%
Road 9	9	50	36.5	N	0600-0700	734	49.2%	21.5%	0.1%	7.4%	2.6%	2.3%	4.5%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.6%	4.6%	1.2%	0.0%	100.0%
Road 9	9	50	28.6	N	0700-0800	1488	48.0%	20.9%	0.1%	7.8%	2.8%	2.4%	4.8%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	2.5%	4.9%	1.3%	0.0%	100.0%
Road 9	9	50	18.1	N	0800-0900	1728	53.4%	17.1%	0.1%	8.5%	3.0%	2.4%	4.7%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.3%	3.1%	1.2%	0.0%	100.0%
Road 9	9	50	26.4	N	0900-1000	1446	48.0%	17.4%	0.1%	11.8%	4.2%	3.2%	6.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.3%	1.9%	1.6%	0.0%	100.0%
Road 9	9	50	28.7	N	1000-1100	1262	45.0%	17.5%	0.1%	12.5%	4.5%	4.0%	7.8%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	2.3%	1.4%	2.0%	0.0%	100.0%
Road 9	9	50	29.8	N	1100-1200	1195	44.9%	18.5%	0.1%	12.4%	4.5%	3.9%	7.7%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	2.4%	1.3%	2.0%	0.0%	100.0%
Road 9	9	50	18.1	N	1200-1300	1508	37.1%	14.3%	0.2%	16.1%	5.8%	5.8%	11.4%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	2.6%	1.1%	3.0%	0.0%	100.0%
Road 9	9	50	14.8	N	1300-1400	1575	35.0%	13.5%	0.2%	18.7%	6.7%	5.8%	11.4%	0.0%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	2.4%	1.1%	3.0%	0.0%	100.0%
Road 9	9	50	11.9	N	1400-1500	1652	35.7%	14.5%	0.2%	16.9%	6.1%	5.7%	11.2%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.4%	1.3%	2.9%	0.0%	100.0%
Road 9	9	50	10.6	N	1500-1600	1698	35.3%	14.2%	0.2%	19.5%	7.0%	4.9%	9.7%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.3%	1.3%	2.5%	0.0%	100.0%
Road 9	9	50	10.0	N	1600-1700	1755	38.7%	13.3%	0.2%	15.8%	5.7%	4.9%	9.7%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	2.7%	1.8%	2.5%	0.0%	100.0%
Road 9	9	50	10.0	N	1700-1800	1911	44.5%	13.9%	0.2%	14.7%	5.3%	3.3%	6.5%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	2.8%	3.8%	1.7%	0.0%	100.0%
Road 9	9	50	10.0	N	1800-1900	1967	57.2%	13.4%	0.1%	9.7%	3.5%	2.0%	4.0%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	3.1%	2.7%	1.0%	0.0%	100.0%
Road 9	9	50	26.0	N	1900-2000	1534	57.1%	17.9%	0.1%	7.5%	2.7%	1.8%	3.5%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	3.6%	2.1%	0.9%	0.0%	100.0%
Road 9	9	50	30.8	N	2000-2100	1196	52.5%	22.3%	0.1%	7.9%	2.8%	1.7%	3.4%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.7%	2.1%	0.9%	0.0%	100.0%
Road 9	9	50	31.0	N	2100-2200	1195	53.4%	22.1%	0.1%	8.1%	2.9%	1.9%	3.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.3%	2.4%	1.0%	0.0%	100.0%
Road 9	9	50	31.6	N	2200-2300	1151	53.5%	24.2%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.6%	2.1%	1.0%	0.0%	100.0%
Road 9	9	50	34.0	N	2300-0000	868	52.1%	23.5%	0.1%	7.0%	2.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.5%	2.3%	1.1%	0.0%	100.0%
Road 10	10	50	49.1	Y	0000-0100	41	47.0%	21.1%	0.1%	10.6%	3.8%	3.4%	6.6%	1.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.4%	1.7%	0.0%	100.0%
Road 10	10	50	49.4	Y	0100-0200	27	45.4%	20.3%	0.1%	11.5%	4.1%	3.6%	7.1%	1.6%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	1.9%	0.0%	100.0%
Road 10	10	50	49.5	Y	0200-0300	20	43.8%	19.5%	0.1%	12.3%	4.4%	3.9%	7.6%	1.6%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	2.8%	2.0%	0.0%	100.0%
Road 10	10	50	49.6	Y	0300-0400	16	42.2%	18.7%	0.1%	13.0%	4.7%	4.1%	8.1%	1.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	2.1%	0.0%	100.0%
Road 10	10	50	49.6	Y	0400-0500	18	40.7%	18.0%	0.1%	13.8%	5.0%	4.3%	8.5%	1.6%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	2.2%	0.0%	100.0%
Road 10	10	50	49.2	Y	0500-0600	32	39.2%	17.2%	0.2%	14.6%	5.2%	4.6%	9.0%	1.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	2.3%	0.0%	100.0%
Road 10	10	50	48.3	Y	0600-0700	71	37.7%	16.5%	0.2%	15.3%	5.5%	4.8%	9.4%	1.5%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.5%	2.5%	0.0%	100.0%
Road 10	10	50	46.4	Y	0700-0800	145	36.3%	15.8%	0.2%	16.0%	5.8%	5.0%	9.9%	1.5%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.7%	2.6%	0.0%	100.0%
Road 10	10	50	45.8	Y	0800-0900	170	40.1%	12.8%	0.2%	17.3%	6.2%	4.8%	9.5%	1.2%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	2.3%	2.5%	0.0%	100.0%
Road 10	10	50	46.0	Y	0900-1000	156	32.8%	11.9%	0.2%	21.8%	7.8%	5.9%	11.7%	1.3%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	1.3%	3.0%	0.0%	100.0%
Road 10	10	50	46.2	Y	1000-1100	142	29.5%	11.5%	0.2%	22.2%	8.0%	7.1%	13.9%	1.3%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	3.6%	0.0%	100.0%
Road 10	10	50	48.5	Y	1100-1200	134	29.6%	12.2%	0.2%	22.2%	8.0%	6.9%	13.6%	1.3%	0.1%	0.5%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	0.8%	3.6%	100.0%
Road 10	10	50	48.5	Y	1200-1300	55	31.0%	11.9%	0.2%	20.6%	7.4%	7.4%	14.5%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	0.9%	3.8%	0.0%	100.0%
Road 10	10	50	48.4	Y	1300-1400	59	28.7%	11.1%	0.2%	23.5%	8.4%	7.3%	14.3%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	3.7%	0.0%	100.0%
Road 10	10	50	48.4	Y	1400-1500	61	29.7%	12.0%	0.2%	21.5%	7.7%	7.3%	14.3%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	0.0%	1.1%	3.7%	100.0%
Road 10	10	50	48.4	Y	1500-1600	63	29.2%	11.7%	0.3%	24.7%	8.9%	6.2%	12.3%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	0.0%	1.1%	3.2%	100.0%
Road 10	10	50	48.4	Y	1600-1700	63	32.8%	11.3%	0.2%	20.5%	7.4%	6.4%	12.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	1.5%	3.3%	0.0%	100.0%
Road 10	10	50	48.4	Y	1700-1800	66	39.0%	12.2%	0.2%	19.7%	7.1%	4.5%	8.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	3.4%	2.3%	0.0%	100.0%
Road 10	10	50	48.5	Y	1800-1900	65	53.1%	12.5%	0.1%	13.7%	4.9%	2.9%	5.6%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	2.5%	1.5%	0.0%	100.0%
Road 10	10	50	48.9	Y	1900-2000	49	54.3%	17.0%	0.1%	10.0%	3.9%	2.6%	5.1%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.0%	1.3%	0.0%	100.0%
Road 10	10	50	49.2	Y	2000-2100	38	49.9%	21.2%	0.1%	11.5%	4.1%	2.5%	5.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.0%	1.3%	0.0%	100.0%
Road 10	10	50	49.2	Y	2100-2200	39	50.4%	20.8%	0.1%	11.6%	4.2%	2.7%	5.3%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.3%	1.4%	0.0%	100.0%
Road 10	10	50	49.2	Y	2200-2300	37	51.1%	23.1%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	1.5%	0.0%	100.0%
Road 10	10	50	49.4	Y	2300-0000	28	49.3%	22.2%	0.1%	10.1%	3.6%	3.2%	6.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.2%	1.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 11	11	50	44.5	Y	0000-0100	514	55.2%	24.8%	0.1%	5.1%	1.8%	1.6%	3.2%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.8%	2.8%	0.8%	0.0%	100.0%
Road 11	11	50	46.4	Y	0100-0200	335	54.0%	24.2%	0.1%	5.6%	2.0%	1.8%	3.5%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.5%	3.1%	0.9%	0.0%	100.0%
Road 11	11	50	47.3	Y	0200-0300	246	52.9%	23.6%	0.1%	6.1%	2.2%	1.9%	3.8%	0.1%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	2.5%	3.3%	1.0%	0.0%	100.0%
Road 11	11	50	47.9	Y	0300-0400	195	51.7%	22.9%	0.1%	6.6%	2.4%	2.1%	4.1%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.5%	3.6%	1.1%	0.0%	100.0%
Road 11	11	50	47.6	Y	0400-0500	215	50.5%	22.3%	0.1%	7.1%	2.5%	2.2%	4.4%	0.1%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.4%	3.9%	1.1%	0.0%	100.0%
Road 11	11	50	45.8	Y	0500-0600	374	49.3%	21.7%	0.1%	7.6%	2.7%	2.4%	4.7%	0.1%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.4%	4.2%	1.2%	0.0%	100.0%
Road 11	11	50	41.0	Y	0600-0700	805	48.2%	21.1%	0.1%	8.1%	2.9%	2.5%	5.0%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.4%	4.5%	1.3%	0.0%	100.0%
Road 11	11	50	35.3	Y	0700-0800	1634	47.0%	20.5%	0.1%	8.6%	3.1%	2.7%	5.3%	0.1%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.4%	4.8%	1.4%	0.0%	100.0%
Road 11	11	50	33.6	Y	0800-0900	1897	52.2%	16.7%	0.1%	9.3%	3.3%	2.6%	5.1%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.1%	3.0%	1.3%	0.0%	100.0%
Road 11	11	50	35.1	Y	0900-1000	1602	46.5%	16.9%	0.1%	12.7%	4.6%	3.5%	6.8%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.1%	1.8%	1.8%	0.0%	100.0%
Road 11	11	50	36.1	Y	1000-1100	1404	43.4%	16.9%	0.1%	13.5%	4.8%	4.3%	8.4%	0.1%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	2.2%	1.3%	2.2%	0.0%	100.0%
Road 11	11	50	36.7	Y	1100-1200	1329	43.4%	17.9%	0.1%	13.4%	4.8%	4.2%	8.3%	0.1%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	2.1%	1.2%	2.2%	0.0%	100.0%
Road 11	11	50	34.4	Y	1200-1300	1563	36.9%	14.2%	0.2%	16.3%	5.8%	5.8%	11.5%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	2.5%	1.1%	3.0%	0.0%	100.0%
Road 11	11	50	33.8	Y	1300-1400	1633	34.8%	13.4%	0.2%	18.9%	6.8%	5.9%	11.5%	0.0%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	2.4%	1.1%	3.0%	0.0%	100.0%
Road 11	11	50	33.3	Y	1400-1500	1713	35.5%	14.4%	0.2%	17.1%	6.1%	5.8%	11.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.3%	1.3%	3.0%	0.0%	100.0%
Road 11	11	50	33.1	Y	1500-1600	1760	35.1%	14.1%	0.2%	19.7%	7.1%	5.0%	9.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.3%	1.3%	2.6%	0.0%	100.0%
Road 11	11	50	32.7	Y	1600-1700	1818	38.5%	13.3%	0.2%	16.0%	5.7%	5.0%	9.8%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	2.6%	1.8%	2.6%	0.0%	100.0%
Road 11	11	50	32.4	Y	1700-1800	1977	44.3%	13.9%	0.2%	14.9%	5.3%	3.4%	6.6%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	2.7%	3.8%	1.7%	0.0%	100.0%
Road 11	11	50	32.9	Y	1800-1900	2031	57.1%	13.4%	0.1%	9.8%	3.5%	2.0%	4.0%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	3.0%	2.7%	1.0%	0.0%	100.0%
Road 11	11	50	35.8	Y	1900-2000	1583	57.0%	17.8%	0.1%	7.6%	2.7%	1.8%	3.6%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	3.6%	2.1%	0.9%	0.0%	100.0%
Road 11	11	50	38.0	Y	2000-2100	1235	52.4%	22.2%	0.1%	8.0%	2.9%	1.8%	3.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.7%	2.1%	0.9%	0.0%	100.0%
Road 11	11	50	38.1	Y	2100-2200	1234	53.3%	22.1%	0.1%	8.2%	2.9%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.2%	2.4%	1.0%	0.0%	100.0%
Road 11	11	50	38.4	Y	2200-2300	1187	53.4%	24.2%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.6%	2.1%	1.0%	0.0%	100.0%
Road 11	11	50	40.1	Y	2300-0000	896	52.0%	23.4%	0.1%	7.0%	2.5%	2.2%	4.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.4%	2.3%	1.1%	0.0%	100.0%
Road 12	12	50	27.6	Y	0000-0100	20	4.7%	2.1%	0.0%	0.9%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.8%	100.0%
Road 12	12	50	27.6	Y	0100-0200	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	93.7%	100.0%
Road 12	12	50	27.6	Y	0200-0300	19	2.2%	1.0%	0.0%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	95.3%	100.0%
Road 12	12	50	27.7	Y	0300-0400	19	1.8%	0.8%	0.0%	0.5%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	96.2%	100.0%
Road 12	12	50	27.6	Y	0400-0500	16	1.9%	0.8%	0.0%	0.6%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	95.7%	100.0%
Road 12	12	50	27.6	Y	0500-0600	20	3.1%	1.4%	0.0%	1.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.8%	100.0%
Road 12	12	50	27.5	Y	0600-0700	22	6.0%	2.6%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	85.5%	100.0%
Road 12	12	50	24.1	Y	0700-0800	77	3.3%	1.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.7%	100.0%
Road 12	12	50	24.1	Y	0800-0900	78	4.2%	1.3%	0.0%	1.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.4%	100.0%
Road 12	12	50	24.1	Y	0900-1000	78	3.2%	1.2%	0.0%	1.8%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.3%	100.0%
Road 12	12	50	24.1	Y	1000-1100	77	2.6%	1.0%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.1%	100.0%
Road 12	12	50	24.1	Y	1100-1200	77	2.5%	1.0%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.5%	100.0%
Road 12	12	50	24.1	Y	1200-1300	77	2.8%	1.1%	0.0%	1.5%	0.5%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.1%	100.0%
Road 12	12	50	24.1	Y	1300-1400	77	2.8%	1.1%	0.0%	1.8%	0.7%	0.6%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.7%	100.0%
Road 12	12	50	24.1	Y	1400-1500	78	2.9%	1.2%	0.0%	1.7%	0.6%	0.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.4%	100.0%
Road 12	12	50	24.1	Y	1500-1600	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.1%	100.0%
Road 12	12	50	24.1	Y	1600-1700	78	3.4%	1.2%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.0%	100.0%
Road 12	12	50	24.1	Y	1700-1800	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.3%	100.0%
Road 12	12	50	24.1	Y	1800-1900	79	5.6%	1.3%	0.0%	1.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	90.2%	100.0%
Road 12	12	50	27.4	Y	1900-2000	24	13.9%	4.4%	0.0%	2.3%	0.8%	0.5%	1.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.5%	75.7%	100.0%
Road 12	12	50	27.4	Y	2000-2100	23	10.6%	4.5%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	80.0%	100.0%
Road 12	12	50	27.4	Y	2100-2200	23	10.7%	4.4%	0.0%	2.0%	0.7%	0.5%	0.9%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	79.9%	100.0%
Road 12	12	50	27.4	Y	2200-2300	23	10.4%	4.7%	0.0%	1.5%	0.5%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%	0.4%	80.7%	100.0%
Road 12	12	50	27.5	Y	2300-0000	22	8.1%	3.6%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	84.7%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 17	17	70	66.8	N	0000-0100	437	49.9%	22.4%	0.1%	8.4%	3.0%	2.7%	5.2%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.7%	2.5%	1.4%	0.0%	100.0%
Road 17	17	70	67.8	N	0100-0200	288	48.4%	21.7%	0.1%	9.1%	3.3%	2.9%	5.7%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.6%	2.7%	1.5%	0.0%	100.0%
Road 17	17	70	68.4	N	0200-0300	213	47.0%	20.9%	0.1%	9.8%	3.5%	3.1%	6.1%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.6%	3.0%	1.6%	0.0%	100.0%
Road 17	17	70	68.7	N	0300-0400	170	45.6%	20.2%	0.1%	10.5%	3.8%	3.3%	6.5%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.5%	3.2%	1.7%	0.0%	100.0%
Road 17	17	70	68.5	N	0400-0500	189	44.2%	19.5%	0.1%	11.2%	4.0%	3.5%	6.9%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.5%	3.4%	1.8%	0.0%	100.0%
Road 17	17	70	67.4	N	0500-0600	332	42.8%	18.8%	0.1%	11.9%	4.3%	3.7%	7.3%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.4%	3.7%	1.9%	0.0%	100.0%
Road 17	17	70	64.3	N	0600-0700	720	41.4%	18.1%	0.1%	12.5%	4.5%	3.9%	7.7%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.4%	3.9%	2.0%	0.0%	100.0%
Road 17	17	70	62.8	N	0700-0800	1474	40.0%	17.4%	0.1%	13.2%	4.7%	4.1%	8.1%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.3%	4.1%	2.1%	0.0%	100.0%
Road 17	17	70	63.5	N	0800-0900	1720	44.3%	14.2%	0.1%	14.2%	5.1%	4.0%	7.8%	0.1%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	2.1%	2.6%	2.0%	0.0%	100.0%
Road 17	17	70	63.9	N	0900-1000	1529	37.5%	13.6%	0.2%	18.5%	6.7%	5.0%	9.9%	0.1%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	2.0%	1.5%	2.6%	0.0%	100.0%
Road 17	17	70	64.4	N	1000-1100	1374	34.1%	13.3%	0.2%	19.1%	6.9%	6.1%	12.0%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	1.9%	1.0%	3.1%	0.0%	100.0%
Road 17	17	70	64.7	N	1100-1200	1297	34.2%	14.1%	0.2%	19.1%	6.9%	6.0%	11.8%	0.1%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	1.9%	1.0%	3.1%	0.0%	100.0%
Road 17	17	70	64.6	N	1200-1300	1256	28.0%	10.8%	0.2%	21.4%	7.7%	7.7%	15.1%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	2.2%	0.8%	3.9%	0.0%	100.0%
Road 17	17	70	64.2	N	1300-1400	1338	25.9%	10.0%	0.3%	24.4%	8.8%	7.6%	14.8%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	2.0%	0.8%	3.9%	0.0%	100.0%
Road 17	17	70	64.0	N	1400-1500	1382	26.8%	10.9%	0.2%	22.4%	8.0%	7.6%	14.9%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.1%	1.0%	3.9%	0.0%	100.0%
Road 17	17	70	63.9	N	1500-1600	1426	26.4%	10.6%	0.3%	25.6%	9.2%	6.5%	12.8%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.0%	1.0%	3.3%	0.0%	100.0%
Road 17	17	70	63.9	N	1600-1700	1433	29.8%	10.3%	0.2%	21.4%	7.7%	6.7%	13.2%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	2.4%	1.4%	3.4%	0.0%	100.0%
Road 17	17	70	64.0	N	1700-1800	1495	35.7%	11.2%	0.2%	20.8%	7.5%	4.7%	9.2%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	2.6%	3.1%	2.4%	0.0%	100.0%
Road 17	17	70	64.6	N	1800-1900	1432	49.4%	11.6%	0.2%	14.7%	5.3%	3.1%	6.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	3.1%	2.4%	1.6%	0.0%	100.0%
Road 17	17	70	66.0	N	1900-2000	1090	50.5%	15.8%	0.1%	11.7%	4.2%	2.8%	5.5%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	3.6%	1.9%	1.4%	0.0%	100.0%
Road 17	17	70	66.9	N	2000-2100	853	46.3%	19.6%	0.1%	12.3%	4.4%	2.7%	5.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	3.8%	1.4%	2.0%	0.0%	100.0%
Road 17	17	70	67.0	N	2100-2200	855	46.9%	19.4%	0.1%	12.5%	4.5%	2.9%	5.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.3%	2.1%	1.5%	0.0%	100.0%
Road 17	17	70	67.0	N	2200-2300	813	47.6%	21.5%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	3.7%	1.8%	1.6%	0.0%	100.0%
Road 17	17	70	66.9	N	2300-0000	620	45.9%	20.7%	0.1%	10.8%	3.9%	3.4%	6.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.6%	2.0%	1.8%	0.0%	100.0%
Road 18	18	70	68.6	N	0000-0100	417	54.0%	24.2%	0.1%	5.4%	1.9%	1.7%	3.3%	0.2%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	2.9%	2.7%	1.7%	0.0%	100.0%
Road 18	18	70	69.1	N	0100-0200	274	52.6%	23.5%	0.1%	5.8%	2.1%	1.8%	3.6%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.9%	3.0%	2.3%	0.0%	100.0%
Road 18	18	70	69.3	N	0200-0300	202	53.2%	22.8%	0.1%	6.3%	2.3%	2.0%	3.9%	0.2%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.8%	3.2%	2.8%	0.0%	100.0%
Road 18	18	70	69.4	N	0300-0400	161	49.8%	22.1%	0.1%	6.8%	2.4%	2.1%	4.2%	0.2%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.8%	3.5%	3.4%	0.0%	100.0%
Road 18	18	70	69.4	N	0400-0500	177	48.7%	21.5%	0.1%	7.3%	2.6%	2.3%	4.5%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.7%	3.8%	3.2%	0.0%	100.0%
Road 18	18	70	68.9	N	0500-0600	306	48.0%	21.1%	0.1%	7.8%	2.8%	2.5%	4.8%	0.2%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.7%	4.1%	2.5%	0.0%	100.0%
Road 18	18	70	67.7	N	0600-0700	654	47.1%	20.6%	0.1%	8.4%	3.0%	2.6%	5.2%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.7%	4.4%	1.9%	0.0%	100.0%
Road 18	18	70	65.1	N	0700-0800	1335	45.6%	19.9%	0.1%	8.9%	3.2%	2.8%	5.5%	0.2%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.7%	4.7%	2.5%	0.0%	100.0%
Road 18	18	70	64.4	N	0800-0900	1548	50.9%	16.3%	0.1%	9.6%	3.5%	2.7%	5.3%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	2.4%	3.0%	2.3%	0.0%	100.0%
Road 18	18	70	65.0	N	0900-1000	1316	45.0%	16.3%	0.1%	13.1%	4.7%	3.6%	7.0%	0.2%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.4%	1.7%	2.9%	0.0%	100.0%
Road 18	18	70	65.5	N	1000-1100	1158	41.8%	16.2%	0.1%	13.8%	5.0%	4.4%	8.6%	0.2%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	2.3%	1.3%	3.5%	0.0%	100.0%
Road 18	18	70	65.8	N	1100-1200	1096	41.7%	17.2%	0.1%	13.8%	4.9%	4.3%	8.5%	0.2%	0.1%	0.8%	0.4%	0.3%	0.6%	0.0%	2.4%	1.2%	3.5%	0.0%	100.0%
Road 18	18	70	65.1	N	1200-1300	1190	36.4%	14.0%	0.2%	15.9%	5.7%	5.7%	11.2%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	3.1%	1.1%	4.1%	0.0%	100.0%
Road 18	18	70	64.9	N	1300-1400	1242	34.4%	13.3%	0.2%	18.5%	6.6%	5.7%	11.2%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	2.9%	1.0%	4.1%	0.0%	100.0%
Road 18	18	70	64.7	N	1400-1500	1302	35.1%	14.2%	0.2%	16.7%	6.0%	5.6%	11.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.9%	1.3%	4.0%	0.0%	100.0%
Road 18	18	70	64.6	N	1500-1600	1337	34.7%	13.9%	0.2%	19.2%	6.9%	4.9%	9.6%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.8%	1.3%	3.5%	0.0%	100.0%
Road 18	18	70	64.4	N	1600-1700	1383	38.0%	13.1%	0.2%	15.6%	5.6%	4.9%	9.6%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	3.2%	1.8%	3.5%	0.0%	100.0%
Road 18	18	70	64.3	N	1700-1800	1504	43.8%	13.7%	0.2%	14.5%	5.2%	3.3%	6.5%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	3.4%	3.8%	2.6%	0.0%	100.0%
Road 18	18	70	64.4	N	1800-1900	1548	56.3%	13.2%	0.1%	9.5%	3.4%	2.0%	3.9%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	3.7%	2.7%	1.9%	0.0%	100.0%
Road 18	18	70	65.8	N	1900-2000	1201	56.4%	17.7%	0.1%	7.4%	2.7%	1.8%	3.5%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.3%	2.1%	1.2%	0.0%	100.0%
Road 18	18	70	66.7	N	2000-2100	938	51.8%	22.0%	0.1%	7.9%	2.8%	1.7%	3.4%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.5%	2.1%	1.3%	0.0%	100.0%
Road 18	18	70	66.7	N	2100-2200	936	52.8%	21.8%	0.1%	8.0%	2.9%	1.8%	3.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.0%	2.4%	1.3%	0.0%	100.0%
Road 18	18	70	66.9	N	2200-2300	902	52.8%	23.9%	0.1%	6.2%	2.2%	2.0%	3.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.3%	2.0%	1.4%	0.0%	100.0%
Road 18	18	70	67.6	N	2300-0000	681	51.4%	23.2%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.2%	2.3%	1.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 19	19	70	68.5	N	0000-0100	437	49.9%	22.4%	0.1%	8.4%	3.0%	2.7%	5.2%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.7%	2.5%	1.4%	0.0%	100.0%
Road 19	19	70	69.0	N	0100-0200	288	48.4%	21.7%	0.1%	9.1%	3.3%	2.9%	5.7%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.6%	2.7%	1.5%	0.0%	100.0%
Road 19	19	70	69.2	N	0200-0300	213	47.0%	20.9%	0.1%	9.8%	3.5%	3.1%	6.1%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.6%	3.0%	1.6%	0.0%	100.0%
Road 19	19	70	69.4	N	0300-0400	170	45.6%	20.2%	0.1%	10.5%	3.8%	3.3%	6.5%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.5%	3.2%	1.7%	0.0%	100.0%
Road 19	19	70	69.3	N	0400-0500	189	44.2%	19.5%	0.1%	11.2%	4.0%	3.5%	6.9%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.5%	3.4%	1.8%	0.0%	100.0%
Road 19	19	70	68.8	N	0500-0600	332	42.8%	18.8%	0.1%	11.9%	4.3%	3.7%	7.3%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.4%	3.7%	1.9%	0.0%	100.0%
Road 19	19	70	67.3	N	0600-0700	720	41.4%	18.1%	0.1%	12.5%	4.5%	3.9%	7.7%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.4%	3.9%	2.0%	0.0%	100.0%
Road 19	19	70	64.4	N	0700-0800	1474	40.0%	17.4%	0.1%	13.2%	4.7%	4.1%	8.1%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.3%	4.1%	2.1%	0.0%	100.0%
Road 19	19	70	63.5	N	0800-0900	1720	44.3%	14.2%	0.1%	14.2%	5.1%	4.0%	7.8%	0.1%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	2.1%	2.6%	2.0%	0.0%	100.0%
Road 19	19	70	63.9	N	0900-1000	1529	37.5%	13.6%	0.2%	18.5%	6.7%	5.0%	9.9%	0.1%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	2.0%	1.5%	2.6%	0.0%	100.0%
Road 19	19	70	64.4	N	1000-1100	1374	34.1%	13.3%	0.2%	19.1%	6.9%	6.1%	12.0%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	1.9%	1.0%	3.1%	0.0%	100.0%
Road 19	19	70	64.7	N	1100-1200	1297	34.2%	14.1%	0.2%	19.1%	6.9%	6.0%	11.8%	0.1%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	1.9%	1.0%	3.1%	0.0%	100.0%
Road 19	19	70	64.6	N	1200-1300	1256	28.0%	10.8%	0.2%	21.4%	7.7%	7.7%	15.1%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	2.2%	0.8%	3.9%	0.0%	100.0%
Road 19	19	70	64.2	N	1300-1400	1338	25.9%	10.0%	0.3%	24.4%	8.8%	7.6%	14.8%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	2.0%	0.8%	3.9%	0.0%	100.0%
Road 19	19	70	64.0	N	1400-1500	1382	26.8%	10.9%	0.2%	22.4%	8.0%	7.6%	14.9%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.1%	1.0%	3.9%	0.0%	100.0%
Road 19	19	70	63.9	N	1500-1600	1426	26.4%	10.6%	0.3%	25.6%	9.2%	6.5%	12.8%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.0%	1.0%	3.3%	0.0%	100.0%
Road 19	19	70	63.9	N	1600-1700	1433	29.8%	10.3%	0.2%	21.4%	7.7%	6.7%	13.2%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	2.4%	1.4%	3.4%	0.0%	100.0%
Road 19	19	70	64.0	N	1700-1800	1495	35.7%	11.2%	0.2%	20.8%	7.5%	4.7%	9.2%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	2.6%	3.1%	2.4%	0.0%	100.0%
Road 19	19	70	64.6	N	1800-1900	1432	49.4%	11.6%	0.2%	14.7%	5.3%	3.1%	6.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	3.1%	2.4%	1.6%	0.0%	100.0%
Road 19	19	70	66.0	N	1900-2000	1090	50.5%	15.8%	0.1%	11.7%	4.2%	2.8%	5.5%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	3.6%	1.9%	1.4%	0.0%	100.0%
Road 19	19	70	66.9	N	2000-2100	853	46.3%	19.6%	0.1%	12.3%	4.4%	2.7%	5.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	3.8%	1.4%	2.0%	0.0%	100.0%
Road 19	19	70	67.0	N	2100-2200	855	46.9%	19.4%	0.1%	12.5%	4.5%	2.9%	5.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.3%	2.1%	1.5%	0.0%	100.0%
Road 19	19	70	67.0	N	2200-2300	813	47.6%	21.5%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	3.7%	1.8%	1.6%	0.0%	100.0%
Road 19	19	70	67.7	N	2300-0000	620	45.9%	20.7%	0.1%	10.8%	3.9%	3.4%	6.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.6%	2.0%	1.8%	0.0%	100.0%
Road 20	20	50	47.9	N	0000-0100	62	15.1%	6.8%	0.2%	19.2%	6.9%	6.1%	11.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	32.7%
Road 20	20	50	48.3	N	0100-0200	49	12.3%	5.5%	0.2%	17.5%	6.3%	5.5%	10.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	40.7%
Road 20	20	50	48.5	N	0200-0300	42	10.3%	4.6%	0.2%	16.2%	5.8%	5.1%	10.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	46.6%
Road 20	20	50	48.6	N	0300-0400	38	8.8%	3.9%	0.2%	15.3%	5.5%	4.8%	9.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	51.0%
Road 20	20	50	48.5	N	0400-0500	41	8.8%	3.9%	0.2%	16.7%	6.0%	5.3%	10.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	47.6%
Road 20	20	50	47.9	N	0500-0600	60	10.2%	4.5%	0.2%	21.4%	7.7%	6.7%	13.2%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	34.4%
Road 20	20	50	48.4	N	0600-0700	111	11.5%	5.0%	0.3%	26.4%	9.5%	8.3%	16.2%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	20.8%
Road 20	20	50	40.9	N	0700-0800	267	9.5%	4.1%	0.2%	23.6%	8.5%	7.4%	14.5%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	30.3%
Road 20	20	50	39.9	N	0800-0900	304	10.8%	3.4%	0.3%	26.1%	9.4%	7.3%	14.3%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	27.0%
Road 20	20	50	39.5	N	0900-1000	320	7.7%	2.8%	0.3%	28.7%	10.3%	7.8%	15.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	26.1%
Road 20	20	50	39.6	N	1000-1100	312	6.5%	2.5%	0.3%	27.4%	9.8%	8.7%	17.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	27.2%
Road 20	20	50	39.9	N	1100-1200	297	6.4%	2.6%	0.3%	27.1%	9.7%	8.5%	16.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	28.2%
Road 20	20	50	40.0	N	1200-1300	290	7.0%	2.7%	0.3%	24.9%	8.9%	8.9%	17.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	29.0%
Road 20	20	50	39.6	N	1300-1400	314	6.4%	2.5%	0.3%	27.8%	10.0%	8.6%	16.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	26.9%
Road 20	20	50	39.6	N	1400-1500	314	6.8%	2.8%	0.3%	26.3%	9.5%	8.9%	17.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	27.1%
Road 20	20	50	39.5	N	1500-1600	325	6.7%	2.7%	0.3%	30.2%	10.8%	7.6%	15.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	25.7%
Road 20	20	50	39.7	N	1600-1700	310	8.0%	2.7%	0.3%	26.5%	9.5%	8.3%	16.3%	0.0%	0.0%	0.1%	0.2%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.4%	27.1%
Road 20	20	50	40.2	N	1700-1800	296	10.5%	3.3%	0.3%	28.1%	10.1%	6.4%	12.5%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	27.2%
Road 20	20	50	42.0	N	1800-1900	244	16.8%	3.9%	0.2%	23.1%	8.3%	4.8%	9.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.8%	31.5%
Road 20	20	50	45.9	N	1900-2000	138	23.1%	7.2%	0.3%	24.7%	8.9%	5.9%	11.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.9%	16.4%
Road 20	20	50	46.6	N	2000-2100	113	20.2%	8.6%	0.3%	24.9%	8.9%	5.5%	10.8%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.8%	19.1%
Road 20	20	50	46.5	N	2100-2200	115	20.2%	8.4%	0.3%	24.9%	8.9%	5.7%	11.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.9%	19.0%
Road 20	20	50	46.8	N	2200-2300	105	21.3%	9.6%	0.2%	20.3%	7.3%	6.5%	12.7%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.8%	20.8%
Road 20	20	50	47.2	N	2300-0000	88	18.8%	8.5%	0.2%	20.4%	7.3%	6.5%	12.7%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.8%	24.3%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)</ant

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 25	25	50	28.5	N	0000-0100	17	6.8%	3.1%	0.4%	36.3%	13.0%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 25	25	50	29.0	N	0100-0200	12	6.2%	2.8%	0.4%	36.7%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 25	25	50	29.2	N	0200-0300	10	5.6%	2.5%	0.4%	37.0%	13.3%	11.7%	22.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 25	25	50	29.3	N	0300-0400	8	5.1%	2.3%	0.4%	37.3%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 25	25	50	29.2	N	0400-0500	10	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	28.5	N	0500-0600	18	4.3%	1.9%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	26.5	N	0600-0700	40	4.0%	1.7%	0.4%	38.0%	13.7%	11.9%	23.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	24.5	N	0700-0800	87	3.7%	1.6%	0.4%	38.2%	13.7%	12.0%	23.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	24.2	N	0800-0900	104	4.0%	1.3%	0.4%	40.2%	14.4%	11.2%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 25	25	50	24.0	N	0900-1000	117	2.7%	1.0%	0.4%	41.5%	14.9%	11.3%	22.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%	0.2%	5.8%	0.0%	100.0%
Road 25	25	50	24.0	N	1000-1100	115	2.2%	0.9%	0.4%	39.1%	14.0%	12.4%	24.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.4%	6.4%	0.0%	100.0%
Road 25	25	50	24.1	N	1100-1200	108	2.2%	0.9%	0.4%	39.3%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	6.3%	0.0%	100.0%
Road 25	25	50	24.1	N	1200-1300	108	2.0%	0.8%	0.4%	37.1%	13.3%	13.3%	26.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.6%	6.8%	0.0%	100.0%
Road 25	25	50	23.9	N	1300-1400	122	1.8%	0.7%	0.4%	39.8%	14.3%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	6.3%	0.0%	100.0%
Road 25	25	50	23.9	N	1400-1500	120	1.9%	0.8%	0.4%	38.1%	13.7%	12.9%	25.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	6.6%	0.0%	100.0%
Road 25	25	50	23.9	N	1500-1600	126	1.9%	0.7%	0.5%	43.2%	15.5%	10.9%	21.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.3%	5.6%	0.0%	100.0%
Road 25	25	50	24.0	N	1600-1700	116	2.3%	0.8%	0.4%	39.3%	14.1%	12.3%	24.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.4%	6.3%	0.0%	100.0%
Road 25	25	50	24.3	N	1700-1800	104	3.2%	1.0%	0.5%	44.2%	15.9%	10.0%	19.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	5.1%	0.0%	100.0%
Road 25	25	50	24.8	N	1800-1900	71	6.1%	1.4%	0.5%	43.8%	15.7%	9.1%	18.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.7%	0.0%	100.0%
Road 25	25	50	26.2	N	1900-2000	46	7.3%	2.3%	0.4%	40.8%	14.6%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.0%	0.0%	100.0%
Road 25	25	50	27.0	N	2000-2100	37	6.6%	2.8%	0.4%	42.1%	15.1%	9.3%	18.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.3%	4.8%	0.0%	100.0%
Road 25	25	50	26.9	N	2100-2200	38	6.5%	2.7%	0.4%	41.6%	14.9%	9.6%	18.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 25	25	50	27.2	N	2200-2300	33	7.2%	3.3%	0.4%	36.0%	12.9%	11.4%	22.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 25	25	50	27.7	N	2300-0000	27	6.5%	2.9%	0.4%	36.5%	13.1%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 26	26	50	28.7	N	0000-0100	16	6.0%	2.7%	0.4%	36.8%	13.2%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.1	N	0100-0200	11	5.4%	2.4%	0.4%	37.1%	13.3%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.3	N	0200-0300	9	4.9%	2.2%	0.4%	37.4%	13.4%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.4	N	0300-0400	7	4.5%	2.0%	0.4%	37.7%	13.5%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.3	N	0400-0500	9	4.1%	1.8%	0.4%	38.0%	13.6%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	28.6	N	0500-0600	16	3.8%	1.7%	0.4%	38.2%	13.7%	12.0%	23.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	28.8	N	0600-0700	37	3.5%	1.5%	0.4%	38.4%	13.8%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.6	N	0700-0800	79	3.2%	1.4%	0.4%	38.5%	13.8%	12.1%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.4	N	0800-0900	95	3.5%	1.1%	0.4%	40.5%	14.5%	11.3%	22.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 26	26	50	24.2	N	0900-1000	107	2.3%	0.8%	0.4%	41.7%	15.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 26	26	50	24.2	N	1000-1100	106	1.9%	0.7%	0.4%	39.3%	14.1%	12.5%	24.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 26	26	50	24.3	N	1100-1200	99	1.9%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 26	26	50	24.2	N	1200-1300	105	1.6%	0.6%	0.4%	38.2%	13.7%	12.0%	23.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.1%	0.0%	100.0%
Road 26	26	50	24.0	N	1300-1400	118	1.9%	0.7%	0.4%	37.9%	13.6%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 26	26	50	24.0	N	1400-1500	117	5.3%	2.1%	0.4%	36.1%	13.0%	12.2%	24.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 26	26	50	24.0	N	1500-1600	122	5.1%	2.1%	0.4%	40.9%	14.7%	10.4%	20.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 26	26	50	24.1	N	1600-1700	114	6.2%	2.2%	0.4%	36.9%	13.2%	11.5%	22.6%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 26	26	50	24.3	N	1700-1800	105	8.5%	2.7%	0.4%	40.6%	14.6%	9.2%	18.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.7%	0.0%	100.0%
Road 26	26	50	24.8	N	1800-1900	76	15.5%	3.6%	0.4%	37.8%	13.6%	7.9%	15.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 26	26	50	26.0	N	1900-2000	51	17.9%	5.6%	0.4%	34.0%	12.2%	8.1%	16.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.2%	0.0%	100.0%
Road 26	26	50	26.9	N	2000-2100	41	16.2%	6.9%	0.4%	35.3%	12.7%	7.8%	15.3%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	4.0%	0.0%	100.0%
Road 26	26	50	26.8	N	2100-2200	42	16.1%	6.7%	0.4%	35.1%	12.6%	8.1%	15.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 26	26	50	27.1	N	2200-2300	37	17.5%	7.9%	0.3%	29.7%	10.7%	9.4%	18.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.9%	0.0%	100.0%
Road 26	26	50	27.7	N	2300-0000	30	15.9%	7.2%	0.3%	30.7%	11.0%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 27	27	50	28.7	N	0000-0100	15	8.6%	3.8%	0.4%	35.2%	12.6%	11.1%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 27	27	50	29.1	N	0100-0200	11	7.8%	3.5%	0.4%	35.7%	12.8%	11.3%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.3	N	0200-0300	9	7.1%	3.2%	0.4%	36.1%	13.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.4	N	0300-0400	7	6.5%	2.9%	0.4%	36.5%	13.1%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	29.3	N	0400-0500	9	6.0%	2.6%	0.4%	36.8%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	28.7	N	0500-0600	16	5.5%	2.4%	0.4%	37.1%	13.3%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 27	27	50	27.0	N	0600-0700	36	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.7	N	0700-0800	77	4.7%	2.0%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.5	N	0800-0900	92	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 27	27	50	24.3	N	0900-1000	102	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 27	27	50	24.3	N	1000-1100	101	2.8%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 27	27	50	24.4	N	1100-1200	94	2.9%	1.2%	0.4%	39.0%	14.0%	12.2%	23.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.3%	6.3%	0.0%	100.0%
Road 27	27	50	24.4	N	1200-1300	94	2.3%	0.9%	0.4%	36.9%	13.2%	13.2%	26.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.8%	0.0%	100.0%
Road 27	27	50	24.2	N	1300-1400	106	2.0%	0.8%	0.4%	39.6%	14.2%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 27	27	50	24.2	N	1400-1500	105	2.2%	0.9%	0.4%	38.0%	13.6%	12.8%	25.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.6%	0.0%	100.0%
Road 27	27	50	24.1	N	1500-1600	110	2.1%	0.9%	0.4%	43.0%	15.4%	10.9%	21.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.6%	0.0%	100.0%
Road 27	27	50	24.3	N	1600-1700	101	2.6%	0.9%	0.4%	39.1%	14.0%	12.2%	24.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 27	27	50	24.5	N	1700-1800	91	3.6%	1.1%	0.5%	43.9%	15.8%	9.9%	19.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.1%	0.0%	100.0%
Road 27	27	50	25.0	N	1800-1900	63	7.0%	1.6%	0.5%	43.3%	15.5%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.6%	0.0%	100.0%
Road 27	27	50	26.7	N	1900-2000	41	8.3%	2.6%	0.4%	40.2%	14.4%	9.6%	18.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 27	27	50	27.4	N	2000-2100	33	7.5%	3.2%	0.4%	41.5%	14.9%	9.2%	18.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.7%	0.0%	100.0%
Road 27	27	50	27.3	N	2100-2200	33	7.4%	3.1%	0.4%	41.0%	14.7%	9.4%	18.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	4.8%	0.0%	100.0%
Road 27	27	50	27.6	N	2200-2300	29	8.2%	3.7%	0.4%	35.4%	12.7%	11.2%	22.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 27	27	50	28.0	N	2300-0000	24	7.3%	3.3%	0.4%	35.9%	12.9%	11.4%	22.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 28	28	80	80.0	N	0000-0100	820	47.4%	21.3%	0.1%	7.5%	2.7%	2.4%	4.6%	0.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	0.1%	8.3%	2.4%	1.2%	0.0%	100.0%
Road 28	28	80	80.0	N	0100-0200	539	46.1%	20.6%	0.1%	8.1%	2.9%	2.6%	5.0%	0.6%	0.0%	0.2%	0.5%	0.3%	0.8%	0.1%	0.1%	8.1%	2.6%	1.3%	0.0%	100.0%
Road 28	28	80	80.0	N	0200-0300	398	44.8%	20.0%	0.1%	8.7%	3.1%	2.8%	5.4%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	0.1%	8.0%	2.8%	1.4%	0.0%	100.0%
Road 28	28	80	80.0	N	0300-0400	317	43.6%	19.3%	0.1%	9.4%	3.4%	3.0%	5.8%	0.6%	0.0%	0.3%	0.6%	0.4%	1.0%	0.1%	0.1%	7.9%	3.1%	1.5%	0.0%	100.0%
Road 28	28	80	80.0	N	0400-0500	352	42.3%	18.7%	0.1%	10.0%	3.6%	3.1%	6.2%	0.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	0.1%	7.7%	3.3%	1.6%	0.0%	100.0%
Road 28	28	80	80.0	N	0500-0600	616	41.1%	18.1%	0.1%	10.6%	3.8%	3.3%	6.6%	0.6%	0.1%	0.5%	0.8%	0.5%	1.2%	0.1%	0.1%	7.6%	3.5%	1.7%	0.0%	100.0%
Road 28	28	80	80.0	N	0600-0700	1334	39.8%	17.4%	0.1%	11.3%	4.0%	3.5%	6.9%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.1%	0.1%	7.4%	3.8%	1.7%	0.0%	100.0%
Road 28	28	80	79.8	N	0700-0800	2725	38.6%	16.8%	0.1%	11.9%	4.3%	3.7%	7.3%	0.6%	0.1%	0.6%	0.9%	0.6%	1.3%	0.1%	0.1%	7.3%	3.9%	1.9%	0.0%	100.0%
Road 28	28	80	77.1	N	0800-0900	3154	43.1%	13.8%	0.1%	12.9%	4.6%	3.6%	7.1%	0.4%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.1%	6.5%	2.5%	1.9%	0.0%	100.0%
Road 28	28	80	78.8	N	0900-1000	2784	36.7%	13.3%	0.2%	17.0%	6.1%	4.6%	9.1%	0.5%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.1%	5.3%	1.4%	2.4%	0.0%	100.0%
Road 28	28	80	80.0	N	1000-1100	2489	33.6%	13.0%	0.2%	17.6%	6.3%	5.6%	11.0%	0.5%	0.0%	0.4%	0.6%	0.4%	0.8%	0.0%	0.0%	6.0%	1.0%	2.9%	0.0%	100.0%
Road 28	28	80	80.0	N	1100-1200	2354	33.6%	13.8%	0.2%	17.6%	6.3%	5.5%	10.8%	0.5%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	6.2%	0.9%	2.8%	0.0%	100.0%
Road 28	28	80	80.0	N	1200-1300	2020	40.3%	15.5%	0.1%	13.7%	4.9%	4.9%	9.7%	0.5%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	1.2%	2.5%	0.0%	100.0%
Road 28	28	80	80.0	N	1300-1400	2089	38.4%	14.8%	0.2%	16.1%	5.8%	5.0%	9.8%	0.4%	0.1%	0.6%	0.5%	0.4%	0.8%	0.0%	0.0%	3.4%	1.2%	2.6%	0.0%	100.0%
Road 28	28	80	80.0	N	1400-1500	2207	38.9%	15.7%	0.2%	14.4%	5.2%	4.9%	9.6%	0.5%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	3.4%	1.5%	2.5%	0.0%	100.0%
Road 28	28	80	80.0	N	1500-1600	2263	38.6%	15.5%	0.2%	16.7%	6.0%	4.2%	8.3%	0.4%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	3.3%	1.4%	2.2%	0.0%	100.0%
Road 28	28	80	80.0	N	1600-1700	2369	41.7%	14.4%	0.1%	13.3%	4.8%	4.2%	8.2%	0.4%	0.1%	1.0%	1.2%	0.8%	1.9%	0.0%	0.0%	3.7%	2.0%	2.1%	0.0%	100.0%
Road 28	28	80	80.0	N	1700-1800	2625	47.2%	14.7%	0.1%	12.2%	4.4%	2.8%	5.4%	0.5%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	4.1%	1.4%	0.0%	100.0%
Road 28	28	80	80.0	N	1800-1900	2458	59.4%	13.9%	0.1%	7.8%	2.8%	1.6%	3.2%	0.5%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	0.0%	4.1%	2.8%	0.8%	0.0%	100.0%
Road 28	28	80	80.0	N	1900-2000	2187	58.3%	18.2%	0.1%	6.0%	2.2%	1.4%	2.8%	0.5%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	2.2%	0.7%	0.0%	100.0%
Road 28	28	80	80.0	N	2000-2100	1705	53.6%	22.7%	0.1%	6.3%	2.3%	1.4%	2.7%	0.6%	0.0%	0.1%	0.8%	0.5%	1.1%	0.0%	0.0%	4.9%	2.1%	0.7%	0.0%	100.0%
Road 28	28	80	80.0	N	2100-2200	1699	54.7%	22.6%	0.1%	6.5%	2.3%	1.5%	2.9%	0.5%	0.0%	0.1%	0.4%	0.3%	0.8%	0.0%	0.0%	4.3%	2.5%	0.8%	0.0%	100.0%
Road 28	28	80	80.0	N	2200-2300	1644	54.5%	24.6%	0.1%	5.0%	1.8%	1.6%	3.1%	0.5%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	4.7%	2.1%	0.8%	0.0%	100.0%
Road 28	28	80	80.0	N	2300-0000	1235	53.3%	24.0%	0.1%	5.6%	2.0%	1.8%	3.5%	0.5%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	4.6%	2.4%	0.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 33	33	70	70.0	N	0000-0100	652	48.8%	21.9%	0.1%	7.8%	2.8%	2.5%	4.9%	0.2%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	3.3%	2.5%	3.5%	0.0%	100.0%
Road 33	33	70	70.0	N	0100-0200	434	46.9%	21.0%	0.1%	8.4%	3.0%	2.7%	5.2%	0.2%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.2%	2.7%	4.8%	0.0%	100.0%
Road 33	33	70	70.0	N	0200-0300	325	45.0%	20.1%	0.1%	9.0%	3.2%	2.8%	5.5%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.2%	2.8%	6.0%	0.0%	100.0%
Road 33	33	70	70.0	N	0300-0400	262	43.2%	19.2%	0.1%	9.5%	3.4%	3.0%	5.9%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.0%	7.2%	0.0%	100.0%
Road 33	33	70	70.0	N	0400-0500	289	42.1%	18.6%	0.1%	10.2%	3.7%	3.2%	6.3%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.0%	3.3%	6.7%	0.0%	100.0%
Road 33	33	70	70.0	N	0500-0600	496	41.7%	18.4%	0.1%	11.0%	4.0%	3.5%	6.8%	0.2%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.0%	3.6%	4.8%	0.0%	100.0%
Road 33	33	70	70.0	N	0600-0700	1059	41.1%	18.0%	0.1%	11.8%	4.3%	3.7%	7.3%	0.2%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.0%	3.8%	3.3%	0.0%	100.0%
Road 33	33	70	70.0	N	0700-0800	2192	39.8%	17.1%	0.1%	12.3%	4.4%	3.9%	7.6%	0.2%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.9%	4.0%	4.6%	0.0%	100.0%
Road 33	33	70	70.0	N	0800-0900	2544	43.7%	14.0%	0.1%	13.4%	4.8%	3.7%	7.4%	0.1%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	2.6%	2.5%	4.2%	0.0%	100.0%
Road 33	33	70	70.0	N	0900-1000	2258	37.1%	13.5%	0.2%	17.5%	6.3%	4.8%	9.4%	0.1%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	2.5%	1.4%	5.0%	0.0%	100.0%
Road 33	33	70	70.0	N	1000-1100	2030	33.7%	13.1%	0.2%	18.0%	6.5%	5.7%	11.3%	0.1%	0.0%	0.4%	0.6%	0.4%	0.8%	0.0%	2.4%	1.0%	5.7%	0.0%	100.0%
Road 33	33	70	70.0	N	1100-1200	1921	33.7%	13.9%	0.2%	18.0%	6.5%	5.6%	11.0%	0.1%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	2.4%	0.9%	5.8%	0.0%	100.0%
Road 33	33	70	70.0	N	1200-1300	1907	30.0%	11.5%	0.2%	19.1%	6.8%	6.8%	13.4%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.5%	0.9%	6.5%	0.0%	100.0%
Road 33	33	70	70.0	N	1300-1400	2016	27.9%	10.8%	0.2%	21.5%	7.5%	6.8%	13.3%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	2.3%	0.9%	6.3%	0.0%	100.0%
Road 33	33	70	70.0	N	1400-1500	2090	28.8%	11.7%	0.2%	20.0%	7.2%	6.8%	13.3%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.4%	1.1%	6.2%	0.0%	100.0%
Road 33	33	70	70.0	N	1500-1600	2152	28.4%	11.4%	0.2%	23.0%	8.2%	5.8%	11.4%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.3%	1.0%	5.6%	0.0%	100.0%
Road 33	33	70	70.0	N	1600-1700	2182	31.7%	10.9%	0.2%	19.0%	6.8%	5.9%	11.7%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.7%	1.5%	5.7%	0.0%	100.0%
Road 33	33	70	70.0	N	1700-1800	2307	37.6%	11.8%	0.2%	18.2%	6.5%	4.1%	8.1%	0.0%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	2.9%	3.2%	4.6%	0.0%	100.0%
Road 33	33	70	70.0	N	1800-1900	2267	50.7%	11.9%	0.1%	12.5%	4.5%	2.6%	5.1%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	3.3%	2.4%	3.8%	0.0%	100.0%
Road 33	33	70	70.0	N	1900-2000	1713	52.2%	16.3%	0.1%	10.0%	3.6%	2.4%	4.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.0%	1.9%	2.1%	0.0%	100.0%
Road 33	33	70	70.0	N	2000-2100	1342	47.7%	20.3%	0.1%	10.6%	3.8%	2.3%	4.6%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	4.1%	1.9%	2.3%	0.0%	100.0%
Road 33	33	70	70.0	N	2100-2200	1343	48.5%	20.1%	0.1%	10.7%	3.9%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.6%	2.2%	2.4%	0.0%	100.0%
Road 33	33	70	70.0	N	2200-2300	1284	49.0%	22.1%	0.1%	8.4%	3.0%	2.7%	5.3%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	4.0%	1.9%	2.5%	0.0%	100.0%
Road 33	33	70	70.0	N	2300-0000	979	47.2%	21.3%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.9%	2.1%	3.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0000-0100	661	56.7%	25.4%	0.0%	3.2%	1.1%	1.0%	2.0%	0.7%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.0%	2.9%	2.2%	0.0%	100.0%
Road 34	34	80	80.0	N	0100-0200	433	55.2%	24.7%	0.0%	3.5%	1.2%	1.1%	2.1%	0.7%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.9%	3.1%	3.1%	0.0%	100.0%
Road 34	34	80	80.0	N	0200-0300	319	53.8%	24.0%	0.0%	3.7%	1.3%	1.2%	2.3%	0.7%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	2.9%	3.4%	4.1%	0.0%	100.0%
Road 34	34	80	80.0	N	0300-0400	254	52.4%	23.3%	0.0%	4.0%	1.4%	1.3%	2.5%	0.7%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.8%	3.7%	5.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0400-0500	277	51.7%	22.8%	0.0%	4.3%	1.6%	1.4%	2.7%	0.7%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.8%	4.0%	4.7%	0.0%	100.0%
Road 34	34	80	80.0	N	0500-0600	472	51.6%	22.7%	0.0%	4.8%	1.7%	1.5%	2.9%	0.7%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	2.9%	4.4%	3.1%	0.0%	100.0%
Road 34	34	80	80.0	N	0600-0700	998	51.2%	22.4%	0.1%	5.1%	1.8%	1.6%	3.2%	0.7%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.9%	4.8%	1.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0700-0800	2036	49.7%	21.7%	0.1%	5.4%	2.0%	1.7%	3.3%	0.7%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	2.8%	5.1%	3.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0800-0900	2347	55.7%	17.8%	0.1%	5.9%	2.1%	1.7%	3.3%	0.6%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.5%	3.2%	2.7%	0.0%	100.0%
Road 34	34	80	80.0	N	0900-1000	1925	51.1%	18.6%	0.1%	8.4%	3.0%	2.3%	4.5%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.6%	2.0%	3.4%	0.0%	100.0%
Road 34	34	80	80.0	N	1000-1100	1664	48.4%	18.8%	0.1%	9.0%	3.2%	2.9%	5.6%	0.7%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.6%	1.5%	4.0%	0.0%	100.0%
Road 34	34	80	80.0	N	1100-1200	1580	48.2%	19.8%	0.1%	9.0%	3.2%	2.8%	5.5%	0.7%	0.1%	0.5%	0.9%	0.5%	0.3%	0.7%	0.0%	2.7%	1.4%	4.1%	0.0%	100.0%
Road 34	34	80	80.0	N	1200-1300	1529	30.1%	11.6%	0.2%	15.6%	5.6%	5.6%	11.0%	0.6%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	10.8%	0.9%	5.7%	0.0%	100.0%
Road 34	34	80	80.0	N	1300-1400	1593	28.5%	11.0%	0.2%	18.2%	6.5%	5.6%	11.1%	0.6%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	10.1%	0.9%	5.6%	0.0%	100.0%
Road 34	34	80	80.0	N	1400-1500	1664	29.2%	11.8%	0.2%	16.5%	5.9%	5.6%	11.0%	0.6%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	10.3%	1.1%	5.4%	0.0%	100.0%
Road 34	34	80	80.0	N	1500-1600	1706	28.9%	11.6%	0.2%	19.0%	6.8%	4.8%	9.5%	0.6%	0.1%	0.5%	0.6%	0.4%	0.9%	0.1%	10.0%	1.0%	5.0%	0.0%	100.0%
Road 34	34	80	80.0	N	1600-1700	1768	31.6%	10.9%	0.2%	15.4%	5.5%	4.8%	9.5%	0.6%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	11.4%	1.5%	4.9%	0.0%	100.0%
Road 34	34	80	80.0	N	1700-1800	1909	36.6%	11.4%	0.2%	14.5%	5.2%	3.3%	6.4%	0.6%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	12.1%	3.1%	3.9%	0.0%	100.0%
Road 34	34	80	80.0	N	1800-1900	1945	47.6%	11.2%	0.1%	9.6%	3.4%	2.0%	3.9%	0.6%	0.0%	0.1%	0.8%	0.6%	1.3%	0.1%	13.2%	2.3%	3.2%	0.0%	100.0%
Road 34	34	80	80.0	N	1900-2000	1513	47.5%	14.9%	0.1%	7.5%	2.7%	1.8%	3.5%	0.8%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	15.4%	1.8%	1.6%	0.0%	100.0%
Road 34	34	80	80.0	N	2000-2100	1192	43.3%	18.4%	0.1%	7.8%	2.8%	1.7%	3.4%	0.8%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	16.1%	1.7%	1.8%	0.0%	100.0%
Road 34	34	80	80.0	N	2100-2200	1173	44.8%	18.5%	0.1%	8.1%	2.9%	1.9%	3.7%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	14.4%	2.0%	1.9%	0.0%	100.0%
Road 34	34	80	80.0	N	2200-2300	1137	44.5%	20.1%	0.1%	6.3%	2.2%	2.0%	3.9%	0.7%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	15.5%	1.7%	2.0%	0.0%	100.0%
Road 34	34	80	80.0	N	2300-0000	861	43.2%	19.4%	0.1%	6.9%	2.5%	2.2%	4.3%	0.7%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	15.2%	1.9%	2.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 35	35	50	48.6	N	0000-0100	54	43.1%	19.3%	0.1%	5.2%	1.9%	1.6%	3.2%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.2%	21.4%	0.0%	100.0%
Road 35	35	50	48.9	N	0100-0200	39	37.9%	17.0%	0.1%	5.1%	1.8%	1.6%	3.2%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	29.2%	0.0%	100.0%
Road 35	35	50	49.0	N	0200-0300	32	33.6%	15.0%	0.1%	5.0%	1.8%	1.6%	3.1%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	35.7%	0.0%	100.0%
Road 35	35	50	49.1	N	0300-0400	27	30.0%	13.3%	0.1%	4.9%	1.8%	1.6%	3.0%	0.5%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.1%	41.1%	0.0%	100.0%
Road 35	35	50	49.1	N	0400-0500	29	30.4%	13.4%	0.1%	5.5%	2.0%	1.7%	3.4%	0.5%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.4%	38.8%	0.0%	100.0%
Road 35	35	50	48.0	N	0500-0600	43	35.3%	15.5%	0.1%	7.0%	2.5%	2.2%	4.3%	0.6%	0.0%	0.4%	0.6%	0.5%	1.0%	0.0%	0.0%	3.0%	27.0%	0.0%	100.0%
Road 35	35	50	48.0	N	0600-0700	79	39.8%	17.4%	0.1%	8.6%	3.1%	2.7%	5.3%	0.7%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.7%	15.3%	0.0%	100.0%
Road 35	35	50	44.9	N	0700-0800	181	34.5%	15.0%	0.1%	8.1%	2.9%	2.5%	5.0%	0.6%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.5%	24.7%	0.0%	100.0%
Road 35	35	50	44.4	N	0800-0900	204	39.5%	12.6%	0.1%	9.0%	3.2%	2.5%	5.0%	0.5%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	4.0%	22.1%	0.0%	100.0%
Road 35	35	50	44.7	N	0900-1000	182	33.3%	12.1%	0.1%	11.8%	4.2%	3.2%	6.3%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.3%	24.9%	0.0%	100.0%
Road 35	35	50	45.0	N	1000-1100	166	29.9%	11.6%	0.1%	12.0%	4.3%	3.8%	7.5%	0.5%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	3.4%	27.5%	0.0%	100.0%
Road 35	35	50	45.2	N	1100-1200	159	29.4%	12.1%	0.1%	11.8%	4.2%	3.7%	7.2%	0.6%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	0.0%	3.8%	28.5%	0.0%	100.0%
Road 35	35	50	46.4	N	1200-1300	112	27.7%	10.7%	0.1%	7.9%	2.9%	2.8%	5.6%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	39.4%	0.0%	100.0%
Road 35	35	50	46.3	N	1300-1400	114	26.8%	10.3%	0.1%	9.4%	3.4%	2.9%	5.8%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	38.8%	0.0%	100.0%
Road 35	35	50	46.2	N	1400-1500	118	27.6%	11.2%	0.1%	8.6%	3.1%	2.9%	5.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	0.0%	1.0%	37.4%	0.0%	100.0%
Road 35	35	50	46.2	N	1500-1600	120	27.6%	11.1%	0.1%	10.0%	3.6%	2.5%	5.0%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	36.6%	0.0%	100.0%
Road 35	35	50	46.1	N	1600-1700	124	30.3%	10.4%	0.1%	8.2%	2.9%	2.5%	5.0%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	1.4%	35.5%	0.0%	100.0%
Road 35	35	50	46.0	N	1700-1800	134	35.2%	11.0%	0.1%	7.7%	2.8%	1.7%	3.4%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	32.6%	0.0%	100.0%
Road 35	35	50	46.0	N	1800-1900	140	44.3%	10.4%	0.1%	4.9%	1.8%	1.0%	2.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	30.7%	0.0%	100.0%
Road 35	35	50	47.9	N	1900-2000	88	55.0%	17.2%	0.0%	4.8%	1.7%	1.1%	2.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.0%	13.1%	0.0%	100.0%
Road 35	35	50	48.3	N	2000-2100	71	49.0%	20.8%	0.1%	4.9%	1.8%	1.1%	2.1%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	2.3%	16.1%	0.0%	100.0%
Road 35	35	50	48.3	N	2100-2200	71	49.7%	20.6%	0.1%	4.9%	1.8%	1.1%	2.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.3%	16.1%	0.0%	100.0%
Road 35	35	50	48.3	N	2200-2300	69	49.3%	22.3%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	16.6%	0.0%	100.0%
Road 35	35	50	48.6	N	2300-0000	55	45.9%	20.7%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.6%	20.9%	0.0%	100.0%
Road 36	36	50	48.4	Y	0000-0100	63	45.6%	20.5%	0.1%	5.0%	1.8%	1.6%	3.1%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	18.2%	0.0%	100.0%
Road 36	36	50	48.8	Y	0100-0200	76	43.5%	19.5%	0.1%	5.0%	1.8%	1.6%	3.1%	0.5%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.5%	25.1%	0.0%	100.0%
Road 36	36	50	49.0	Y	0200-0300	59	40.3%	17.9%	0.1%	7.2%	2.6%	2.3%	4.5%	0.8%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	19.9%	0.0%	100.0%
Road 36	36	50	49.1	Y	0300-0400	31	33.1%	14.7%	0.1%	4.9%	1.8%	1.5%	3.0%	0.4%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	36.3%	0.0%	100.0%
Road 36	36	50	49.0	Y	0400-0500	33	33.4%	14.8%	0.1%	5.5%	2.0%	1.7%	3.4%	0.4%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.6%	34.2%	0.0%	100.0%
Road 36	36	50	48.6	Y	0500-0600	50	37.9%	16.7%	0.1%	6.8%	2.4%	2.1%	4.2%	0.5%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.2%	23.3%	0.0%	100.0%
Road 36	36	50	47.6	Y	0600-0700	94	41.3%	18.4%	0.1%	8.2%	2.9%	2.6%	5.0%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.9%	13.0%	0.0%	100.0%
Road 36	36	50	44.2	Y	0700-0800	212	36.9%	16.1%	0.1%	7.8%	2.8%	2.5%	4.8%	0.5%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	21.3%	0.0%	100.0%
Road 36	36	50	43.6	Y	0800-0900	239	42.2%	13.5%	0.1%	8.7%	3.1%	2.4%	4.8%	0.4%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.4%	19.0%	0.0%	100.0%
Road 36	36	50	44.1	Y	0900-1000	211	36.0%	13.1%	0.1%	11.5%	4.1%	3.1%	6.1%	0.5%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	21.7%	0.0%	100.0%
Road 36	36	50	44.2	Y	1000-1100	191	32.5%	12.6%	0.1%	11.8%	4.2%	3.7%	7.3%	0.5%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	24.1%	0.0%	100.0%
Road 36	36	50	44.7	Y	1100-1200	183	32.1%	13.2%	0.1%	11.6%	4.2%	3.6%	7.1%	0.5%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	25.0%	0.0%	100.0%
Road 36	36	50	45.2	Y	1200-1300	152	24.6%	9.5%	0.1%	13.5%	4.9%	4.9%	9.5%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	30.4%	0.0%	100.0%
Road 36	36	50	45.0	Y	1300-1400	158	23.4%	9.0%	0.2%	15.8%	5.7%	4.9%	9.6%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	29.3%	0.0%	100.0%
Road 36	36	50	44.9	Y	1400-1500	163	24.2%	9.8%	0.2%	14.5%	5.2%	4.9%	9.7%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	28.5%	0.0%	100.0%
Road 36	36	50	44.8	Y	1500-1600	167	24.1%	9.7%	0.2%	16.8%	6.0%	4.3%	8.4%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	0.0%	0.9%	27.6%	0.0%	100.0%
Road 36	36	50	44.8	Y	1600-1700	169	26.9%	9.3%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	27.3%	0.0%	100.0%
Road 36	36	50	44.8	Y	1700-1800	178	32.1%	10.0%	0.1%	13.4%	4.8%	3.0%	6.0%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	25.4%	0.0%	100.0%
Road 36	36	50	45.0	Y	1800-1900	177	42.5%	10.0%	0.1%	9.1%	3.3%	1.9%	3.7%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	2.0%	24.9%	0.0%	100.0%
Road 36	36	50	46.4	Y	1900-2000	115	51.2%	16.0%	0.1%	8.5%	3.1%	2.0%	4.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	1.9%	10.7%	0.0%	100.0%
Road 36	36	50	47.7	Y	2000-2100	92	45.8%	19.5%	0.1%	8.8%	3.1%	1.9%	3.8%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	0.0%	1.8%	13.0%	0.0%	100.0%
Road 36	36	50	47.7	Y	2100-2200	92	46.4%	19.2%	0.1%	8.9%	3.2%	2.0%	4.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	13.0%	0.0%	100.0%
Road 36	36	50	47.8	Y	2200-2300	88	46.6%	21.1%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	13.6%	0.0%	100.0%
Road 36	36	50	48.2	Y	2300-0000	70	43.4%	19.6%	0.1%	7.3%	2.6%	2.3%	4.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	17.0%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

**Traffic Data / Mod

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 41	41	70	70.0	N	0000-0100	114	53.0%	23.8%	0.0%	2.8%	1.0%	0.9%	1.7%	0.9%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	16.9%	0.0%	100.0%
Road 41	41	70	70.0	N	0100-0200	78	49.1%	22.0%	0.0%	2.8%	1.0%	0.9%	1.7%	0.8%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	16.9%	0.0%	100.0%
Road 41	41	70	70.0	N	0200-0300	61	45.6%	20.3%	0.0%	2.9%	1.0%	0.9%	1.8%	0.8%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	21.7%	0.0%	100.0%
Road 41	41	70	70.0	N	0300-0400	51	42.4%	18.8%	0.0%	3.2%	1.1%	0.9%	1.8%	0.8%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	26.0%	0.0%	100.0%
Road 41	41	70	70.0	N	0400-0500	54	42.6%	18.8%	0.0%	3.2%	1.2%	1.0%	2.0%	0.8%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	24.3%	0.0%	100.0%
Road 41	41	70	70.0	N	0500-0600	84	46.5%	20.5%	0.0%	3.9%	1.4%	1.2%	2.4%	0.9%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	15.9%	0.0%	100.0%
Road 41	41	70	70.0	N	0600-0700	166	49.7%	21.8%	0.0%	4.5%	1.6%	1.4%	2.8%	1.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.0%	4.7%	8.5%	0.0%	100.0%
Road 41	41	70	70.0	N	0700-0800	358	45.5%	19.8%	0.0%	4.5%	1.6%	1.4%	2.8%	0.9%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	4.7%	14.6%	0.0%	100.0%
Road 41	41	70	70.0	N	0800-0900	407	51.8%	16.6%	0.1%	5.0%	1.8%	1.4%	2.7%	0.7%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	3.0%	12.9%	0.0%	100.0%
Road 41	41	70	70.0	N	0900-1000	340	46.6%	16.9%	0.1%	6.9%	2.5%	1.9%	3.7%	0.9%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	1.8%	15.6%	0.0%	100.0%
Road 41	41	70	70.0	N	1000-1100	299	43.4%	16.8%	0.1%	7.3%	2.6%	2.3%	4.6%	0.9%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	17.8%	0.0%	100.0%
Road 41	41	70	70.0	N	1100-1200	286	42.9%	17.7%	0.1%	7.2%	2.6%	2.3%	4.4%	0.9%	0.1%	0.8%	0.4%	0.3%	0.7%	0.0%	0.0%	1.2%	18.5%	0.0%	100.0%
Road 41	41	70	70.0	N	1200-1300	315	34.5%	13.3%	0.1%	12.6%	4.5%	4.5%	8.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	18.1%	0.0%	100.0%
Road 41	41	70	70.0	N	1300-1400	325	32.9%	12.7%	0.2%	14.7%	5.3%	4.6%	9.0%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	0.0%	1.0%	17.6%	0.0%	100.0%
Road 41	41	70	70.0	N	1400-1500	340	33.7%	13.6%	0.1%	13.3%	4.8%	4.5%	8.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.3%	16.9%	0.0%	100.0%
Road 41	41	70	70.0	N	1500-1600	348	33.5%	13.4%	0.2%	15.4%	5.5%	3.9%	7.7%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	16.3%	0.0%	100.0%
Road 41	41	70	70.0	N	1600-1700	360	36.6%	12.6%	0.1%	12.5%	4.5%	3.9%	7.7%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	1.7%	15.8%	0.0%	100.0%
Road 41	41	70	70.0	N	1700-1800	391	42.2%	13.2%	0.1%	11.7%	4.2%	2.6%	5.2%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	14.0%	0.0%	100.0%
Road 41	41	70	70.0	N	1800-1900	407	53.7%	12.6%	0.1%	7.6%	2.7%	1.6%	3.1%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	0.0%	2.6%	13.0%	0.0%	100.0%
Road 41	41	70	70.0	N	1900-2000	292	58.2%	18.2%	0.1%	6.4%	2.3%	1.5%	3.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.1%	5.2%	0.0%	100.0%
Road 41	41	70	70.0	N	2000-2100	230	53.0%	22.5%	0.1%	6.7%	2.4%	1.5%	2.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.1%	6.4%	0.0%	100.0%
Road 41	41	70	70.0	N	2100-2200	231	53.7%	22.2%	0.1%	6.8%	2.4%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.5%	6.4%	0.0%	100.0%
Road 41	41	70	70.0	N	2200-2300	223	53.7%	24.3%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	6.6%	0.0%	100.0%
Road 41	41	70	70.0	N	2300-0000	171	51.4%	23.2%	0.1%	5.7%	2.1%	1.8%	3.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.3%	8.5%	0.0%	100.0%
Road 42	42	50	47.9	N	0000-0100	88	51.3%	23.0%	0.0%	3.2%	1.1%	1.0%	2.0%	1.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	13.0%	0.0%	100.0%
Road 42	42	50	48.5	N	0100-0200	61	47.2%	21.1%	0.0%	3.2%	1.2%	1.0%	2.0%	1.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	18.6%	0.0%	100.0%
Road 42	42	50	48.7	N	0200-0300	48	43.5%	19.4%	0.0%	3.3%	1.2%	1.0%	2.1%	1.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	23.7%	0.0%	100.0%
Road 42	42	50	48.9	N	0300-0400	40	40.2%	17.8%	0.0%	3.4%	1.2%	1.1%	2.1%	1.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	28.1%	0.0%	100.0%
Road 42	42	50	48.8	N	0400-0500	43	40.4%	17.9%	0.0%	3.7%	1.3%	1.2%	2.3%	1.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.1%	26.4%	0.0%	100.0%
Road 42	42	50	48.3	N	0500-0600	66	44.5%	19.6%	0.0%	4.5%	1.6%	1.4%	2.8%	1.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.8%	17.4%	0.0%	100.0%
Road 42	42	50	47.0	N	0600-0700	129	47.9%	21.0%	0.1%	5.3%	1.9%	1.7%	3.3%	1.3%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.5%	9.4%	0.0%	100.0%
Road 42	42	50	43.0	N	0700-0800	281	43.5%	19.0%	0.1%	5.2%	1.9%	1.6%	3.2%	1.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.4%	16.0%	0.0%	100.0%
Road 42	42	50	42.1	N	0800-0900	318	49.5%	15.8%	0.1%	5.8%	2.1%	1.6%	3.2%	0.9%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	2.9%	14.2%	0.0%	100.0%
Road 42	42	50	43.0	N	0900-1000	269	44.1%	16.0%	0.1%	8.0%	2.9%	2.2%	4.3%	1.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	1.7%	16.9%	0.0%	100.0%
Road 42	42	50	43.6	N	1000-1100	238	40.7%	15.8%	0.1%	8.3%	3.0%	2.6%	5.2%	1.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	19.2%	0.0%	100.0%
Road 42	42	50	43.9	N	1100-1200	228	40.2%	16.6%	0.1%	8.2%	2.9%	2.6%	5.0%	1.2%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	1.1%	19.9%	0.0%	100.0%
Road 42	42	50	44.8	N	1200-1300	163	26.5%	10.2%	0.1%	13.2%	4.8%	4.7%	9.3%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	28.4%	0.0%	100.0%
Road 42	42	50	44.8	N	1300-1400	169	25.1%	9.7%	0.2%	15.5%	5.6%	4.8%	9.4%	0.0%	0.0%	0.4%	0.4%	0.2%	0.5%	0.0%	0.0%	0.8%	27.5%	0.0%	100.0%
Road 42	42	50	44.6	N	1400-1500	175	26.0%	10.5%	0.1%	14.2%	5.1%	4.8%	9.4%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	26.7%	0.0%	100.0%
Road 42	42	50	44.6	N	1500-1600	179	25.8%	10.4%	0.2%	16.4%	5.9%	4.2%	8.2%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	0.9%	25.8%	0.0%	100.0%
Road 42	42	50	44.5	N	1600-1700	182	28.7%	9.9%	0.1%	13.5%	4.9%	4.2%	8.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	1.4%	25.5%	0.0%	100.0%
Road 42	42	50	44.5	N	1700-1800	193	34.0%	10.6%	0.1%	12.9%	4.6%	2.9%	5.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	23.5%	0.0%	100.0%
Road 42	42	50	44.7	N	1800-1900	194	44.7%	10.5%	0.1%	8.7%	3.1%	1.8%	3.6%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	22.8%	0.0%	100.0%
Road 42	42	50	47.0	N	1900-2000	128	52.7%	16.5%	0.1%	8.0%	2.9%	1.9%	3.7%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	1.9%	9.6%	0.0%	100.0%
Road 42	42	50	47.5	N	2000-2100	102	47.4%	20.1%	0.1%	8.2%	3.0%	1.8%	3.6%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	11.7%	0.0%	100.0%
Road 42	42	50	47.5	N	2100-2200	103	48.0%	19.8%	0.1%	8.3%	3.0%	1.9%	3.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	11.7%	0.0%	100.0%
Road 42	42	50	47.6	N	2200-2300	99	48.1%	21.7%	0.1%	6.5%	2.3%	2.1%	4.1%	0.0%	0.0%	0.0%	0.4%	0.2%	0.5%	0.0%	0.0%	1.9%	12.2%	0.0%	100.0%
Road 42	42	50	48.1	N	2300-0000	77	45.1%	20.3%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	15.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 43	43	70	70.0	N	0000-0100	26	58.8%	26.4%	0.0%	1.1%	0.4%	0.3%	0.7%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	3.0%	7.4%	0.0%	100.0%
Road 43	43	70	70.0	N	0100-0200	17	55.9%	25.0%	0.0%	1.1%	0.4%	0.4%	0.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	11.0%	0.0%	100.0%
Road 43	43	70	70.0	N	0200-0300	13	53.1%	23.7%	0.0%	1.2%	0.4%	0.4%	0.7%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.0%	3.4%	14.5%	0.0%	100.0%
Road 43	43	70	70.0	N	0300-0400	11	50.5%	22.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	17.8%	0.0%	100.0%
Road 43	43	70	70.0	N	0400-0500	11	50.7%	22.4%	0.0%	1.4%	0.5%	0.4%	0.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.9%	16.6%	0.0%	100.0%
Road 43	43	70	70.0	N	0500-0600	18	53.7%	23.6%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.6%	10.5%	0.0%	100.0%
Road 43	43	70	70.0	N	0600-0700	37	56.1%	24.6%	0.0%	1.9%	0.7%	0.6%	1.1%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	0.0%	5.2%	5.4%	0.0%	100.0%
Road 43	43	70	70.0	N	0700-0800	78	52.9%	23.2%	0.0%	1.9%	0.7%	0.5%	1.0%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	0.0%	4.5%	9.6%	0.0%	100.0%
Road 43	43	70	70.0	N	0800-0900	89	59.7%	19.1%	0.0%	2.1%	0.8%	0.6%	1.2%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	0.0%	3.5%	8.4%	0.0%	100.0%
Road 43	43	70	70.0	N	0900-1000	71	56.4%	20.5%	0.0%	3.0%	1.1%	0.8%	1.6%	0.0%	0.1%	0.5%	1.0%	0.7%	1.4%	0.0%	0.0%	2.2%	10.6%	0.0%	100.0%
Road 43	43	70	70.0	N	1000-1100	60	53.9%	20.9%	0.0%	3.3%	1.2%	1.0%	2.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	2.6%	12.4%	0.0%	100.0%
Road 43	43	70	70.0	N	1100-1200	58	53.3%	22.0%	0.0%	3.3%	1.2%	1.0%	2.0%	0.0%	0.1%	1.0%	0.5%	0.4%	0.8%	0.0%	0.0%	1.5%	13.0%	0.0%	100.0%
Road 43	43	70	70.0	N	1200-1300	152	43.2%	16.7%	0.1%	11.8%	4.2%	4.2%	8.3%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	6.9%	0.0%	100.0%
Road 43	43	70	70.0	N	1300-1400	156	41.5%	16.0%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	0.0%	1.3%	6.8%	0.0%	100.0%
Road 43	43	70	70.0	N	1400-1500	165	41.9%	16.9%	0.1%	12.5%	4.5%	4.2%	8.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	1.6%	6.5%	0.0%	100.0%
Road 43	43	70	70.0	N	1500-1600	169	41.6%	16.7%	0.2%	14.4%	5.2%	3.7%	7.2%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	1.5%	6.1%	0.0%	100.0%
Road 43	43	70	70.0	N	1600-1700	178	44.7%	15.4%	0.1%	11.5%	4.1%	3.6%	7.1%	0.0%	0.1%	1.1%	1.3%	0.9%	2.0%	0.0%	0.0%	2.1%	5.9%	0.0%	100.0%
Road 43	43	70	70.0	N	1700-1800	199	50.2%	15.7%	0.1%	10.4%	3.7%	2.4%	4.6%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	4.3%	4.8%	0.0%	100.0%
Road 43	43	70	70.0	N	1800-1900	213	61.8%	14.5%	0.1%	6.6%	2.4%	1.4%	2.7%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	2.9%	4.1%	0.0%	100.0%
Road 43	43	70	70.0	N	1900-2000	164	62.5%	19.6%	0.1%	5.2%	1.9%	1.2%	2.4%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	0.0%	2.3%	1.8%	0.0%	100.0%
Road 43	43	70	70.0	N	2000-2100	128	57.5%	24.4%	0.1%	5.5%	2.0%	1.2%	2.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.3%	2.1%	0.0%	100.0%
Road 43	43	70	70.0	N	2100-2200	128	58.3%	24.1%	0.1%	5.5%	2.0%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	2.1%	0.0%	100.0%
Road 43	43	70	70.0	N	2200-2300	124	58.1%	26.3%	0.0%	4.3%	1.5%	1.4%	2.7%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.2%	2.2%	0.0%	100.0%
Road 43	43	70	70.0	N	2300-0000	94	56.7%	25.5%	0.0%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.5%	2.8%	0.0%	100.0%
Road 44	44	80	80.0	N	0000-0100	472	57.7%	25.9%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	2.9%	0.0%	100.0%
Road 44	44	80	80.0	N	0100-0200	307	56.6%	25.3%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	3.2%	0.0%	100.0%
Road 44	44	80	80.0	N	0200-0300	225	55.5%	24.7%	0.0%	4.0%	1.5%	1.3%	2.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	2.7%	3.5%	0.0%	100.0%
Road 44	44	80	80.0	N	0300-0400	178	54.4%	24.2%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	2.7%	3.8%	0.0%	100.0%
Road 44	44	80	80.0	N	0400-0500	195	53.5%	23.6%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	3.1%	4.1%	0.0%	100.0%
Road 44	44	80	80.0	N	0500-0600	336	52.7%	23.2%	0.1%	5.1%	1.8%	1.6%	3.1%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	3.5%	4.5%	0.0%	100.0%
Road 44	44	80	80.0	N	0600-0700	718	51.8%	22.7%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	4.2%	4.9%	0.0%	100.0%
Road 44	44	80	80.0	N	0700-0800	1453	50.7%	22.1%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	4.4%	5.2%	0.0%	100.0%
Road 44	44	80	80.0	N	0800-0900	2192	56.1%	18.0%	0.1%	6.4%	2.3%	1.8%	3.5%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	0.0%	2.7%	3.3%	0.0%	100.0%
Road 44	44	80	80.0	N	0900-1000	1798	51.5%	18.7%	0.1%	9.1%	3.3%	2.5%	4.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	2.8%	2.0%	0.0%	100.0%
Road 44	44	80	80.0	N	1000-1100	1552	48.8%	18.9%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	2.4%	2.2%	0.0%	100.0%
Road 44	44	80	80.0	N	1100-1200	1471	48.6%	20.0%	0.1%	9.7%	3.5%	3.0%	5.9%	0.0%	0.1%	0.5%	0.9%	0.5%	0.3%	0.7%	0.0%	2.5%	1.4%	2.2%	100.0%
Road 44	44	80	80.0	N	1200-1300	1431	30.4%	11.7%	0.2%	16.2%	5.8%	5.8%	11.4%	0.7%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.7%	11.6%	0.9%	100.0%
Road 44	44	80	80.0	N	1300-1400	1494	28.7%	11.1%	0.2%	18.8%	6.8%	5.8%	11.5%	0.6%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	1.4%	10.8%	0.9%	100.0%
Road 44	44	80	80.0	N	1400-1500	1561	29.4%	11.9%	0.2%	17.1%	6.1%	5.8%	11.4%	0.7%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	10.9%	1.1%	100.0%
Road 44	44	80	80.0	N	1500-1600	1602	29.1%	11.7%	0.2%	19.7%	7.1%	5.0%	9.8%	0.6%	0.1%	0.5%	0.6%	0.4%	0.9%	0.1%	0.0%	1.7%	10.7%	1.1%	100.0%
Road 44	44	80	80.0	N	1600-1700	1660	31.8%	11.0%	0.2%	15.9%	5.7%	5.0%	9.8%	0.6%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	1.9%	9.6%	0.9%	100.0%
Road 44	44	80	80.0	N	1700-1800	1794	36.9%	11.5%	0.2%	14.9%	5.4%	3.4%	6.6%	0.7%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	2.2%	12.8%	3.2%	100.0%
Road 44	44	80	80.0	N	1800-1900	1825	48.0%	11.3%	0.1%	9.9%	3.6%	2.1%	4.1%	0.7%	0.0%	0.1%	0.8%	0.6%	1.3%	0.1%	0.0%	2.5%	14.1%	2.3%	100.0%
Road 44	44	80	80.0	N	1900-2000	1441	47.3%	14.8%	0.1%	7.6%	2.7%	1.8%	3.6%	0.8%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.3%	16.2%	1.7%	100.0%
Road 44	44	80	80.0	N	2000-2100	1133	43.1%	18.3%	0.1%	8.0%	2.9%	1.8%	3.5%	0.9%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	2.3%	16.9%	1.7%	100.0%
Road 44	44	80	80.0	N	2100-2200	1114	44.6%	18.4%	0.1%	8.2%	3.0%	1.9%	3.7%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	15.1%	2.0%	100.0%
Road 44	44	80	80.0	N	2200-2300	1080	44.3%	20.0%	0.1%	6.4%	2.3%	2.0%	4.0%	0.8%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	0.0%	1.8%	16.3%	1.7%	100.0%
Road 44	44	80	80.0	N	2300-0000	927	57.1%	25.7%	0.0%	3.8%	1.4%	1.2%	2.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.0%	3.5%	2.5%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

| Road Name | Road ID | Speed Limit (km/

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 49	49	50	43.2	N	0000-0100	321	57.7%	25.9%	0.0%	2.3%	0.8%	0.7%	1.4%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	5.9%	2.9%	0.4%	0.0%	100.0%
Road 49	49	50	45.6	N	0100-0200	208	56.9%	25.5%	0.0%	2.5%	0.9%	0.8%	1.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	5.9%	3.2%	0.4%	0.0%	100.0%
Road 49	49	50	46.8	N	0200-0300	152	56.1%	25.0%	0.0%	2.7%	1.0%	0.9%	1.7%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	5.9%	3.6%	0.4%	0.0%	100.0%
Road 49	49	50	47.4	N	0300-0400	119	55.3%	24.5%	0.0%	2.9%	1.1%	0.9%	1.8%	0.0%	0.0%	0.4%	0.8%	0.6%	1.2%	0.0%	5.9%	3.9%	0.5%	0.0%	100.0%
Road 49	49	50	47.2	N	0400-0500	130	54.5%	24.1%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	5.9%	4.2%	0.5%	0.0%	100.0%
Road 49	49	50	45.1	N	0500-0600	225	53.6%	23.6%	0.0%	3.5%	1.2%	1.1%	2.1%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	5.8%	4.6%	0.6%	0.0%	100.0%
Road 49	49	50	39.7	N	0600-0700	480	52.7%	23.1%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	5.8%	4.9%	0.6%	0.0%	100.0%
Road 49	49	50	32.7	N	0700-0800	967	51.8%	22.6%	0.0%	4.0%	1.4%	1.2%	2.4%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	5.8%	5.3%	0.6%	0.0%	100.0%
Road 49	49	50	31.9	N	0800-0900	1115	58.1%	18.6%	0.0%	4.3%	1.6%	1.2%	2.4%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	5.2%	3.4%	0.6%	0.0%	100.0%
Road 49	49	50	34.4	N	0900-1000	894	54.5%	19.8%	0.1%	6.3%	2.3%	1.7%	3.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	5.5%	2.1%	0.9%	0.0%	100.0%
Road 49	49	50	35.8	N	1000-1100	762	52.3%	20.3%	0.1%	5.8%	2.4%	2.2%	4.3%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	5.5%	1.6%	1.1%	0.0%	100.0%
Road 49	49	50	36.4	N	1100-1200	724	52.0%	21.4%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.1%	0.9%	0.5%	0.4%	0.8%	0.0%	5.7%	1.5%	1.1%	0.0%	100.0%
Road 49	49	50	37.8	N	1200-1300	602	52.5%	20.2%	0.1%	5.8%	2.1%	2.1%	4.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	6.8%	1.6%	1.1%	0.0%	100.0%
Road 49	49	50	37.8	N	1300-1400	603	51.6%	19.9%	0.1%	7.0%	2.5%	2.2%	4.3%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	6.6%	1.6%	1.1%	0.0%	100.0%
Road 49	49	50	37.2	N	1400-1500	652	51.0%	20.6%	0.1%	6.1%	2.2%	2.1%	4.1%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	6.5%	1.9%	1.1%	0.0%	100.0%
Road 49	49	50	37.0	N	1500-1600	664	50.9%	20.4%	0.1%	7.1%	2.6%	1.8%	3.5%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	6.4%	1.8%	0.9%	0.0%	100.0%
Road 49	49	50	36.2	N	1600-1700	726	52.7%	18.2%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.2%	1.2%	1.5%	1.1%	2.4%	0.0%	6.8%	2.5%	0.9%	0.0%	100.0%
Road 49	49	50	35.1	N	1700-1800	849	56.5%	17.6%	0.0%	4.7%	1.7%	1.1%	2.1%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	6.7%	4.9%	0.6%	0.0%	100.0%
Road 49	49	50	33.8	N	1800-1900	972	65.3%	15.3%	0.0%	2.8%	1.0%	0.6%	1.1%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	6.5%	3.1%	0.3%	0.0%	100.0%
Road 49	49	50	36.1	N	1900-2000	786	62.8%	19.7%	0.0%	2.1%	0.8%	0.5%	1.0%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	7.3%	2.3%	0.3%	0.0%	100.0%
Road 49	49	50	38.2	N	2000-2100	612	57.9%	24.6%	0.0%	2.2%	0.8%	0.5%	1.0%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	7.7%	2.3%	0.3%	0.0%	100.0%
Road 49	49	50	38.4	N	2100-2200	606	59.5%	24.6%	0.0%	2.3%	0.8%	0.5%	1.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	6.9%	2.7%	0.3%	0.0%	100.0%
Road 49	49	50	38.5	N	2200-2300	594	58.4%	26.4%	0.0%	1.7%	0.6%	0.6%	1.1%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.1%	7.3%	2.2%	0.3%	0.0%	100.0%
Road 49	49	50	40.5	N	2300-0000	442	57.7%	26.0%	0.0%	2.0%	0.7%	0.6%	1.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.1%	7.3%	2.6%	0.3%	0.0%	100.0%
Road 50	50	50	49.4	N	0000-0100	22	30.4%	13.6%	0.2%	21.7%	7.8%	6.8%	13.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.5%	3.5%	0.0%	100.0%
Road 50	50	50	49.6	N	0100-0200	15	28.5%	12.7%	0.2%	22.7%	8.2%	7.2%	14.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	3.7%	0.0%	100.0%
Road 50	50	50	49.7	N	0200-0300	11	26.8%	11.9%	0.2%	23.7%	8.5%	7.5%	14.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	3.8%	0.0%	100.0%
Road 50	50	50	49.7	N	0300-0400	9	25.2%	11.2%	0.3%	24.6%	8.8%	7.7%	15.2%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	4.0%	0.0%	100.0%
Road 50	50	50	49.7	N	0400-0500	11	23.7%	10.5%	0.3%	25.4%	9.1%	8.0%	15.7%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	4.1%	0.0%	100.0%
Road 50	50	50	49.5	N	0500-0600	19	22.3%	9.8%	0.3%	26.2%	9.4%	8.2%	16.1%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	4.2%	0.0%	100.0%
Road 50	50	50	48.8	N	0600-0700	43	21.0%	9.2%	0.3%	26.9%	9.7%	8.4%	16.6%	0.0%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	2.0%	4.3%	0.0%	100.0%
Road 50	50	50	47.4	N	0700-0800	91	19.8%	8.6%	0.3%	27.6%	9.9%	8.6%	17.0%	0.0%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.0%	4.4%	0.0%	100.0%
Road 50	50	50	47.0	N	0800-0900	107	21.6%	6.9%	0.3%	29.3%	10.5%	8.2%	16.1%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.3%	4.2%	0.0%	100.0%
Road 50	50	50	46.8	N	0900-1000	110	15.8%	5.7%	0.3%	33.1%	11.9%	9.0%	17.7%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	4.6%	0.0%	100.0%
Road 50	50	50	46.9	N	1000-1100	105	13.6%	5.3%	0.3%	32.3%	11.6%	10.2%	20.1%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	0.4%	5.3%	0.0%	100.0%
Road 50	50	50	47.1	N	1100-1200	98	13.7%	5.6%	0.3%	32.4%	11.6%	10.1%	19.9%	0.0%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	5.2%	0.0%	100.0%
Road 50	50	50	48.7	N	1200-1300	41	5.3%	2.0%	0.4%	35.2%	12.6%	12.6%	24.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.5%	0.0%	100.0%
Road 50	50	50	48.5	N	1300-1400	46	4.6%	1.8%	0.4%	38.1%	13.7%	11.8%	23.2%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.1%	0.0%	100.0%
Road 50	50	50	48.5	N	1400-1500	46	5.0%	2.0%	0.4%	36.3%	13.0%	12.3%	24.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 50	50	50	48.5	N	1500-1600	48	4.8%	1.9%	0.4%	41.1%	14.8%	10.4%	20.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.4%	0.0%	100.0%
Road 50	50	50	48.6	N	1600-1700	45	5.9%	2.0%	0.4%	37.1%	13.3%	11.6%	22.8%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 50	50	50	48.8	N	1700-1800	41	8.0%	2.5%	0.4%	40.9%	14.7%	9.3%	18.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.8%	0.0%	100.0%
Road 50	50	50	49.1	N	1800-1900	30	14.7%	3.5%	0.4%	38.3%	13.8%	8.0%	15.7%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 50	50	50	49.4	N	1900-2000	20	17.1%	5.3%	0.4%	34.6%	12.4%	8.3%	16.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	4.2%	0.0%	100.0%
Road 50	50	50	49.5	N	2000-2100	16	15.4%	6.6%	0.4%	35.9%	12.9%	7.9%	15.6%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	4.1%	0.0%	100.0%
Road 50	50	50	49.5	N	2100-2200	16	15.3%	6.3%	0.4%	35.6%	12.8%	8.2%	16.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.2%	0.0%	100.0%
Road 50	50	50	49.6	N	2200-2300	14	16.7%	7.5%	0.3%	30.2%	10.8%	9.6%	18.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	4.9%	0.0%	100.0%
Road 50	50	50	49.7	N	2300-0000	12	15.1%	6.8%	0.3%	31.1%	11.2%	9.9%	19.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.1%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 51	51	80	80.0	N	0000-0100	607	57.9%	26.0%	0.0%	3.0%	1.1%	0.9%	1.9%	0.7%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.2%	2.9%	0.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0100-0200	394	57.0%	25.5%	0.0%	3.3%	1.2%	1.0%	2.0%	0.7%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.2%	3.2%	0.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0200-0300	288	56.0%	25.0%	0.0%	3.6%	1.3%	1.1%	2.2%	0.7%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.2%	3.5%	0.6%	0.0%	100.0%
Road 51	51	80	80.0	N	0300-0400	227	55.1%	24.5%	0.0%	3.9%	1.4%	1.2%	2.4%	0.7%	0.0%	0.4%	0.8%	0.6%	1.2%	0.0%	3.2%	3.9%	0.6%	0.0%	100.0%
Road 51	51	80	80.0	N	0400-0500	248	54.2%	23.9%	0.0%	4.2%	1.5%	1.3%	2.6%	0.7%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.2%	4.2%	0.7%	0.0%	100.0%
Road 51	51	80	80.0	N	0500-0600	430	53.2%	23.4%	0.0%	4.5%	1.6%	1.4%	2.8%	0.7%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.1%	4.5%	0.7%	0.0%	100.0%
Road 51	51	80	80.0	N	0600-0700	919	52.2%	22.9%	0.1%	4.9%	1.7%	1.5%	3.0%	0.7%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.1%	4.9%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0700-0800	1855	51.2%	22.3%	0.1%	5.2%	1.9%	1.6%	3.2%	0.7%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	3.1%	5.2%	0.9%	0.0%	100.0%
Road 51	51	80	80.0	N	0800-0900	2143	57.3%	18.3%	0.1%	5.6%	2.0%	1.6%	3.1%	0.6%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.8%	3.3%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0900-1000	1743	53.0%	19.2%	0.1%	8.1%	2.9%	2.2%	4.3%	0.7%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.9%	2.1%	1.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1000-1100	1498	50.4%	19.6%	0.1%	8.7%	3.1%	2.8%	5.4%	0.7%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.9%	1.5%	1.4%	0.0%	100.0%
Road 51	51	80	80.0	N	1100-1200	1420	50.3%	20.7%	0.1%	8.6%	3.1%	2.7%	5.3%	0.8%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	3.0%	1.4%	1.4%	0.0%	100.0%
Road 51	51	80	80.0	N	1200-1300	1417	30.3%	11.7%	0.2%	16.3%	5.8%	5.8%	11.5%	0.7%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	11.7%	0.9%	3.0%	0.0%	100.0%
Road 51	51	80	80.0	N	1300-1400	1479	28.6%	11.0%	0.2%	18.9%	6.8%	5.8%	11.5%	0.6%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	10.9%	0.9%	3.0%	0.0%	100.0%
Road 51	51	80	80.0	N	1400-1500	1546	29.3%	11.8%	0.2%	17.1%	6.1%	5.8%	11.4%	0.7%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	11.1%	1.1%	3.0%	0.0%	100.0%
Road 51	51	80	80.0	N	1500-1600	1586	29.0%	11.6%	0.2%	19.7%	7.1%	5.0%	9.8%	0.6%	0.1%	0.5%	0.6%	0.4%	0.9%	0.1%	10.8%	1.0%	2.6%	0.0%	100.0%
Road 51	51	80	80.0	N	1600-1700	1644	31.7%	10.9%	0.2%	16.0%	5.7%	5.0%	9.8%	0.6%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	12.2%	1.5%	2.6%	0.0%	100.0%
Road 51	51	80	80.0	N	1700-1800	1776	36.7%	11.5%	0.2%	15.0%	5.4%	3.4%	6.7%	0.7%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	13.0%	3.2%	1.7%	0.0%	100.0%
Road 51	51	80	80.0	N	1800-1900	1805	47.8%	11.2%	0.1%	10.0%	3.6%	2.1%	4.1%	0.7%	0.0%	0.1%	0.8%	0.6%	1.3%	0.1%	14.3%	2.3%	1.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1900-2000	1425	47.1%	14.7%	0.1%	7.6%	2.7%	1.8%	3.6%	0.8%	0.0%	0.1%	0.7%	0.5%	1.1%	0.1%	16.4%	1.7%	0.9%	0.0%	100.0%
Road 51	51	80	80.0	N	2000-2100	1121	42.9%	18.2%	0.1%	8.0%	2.9%	1.8%	3.5%	0.9%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	17.1%	1.7%	0.7%	0.0%	100.0%
Road 51	51	80	80.0	N	2100-2200	1102	44.4%	18.4%	0.1%	8.3%	3.0%	1.9%	3.7%	0.8%	0.0%	0.1%	0.5%	0.3%	0.8%	0.0%	15.3%	2.0%	1.0%	0.0%	100.0%
Road 51	51	80	80.0	N	2200-2300	1068	44.2%	20.0%	0.1%	6.4%	2.3%	2.0%	4.0%	0.8%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	16.5%	1.7%	1.0%	0.0%	100.0%
Road 51	51	80	80.0	N	2300-0000	807	43.0%	19.4%	0.1%	7.1%	2.5%	2.2%	4.4%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	16.2%	1.9%	1.2%	0.0%	100.0%
Road 52	52	50	49.1	N	0000-0100	27	3.5%	1.6%	0.4%	38.3%	13.8%	12.1%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	100.0%
Road 52	52	50	49.4	N	0100-0200	19	3.1%	1.4%	0.4%	38.6%	13.8%	12.2%	23.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	100.0%
Road 52	52	50	49.5	N	0200-0300	15	2.8%	1.3%	0.4%	38.8%	13.9%	12.2%	24.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	100.0%
Road 52	52	50	49.6	N	0300-0400	13	2.6%	1.1%	0.4%	38.9%	14.0%	12.2%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	100.0%
Road 52	52	50	49.5	N	0400-0500	15	2.4%	1.0%	0.4%	39.1%	14.0%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	100.0%
Road 52	52	50	49.1	N	0500-0600	28	2.2%	1.0%	0.4%	39.2%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	100.0%
Road 52	52	50	47.9	N	0600-0700	65	2.0%	0.9%	0.4%	39.3%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	100.0%
Road 52	52	50	45.5	N	0700-0800	139	1.8%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	100.0%
Road 52	52	50	44.7	N	0800-0900	167	2.0%	0.6%	0.4%	41.4%	14.9%	11.6%	22.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.1%	0.0%	100.0%
Road 52	52	50	44.0	N	0900-1000	190	1.3%	0.5%	0.4%	42.3%	15.2%	11.5%	22.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	100.0%
Road 52	52	50	43.9	N	1000-1100	187	1.1%	0.4%	0.4%	39.8%	14.3%	12.6%	24.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.5%	0.0%	100.0%
Road 52	52	50	44.3	N	1100-1200	175	1.1%	0.5%	0.4%	40.0%	14.4%	12.5%	24.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.4%	0.0%	100.0%
Road 52	52	50	44.1	N	1200-1300	182	3.2%	1.2%	0.4%	36.4%	13.1%	13.0%	25.6%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	6.7%	0.0%	100.0%
Road 52	52	50	43.5	N	1300-1400	205	2.8%	1.1%	0.4%	39.2%	14.1%	12.1%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	0.0%	100.0%
Road 52	52	50	43.5	N	1400-1500	203	3.0%	1.2%	0.4%	37.4%	13.4%	12.7%	24.9%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	6.5%	0.0%	100.0%
Road 52	52	50	43.3	N	1500-1600	212	3.0%	1.2%	0.4%	42.4%	15.2%	10.7%	21.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	5.5%	0.0%	100.0%
Road 52	52	50	43.8	N	1600-1700	196	3.6%	1.2%	0.4%	38.5%	13.8%	12.0%	23.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	6.2%	0.0%	100.0%
Road 52	52	50	44.5	N	1700-1800	178	5.0%	1.6%	0.4%	42.9%	15.4%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	4.4%	0.0%	100.0%
Road 52	52	50	46.3	N	1800-1900	124	9.5%	2.2%	0.4%	41.7%	15.0%	8.7%	17.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%	100.0%
Road 52	52	50	47.6	N	1900-2000	82	11.2%	3.5%	0.4%	38.3%	13.8%	9.1%	18.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	4.7%	0.0%	100.0%
Road 52	52	50	48.1	N	2000-2100	65	10.1%	4.3%	0.4%	39.7%	14.2%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	4.5%	0.0%	100.0%
Road 52	52	50	48.0	N	2100-2200	67	10.0%	4.1%	0.4%	39.2%	14.1%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	4.6%	0.0%	100.0%
Road 52	52	50	48.2	N	2200-2300	58	11.0%	5.0%	0.4%	33.7%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	5.5%	0.0%	100.0%
Road 52	52	50	48.5	N	2300-0000	48	9.9%	4.5%	0.4%	34.3%	12.3%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	5.6%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

| Road Name | Road ID | Speed Limit (km/h

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 103	103	80	80.0	N	0000-0100	952	57.3%	25.7%	0.1%	4.9%	1.8%	1.6%	3.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	0.8%	0.0%	100.0%
Road 103	103	80	80.0	N	0100-0200	621	56.2%	25.1%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	0.9%	0.0%	100.0%
Road 103	103	80	80.0	N	0200-0300	455	55.0%	24.5%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	0.9%	0.0%	100.0%
Road 103	103	80	80.0	N	0300-0400	361	53.8%	23.9%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	1.0%	0.0%	100.0%
Road 103	103	80	80.0	N	0400-0500	397	52.7%	23.3%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.1%	1.1%	0.0%	100.0%
Road 103	103	80	80.0	N	0500-0600	690	51.5%	22.6%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	0.0%	4.4%	1.2%	0.0%	100.0%
Road 103	103	80	80.0	N	0600-0700	1484	50.3%	22.0%	0.1%	7.7%	2.8%	2.4%	4.8%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.0%	4.7%	1.2%	0.0%	100.0%
Road 103	103	80	80.0	N	0700-0800	3009	49.1%	21.4%	0.1%	8.2%	2.9%	2.6%	5.0%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	5.0%	1.3%	0.0%	100.0%
Road 103	103	80	80.0	N	0800-0900	3505	54.4%	17.4%	0.1%	8.9%	3.2%	2.5%	4.9%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	3.2%	1.3%	0.0%	100.0%
Road 103	103	80	80.0	N	0900-1000	2938	48.8%	17.7%	0.1%	12.2%	4.4%	3.3%	6.6%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	1.9%	1.7%	0.0%	100.0%
Road 103	103	80	80.0	N	1000-1100	2568	45.7%	17.7%	0.1%	13.0%	4.7%	4.1%	8.1%	0.0%	0.1%	0.5%	0.8%	0.5%	1.1%	0.0%	0.0%	1.4%	2.1%	0.0%	100.0%
Road 103	103	80	75.1	N	1100-1200	2429	45.6%	18.8%	0.1%	13.0%	4.7%	4.1%	8.0%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	0.0%	1.3%	2.1%	0.0%	100.0%
Road 103	103	80	73.8	N	1200-1300	2554	46.8%	18.0%	0.1%	11.6%	4.2%	4.2%	8.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	1.4%	2.1%	0.0%	100.0%
Road 103	103	80	73.0	N	1300-1400	2620	44.9%	17.3%	0.1%	13.7%	4.9%	4.3%	8.4%	0.0%	0.1%	0.6%	0.8%	0.4%	1.0%	0.0%	0.0%	1.4%	2.2%	0.0%	100.0%
Road 103	103	80	71.5	N	1400-1500	2789	45.2%	18.3%	0.1%	12.2%	4.4%	4.1%	8.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	1.7%	2.1%	0.0%	100.0%
Road 103	103	80	71.0	N	1500-1600	2856	44.8%	18.0%	0.1%	14.1%	5.1%	3.6%	7.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	1.6%	1.8%	0.0%	100.0%
Road 103	103	80	75.1	N	1600-1700	3659	48.8%	16.8%	0.1%	11.2%	4.0%	3.5%	6.9%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	0.0%	2.3%	1.8%	0.0%	100.0%
Road 103	103	80	67.5	N	1700-1800	3409	53.3%	16.6%	0.1%	10.0%	3.6%	2.3%	4.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	4.6%	1.2%	0.0%	100.0%
Road 103	103	80	61.5	N	1800-1900	3705	64.8%	15.2%	0.1%	6.2%	2.2%	1.3%	2.6%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.1%	0.7%	0.0%	100.0%
Road 103	103	80	73.8	N	1900-2000	2925	63.9%	20.0%	0.1%	4.8%	1.7%	1.1%	2.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.4%	0.6%	0.0%	100.0%
Road 103	103	80	79.3	N	2000-2100	2272	59.0%	25.0%	0.1%	5.1%	1.8%	1.1%	2.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.4%	0.6%	0.0%	100.0%
Road 103	103	80	79.5	N	2100-2200	2276	59.9%	24.8%	0.1%	5.2%	1.9%	1.2%	2.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	0.6%	0.0%	100.0%
Road 103	103	80	80.0	N	2200-2300	2204	59.6%	27.0%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.4%	0.6%	0.0%	100.0%
Road 103	103	80	80.0	N	2300-0000	1651	58.5%	26.3%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.5%	0.6%	0.0%	100.0%
Road 104	104	80	80.0	N	0000-0100	626	50.5%	22.7%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.5%	0.0%	100.0%
Road 104	104	80	80.0	N	0100-0200	413	48.9%	21.9%	0.1%	9.9%	3.6%	3.1%	6.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	1.6%	0.0%	100.0%
Road 104	104	80	80.0	N	0200-0300	306	47.4%	21.1%	0.1%	10.6%	3.8%	3.4%	6.6%	0.0%	0.0%	0.2%	0.5%	0.4%	0.9%	0.0%	0.0%	3.0%	1.7%	0.0%	100.0%
Road 104	104	80	80.0	N	0300-0400	245	45.9%	20.4%	0.1%	11.4%	4.1%	3.6%	7.0%	0.0%	0.0%	0.2%	0.4%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	1.8%	100.0%
Road 104	104	80	80.0	N	0400-0500	273	44.4%	19.6%	0.1%	12.1%	4.3%	3.8%	7.5%	0.0%	0.1%	0.4%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	1.9%	0.0%	100.0%
Road 104	104	80	80.0	N	0500-0600	480	42.9%	18.9%	0.1%	12.8%	4.6%	4.0%	7.9%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.7%	2.1%	0.0%	100.0%
Road 104	104	80	80.0	N	0600-0700	1042	41.4%	18.2%	0.1%	13.5%	4.8%	4.2%	8.3%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	3.9%	2.2%	0.0%	100.0%
Road 104	104	80	77.4	N	0700-0800	2137	40.0%	17.4%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.1%	2.3%	0.0%	100.0%
Road 104	104	80	73.8	N	0800-0900	2503	44.1%	14.1%	0.2%	15.2%	5.5%	4.3%	8.4%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	2.6%	2.2%	0.0%	100.0%
Road 104	104	80	75.2	N	0900-1000	2244	37.0%	13.4%	0.2%	19.7%	7.1%	5.4%	10.6%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	1.4%	2.8%	0.0%	100.0%
Road 104	104	80	76.8	N	1000-1100	2025	33.6%	13.0%	0.2%	20.3%	7.3%	6.4%	12.7%	0.0%	0.0%	0.4%	0.6%	0.4%	0.8%	0.0%	0.0%	1.0%	3.3%	0.0%	100.0%
Road 104	104	80	78.1	N	1100-1200	1910	33.6%	13.9%	0.2%	20.3%	7.3%	6.3%	12.5%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.3%	0.0%	100.0%
Road 104	104	80	80.0	N	1200-1300	1374	50.3%	19.4%	0.1%	9.6%	3.4%	3.4%	6.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.0%	1.5%	1.8%	0.0%	100.0%
Road 104	104	80	80.0	N	1300-1400	1398	48.7%	18.8%	0.1%	11.4%	4.1%	3.5%	7.0%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	1.5%	1.8%	0.0%	100.0%
Road 104	104	80	80.0	N	1400-1500	1498	48.6%	19.7%	0.1%	10.1%	3.6%	3.4%	6.7%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	1.8%	1.8%	0.0%	100.0%
Road 104	104	80	80.0	N	1500-1600	1532	48.3%	19.4%	0.1%	11.7%	4.2%	3.0%	5.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	1.7%	1.5%	0.0%	100.0%
Road 104	104	80	80.0	N	1600-1700	1637	51.2%	17.6%	0.1%	9.2%	3.3%	2.9%	5.6%	0.0%	0.2%	1.2%	1.5%	1.0%	2.3%	0.0%	0.0%	2.4%	1.5%	0.0%	100.0%
Road 104	104	80	80.0	N	1700-1800	1874	56.1%	17.5%	0.1%	8.1%	2.9%	1.8%	3.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	4.8%	0.9%	0.0%	100.0%
Road 104	104	80	80.0	N	1800-1900	4188	59.2%	13.9%	0.1%	8.2%	2.9%	1.7%	3.4%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	0.0%	3.2%	0.5%	0.0%	100.0%
Road 104	104	80	80.0	N	1900-2000	3286	58.7%	18.4%	0.1%	6.3%	2.3%	1.5%	3.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	3.8%	2.2%	0.8%	100.0%
Road 104	104	80	80.0	N	2000-2100	2561	54.0%	22.9%	0.1%	6.7%	2.4%	1.5%	2.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	4.0%	2.2%	0.8%	100.0%
Road 104	104	80	80.0	N	2100-2200	2556	55.0%	22.8%	0.1%	6.8%	2.4%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	3.5%	2.5%	0.9%	100.0%
Road 104	104	80	80.0	N	2200-2300	2470	54.9%	24.8%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	3.8%	2.1%	0.9%	100.0%
Road 104	104	80	80.0	N	2300-0000	1246	61.0%	27.6%	0.0%	3.1%	1.1%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	0.5%	0.0%	100.0%
Road 104	104	80	80.0	N	2300-0000	931	60.0%	27.0%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	2.7%	0.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 105	105	50	47.8	N	0000-0100	103	52.5%	23.6%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	1.3%	0.0%	100.0%
Road 105	105	50	48.5	N	0100-0200	68	51.1%	22.8%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	2.9%	1.4%	0.0%	100.0%
Road 105	105	50	48.9	N	0200-0300	50	49.6%	22.1%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	0.0%	3.1%	1.5%	0.0%	100.0%
Road 105	105	50	49.1	N	0300-0400	40	48.2%	21.4%	0.1%	9.9%	3.6%	3.1%	6.1%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	1.6%	0.0%	100.0%
Road 105	105	50	49.0	N	0400-0500	44	46.8%	20.7%	0.1%	10.6%	3.8%	3.3%	6.5%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.6%	1.7%	0.0%	100.0%
Road 105	105	50	48.2	N	0500-0600	77	45.3%	20.0%	0.1%	11.2%	4.0%	3.5%	6.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.9%	1.8%	0.0%	100.0%
Road 105	105	50	46.1	N	0600-0700	168	43.9%	19.2%	0.1%	11.8%	4.3%	3.7%	7.3%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.1%	1.9%	0.0%	100.0%
Road 105	105	50	42.0	N	0700-0800	343	42.6%	18.1%	0.1%	12.5%	4.5%	3.9%	7.7%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.4%	2.0%	0.0%	100.0%
Road 105	105	50	40.6	N	0800-0900	401	47.0%	15.0%	0.1%	13.5%	4.8%	3.8%	7.4%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	2.7%	1.9%	0.0%	100.0%
Road 105	105	50	41.4	N	0900-1000	353	40.2%	14.6%	0.2%	17.7%	6.4%	4.8%	9.5%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	1.6%	2.5%	0.0%	100.0%
Road 105	105	50	42.0	N	1000-1100	316	36.7%	14.3%	0.2%	18.4%	6.6%	5.8%	11.5%	0.0%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.1%	3.0%	0.0%	100.0%
Road 105	105	50	42.5	N	1100-1200	298	36.8%	15.2%	0.2%	18.4%	6.6%	5.7%	11.3%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	2.9%	0.0%	100.0%
Road 105	105	50	46.3	N	1200-1300	120	8.1%	3.1%	0.4%	33.6%	12.1%	12.0%	23.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 105	105	50	45.8	N	1300-1400	134	7.2%	2.8%	0.4%	36.5%	13.1%	11.3%	22.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 105	105	50	45.8	N	1400-1500	134	7.7%	3.1%	0.4%	34.6%	12.4%	11.7%	23.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 105	105	50	45.7	N	1500-1600	139	7.5%	3.0%	0.4%	39.3%	14.1%	10.0%	19.6%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.3%	5.1%	0.0%	100.0%
Road 105	105	50	46.0	N	1600-1700	131	9.1%	3.1%	0.4%	35.1%	12.6%	11.0%	21.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 105	105	50	46.4	N	1700-1800	122	12.1%	3.8%	0.4%	38.1%	13.7%	8.6%	16.9%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	4.4%	0.0%	100.0%
Road 105	105	50	47.4	N	1800-1900	92	21.3%	5.0%	0.4%	34.1%	12.3%	7.1%	14.0%	0.0%	0.0%	0.0%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	3.7%	0.0%	100.0%
Road 105	105	50	48.3	N	1900-2000	63	24.1%	7.6%	0.3%	30.1%	10.8%	7.2%	14.1%	0.0%	0.0%	0.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.9%	3.7%	0.0%	100.0%
Road 105	105	50	48.6	N	2000-2100	50	21.9%	9.3%	0.3%	31.3%	11.3%	6.9%	13.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.5%	0.0%	100.0%
Road 105	105	50	48.6	N	2100-2200	51	21.8%	9.0%	0.3%	31.2%	11.2%	7.2%	14.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	0.9%	3.7%	0.0%	100.0%
Road 105	105	50	48.7	N	2200-2300	46	23.4%	10.6%	0.3%	26.1%	9.4%	8.3%	16.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.9%	4.3%	0.0%	100.0%
Road 105	105	50	49.0	N	2300-0000	37	21.5%	9.7%	0.3%	27.2%	9.8%	8.6%	17.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	1.0%	4.4%	0.0%	100.0%
Road 106	106	50	44.4	N	0000-0100	269	55.1%	24.7%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	1.0%	0.0%	100.0%
Road 106	106	50	46.3	N	0100-0200	176	53.8%	24.1%	0.1%	6.8%	2.5%	2.2%	4.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	0.6%	0.0%	100.0%
Road 106	106	50	47.2	N	0200-0300	130	52.5%	23.4%	0.1%	7.4%	2.7%	2.3%	4.6%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	1.2%	0.0%	100.0%
Road 106	106	50	47.8	N	0300-0400	103	51.2%	22.7%	0.1%	8.0%	2.9%	2.5%	4.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	1.3%	0.0%	100.0%
Road 106	106	50	47.5	N	0400-0500	114	49.9%	22.1%	0.1%	8.5%	3.1%	2.7%	5.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.9%	1.4%	0.0%	100.0%
Road 106	106	50	45.6	N	0500-0600	199	48.6%	21.4%	0.1%	9.1%	3.3%	2.9%	5.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	0.0%	4.2%	1.5%	0.0%	100.0%
Road 106	106	50	40.4	N	0600-0700	429	47.3%	20.7%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.4%	1.6%	0.0%	100.0%
Road 106	106	50	34.6	N	0700-0800	873	46.0%	20.0%	0.1%	10.2%	3.7%	3.2%	6.3%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	4.7%	1.6%	0.0%	100.0%
Road 106	106	50	32.8	N	0800-0900	1019	50.9%	16.3%	0.1%	11.0%	4.0%	3.1%	6.1%	0.0%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	3.0%	1.6%	0.0%	100.0%
Road 106	106	50	34.1	N	0900-1000	874	44.6%	16.2%	0.2%	14.9%	5.4%	4.1%	8.0%	0.0%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	0.0%	1.7%	2.1%	0.0%	100.0%
Road 106	106	50	35.1	N	1000-1100	773	41.3%	16.0%	0.2%	15.7%	5.6%	5.0%	9.8%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	2.1%	2.6%	0.0%	100.0%
Road 106	106	50	35.7	N	1100-1200	731	41.3%	17.0%	0.2%	15.6%	5.6%	4.9%	9.6%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	1.2%	2.5%	0.0%	100.0%
Road 106	106	50	30.9	N	1200-1300	1039	37.1%	14.3%	0.2%	17.1%	6.1%	6.1%	12.1%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	0.0%	1.5%	3.2%	0.0%	100.0%
Road 106	106	50	30.1	N	1300-1400	1089	34.9%	13.4%	0.2%	19.8%	7.1%	6.1%	12.1%	0.0%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	0.0%	1.5%	3.2%	0.0%	100.0%
Road 106	106	50	29.4	N	1400-1500	1140	35.6%	14.4%	0.2%	17.9%	6.4%	6.1%	11.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	3.1%	0.0%	100.0%
Road 106	106	50	29.1	N	1500-1600	1173	35.2%	14.1%	0.2%	20.6%	7.4%	5.2%	10.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	2.7%	0.0%	100.0%
Road 106	106	50	28.8	N	1600-1700	1205	38.8%	13.4%	0.2%	16.8%	6.0%	5.3%	10.3%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	0.0%	1.8%	2.7%	0.0%	100.0%
Road 106	106	50	28.6	N	1700-1800	1304	44.9%	14.0%	0.2%	15.7%	5.7%	3.6%	7.0%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	3.9%	1.8%	0.0%	100.0%
Road 106	106	50	29.4	N	1800-1900	1330	58.3%	13.7%	0.1%	10.4%	3.8%	2.2%	4.3%	0.0%	0.0%	0.1%	0.1%	0.0%	0.2%	0.0%	0.0%	2.8%	1.1%	0.0%	100.0%
Road 106	106	50	33.3	N	1900-2000	1029	58.6%	18.3%	0.1%	8.2%	2.9%	1.9%	3.8%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.2%	1.0%	0.0%	100.0%
Road 106	106	50	36.1	N	2000-2100	801	53.9%	22.9%	0.1%	8.6%	3.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.2%	1.0%	0.0%	100.0%
Road 106	106	50	36.1	N	2100-2200	805	54.6%	22.6%	0.1%	8.7%	3.1%	2.0%	4.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.5%	1.0%	0.0%	100.0%
Road 106	106	50	36.5	N	2200-2300	771	55.0%	24.8%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 106	106	50	38.7	N	2300-0000	583	53.4%	24.1%	0.1%	7.6%	2.7%	2.4%	4.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.2%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 5	5	50	45.7	N	0000-0100	409	57.1%	25.6%	0.0%	3.2%	1.1%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.7%	2.9%	0.5%	0.0%	100.0%
Road 5	5	50	47.2	N	0100-0200	266	56.2%	25.1%	0.0%	3.5%	1.2%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.6%	3.2%	0.6%	0.0%	100.0%
Road 5	5	50	47.9	N	0200-0300	194	55.3%	24.6%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	4.6%	3.5%	0.6%	0.0%	100.0%
Road 5	5	50	48.4	N	0300-0400	153	54.3%	24.1%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.6%	3.8%	0.7%	0.0%	100.0%
Road 5	5	50	48.2	N	0400-0500	168	53.4%	23.6%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	4.6%	4.1%	0.7%	0.0%	100.0%
Road 5	5	50	46.8	N	0500-0600	290	52.4%	23.1%	0.0%	4.8%	1.7%	1.5%	2.9%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.5%	4.5%	0.8%	0.0%	100.0%
Road 5	5	50	43.2	N	0600-0700	621	51.4%	22.5%	0.1%	5.1%	1.8%	1.6%	3.1%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	4.5%	4.8%	0.8%	0.0%	100.0%
Road 5	5	50	37.8	N	0700-0800	1213	50.4%	22.0%	0.1%	5.4%	2.0%	1.7%	3.3%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	4.5%	5.2%	0.9%	0.0%	100.0%
Road 5	5	50	36.6	N	0800-0900	1448	56.4%	18.0%	0.1%	5.9%	2.1%	1.7%	3.3%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	4.0%	3.3%	0.9%	0.0%	100.0%
Road 5	5	50	38.1	N	0900-1000	1181	52.0%	18.9%	0.1%	8.4%	3.0%	2.3%	4.5%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	4.2%	2.0%	1.2%	0.0%	100.0%
Road 5	5	50	39.0	N	1000-1100	1017	49.4%	19.2%	0.1%	9.1%	3.3%	2.9%	5.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	4.1%	1.5%	1.5%	0.0%	100.0%
Road 5	5	50	39.4	N	1100-1200	964	49.2%	20.3%	0.1%	9.0%	3.2%	2.8%	5.6%	0.0%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	4.3%	1.4%	1.5%	0.0%	100.0%
Road 5	5	50	35.5	N	1200-1300	1605	52.3%	20.1%	0.1%	7.5%	2.7%	2.7%	5.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.5%	1.5%	1.4%	0.0%	100.0%
Road 5	5	50	35.3	N	1300-1400	1620	51.0%	19.7%	0.1%	7.0%	3.2%	2.8%	5.5%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	2.5%	1.6%	1.4%	0.0%	100.0%
Road 5	5	50	34.5	N	1400-1500	1746	50.7%	20.5%	0.1%	8.0%	2.9%	2.7%	5.3%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	2.4%	1.9%	1.4%	0.0%	100.0%
Road 5	5	50	34.4	N	1500-1600	1781	50.4%	20.3%	0.1%	9.2%	3.3%	2.3%	4.6%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	2.4%	1.8%	1.2%	0.0%	100.0%
Road 5	5	50	33.4	N	1600-1700	1927	52.8%	18.2%	0.1%	7.2%	2.6%	2.2%	4.4%	0.0%	0.2%	1.2%	1.6%	1.1%	2.4%	0.0%	2.6%	2.5%	1.1%	0.0%	100.0%
Road 5	5	50	32.2	N	1700-1800	2233	57.1%	17.8%	0.1%	6.3%	2.2%	1.4%	2.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.5%	4.9%	0.7%	0.0%	100.0%
Road 5	5	50	31.0	N	1800-1900	2522	66.8%	15.7%	0.0%	3.7%	1.3%	0.8%	1.5%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	2.5%	3.2%	0.4%	0.0%	100.0%
Road 5	5	50	34.0	N	1900-2000	2021	64.9%	20.3%	0.0%	2.8%	1.0%	0.7%	1.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	2.9%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	36.6	N	2000-2100	1570	59.9%	25.4%	0.0%	3.0%	1.1%	0.7%	1.3%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.0%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	36.7	N	2100-2200	1564	61.2%	25.3%	0.0%	3.1%	1.1%	0.7%	1.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	2.7%	2.8%	0.4%	0.0%	100.0%
Road 5	5	50	37.0	N	2200-2300	1527	60.4%	27.3%	0.0%	2.4%	0.8%	0.7%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.9%	2.3%	0.4%	0.0%	100.0%
Road 5	5	50	39.1	N	2300-0000	1138	59.6%	26.8%	0.0%	2.6%	0.9%	0.8%	1.6%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	2.8%	2.6%	0.4%	0.0%	100.0%
Road 6	6	50	43.7	N	0000-0100	565	51.1%	23.0%	0.1%	7.1%	2.5%	2.2%	4.4%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	3.9%	2.6%	1.5%	0.0%	100.0%
Road 6	6	50	45.8	N	0100-0200	371	49.7%	22.2%	0.1%	7.7%	2.7%	2.4%	4.7%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.8%	2.8%	1.7%	0.0%	100.0%
Road 6	6	50	46.9	N	0200-0300	274	48.3%	21.5%	0.1%	8.3%	3.0%	2.6%	5.1%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.7%	3.1%	2.0%	0.0%	100.0%
Road 6	6	50	47.5	N	0300-0400	219	46.9%	20.8%	0.1%	8.8%	3.2%	2.8%	5.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	3.7%	3.3%	2.3%	0.0%	100.0%
Road 6	6	50	47.2	N	0400-0500	242	45.7%	20.2%	0.1%	9.5%	3.4%	3.0%	5.8%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.6%	3.5%	2.3%	0.0%	100.0%
Road 6	6	50	45.0	N	0500-0600	422	44.5%	19.6%	0.1%	10.1%	3.6%	3.2%	6.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.6%	3.8%	2.1%	0.0%	100.0%
Road 6	6	50	39.6	N	0600-0700	911	43.3%	19.0%	0.1%	10.7%	3.8%	3.4%	6.6%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	3.5%	4.1%	1.9%	0.0%	100.0%
Road 6	6	50	33.2	N	0700-0800	1861	42.0%	18.3%	0.1%	11.3%	4.1%	3.5%	7.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.5%	4.3%	2.2%	0.0%	100.0%
Road 6	6	50	31.2	N	0800-0900	2164	46.4%	14.9%	0.1%	12.2%	4.4%	3.4%	6.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	3.1%	2.7%	2.1%	0.0%	100.0%
Road 6	6	50	32.4	N	0900-1000	1889	40.2%	14.6%	0.2%	16.3%	5.8%	4.4%	8.7%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	3.0%	1.6%	2.7%	0.0%	100.0%
Road 6	6	50	33.5	N	1000-1100	1682	36.9%	14.3%	0.2%	16.9%	6.1%	5.4%	10.6%	0.0%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	2.9%	1.1%	3.2%	0.0%	100.0%
Road 6	6	50	34.3	N	1100-1200	1590	36.9%	15.2%	0.2%	16.9%	6.1%	5.3%	10.4%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	3.0%	1.0%	3.2%	0.0%	100.0%
Road 6	6	50	34.1	N	1200-1300	1477	26.7%	10.3%	0.2%	21.6%	7.8%	7.7%	15.2%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	3.3%	0.8%	4.5%	0.0%	100.0%
Road 6	6	50	33.3	N	1300-1400	1575	24.7%	9.5%	0.3%	24.6%	8.8%	7.6%	15.0%	0.0%	0.0%	0.4%	0.4%	0.2%	0.5%	0.0%	3.0%	0.8%	4.4%	0.0%	100.0%
Road 6	6	50	32.9	N	1400-1500	1624	25.6%	10.3%	0.2%	22.6%	8.1%	7.6%	15.0%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	3.1%	1.0%	4.4%	0.0%	100.0%
Road 6	6	50	32.7	N	1500-1600	1676	25.2%	10.1%	0.3%	25.9%	9.3%	6.6%	12.9%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	3.0%	0.9%	3.8%	0.0%	100.0%
Road 6	6	50	32.7	N	1600-1700	1682	28.4%	9.8%	0.2%	21.6%	7.8%	6.8%	13.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.5%	1.3%	3.9%	0.0%	100.0%
Road 6	6	50	32.9	N	1700-1800	1750	34.2%	10.7%	0.2%	21.1%	7.6%	4.8%	9.4%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.8%	2.9%	2.9%	0.0%	100.0%
Road 6	6	50	34.3	N	1800-1900	1666	47.5%	11.2%	0.2%	15.0%	5.4%	3.1%	6.1%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	4.8%	2.1%	2.0%	0.0%	100.0%
Road 6	6	50	37.2	N	1900-2000	1265	48.7%	15.3%	0.1%	11.9%	4.3%	2.8%	5.6%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.4%	1.8%	1.6%	0.0%	100.0%
Road 6	6	50	39.0	N	2000-2100	991	44.6%	18.9%	0.1%	12.5%	4.5%	2.8%	5.4%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	5.6%	1.8%	1.6%	0.0%	100.0%
Road 6	6	50	39.0	N	2100-2200	992	45.3%	18.7%	0.1%	12.7%	4.6%	2.9%	5.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.9%	2.1%	1.7%	0.0%	100.0%
Road 6	6	50	39.4	N	2200-2300	943	46.0%	20.8%	0.1%	10.1%	3.6%	3.2%	6.3%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	5.4%	1.8%	1.8%	0.0%	100.0%
Road 6	6	50	41.4	N	2300-0000	720	44.2%	19.9%	0.1%	11.0%	3.9%	3.5%	6.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.3%	2.0%	2.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 7	7	70	70.0	N	0000-0100	302	56.2%	25.2%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.3%	2.6%	1.2%	0.0%	100.0%
Road 7	7	70	70.0	N	0100-0200	197	55.0%	24.6%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.3%	3.1%	1.6%	0.0%	100.0%
Road 7	7	70	70.0	N	0200-0300	145	53.9%	24.0%	0.0%	4.3%	1.5%	1.4%	2.7%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	4.2%	3.4%	2.0%	0.0%	100.0%
Road 7	7	70	70.0	N	0300-0400	115	52.7%	23.4%	0.0%	4.6%	1.7%	1.5%	2.9%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	4.2%	3.7%	2.4%	0.0%	100.0%
Road 7	7	70	70.0	N	0400-0500	125	51.8%	22.9%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.2%	4.0%	2.3%	0.0%	100.0%
Road 7	7	70	70.0	N	0500-0600	216	51.1%	22.5%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	4.2%	4.4%	1.7%	0.0%	100.0%
Road 7	7	70	70.0	N	0600-0700	461	50.3%	22.0%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	4.2%	4.7%	1.3%	0.0%	100.0%
Road 7	7	70	70.0	N	0700-0800	935	49.1%	21.4%	0.1%	6.2%	2.2%	1.9%	3.8%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	4.1%	5.0%	1.8%	0.0%	100.0%
Road 7	7	70	67.8	N	0800-0900	1081	54.9%	17.6%	0.1%	6.7%	2.4%	1.9%	3.7%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.5%	3.2%	1.6%	0.0%	100.0%
Road 7	7	70	70.0	N	0900-1000	890	50.1%	18.2%	0.1%	9.4%	3.4%	2.6%	5.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.8%	1.9%	2.1%	0.0%	100.0%
Road 7	7	70	70.0	N	1000-1100	771	47.3%	18.4%	0.1%	10.1%	3.6%	3.2%	6.3%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.8%	1.4%	2.6%	0.0%	100.0%
Road 7	7	70	70.0	N	1100-1200	731	47.2%	19.4%	0.1%	10.1%	3.6%	3.1%	6.2%	0.0%	0.1%	0.7%	0.9%	0.5%	1.3%	0.0%	3.7%	1.4%	2.5%	0.0%	100.0%
Road 7	7	70	70.0	N	1200-1300	805	45.1%	17.4%	0.1%	10.4%	3.7%	3.7%	7.3%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	4.0%	1.3%	2.8%	0.0%	100.0%
Road 7	7	70	70.0	N	1300-1400	822	43.6%	16.8%	0.1%	12.3%	4.4%	3.8%	7.5%	0.0%	0.1%	0.6%	0.8%	0.4%	0.9%	0.0%	4.0%	1.3%	2.8%	0.0%	100.0%
Road 7	7	70	69.8	N	1400-1500	876	43.7%	17.7%	0.1%	10.9%	3.9%	3.7%	7.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	4.0%	1.6%	2.7%	0.0%	100.0%
Road 7	7	70	69.5	N	1500-1600	896	43.5%	17.5%	0.1%	12.7%	4.5%	3.2%	6.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	4.4%	1.6%	2.5%	0.0%	100.0%
Road 7	7	70	68.5	N	1600-1700	955	46.2%	15.9%	0.1%	10.0%	3.6%	3.1%	6.1%	0.0%	0.1%	1.1%	1.4%	0.9%	2.1%	0.0%	4.9%	2.2%	2.4%	0.0%	100.0%
Road 7	7	70	67.3	N	1700-1800	1081	51.1%	16.0%	0.1%	8.9%	3.2%	2.0%	4.0%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	5.0%	4.4%	1.7%	0.0%	100.0%
Road 7	7	70	66.4	N	1800-1900	1184	61.7%	14.5%	0.1%	5.5%	2.0%	1.1%	2.3%	0.0%	0.0%	0.1%	1.1%	0.8%	1.6%	0.0%	5.1%	2.9%	1.2%	0.0%	100.0%
Road 7	7	70	70.0	N	1900-2000	939	60.5%	18.9%	0.0%	4.2%	1.5%	1.0%	2.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	5.8%	2.2%	0.7%	0.0%	100.0%
Road 7	7	70	70.0	N	2000-2100	732	55.7%	23.6%	0.0%	4.4%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	6.1%	2.2%	0.8%	0.0%	100.0%
Road 7	7	70	70.0	N	2100-2200	728	57.0%	23.6%	0.0%	4.5%	1.6%	1.0%	2.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.4%	2.6%	0.8%	0.0%	100.0%
Road 7	7	70	70.0	N	2200-2300	709	56.4%	25.5%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.8%	2.2%	0.8%	0.0%	100.0%
Road 7	7	70	70.0	N	2300-0000	531	55.3%	24.9%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.7%	2.4%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0000-0100	30	41.9%	18.8%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.2%	24.8%	2.1%	0.7%	0.0%	100.0%
Road 8	8	70	70.0	N	0100-0200	20	41.1%	18.4%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.2%	24.6%	2.3%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	0200-0300	14	40.2%	17.9%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.2%	24.3%	2.5%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	0300-0400	11	39.4%	17.5%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.2%	24.1%	2.8%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	0400-0500	13	38.6%	17.0%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.2%	23.9%	3.0%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0500-0600	22	37.7%	16.6%	0.1%	6.5%	2.3%	2.0%	4.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.5%	0.2%	23.7%	3.2%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0600-0700	47	36.8%	16.1%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.2%	23.4%	3.4%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	0700-0800	95	36.0%	15.7%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.2%	23.2%	3.7%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0800-0900	108	41.0%	13.1%	0.1%	8.2%	2.9%	2.3%	4.5%	0.0%	0.1%	0.6%	0.8%	0.6%	1.6%	0.2%	21.1%	2.4%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0900-1000	92	36.2%	13.2%	0.1%	11.1%	4.0%	3.0%	5.9%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	21.0%	1.4%	1.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1000-1100	81	33.9%	13.1%	0.1%	11.8%	4.2%	3.7%	7.3%	0.0%	0.0%	0.4%	0.6%	0.4%	0.8%	0.1%	20.6%	1.0%	1.9%	0.0%	100.0%
Road 8	8	70	70.0	N	1100-1200	77	33.6%	12.9%	0.1%	11.7%	4.2%	3.6%	7.2%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.2%	20.5%	0.9%	1.9%	0.0%	100.0%
Road 8	8	70	70.0	N	1200-1300	219	29.9%	11.5%	0.2%	16.5%	5.9%	5.9%	11.6%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	12.4%	0.9%	3.0%	0.0%	100.0%
Road 8	8	70	70.0	N	1300-1400	229	28.2%	10.9%	0.2%	19.1%	6.9%	5.9%	11.6%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.1%	11.5%	0.9%	3.0%	0.0%	100.0%
Road 8	8	70	70.0	N	1400-1500	239	28.9%	11.7%	0.2%	17.3%	6.2%	5.9%	11.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	11.7%	1.1%	3.0%	0.0%	100.0%
Road 8	8	70	70.0	N	1500-1600	245	28.6%	11.5%	0.2%	20.0%	7.2%	5.1%	9.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.1%	11.4%	1.0%	2.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1600-1700	254	31.2%	10.8%	0.2%	16.2%	5.8%	5.1%	9.9%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	13.0%	1.5%	2.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1700-1800	274	36.3%	11.3%	0.2%	15.2%	5.5%	3.4%	6.8%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	13.8%	3.1%	1.8%	0.0%	100.0%
Road 8	8	70	70.0	N	1800-1900	278	47.4%	11.1%	0.1%	10.1%	3.6%	2.1%	4.2%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.1%	15.2%	2.3%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1900-2000	219	46.7%	14.6%	0.1%	7.8%	2.8%	1.9%	3.6%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.1%	17.5%	1.7%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	2000-2100	172	42.6%	18.1%	0.1%	8.2%	2.9%	1.8%	3.5%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	18.2%	1.7%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	2100-2200	169	44.1%	18.2%	0.1%	8.4%	3.0%	1.9%	3.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	16.3%	2.0%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	2200-2300	164	43.8%	19.8%	0.1%	6.5%	2.3%	2.1%	4.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	17.6%	1.7%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	2300-0000	124	42.6%	19.2%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	17.3%	1.9%	1.2%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

| Road Name |

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 13	13	50	27.6	N	0000-0100	20	4.7%	2.1%	0.0%	0.9%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	90.8%	0.0%	100.0%
Road 13	13	50	27.6	N	0100-0200	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	93.7%	0.0%	100.0%
Road 13	13	50	27.6	N	0200-0300	19	2.3%	1.0%	0.0%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	95.3%	0.0%	100.0%
Road 13	13	50	27.7	N	0300-0400	19	1.8%	0.8%	0.0%	0.5%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	96.2%	0.0%	100.0%
Road 13	13	50	27.6	N	0400-0500	19	1.9%	0.8%	0.0%	0.6%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	95.7%	0.0%	100.0%
Road 13	13	50	27.6	N	0500-0600	20	3.1%	1.4%	0.0%	1.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	92.8%	0.0%	100.0%
Road 13	13	50	27.5	N	0600-0700	22	6.0%	2.6%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	85.5%	0.0%	100.0%
Road 13	13	50	24.1	N	0700-0800	77	3.1%	1.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	91.7%	0.0%	100.0%
Road 13	13	50	24.1	N	0800-0900	78	4.2%	1.3%	0.0%	1.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	90.4%	0.0%	100.0%
Road 13	13	50	24.1	N	0900-1000	78	3.2%	1.2%	0.0%	1.8%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	91.3%	0.0%	100.0%
Road 13	13	50	24.1	N	1000-1100	77	2.6%	1.0%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	92.1%	0.0%	100.0%
Road 13	13	50	24.1	N	1100-1200	77	2.5%	1.0%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	92.5%	0.0%	100.0%
Road 13	13	50	24.1	N	1200-1300	77	2.8%	1.1%	0.0%	1.5%	0.5%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	92.1%	0.0%	100.0%
Road 13	13	50	24.1	N	1300-1400	77	2.8%	1.1%	0.0%	1.8%	0.7%	0.6%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	91.7%	0.0%	100.0%
Road 13	13	50	24.1	N	1400-1500	78	2.9%	1.2%	0.0%	1.7%	0.6%	0.6%	1.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	91.4%	0.0%	100.0%
Road 13	13	50	24.1	N	1500-1600	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	91.1%	0.0%	100.0%
Road 13	13	50	24.1	N	1600-1700	78	3.4%	1.2%	0.0%	2.2%	0.8%	0.5%	1.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	91.0%	0.0%	100.0%
Road 13	13	50	24.1	N	1700-1800	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	90.3%	0.0%	100.0%
Road 13	13	50	24.1	N	1800-1900	79	5.6%	1.3%	0.0%	1.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	90.2%	0.0%	100.0%
Road 13	13	50	27.6	N	1900-2000	24	13.9%	4.4%	0.0%	2.3%	0.8%	0.5%	1.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	75.7%	0.0%	100.0%
Road 13	13	50	27.4	N	2000-2100	23	10.6%	4.5%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	80.0%	0.0%	100.0%
Road 13	13	50	27.4	N	2100-2200	23	10.7%	4.4%	0.0%	2.0%	0.7%	0.5%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	79.9%	0.0%	100.0%
Road 13	13	50	27.4	N	2200-2300	23	10.4%	4.7%	0.0%	1.5%	0.5%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	80.7%	0.0%	100.0%
Road 13	13	50	27.5	N	2300-0000	22	8.1%	3.6%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	84.7%	0.0%	100.0%
Road 14	14	50	45.7	N	0000-0100	379	52.2%	23.4%	0.0%	4.6%	1.7%	1.5%	2.9%	0.2%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	3.5%	2.6%	5.6%	0.0%	100.0%
Road 14	14	50	47.0	N	0100-0200	253	49.9%	22.3%	0.1%	4.9%	1.8%	1.6%	3.1%	0.2%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	3.8%	2.8%	8.1%	0.0%	100.0%
Road 14	14	50	47.7	N	0200-0300	191	47.6%	21.2%	0.1%	5.2%	1.9%	1.6%	3.2%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	3.0%	10.5%	0.0%	100.0%
Road 14	14	50	48.1	N	0300-0400	155	45.4%	20.1%	0.1%	5.5%	2.0%	1.7%	3.4%	0.2%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.1%	3.2%	12.8%	0.0%	100.0%
Road 14	14	50	47.9	N	0400-0500	169	44.9%	19.8%	0.1%	6.0%	2.2%	1.9%	3.7%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.1%	3.5%	11.9%	0.0%	100.0%
Road 14	14	50	46.7	N	0500-0600	282	48.0%	20.2%	0.1%	6.7%	2.4%	2.1%	4.1%	0.2%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.2%	3.9%	7.7%	0.0%	100.0%
Road 14	14	50	43.2	N	0600-0700	580	46.5%	20.4%	0.1%	7.4%	2.7%	2.3%	4.6%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	3.3%	4.4%	4.4%	0.0%	100.0%
Road 14	14	50	37.4	N	0700-0800	1210	44.2%	19.2%	0.1%	7.7%	2.8%	2.4%	4.7%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	3.2%	4.5%	7.1%	0.0%	100.0%
Road 14	14	50	36.3	N	0800-0900	1392	49.6%	15.9%	0.1%	8.4%	3.0%	2.3%	4.6%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	2.9%	6.3%	0.0%	100.0%
Road 14	14	50	37.3	N	0900-1000	1183	43.9%	15.9%	0.1%	11.5%	4.1%	3.1%	6.1%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	2.9%	1.7%	7.6%	0.0%	100.0%
Road 14	14	50	38.1	N	1000-1100	1043	40.7%	15.8%	0.1%	12.1%	4.3%	3.8%	7.5%	0.2%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	2.8%	1.2%	8.8%	0.0%	100.0%
Road 14	14	50	38.5	N	1100-1200	992	40.5%	16.7%	0.1%	12.0%	4.3%	3.7%	7.4%	0.2%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.0%	2.8%	1.1%	9.1%	0.0%	100.0%
Road 14	14	50	35.0	N	1200-1300	1344	28.2%	10.9%	0.2%	19.1%	6.8%	6.8%	13.4%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	2.9%	0.8%	8.8%	0.0%	100.0%
Road 14	14	50	34.4	N	1300-1400	1421	26.3%	10.1%	0.2%	21.9%	7.9%	6.8%	13.3%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	2.6%	0.8%	8.5%	0.0%	100.0%
Road 14	14	50	34.0	N	1400-1500	1471	27.2%	11.0%	0.2%	20.0%	7.2%	6.8%	13.3%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.0%	8.3%	0.0%	100.0%
Road 14	14	50	33.8	N	1500-1600	1514	26.8%	10.8%	0.2%	23.0%	8.3%	5.8%	11.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	0.0%	2.6%	1.0%	7.7%	0.0%	100.0%
Road 14	14	50	33.7	N	1600-1700	1531	30.0%	10.3%	0.2%	19.1%	6.9%	6.0%	11.7%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	3.1%	1.4%	7.7%	0.0%	100.0%
Road 14	14	50	33.8	N	1700-1800	1610	35.8%	11.2%	0.2%	18.4%	6.6%	4.2%	8.2%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	3.3%	3.1%	6.5%	0.0%	100.0%
Road 14	14	50	34.8	N	1800-1900	1572	48.5%	11.4%	0.1%	12.7%	4.6%	2.7%	5.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	3.8%	2.3%	5.9%	0.0%	100.0%
Road 14	14	50	37.9	N	1900-2000	1170	50.7%	15.9%	0.1%	10.4%	3.7%	2.5%	4.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	4.7%	1.9%	2.8%	0.0%	100.0%
Road 14	14	50	39.5	N	2000-2100	919	46.2%	19.6%	0.1%	10.9%	3.9%	2.4%	4.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	4.9%	1.8%	3.2%	0.0%	100.0%
Road 14	14	50	39.5	N	2100-2200	919	47.0%	19.5%	0.1%	11.0%	4.0%	2.5%	5.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	4.3%	2.1%	3.3%	0.0%	100.0%
Road 14	14	50	39.8	N	2200-2300	878	47.5%	21.4%	0.1%	8.7%	3.1%	2.8%	5.4%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	4.7%	1.8%	3.5%	0.0%	100.0%
Road 14	14	50	42.0	N	2300-0000	672	45.5%	20.5%	0.1%	9.5%	3.4%	3.0%	5.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	4.5%	2.0%	4.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 15	15	50	48.1	N	0000-0100	73	43.7%	19.6%	0.0%	4.6%	1.7%	1.5%	2.9%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	1.3%	2.2%	20.9%	0.0%	100.0%
Road 15	15	50	48.5	N	0100-0200	53	38.6%	17.3%	0.0%	4.6%	1.6%	1.4%	2.8%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	1.2%	2.2%	28.6%	0.0%	100.0%
Road 15	15	50	48.7	N	0200-0300	43	34.3%	15.3%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	1.1%	2.2%	35.2%	0.0%	100.0%
Road 15	15	50	48.8	N	0300-0400	37	30.7%	13.6%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	1.0%	2.2%	40.6%	0.0%	100.0%
Road 15	15	50	48.8	N	0400-0500	39	31.1%	13.8%	0.1%	4.9%	1.8%	1.6%	3.1%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	1.0%	2.4%	38.3%	0.0%	100.0%
Road 15	15	50	48.4	N	0500-0600	58	36.1%	15.9%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	1.2%	3.1%	26.7%	0.0%	100.0%
Road 15	15	50	47.2	N	0600-0700	107	40.8%	17.9%	0.1%	7.7%	2.8%	2.4%	4.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	1.4%	3.8%	15.0%	0.0%	100.0%
Road 15	15	50	43.1	N	0700-0800	244	35.4%	15.4%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	1.2%	3.6%	24.4%	0.0%	100.0%
Road 15	15	50	42.4	N	0800-0900	275	40.6%	13.0%	0.1%	8.2%	2.9%	2.3%	4.5%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	1.1%	2.4%	21.8%	0.0%	100.0%
Road 15	15	50	43.0	N	0900-1000	243	34.6%	12.5%	0.1%	10.7%	3.9%	2.9%	5.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	1.0%	1.3%	24.9%	0.0%	100.0%
Road 15	15	50	43.4	N	1000-1100	221	31.1%	12.1%	0.1%	11.0%	3.9%	3.5%	6.8%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	1.0%	0.9%	27.5%	0.0%	100.0%
Road 15	15	50	43.6	N	1100-1200	212	30.6%	12.6%	0.1%	10.8%	3.9%	3.4%	6.6%	0.0%	0.1%	0.3%	0.5%	0.4%	0.8%	0.0%	1.0%	0.9%	28.5%	0.0%	100.0%
Road 15	15	50	40.0	N	1200-1300	332	25.3%	9.7%	0.2%	17.0%	6.1%	6.1%	12.0%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	0.6%	0.8%	20.3%	0.0%	100.0%
Road 15	15	50	39.7	N	1300-1400	349	23.7%	9.1%	0.2%	19.6%	7.1%	6.1%	12.0%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.6%	0.7%	19.4%	0.0%	100.0%
Road 15	15	50	39.6	N	1400-1500	359	24.6%	10.0%	0.2%	18.1%	6.5%	6.1%	12.0%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	0.6%	0.9%	18.9%	0.0%	100.0%
Road 15	15	50	39.5	N	1500-1600	369	24.4%	9.8%	0.2%	20.8%	7.5%	5.3%	10.4%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	0.6%	0.9%	18.1%	0.0%	100.0%
Road 15	15	50	39.5	N	1600-1700	372	27.4%	9.4%	0.2%	17.3%	6.2%	5.4%	10.6%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.7%	1.3%	18.1%	0.0%	100.0%
Road 15	15	50	39.6	N	1700-1800	388	32.9%	10.3%	0.2%	16.8%	6.0%	3.8%	7.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.8%	2.8%	16.6%	0.0%	100.0%
Road 15	15	50	40.0	N	1800-1900	379	44.5%	10.5%	0.1%	11.7%	4.2%	2.4%	4.8%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.9%	2.1%	16.2%	0.0%	100.0%
Road 15	15	50	43.8	N	1900-2000	260	50.4%	15.8%	0.1%	10.3%	3.7%	2.4%	4.8%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	1.2%	1.9%	6.9%	0.0%	100.0%
Road 15	15	50	45.0	N	2000-2100	207	45.6%	19.3%	0.1%	10.7%	3.8%	2.4%	4.6%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	1.2%	1.8%	8.4%	0.0%	100.0%
Road 15	15	50	45.0	N	2100-2200	208	46.1%	19.1%	0.1%	10.8%	3.9%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	1.1%	2.1%	8.4%	0.0%	100.0%
Road 15	15	50	45.3	N	2200-2300	198	46.6%	21.1%	0.1%	8.5%	3.0%	2.7%	5.3%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	1.2%	1.8%	8.8%	0.0%	100.0%
Road 15	15	50	46.2	N	2300-0000	154	43.9%	19.8%	0.1%	9.1%	3.3%	2.9%	5.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	1.1%	1.9%	11.0%	0.0%	100.0%
Road 16	16	70	67.8	N	0000-0100	305	54.2%	24.3%	0.0%	4.6%	1.7%	1.5%	2.9%	0.2%	0.0%	0.2%	0.1%	0.3%	0.8%	0.0%	4.0%	2.7%	1.9%	0.0%	100.0%
Road 16	16	70	68.5	N	0100-0200	200	52.8%	23.6%	0.1%	5.1%	1.8%	1.6%	3.1%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.9%	3.0%	2.6%	0.0%	100.0%
Road 16	16	70	69.1	N	0200-0300	148	51.4%	22.9%	0.1%	5.5%	2.0%	1.7%	3.4%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.8%	3.3%	3.3%	0.0%	100.0%
Road 16	16	70	69.1	N	0300-0400	118	50.0%	22.2%	0.1%	5.9%	2.1%	1.8%	3.6%	0.2%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.8%	3.5%	4.0%	0.0%	100.0%
Road 16	16	70	69.0	N	0400-0500	129	49.0%	21.7%	0.1%	6.3%	2.3%	2.0%	3.9%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.8%	3.8%	3.8%	0.0%	100.0%
Road 16	16	70	68.3	N	0500-0600	222	48.5%	21.4%	0.1%	6.8%	2.5%	2.2%	4.2%	0.2%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.8%	4.1%	2.7%	0.0%	100.0%
Road 16	16	70	66.4	N	0600-0700	473	47.8%	21.0%	0.1%	7.4%	2.6%	2.3%	4.5%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.8%	4.5%	2.0%	0.0%	100.0%
Road 16	16	70	61.2	N	0700-0800	966	46.4%	20.2%	0.1%	7.8%	2.8%	2.4%	4.7%	0.2%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.7%	4.7%	2.7%	0.0%	100.0%
Road 16	16	70	56.1	N	0800-0900	1117	51.8%	16.6%	0.1%	8.4%	3.0%	2.4%	4.6%	0.2%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	3.3%	3.0%	2.9%	0.0%	100.0%
Road 16	16	70	60.9	N	0900-1000	940	46.3%	16.8%	0.1%	11.6%	4.2%	3.2%	6.2%	0.2%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.9%	1.7%	7.6%	0.0%	100.0%
Road 16	16	70	63.3	N	1000-1100	823	43.3%	16.8%	0.1%	12.3%	4.4%	3.9%	7.7%	0.2%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	2.8%	1.2%	8.8%	0.0%	100.0%
Road 16	16	70	63.7	N	1100-1200	780	43.2%	17.8%	0.1%	12.3%	4.4%	3.8%	7.5%	0.2%	0.1%	0.7%	0.4%	0.3%	0.7%	0.0%	2.8%	1.1%	9.1%	0.0%	100.0%
Road 16	16	70	52.8	N	1200-1300	1013	29.1%	11.2%	0.2%	19.7%	7.1%	7.1%	13.9%	0.0%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	0.6%	0.9%	5.0%	0.0%	100.0%
Road 16	16	70	50.1	N	1300-1400	1072	27.1%	10.4%	0.2%	22.6%	8.1%	7.0%	13.8%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.6%	0.8%	4.9%	0.0%	100.0%
Road 16	16	70	48.7	N	1400-1500	1111	28.0%	11.3%	0.2%	20.7%	7.4%	7.0%	13.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.6%	0.9%	5.0%	0.0%	100.0%
Road 16	16	70	47.9	N	1500-1600	1145	27.6%	11.1%	0.2%	23.7%	8.5%	6.0%	11.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.6%	0.9%	4.3%	0.0%	100.0%
Road 16	16	70	47.4	N	1600-1700	1159	30.8%	10.6%	0.2%	19.7%	7.1%	6.1%	12.1%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.8%	1.5%	4.4%	0.0%	100.0%
Road 16	16	70	47.7	N	1700-1800	1222	36.7%	11.5%	0.2%	18.9%	6.8%	4.3%	8.4%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.8%	4.1%	3.2%	3.3%	100.0%
Road 16	16	70	51.5	N	1800-1900	1193	49.7%	11.7%	0.1%	13.1%	4.7%	2.7%	5.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.9%	4.7%	2.4%	2.6%	100.0%
Road 16	16	70	62.5	N	1900-2000	909	50.7%	15.9%	0.1%	10.4%	3.7%	2.5%	4.9%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	4.7%	1.9%	2.8%	100.0%
Road 16	16	70	64.4	N	2000-2100	712	46.4%	19.7%	0.1%	10.9%	3.9%	2.4%	4.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	5.9%	1.9%	1.7%	100.0%
Road 16	16	70	64.5	N	2100-2200	712	47.3%	19.6%	0.1%	11.1%	4.0%	2.5%	5.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	5.2%	2.2%	1.8%	100.0%
Road 16	16	70	64.7	N	2200-2300	680	47.7%	21.6%	0.1%	8.7%	3.1%	2.8%	5.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	5.7%	1.8%	2.0%	100.0%
Road 16	16	70	65.9	N	2300-0000	518	46.0%	20.7%	0.1%	9.6%	3.4%	3.0%	6.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	5.6%	2.0%	2.3%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 21	21	70	68.1	N	0000-0100	540	50.3%	22.6%	0.1%	8.1%	2.9%	2.6%	5.0%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.2%	2.5%	2.0%	0.0%	100.0%
Road 21	21	70	68.7	N	0100-0200	356	48.7%	21.8%	0.1%	8.8%	3.1%	2.8%	5.4%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.1%	2.8%	2.4%	0.0%	100.0%
Road 21	21	70	69.0	N	0200-0300	265	47.1%	21.0%	0.1%	9.4%	3.4%	3.0%	5.8%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.1%	3.0%	2.9%	0.0%	100.0%
Road 21	21	70	69.2	N	0300-0400	212	45.5%	20.2%	0.1%	10.0%	3.6%	3.2%	6.2%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.0%	3.2%	3.3%	0.0%	100.0%
Road 21	21	70	69.1	N	0400-0500	235	44.2%	19.5%	0.1%	10.7%	3.8%	3.4%	6.6%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.0%	3.4%	3.3%	0.0%	100.0%
Road 21	21	70	68.5	N	0500-0600	409	43.2%	19.0%	0.1%	11.4%	4.1%	3.6%	7.0%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.0%	3.7%	2.7%	0.0%	100.0%
Road 21	21	70	66.7	N	0600-0700	883	42.0%	18.4%	0.1%	12.1%	4.4%	3.8%	7.5%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	1.9%	3.9%	2.4%	0.0%	100.0%
Road 21	21	70	63.1	N	0700-0800	1813	40.5%	17.6%	0.1%	12.7%	4.6%	4.0%	7.8%	0.1%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	1.9%	4.1%	2.8%	0.0%	100.0%
Road 21	21	70	58.5	N	0800-0900	2114	44.9%	14.4%	0.1%	13.8%	4.9%	3.9%	7.6%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	1.7%	2.6%	2.6%	0.0%	100.0%
Road 21	21	70	61.0	N	0900-1000	1874	38.1%	13.8%	0.2%	18.0%	6.5%	4.9%	9.6%	0.1%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	1.6%	1.5%	3.3%	0.0%	100.0%
Road 21	21	70	63.1	N	1000-1100	1682	34.7%	13.5%	0.2%	18.6%	6.7%	5.9%	11.6%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	1.5%	1.1%	3.9%	0.0%	100.0%
Road 21	21	70	63.5	N	1100-1200	1589	34.7%	14.3%	0.2%	18.6%	6.7%	5.8%	11.4%	0.1%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	1.6%	1.0%	3.9%	0.0%	100.0%
Road 21	21	70	63.7	N	1200-1300	1396	22.7%	8.7%	0.3%	24.2%	8.7%	8.7%	17.0%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	2.0%	0.7%	5.5%	0.0%	100.0%
Road 21	21	70	63.2	N	1300-1400	1503	20.8%	8.0%	0.3%	27.2%	9.8%	8.4%	16.6%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	1.8%	0.6%	5.3%	0.0%	100.0%
Road 21	21	70	63.1	N	1400-1500	1539	21.7%	8.8%	0.3%	25.2%	9.0%	8.5%	16.7%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	1.9%	0.8%	5.3%	0.0%	100.0%
Road 21	21	70	62.7	N	1500-1600	1591	21.3%	8.6%	0.3%	28.8%	10.3%	7.3%	14.3%	0.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	1.8%	0.8%	4.6%	0.0%	100.0%
Road 21	21	70	63.0	N	1600-1700	1573	24.4%	8.4%	0.3%	24.4%	8.8%	7.8%	15.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.2%	1.1%	4.8%	0.0%	100.0%
Road 21	21	70	63.3	N	1700-1800	1601	30.1%	9.4%	0.3%	24.3%	8.7%	5.5%	10.8%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.4%	2.6%	3.7%	0.0%	100.0%
Road 21	21	70	64.3	N	1800-1900	1463	43.5%	10.2%	0.2%	18.0%	6.5%	3.8%	7.4%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	3.0%	2.1%	2.9%	0.0%	100.0%
Road 21	21	70	65.8	N	1900-2000	1088	45.5%	14.3%	0.2%	14.7%	5.3%	3.5%	6.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	3.6%	1.7%	2.1%	0.0%	100.0%
Road 21	21	70	66.7	N	2000-2100	854	41.6%	17.7%	0.2%	15.4%	5.5%	3.4%	6.7%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	3.8%	1.7%	2.2%	0.0%	100.0%
Road 21	21	70	66.7	N	2100-2200	858	42.1%	17.4%	0.2%	15.6%	5.6%	3.6%	7.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	3.3%	1.9%	2.3%	0.0%	100.0%
Road 21	21	70	66.9	N	2200-2300	808	43.1%	19.5%	0.1%	12.4%	4.5%	3.9%	7.7%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	3.7%	1.7%	2.5%	0.0%	100.0%
Road 21	21	70	67.6	N	2300-0000	622	41.1%	18.5%	0.1%	13.4%	4.8%	4.3%	8.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.6%	1.8%	2.8%	0.0%	100.0%
Road 22	22	50	26.2	N	0000-0100	48	14.1%	6.3%	0.3%	31.7%	11.4%	10.0%	19.7%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.2%	0.0%	100.0%
Road 22	22	50	27.3	N	0100-0200	34	12.9%	5.8%	0.3%	32.4%	11.7%	10.2%	20.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.3%	0.0%	100.0%
Road 22	22	50	27.9	N	0200-0300	26	11.9%	5.3%	0.3%	33.1%	11.9%	10.4%	20.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	5.3%	0.0%	100.0%
Road 22	22	50	28.2	N	0300-0400	22	10.9%	4.9%	0.4%	33.6%	12.1%	10.6%	20.8%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.8%	5.4%	0.0%	100.0%
Road 22	22	50	27.9	N	0400-0500	26	10.1%	4.5%	0.4%	34.1%	12.3%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.5%	0.0%	100.0%
Road 22	22	50	26.1	N	0500-0600	47	9.3%	4.1%	0.4%	34.6%	12.4%	10.8%	21.3%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.6%	0.0%	100.0%
Road 22	22	50	24.2	N	0600-0700	107	8.7%	3.8%	0.4%	35.0%	12.6%	11.0%	21.5%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.6%	0.0%	100.0%
Road 22	22	50	22.2	N	0700-0800	229	8.0%	3.5%	0.4%	35.3%	12.7%	11.1%	21.8%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.7%	0.0%	100.0%
Road 22	22	50	21.5	N	0800-0900	273	8.7%	2.8%	0.4%	37.3%	13.4%	10.4%	20.5%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	5.4%	0.0%	100.0%
Road 22	22	50	21.0	N	0900-1000	300	6.0%	2.2%	0.4%	39.4%	14.1%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.5%	0.0%	100.0%
Road 22	22	50	21.0	N	1000-1100	293	5.0%	1.9%	0.4%	37.4%	13.4%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.1%	0.0%	100.0%
Road 22	22	50	21.3	N	1100-1200	275	5.0%	2.1%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 22	22	50	21.2	N	1200-1300	283	6.5%	2.5%	0.4%	34.5%	12.4%	12.4%	24.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	0.2%	6.4%	0.0%	100.0%
Road 22	22	50	20.7	N	1300-1400	316	5.8%	2.2%	0.4%	37.4%	13.4%	11.6%	22.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.2%	0.2%	5.9%	0.0%	100.0%
Road 22	22	50	20.7	N	1400-1500	315	6.2%	2.5%	0.4%	35.6%	12.8%	12.0%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.2%	0.2%	6.2%	0.0%	100.0%
Road 22	22	50	20.5	N	1500-1600	328	6.0%	2.4%	0.4%	40.0%	14.5%	10.2%	20.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 22	22	50	20.9	N	1600-1700	307	7.3%	2.5%	0.4%	36.2%	13.0%	11.3%	22.2%	0.0%	0.0%	0.0%	0.2%	0.2%	0.2%	0.1%	0.3%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 22	22	50	21.4	N	1700-1800	284	9.9%	3.1%	0.4%	39.6%	14.2%	9.0%	17.6%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	4.6%	0.0%	100.0%
Road 22	22	50	22.8	N	1800-1900	209	17.7%	4.2%	0.4%	36.4%	13.1%	7.6%	14.9%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	3.9%	0.0%	100.0%
Road 22	22	50	23.8	N	1900-2000	142	20.4%	6.4%	0.3%	32.5%	11.7%	7.8%	15.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	4.0%	0.0%	100.0%
Road 22	22	50	24.3	N	2000-2100	112	18.4%	7.8%	0.4%	33.8%	12.1%	7.4%	14.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	3.8%	0.0%	100.0%
Road 22	22	50	24.3	N	2100-2200	115	18.3%	7.6%	0.4%	33.6%	12.1%	7.7%	15.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 22	22	50	24.4	N	2200-2300	102	19.8%	9.0%	0.3%	28.3%	10.2%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.6%	0.0%	100.0%
Road 22	22	50	24.7	N	2300-0000	82	18.1%	8.2%	0.3%	29.3%	10.5%	9.3%	18.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.8%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles <=15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 23	23	50	29.1	N	0000-0100	11	8.7%	3.9%	0.4%	35.1%	12.6%	11.1%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 23	23	50	29.4	N	0100-0200	8	7.9%	3.5%	0.4%	35.6%	12.8%	11.2%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 23	23	50	29.5	N	0200-0300	6	7.2%	3.2%	0.4%	36.0%	12.9%	11.3%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.8%	0.0%	100.0%
Road 23	23	50	29.6	N	0300-0400	5	6.6%	2.9%	0.4%	36.4%	13.1%	11.4%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.5	N	0400-0500	6	6.0%	2.7%	0.4%	36.7%	13.2%	11.5%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.1	N	0500-0600	11	5.6%	2.4%	0.4%	37.0%	13.3%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	27.9	N	0600-0700	25	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	25.4	N	0700-0800	54	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	24.9	N	0800-0900	65	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	0900-1000	72	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	1000-1100	71	2.9%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 23	23	50	24.9	N	1100-1200	67	2.9%	1.2%	0.4%	38.9%	14.0%	12.2%	23.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 23	23	50	24.8	N	1200-1300	67	3.2%	1.2%	0.4%	36.4%	13.1%	13.0%	25.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.7%	0.0%	100.0%
Road 23	23	50	24.7	N	1300-1400	76	2.8%	1.1%	0.4%	39.1%	14.1%	12.1%	23.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 23	23	50	24.9	N	1400-1500	75	3.1%	1.2%	0.4%	37.4%	13.4%	12.7%	24.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.5%	0.0%	100.0%
Road 23	23	50	24.7	N	1500-1600	78	3.0%	1.2%	0.4%	42.4%	15.2%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.5%	0.0%	100.0%
Road 23	23	50	24.8	N	1600-1700	72	3.6%	1.3%	0.4%	38.5%	13.8%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 23	23	50	24.9	N	1700-1800	66	5.0%	1.6%	0.4%	42.9%	15.4%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.0%	0.0%	100.0%
Road 23	23	50	26.3	N	1800-1900	46	9.5%	2.2%	0.4%	41.6%	15.0%	8.7%	17.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 23	23	50	27.6	N	1900-2000	30	11.3%	3.5%	0.4%	38.3%	13.7%	9.1%	18.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.7%	0.0%	100.0%
Road 23	23	50	28.1	N	2000-2100	24	10.1%	4.3%	0.4%	39.6%	14.2%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 23	23	50	28.0	N	2100-2200	25	10.1%	4.2%	0.4%	39.2%	14.1%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.5%	4.6%	0.0%	100.0%
Road 23	23	50	28.2	N	2200-2300	22	11.1%	5.0%	0.4%	33.6%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.5%	0.0%	100.0%
Road 23	23	50	28.6	N	2300-0000	18	9.9%	4.5%	0.4%	34.3%	12.3%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	28.9	N	0000-0100	13	7.4%	3.3%	0.4%	35.9%	12.9%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 24	24	50	29.2	N	0100-0200	9	6.7%	3.0%	0.4%	36.4%	13.1%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 24	24	50	29.4	N	0200-0300	7	6.1%	2.7%	0.4%	36.7%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 24	24	50	29.5	N	0300-0400	6	5.6%	2.5%	0.4%	37.1%	13.3%	11.7%	22.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 24	24	50	29.4	N	0400-0500	7	5.1%	2.3%	0.4%	37.3%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 24	24	50	28.9	N	0500-0600	13	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.1%	0.0%	100.0%
Road 24	24	50	27.5	N	0600-0700	30	4.3%	1.9%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.1%	0.0%	100.0%
Road 24	24	50	24.9	N	0700-0800	64	4.0%	1.7%	0.4%	38.0%	13.7%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.1%	0.0%	100.0%
Road 24	24	50	24.7	N	0800-0900	77	4.3%	1.4%	0.4%	40.0%	14.4%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 24	24	50	24.5	N	0900-1000	86	2.9%	1.0%	0.4%	41.3%	14.8%	11.3%	22.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 24	24	50	24.5	N	1000-1100	85	2.4%	0.9%	0.4%	39.0%	14.0%	12.4%	24.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.4%	6.4%	0.0%	100.0%
Road 24	24	50	24.6	N	1100-1200	79	2.4%	1.0%	0.4%	39.2%	14.1%	12.3%	24.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.4%	6.3%	0.0%	100.0%
Road 24	24	50	24.6	N	1200-1300	80	2.7%	1.0%	0.4%	36.7%	13.2%	13.1%	25.8%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.8%	0.0%	100.0%
Road 24	24	50	24.4	N	1300-1400	90	2.4%	0.9%	0.4%	39.4%	14.2%	12.2%	24.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.4%	6.3%	0.0%	100.0%
Road 24	24	50	24.4	N	1400-1500	89	2.6%	1.0%	0.4%	37.7%	13.5%	12.8%	25.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.6%	0.0%	100.0%
Road 24	24	50	24.4	N	1500-1600	93	2.5%	1.0%	0.4%	42.7%	15.3%	10.8%	21.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	24.5	N	1600-1700	86	3.1%	1.1%	0.4%	38.8%	13.9%	12.1%	23.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.2%	0.0%	100.0%
Road 24	24	50	24.7	N	1700-1800	78	4.2%	1.3%	0.5%	43.5%	15.6%	9.8%	19.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.1%	0.0%	100.0%
Road 24	24	50	25.6	N	1800-1900	54	8.1%	1.9%	0.4%	42.5%	15.3%	8.9%	17.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 24	24	50	27.1	N	1900-2000	35	9.6%	3.0%	0.4%	39.3%	14.1%	9.4%	18.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%
Road 24	24	50	27.7	N	2000-2100	28	8.7%	3.7%	0.4%	40.7%	14.6%	9.0%	17.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.6%	0.0%	100.0%
Road 24	24	50	27.7	N	2100-2200	29	8.6%	3.5%	0.4%	40.2%	14.4%	9.3%	18.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%
Road 24	24	50	27.9	N	2200-2300	25	9.5%	4.3%	0.4%	34.6%	12.4%	11.0%	21.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	28.3	N	2300-0000	21	8.5%	3.8%	0.4%	35.2%	12.6%	11.2%	21.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 29	29	80	80.0	N	0000-0100	705	56.1%	25.2%	0.0%	3.2%	1.1%	1.0%	2.0%	0.6%	0.0%	0.2%	0.5%	0.4%	0.6%	0.0%	3.8%	2.8%	2.1%	0.0%	100.0%
Road 29	29	80	80.0	N	0100-0200	462	54.8%	24.5%	0.0%	3.5%	1.3%	1.1%	2.2%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.8%	3.1%	3.0%	0.0%	100.0%
Road 29	29	80	80.0	N	0200-0300	340	53.4%	23.8%	0.0%	3.8%	1.4%	1.2%	2.3%	0.6%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.7%	3.4%	3.8%	0.0%	100.0%
Road 29	29	80	80.0	N	0300-0400	271	52.0%	23.1%	0.0%	4.1%	1.5%	1.3%	2.5%	0.6%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	3.7%	3.7%	4.7%	0.0%	100.0%
Road 29	29	80	80.0	N	0400-0500	296	51.2%	22.7%	0.0%	4.4%	1.6%	1.4%	2.7%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.7%	4.0%	4.4%	0.0%	100.0%
Road 29	29	80	80.0	N	0500-0600	504	51.1%	22.5%	0.1%	4.8%	1.7%	1.5%	3.0%	0.6%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	3.7%	4.4%	3.0%	0.0%	100.0%
Road 29	29	80	80.0	N	0600-0700	1066	50.7%	22.2%	0.1%	5.2%	1.9%	1.6%	3.2%	0.7%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	3.7%	4.7%	1.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0700-0800	2173	49.3%	21.5%	0.1%	6.0%	2.2%	1.7%	3.4%	0.7%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.7%	5.0%	2.8%	0.0%	100.0%
Road 29	29	80	80.0	N	0800-0900	2503	55.2%	17.7%	0.1%	6.0%	2.2%	1.7%	3.3%	0.5%	0.1%	0.8%	1.1%	0.7%	1.6%	0.0%	3.3%	3.2%	2.6%	0.0%	100.0%
Road 29	29	80	80.0	N	0900-1000	2055	50.6%	18.4%	0.1%	8.5%	3.0%	2.3%	4.5%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.4%	2.0%	3.2%	0.0%	100.0%
Road 29	29	80	80.0	N	1000-1100	1776	47.9%	18.6%	0.1%	9.1%	3.3%	2.5%	5.7%	0.7%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.4%	1.5%	3.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1100-1200	1687	47.7%	19.6%	0.1%	9.0%	3.2%	2.8%	5.5%	0.7%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	3.5%	1.3%	4.0%	0.0%	100.0%
Road 29	29	80	80.0	N	1200-1300	1284	21.8%	8.4%	0.2%	18.5%	6.6%	6.6%	13.0%	0.8%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	15.0%	0.6%	6.7%	0.0%	100.0%
Road 29	29	80	80.0	N	1300-1400	1353	20.4%	7.9%	0.2%	21.3%	7.6%	6.6%	13.0%	0.7%	0.0%	0.3%	0.3%	0.2%	0.4%	0.1%	13.8%	0.6%	6.5%	0.0%	100.0%
Road 29	29	80	80.0	N	1400-1500	1398	21.1%	8.6%	0.2%	19.5%	7.0%	6.6%	13.0%	0.7%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	14.2%	0.8%	6.4%	0.0%	100.0%
Road 29	29	80	80.0	N	1500-1600	1436	20.9%	8.4%	0.2%	22.5%	8.1%	5.7%	11.2%	0.7%	0.0%	0.4%	0.4%	0.3%	0.7%	0.1%	13.8%	0.8%	5.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1600-1700	1466	23.2%	8.6%	0.2%	18.5%	6.6%	5.8%	11.3%	0.7%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	16.0%	1.1%	5.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1700-1800	1541	27.6%	8.6%	0.2%	17.8%	6.4%	4.0%	7.9%	0.8%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	17.4%	2.4%	4.8%	0.0%	100.0%
Road 29	29	80	80.0	N	1800-1900	1500	37.6%	8.8%	0.1%	12.4%	4.4%	2.6%	5.1%	0.8%	0.0%	0.1%	0.7%	0.5%	1.0%	0.1%	20.0%	1.8%	4.2%	0.0%	100.0%
Road 29	29	80	80.0	N	1900-2000	1156	37.9%	11.9%	0.1%	9.7%	3.5%	2.3%	4.6%	1.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.1%	23.5%	1.4%	2.1%	0.0%	100.0%
Road 29	29	80	80.0	N	2000-2100	917	34.3%	14.6%	0.1%	10.1%	3.6%	2.2%	4.4%	1.1%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	24.3%	1.4%	2.3%	0.0%	100.0%
Road 29	29	80	80.0	N	2100-2200	895	35.7%	14.8%	0.1%	10.5%	3.8%	2.4%	4.8%	1.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	21.9%	1.6%	2.5%	0.0%	100.0%
Road 29	29	80	80.0	N	2200-2300	867	35.6%	16.1%	0.1%	8.1%	2.9%	2.6%	5.1%	0.9%	0.0%	0.0%	0.2%	0.1%	0.3%	0.2%	23.6%	1.4%	2.6%	0.0%	100.0%
Road 29	29	80	80.0	N	2300-0000	661	34.3%	15.4%	0.1%	8.9%	3.2%	2.8%	5.6%	0.9%	0.0%	0.1%	0.3%	0.2%	0.4%	0.2%	23.0%	1.5%	3.1%	0.0%	100.0%
Road 30	30	70	70.0	N	0000-0100	569	51.6%	23.2%	0.1%	6.2%	2.2%	2.0%	3.9%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.2%	2.6%	4.2%	0.0%	100.0%
Road 30	30	70	70.0	N	0100-0200	379	49.5%	22.2%	0.1%	6.7%	2.4%	2.1%	4.1%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.2%	2.8%	5.9%	0.0%	100.0%
Road 30	30	70	70.0	N	0200-0300	284	47.5%	21.2%	0.1%	7.1%	2.5%	2.2%	4.4%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.1%	3.0%	7.6%	0.0%	100.0%
Road 30	30	70	70.0	N	0300-0400	229	45.5%	20.2%	0.1%	7.5%	2.7%	2.4%	4.6%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.0%	3.2%	9.2%	0.0%	100.0%
Road 30	30	70	70.0	N	0400-0500	252	44.7%	19.7%	0.1%	8.1%	2.9%	2.5%	5.0%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.0%	3.5%	8.6%	0.0%	100.0%
Road 30	30	70	70.0	N	0500-0600	426	44.9%	19.8%	0.1%	8.0%	3.2%	2.8%	5.5%	0.1%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.1%	3.8%	5.8%	0.0%	100.0%
Road 30	30	70	70.0	N	0600-0700	897	44.7%	19.6%	0.1%	9.6%	3.5%	3.0%	5.9%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.1%	4.2%	3.6%	0.0%	100.0%
Road 30	30	70	69.9	N	0700-0800	2078	49.9%	21.7%	0.1%	5.4%	1.9%	1.7%	3.3%	0.7%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	2.0%	4.4%	5.4%	0.0%	100.0%
Road 30	30	70	67.6	N	0800-0900	2395	55.9%	17.9%	0.1%	5.9%	2.1%	1.7%	3.2%	0.5%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.5%	3.2%	2.6%	0.0%	100.0%
Road 30	30	70	69.2	N	0900-1000	1868	41.3%	15.0%	0.2%	14.6%	5.2%	4.0%	7.8%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	1.8%	1.6%	5.8%	0.0%	100.0%
Road 30	30	70	70.0	N	1000-1100	1662	38.0%	14.7%	0.2%	15.2%	5.5%	4.8%	9.5%	0.1%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	1.7%	1.2%	6.7%	0.0%	100.0%
Road 30	30	70	70.0	N	1100-1200	1575	37.9%	15.6%	0.2%	15.1%	5.4%	4.7%	9.3%	0.1%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	1.7%	1.1%	6.9%	0.0%	100.0%
Road 30	30	70	70.0	N	1200-1300	1519	25.5%	9.8%	0.2%	21.2%	7.6%	7.6%	14.9%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	2.0%	0.8%	8.6%	0.0%	100.0%
Road 30	30	70	69.3	N	1300-1400	1619	23.5%	9.1%	0.3%	24.1%	8.7%	7.5%	14.7%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	1.8%	0.7%	8.2%	0.0%	100.0%
Road 30	30	70	69.0	N	1400-1500	1666	24.5%	9.9%	0.2%	22.2%	8.0%	7.5%	14.8%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	1.9%	0.9%	8.1%	0.0%	100.0%
Road 30	30	70	68.7	N	1500-1600	1718	24.1%	9.7%	0.3%	25.5%	9.1%	6.4%	12.7%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	1.8%	0.9%	7.4%	0.0%	100.0%
Road 30	30	70	68.7	N	1600-1700	1718	27.3%	9.4%	0.2%	21.3%	7.7%	6.7%	13.1%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	2.1%	1.3%	7.5%	0.0%	100.0%
Road 30	30	70	69.1	N	1700-1800	1779	33.0%	10.3%	0.2%	20.9%	7.5%	4.7%	9.3%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.4%	2.8%	6.4%	0.0%	100.0%
Road 30	30	70	70.0	N	1800-1900	1687	46.1%	10.8%	0.2%	14.9%	5.4%	3.1%	6.1%	0.0%	0.0%	0.1%	0.6%	0.4%	1.2%	0.0%	2.8%	2.2%	5.8%	0.0%	100.0%
Road 30	30	70	70.0	N	1900-2000	1243	48.7%	15.2%	0.1%	12.2%	4.4%	2.9%	5.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.4%	1.8%	3.0%	0.0%	100.0%
Road 30	30	70	70.0	N	2000-2100	977	44.4%	18.8%	0.1%	12.8%	4.6%	2.8%	5.6%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	3.6%	1.8%	3.3%	0.0%	100.0%
Road 30	30	70	70.0	N	2100-2200	980	45.0%	18.6%	0.1%	13.0%	4.7%	3.0%	5.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.1%	2.1%	3.4%	0.0%	100.0%
Road 30	30	70	70.0	N	2200-2300	930	45.7%	20.7%	0.1%	10.3%	3.7%	3.3%	6.4%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	3.5%	1.8%	3.7%	0.0%	100.0%
Road 30	30	70	70.0	N	2300-0000	715	43.7%	19.7%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.3%	1.9%	4.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 31	31	80	80.0	N	0000-0100	106	40.4%	18.1%	0.1%	7.4%	2.7%	2.3%	4.6%	0.6%	0.0%	0.1%	0.4%	0.3%	0.6%	0.1%	8.6%	2.0%	11.6%	0.0%	100.0%
Road 31	31	80	80.0	N	0100-0200	74	37.2%	16.7%	0.1%	7.6%	2.7%	2.4%	4.7%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.1%	8.0%	2.1%	16.2%	0.0%	100.0%
Road 31	31	80	80.0	N	0200-0300	57	34.3%	15.3%	0.1%	7.8%	2.8%	2.5%	4.8%	0.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	7.5%	2.2%	20.5%	0.0%	100.0%
Road 31	31	80	80.0	N	0300-0400	48	31.7%	14.1%	0.1%	8.0%	2.9%	2.5%	4.9%	0.5%	0.0%	0.2%	0.5%	0.3%	0.7%	0.1%	7.0%	2.2%	24.2%	0.0%	100.0%
Road 31	31	80	80.0	N	0400-0500	52	31.5%	13.9%	0.1%	8.7%	3.1%	2.7%	5.4%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.1%	7.0%	2.4%	22.5%	0.0%	100.0%
Road 31	31	80	80.0	N	0500-0600	83	33.5%	14.8%	0.1%	10.1%	3.6%	3.2%	6.2%	0.6%	0.0%	0.4%	0.6%	0.4%	0.9%	0.1%	7.6%	2.9%	14.9%	0.0%	100.0%
Road 31	31	80	80.0	N	0600-0700	167	35.0%	15.3%	0.1%	11.5%	4.1%	3.6%	7.1%	0.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	8.0%	3.3%	8.4%	0.0%	100.0%
Road 31	31	80	80.0	N	0700-0800	363	32.0%	13.9%	0.1%	11.5%	4.1%	3.6%	7.0%	0.6%	0.1%	0.5%	0.8%	0.5%	1.1%	0.2%	7.4%	3.3%	13.5%	0.0%	100.0%
Road 31	31	80	80.0	N	0800-0900	413	36.3%	11.6%	0.1%	12.7%	4.5%	3.5%	7.0%	0.5%	0.1%	0.5%	0.7%	0.5%	1.1%	0.1%	6.7%	2.1%	12.1%	0.0%	100.0%
Road 31	31	80	80.0	N	0900-1000	374	30.1%	10.9%	0.2%	16.2%	5.8%	4.4%	8.7%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	6.3%	1.2%	13.6%	0.0%	100.0%
Road 31	31	80	80.0	N	1000-1100	341	27.1%	10.5%	0.2%	16.5%	5.9%	5.3%	10.3%	0.5%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	5.9%	0.8%	15.1%	0.0%	100.0%
Road 31	31	80	80.0	N	1100-1200	324	26.8%	11.1%	0.2%	16.4%	5.9%	5.1%	10.1%	0.6%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	6.1%	0.8%	15.7%	0.0%	100.0%
Road 31	31	80	80.0	N	1200-1300	296	29.2%	11.3%	0.1%	13.8%	5.0%	5.0%	9.7%	0.0%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	6.0%	0.9%	16.9%	0.0%	100.0%
Road 31	31	80	80.0	N	1300-1400	307	27.7%	10.7%	0.2%	16.2%	5.8%	5.0%	9.8%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	5.6%	0.8%	16.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1400-1500	320	28.5%	11.5%	0.2%	14.7%	5.3%	5.0%	9.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	5.7%	1.1%	15.8%	0.0%	100.0%
Road 31	31	80	80.0	N	1500-1600	327	28.3%	11.4%	0.2%	17.0%	6.1%	4.3%	8.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	5.6%	1.0%	15.2%	0.0%	100.0%
Road 31	31	80	80.0	N	1600-1700	338	31.1%	10.7%	0.1%	13.8%	5.0%	4.3%	8.5%	0.0%	0.1%	0.7%	0.6%	0.4%	1.0%	0.0%	6.4%	1.5%	14.8%	0.0%	100.0%
Road 31	31	80	80.0	N	1700-1800	363	36.3%	11.3%	0.1%	13.0%	4.7%	3.0%	5.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	6.8%	3.1%	13.2%	0.0%	100.0%
Road 31	31	80	80.0	N	1800-1900	370	47.0%	11.0%	0.1%	8.6%	3.1%	1.8%	3.5%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	7.5%	2.2%	12.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1900-2000	268	50.4%	15.8%	0.1%	7.2%	2.6%	1.7%	3.4%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	9.4%	1.9%	5.0%	0.0%	100.0%
Road 31	31	80	80.0	N	2000-2100	212	45.7%	19.4%	0.1%	7.5%	2.7%	1.7%	3.3%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	9.7%	1.8%	6.0%	0.0%	100.0%
Road 31	31	80	80.0	N	2100-2200	211	46.8%	19.4%	0.1%	7.7%	2.8%	1.8%	3.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	8.6%	2.1%	6.1%	0.0%	100.0%
Road 31	31	80	80.0	N	2200-2300	204	46.6%	21.1%	0.1%	6.0%	2.1%	1.9%	3.7%	0.0%	0.0%	0.0%	0.4%	0.3%	0.7%	0.0%	9.3%	1.8%	6.4%	0.0%	100.0%
Road 31	31	80	80.0	N	2300-0000	157	44.6%	20.1%	0.1%	6.5%	2.3%	2.1%	4.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	9.0%	2.0%	8.1%	0.0%	100.0%
Road 32	32	80	80.0	N	0000-0100	645	47.2%	21.2%	0.1%	7.2%	2.6%	2.3%	4.5%	0.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	9.1%	2.4%	1.2%	0.0%	100.0%
Road 32	32	80	80.0	N	0100-0200	424	45.9%	20.6%	0.1%	7.9%	2.8%	2.5%	4.9%	0.6%	0.0%	0.2%	0.5%	0.3%	0.8%	0.1%	9.0%	2.6%	1.3%	0.0%	100.0%
Road 32	32	80	80.0	N	0200-0300	313	44.7%	19.9%	0.1%	8.5%	3.0%	2.7%	5.3%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	8.8%	2.8%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	0300-0400	249	43.5%	19.3%	0.1%	9.1%	3.3%	2.9%	5.6%	0.6%	0.0%	0.3%	0.6%	0.4%	1.0%	0.1%	8.7%	3.1%	1.5%	0.0%	100.0%
Road 32	32	80	80.0	N	0400-0500	276	42.2%	18.7%	0.1%	9.7%	3.5%	3.1%	6.0%	0.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	8.5%	3.3%	1.6%	0.0%	100.0%
Road 32	32	80	80.0	N	0500-0600	483	41.0%	18.0%	0.1%	10.3%	3.7%	3.2%	6.4%	0.6%	0.1%	0.5%	0.8%	0.5%	1.1%	0.1%	8.4%	3.5%	1.7%	0.0%	100.0%
Road 32	32	80	80.0	N	0600-0700	1046	39.8%	17.4%	0.1%	10.9%	3.9%	3.4%	6.7%	0.6%	0.1%	0.5%	0.8%	0.6%	1.2%	0.1%	8.2%	3.7%	1.8%	0.0%	100.0%
Road 32	32	80	80.0	N	0700-0800	2135	38.6%	16.8%	0.1%	11.5%	4.1%	3.6%	7.1%	0.6%	0.1%	0.6%	0.9%	0.6%	1.3%	0.1%	8.1%	3.9%	1.9%	0.0%	100.0%
Road 32	32	80	80.0	N	0800-0900	2468	43.1%	13.8%	0.1%	12.6%	4.5%	3.5%	6.9%	0.5%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	7.2%	2.5%	1.8%	0.0%	100.0%
Road 32	32	80	80.0	N	0900-1000	2172	36.8%	13.4%	0.2%	16.6%	5.9%	4.5%	8.9%	0.6%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	7.0%	1.4%	2.3%	0.0%	100.0%
Road 32	32	80	80.0	N	1000-1100	1939	33.8%	13.1%	0.2%	17.2%	6.2%	5.5%	10.8%	0.6%	0.0%	0.4%	0.6%	0.4%	0.8%	0.0%	6.7%	1.0%	2.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1100-1200	1835	33.7%	13.9%	0.2%	17.2%	6.2%	5.4%	10.5%	0.6%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	6.6%	0.9%	2.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1200-1300	1263	39.9%	15.4%	0.1%	13.6%	4.9%	4.9%	9.6%	0.8%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	7.5%	1.0%	0.0%	0.0%	100.0%
Road 32	32	80	80.0	N	1300-1400	1305	38.1%	14.7%	0.2%	15.9%	5.7%	4.9%	9.7%	0.7%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	4.1%	1.2%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1400-1500	1379	38.5%	15.6%	0.1%	14.3%	5.1%	4.8%	9.5%	0.7%	0.1%	0.7%	0.6%	0.5%	1.2%	0.0%	4.1%	1.5%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1500-1600	1414	38.2%	15.3%	0.2%	16.5%	5.9%	4.2%	8.2%	0.7%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	4.0%	1.4%	2.1%	0.0%	100.0%
Road 32	32	80	80.0	N	1600-1700	1481	41.3%	14.2%	0.1%	13.2%	4.7%	4.1%	8.1%	0.7%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	4.5%	1.9%	2.1%	0.0%	100.0%
Road 32	32	80	80.0	N	1700-1800	1642	46.7%	14.6%	0.1%	12.1%	4.3%	2.7%	5.4%	0.7%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.6%	4.0%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	1800-1900	1737	58.3%	13.7%	0.1%	7.7%	2.8%	1.8%	3.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	6.0%	4.9%	2.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1900-2000	1372	57.5%	18.0%	0.1%	5.9%	2.1%	1.4%	2.8%	0.9%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	8.0%	3.2%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	2000-2100	1070	52.8%	22.4%	0.1%	6.2%	2.2%	1.4%	2.7%	0.9%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.9%	2.1%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2100-2200	1065	54.0%	22.3%	0.1%	6.4%	2.3%	1.5%	2.9%	0.9%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.2%	2.5%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	2200-2300	1031	53.8%	24.3%	0.1%	4.9%	1.8%	1.6%	3.1%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.6%	2.1%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	2300-0000	775	52.6%	23.7%	0.1%	5.5%	2.0%	1.7%	3.4%	0.8%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.6%	2.3%	0.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

**Traffic Data / Modeling Parameters For AERMOD (Year

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 37	37	50	50.0	Y	0000-0100	2	49.6%	22.3%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.6%	0.0%	100.0%
Road 37	37	50	50.0	Y	0100-0200	1	48.0%	21.5%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%
Road 37	37	50	50.0	Y	0200-0300	1	46.5%	20.7%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.9%	1.8%	0.0%	100.0%
Road 37	37	50	50.0	Y	0300-0400	1	44.9%	19.9%	0.1%	12.0%	4.3%	3.8%	7.4%	0.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	3.2%	1.9%	0.0%	100.0%
Road 37	37	50	50.0	Y	0400-0500	1	43.4%	19.2%	0.1%	12.7%	4.6%	4.0%	7.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.1%	0.0%	100.0%
Road 37	37	50	50.0	Y	0500-0600	1	41.9%	18.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.6%	2.2%	0.0%	100.0%
Road 37	37	50	49.9	Y	0600-0700	3	40.4%	17.7%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	2.3%	0.0%	100.0%
Road 37	37	50	49.8	Y	0700-0800	7	39.0%	17.0%	0.2%	14.9%	5.3%	4.6%	9.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	2.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	0800-0900	8	43.0%	13.8%	0.2%	16.0%	5.7%	4.5%	8.8%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.5%	2.3%	0.0%	100.0%
Road 37	37	50	49.8	Y	0900-1000	7	35.8%	13.0%	0.2%	20.5%	7.4%	5.6%	11.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%
Road 37	37	50	49.8	Y	1000-1100	6	32.4%	12.6%	0.2%	21.0%	7.5%	6.7%	13.1%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1100-1200	6	32.4%	13.4%	0.2%	21.0%	7.5%	6.6%	12.9%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1200-1300	6	34.5%	13.3%	0.2%	18.6%	6.7%	6.7%	13.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1300-1400	7	32.2%	12.4%	0.2%	21.4%	7.7%	6.6%	13.0%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1400-1500	7	33.1%	13.4%	0.2%	19.5%	7.0%	6.6%	12.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1500-1600	7	32.6%	13.1%	0.2%	22.4%	8.0%	5.7%	11.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%
Road 37	37	50	49.8	Y	1600-1700	7	36.2%	12.5%	0.2%	18.4%	6.6%	5.8%	11.3%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.7%	3.0%	0.0%	100.0%
Road 37	37	50	49.8	Y	1700-1800	8	42.4%	13.3%	0.2%	17.4%	6.3%	3.9%	7.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	2.0%	0.0%	100.0%
Road 37	37	50	49.8	Y	1800-1900	8	56.2%	13.2%	0.1%	11.8%	4.2%	2.5%	4.8%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.7%	1.3%	0.0%	100.0%
Road 37	37	50	49.9	Y	1900-2000	6	56.8%	17.8%	0.1%	9.3%	3.3%	2.2%	4.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 37	37	50	49.9	Y	2000-2100	5	52.3%	22.2%	0.1%	9.8%	3.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 37	37	50	49.9	Y	2100-2200	5	52.9%	21.9%	0.1%	9.9%	3.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.2%	0.0%	100.0%
Road 37	37	50	49.9	Y	2200-2300	4	53.4%	24.1%	0.1%	7.8%	2.8%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	1.3%	0.0%	100.0%
Road 37	37	50	49.9	Y	2300-0000	3	51.8%	23.3%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	1.4%	0.0%	100.0%
Road 38	38	50	48.1	Y	0000-0100	69	37.5%	16.8%	0.1%	7.2%	2.6%	2.3%	4.5%	1.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	25.0%	0.0%	100.0%
Road 38	38	50	48.5	Y	0100-0200	51	32.3%	14.5%	0.1%	6.9%	2.5%	2.2%	4.3%	0.9%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	33.2%	0.0%	100.0%
Road 38	38	50	48.6	Y	0200-0300	42	28.1%	12.5%	0.1%	6.7%	2.4%	2.1%	4.1%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	40.0%	0.0%	100.0%
Road 38	38	50	48.8	Y	0300-0400	37	24.8%	11.0%	0.1%	6.5%	2.3%	2.0%	4.0%	0.7%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.7%	45.4%	0.0%	100.0%
Road 38	38	50	48.7	Y	0400-0500	40	25.1%	11.1%	0.1%	7.2%	2.6%	2.3%	4.5%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	42.8%	0.0%	100.0%
Road 38	38	50	48.3	Y	0500-0600	57	29.6%	13.0%	0.1%	9.3%	3.4%	2.9%	5.8%	0.9%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	30.4%	0.0%	100.0%
Road 38	38	50	47.1	Y	0600-0700	105	33.8%	14.8%	0.1%	11.7%	4.2%	3.7%	7.2%	1.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.2%	17.6%	0.0%	100.0%
Road 38	38	50	42.7	Y	0700-0800	245	28.7%	12.5%	0.1%	10.8%	3.9%	3.4%	6.6%	0.9%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	2.9%	27.7%	0.0%	100.0%
Road 38	38	50	41.9	Y	0800-0900	276	33.0%	10.5%	0.1%	12.0%	4.3%	3.4%	6.6%	0.7%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	1.9%	24.8%	0.0%	100.0%
Road 38	38	50	42.2	Y	0900-1000	255	26.8%	9.7%	0.2%	15.1%	5.4%	4.1%	8.1%	0.8%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	1.0%	27.0%	0.0%	100.0%
Road 38	38	50	42.5	Y	1000-1100	237	23.6%	9.2%	0.2%	15.1%	5.4%	4.8%	9.4%	0.8%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	33.4%	0.0%	100.0%
Road 38	38	50	42.8	Y	1100-1200	227	23.3%	9.6%	0.2%	14.8%	5.3%	4.6%	9.1%	0.8%	0.1%	0.4%	0.2%	0.2%	0.4%	0.0%	0.0%	0.9%	34.5%	0.0%	100.0%
Road 38	38	50	44.5	Y	1200-1300	148	6.1%	2.4%	0.2%	18.3%	6.6%	6.6%	12.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	46.3%	0.0%	100.0%
Road 38	38	50	44.2	Y	1300-1400	157	5.7%	2.2%	0.2%	20.9%	7.5%	6.5%	12.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	43.8%	0.0%	100.0%
Road 38	38	50	44.2	Y	1400-1500	158	6.1%	2.5%	0.2%	19.8%	7.1%	6.7%	13.2%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	43.8%	0.0%	100.0%
Road 38	38	50	44.1	Y	1500-1600	161	6.0%	2.4%	0.2%	22.8%	8.2%	5.8%	11.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	42.4%	0.0%	100.0%
Road 38	38	50	44.3	Y	1600-1700	156	7.0%	2.4%	0.2%	19.8%	7.1%	6.2%	12.2%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	43.9%	0.0%	100.0%
Road 38	38	50	44.5	Y	1700-1800	151	9.1%	2.8%	0.2%	20.7%	7.4%	4.7%	9.2%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.8%	44.4%	0.0%	100.0%
Road 38	38	50	45.2	Y	1800-1900	132	13.8%	3.2%	0.2%	16.0%	5.7%	3.3%	6.6%	0.0%	0.0%	0.2%	0.2%	0.1%	0.4%	0.0%	0.0%	1.5%	48.7%	0.0%	100.0%
Road 38	38	50	48.0	Y	1900-2000	65	21.9%	6.9%	0.2%	19.9%	7.1%	4.7%	9.3%	0.0%	0.0%	0.3%	0.2%	0.2%	0.5%	0.0%	0.0%	0.8%	28.0%	0.0%	100.0%
Road 38	38	50	48.2	Y	2000-2100	54	18.7%	7.9%	0.2%	19.4%	7.0%	4.3%	8.4%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	32.5%	0.0%	100.0%
Road 38	38	50	48.2	Y	2100-2200	55	18.7%	7.7%	0.2%	19.6%	7.0%	4.5%	8.8%	0.0%	0.0%	0.0%	0.4%	0.3%	0.5%	0.0%	0.0%	0.9%	32.3%	0.0%	100.0%
Road 38	38	50	48.3	Y	2200-2300	52	19.3%	8.7%	0.2%	15.6%	5.6%	5.0%	9.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	34.6%	0.0%	100.0%
Road 38	38	50	48.5	Y	2300-0000	44	16.5%	7.4%	0.2%	15.2%	5.5%	4.8%	9.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	39.8%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 39	39	50	49.7	Y	0000-0100	10	17.6%	7.9%	0.3%	29.6%	10.6%	9.3%	18.4%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.9%	4.8%	0.0%	100.0%
Road 39	39	50	49.8	Y	0100-0200	7	16.2%	7.3%	0.3%	30.4%	10.9%	9.6%	18.8%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	4.9%	0.0%	100.0%
Road 39	39	50	49.8	Y	0200-0300	6	15.0%	6.7%	0.3%	31.1%	11.2%	9.8%	19.3%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	5.0%	0.0%	100.0%
Road 39	39	50	49.9	Y	0300-0400	5	13.8%	6.1%	0.3%	31.8%	11.4%	10.0%	19.6%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	5.1%	0.0%	100.0%
Road 39	39	50	49.8	Y	0400-0500	5	12.8%	5.7%	0.3%	32.4%	11.6%	10.2%	20.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	5.2%	0.0%	100.0%
Road 39	39	50	49.7	Y	0500-0600	10	11.9%	5.2%	0.3%	32.9%	11.8%	10.3%	20.3%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.0%	5.3%	0.0%	100.0%
Road 39	39	50	49.3	Y	0600-0700	22	11.1%	4.9%	0.3%	33.4%	12.0%	10.5%	20.6%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.0%	5.4%	0.0%	100.0%
Road 39	39	50	48.6	Y	0700-0800	47	10.3%	4.6%	0.3%	33.8%	12.1%	10.6%	20.8%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.1%	5.4%	0.0%	100.0%
Road 39	39	50	48.3	Y	0800-0900	57	11.2%	3.6%	0.4%	35.7%	12.8%	10.0%	19.7%	0.0%	0.0%	0.2%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	5.1%	0.0%	100.0%
Road 39	39	50	48.1	Y	0900-1000	61	7.8%	2.8%	0.4%	38.2%	13.7%	10.4%	20.5%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.3%	0.0%	100.0%
Road 39	39	50	48.1	Y	1000-1100	60	6.5%	2.5%	0.4%	36.5%	13.1%	11.6%	22.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.0%	0.0%	100.0%
Road 39	39	50	48.3	Y	1100-1200	56	6.6%	2.7%	0.4%	36.7%	13.2%	11.5%	22.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 39	39	50	49.7	Y	1200-1300	11	40.2%	15.5%	0.2%	15.4%	5.5%	5.5%	10.8%	0.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.2%	2.8%	0.0%	100.0%
Road 39	39	50	49.7	Y	1300-1400	12	38.0%	14.7%	0.2%	17.9%	6.4%	5.5%	10.9%	0.0%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.2%	2.8%	0.0%	100.0%
Road 39	39	50	49.7	Y	1400-1500	12	38.7%	15.6%	0.2%	16.1%	5.8%	5.4%	10.7%	0.0%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.5%	2.8%	0.0%	100.0%
Road 39	39	50	49.7	Y	1500-1600	13	38.2%	15.4%	0.2%	18.5%	6.7%	4.7%	9.2%	0.0%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.4%	2.4%	0.0%	100.0%
Road 39	39	50	49.7	Y	1600-1700	13	41.7%	14.4%	0.2%	15.0%	5.4%	4.7%	9.2%	0.0%	0.0%	0.1%	1.0%	1.2%	0.9%	1.9%	0.0%	0.0%	2.0%	2.4%	0.0%	100.0%
Road 39	39	50	49.7	Y	1700-1800	15	47.7%	14.9%	0.1%	13.8%	5.0%	3.1%	6.2%	0.0%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	4.1%	1.6%	0.0%	100.0%
Road 39	39	50	49.7	Y	1800-1900	15	60.5%	14.2%	0.1%	9.0%	3.2%	1.9%	3.7%	0.0%	0.0%	0.1%	1.1%	0.7%	1.6%	0.0%	0.0%	2.9%	1.0%	0.0%	100.0%
Road 39	39	50	49.8	Y	1900-2000	12	60.4%	18.9%	0.1%	7.0%	2.5%	1.7%	3.3%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	2.2%	0.9%	0.0%	100.0%
Road 39	39	50	49.8	Y	2000-2100	9	55.7%	23.7%	0.1%	7.4%	2.7%	1.6%	3.2%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.2%	0.8%	0.0%	100.0%
Road 39	39	50	49.8	Y	2100-2200	9	56.5%	23.4%	0.1%	7.5%	2.7%	1.7%	3.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.6%	0.9%	0.0%	100.0%
Road 39	39	50	49.8	Y	2200-2300	9	56.6%	25.6%	0.1%	5.8%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	1.0%	0.0%	100.0%
Road 39	39	50	49.9	Y	2300-0000	7	55.2%	24.9%	0.1%	6.5%	2.3%	2.1%	4.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.1%	0.0%	100.0%
Road 40	40	50	46.5	Y	0000-0100	130	41.0%	18.4%	0.1%	6.2%	2.2%	1.9%	3.8%	0.8%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	22.3%	0.0%	100.0%
Road 40	40	50	47.3	Y	0100-0200	95	35.8%	16.0%	0.1%	6.0%	2.2%	1.9%	3.7%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	30.1%	0.0%	100.0%
Road 40	40	50	47.6	Y	0200-0300	77	31.6%	14.1%	0.1%	5.9%	2.1%	1.8%	3.6%	0.6%	0.0%	0.2%	0.4%	0.3%	0.5%	0.0%	0.0%	1.4%	36.5%	0.0%	100.0%
Road 40	40	50	47.8	Y	0300-0400	67	28.1%	12.5%	0.1%	5.8%	2.1%	1.8%	3.6%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.4%	42.0%	0.0%	100.0%
Road 40	40	50	47.7	Y	0400-0500	71	28.4%	12.6%	0.1%	6.4%	2.3%	2.0%	4.0%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	1.5%	39.6%	0.0%	100.0%
Road 40	40	50	47.0	Y	0500-0600	104	33.1%	14.5%	0.1%	8.2%	2.9%	2.6%	5.0%	0.7%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.1%	27.7%	0.0%	100.0%
Road 40	40	50	44.9	Y	0600-0700	194	37.3%	16.4%	0.1%	10.1%	3.6%	3.2%	6.2%	0.8%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.5%	15.8%	0.0%	100.0%
Road 40	40	50	38.4	Y	0700-0800	447	32.1%	14.0%	0.1%	9.4%	3.4%	3.0%	5.8%	0.7%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	25.3%	0.0%	100.0%
Road 40	40	50	37.7	Y	0800-0900	503	36.8%	11.8%	0.1%	10.5%	3.8%	2.9%	5.8%	0.6%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	2.6%	23.3%	0.0%	100.0%
Road 40	40	50	38.1	Y	0900-1000	456	30.6%	11.1%	0.1%	13.5%	4.8%	3.7%	7.2%	0.7%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.2%	25.1%	0.0%	100.0%
Road 40	40	50	38.4	Y	1000-1100	419	27.2%	10.6%	0.1%	13.6%	4.9%	4.3%	8.5%	0.6%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	0.8%	27.5%	0.0%	100.0%
Road 40	40	50	38.7	Y	1100-1200	402	26.8%	11.1%	0.1%	13.4%	4.8%	4.2%	8.2%	0.7%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	28.5%	0.0%	100.0%
Road 40	40	50	40.0	Y	1200-1300	289	15.1%	5.8%	0.2%	15.6%	5.6%	5.6%	11.0%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.6%	39.6%	0.0%	100.0%
Road 40	40	50	39.7	Y	1300-1400	303	14.2%	5.5%	0.2%	18.0%	6.5%	5.6%	11.0%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	37.8%	0.0%	100.0%
Road 40	40	50	39.7	Y	1400-1500	308	14.9%	6.0%	0.2%	16.8%	6.0%	5.7%	11.2%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	37.3%	0.0%	100.0%
Road 40	40	50	39.6	Y	1500-1600	315	14.8%	6.0%	0.2%	19.4%	7.0%	4.9%	9.7%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.5%	36.2%	0.0%	100.0%
Road 40	40	50	39.7	Y	1600-1700	312	16.9%	5.8%	0.2%	16.4%	5.9%	5.1%	10.1%	0.0%	0.1%	0.4%	0.5%	0.3%	0.8%	0.0%	0.0%	0.8%	36.6%	0.0%	100.0%
Road 40	40	50	39.8	Y	1700-1800	316	21.0%	6.6%	0.2%	16.5%	5.9%	3.7%	7.3%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	35.5%	0.0%	100.0%
Road 40	40	50	40.5	Y	1800-1900	297	29.5%	6.9%	0.1%	11.8%	4.3%	2.5%	4.9%	0.0%	0.0%	0.1%	0.6%	0.4%	0.8%	0.0%	0.0%	1.4%	36.9%	0.0%	100.0%
Road 40	40	50	45.4	Y	1900-2000	170	40.1%	12.6%	0.1%	12.5%	4.5%	3.0%	5.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.4%	0.0%	0.0%	1.5%	17.7%	0.0%	100.0%
Road 40	40	50	46.1	Y	2000-2100	139	35.2%	14.9%	0.1%	12.6%	4.5%	2.8%	5.5%	0.0%	0.0%	0.1%	0.5%	0.3%	0.8%	0.0%	0.0%	1.4%	21.2%	0.0%	100.0%
Road 40	40	50	46.1	Y	2100-2200	140	35.5%	14.7%	0.1%	12.7%	4.6%	2.9%	5.8%	0.0%	0.0%	0.1%	0.5%	0.3%	0.8%	0.0%	0.0%	1.4%	21.2%	0.0%	100.0%
Road 40	40	50	46.3	Y	2200-2300	133	36.0%	16.3%	0.1%	10.1%	3.6%	3.2%	6.3%	0.0%	0.0%	0.2%	0.2%	0.2%	0.3%	0.0%	0.0%	1.4%	22.3%	0.0%	100.0%
Road 40	40	50	46.8	Y	2300-0000	109	32.4%	14.6%	0.1%	10.3%	3.7%	3.3%	6.4%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.4%	27.0%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 45	45	80	80.0	N	0000-0100	420	57.8%	25.9%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.6%	0.0%	3.1%	2.9%	0.5%	0.0%	100.0%
Road 45	45	80	80.0	N	0100-0200	273	56.8%	25.4%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.2%	0.6%	0.0%	100.0%
Road 45	45	80	80.0	N	0200-0300	199	55.8%	24.9%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.1%	3.5%	0.7%	0.0%	100.0%
Road 45	45	80	80.0	N	0300-0400	157	54.9%	24.4%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	3.1%	3.9%	0.7%	0.0%	100.0%
Road 45	45	80	80.0	N	0400-0500	172	53.9%	23.8%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.1%	4.2%	0.8%	0.0%	100.0%
Road 45	45	80	80.0	N	0500-0600	298	52.9%	23.3%	0.1%	5.1%	1.8%	1.6%	3.1%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.0%	4.5%	0.8%	0.0%	100.0%
Road 45	45	80	80.0	N	0600-0700	639	51.9%	22.7%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.0%	4.9%	0.9%	0.0%	100.0%
Road 45	45	80	73.9	N	0700-0800	1291	50.8%	22.1%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	3.0%	5.2%	0.9%	0.0%	100.0%
Road 45	45	80	70.1	N	0800-0900	1495	56.7%	18.1%	0.1%	6.3%	2.3%	1.8%	3.5%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.7%	3.3%	0.9%	0.0%	100.0%
Road 45	45	80	74.5	N	0900-1000	1222	52.2%	18.9%	0.1%	8.9%	3.2%	2.4%	4.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.8%	2.0%	1.2%	0.0%	100.0%
Road 45	45	80	77.3	N	1000-1100	1054	49.5%	19.2%	0.1%	9.6%	3.5%	3.1%	6.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.8%	1.5%	1.6%	0.0%	100.0%
Road 45	45	80	78.5	N	1100-1200	999	49.3%	20.3%	0.1%	9.6%	3.4%	3.0%	5.9%	0.0%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	2.8%	1.4%	1.5%	0.0%	100.0%
Road 45	45	80	73.3	N	1200-1300	1222	47.3%	18.2%	0.1%	10.0%	3.6%	3.6%	7.1%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.3%	1.4%	1.8%	0.0%	100.0%
Road 45	45	80	72.7	N	1300-1400	1245	45.7%	17.6%	0.1%	11.9%	4.3%	3.7%	7.3%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	3.2%	1.4%	1.9%	0.0%	100.0%
Road 45	45	80	71.0	N	1400-1500	1331	45.8%	18.5%	0.1%	10.6%	3.8%	3.6%	7.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.2%	1.7%	1.8%	0.0%	100.0%
Road 45	45	80	70.6	N	1500-1600	1360	45.5%	18.3%	0.1%	12.2%	4.4%	3.1%	6.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.1%	1.6%	1.6%	0.0%	100.0%
Road 45	45	80	68.7	N	1600-1700	1453	48.2%	16.6%	0.1%	9.6%	3.5%	3.0%	5.9%	0.0%	0.1%	1.1%	1.4%	1.0%	2.2%	0.0%	3.4%	2.3%	1.5%	0.0%	100.0%
Road 45	45	80	59.6	N	1700-1800	1654	53.1%	16.6%	0.1%	8.6%	3.1%	1.9%	3.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.4%	4.6%	1.0%	0.0%	100.0%
Road 45	45	80	49.2	N	1800-1900	1822	63.8%	15.0%	0.1%	5.3%	1.9%	1.1%	2.2%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	3.5%	3.0%	0.6%	0.0%	100.0%
Road 45	45	80	71.7	N	1900-2000	1451	62.3%	19.5%	0.0%	4.0%	1.4%	1.0%	1.9%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	4.0%	2.3%	0.5%	0.0%	100.0%
Road 45	45	80	77.5	N	2000-2100	1129	57.4%	24.4%	0.0%	4.2%	1.5%	0.9%	1.8%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	4.2%	2.3%	0.5%	0.0%	100.0%
Road 45	45	80	78.0	N	2100-2200	1124	58.6%	24.2%	0.0%	4.3%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.7%	2.7%	0.5%	0.0%	100.0%
Road 45	45	80	78.5	N	2200-2300	1094	58.1%	26.2%	0.0%	3.3%	1.2%	1.1%	2.1%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.9%	2.2%	0.5%	0.0%	100.0%
Road 45	45	80	80.0	N	2300-0000	818	57.1%	25.7%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	3.9%	2.5%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0000-0100	219	58.4%	26.2%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	1.5%	2.9%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0100-0200	142	57.4%	25.7%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	1.5%	3.3%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	0200-0300	104	56.4%	25.1%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	1.5%	3.6%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	0300-0400	82	55.3%	24.6%	0.0%	4.7%	1.7%	1.5%	2.9%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	1.5%	3.9%	0.8%	0.0%	100.0%
Road 46	46	80	80.0	N	0400-0500	90	54.3%	24.0%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	1.5%	4.2%	0.8%	0.0%	100.0%
Road 46	46	80	80.0	N	0500-0600	156	53.2%	23.4%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	1.5%	4.5%	0.9%	0.0%	100.0%
Road 46	46	80	80.0	N	0600-0700	335	52.2%	22.8%	0.1%	5.9%	2.1%	1.8%	3.6%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	1.4%	4.9%	0.9%	0.0%	100.0%
Road 46	46	80	80.0	N	0700-0800	677	51.1%	22.3%	0.1%	6.3%	2.2%	2.0%	3.8%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	1.4%	5.2%	1.0%	0.0%	100.0%
Road 46	46	80	80.0	N	0800-0900	786	56.9%	18.2%	0.1%	6.8%	2.4%	1.9%	3.7%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	1.3%	3.3%	1.0%	0.0%	100.0%
Road 46	46	80	80.0	N	0900-1000	645	52.1%	18.9%	0.1%	9.6%	3.4%	2.6%	5.1%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	1.3%	2.0%	1.3%	0.0%	100.0%
Road 46	46	80	80.0	N	1000-1100	557	49.3%	19.2%	0.1%	10.3%	3.7%	3.3%	6.4%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	1.3%	1.5%	1.7%	0.0%	100.0%
Road 46	46	80	80.0	N	1100-1200	528	49.2%	20.3%	0.1%	10.2%	3.7%	3.2%	6.3%	0.0%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	1.3%	1.4%	1.6%	0.0%	100.0%
Road 46	46	80	80.0	N	1200-1300	825	56.5%	21.8%	0.1%	5.5%	2.0%	2.0%	3.9%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	1.4%	1.7%	1.0%	0.0%	100.0%
Road 46	46	80	80.0	N	1300-1400	826	55.6%	21.4%	0.1%	6.7%	2.4%	2.1%	4.1%	0.0%	0.1%	0.8%	0.8%	0.6%	1.2%	0.0%	1.4%	1.7%	1.1%	0.0%	100.0%
Road 46	46	80	80.0	N	1400-1500	896	54.9%	22.2%	0.1%	5.9%	2.1%	2.0%	3.9%	0.0%	0.1%	1.0%	1.1%	0.8%	1.7%	0.0%	1.3%	2.1%	1.0%	0.0%	100.0%
Road 46	46	80	80.0	N	1500-1600	913	54.7%	22.0%	0.1%	6.8%	2.4%	1.7%	3.4%	0.0%	0.1%	1.0%	1.1%	0.8%	1.7%	0.0%	1.3%	2.0%	0.9%	0.0%	100.0%
Road 46	46	80	80.0	N	1600-1700	997	56.7%	19.5%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.2%	1.3%	1.7%	1.2%	2.5%	0.0%	1.4%	2.7%	0.8%	0.0%	100.0%
Road 46	46	80	80.0	N	1700-1800	1172	60.4%	18.9%	0.0%	4.5%	1.6%	1.0%	2.0%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	1.4%	5.2%	0.5%	0.0%	100.0%
Road 46	46	80	80.0	N	1800-1900	1349	69.5%	16.3%	0.0%	2.6%	1.0%	0.6%	1.1%	0.0%	0.0%	0.2%	0.7%	0.4%	0.9%	0.0%	1.3%	3.3%	0.3%	0.0%	100.0%
Road 46	46	80	80.0	N	1900-2000	1085	67.2%	21.0%	0.0%	2.0%	0.7%	0.5%	0.9%	0.0%	0.0%	0.1%	0.5%	0.3%	0.6%	0.0%	1.0%	2.6%	0.2%	0.0%	100.0%
Road 46	46	80	80.0	N	2000-2100	842	62.1%	26.4%	0.0%	2.1%	0.8%	0.5%	0.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	1.6%	2.5%	0.2%	0.0%	100.0%
Road 46	46	80	80.0	N	2100-2200	840	63.3%	26.2%	0.0%	2.2%	0.8%	0.5%	1.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	1.4%	2.9%	0.3%	0.0%	100.0%
Road 46	46	80	80.0	N	2200-2300	821	62.5%	28.2%	0.0%	1.7%	0.6%	0.5%	1.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	1.5%	2.4%	0.3%	0.0%	100.0%
Road 46	46	80	80.0	N	2300-0000	610	61.7%	27.8%	0.0%	1.9%	0.7%	0.6%	1.2%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	1.5%	2.7%	0.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 47	47	50	49.0	N	0000-0100	92	51.8%	23.3%	0.1%	8.3%	3.0%	2.6%	5.2%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	1.4%	0.0%	100.0%
Road 47	47	50	49.3	N	0100-0200	61	50.3%	22.5%	0.1%	9.1%	3.3%	2.9%	5.6%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	1.5%	0.0%	100.0%
Road 47	47	50	49.5	N	0200-0300	45	48.8%	21.8%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.1%	1.6%	0.0%	100.0%
Road 47	47	50	49.6	N	0300-0400	36	47.3%	21.0%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.3%	1.7%	0.0%	100.0%
Road 47	47	50	49.5	N	0400-0500	40	45.9%	20.3%	0.1%	11.1%	4.0%	3.5%	6.9%	0.0%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	0.0%	3.6%	1.8%	0.0%	100.0%
Road 47	47	50	49.2	N	0500-0600	70	44.5%	19.6%	0.1%	11.8%	4.2%	3.7%	7.3%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.8%	1.9%	0.0%	100.0%
Road 47	47	50	48.2	N	0600-0700	152	43.0%	18.8%	0.1%	12.4%	4.5%	3.9%	7.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	2.0%	0.0%	100.0%
Road 47	47	50	48.4	N	0700-0800	310	41.6%	18.1%	0.1%	13.1%	4.7%	4.1%	8.1%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	0.0%	4.3%	2.1%	0.0%	100.0%
Road 47	47	50	45.7	N	0800-0900	363	46.0%	14.7%	0.1%	14.1%	5.1%	3.9%	7.8%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	2.7%	2.0%	0.0%	100.0%
Road 47	47	50	46.0	N	0900-1000	322	39.0%	14.2%	0.2%	18.5%	6.6%	5.0%	9.9%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	1.5%	2.6%	0.0%	100.0%
Road 47	47	50	46.3	N	1000-1100	289	35.6%	13.8%	0.2%	19.1%	6.9%	6.1%	11.9%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.1%	3.1%	0.0%	100.0%
Road 47	47	50	46.6	N	1100-1200	273	35.6%	14.7%	0.2%	19.1%	6.8%	6.0%	11.7%	0.0%	0.1%	0.6%	0.4%	0.2%	0.5%	0.0%	0.0%	1.0%	3.1%	0.0%	100.0%
Road 47	47	50	39.2	N	1200-1300	1017	53.3%	20.5%	0.1%	7.9%	2.8%	2.8%	5.6%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	1.6%	1.5%	0.0%	100.0%
Road 47	47	50	39.1	N	1300-1400	1049	51.9%	20.0%	0.1%	9.5%	3.4%	2.9%	5.8%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	1.6%	1.5%	0.0%	100.0%
Road 47	47	50	38.6	N	1400-1500	1130	51.6%	20.9%	0.1%	8.4%	3.0%	2.8%	5.6%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	0.0%	1.9%	1.5%	0.0%	100.0%
Road 47	47	50	38.5	N	1500-1600	1153	51.3%	20.6%	0.1%	9.7%	3.5%	2.5%	4.8%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	0.0%	1.9%	1.3%	0.0%	100.0%
Road 47	47	50	37.9	N	1600-1700	1244	53.9%	18.6%	0.1%	7.5%	2.7%	2.4%	4.6%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	0.0%	2.5%	1.2%	0.0%	100.0%
Road 47	47	50	37.2	N	1700-1800	1440	58.3%	18.2%	0.1%	6.6%	2.4%	1.5%	2.9%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	0.0%	5.0%	0.8%	0.0%	100.0%
Road 47	47	50	36.5	N	1800-1900	1624	68.4%	16.1%	0.0%	4.0%	1.4%	0.8%	1.6%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	0.0%	3.3%	0.4%	0.0%	100.0%
Road 47	47	50	38.4	N	1900-2000	1296	66.7%	20.9%	0.0%	3.0%	1.1%	0.7%	1.4%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.5%	0.4%	0.0%	100.0%
Road 47	47	50	40.0	N	2000-2100	1005	61.7%	26.2%	0.0%	3.2%	1.1%	0.7%	1.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.5%	0.4%	0.0%	100.0%
Road 47	47	50	40.2	N	2100-2200	1005	62.7%	25.9%	0.0%	3.2%	1.2%	0.7%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.9%	0.4%	0.0%	100.0%
Road 47	47	50	40.5	N	2200-2300	979	62.1%	28.1%	0.0%	2.5%	0.9%	0.8%	1.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	0.4%	0.0%	100.0%
Road 47	47	50	42.8	N	2300-0000	730	61.2%	27.6%	0.0%	2.8%	1.0%	0.9%	1.7%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	2.7%	0.5%	0.0%	100.0%
Road 48	48	80	80.0	N	0000-0100	634	57.3%	25.7%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	3.1%	2.9%	0.6%	100.0%
Road 48	48	80	80.0	N	0100-0200	412	56.4%	25.2%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.3%	3.0%	0.6%	100.0%
Road 48	48	80	80.0	N	0200-0300	301	55.4%	24.7%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	3.1%	0.6%	100.0%
Road 48	48	80	80.0	N	0300-0400	237	54.4%	24.2%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	3.2%	0.7%	100.0%
Road 48	48	80	80.0	N	0400-0500	260	53.4%	23.6%	0.0%	4.8%	1.7%	1.5%	2.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.2%	3.5%	0.8%	100.0%
Road 48	48	80	80.0	N	0500-0600	451	52.4%	23.1%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.5%	3.9%	0.8%	100.0%
Road 48	48	80	80.0	N	0600-0700	966	51.4%	22.5%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	4.9%	4.1%	0.9%	100.0%
Road 48	48	80	80.0	N	0700-0800	1951	50.4%	21.9%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.1%	0.7%	1.1%	0.8%	1.8%	0.0%	0.0%	5.2%	4.4%	1.0%	100.0%
Road 48	48	80	80.0	N	0800-0900	2256	56.3%	18.0%	0.1%	6.4%	2.3%	1.8%	3.5%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	0.0%	3.3%	1.0%	0.0%	100.0%
Road 48	48	80	80.0	N	0900-1000	1849	51.6%	18.7%	0.1%	9.0%	3.2%	2.4%	4.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	2.7%	2.0%	1.3%	0.0%	100.0%
Road 48	48	80	80.0	N	1000-1100	1595	49.0%	19.0%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	2.7%	1.5%	1.6%	0.0%	100.0%
Road 48	48	80	80.0	N	1100-1200	1512	48.8%	20.1%	0.1%	9.6%	3.5%	3.0%	5.9%	0.7%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	0.0%	2.8%	1.4%	1.5%	0.0%	100.0%
Road 48	48	80	80.0	N	1200-1300	973	19.6%	7.5%	0.2%	20.2%	7.2%	7.2%	14.2%	1.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	17.0%	0.6%	3.7%	0.0%	100.0%
Road 48	48	80	80.0	N	1300-1400	1031	18.2%	7.0%	0.2%	23.1%	8.3%	7.2%	14.1%	0.9%	0.0%	0.3%	0.3%	0.2%	0.4%	0.1%	0.0%	15.6%	0.6%	3.7%	0.0%	100.0%
Road 48	48	80	80.0	N	1400-1500	1062	18.9%	7.7%	0.2%	21.2%	7.6%	7.2%	14.1%	1.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	16.1%	0.7%	3.7%	0.0%	100.0%
Road 48	48	80	80.0	N	1500-1600	1093	18.7%	7.5%	0.3%	24.4%	8.8%	6.2%	12.2%	0.9%	0.0%	0.3%	0.4%	0.3%	0.6%	0.1%	0.0%	15.6%	0.7%	3.2%	0.0%	100.0%
Road 48	48	80	80.0	N	1600-1700	1111	20.8%	7.2%	0.2%	20.1%	7.2%	6.3%	12.4%	0.9%	0.1%	0.5%	0.6%	0.4%	0.9%	0.1%	0.0%	18.1%	1.0%	3.2%	0.0%	100.0%
Road 48	48	80	80.0	N	1700-1800	1158	25.0%	7.8%	0.2%	19.6%	7.0%	4.4%	8.7%	1.0%	0.0%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	19.9%	2.1%	2.3%	0.0%	100.0%
Road 48	48	80	80.0	N	1800-1900	1106	34.6%	8.1%	0.1%	13.9%	5.0%	2.9%	5.7%	1.1%	0.0%	0.1%	0.6%	0.4%	0.9%	0.1%	0.0%	23.2%	1.7%	1.5%	0.0%	100.0%
Road 48	48	80	80.0	N	1900-2000	868	34.4%	10.8%	0.1%	10.7%	3.8%	2.6%	5.0%	1.3%	0.0%	0.1%	0.5%	0.4%	0.8%	0.1%	0.0%	26.9%	1.3%	1.3%	0.0%	100.0%
Road 48	48	80	80.0	N	2000-2100	688	31.1%	13.2%	0.1%	11.1%	4.0%	2.5%	4.8%	1.4%	0.0%	0.0%	0.4%	0.3%	0.7%	0.0%	0.0%	27.8%	1.2%	1.3%	0.0%	100.0%
Road 48	48	80	80.0	N	2100-2200	669	32.5%	13.4%	0.1%	11.6%	4.2%	2.7%	5.3%	1.4%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	25.2%	1.5%	1.4%	0.0%	100.0%
Road 48	48	80	80.0	N	2200-2300	647	32.4%	14.7%	0.1%	9.0%	3.2%	2.9%	5.6%	1.3%	0.0%	0.0%	0.2%	0.1%	0.3%	0.2%	0.2%	27.2%	1.2%	1.5%	0.0%	100.0%
Road 48	48	80	80.0	N	2300-0000	493	31.3%	14.1%	0.1%	9.9%	3.5%	3.1%	6.2%	1.3%	0.0%	0.1%	0.2%	0.2%	0.4%	0.2%	0.2%	26.5%	1.4%	1.6%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 53	53	50	28.1	N	0000-0100	26	23.4%	10.5%	0.2%	16.6%	6.0%	5.2%	10.3%	23.3%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.2%	2.7%	0.0%	100.0%
Road 53	53	50	28.7	N	0100-0200	18	22.1%	9.9%	0.2%	17.5%	6.3%	5.5%	10.9%	22.6%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.3%	2.8%	0.0%	100.0%
Road 53	53	50	29.0	N	0200-0300	13	20.9%	9.3%	0.2%	18.4%	6.6%	5.8%	11.4%	22.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	3.0%	0.0%	100.0%
Road 53	53	50	29.2	N	0300-0400	11	19.8%	8.8%	0.2%	19.2%	6.9%	6.1%	11.9%	21.5%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	3.1%	0.0%	100.0%
Road 53	53	50	29.1	N	0400-0500	12	18.8%	8.3%	0.2%	20.0%	7.2%	6.3%	12.4%	20.9%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.2%	0.0%	100.0%
Road 53	53	50	28.3	N	0500-0600	22	17.8%	7.8%	0.2%	20.8%	7.5%	6.5%	12.8%	20.4%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.3%	0.0%	100.0%
Road 53	53	50	26.3	N	0600-0700	49	16.9%	7.4%	0.2%	21.5%	7.7%	6.7%	13.2%	19.9%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	3.5%	0.0%	100.0%
Road 53	53	50	29.4	N	0700-0800	103	16.0%	7.0%	0.2%	22.0%	8.0%	6.9%	13.6%	19.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.6%	3.6%	0.0%	100.0%
Road 53	53	50	24.2	N	0800-0900	116	18.3%	5.8%	0.3%	24.7%	8.9%	6.9%	13.6%	15.5%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.1%	3.5%	0.0%	100.0%
Road 53	53	50	24.1	N	0900-1000	119	13.4%	4.9%	0.3%	27.9%	10.0%	7.6%	14.9%	15.6%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	0.5%	3.9%	0.0%	100.0%
Road 53	53	50	24.2	N	1000-1100	112	11.7%	4.5%	0.3%	27.5%	9.9%	8.7%	17.2%	14.6%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 53	53	50	24.3	N	1100-1200	106	11.6%	4.8%	0.3%	27.4%	9.9%	8.6%	16.9%	15.2%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.4%	0.0%	100.0%
Road 53	53	50	24.1	N	1200-1300	128	24.7%	9.5%	0.2%	21.7%	7.8%	7.8%	15.3%	6.4%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 53	53	50	24.0	N	1300-1400	136	22.8%	8.8%	0.3%	24.8%	8.9%	7.7%	15.1%	5.6%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	3.9%	0.0%	100.0%
Road 53	53	50	23.9	N	1400-1500	141	23.7%	9.6%	0.2%	22.7%	8.2%	7.7%	15.1%	6.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	3.9%	0.0%	100.0%
Road 53	53	50	23.9	N	1500-1600	145	23.4%	9.4%	0.3%	26.1%	9.4%	6.6%	13.0%	5.5%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	3.4%	0.0%	100.0%
Road 53	53	50	23.9	N	1600-1700	144	26.6%	9.2%	0.2%	22.0%	7.9%	6.9%	13.5%	5.8%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	3.5%	0.0%	100.0%
Road 53	53	50	23.9	N	1700-1800	150	32.0%	10.0%	0.2%	21.4%	7.7%	4.9%	9.5%	6.7%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	2.5%	0.0%	100.0%
Road 53	53	50	24.2	N	1800-1900	141	45.0%	10.6%	0.2%	15.4%	5.5%	3.2%	6.3%	7.4%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	1.6%	0.0%	100.0%
Road 53	53	50	24.6	N	1900-2000	108	45.8%	14.3%	0.1%	12.2%	4.4%	2.9%	5.7%	9.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	1.7%	1.5%	0.0%	100.0%
Road 53	53	50	24.9	N	2000-2100	85	41.8%	17.7%	0.1%	12.8%	4.6%	2.8%	5.5%	9.6%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.7%	1.4%	0.0%	100.0%
Road 53	53	50	24.9	N	2100-2200	85	42.4%	17.5%	0.1%	13.0%	4.7%	3.0%	5.9%	9.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	1.5%	0.0%	100.0%
Road 53	53	50	25.0	N	2200-2300	80	43.5%	19.7%	0.1%	10.4%	3.7%	3.3%	6.5%	8.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.7%	1.7%	0.0%	100.0%
Road 53	53	50	26.2	N	2300-0000	61	41.8%	18.8%	0.1%	11.3%	4.1%	3.6%	7.0%	8.4%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	1.8%	0.0%	100.0%
Road 54	54	50	26.7	N	0000-0100	50	36.5%	16.4%	0.1%	12.4%	4.4%	3.9%	7.7%	13.5%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	2.0%	0.0%	100.0%
Road 54	54	50	27.8	N	0100-0200	33	35.0%	15.7%	0.1%	13.2%	4.7%	4.2%	8.2%	13.3%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	2.1%	0.0%	100.0%
Road 54	54	50	28.3	N	0200-0300	25	33.6%	15.0%	0.1%	14.1%	5.0%	4.4%	8.7%	13.1%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	2.3%	0.0%	100.0%
Road 54	54	50	28.6	N	0300-0400	20	32.2%	14.3%	0.2%	14.9%	5.3%	4.7%	9.2%	12.9%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	2.4%	0.0%	100.0%
Road 54	54	50	28.5	N	0400-0500	23	30.8%	13.6%	0.2%	15.6%	5.6%	4.9%	9.7%	12.7%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.4%	2.5%	0.0%	100.0%
Road 54	54	50	27.2	N	0500-0600	40	29.5%	13.0%	0.2%	16.4%	5.9%	5.1%	10.1%	12.5%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	2.6%	0.0%	100.0%
Road 54	54	50	24.8	N	0600-0700	88	28.2%	12.4%	0.2%	17.1%	6.2%	5.4%	10.6%	12.4%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.6%	2.8%	0.0%	100.0%
Road 54	54	50	23.4	N	0700-0800	182	27.0%	11.8%	0.2%	17.8%	6.4%	5.6%	11.0%	12.2%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	2.9%	0.0%	100.0%
Road 54	54	50	23.1	N	0800-0900	209	30.5%	9.8%	0.2%	19.6%	7.0%	5.5%	10.8%	9.6%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.8%	2.8%	0.0%	100.0%
Road 54	54	50	23.1	N	0900-1000	201	23.8%	8.6%	0.2%	23.6%	8.5%	6.4%	12.7%	10.3%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.9%	3.3%	0.0%	100.0%
Road 54	54	50	23.2	N	1000-1100	185	21.1%	8.2%	0.2%	23.8%	8.5%	7.6%	14.9%	9.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	3.9%	0.0%	100.0%
Road 54	54	50	23.6	N	1100-1200	175	21.1%	8.7%	0.2%	23.7%	8.5%	7.4%	14.6%	10.2%	0.0%	0.4%	0.5%	0.3%	0.6%	0.0%	0.0%	0.6%	3.8%	0.0%	100.0%
Road 54	54	50	24.0	N	1200-1300	120	11.1%	4.3%	0.3%	29.3%	10.5%	10.5%	20.6%	6.8%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.4%	0.0%	100.0%
Road 54	54	50	23.9	N	1300-1400	132	10.0%	3.9%	0.3%	32.4%	11.6%	10.0%	19.8%	5.8%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.2%	0.0%	100.0%
Road 54	54	50	23.8	N	1400-1500	133	10.6%	4.3%	0.3%	30.4%	10.9%	10.3%	20.2%	6.4%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	5.3%	0.0%	100.0%
Road 54	54	50	23.8	N	1500-1600	137	10.4%	4.2%	0.4%	34.8%	12.5%	8.8%	17.3%	5.8%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 54	54	50	23.9	N	1600-1700	131	12.3%	4.2%	0.3%	30.5%	11.0%	9.5%	18.8%	6.4%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.6%	4.9%	0.0%	100.0%
Road 54	54	50	24.0	N	1700-1800	128	15.9%	5.0%	0.3%	31.9%	11.4%	7.2%	14.2%	7.8%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	3.7%	0.0%	100.0%
Road 54	54	50	24.5	N	1800-1900	104	25.8%	6.1%	0.3%	26.4%	9.5%	5.5%	10.8%	10.1%	0.0%	0.0%	0.5%	0.4%	0.8%	0.0%	0.0%	1.2%	2.8%	0.0%	100.0%
Road 54	54	50	24.9	N	1900-2000	76	27.6%	8.7%	0.2%	22.0%	7.9%	5.3%	10.3%	12.9%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	2.7%	0.0%	100.0%
Road 54	54	50	25.7	N	2000-2100	60	24.9%	10.6%	0.2%	22.8%	8.2%	5.0%	9.9%	13.5%	0.0%	0.0%	0.4%	0.2%	0.5%	0.0%	0.0%	1.0%	2.6%	0.0%	100.0%
Road 54	54	50	25.7	N	2100-2200	61	25.2%	10.4%	0.2%	23.0%	8.3%	5.3%	10.4%	12.7%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	2.7%	0.0%	100.0%
Road 54	54	50	26.1	N	2200-2300	55	26.7%	12.1%	0.2%	19.0%	6.8%	6.1%	11.9%	12.4%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	1.0%	3.1%	0.0%	100.0%
Road 54	54	50	26.9	N	2300-0000	43	25.0%	11.3%	0.2%	20.2%	7.3%	6.4%	12.6%	11.9%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	3.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2033)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 101	101	80	80.0	N	0000-0100	677	56.9%	25.5%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	1.2%	2.7%	0.0%	100.0%
Road 101	101	80	80.0	N	0100-0200	442	55.7%	24.9%	0.1%	5.7%	2.0%	1.8%	3.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.3%	2.8%	0.0%	100.0%
Road 101	101	80	80.0	N	0200-0300	324	54.5%	24.3%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.0%	1.3%	3.0%	0.0%	100.0%
Road 101	101	80	80.0	N	0300-0400	257	53.3%	23.7%	0.1%	6.6%	2.4%	2.1%	4.1%	0.0%	0.0%	0.3%	0.8%	0.5%	1.2%	0.0%	0.0%	1.4%	3.1%	0.0%	100.0%
Road 101	101	80	80.0	N	0400-0500	283	52.1%	23.0%	0.1%	7.1%	2.6%	2.2%	4.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	1.5%	3.2%	0.0%	100.0%
Road 101	101	80	80.0	N	0500-0600	493	50.9%	22.4%	0.1%	7.6%	2.7%	2.4%	4.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	1.6%	3.5%	0.0%	100.0%
Road 101	101	80	80.0	N	0600-0700	1060	49.7%	21.7%	0.1%	8.1%	2.9%	2.5%	5.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.0%	1.6%	3.7%	0.0%	100.0%
Road 101	101	80	80.0	N	0700-0800	2151	48.4%	21.1%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	1.6%	3.8%	0.0%	100.0%
Road 101	101	80	80.0	N	0800-0900	2506	53.7%	17.2%	0.1%	9.3%	3.3%	2.6%	5.1%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	1.1%	3.5%	0.0%	100.0%
Road 101	101	80	80.0	N	0900-1000	2111	47.9%	17.4%	0.1%	12.8%	4.6%	3.5%	6.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	0.5%	3.9%	0.0%	100.0%
Road 101	101	80	80.0	N	1000-1100	1850	44.8%	17.4%	0.1%	13.6%	4.9%	4.3%	8.5%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 101	101	80	80.0	N	1100-1200	1749	44.7%	18.4%	0.1%	13.5%	4.9%	4.2%	8.3%	0.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	0.3%	4.4%	0.0%	100.0%
Road 101	101	80	80.0	N	1200-1300	1940	37.1%	14.3%	0.2%	17.1%	6.1%	6.1%	12.1%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	0.0%	0.6%	4.0%	0.0%	100.0%
Road 101	101	80	80.0	N	1300-1400	2033	34.9%	13.4%	0.2%	19.8%	7.1%	6.1%	12.0%	0.0%	0.1%	0.5%	0.6%	0.3%	0.8%	0.0%	0.0%	0.5%	4.3%	0.0%	100.0%
Road 101	101	80	80.0	N	1400-1500	2129	35.7%	14.4%	0.2%	17.9%	6.4%	6.1%	11.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 101	101	80	80.0	N	1500-1600	2190	35.2%	14.1%	0.2%	20.6%	7.4%	5.2%	10.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	0.7%	3.7%	0.0%	100.0%
Road 101	101	80	80.0	N	1600-1700	2250	38.8%	13.4%	0.2%	16.8%	6.0%	5.3%	10.3%	0.0%	0.1%	0.9%	1.1%	0.8%	1.7%	0.0%	0.0%	1.0%	3.5%	0.0%	100.0%
Road 101	101	80	80.0	N	1700-1800	2436	44.9%	14.0%	0.2%	15.7%	5.6%	3.6%	7.0%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	0.9%	2.5%	0.0%	100.0%
Road 101	101	80	80.0	N	1800-1900	2483	58.3%	13.7%	0.1%	10.4%	3.7%	2.2%	4.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	0.0%	0.5%	2.1%	0.0%	100.0%
Road 101	101	80	80.0	N	1900-2000	1922	58.6%	18.3%	0.1%	8.2%	2.9%	1.9%	3.8%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	0.4%	1.7%	0.0%	100.0%
Road 101	101	80	80.0	N	2000-2100	1497	54.0%	22.9%	0.1%	8.6%	3.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	0.3%	1.7%	0.0%	100.0%
Road 101	101	80	80.0	N	2100-2200	1503	54.6%	22.6%	0.1%	8.7%	3.1%	2.0%	4.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	1.9%	0.0%	100.0%
Road 101	101	80	80.0	N	2200-2300	1441	55.0%	24.8%	0.1%	6.8%	2.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	0.1%	2.1%	0.0%	100.0%
Road 101	101	80	80.0	N	2300-0000	1089	53.4%	24.1%	0.1%	7.6%	2.7%	2.4%	4.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	0.2%	2.4%	0.0%	100.0%
Road 102	102	80	80.0	N	0000-0100	560	50.7%	22.8%	0.1%	9.0%	3.2%	2.9%	5.6%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	0.2%	2.6%	0.0%	100.0%
Road 102	102	80	80.0	N	0100-0200	369	49.1%	22.0%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	0.3%	2.8%	0.0%	100.0%
Road 102	102	80	80.0	N	0200-0300	273	47.6%	21.2%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	0.3%	3.0%	0.0%	100.0%
Road 102	102	80	80.0	N	0300-0400	219	46.1%	20.5%	0.1%	11.2%	4.0%	3.5%	6.9%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	0.4%	3.2%	0.0%	100.0%
Road 102	102	80	80.0	N	0400-0500	244	44.6%	19.7%	0.1%	11.9%	4.3%	3.7%	7.4%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	0.4%	3.5%	0.0%	100.0%
Road 102	102	80	80.0	N	0500-0600	428	43.1%	19.0%	0.1%	12.6%	4.5%	4.0%	7.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	0.5%	3.7%	0.0%	100.0%
Road 102	102	80	80.0	N	0600-0700	930	41.7%	18.3%	0.1%	13.3%	4.8%	4.2%	8.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	0.4%	3.9%	0.0%	100.0%
Road 102	102	80	80.0	N	0700-0800	1906	40.3%	17.5%	0.1%	14.0%	5.0%	4.4%	8.6%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	0.4%	4.1%	0.0%	100.0%
Road 102	102	80	80.0	N	0800-0900	2232	44.4%	14.2%	0.2%	15.1%	5.4%	4.2%	8.3%	0.0%	0.1%	0.5%	0.7%	0.5%	1.3%	0.0%	0.0%	0.3%	4.0%	0.0%	100.0%
Road 102	102	80	80.0	N	0900-1000	1997	37.3%	13.6%	0.2%	19.5%	7.0%	5.3%	10.4%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 102	102	80	80.0	N	1000-1100	1801	33.9%	13.2%	0.2%	20.1%	7.2%	6.4%	12.5%	0.0%	0.0%	0.5%	0.7%	0.5%	1.3%	0.0%	0.0%	0.4%	4.9%	0.0%	100.0%
Road 102	102	80	80.0	N	1100-1200	1699	33.9%	14.0%	0.2%	20.1%	7.2%	6.3%	12.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.3%	0.0%	0.0%	0.4%	4.9%	0.0%	100.0%
Road 102	102	80	80.0	N	1200-1300	1897	41.9%	16.1%	0.2%	14.4%	5.2%	5.2%	10.2%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	0.5%	3.9%	0.0%	100.0%
Road 102	102	80	80.0	N	1300-1400	1968	39.8%	15.3%	0.2%	16.8%	6.0%	5.2%	10.3%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	0.5%	4.3%	0.0%	100.0%
Road 102	102	80	80.0	N	1400-1500	2077	40.3%	16.3%	0.2%	15.1%	5.4%	5.1%	10.1%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	0.5%	4.2%	0.0%	100.0%
Road 102	102	80	80.0	N	1500-1600	2132	39.9%	16.0%	0.2%	17.4%	6.3%	4.4%	8.7%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 102	102	80	80.0	N	1600-1700	2222	43.3%	14.9%	0.1%	14.0%	5.0%	4.4%	8.6%	0.0%	0.1%	0.5%	0.7%	0.5%	1.3%	0.0%	0.0%	0.4%	4.3%	0.0%	100.0%
Road 102	102	80	80.0	N	1700-1800	2456	49.1%	15.4%	0.1%	12.9%	4.6%	2.9%	5.7%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	0.3%	3.4%	0.0%	100.0%
Road 102	102	80	80.0	N	1800-1900	2587	61.7%	14.5%	0.1%	8.3%	3.0%	1.7%	3.4%	0.0%	0.0%	0.1%	1.1%	0.8%	1.6%	0.0%	0.0%	0.2%	2.4%	0.0%	100.0%
Road 102	102	80	80.0	N	1900-2000	2024	61.4%	19.2%	0.1%	6.4%	2.3%	1.5%	3.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	0.2%	2.3%	0.0%	100.0%
Road 102	102	80	80.0	N	2000-2100	1574	56.6%	24.0%	0.1%	6.8%	2.4%	1.5%	2.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	0.2%	2.3%	0.0%	100.0%
Road 102	102	80	80.0	N	2100-2200	1578	57.4%	23.7%	0.1%	6.9%	2.5%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	0.2%	2.4%	0.0%	100.0%
Road 102	102	80	80.0	N	2200-2300	1521	57.4%	26.0%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	0.2%	2.2%	0.0%	100.0%
Road 102	102	80	80.0	N	2300-0000	1144	56.1%	25.3%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	0.2%	2.5%	1.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

**Traffic Data / Modeling Parameters For AERMOD

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 1	1	80	80.0	N	0000-0100	1002	57.2%	25.7%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.7%	2.9%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	0100-0200	652	56.2%	25.1%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.7%	3.2%	0.9%	0.0%	100.0%
Road 1	1	80	80.0	N	0200-0300	477	55.1%	24.6%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	3.6%	3.5%	1.1%	0.0%	100.0%
Road 1	1	80	80.0	N	0300-0400	377	54.1%	24.0%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	3.6%	3.8%	1.2%	0.0%	100.0%
Road 1	1	80	80.0	N	0400-0500	413	53.1%	23.5%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.6%	4.1%	1.2%	0.0%	100.0%
Road 1	1	80	80.0	N	0500-0600	714	52.2%	23.0%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.6%	4.5%	1.1%	0.0%	100.0%
Road 1	1	80	80.0	N	0600-0700	1527	51.3%	22.5%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.6%	4.8%	1.0%	0.0%	100.0%
Road 1	1	80	79.9	N	0700-0800	3088	50.2%	21.9%	0.1%	5.9%	2.1%	1.8%	3.6%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.5%	5.1%	1.2%	0.0%	100.0%
Road 1	1	80	77.0	N	0800-0900	3572	56.1%	17.9%	0.1%	6.4%	2.3%	1.8%	3.5%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	3.1%	3.3%	1.1%	0.0%	100.0%
Road 1	1	80	80.0	N	0900-1000	2927	51.4%	18.7%	0.1%	9.1%	3.3%	2.5%	4.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.3%	2.0%	1.5%	0.0%	100.0%
Road 1	1	80	80.0	N	1000-1100	2528	48.7%	18.9%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.2%	1.5%	1.9%	0.0%	100.0%
Road 1	1	80	80.0	N	1100-1200	2396	48.6%	20.0%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	3.3%	1.4%	1.9%	0.0%	100.0%
Road 1	1	80	77.0	N	1200-1300	3270	45.5%	17.5%	0.1%	10.9%	3.9%	3.9%	7.7%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	3.6%	1.3%	2.2%	0.0%	100.0%
Road 1	1	80	76.4	N	1300-1400	3345	43.8%	16.9%	0.1%	12.9%	4.6%	4.0%	7.9%	0.0%	0.1%	0.6%	0.8%	0.4%	1.0%	0.0%	3.4%	1.3%	2.3%	0.0%	100.0%
Road 1	1	80	75.1	N	1400-1500	3564	44.0%	17.8%	0.1%	11.5%	4.1%	3.9%	7.6%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	3.4%	1.7%	2.2%	0.0%	100.0%
Road 1	1	80	74.7	N	1500-1600	3646	43.7%	17.5%	0.1%	13.3%	4.8%	3.4%	6.6%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.3%	1.6%	1.9%	0.0%	100.0%
Road 1	1	80	73.3	N	1600-1700	3875	46.5%	16.0%	0.1%	10.5%	3.8%	3.3%	6.4%	0.0%	0.1%	1.1%	1.4%	0.9%	2.1%	0.0%	3.7%	2.2%	1.9%	0.0%	100.0%
Road 1	1	80	71.6	N	1700-1800	4383	51.6%	16.1%	0.1%	9.4%	3.4%	2.1%	4.2%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	3.7%	4.4%	1.3%	0.0%	100.0%
Road 1	1	80	70.4	N	1800-1900	4782	62.5%	14.7%	0.1%	5.8%	2.1%	1.2%	2.4%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	3.8%	3.0%	0.8%	0.0%	100.0%
Road 1	1	80	76.3	N	1900-2000	3797	61.3%	19.2%	0.0%	4.4%	1.6%	1.1%	2.1%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	4.4%	2.3%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	2000-2100	2956	56.4%	24.0%	0.0%	4.7%	1.7%	1.0%	2.0%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	4.6%	2.3%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	2100-2200	2944	57.6%	23.8%	0.0%	4.8%	1.7%	1.1%	2.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.1%	2.6%	0.6%	0.0%	100.0%
Road 1	1	80	80.0	N	2200-2300	2862	57.2%	25.8%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.4%	2.2%	0.7%	0.0%	100.0%
Road 1	1	80	80.0	N	2300-0000	2143	56.1%	25.3%	0.0%	4.1%	1.5%	1.3%	2.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.4%	2.5%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	0000-0100	961	52.9%	23.7%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	4.3%	2.7%	1.1%	0.0%	100.0%
Road 2	2	80	80.0	N	0100-0200	629	51.6%	23.1%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.2%	2.9%	1.3%	0.0%	100.0%
Road 2	2	80	80.0	N	0200-0300	463	50.4%	22.5%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	4.1%	3.2%	1.5%	0.0%	100.0%
Road 2	2	80	80.0	N	0300-0400	368	49.1%	21.8%	0.1%	7.4%	2.7%	2.3%	4.6%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	4.1%	3.5%	1.7%	0.0%	100.0%
Road 2	2	80	80.0	N	0400-0500	406	47.9%	21.2%	0.1%	8.0%	2.9%	2.5%	4.9%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	4.0%	3.7%	1.7%	0.0%	100.0%
Road 2	2	80	80.0	N	0500-0600	706	46.8%	20.6%	0.1%	8.5%	3.1%	2.7%	5.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	4.0%	4.0%	1.6%	0.0%	100.0%
Road 2	2	80	80.0	N	0600-0700	1521	45.7%	20.0%	0.1%	9.1%	3.3%	2.8%	5.6%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	4.0%	4.3%	1.6%	0.0%	100.0%
Road 2	2	80	78.7	N	0700-0800	3096	44.4%	19.3%	0.1%	9.6%	3.4%	3.0%	5.9%	0.0%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	3.9%	4.5%	1.8%	0.0%	100.0%
Road 2	2	80	75.7	N	0800-0900	3594	49.4%	15.8%	0.1%	10.4%	3.7%	2.9%	5.7%	0.0%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	3.5%	2.9%	1.7%	0.0%	100.0%
Road 2	2	80	78.1	N	0900-1000	3076	43.4%	15.8%	0.1%	14.1%	5.1%	3.8%	7.5%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.4%	1.7%	2.2%	0.0%	100.0%
Road 2	2	80	80.0	N	1000-1100	2715	40.3%	15.6%	0.2%	14.8%	5.3%	4.7%	9.2%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	3.3%	1.2%	2.7%	0.0%	100.0%
Road 2	2	80	80.0	N	1100-1200	2568	40.3%	15.6%	0.2%	14.8%	5.3%	4.6%	9.1%	0.0%	0.1%	0.7%	0.7%	0.4%	0.9%	0.0%	2.9%	0.9%	3.5%	0.0%	100.0%
Road 2	2	80	77.1	N	1200-1300	3147	40.6%	15.7%	0.1%	13.9%	5.0%	5.0%	9.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.8%	1.2%	2.8%	0.0%	100.0%
Road 2	2	80	76.2	N	1300-1400	3258	38.7%	14.9%	0.2%	16.3%	5.9%	5.1%	9.9%	0.0%	0.1%	0.6%	0.6%	0.4%	0.8%	0.0%	2.7%	1.2%	2.8%	0.0%	100.0%
Road 2	2	80	75.1	N	1400-1500	3440	39.2%	15.9%	0.2%	14.6%	5.3%	5.0%	9.7%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	2.7%	1.5%	2.8%	0.0%	100.0%
Road 2	2	80	74.7	N	1500-1600	3528	38.8%	15.6%	0.2%	16.9%	6.1%	4.3%	8.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.6%	1.4%	2.4%	0.0%	100.0%
Road 2	2	80	73.7	N	1600-1700	3689	42.0%	14.5%	0.1%	13.5%	4.9%	4.2%	8.3%	0.0%	0.1%	1.0%	1.2%	0.9%	1.9%	0.0%	2.9%	2.0%	2.4%	0.0%	100.0%
Road 2	2	80	72.7	N	1700-1800	4082	47.6%	14.9%	0.1%	12.4%	4.5%	2.8%	5.5%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.0%	4.1%	1.6%	0.0%	100.0%
Road 2	2	80	72.7	N	1800-1900	4310	59.6%	14.0%	0.1%	7.9%	2.9%	1.7%	3.3%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	3.2%	2.8%	1.0%	0.0%	100.0%
Road 2	2	80	78.4	N	1900-2000	3385	59.1%	18.5%	0.1%	6.1%	2.2%	1.5%	2.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	3.7%	2.2%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2000-2100	2638	54.4%	23.1%	0.1%	6.5%	2.3%	1.4%	2.8%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	3.9%	2.2%	0.8%	0.0%	100.0%
Road 2	2	80	80.0	N	2100-2200	2653	55.4%	22.9%	0.1%	6.6%	2.4%	1.5%	3.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.0%	2.5%	0.9%	0.0%	100.0%
Road 2	2	80	80.0	N	2200-2300	2545	55.3%	25.0%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.7%	2.1%	0.9%	0.0%	100.0%
Road 2	2	80	80.0	N	2300-0000	1914	54.0%	24.3%	0.1%	5.7%	2.0%	1.8%	3.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.7%	2.4%	1.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 3	3	70	70.0	N	0000-0100	354	55.0%	24.7%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	5.8%	2.8%	1.1%	0.0%	100.0%
Road 3	3	70	70.0	N	0100-0200	231	53.9%	24.1%	0.0%	4.1%	1.5%	1.3%	2.6%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	5.8%	3.1%	1.5%	0.0%	100.0%
Road 3	3	70	70.0	N	0200-0300	169	52.8%	23.5%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	5.7%	3.3%	1.8%	0.0%	100.0%
Road 3	3	70	70.0	N	0300-0400	134	51.6%	22.9%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	5.5%	3.6%	2.2%	0.0%	100.0%
Road 3	3	70	70.0	N	0400-0500	147	50.7%	22.4%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	5.6%	3.9%	2.1%	0.0%	100.0%
Road 3	3	70	70.0	N	0500-0600	254	50.0%	22.0%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	5.6%	4.3%	1.6%	0.0%	100.0%
Road 3	3	70	70.0	N	0600-0700	542	49.1%	21.5%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	5.6%	4.6%	1.3%	0.0%	100.0%
Road 3	3	70	67.1	N	0700-0800	1099	47.9%	20.9%	0.1%	6.4%	2.3%	2.0%	3.8%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	5.5%	4.9%	1.7%	0.0%	100.0%
Road 3	3	70	64.4	N	0800-0900	1268	53.7%	17.2%	0.1%	7.0%	2.5%	2.0%	3.8%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	4.9%	3.1%	1.6%	0.0%	100.0%
Road 3	3	70	67.4	N	0900-1000	1049	48.8%	17.7%	0.1%	9.8%	3.5%	2.7%	5.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	5.1%	1.9%	2.1%	0.0%	100.0%
Road 3	3	70	69.4	N	1000-1100	910	46.0%	17.9%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	5.0%	1.4%	2.5%	0.0%	100.0%
Road 3	3	70	70.0	N	1100-1200	863	45.9%	18.9%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	5.0%	1.3%	2.5%	0.0%	100.0%
Road 3	3	70	61.2	N	1200-1300	1307	39.2%	15.1%	0.1%	13.8%	5.0%	5.0%	9.7%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	5.0%	1.2%	3.1%	0.0%	100.0%
Road 3	3	70	60.2	N	1300-1400	1353	37.3%	14.4%	0.2%	16.2%	5.8%	5.0%	9.9%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	4.7%	1.1%	3.1%	0.0%	100.0%
Road 3	3	70	53.5	N	1400-1500	1427	37.8%	15.3%	0.2%	14.5%	5.2%	4.9%	9.7%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	4.8%	1.4%	3.0%	0.0%	100.0%
Road 3	3	70	50.7	N	1500-1600	1463	37.5%	15.0%	0.2%	16.8%	6.0%	4.2%	8.4%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.6%	1.4%	2.7%	0.0%	100.0%
Road 3	3	70	43.4	N	1600-1700	1532	40.5%	14.0%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	5.2%	1.9%	2.6%	0.0%	100.0%
Road 3	3	70	36.0	N	1700-1800	1693	46.0%	14.4%	0.1%	12.3%	4.4%	2.8%	5.5%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	5.4%	3.9%	1.9%	0.0%	100.0%
Road 3	3	70	35.3	N	1800-1900	1785	57.7%	13.5%	0.1%	7.9%	2.8%	1.6%	3.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	5.7%	2.7%	1.2%	0.0%	100.0%
Road 3	3	70	62.5	N	1900-2000	1404	57.0%	17.9%	0.1%	6.1%	2.2%	1.5%	2.9%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	6.6%	2.1%	0.9%	0.0%	100.0%
Road 3	3	70	67.4	N	2000-2100	1096	52.4%	22.2%	0.1%	6.4%	2.3%	1.4%	2.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	6.9%	2.1%	0.9%	0.0%	100.0%
Road 3	3	70	67.8	N	2100-2200	1090	53.6%	22.2%	0.1%	6.6%	2.4%	1.5%	3.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	6.1%	2.4%	0.9%	0.0%	100.0%
Road 3	3	70	68.3	N	2200-2300	1056	53.3%	24.1%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	6.6%	2.1%	1.0%	0.0%	100.0%
Road 3	3	70	70.0	N	2300-0000	794	52.1%	23.5%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	6.5%	2.3%	1.2%	0.0%	100.0%
Road 4	4	80	80.0	N	0000-0100	648	58.3%	26.2%	0.0%	3.3%	1.2%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.5%	2.9%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	0100-0200	421	57.4%	25.7%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.8%	3.2%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0200-0300	307	56.4%	25.1%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	2.5%	3.6%	0.9%	0.0%	100.0%
Road 4	4	80	80.0	N	0300-0400	243	55.5%	24.6%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	2.5%	3.9%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0400-0500	266	54.5%	24.1%	0.0%	4.6%	1.6%	1.4%	2.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.5%	4.2%	0.7%	0.0%	100.0%
Road 4	4	80	80.0	N	0500-0600	460	53.5%	23.5%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.5%	4.6%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0600-0700	985	52.5%	23.0%	0.1%	5.3%	1.9%	1.6%	3.2%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.5%	4.9%	0.8%	0.0%	100.0%
Road 4	4	80	80.0	N	0700-0800	1589	51.4%	22.4%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	2.4%	5.3%	0.9%	0.0%	100.0%
Road 4	4	80	77.8	N	0800-0900	2304	57.4%	18.3%	0.1%	6.1%	2.2%	1.7%	3.4%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.1%	2.4%	3.3%	0.9%	0.0%	100.0%
Road 4	4	80	80.0	N	0900-1000	1878	52.9%	19.2%	0.1%	8.7%	3.1%	2.4%	4.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.3%	2.1%	1.2%	0.0%	100.0%
Road 4	4	80	80.0	N	1000-1100	1617	50.3%	19.5%	0.1%	9.3%	3.4%	3.0%	5.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.2%	1.5%	1.5%	0.0%	100.0%
Road 4	4	80	80.0	N	1100-1200	1533	50.1%	20.7%	0.1%	9.3%	3.3%	2.9%	5.7%	0.0%	0.1%	0.9%	0.5%	0.3%	0.8%	0.0%	2.3%	1.4%	1.5%	0.0%	100.0%
Road 4	4	80	79.6	N	1200-1300	1963	49.7%	19.1%	0.1%	8.9%	3.2%	3.2%	6.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	2.7%	1.5%	1.6%	0.0%	100.0%
Road 4	4	80	79.2	N	1300-1400	1992	48.3%	18.6%	0.1%	10.7%	3.8%	3.3%	6.5%	0.0%	0.1%	0.7%	0.7%	0.5%	1.0%	0.0%	2.6%	1.5%	1.7%	0.0%	100.0%
Road 4	4	80	77.9	N	1400-1500	2136	48.1%	19.5%	0.1%	9.4%	3.4%	3.2%	6.3%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.5%	1.8%	1.6%	0.0%	100.0%
Road 4	4	80	77.6	N	1500-1600	2182	47.9%	19.2%	0.1%	10.9%	3.9%	2.8%	5.4%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.5%	1.7%	1.4%	0.0%	100.0%
Road 4	4	80	76.1	N	1600-1700	2344	50.5%	17.4%	0.1%	8.5%	3.1%	2.7%	5.2%	0.0%	0.2%	1.2%	1.5%	1.0%	2.3%	0.0%	2.7%	2.4%	1.4%	0.0%	100.0%
Road 4	4	80	74.2	N	1700-1800	2690	55.1%	17.2%	0.1%	7.5%	2.7%	1.7%	3.3%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.7%	4.7%	0.9%	0.0%	100.0%
Road 4	4	80	72.4	N	1800-1900	2997	65.4%	15.4%	0.0%	4.6%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	2.7%	3.1%	0.5%	0.0%	100.0%
Road 4	4	80	77.8	N	1900-2000	2393	63.7%	20.0%	0.0%	3.5%	1.2%	0.8%	1.6%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	2.7%	2.4%	0.4%	0.0%	100.0%
Road 4	4	80	80.0	N	2000-2100	1860	58.8%	25.0%	0.0%	3.7%	1.3%	0.8%	1.6%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.3%	2.3%	0.4%	0.0%	100.0%
Road 4	4	80	80.0	N	2100-2200	1854	60.0%	24.8%	0.0%	3.7%	1.3%	0.9%	1.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.9%	2.7%	0.4%	0.0%	100.0%
Road 4	4	80	80.0	N	2200-2300	1806	59.4%	26.8%	0.0%	2.9%	1.0%	0.9%	1.8%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.1%	2.3%	0.5%	0.0%	100.0%
Road 4	4	80	80.0	N	2300-0000	1348	58.4%	26.3%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	3.1%	2.6%	0.5%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

**Traffic

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 9	9	50	41.9	N	0000-0100	381	55.6%	24.9%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.2%	0.5%	0.4%	0.6%	0.0%	3.4%	2.8%	1.2%	0.0%	100.0%
Road 9	9	50	44.6	N	0100-0200	249	54.3%	24.3%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.4%	3.1%	1.5%	0.0%	100.0%
Road 9	9	50	46.0	N	0200-0300	183	53.1%	23.7%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.4%	3.4%	1.9%	0.0%	100.0%
Road 9	9	50	46.8	N	0300-0400	145	51.9%	23.0%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.3%	3.7%	2.2%	0.0%	100.0%
Road 9	9	50	46.5	N	0400-0500	159	50.9%	22.5%	0.1%	6.1%	2.2%	1.9%	3.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.3%	4.0%	2.2%	0.0%	100.0%
Road 9	9	50	43.9	N	0500-0600	275	50.0%	22.0%	0.1%	6.5%	2.3%	2.0%	4.0%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	3.3%	4.3%	1.7%	0.0%	100.0%
Road 9	9	50	38.2	N	0600-0700	588	49.1%	21.5%	0.1%	7.0%	2.5%	2.2%	4.3%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.3%	4.6%	1.4%	0.0%	100.0%
Road 9	9	50	32.5	Y	0700-0800	1195	47.9%	20.9%	0.1%	7.4%	2.7%	2.4%	4.6%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.2%	4.9%	1.1%	0.0%	100.0%
Road 9	9	50	28.1	N	0800-0900	1385	53.4%	17.1%	0.1%	8.1%	2.9%	2.3%	4.4%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.9%	3.1%	1.7%	0.0%	100.0%
Road 9	9	50	30.4	N	0900-1000	1156	48.1%	17.4%	0.1%	11.2%	4.0%	3.0%	6.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.9%	1.9%	2.2%	0.0%	100.0%
Road 9	9	50	32.0	N	1000-1100	1008	45.1%	17.5%	0.1%	11.9%	4.3%	3.8%	7.4%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	2.9%	1.4%	2.7%	0.0%	100.0%
Road 9	9	50	32.8	N	1100-1200	955	45.0%	18.5%	0.1%	11.9%	4.3%	3.7%	7.3%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	2.9%	1.3%	2.7%	0.0%	100.0%
Road 9	9	50	23.6	N	1200-1300	1338	33.9%	13.0%	0.2%	17.6%	6.3%	6.3%	12.4%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.9%	1.0%	3.8%	0.0%	100.0%
Road 9	9	50	20.2	N	1300-1400	1406	31.8%	12.2%	0.2%	20.4%	7.3%	6.3%	12.4%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	2.7%	1.0%	3.8%	0.0%	100.0%
Road 9	9	50	17.9	N	1400-1500	1467	32.6%	13.2%	0.2%	18.5%	6.6%	6.3%	12.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	2.7%	1.2%	3.7%	0.0%	100.0%
Road 9	9	50	16.7	N	1500-1600	1509	32.2%	12.9%	0.2%	21.3%	7.6%	5.4%	10.6%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	2.6%	1.2%	3.2%	0.0%	100.0%
Road 9	9	50	15.4	N	1600-1700	1547	35.5%	12.2%	0.2%	17.4%	6.2%	5.4%	10.7%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	3.0%	1.7%	3.3%	0.0%	100.0%
Road 9	9	50	14.8	N	1700-1800	1662	41.4%	12.9%	0.2%	16.4%	5.9%	3.7%	7.3%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.2%	3.6%	2.3%	0.0%	100.0%
Road 9	9	50	18.2	N	1800-1900	1675	54.4%	12.8%	0.1%	11.0%	4.0%	2.3%	4.5%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	3.6%	2.6%	1.6%	0.0%	100.0%
Road 9	9	50	29.2	N	1900-2000	1295	54.7%	17.1%	0.1%	8.6%	3.1%	2.1%	4.0%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	4.2%	2.0%	1.2%	0.0%	100.0%
Road 9	9	50	32.8	N	2000-2100	1011	50.2%	21.3%	0.1%	9.1%	3.3%	2.0%	3.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.4%	2.0%	1.2%	0.0%	100.0%
Road 9	9	50	33.0	N	2100-2200	1011	51.1%	21.2%	0.1%	9.3%	3.3%	2.1%	4.2%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.9%	2.3%	1.3%	0.0%	100.0%
Road 9	9	50	33.5	N	2200-2300	970	51.4%	23.2%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.2%	2.0%	1.4%	0.0%	100.0%
Road 9	9	50	36.3	N	2300-0000	735	49.8%	22.5%	0.1%	8.0%	2.9%	2.5%	5.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.2%	2.2%	1.6%	0.0%	100.0%
Road 10	10	50	48.1	Y	0000-0100	65	34.9%	15.7%	0.1%	8.0%	2.9%	2.5%	5.0%	1.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	26.8%	0.0%	100.0%
Road 10	10	50	48.5	Y	0100-0200	48	29.8%	13.3%	0.1%	7.7%	2.8%	2.4%	4.8%	0.9%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	35.4%	0.0%	100.0%
Road 10	10	50	48.7	Y	0200-0300	40	25.8%	11.5%	0.1%	7.3%	2.6%	2.3%	4.5%	0.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	42.2%	0.0%	100.0%
Road 10	10	50	48.8	Y	0300-0400	36	22.6%	10.0%	0.1%	7.1%	2.5%	2.2%	4.4%	0.7%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	47.5%	0.0%	100.0%
Road 10	10	50	48.7	Y	0400-0500	38	22.9%	10.1%	0.1%	7.9%	2.8%	2.5%	4.9%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	44.9%	0.0%	100.0%
Road 10	10	50	48.3	Y	0500-0600	54	27.1%	11.9%	0.1%	10.3%	3.7%	3.2%	6.3%	0.9%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.3%	32.1%	0.0%	100.0%
Road 10	10	50	47.2	Y	0600-0700	99	31.3%	13.7%	0.1%	12.9%	4.6%	4.0%	8.0%	1.1%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	2.9%	18.8%	0.0%	100.0%
Road 10	10	50	42.9	Y	0700-0800	233	26.3%	11.4%	0.1%	11.8%	4.2%	3.7%	7.3%	1.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.7%	29.2%	0.0%	100.0%
Road 10	10	50	42.2	Y	0800-0900	262	30.2%	9.7%	0.1%	13.2%	4.7%	3.7%	7.3%	0.8%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	26.2%	0.0%	100.0%
Road 10	10	50	42.3	Y	0900-1000	246	24.2%	8.8%	0.2%	16.3%	5.9%	4.4%	8.7%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.9%	28.2%	0.0%	100.0%
Road 10	10	50	42.6	Y	1000-1100	230	21.2%	8.2%	0.2%	16.2%	5.8%	5.1%	10.1%	0.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	30.3%	0.0%	100.0%
Road 10	10	50	42.9	Y	1100-1200	220	20.9%	8.6%	0.2%	15.9%	5.7%	5.0%	9.8%	0.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	31.4%	0.0%	100.0%
Road 10	10	50	44.9	Y	1200-1300	139	12.6%	4.8%	0.1%	13.5%	4.9%	4.9%	9.5%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	48.3%	0.0%	100.0%
Road 10	10	50	44.8	Y	1300-1400	145	11.9%	4.6%	0.2%	15.7%	5.7%	4.9%	9.6%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	46.4%	0.0%	100.0%
Road 10	10	50	44.7	Y	1400-1500	147	12.5%	5.1%	0.2%	14.7%	5.3%	5.0%	9.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.5%	45.9%	0.0%	100.0%
Road 10	10	50	44.7	Y	1500-1600	150	12.5%	5.0%	0.2%	17.1%	6.1%	4.3%	8.5%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	0.5%	44.7%	0.0%	100.0%
Road 10	10	50	44.7	Y	1600-1700	148	14.3%	4.9%	0.2%	14.5%	5.2%	4.5%	8.9%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	45.2%	0.0%	100.0%
Road 10	10	50	44.8	Y	1700-1800	149	17.8%	5.5%	0.2%	14.5%	5.2%	3.3%	6.5%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	44.2%	0.0%	100.0%
Road 10	10	50	45.2	Y	1800-1900	141	24.8%	5.8%	0.1%	10.6%	3.7%	2.2%	4.3%	0.0%	0.0%	0.4%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	46.1%	0.0%	100.0%
Road 10	10	50	47.9	Y	1900-2000	74	36.7%	11.5%	0.1%	12.0%	4.3%	2.9%	5.6%	0.0%	0.0%	0.1%	0.6%	0.4%	0.8%	0.0%	0.0%	1.4%	23.7%	0.0%	100.0%
Road 10	10	50	48.2	Y	2000-2100	62	31.7%	13.5%	0.1%	11.9%	4.3%	2.6%	5.1%	0.0%	0.0%	0.0%	0.4%	0.3%	0.7%	0.0%	0.0%	1.3%	28.1%	0.0%	100.0%
Road 10	10	50	48.2	Y	2100-2200	62	32.0%	13.2%	0.1%	12.0%	4.3%	2.8%	5.4%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	1.5%	28.0%	0.0%	100.0%
Road 10	10	50	48.2	Y	2200-2300	59	32.3%	14.6%	0.1%	9.4%	3.4%	3.0%	5.9%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.2%	29.4%	0.0%	100.0%
Road 10	10	50	48.5	Y	2300-0000	50	28.5%	12.8%	0.1%	9.4%	3.4%	3.0%	5.9%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.3%	34.9%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 11	11	50	45.0	Y	0000-0100	445	52.6%	23.6%	0.1%	4.9%	1.8%	1.6%	3.1%	0.2%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.9%	2.6%	4.9%	0.0%	100.0%
Road 11	11	50	46.6	Y	0100-0200	297	50.4%	22.5%	0.1%	5.3%	1.9%	1.7%	3.3%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.8%	2.9%	7.0%	0.0%	100.0%
Road 11	11	50	47.3	Y	0200-0300	223	48.2%	21.5%	0.1%	5.6%	2.0%	1.8%	3.5%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.8%	3.1%	9.2%	0.0%	100.0%
Road 11	11	50	47.8	Y	0300-0400	181	46.1%	20.5%	0.1%	5.9%	2.1%	1.9%	3.7%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.7%	3.2%	11.1%	0.0%	100.0%
Road 11	11	50	47.6	Y	0400-0500	197	45.5%	20.1%	0.1%	6.4%	2.3%	2.0%	4.0%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.7%	3.5%	10.4%	0.0%	100.0%
Road 11	11	50	46.1	Y	0500-0600	329	46.3%	20.4%	0.1%	7.1%	2.6%	2.2%	4.4%	0.2%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.7%	4.0%	6.7%	0.0%	100.0%
Road 11	11	50	42.0	Y	0600-0700	687	46.6%	20.4%	0.1%	7.8%	2.8%	2.5%	4.8%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.8%	4.4%	3.9%	0.0%	100.0%
Road 11	11	50	38.1	Y	0700-0800	1428	44.3%	19.3%	0.1%	8.1%	2.9%	2.5%	5.0%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.7%	4.5%	5.2%	0.0%	100.0%
Road 11	11	50	34.7	Y	0800-0900	1647	49.7%	15.9%	0.1%	8.9%	3.2%	2.5%	4.9%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.9%	3.1%	1.7%	0.0%	100.0%
Road 11	11	50	35.9	Y	0900-1000	1402	43.9%	15.9%	0.1%	12.1%	4.3%	3.3%	6.5%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.4%	1.7%	6.7%	0.0%	100.0%
Road 11	11	50	36.8	Y	1000-1100	1238	40.7%	15.8%	0.1%	12.7%	4.6%	4.0%	7.9%	0.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	2.3%	1.2%	7.8%	0.0%	100.0%
Road 11	11	50	37.2	Y	1100-1200	1175	40.5%	16.7%	0.1%	12.6%	4.5%	3.9%	7.8%	0.2%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	2.4%	1.1%	8.1%	0.0%	100.0%
Road 11	11	50	34.3	Y	1200-1300	1477	31.9%	12.3%	0.2%	17.3%	6.2%	6.2%	12.2%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.6%	0.9%	8.0%	0.0%	100.0%
Road 11	11	50	33.7	Y	1300-1400	1551	29.9%	11.5%	0.2%	19.9%	7.2%	6.2%	12.1%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	2.4%	0.9%	7.7%	0.0%	100.0%
Road 11	11	50	33.3	Y	1400-1500	1614	30.7%	12.4%	0.2%	18.1%	6.5%	6.1%	12.1%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.5%	1.2%	7.5%	0.0%	100.0%
Road 11	11	50	33.1	Y	1500-1600	1659	30.4%	12.2%	0.2%	20.9%	7.5%	5.3%	10.4%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	2.4%	1.1%	7.0%	0.0%	100.0%
Road 11	11	50	32.9	Y	1600-1700	1695	33.7%	11.6%	0.2%	17.1%	6.2%	5.4%	10.5%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.8%	1.6%	9.9%	0.0%	100.0%
Road 11	11	50	32.8	Y	1700-1800	1812	39.5%	12.3%	0.2%	16.3%	5.8%	3.7%	7.2%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.0%	3.4%	5.8%	0.0%	100.0%
Road 11	11	50	33.5	Y	1800-1900	1817	52.1%	12.2%	0.1%	11.0%	3.9%	2.3%	4.5%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	3.3%	2.5%	5.1%	0.0%	100.0%
Road 11	11	50	36.8	Y	1900-2000	1369	53.8%	16.8%	0.1%	8.8%	3.2%	2.1%	4.1%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	4.0%	2.0%	2.4%	0.0%	100.0%
Road 11	11	50	38.7	Y	2000-2100	1073	49.2%	20.9%	0.1%	9.3%	3.3%	2.0%	4.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.2%	2.0%	2.8%	0.0%	100.0%
Road 11	11	50	38.8	Y	2100-2200	1073	50.0%	20.7%	0.1%	9.4%	3.4%	2.2%	4.3%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.7%	2.3%	2.8%	0.0%	100.0%
Road 11	11	50	39.0	Y	2200-2300	1030	50.3%	22.7%	0.1%	7.4%	2.6%	2.3%	4.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.0%	1.9%	3.0%	0.0%	100.0%
Road 11	11	50	40.9	Y	2300-0000	784	48.5%	21.8%	0.1%	8.1%	2.9%	2.6%	5.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.9%	2.1%	3.7%	0.0%	100.0%
Road 12	12	50	27.6	Y	0000-0100	20	4.7%	2.1%	0.0%	0.9%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	93.7%	0.0%	100.0%
Road 12	12	50	27.6	Y	0100-0200	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	97.3%	0.0%	100.0%
Road 12	12	50	27.6	Y	0200-0300	19	2.2%	1.0%	0.0%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	98.2%	0.0%	100.0%
Road 12	12	50	27.7	Y	0300-0400	19	1.8%	0.8%	0.0%	0.5%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	98.6%	0.0%	100.0%
Road 12	12	50	27.6	Y	0400-0500	19	1.9%	0.8%	0.0%	0.6%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	98.5%	0.0%	100.0%
Road 12	12	50	27.6	Y	0500-0600	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	97.9%	0.0%	100.0%
Road 12	12	50	27.5	Y	0600-0700	22	6.0%	2.6%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	85.5%	0.0%	100.0%
Road 12	12	50	24.1	Y	0700-0800	77	3.3%	1.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.7%	0.0%	100.0%
Road 12	12	50	24.1	Y	0800-0900	78	4.2%	1.3%	0.0%	1.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	90.4%	0.0%	100.0%
Road 12	12	50	24.1	Y	0900-1000	78	3.2%	1.2%	0.0%	1.8%	0.7%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	91.3%	0.0%	100.0%
Road 12	12	50	24.1	Y	1000-1100	77	2.5%	1.0%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.1%	0.0%	100.0%
Road 12	12	50	24.1	Y	1100-1200	77	2.5%	1.0%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.5%	0.0%	100.0%
Road 12	12	50	24.1	Y	1200-1300	77	2.8%	1.1%	0.0%	1.5%	0.5%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.1%	0.0%	100.0%
Road 12	12	50	24.1	Y	1300-1400	77	2.8%	1.1%	0.0%	1.6%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	92.1%	0.0%	100.0%
Road 12	12	50	24.1	Y	1400-1500	78	2.9%	1.2%	0.0%	1.7%	0.6%	0.6%	1.2%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	91.4%	0.0%	100.0%
Road 12	12	50	24.1	Y	1500-1600	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	91.1%	0.0%	100.0%
Road 12	12	50	24.1	Y	1600-1700	78	3.4%	1.2%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	91.0%	0.0%	100.0%
Road 12	12	50	24.1	Y	1700-1800	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	90.2%	0.0%	100.0%
Road 12	12	50	24.1	Y	1800-1900	79	5.6%	1.3%	0.0%	1.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	75.7%	0.0%	100.0%
Road 12	12	50	27.4	Y	1900-2000	24	13.9%	4.4%	0.0%	2.3%	0.8%	0.5%	1.1%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	0.1%	74.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	2000-2100	23	10.6%	4.5%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	79.9%	0.0%	100.0%
Road 12	12	50	27.4	Y	2100-2200	23	10.7%	4.4%	0.0%	2.0%	0.7%	0.5%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	80.0%	0.0%	100.0%
Road 12	12	50	27.4	Y	2200-2300	22	10.4%	4.7%	0.0%	1.5%	0.5%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	80.7%	0.0%	100.0%
Road 12	12	50	27.5	Y	2300-0000	22	8.1%	3.6%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	84.7%	0.0%	100.0%
Road 14	14	50	45.1	N	0000-0100	441	52.5%	23.6%	0.1%	4.9%	1.8%	1.6%	3.1%	0.2%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	3

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 17	17	70	66.6	N	0000-0100	465	50.7%	22.8%	0.1%	7.7%	2.8%	2.4%	4.8%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.5%	2.6%	2.0%	0.0%	100.0%
Road 17	17	70	67.7	N	0100-0200	307	49.1%	22.0%	0.1%	8.3%	3.0%	2.6%	5.1%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.5%	2.8%	2.5%	0.0%	100.0%
Road 17	17	70	68.3	N	0200-0300	227	47.5%	21.2%	0.1%	8.9%	3.2%	2.8%	5.5%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.4%	3.0%	3.0%	0.0%	100.0%
Road 17	17	70	68.6	N	0300-0400	182	46.0%	20.4%	0.1%	9.5%	3.4%	3.0%	5.9%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.4%	3.2%	3.5%	0.0%	100.0%
Road 17	17	70	68.4	N	0400-0500	202	44.7%	19.8%	0.1%	10.2%	3.6%	3.2%	6.3%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.3%	3.5%	3.4%	0.0%	100.0%
Road 17	17	70	67.3	N	0500-0600	350	43.7%	19.2%	0.1%	10.9%	3.9%	3.4%	6.7%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.3%	3.7%	2.8%	0.0%	100.0%
Road 17	17	70	64.1	N	0600-0700	755	42.6%	18.7%	0.1%	11.6%	4.2%	3.6%	7.1%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.3%	4.0%	2.3%	0.0%	100.0%
Road 17	17	70	57.2	N	0700-0800	1549	41.1%	17.9%	0.1%	12.1%	4.4%	3.8%	7.5%	0.1%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	2.2%	4.2%	2.2%	0.0%	100.0%
Road 17	17	70	22.6	N	0800-0900	1804	45.6%	14.6%	0.1%	13.1%	4.7%	3.7%	7.2%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.0%	2.6%	2.7%	0.0%	100.0%
Road 17	17	70	30.6	N	0900-1000	1589	38.9%	14.1%	0.2%	17.3%	6.2%	4.7%	9.2%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	1.9%	1.5%	3.3%	0.0%	100.0%
Road 17	17	70	38.1	N	1000-1100	1423	35.6%	13.8%	0.2%	17.9%	6.4%	5.7%	11.2%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	1.8%	1.1%	3.9%	0.0%	100.0%
Road 17	17	70	42.9	N	1100-1200	1345	35.6%	14.7%	0.2%	17.9%	6.4%	5.6%	11.0%	0.1%	0.1%	0.6%	0.4%	0.2%	0.5%	0.0%	1.9%	1.0%	3.9%	0.0%	100.0%
Road 17	17	70	43.3	N	1200-1300	1227	26.4%	10.2%	0.2%	21.9%	7.9%	7.9%	15.4%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	2.3%	0.8%	5.2%	0.0%	100.0%
Road 17	17	70	38.1	N	1300-1400	1311	24.3%	9.4%	0.3%	24.9%	8.9%	7.7%	15.1%	0.0%	0.0%	0.4%	0.3%	0.2%	0.5%	0.0%	2.1%	0.7%	5.0%	0.0%	100.0%
Road 17	17	70	35.8	N	1400-1500	1350	25.3%	10.2%	0.2%	22.9%	8.2%	7.7%	15.2%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.2%	1.0%	5.0%	0.0%	100.0%
Road 17	17	70	34.0	N	1500-1600	1394	24.9%	10.0%	0.3%	26.2%	9.4%	6.6%	13.1%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.1%	0.9%	4.4%	0.0%	100.0%
Road 17	17	70	34.3	N	1600-1700	1395	28.1%	9.7%	0.2%	22.0%	7.9%	6.9%	13.5%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	2.4%	1.3%	4.5%	0.0%	100.0%
Road 17	17	70	36.5	N	1700-1800	1447	34.0%	10.6%	0.2%	21.5%	7.7%	4.9%	9.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.7%	2.9%	3.5%	0.0%	100.0%
Road 17	17	70	44.9	N	1800-1900	1370	47.5%	11.2%	0.2%	15.3%	5.5%	3.2%	6.3%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.2%	2.3%	2.7%	0.0%	100.0%
Road 17	17	70	58.1	N	1900-2000	1032	49.1%	15.4%	0.1%	12.3%	4.4%	2.9%	5.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.8%	1.8%	1.9%	0.0%	100.0%
Road 17	17	70	63.6	N	2000-2100	809	44.9%	19.1%	0.1%	12.9%	4.6%	2.9%	5.6%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	4.0%	1.8%	1.9%	0.0%	100.0%
Road 17	17	70	63.7	N	2100-2200	811	45.5%	18.8%	0.1%	13.1%	4.7%	3.0%	5.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.5%	2.1%	2.0%	0.0%	100.0%
Road 17	17	70	64.0	N	2200-2300	770	46.3%	20.9%	0.1%	10.4%	3.7%	3.3%	6.5%	0.0%	0.0%	0.3%	0.2%	0.4%	0.9%	0.0%	3.9%	1.8%	2.2%	0.0%	100.0%
Road 17	17	70	65.4	N	2300-0000	589	44.4%	20.0%	0.1%	11.3%	4.1%	3.6%	7.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.8%	2.0%	2.5%	0.0%	100.0%
Road 18	18	70	68.8	N	0000-0100	352	53.9%	24.2%	0.1%	5.1%	1.8%	1.6%	3.2%	0.2%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	3.4%	2.7%	1.9%	0.0%	100.0%
Road 18	18	70	69.2	N	0100-0200	231	52.5%	23.5%	0.1%	5.6%	2.0%	1.8%	3.5%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.4%	3.0%	2.5%	0.0%	100.0%
Road 18	18	70	69.4	N	0200-0300	171	51.1%	22.8%	0.1%	6.0%	2.2%	1.9%	3.7%	0.2%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	3.3%	3.2%	3.1%	0.0%	100.0%
Road 18	18	70	69.5	N	0300-0400	136	49.6%	22.0%	0.1%	6.5%	2.3%	2.0%	4.0%	0.2%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.3%	3.5%	3.7%	0.0%	100.0%
Road 18	18	70	69.5	N	0400-0500	149	48.6%	21.5%	0.1%	7.0%	2.5%	2.2%	4.3%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.2%	3.8%	3.6%	0.0%	100.0%
Road 18	18	70	69.1	N	0500-0600	257	48.0%	21.1%	0.1%	7.5%	2.7%	2.4%	4.6%	0.2%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.2%	4.1%	2.6%	0.0%	100.0%
Road 18	18	70	68.0	N	0600-0700	550	47.2%	20.7%	0.1%	8.1%	2.9%	2.5%	5.0%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.2%	4.4%	2.0%	0.0%	100.0%
Road 18	18	70	65.9	N	0700-0800	1123	45.7%	19.9%	0.1%	8.5%	3.1%	2.7%	5.2%	0.2%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	3.2%	4.7%	2.6%	0.0%	100.0%
Road 18	18	70	65.3	N	0800-0900	1300	51.0%	16.3%	0.1%	9.2%	3.3%	2.6%	5.1%	0.2%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	2.8%	3.0%	2.4%	0.0%	100.0%
Road 18	18	70	65.8	N	0900-1000	1102	45.3%	16.4%	0.1%	12.6%	4.5%	3.4%	6.8%	0.2%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.8%	1.8%	3.0%	0.0%	100.0%
Road 18	18	70	66.2	N	1000-1100	968	42.1%	16.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.2%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	2.8%	1.3%	3.6%	0.0%	100.0%
Road 18	18	70	66.4	N	1100-1200	917	42.0%	17.3%	0.1%	13.3%	4.8%	4.2%	8.2%	0.2%	0.1%	0.8%	0.4%	0.3%	0.6%	0.0%	2.8%	1.2%	3.7%	0.0%	100.0%
Road 18	18	70	65.4	N	1200-1300	1083	32.7%	12.6%	0.2%	17.8%	6.4%	6.4%	12.6%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.4%	1.0%	4.6%	0.0%	100.0%
Road 18	18	70	65.2	N	1300-1400	1139	30.6%	11.8%	0.2%	20.6%	7.4%	6.4%	12.5%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	3.1%	0.9%	4.5%	0.0%	100.0%
Road 18	18	70	65.0	N	1400-1500	1187	31.5%	12.7%	0.2%	18.7%	6.7%	6.3%	12.4%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	3.2%	1.2%	4.4%	0.0%	100.0%
Road 18	18	70	64.9	N	1500-1600	1221	31.1%	12.5%	0.2%	21.5%	7.7%	5.4%	10.7%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	3.1%	1.1%	3.9%	0.0%	100.0%
Road 18	18	70	64.8	N	1600-1700	1249	34.4%	11.8%	0.2%	17.6%	6.3%	5.5%	10.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	3.5%	1.6%	4.0%	0.0%	100.0%
Road 18	18	70	64.8	N	1700-1800	1337	40.2%	12.6%	0.2%	16.7%	6.0%	3.8%	7.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.8%	3.5%	3.0%	0.0%	100.0%
Road 18	18	70	65.0	N	1800-1900	1341	53.1%	12.5%	0.1%	11.3%	4.0%	2.3%	4.6%	0.0%	0.0%	0.3%	0.4%	0.3%	0.8%	0.0%	4.2%	2.5%	2.2%	0.0%	100.0%
Road 18	18	70	66.3	N	1900-2000	1032	53.7%	16.8%	0.1%	8.9%	3.2%	2.1%	4.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	5.0%	2.0%	1.4%	0.0%	100.0%
Road 18	18	70	67.1	N	2000-2100	807	49.2%	20.9%	0.1%	9.3%	3.4%	2.1%	4.0%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.2%	2.0%	1.5%	0.0%	100.0%
Road 18	18	70	67.1	N	2100-2200	806	50.1%	20.7%	0.1%	9.5%	3.4%	2.2%	4.3%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	4.6%	2.3%	1.6%	0.0%	100.0%
Road 18	18	70	67.2	N	2200-2300	773	50.4%	22.8%	0.1%	7.4%	2.7%	2.4%	4.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.0%	1.9%	1.7%	0.0%	100.0%
Road 18	18	70	67.9	N	2300-0000	586	48.8%	22.0%	0.1%	8.2%	2.9%	2.6%	5.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.9%	2.2%	2.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 19	19	70	68.4	N	0000-0100	465	50.7%	22.8%	0.1%	7.7%	2.8%	2.4%	4.8%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.5%	2.6%	2.0%	0.0%	100.0%
Road 19	19	70	68.9	N	0100-0200	307	49.1%	22.0%	0.1%	8.3%	3.0%	2.6%	5.1%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.5%	2.8%	2.5%	0.0%	100.0%
Road 19	19	70	69.2	N	0200-0300	227	47.5%	21.2%	0.1%	8.9%	3.2%	2.8%	5.5%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.4%	3.0%	3.0%	0.0%	100.0%
Road 19	19	70	69.3	N	0300-0400	182	46.0%	20.4%	0.1%	9.5%	3.4%	3.0%	5.9%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.4%	3.2%	3.5%	0.0%	100.0%
Road 19	19	70	69.3	N	0400-0500	202	44.7%	19.8%	0.1%	10.2%	3.6%	3.2%	6.3%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.3%	3.5%	3.4%	0.0%	100.0%
Road 19	19	70	68.7	N	0500-0600	350	43.7%	19.2%	0.1%	10.9%	3.9%	3.4%	6.7%	0.1%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.3%	3.7%	2.8%	0.0%	100.0%
Road 19	19	70	67.2	N	0600-0700	755	42.6%	18.7%	0.1%	11.6%	4.2%	3.6%	7.1%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.3%	4.0%	2.3%	0.0%	100.0%
Road 19	19	70	64.1	N	0700-0800	1549	41.1%	17.9%	0.1%	12.1%	4.4%	3.8%	7.5%	0.1%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	2.2%	4.2%	2.2%	0.0%	100.0%
Road 19	19	70	63.2	N	0800-0900	1804	45.6%	14.6%	0.1%	13.1%	4.7%	3.7%	7.2%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.0%	2.6%	2.7%	0.0%	100.0%
Road 19	19	70	63.7	N	0900-1000	1589	38.9%	14.1%	0.2%	17.3%	6.2%	4.7%	9.2%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	1.9%	1.5%	3.3%	0.0%	100.0%
Road 19	19	70	64.2	N	1000-1100	1423	35.6%	13.8%	0.2%	17.9%	6.4%	5.7%	11.2%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	1.8%	1.1%	3.9%	0.0%	100.0%
Road 19	19	70	64.6	N	1100-1200	1345	35.6%	14.7%	0.2%	17.9%	6.4%	5.6%	11.0%	0.1%	0.1%	0.6%	0.4%	0.2%	0.5%	0.0%	1.9%	1.0%	3.9%	0.0%	100.0%
Road 19	19	70	64.6	N	1200-1300	1227	26.4%	10.2%	0.2%	21.9%	7.9%	7.9%	15.4%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	2.3%	0.8%	5.2%	0.0%	100.0%
Road 19	19	70	64.2	N	1300-1400	1311	24.3%	9.4%	0.3%	24.9%	8.9%	7.7%	15.1%	0.0%	0.0%	0.4%	0.3%	0.2%	0.5%	0.0%	2.1%	0.7%	5.0%	0.0%	100.0%
Road 19	19	70	64.1	N	1400-1500	1350	25.3%	10.2%	0.2%	22.9%	8.2%	7.7%	15.2%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.2%	1.0%	5.0%	0.0%	100.0%
Road 19	19	70	63.9	N	1500-1600	1394	24.9%	10.0%	0.3%	26.2%	9.4%	6.6%	13.1%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	2.1%	0.9%	4.4%	0.0%	100.0%
Road 19	19	70	64.0	N	1600-1700	1395	28.1%	9.7%	0.2%	22.0%	7.9%	6.9%	13.5%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	2.4%	1.3%	4.5%	0.0%	100.0%
Road 19	19	70	64.1	N	1700-1800	1447	34.0%	10.6%	0.2%	21.5%	7.7%	4.9%	9.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.7%	2.9%	3.5%	0.0%	100.0%
Road 19	19	70	64.8	N	1800-1900	1370	47.5%	11.2%	0.2%	15.3%	5.5%	3.2%	6.3%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.2%	2.3%	2.7%	0.0%	100.0%
Road 19	19	70	66.2	N	1900-2000	1032	49.1%	15.4%	0.1%	12.3%	4.4%	2.9%	5.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.8%	1.8%	1.9%	0.0%	100.0%
Road 19	19	70	67.0	N	2000-2100	809	44.9%	19.1%	0.1%	12.9%	4.6%	2.9%	5.6%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	4.0%	1.8%	1.9%	0.0%	100.0%
Road 19	19	70	67.0	N	2100-2200	811	45.5%	18.8%	0.1%	13.1%	4.7%	3.0%	5.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.5%	2.1%	2.0%	0.0%	100.0%
Road 19	19	70	67.2	N	2200-2300	770	46.3%	20.9%	0.1%	10.4%	3.7%	3.3%	6.5%	0.0%	0.0%	0.3%	0.2%	0.4%	0.9%	0.0%	3.9%	1.8%	2.2%	0.0%	100.0%
Road 19	19	70	67.8	N	2300-0000	589	44.4%	20.0%	0.1%	11.3%	4.1%	3.6%	7.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.8%	2.0%	2.5%	0.0%	100.0%
Road 20	20	50	48.7	N	0000-0100	46	22.1%	9.9%	0.3%	26.8%	9.6%	8.5%	16.7%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	4.4%	0.0%	100.0%
Road 20	20	50	49.1	N	0100-0200	31	20.5%	9.2%	0.3%	27.7%	10.0%	8.7%	17.2%	0.0%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.2%	4.5%	0.0%	100.0%
Road 20	20	50	49.3	N	0200-0300	24	19.0%	8.5%	0.3%	28.6%	10.3%	9.0%	17.7%	0.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.2%	4.6%	0.0%	100.0%
Road 20	20	50	49.4	N	0300-0400	20	17.7%	7.8%	0.3%	29.3%	10.5%	9.2%	18.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.2%	4.7%	0.0%	100.0%
Road 20	20	50	49.3	N	0400-0500	23	16.5%	7.3%	0.3%	30.0%	10.8%	9.4%	18.5%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	4.8%	0.0%	100.0%
Road 20	20	50	48.8	N	0500-0600	43	15.4%	6.8%	0.3%	30.7%	11.0%	9.6%	18.9%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	4.9%	0.0%	100.0%
Road 20	20	50	47.2	N	0600-0700	96	14.3%	6.3%	0.3%	31.2%	11.2%	9.8%	19.3%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	5.0%	0.0%	100.0%
Road 20	20	50	44.0	N	0700-0800	203	13.4%	5.8%	0.3%	31.8%	11.4%	10.0%	19.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.4%	5.1%	0.0%	100.0%
Road 20	20	50	42.9	N	0800-0900	377	14.6%	4.7%	0.4%	33.6%	12.1%	9.4%	18.5%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	4.8%	0.0%	100.0%
Road 20	20	50	42.2	N	0900-1000	257	10.3%	3.7%	0.4%	36.6%	13.2%	10.0%	19.6%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	5.1%	0.0%	100.0%
Road 20	20	50	42.4	N	1000-1100	248	8.7%	3.4%	0.4%	35.2%	12.6%	11.2%	22.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 20	20	50	42.8	N	1100-1200	233	8.8%	3.6%	0.4%	35.4%	12.7%	11.1%	21.7%	0.0%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.7%	0.0%	100.0%
Road 20	20	50	43.2	N	1200-1300	221	9.5%	3.6%	0.3%	32.8%	11.8%	11.8%	23.1%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 20	20	50	42.4	N	1300-1400	246	8.4%	3.2%	0.4%	35.8%	12.9%	11.1%	21.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 20	20	50	42.4	N	1400-1500	246	9.0%	3.6%	0.4%	33.9%	12.2%	11.5%	22.5%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 20	20	50	42.3	N	1500-1600	253	8.7%	3.5%	0.4%	34.5%	12.4%	11.6%	22.7%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 20	20	50	42.6	N	1600-1700	242	10.5%	3.6%	0.4%	34.2%	12.3%	10.7%	21.0%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.5%	5.5%	0.0%	100.0%
Road 20	20	50	43.4	N	1700-1800	227	14.0%	4.4%	0.4%	36.8%	13.2%	8.3%	16.4%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	1.2%	4.3%	0.0%	100.0%
Road 20	20	50	45.2	N	1800-1900	175	24.0%	5.6%	0.3%	32.4%	11.6%	6.7%	13.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	1.1%	3.5%	0.0%	100.0%
Road 20	20	50	46.7	N	1900-2000	121	27.0%	8.4%	0.3%	28.3%	10.2%	6.8%	13.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	1.0%	3.5%	0.0%	100.0%
Road 20	20	50	47.4	N	2000-2100	96	24.5%	10.4%	0.3%	29.5%	10.6%	6.5%	12.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	1.0%	3.3%	0.0%	100.0%
Road 20	20	50	47.4	N	2100-2200	98	24.4%	10.1%	0.3%	29.4%	10.6%	6.8%	13.3%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.0%	3.5%	0.0%	100.0%
Road 20	20	50	47.6	N	2200-2300	88	26.1%	11.8%	0.3%	24.5%	8.8%	7.8%	15.3%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	1.0%	4.0%	0.0%	100.0%
Road 20	20	50	48.1	N	2300-0000	70	24.1%	10.8%	0.3%	25.6%	9.2%	8.1%	16.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	4.2%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 25	25	50	28.5	N	0000-0100	17	6.8%	3.1%	0.4%	36.3%	13.0%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 25	25	50	29.0	N	0100-0200	12	6.2%	2.8%	0.4%	36.7%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 25	25	50	29.2	N	0200-0300	10	5.6%	2.5%	0.4%	37.0%	13.3%	11.7%	22.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 25	25	50	29.3	N	0300-0400	8	5.1%	2.3%	0.4%	37.3%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 25	25	50	29.2	N	0400-0500	10	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	28.5	N	0500-0600	18	4.3%	1.9%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	26.5	N	0600-0700	40	4.0%	1.7%	0.4%	38.0%	13.7%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	24.5	N	0700-0800	87	3.7%	1.6%	0.4%	38.2%	13.7%	12.0%	23.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 25	25	50	24.2	N	0800-0900	104	4.0%	1.3%	0.4%	40.2%	14.4%	11.2%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 25	25	50	24.0	N	0900-1000	117	2.7%	1.0%	0.4%	41.5%	14.9%	11.3%	22.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 25	25	50	24.0	N	1000-1100	115	2.2%	0.9%	0.4%	39.1%	14.0%	12.4%	24.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 25	25	50	24.1	N	1100-1200	108	2.2%	0.9%	0.4%	39.3%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 25	25	50	24.1	N	1200-1300	108	2.0%	0.8%	0.4%	37.1%	13.3%	13.3%	26.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.8%	0.0%	100.0%
Road 25	25	50	23.9	N	1300-1400	122	1.8%	0.7%	0.4%	39.8%	14.3%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 25	25	50	23.9	N	1400-1500	120	1.9%	0.8%	0.4%	38.1%	13.7%	12.9%	25.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.6%	0.0%	100.0%
Road 25	25	50	23.9	N	1500-1600	126	1.9%	0.7%	0.5%	43.2%	15.5%	10.9%	21.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	5.6%	0.0%	100.0%
Road 25	25	50	24.0	N	1600-1700	116	2.3%	0.8%	0.4%	39.3%	14.1%	12.3%	24.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 25	25	50	24.3	N	1700-1800	104	3.2%	1.0%	0.5%	44.2%	15.9%	10.0%	19.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.1%	0.0%	100.0%
Road 25	25	50	24.8	N	1800-1900	71	6.1%	1.4%	0.5%	43.8%	15.7%	9.1%	18.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.7%	0.0%	100.0%
Road 25	25	50	26.2	N	1900-2000	46	7.3%	2.3%	0.4%	40.8%	14.6%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.0%	0.0%	100.0%
Road 25	25	50	27.0	N	2000-2100	37	6.6%	2.8%	0.4%	42.1%	15.1%	9.3%	18.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	4.8%	0.0%	100.0%
Road 25	25	50	26.9	N	2100-2200	38	6.5%	2.7%	0.4%	41.6%	14.9%	9.6%	18.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 25	25	50	27.2	N	2200-2300	33	7.2%	3.3%	0.4%	36.0%	12.9%	11.4%	22.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 25	25	50	27.7	N	2300-0000	27	6.5%	2.9%	0.4%	36.5%	13.1%	11.6%	22.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 26	26	50	28.7	N	0000-0100	16	6.0%	2.7%	0.4%	36.8%	13.2%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.1	N	0100-0200	11	5.4%	2.4%	0.4%	37.1%	13.3%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.0%	0.0%	100.0%
Road 26	26	50	29.3	N	0200-0300	9	4.9%	2.2%	0.4%	37.4%	13.4%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.4	N	0300-0400	7	4.5%	2.0%	0.4%	37.7%	13.5%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	29.3	N	0400-0500	9	4.1%	1.8%	0.4%	38.0%	13.6%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	28.6	N	0500-0600	16	3.8%	1.7%	0.4%	38.2%	13.7%	12.0%	23.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.1%	0.0%	100.0%
Road 26	26	50	26.8	N	0600-0700	37	3.5%	1.5%	0.4%	38.4%	13.8%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.6	N	0700-0800	79	3.2%	1.4%	0.4%	38.5%	13.8%	12.1%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	6.2%	0.0%	100.0%
Road 26	26	50	24.4	N	0800-0900	95	3.5%	1.1%	0.4%	40.5%	14.5%	11.3%	22.3%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	5.8%	0.0%	100.0%
Road 26	26	50	24.2	N	0900-1000	107	2.3%	0.8%	0.4%	41.7%	15.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	5.8%	0.0%	100.0%
Road 26	26	50	24.2	N	1000-1100	106	1.9%	0.7%	0.4%	39.3%	14.1%	12.5%	24.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 26	26	50	24.3	N	1100-1200	592	1.9%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 26	26	50	24.2	N	1200-1300	105	5.6%	2.1%	0.4%	35.0%	12.6%	12.6%	24.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.5%	0.0%	100.0%
Road 26	26	50	24.0	N	1300-1400	118	4.9%	1.9%	0.4%	37.9%	13.6%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 26	26	50	24.0	N	1400-1500	117	5.3%	2.1%	0.4%	36.1%	13.0%	12.2%	24.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 26	26	50	24.0	N	1500-1600	122	5.1%	2.1%	0.4%	40.0%	14.7%	10.4%	20.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 26	26	50	24.1	N	1600-1700	114	6.2%	2.2%	0.4%	36.9%	13.2%	11.5%	22.6%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.3%	5.9%	0.0%	100.0%
Road 26	26	50	24.3	N	1700-1800	105	8.5%	2.7%	0.4%	40.6%	14.6%	9.2%	18.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.7%	0.0%	100.0%
Road 26	26	50	24.8	N	1800-1900	76	15.5%	3.6%	0.4%	37.8%	13.6%	7.9%	15.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 26	26	50	26.0	N	1900-2000	51	17.9%	5.6%	0.4%	34.0%	12.2%	8.1%	16.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.2%	0.0%	100.0%
Road 26	26	50	26.9	N	2000-2100	41	16.2%	6.9%	0.4%	35.3%	12.7%	7.8%	15.3%	0.0%	0.0%	0.0%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	4.0%	0.0%	100.0%
Road 26	26	50	26.8	N	2100-2200	42	16.1%	6.7%	0.4%	35.1%	12.6%	8.1%	15.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 26	26	50	27.1	N	2200-2300	37	17.5%	7.9%	0.3%	29.7%	10.7%	9.4%	18.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	4.9%	0.0%	100.0%
Road 26	26	50	27.7	N	2300-0000	30	15.9%	7.2%	0.3%	30.7%	11.0%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 27	27	50	28.7	N	0000-0100	15	8.6%	3.8%	0.4%	35.2%	12.6%	11.1%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 27	27	50	29.1	N	0100-0200	11	7.8%	3.5%	0.4%	35.7%	12.8%	11.3%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.3	N	0200-0300	9	7.1%	3.2%	0.4%	36.1%	13.0%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 27	27	50	29.4	N	0300-0400	7	6.5%	2.9%	0.4%	36.5%	13.1%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	29.3	N	0400-0500	9	6.0%	2.6%	0.4%	36.8%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 27	27	50	28.7	N	0500-0600	16	5.5%	2.4%	0.4%	37.1%	13.3%	11.6%	22.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	27.0	N	0600-0700	36	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.7	N	0700-0800	77	4.7%	2.0%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 27	27	50	24.5	N	0800-0900	92	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 27	27	50	24.3	N	0900-1000	102	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	22.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	5.7%	0.0%	100.0%
Road 27	27	50	24.3	N	1000-1100	101	2.8%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 27	27	50	24.4	N	1100-1200	94	2.9%	1.2%	0.4%	39.0%	14.0%	12.2%	23.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	6.3%	0.0%	100.0%
Road 27	27	50	24.4	N	1200-1300	94	2.3%	0.9%	0.4%	36.9%	13.2%	13.2%	26.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.8%	0.0%	100.0%
Road 27	27	50	24.2	N	1300-1400	106	2.0%	0.8%	0.4%	39.6%	14.2%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 27	27	50	24.2	N	1400-1500	105	2.2%	0.9%	0.4%	38.0%	13.6%	12.8%	25.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.6%	0.0%	100.0%
Road 27	27	50	24.1	N	1500-1600	110	2.1%	0.9%	0.4%	43.0%	15.4%	10.9%	21.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	5.6%	0.0%	100.0%
Road 27	27	50	24.3	N	1600-1700	101	2.6%	0.8%	0.4%	39.1%	14.0%	12.2%	24.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 27	27	50	24.5	N	1700-1800	91	3.6%	1.1%	0.5%	43.9%	15.8%	9.9%	19.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	5.1%	0.0%	100.0%
Road 27	27	50	25.0	N	1800-1900	63	7.0%	1.6%	0.5%	43.3%	15.5%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.6%	0.0%	100.0%
Road 27	27	50	26.7	N	1900-2000	41	8.3%	2.6%	0.4%	40.2%	14.4%	9.6%	18.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.9%	0.0%	100.0%
Road 27	27	50	27.4	N	2000-2100	33	7.5%	3.2%	0.4%	41.5%	14.9%	9.2%	18.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.7%	0.0%	100.0%
Road 27	27	50	27.3	N	2100-2200	33	7.4%	3.1%	0.4%	41.0%	14.7%	9.4%	18.5%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	4.8%	0.0%	100.0%
Road 27	27	50	27.6	N	2200-2300	29	8.2%	3.7%	0.4%	35.4%	12.7%	11.2%	22.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 27	27	50	28.0	N	2300-0000	24	7.3%	3.3%	0.4%	35.9%	12.9%	11.4%	22.4%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 28	28	80	80.0	N	0000-0100	816	46.4%	20.8%	0.1%	7.5%	2.7%	2.4%	4.7%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.1%	8.3%	2.3%	2.6%	0.0%	100.0%
Road 28	28	80	80.0	N	0100-0200	540	44.8%	20.1%	0.1%	8.1%	2.9%	2.6%	5.0%	0.6%	0.0%	0.2%	0.5%	0.3%	0.7%	0.1%	8.1%	2.5%	3.4%	0.0%	100.0%
Road 28	28	80	80.0	N	0200-0300	402	43.3%	19.3%	0.1%	8.7%	3.1%	2.7%	5.4%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.1%	7.9%	2.7%	4.1%	0.0%	100.0%
Road 28	28	80	80.0	N	0300-0400	323	41.7%	18.5%	0.1%	9.2%	3.3%	2.9%	5.7%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	7.7%	2.9%	4.9%	0.0%	100.0%
Road 28	28	80	80.0	N	0400-0500	357	40.7%	18.0%	0.1%	9.9%	3.5%	3.1%	6.1%	0.6%	0.0%	0.4%	0.7%	0.5%	1.0%	0.1%	7.6%	3.2%	4.7%	0.0%	100.0%
Road 28	28	80	80.0	N	0500-0600	617	40.0%	17.6%	0.1%	10.6%	3.8%	3.3%	6.6%	0.6%	0.0%	0.4%	0.7%	0.5%	1.1%	0.1%	7.6%	3.4%	5.0%	0.0%	100.0%
Road 28	28	80	80.0	N	0600-0700	1323	39.1%	17.1%	0.1%	11.3%	4.1%	3.6%	7.0%	0.6%	0.1%	0.5%	0.8%	0.6%	1.2%	0.1%	7.5%	3.7%	5.2%	0.0%	100.0%
Road 28	28	80	79.5	N	0700-0800	2723	37.6%	16.4%	0.1%	11.9%	4.3%	3.7%	7.3%	0.6%	0.1%	0.6%	0.9%	0.6%	1.3%	0.1%	7.3%	3.8%	5.5%	0.0%	100.0%
Road 28	28	80	76.8	N	0800-0900	3145	42.1%	13.5%	0.1%	13.0%	4.7%	3.6%	7.1%	0.4%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	6.5%	2.4%	3.2%	0.0%	100.0%
Road 28	28	80	78.5	N	0900-1000	2787	35.7%	13.0%	0.2%	16.9%	6.1%	4.6%	9.1%	0.5%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	6.3%	1.4%	3.9%	0.0%	100.0%
Road 28	28	80	80.0	N	1000-1100	2499	32.6%	12.7%	0.2%	17.5%	6.3%	5.6%	11.0%	0.5%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	6.0%	1.0%	4.6%	0.0%	100.0%
Road 28	28	80	80.0	N	1100-1200	2365	32.5%	13.4%	0.2%	17.5%	6.3%	5.5%	10.7%	0.5%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	6.3%	1.0%	4.6%	0.0%	100.0%
Road 28	28	80	80.0	N	1200-1300	1814	39.1%	15.1%	0.1%	13.3%	4.8%	4.8%	9.4%	0.5%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	4.0%	1.2%	4.8%	0.0%	100.0%
Road 28	28	80	80.0	N	1300-1400	1569	38.9%	15.0%	0.2%	15.8%	5.7%	4.9%	9.6%	0.5%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	3.7%	1.1%	4.8%	0.0%	100.0%
Road 28	28	80	80.0	N	1400-1500	1659	39.3%	15.9%	0.1%	14.1%	5.1%	4.8%	9.4%	0.5%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	3.8%	1.4%	4.6%	0.0%	100.0%
Road 28	28	80	80.0	N	1500-1600	1700	39.0%	15.7%	0.2%	16.3%	5.9%	4.1%	8.1%	0.5%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	3.3%	1.4%	4.2%	0.0%	100.0%
Road 28	28	80	80.0	N	1600-1700	1782	42.1%	14.5%	0.1%	13.0%	4.7%	4.1%	8.0%	0.5%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	4.1%	1.9%	4.1%	0.0%	100.0%
Road 28	28	80	80.0	N	1700-1800	2344	46.0%	14.4%	0.1%	11.9%	4.3%	2.7%	5.3%	0.5%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	4.3%	4.0%	3.2%	0.0%	100.0%
Road 28	28	80	80.0	N	1800-1900	2476	57.6%	13.5%	0.1%	7.6%	2.7%	1.6%	3.1%	0.5%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	4.5%	2.7%	2.5%	0.0%	100.0%
Road 28	28	80	80.0	N	1900-2000	1931	57.5%	18.0%	0.1%	5.9%	2.1%	1.4%	2.8%	0.6%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	5.3%	2.1%	1.3%	0.0%	100.0%
Road 28	28	80	80.0	N	2000-2100	1509	52.7%	22.4%	0.1%	6.3%	2.2%	1.4%	2.7%	0.6%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	5.6%	2.1%	1.4%	0.0%	100.0%
Road 28	28	80	80.0	N	2100-2200	1502	53.9%	22.3%	0.1%	6.4%	2.3%	1.5%	2.9%	0.6%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.9%	2.5%	1.5%	0.0%	100.0%
Road 28	28	80	80.0	N	2200-2300	1454	53.7%	24.3%	0.1%	4.9%	1.8%	1.6%	3.1%	0.6%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	5.3%	2.1%	1.6%	0.0%	100.0%
Road 28	28	80	80.0	N	2300-0000	1096	52.3%	23.6%	0.1%	5.5%	2.0%	1.7%	3.4%	0.6%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	5.2%	2.3%	1.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

| Road Name | Road ID

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9		
Road 33	33	70	70.0	N	0000-0100	667	48.1%	21.6%	0.1%	7.4%	2.7%	2.3%	4.6%	0.2%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	3.3%	2.4%	5.6%	0.0%	100.0%
Road 33	33	70	70.0	N	0100-0200	448	45.8%	20.5%	0.1%	7.9%	2.8%	2.5%	4.9%	0.1%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	3.1%	2.6%	7.8%	0.0%	100.0%
Road 33	33	70	70.0	N	0200-0300	339	43.5%	19.4%	0.1%	8.3%	3.0%	2.6%	5.1%	0.1%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	3.0%	2.8%	10.0%	0.0%	100.0%
Road 33	33	70	70.0	N	0300-0400	276	41.3%	18.3%	0.1%	8.7%	3.1%	2.7%	5.4%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.9%	2.9%	12.1%	0.0%	100.0%
Road 33	33	70	70.0	N	0400-0500	303	40.5%	17.9%	0.1%	9.4%	3.4%	2.9%	5.8%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.9%	3.1%	11.2%	0.0%	100.0%
Road 33	33	70	70.0	N	0500-0600	509	41.0%	18.0%	0.1%	10.4%	3.7%	3.3%	6.4%	0.1%	0.1%	0.5%	0.8%	0.5%	1.1%	0.0%	3.0%	3.5%	7.5%	0.0%	100.0%
Road 33	33	70	70.0	N	0600-0700	1069	41.0%	18.0%	0.1%	11.4%	4.1%	3.6%	7.0%	0.2%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.0%	3.8%	4.6%	0.0%	100.0%
Road 33	33	70	70.0	N	0700-0800	2237	38.8%	16.9%	0.1%	11.7%	4.2%	3.7%	7.2%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.9%	4.0%	2.4%	0.0%	100.0%
Road 33	33	70	70.0	N	0800-0900	2587	43.3%	13.9%	0.1%	12.7%	4.6%	3.6%	7.0%	0.1%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	2.6%	2.5%	6.2%	0.0%	100.0%
Road 33	33	70	70.0	N	0900-1000	2295	36.7%	13.3%	0.2%	16.6%	6.0%	4.5%	8.9%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	2.5%	1.4%	7.3%	0.0%	100.0%
Road 33	33	70	70.0	N	1000-1100	2065	33.4%	13.0%	0.2%	17.2%	6.2%	5.4%	10.7%	0.1%	0.0%	0.4%	0.6%	0.4%	0.8%	0.0%	2.3%	1.0%	8.3%	0.0%	100.0%
Road 33	33	70	70.0	N	1100-1200	1957	33.3%	13.7%	0.2%	17.1%	6.1%	5.3%	10.5%	0.1%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	2.4%	0.9%	8.5%	0.0%	100.0%
Road 33	33	70	70.0	N	1200-1300	1894	27.4%	10.6%	0.2%	19.4%	7.0%	6.9%	13.7%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	2.5%	0.8%	9.5%	0.0%	100.0%
Road 33	33	70	70.0	N	1300-1400	2005	25.5%	9.8%	0.2%	22.2%	8.0%	6.9%	13.5%	0.0%	0.1%	0.5%	0.4%	0.4%	0.6%	0.0%	2.3%	0.8%	9.2%	0.0%	100.0%
Road 33	33	70	70.0	N	1400-1500	2072	26.4%	10.7%	0.2%	20.4%	7.3%	6.9%	13.5%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.4%	1.0%	9.0%	0.0%	100.0%
Road 33	33	70	70.0	N	1500-1600	2133	26.1%	10.5%	0.2%	23.4%	8.4%	5.9%	11.7%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.3%	0.9%	8.4%	0.0%	100.0%
Road 33	33	70	70.0	N	1600-1700	2152	29.2%	10.1%	0.2%	19.4%	7.0%	6.1%	12.0%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	2.7%	1.4%	8.4%	0.0%	100.0%
Road 33	33	70	70.0	N	1700-1800	2255	35.0%	10.9%	0.2%	18.8%	6.8%	4.3%	8.4%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	3.0%	3.0%	7.2%	0.0%	100.0%
Road 33	33	70	70.0	N	1800-1900	2187	47.7%	11.2%	0.1%	13.1%	4.7%	2.7%	5.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.4%	2.3%	6.6%	0.0%	100.0%
Road 33	33	70	70.0	N	1900-2000	1616	50.2%	15.7%	0.1%	10.7%	3.9%	2.6%	5.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.2%	1.9%	3.1%	0.0%	100.0%
Road 33	33	70	70.0	N	2000-2100	1270	45.8%	19.4%	0.1%	11.3%	4.0%	2.5%	4.9%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	4.4%	1.8%	3.6%	0.0%	100.0%
Road 33	33	70	70.0	N	2100-2200	1272	46.5%	19.2%	0.1%	11.4%	4.1%	2.6%	5.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.8%	2.1%	3.7%	0.0%	100.0%
Road 33	33	70	70.0	N	2200-2300	1213	47.0%	21.3%	0.1%	9.0%	3.2%	2.9%	5.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	4.2%	1.8%	3.9%	0.0%	100.0%
Road 33	33	70	70.0	N	2300-0000	931	45.0%	20.3%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.0%	2.0%	4.8%	0.0%	100.0%
Road 34	34	80	80.0	N	0000-0100	686	56.9%	25.5%	0.0%	3.1%	1.1%	1.0%	1.9%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.9%	2.9%	2.1%	0.0%	100.0%
Road 34	34	80	80.0	N	0100-0200	449	55.5%	24.8%	0.0%	3.4%	1.2%	1.1%	2.1%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.8%	3.1%	3.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0200-0300	311	54.1%	24.1%	0.0%	3.7%	1.3%	1.2%	2.3%	0.6%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	2.8%	3.4%	3.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0300-0400	263	52.7%	23.4%	0.0%	4.0%	1.4%	1.2%	2.4%	0.6%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.7%	3.7%	4.8%	0.0%	100.0%
Road 34	34	80	80.0	N	0400-0500	287	51.9%	23.0%	0.0%	4.3%	1.5%	1.3%	2.6%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.7%	4.0%	4.5%	0.0%	100.0%
Road 34	34	80	80.0	N	0500-0600	489	51.8%	22.8%	0.0%	4.7%	1.7%	1.5%	2.9%	0.7%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.8%	4.4%	3.0%	0.0%	100.0%
Road 34	34	80	80.0	N	0600-0700	1035	51.5%	22.5%	0.1%	5.1%	1.8%	1.6%	3.1%	0.7%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.8%	4.8%	1.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0700-0800	2110	50.0%	21.8%	0.1%	5.4%	1.9%	1.7%	3.3%	0.7%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	2.7%	5.1%	2.9%	0.0%	100.0%
Road 34	34	80	80.0	N	0800-0900	2432	56.0%	17.9%	0.1%	5.9%	2.1%	1.6%	3.2%	0.5%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.4%	3.3%	2.6%	0.0%	100.0%
Road 34	34	80	80.0	N	0900-1000	1992	51.4%	18.7%	0.1%	8.3%	3.0%	2.3%	4.4%	0.7%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.5%	2.0%	3.3%	0.0%	100.0%
Road 34	34	80	80.0	N	1000-1100	1721	48.7%	18.9%	0.1%	8.9%	3.2%	2.8%	5.6%	0.7%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.5%	1.5%	3.9%	0.0%	100.0%
Road 34	34	80	80.0	N	1100-1200	1634	48.5%	20.0%	0.1%	8.8%	3.2%	2.8%	5.4%	0.7%	0.1%	0.5%	0.9%	0.5%	1.2%	0.0%	2.3%	1.8%	4.0%	0.0%	100.0%
Road 34	34	80	80.0	N	1200-1300	1327	27.8%	10.7%	0.2%	16.1%	5.8%	5.8%	11.4%	0.7%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	12.5%	0.8%	6.2%	0.0%	100.0%
Road 34	34	80	80.0	N	1300-1400	1386	26.3%	10.1%	0.2%	18.7%	6.7%	5.8%	11.4%	0.7%	0.0%	0.4%	0.4%	0.3%	0.6%	0.1%	11.6%	0.8%	6.0%	0.0%	100.0%
Road 34	34	80	80.0	N	1400-1500	1444	27.0%	10.9%	0.2%	17.0%	6.1%	5.8%	11.3%	0.7%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	11.8%	1.0%	5.9%	0.0%	100.0%
Road 34	34	80	80.0	N	1500-1600	1481	26.7%	10.7%	0.2%	19.6%	7.0%	5.0%	9.8%	0.7%	0.1%	0.5%	0.5%	0.4%	0.8%	0.1%	11.5%	1.0%	5.4%	0.0%	100.0%
Road 34	34	80	80.0	N	1600-1700	1530	29.3%	10.1%	0.2%	15.9%	5.7%	5.0%	9.8%	0.7%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	13.1%	1.4%	5.3%	0.0%	100.0%
Road 34	34	80	80.0	N	1700-1800	1643	34.2%	10.7%	0.2%	15.0%	5.4%	3.4%	6.7%	0.7%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	14.0%	2.9%	4.3%	0.0%	100.0%
Road 34	34	80	80.0	N	1800-1900	1659	44.8%	10.5%	0.1%	10.1%	3.6%	2.1%	4.1%	0.8%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	15.5%	2.1%	3.6%	0.0%	100.0%
Road 34	34	80	80.0	N	1900-2000	1288	44.8%	14.0%	0.1%	7.8%	2.8%	1.9%	3.7%	0.9%	0.0%	0.1%	0.7%	0.5%	1.0%	0.1%	18.1%	1.7%	1.8%	0.0%	100.0%
Road 34	34	80	80.0	N	2000-2100	1017	40.8%	17.3%	0.1%	8.2%	2.9%	1.8%	3.6%	1.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	18.8%	1.6%	2.0%	0.0%	100.0%
Road 34	34	80	80.0	N	2100-2200	997	42.2%	17.5%	0.1%	8.5%	3.0%	2.0%	3.8%	0.9%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	16.9%	1.9%	2.1%	0.0%	100.0%
Road 34	34	80	80.0	N	2200-2300	968	42.0%	19.0%	0.1%	6.6%	2.4%	2.1%	4.1%	0.8%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	18.2%	1.6%	2.2%	0.0%	100.0%
Road 34	34	80	80.0	N	2300-0000	734	40.7%	18.3%	0.1%	7.2%	2.6%	2.3%	4.5%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	17.8%	1.8%	2.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 35	35	50	48.6	N	0000-0100	52	42.3%	19.0%	0.1%	5.4%	1.9%	1.7%	3.4%	0.6%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	22.0%	0.0%	100.0%
Road 35	35	50	48.9	N	0100-0200	38	37.1%	16.6%	0.1%	5.3%	1.9%	1.7%	3.3%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	29.9%	0.0%	100.0%
Road 35	35	50	49.1	N	0200-0300	31	32.7%	14.6%	0.1%	5.2%	1.9%	1.6%	3.2%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	36.5%	0.0%	100.0%
Road 35	35	50	49.1	N	0300-0400	27	29.2%	13.0%	0.1%	5.1%	1.8%	1.6%	3.2%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	41.9%	0.0%	100.0%
Road 35	35	50	49.1	N	0400-0500	28	29.6%	13.1%	0.1%	5.7%	2.0%	1.8%	3.5%	0.5%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	39.6%	0.0%	100.0%
Road 35	35	50	48.8	N	0500-0600	42	34.5%	15.2%	0.1%	7.2%	2.6%	2.3%	4.5%	0.6%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	2.9%	27.7%	0.0%	100.0%
Road 35	35	50	48.0	N	0600-0700	77	39.1%	17.1%	0.1%	9.0%	3.2%	2.8%	5.5%	0.7%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.7%	15.7%	0.0%	100.0%
Road 35	35	50	45.0	N	0700-0800	177	33.7%	14.7%	0.1%	8.4%	3.0%	2.6%	5.2%	0.6%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	3.4%	25.3%	0.0%	100.0%
Road 35	35	50	44.4	N	0800-0900	199	38.6%	12.3%	0.1%	9.4%	3.4%	2.6%	5.2%	0.5%	0.1%	0.5%	0.8%	0.5%	1.1%	0.0%	0.0%	2.2%	22.6%	0.0%	100.0%
Road 35	35	50	44.8	N	0900-1000	179	32.4%	11.8%	0.1%	12.2%	4.4%	3.3%	6.5%	0.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.3%	25.4%	0.0%	100.0%
Road 35	35	50	45.0	N	1000-1100	163	29.0%	11.3%	0.1%	12.3%	4.4%	3.9%	7.7%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	28.0%	0.0%	100.0%
Road 35	35	50	45.2	N	1100-1200	157	28.5%	11.8%	0.1%	12.1%	4.4%	3.8%	7.4%	0.6%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	0.8%	29.0%	0.0%	100.0%
Road 35	35	50	46.6	N	1200-1300	104	27.2%	10.5%	0.1%	7.2%	2.6%	2.6%	5.1%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	42.0%	0.0%	100.0%
Road 35	35	50	46.5	N	1300-1400	106	26.4%	10.2%	0.1%	8.6%	3.1%	2.7%	5.2%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.8%	41.4%	0.0%	100.0%
Road 35	35	50	46.4	N	1400-1500	110	27.2%	11.0%	0.1%	7.8%	2.8%	2.6%	5.2%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	40.0%	0.0%	100.0%
Road 35	35	50	46.4	N	1500-1600	112	27.2%	10.9%	0.1%	9.1%	3.3%	2.3%	4.5%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	39.2%	0.0%	100.0%
Road 35	35	50	46.3	N	1600-1700	115	29.8%	10.3%	0.1%	7.4%	2.7%	2.3%	4.5%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	1.4%	38.0%	0.0%	100.0%
Road 35	35	50	46.2	N	1700-1800	124	34.6%	10.8%	0.1%	7.0%	2.5%	1.6%	3.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	34.9%	0.0%	100.0%
Road 35	35	50	46.2	N	1800-1900	131	43.5%	10.2%	0.0%	4.5%	1.6%	0.9%	1.8%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	32.9%	0.0%	100.0%
Road 35	35	50	48.1	N	1900-2000	81	54.8%	17.2%	0.0%	4.4%	1.6%	1.0%	2.1%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.0%	14.2%	0.0%	100.0%
Road 35	35	50	48.4	N	2000-2100	65	48.7%	20.7%	0.0%	4.5%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	17.4%	0.0%	100.0%
Road 35	35	50	48.4	N	2100-2200	65	49.4%	20.4%	0.0%	4.5%	1.6%	1.0%	2.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.3%	17.4%	0.0%	100.0%
Road 35	35	50	48.4	N	2200-2300	64	49.0%	22.1%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.9%	17.9%	0.0%	100.0%
Road 35	35	50	48.7	N	2300-0000	8	56.1%	25.3%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.5%	1.0%	0.0%	100.0%
Road 36	36	50	48.4	Y	0000-0100	62	45.0%	20.2%	0.1%	5.1%	1.8%	1.6%	3.2%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	18.6%	0.0%	100.0%
Road 36	36	50	48.8	Y	0100-0200	44	40.1%	18.0%	0.1%	5.1%	1.8%	1.6%	3.2%	0.5%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.3%	25.7%	0.0%	100.0%
Road 36	36	50	49.0	Y	0200-0300	36	36.0%	16.0%	0.1%	5.1%	1.8%	1.6%	3.2%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	31.8%	0.0%	100.0%
Road 36	36	50	49.1	Y	0300-0400	31	32.5%	14.4%	0.1%	5.1%	1.8%	1.6%	3.1%	0.4%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	36.9%	0.0%	100.0%
Road 36	36	50	49.0	Y	0400-0500	33	32.8%	14.5%	0.1%	5.6%	2.0%	1.8%	3.5%	0.4%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	34.8%	0.0%	100.0%
Road 36	36	50	48.7	Y	0500-0600	49	37.3%	16.4%	0.1%	7.0%	2.5%	2.2%	4.3%	0.5%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	27.8%	0.0%	100.0%
Road 36	36	50	47.7	Y	0600-0700	92	41.3%	18.1%	0.1%	8.5%	3.0%	2.7%	5.2%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.9%	13.3%	0.0%	100.0%
Road 36	36	50	44.3	Y	0700-0800	207	36.3%	15.8%	0.1%	8.1%	2.9%	2.5%	5.0%	0.5%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.7%	21.7%	0.0%	100.0%
Road 36	36	50	43.7	Y	0800-0900	504	36.5%	11.7%	0.1%	10.8%	3.9%	3.0%	5.9%	0.6%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	2.4%	19.4%	0.0%	100.0%
Road 36	36	50	44.1	Y	0900-1000	208	35.2%	12.8%	0.1%	11.8%	4.2%	3.2%	6.3%	0.5%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	22.1%	0.0%	100.0%
Road 36	36	50	44.5	Y	1000-1100	189	31.8%	12.3%	0.1%	12.1%	4.3%	3.8%	7.5%	0.5%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	24.5%	0.0%	100.0%
Road 36	36	50	44.7	Y	1100-1200	181	31.3%	12.9%	0.1%	11.9%	4.3%	3.7%	7.3%	0.5%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.0%	0.9%	25.4%	0.0%	100.0%
Road 36	36	50	45.4	Y	1200-1300	145	24.1%	9.3%	0.1%	13.3%	4.8%	4.8%	9.4%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	31.8%	0.0%	100.0%
Road 36	36	50	45.2	Y	1300-1400	150	22.9%	8.8%	0.2%	15.5%	5.6%	4.8%	9.5%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.5%	35.4%	0.0%	100.0%
Road 36	36	50	45.1	Y	1400-1500	155	23.7%	9.6%	0.1%	14.3%	5.1%	4.8%	9.5%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	29.9%	0.0%	100.0%
Road 36	36	50	45.1	Y	1500-1600	158	23.6%	9.5%	0.2%	16.5%	5.9%	4.2%	8.2%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.6%	37.0%	0.0%	100.0%
Road 36	36	50	45.0	Y	1600-1700	160	26.4%	9.1%	0.1%	13.7%	4.9%	4.3%	8.4%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.2%	28.7%	0.0%	100.0%
Road 36	36	50	45.0	Y	1700-1800	168	31.5%	9.8%	0.1%	13.2%	4.7%	3.0%	5.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	0.0%	2.7%	26.7%	0.0%	100.0%
Road 36	36	50	45.3	Y	1800-1900	168	41.7%	8.8%	0.1%	9.0%	3.2%	1.9%	3.7%	0.0%	0.0%	0.1%	0.5%	0.4%	0.8%	0.0%	0.0%	1.4%	37.4%	0.0%	100.0%
Road 36	36	50	47.4	Y	1900-2000	107	50.8%	15.9%	0.1%	8.5%	3.0%	2.0%	4.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	1.9%	11.3%	0.0%	100.0%
Road 36	36	50	47.9	Y	2000-2100	86	45.4%	19.3%	0.1%	8.7%	3.1%	1.9%	3.8%	0.0%	0.0%	0.1%	0.6%	0.4%	1.0%	0.0%	0.0%	1.8%	13.8%	0.0%	100.0%
Road 36	36	50	47.9	Y	2100-2200	138	36.2%	15.0%	0.1%	12.1%	4.4%	2.8%	5.5%	0.0%	0.0%	0.3%	0.2%	0.2%	0.4%	0.0%	0.0%	1.7%	21.4%	0.0%	100.0%
Road 36	36	50	48.0	Y	2200-2300	83	46.1%	20.8%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	14.4%	0.0%	100.0%
Road 36	36	50	48.3	Y	2300-0000	66	42.9%	19.3%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.9%	18.0%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

**Traffic Data / Mod

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 41	41	70	70.0	N	0000-0100	119	44.5%	20.0%	0.0%	3.1%	1.1%	1.0%	1.9%	0.9%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.2%	23.7%	0.0%	100.0%
Road 41	41	70	70.0	N	0100-0200	87	38.9%	17.4%	0.0%	3.0%	1.1%	1.0%	1.9%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.2%	32.2%	0.0%	100.0%
Road 41	41	70	70.0	N	0200-0300	71	34.2%	15.2%	0.0%	2.9%	1.1%	0.9%	1.8%	0.7%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.2%	39.3%	0.0%	100.0%
Road 41	41	70	70.0	N	0300-0400	62	30.4%	13.5%	0.0%	2.8%	1.0%	0.9%	1.8%	0.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	0.0%	2.1%	45.0%	0.0%	100.0%
Road 41	41	70	70.0	N	0400-0500	65	31.0%	13.7%	0.0%	3.2%	1.2%	1.0%	2.0%	0.7%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.4%	42.8%	0.0%	100.0%
Road 41	41	70	70.0	N	0500-0600	93	37.0%	16.3%	0.0%	4.2%	1.5%	1.3%	2.6%	0.8%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	30.4%	0.0%	100.0%
Road 41	41	70	70.0	N	0600-0700	168	43.0%	18.8%	0.1%	5.4%	1.9%	1.7%	3.3%	1.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	17.3%	0.0%	100.0%
Road 41	41	70	70.0	N	0700-0800	390	36.7%	16.0%	0.1%	5.0%	1.8%	1.6%	3.1%	0.9%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.7%	28.0%	0.0%	100.0%
Road 41	41	70	70.0	N	0800-0900	435	42.4%	13.6%	0.1%	5.6%	2.0%	1.6%	3.1%	0.7%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.5%	25.2%	0.0%	100.0%
Road 41	41	70	70.0	N	0900-1000	378	36.7%	13.3%	0.1%	7.5%	2.7%	2.0%	4.0%	0.8%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	29.1%	0.0%	100.0%
Road 41	41	70	70.0	N	1000-1100	342	33.2%	12.9%	0.1%	7.7%	2.8%	2.4%	4.8%	0.8%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	32.2%	0.0%	100.0%
Road 41	41	70	70.0	N	1100-1200	330	32.5%	13.4%	0.1%	7.5%	2.7%	2.4%	4.6%	0.8%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	33.4%	0.0%	100.0%
Road 41	41	70	70.0	N	1200-1300	353	25.6%	9.9%	0.1%	12.2%	4.4%	4.4%	8.6%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.8%	32.3%	0.0%	100.0%
Road 41	41	70	70.0	N	1300-1400	365	24.4%	9.4%	0.1%	14.3%	5.1%	4.4%	8.7%	0.0%	0.1%	0.4%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	31.3%	0.0%	100.0%
Road 41	41	70	70.0	N	1400-1500	377	25.2%	10.2%	0.1%	13.1%	4.7%	4.4%	8.7%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	30.4%	0.0%	100.0%
Road 41	41	70	70.0	N	1500-1600	385	25.1%	10.1%	0.2%	15.2%	5.5%	3.9%	7.6%	0.0%	0.1%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	0.9%	29.5%	0.0%	100.0%
Road 41	41	70	70.0	N	1600-1700	392	27.9%	9.6%	0.1%	12.5%	4.5%	3.9%	7.7%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	1.3%	29.0%	0.0%	100.0%
Road 41	41	70	70.0	N	1700-1800	415	33.1%	10.3%	0.1%	12.0%	4.3%	2.7%	5.3%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	26.9%	0.0%	100.0%
Road 41	41	70	70.0	N	1800-1900	420	43.2%	10.2%	0.1%	8.0%	2.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	26.1%	0.0%	100.0%
Road 41	41	70	70.0	N	1900-2000	270	52.3%	16.4%	0.1%	7.5%	2.7%	1.8%	3.5%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	1.9%	11.1%	0.0%	100.0%
Road 41	41	70	70.0	N	2000-2100	217	46.8%	19.9%	0.1%	7.8%	2.8%	1.7%	3.4%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.9%	13.6%	0.0%	100.0%
Road 41	41	70	70.0	N	2100-2200	217	47.4%	19.6%	0.1%	7.8%	2.8%	1.8%	3.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	13.6%	0.0%	100.0%
Road 41	41	70	70.0	N	2200-2300	209	47.5%	21.4%	0.1%	6.1%	2.2%	1.9%	3.8%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	14.2%	0.0%	100.0%
Road 41	41	70	70.0	N	2300-0000	165	44.2%	19.9%	0.1%	6.8%	2.3%	2.1%	4.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	17.7%	0.0%	100.0%
Road 42	42	50	47.2	N	0000-0100	106	43.5%	19.5%	0.0%	3.3%	1.2%	1.0%	2.0%	1.0%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.2%	24.8%	0.0%	100.0%
Road 42	42	50	47.7	N	0100-0200	78	37.8%	16.9%	0.0%	3.2%	1.1%	1.0%	2.0%	0.9%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	33.5%	0.0%	100.0%
Road 42	42	50	48.0	N	0200-0300	64	33.1%	14.7%	0.0%	3.1%	1.1%	1.0%	1.9%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	40.7%	0.0%	100.0%
Road 42	42	50	48.2	N	0300-0400	56	29.3%	13.0%	0.0%	3.0%	1.1%	0.9%	1.9%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	46.4%	0.0%	100.0%
Road 42	42	50	48.1	N	0400-0500	59	29.9%	13.2%	0.0%	3.4%	1.2%	1.1%	2.1%	0.7%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	44.1%	0.0%	100.0%
Road 42	42	50	47.6	N	0500-0600	83	35.9%	15.8%	0.0%	4.4%	1.6%	1.4%	2.7%	0.9%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.1%	31.5%	0.0%	100.0%
Road 42	42	50	46.2	N	0600-0700	150	42.1%	18.4%	0.1%	5.7%	2.0%	1.8%	3.5%	1.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	3.9%	18.1%	0.0%	100.0%
Road 42	42	50	40.0	N	0700-0800	350	35.6%	15.5%	0.1%	5.2%	1.9%	1.6%	3.2%	1.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.6%	29.1%	0.0%	100.0%
Road 42	42	50	39.5	N	0800-0900	390	41.3%	13.2%	0.1%	5.9%	2.1%	1.6%	3.2%	0.8%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	0.0%	2.4%	26.2%	0.0%	100.0%
Road 42	42	50	40.0	N	0900-1000	341	35.5%	12.9%	0.1%	7.8%	2.8%	2.1%	4.2%	0.9%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	30.1%	0.0%	100.0%
Road 42	42	50	40.5	N	1000-1100	310	32.0%	12.4%	0.1%	8.0%	2.9%	2.5%	5.0%	0.9%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	33.2%	0.0%	100.0%
Road 42	42	50	40.8	N	1100-1200	298	31.4%	12.9%	0.1%	7.8%	2.8%	2.4%	4.8%	0.9%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	34.4%	0.0%	100.0%
Road 42	42	50	41.9	N	1200-1300	233	17.8%	6.9%	0.1%	11.9%	4.3%	4.3%	8.4%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.5%	44.6%	0.0%	100.0%
Road 42	42	50	41.6	N	1300-1400	241	16.9%	6.5%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.5%	43.2%	0.0%	100.0%
Road 42	42	50	41.5	N	1400-1500	246	17.7%	7.2%	0.1%	12.9%	4.6%	4.4%	8.6%	0.0%	0.0%	0.3%	0.4%	0.2%	0.5%	0.0%	0.0%	0.7%	42.3%	0.0%	100.0%
Road 42	42	50	41.4	N	1500-1600	251	17.7%	7.1%	0.2%	15.0%	5.4%	3.8%	7.5%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	0.6%	41.3%	0.0%	100.0%
Road 42	42	50	41.4	N	1600-1700	252	19.9%	6.9%	0.1%	12.5%	4.5%	3.9%	7.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	0.9%	41.2%	0.0%	100.0%
Road 42	42	50	41.5	N	1700-1800	260	24.2%	7.6%	0.1%	12.3%	4.4%	2.8%	5.5%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	39.4%	0.0%	100.0%
Road 42	42	50	41.9	N	1800-1900	256	32.6%	7.7%	0.1%	8.4%	3.0%	1.8%	3.5%	0.0%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.6%	39.5%	0.0%	100.0%
Road 42	42	50	46.2	N	1900-2000	145	44.7%	14.0%	0.1%	9.0%	3.2%	2.1%	4.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.6%	18.8%	0.0%	100.0%
Road 42	42	50	46.7	N	2000-2100	119	39.1%	16.6%	0.1%	9.1%	3.3%	2.0%	3.9%	0.0%	0.0%	0.1%	0.5%	0.4%	0.8%	0.0%	0.0%	1.6%	22.6%	0.0%	100.0%
Road 42	42	50	47.0	N	2100-2200	123	39.6%	16.4%	0.1%	9.2%	3.3%	2.1%	4.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.8%	22.5%	0.0%	100.0%
Road 42	42	50	46.9	N	2200-2300	115	39.7%	17.9%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.0%	0.0%	0.2%	0.2%	0.4%	0.0%	0.0%	1.5%	23.5%	0.0%	100.0%
Road 42	42	50	47.3	N	2300-0000	94	35.8%	16.1%	0.1%	7.3%	2.6%	2.3%	4.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.6%	28.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 43	43	70	70.0	N	0000-0100	13	52.8%	23.7%	0.0%	1.8%	0.6%	0.6%	1.1%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.7%	14.9%	0.0%	100.0%
Road 43	43	70	70.0	N	0100-0200	9	48.3%	21.6%	0.0%	1.8%	0.6%	0.6%	1.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	21.2%	0.0%	100.0%
Road 43	43	70	70.0	N	0200-0300	7	44.2%	19.7%	0.0%	1.8%	0.7%	0.6%	1.1%	0.0%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	0.0%	2.8%	27.0%	0.0%	100.0%
Road 43	43	70	70.0	N	0300-0400	6	40.6%	18.0%	0.0%	1.9%	0.7%	0.6%	1.1%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	32.0%	0.0%	100.0%
Road 43	43	70	70.0	N	0400-0500	6	41.1%	18.2%	0.0%	2.1%	0.7%	0.6%	1.3%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.2%	30.1%	0.0%	100.0%
Road 43	43	70	70.0	N	0500-0600	9	46.3%	20.4%	0.0%	2.5%	0.9%	0.8%	1.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	20.2%	0.0%	100.0%
Road 43	43	70	70.0	N	0600-0700	18	51.0%	22.3%	0.0%	3.0%	1.1%	1.0%	1.9%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	4.8%	10.8%	0.0%	100.0%
Road 43	43	70	70.0	N	0700-0800	40	45.8%	20.0%	0.0%	3.0%	1.1%	0.9%	1.8%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	4.9%	14.5%	0.0%	100.0%
Road 43	43	70	70.0	N	0800-0900	45	52.4%	16.7%	0.0%	3.3%	1.2%	0.9%	1.8%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	3.0%	16.5%	0.0%	100.0%
Road 43	43	70	70.0	N	0900-1000	37	47.6%	17.3%	0.0%	4.7%	1.7%	1.3%	2.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	1.9%	20.0%	0.0%	100.0%
Road 43	43	70	70.0	N	1000-1100	33	44.4%	17.2%	0.1%	4.9%	1.8%	1.5%	3.1%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	1.3%	22.8%	0.0%	100.0%
Road 43	43	70	70.0	N	1100-1200	31	43.7%	18.0%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.4%	0.8%	0.4%	1.0%	0.0%	0.0%	1.2%	23.7%	0.0%	100.0%
Road 43	43	70	70.0	N	1200-1300	120	40.6%	15.6%	0.1%	12.8%	4.6%	4.6%	9.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	1.2%	8.3%	0.0%	100.0%
Road 43	43	70	70.0	N	1300-1400	124	38.8%	14.9%	0.2%	15.1%	5.4%	4.7%	9.2%	0.0%	0.1%	0.6%	0.6%	0.4%	0.8%	0.0%	0.0%	1.2%	8.2%	0.0%	100.0%
Road 43	43	70	70.0	N	1400-1500	131	39.3%	15.9%	0.1%	13.5%	4.9%	4.6%	9.0%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.5%	7.8%	0.0%	100.0%
Road 43	43	70	70.0	N	1500-1600	134	39.0%	15.7%	0.2%	15.6%	5.6%	4.0%	7.8%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	1.4%	7.4%	0.0%	100.0%
Road 43	43	70	70.0	N	1600-1700	140	42.3%	14.6%	0.1%	12.6%	4.5%	3.9%	7.7%	0.0%	0.1%	1.0%	1.2%	0.9%	1.9%	0.0%	0.0%	2.0%	7.2%	0.0%	100.0%
Road 43	43	70	70.0	N	1700-1800	155	47.9%	15.0%	0.1%	11.5%	4.1%	2.6%	5.1%	0.0%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	0.0%	2.8%	6.0%	0.0%	100.0%
Road 43	43	70	70.0	N	1800-1900	164	59.8%	14.1%	0.1%	7.3%	2.6%	1.5%	3.0%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	0.0%	2.9%	5.2%	0.0%	100.0%
Road 43	43	70	70.0	N	1900-2000	125	61.2%	19.2%	0.1%	5.8%	2.1%	1.4%	2.7%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	2.3%	2.2%	0.0%	100.0%
Road 43	43	70	70.0	N	2000-2100	98	56.2%	23.9%	0.1%	6.2%	2.2%	1.4%	2.7%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.2%	2.6%	0.0%	100.0%
Road 43	43	70	70.0	N	2100-2200	98	57.0%	23.6%	0.1%	6.2%	2.2%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.6%	2.7%	0.0%	100.0%
Road 43	43	70	70.0	N	2200-2300	94	56.9%	25.7%	0.1%	4.9%	1.7%	1.5%	3.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.2%	2.8%	0.0%	100.0%
Road 43	43	70	70.0	N	2300-0000	71	55.3%	24.9%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	3.5%	0.0%	100.0%
Road 44	44	80	80.0	N	0000-0100	436	57.9%	26.0%	0.0%	3.2%	1.1%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	3.0%	2.9%	0.5%	100.0%
Road 44	44	80	80.0	N	0100-0200	284	56.8%	25.4%	0.0%	3.5%	1.2%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	3.2%	0.6%	100.0%
Road 44	44	80	80.0	N	0200-0300	207	55.8%	24.8%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	3.5%	0.7%	100.0%
Road 44	44	80	80.0	N	0300-0400	164	54.7%	24.3%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.0%	3.8%	0.7%	100.0%
Road 44	44	80	80.0	N	0400-0500	179	53.8%	23.8%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	3.2%	4.2%	0.8%	100.0%
Road 44	44	80	80.0	N	0500-0600	309	53.0%	23.3%	0.0%	4.8%	1.7%	1.5%	2.9%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	3.5%	4.5%	1.4%	100.0%
Road 44	44	80	80.0	N	0600-0700	660	52.2%	22.9%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	3.8%	4.9%	1.1%	100.0%
Road 44	44	80	73.1	N	0700-0800	1335	51.1%	22.2%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	0.0%	4.2%	5.2%	1.4%	100.0%
Road 44	44	80	69.2	N	0800-0900	2290	56.4%	18.0%	0.1%	5.3%	1.8%	1.5%	3.0%	0.0%	0.1%	0.8%	1.1%	0.8%	1.8%	0.0%	0.0%	3.9%	3.9%	0.9%	100.0%
Road 44	44	80	73.8	N	0900-1000	1259	52.6%	19.1%	0.1%	8.4%	3.0%	2.3%	4.5%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	0.0%	2.7%	2.0%	1.8%	100.0%
Road 44	44	80	76.7	N	1000-1100	1085	50.0%	19.4%	0.1%	9.1%	3.3%	2.9%	5.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	2.7%	1.5%	2.1%	100.0%
Road 44	44	80	77.9	N	1100-1200	1029	49.8%	20.5%	0.1%	9.5%	3.4%	3.0%	5.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	2.7%	1.4%	2.2%	100.0%
Road 44	44	80	70.7	N	1200-1300	1341	46.5%	17.9%	0.1%	10.4%	3.7%	3.7%	7.3%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	3.0%	1.4%	2.4%	100.0%
Road 44	44	80	69.9	N	1300-1400	1369	44.9%	17.3%	0.1%	12.3%	4.4%	3.8%	7.5%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	0.0%	2.9%	1.4%	2.5%	100.0%
Road 44	44	80	68.2	N	1400-1500	1461	45.0%	18.2%	0.1%	10.9%	3.9%	3.7%	7.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	2.9%	1.7%	2.4%	100.0%
Road 44	44	80	66.1	N	1500-1600	1494	44.7%	18.0%	0.1%	12.7%	4.5%	3.2%	6.3%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	2.8%	1.6%	2.1%	100.0%
Road 44	44	80	55.2	N	1600-1700	1591	47.5%	16.4%	0.1%	10.0%	3.6%	3.1%	6.1%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	0.0%	3.1%	2.1%	2.0%	100.0%
Road 44	44	80	42.2	N	1700-1800	1805	52.5%	16.4%	0.1%	8.9%	3.2%	2.0%	4.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	3.2%	4.5%	1.4%	100.0%
Road 44	44	80	32.0	N	1800-1900	1580	63.3%	14.9%	0.1%	5.5%	2.0%	1.1%	2.3%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.2%	3.0%	1.0%	100.0%
Road 44	44	80	69.5	N	1900-2000	1571	62.1%	19.4%	0.0%	4.2%	1.5%	1.0%	2.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.0%	3.7%	2.3%	0.6%	100.0%
Road 44	44	80	75.8	N	2000-2100	1223	57.2%	24.3%	0.0%	4.4%	1.6%	1.0%	1.9%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	3.9%	2.3%	0.7%	100.0%
Road 44	44	80	76.3	N	2100-2200	1218	58.4%	24.2%	0.0%	4.5%	1.6%	1.0%	2.0%	0.0%	0.0%	0.1%	0.8%	0.6%	1.4%	0.0%	0.0%	3.4%	2.7%	0.7%	100.0%
Road 44	44	80	76.9	N	2200-2300	1185	57.9%	26.2%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	3.7%	2.2%	0.7%	100.0%
Road 44	44	80	80.0	N	2300-0000	887	56.8%	25.6%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	3.6%	2.5%	0.8%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

| Road Name | Road ID |

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 49	49	50	43.3	N	0000-0100	321	58.6%	26.3%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	5.9%	2.9%	0.3%	0.0%	100.0%
Road 49	49	50	45.6	N	0100-0200	208	57.9%	25.9%	0.0%	1.9%	0.7%	0.6%	1.2%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	5.9%	3.3%	0.3%	0.0%	100.0%
Road 49	49	50	46.8	N	0200-0300	151	57.2%	25.5%	0.0%	2.1%	0.7%	0.6%	1.3%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	5.9%	3.6%	0.3%	0.0%	100.0%
Road 49	49	50	47.5	N	0300-0400	119	56.4%	25.0%	0.0%	2.2%	0.8%	0.7%	1.4%	0.0%	0.0%	0.4%	0.8%	0.6%	1.2%	0.0%	5.9%	4.0%	0.4%	0.0%	100.0%
Road 49	49	50	47.2	N	0400-0500	129	55.6%	24.6%	0.0%	2.4%	0.9%	0.8%	1.5%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	5.9%	4.3%	0.4%	0.0%	100.0%
Road 49	49	50	45.2	N	0500-0600	223	54.9%	24.1%	0.0%	2.6%	0.9%	0.8%	1.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	5.9%	4.7%	0.4%	0.0%	100.0%
Road 49	49	50	39.8	N	0600-0700	475	54.1%	23.7%	0.0%	2.8%	1.0%	0.9%	1.7%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	5.9%	5.1%	0.5%	0.0%	100.0%
Road 49	49	50	34.0	N	0700-0800	956	53.3%	23.3%	0.0%	3.0%	1.1%	1.0%	1.9%	0.0%	0.1%	0.8%	1.2%	0.8%	1.9%	0.0%	5.9%	5.4%	0.5%	0.0%	100.0%
Road 49	49	50	32.3	N	0800-0900	1100	59.7%	19.1%	0.0%	3.3%	1.2%	0.9%	1.8%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	5.3%	3.5%	0.5%	0.0%	100.0%
Road 49	49	50	34.8	N	0900-1000	872	56.7%	20.6%	0.1%	4.8%	1.7%	1.3%	2.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	5.6%	2.2%	0.7%	0.0%	100.0%
Road 49	49	50	36.3	N	1000-1100	739	54.7%	21.2%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	5.7%	1.7%	0.9%	0.0%	100.0%
Road 49	49	50	36.8	N	1100-1200	702	54.4%	22.4%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	1.0%	0.5%	0.4%	0.8%	0.0%	5.8%	1.5%	0.8%	0.0%	100.0%
Road 49	49	50	38.0	N	1200-1300	583	52.1%	20.1%	0.1%	5.9%	2.1%	2.1%	4.2%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	7.0%	1.5%	1.1%	0.0%	100.0%
Road 49	49	50	38.0	N	1300-1400	584	51.2%	19.7%	0.1%	7.1%	2.6%	2.2%	4.4%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	6.8%	1.6%	1.1%	0.0%	100.0%
Road 49	49	50	37.4	N	1400-1500	631	50.7%	20.5%	0.1%	6.3%	2.2%	2.1%	4.2%	0.0%	0.1%	0.9%	1.0%	0.7%	1.5%	0.0%	6.7%	1.9%	1.1%	0.0%	100.0%
Road 49	49	50	37.3	N	1500-1600	643	50.5%	20.3%	0.1%	7.3%	2.6%	1.8%	3.6%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	6.6%	1.8%	0.9%	0.0%	100.0%
Road 49	49	50	36.4	N	1600-1700	703	52.3%	18.0%	0.1%	8.6%	2.9%	2.0%	1.7%	3.4%	0.0%	0.2%	1.2%	1.5%	1.1%	2.3%	0.0%	7.1%	2.5%	0.9%	0.0%	100.0%
Road 49	49	50	35.4	N	1700-1800	821	56.2%	17.5%	0.1%	4.8%	1.7%	1.1%	2.2%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	6.9%	4.8%	0.6%	0.0%	100.0%
Road 49	49	50	34.2	N	1800-1900	938	65.0%	15.3%	0.0%	2.9%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	6.8%	3.1%	0.3%	0.0%	100.0%
Road 49	49	50	36.4	N	1900-2000	758	62.6%	19.6%	0.0%	2.1%	0.8%	0.5%	1.0%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	7.6%	2.3%	0.3%	0.0%	100.0%
Road 49	49	50	38.4	N	2000-2100	590	57.6%	24.5%	0.0%	2.3%	0.8%	0.5%	1.0%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	8.0%	2.3%	0.3%	0.0%	100.0%
Road 49	49	50	38.6	N	2100-2200	585	59.2%	24.5%	0.0%	2.3%	0.8%	0.5%	1.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	7.1%	2.7%	0.3%	0.0%	100.0%
Road 49	49	50	38.7	N	2200-2300	573	58.2%	26.3%	0.0%	1.8%	0.6%	0.6%	1.1%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.1%	7.6%	2.2%	0.3%	0.0%	100.0%
Road 49	49	50	40.8	N	2300-0000	427	57.5%	25.9%	0.0%	2.0%	0.7%	0.6%	1.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.1%	7.6%	2.5%	0.3%	0.0%	100.0%
Road 50	50	50	49.3	N	0000-0100	24	28.0%	12.5%	0.2%	19.9%	7.2%	6.3%	12.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	11.1%	0.0%	100.0%
Road 50	50	50	49.5	N	0100-0200	17	25.3%	11.3%	0.2%	20.2%	7.2%	6.4%	12.5%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	14.5%	0.0%	100.0%
Road 50	50	50	49.6	N	0200-0300	13	23.0%	10.2%	0.2%	20.3%	7.3%	6.4%	12.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.5%	17.4%	0.0%	100.0%
Road 50	50	50	49.7	N	0300-0400	11	21.0%	9.3%	0.2%	20.5%	7.3%	6.4%	12.6%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	20.0%	0.0%	100.0%
Road 50	50	50	49.6	N	0400-0500	13	20.2%	8.9%	0.2%	21.6%	7.8%	6.8%	13.3%	0.0%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.6%	18.4%	0.0%	100.0%
Road 50	50	50	49.4	N	0500-0600	21	20.3%	8.9%	0.2%	23.9%	8.6%	7.5%	14.7%	0.0%	0.0%	0.2%	0.3%	0.3%	0.6%	0.0%	0.0%	2.0%	12.7%	0.0%	100.0%
Road 50	50	50	48.7	N	0600-0700	45	20.1%	8.8%	0.3%	25.8%	9.3%	8.1%	15.9%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	8.3%	0.0%	100.0%
Road 50	50	50	47.1	N	0700-0800	98	18.3%	8.0%	0.3%	25.5%	9.2%	8.0%	15.7%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	11.5%	0.0%	100.0%
Road 50	50	50	46.6	N	0800-0900	115	20.2%	6.5%	0.3%	27.4%	9.9%	7.7%	15.1%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.8%	10.2%	0.0%	100.0%
Road 50	50	50	46.5	N	0900-1000	117	14.9%	5.4%	0.3%	31.1%	11.2%	8.5%	16.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	0.6%	10.5%	0.0%	100.0%
Road 50	50	50	46.5	N	1000-1100	112	12.7%	4.9%	0.3%	30.2%	10.8%	9.6%	18.9%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	11.4%	0.0%	100.0%
Road 50	50	50	46.7	N	1100-1200	106	12.7%	5.2%	0.3%	30.2%	10.8%	9.4%	18.6%	0.0%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	11.7%	0.0%	100.0%
Road 50	50	50	48.4	N	1200-1300	49	4.5%	1.7%	0.3%	30.0%	10.8%	10.8%	21.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	20.4%	0.0%	100.0%
Road 50	50	50	48.2	N	1300-1400	54	4.0%	1.5%	0.3%	33.0%	11.8%	10.2%	20.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	18.7%	0.0%	100.0%
Road 50	50	50	48.2	N	1400-1500	53	4.3%	1.7%	0.3%	31.4%	11.3%	10.6%	20.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	19.0%	0.0%	100.0%
Road 50	50	50	48.2	N	1500-1600	55	4.2%	1.7%	0.4%	35.8%	12.9%	9.1%	17.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	17.7%	0.0%	100.0%
Road 50	50	50	48.3	N	1600-1700	52	5.1%	1.7%	0.3%	31.9%	11.5%	10.0%	19.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	19.0%	0.0%	100.0%
Road 50	50	50	48.4	N	1700-1800	48	6.8%	2.1%	0.4%	34.8%	12.5%	7.9%	15.5%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%	0.0%	0.0%	0.6%	18.9%	0.0%	100.0%
Road 50	50	50	48.8	N	1800-1900	37	11.8%	2.8%	0.3%	30.8%	11.1%	6.4%	12.6%	0.0%	0.0%	0.0%	0.2%	0.1%	0.1%	0.0%	0.0%	0.6%	22.8%	0.0%	100.0%
Road 50	50	50	49.3	N	1900-2000	22	15.6%	4.9%	0.3%	31.6%	11.4%	7.5%	14.8%	0.0%	0.0%	0.0%	0.2%	0.2%	0.4%	0.0%	0.0%	0.6%	12.5%	0.0%	100.0%
Road 50	50	50	49.5	N	2000-2100	18	13.8%	5.9%	0.3%	32.1%	11.5%	7.1%	13.9%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.6%	14.2%	0.0%	100.0%
Road 50	50	50	49.4	N	2100-2200	18	13.7%	5.7%	0.3%	31.9%	11.5%	7.3%	14.4%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.6%	14.1%	0.0%	100.0%
Road 50	50	50	49.5	N	2200-2300	16	14.8%	6.7%	0.3%	26.7%	9.6%	8.5%	16.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.6%	15.9%	0.0%	100.0%
Road 50	50	50	49.6	N	2300-0000	13	13.0%	5.9%	0.3%	26.8%	9.6%	8.5%	16.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.6%	18.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 51	51	80	80.0	N	0000-0100	633	58.1%	26.1%	0.0%	2.9%	1.1%	0.9%	1.8%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.1%	2.9%	0.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0100-0200	411	57.2%	25.6%	0.0%	3.2%	1.2%	1.0%	2.0%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.1%	3.2%	0.5%	0.0%	100.0%
Road 51	51	80	80.0	N	0200-0300	300	56.3%	25.1%	0.0%	3.5%	1.3%	1.1%	2.2%	0.7%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.1%	3.6%	0.6%	0.0%	100.0%
Road 51	51	80	80.0	N	0300-0400	236	55.3%	24.6%	0.0%	3.8%	1.4%	1.2%	2.4%	0.7%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	3.0%	3.9%	0.6%	0.0%	100.0%
Road 51	51	80	80.0	N	0400-0500	259	54.4%	24.0%	0.0%	4.1%	1.5%	1.3%	2.5%	0.7%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.0%	4.2%	0.7%	0.0%	100.0%
Road 51	51	80	80.0	N	0500-0600	448	53.4%	23.5%	0.0%	4.4%	1.6%	1.4%	2.7%	0.7%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.0%	4.6%	0.7%	0.0%	100.0%
Road 51	51	80	80.0	N	0600-0700	958	52.5%	23.0%	0.0%	4.8%	1.7%	1.5%	2.9%	0.7%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.0%	4.9%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0700-0800	1933	51.5%	22.4%	0.1%	5.1%	1.8%	1.6%	3.1%	0.7%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	3.0%	5.3%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0800-0900	2233	57.6%	18.4%	0.1%	5.5%	2.0%	1.5%	3.0%	0.5%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.7%	3.3%	0.8%	0.0%	100.0%
Road 51	51	80	80.0	N	0900-1000	1813	53.3%	19.4%	0.1%	7.9%	2.8%	2.2%	4.2%	0.7%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	2.8%	2.1%	1.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1000-1100	1557	50.8%	19.7%	0.2%	8.5%	3.1%	2.7%	5.3%	0.7%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	2.8%	1.5%	1.4%	0.0%	100.0%
Road 51	51	80	80.0	N	1100-1200	1477	50.6%	20.8%	0.1%	8.5%	3.1%	2.7%	5.2%	0.7%	0.1%	0.9%	0.5%	0.4%	0.8%	0.0%	2.9%	1.4%	1.4%	0.0%	100.0%
Road 51	51	80	80.0	N	1200-1300	1223	27.9%	10.7%	0.2%	16.9%	6.1%	6.0%	11.9%	0.8%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	13.5%	0.8%	3.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1300-1400	1280	26.3%	10.1%	0.2%	19.5%	7.0%	6.1%	11.9%	0.7%	0.0%	0.4%	0.4%	0.3%	0.6%	0.1%	12.6%	0.8%	3.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1400-1500	1334	27.0%	10.9%	0.2%	17.8%	6.4%	6.0%	11.8%	0.8%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	12.8%	1.0%	3.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1500-1600	1370	26.7%	10.7%	0.2%	20.5%	7.4%	5.2%	10.2%	0.7%	0.1%	0.5%	0.5%	0.4%	0.8%	0.1%	12.5%	1.0%	2.7%	0.0%	100.0%
Road 51	51	80	80.0	N	1600-1700	1415	29.2%	10.1%	0.2%	16.6%	6.0%	5.2%	10.2%	0.7%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	14.2%	1.4%	2.7%	0.0%	100.0%
Road 51	51	80	80.0	N	1700-1800	1519	34.1%	10.7%	0.2%	15.7%	5.6%	3.6%	7.0%	0.8%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	15.1%	2.9%	1.8%	0.0%	100.0%
Road 51	51	80	80.0	N	1800-1900	1528	44.9%	10.5%	0.1%	10.5%	3.8%	2.2%	4.3%	0.8%	0.0%	0.1%	0.8%	0.5%	1.2%	0.1%	16.8%	2.1%	1.1%	0.0%	100.0%
Road 51	51	80	80.0	N	1900-2000	1208	44.2%	13.8%	0.1%	8.1%	2.9%	1.9%	3.8%	1.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.1%	19.3%	1.6%	1.0%	0.0%	100.0%
Road 51	51	80	80.0	N	2000-2100	952	40.2%	17.1%	0.1%	8.5%	3.0%	1.9%	3.7%	1.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	20.1%	1.6%	1.0%	0.0%	100.0%
Road 51	51	80	80.0	N	2100-2200	932	41.7%	17.3%	0.1%	8.8%	3.1%	2.0%	4.0%	1.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	18.1%	1.9%	1.0%	0.0%	100.0%
Road 51	51	80	80.0	N	2200-2300	904	41.5%	18.8%	0.1%	6.8%	2.4%	2.2%	4.2%	0.9%	0.0%	0.0%	0.3%	0.2%	0.4%	0.2%	19.5%	1.6%	1.1%	0.0%	100.0%
Road 51	51	80	80.0	N	2300-0000	684	40.3%	18.2%	0.1%	7.5%	2.7%	2.4%	4.7%	0.9%	0.0%	0.1%	0.3%	0.2%	0.5%	0.2%	19.1%	1.8%	1.2%	0.0%	100.0%
Road 52	52	50	49.1	N	0000-0100	27	3.5%	1.6%	0.4%	38.3%	13.8%	12.1%	23.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 52	52	50	49.4	N	0100-0200	19	3.1%	1.4%	0.4%	38.6%	13.8%	12.2%	23.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 52	52	50	49.5	N	0200-0300	15	2.8%	1.3%	0.4%	38.8%	13.9%	12.2%	24.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 52	52	50	49.6	N	0300-0400	13	2.6%	1.1%	0.4%	38.9%	14.0%	12.2%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 52	52	50	49.5	N	0400-0500	15	2.4%	1.0%	0.4%	39.1%	14.0%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 52	52	50	49.1	N	0500-0600	28	2.2%	1.0%	0.4%	39.2%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 52	52	50	47.9	N	0600-0700	65	2.0%	0.9%	0.4%	39.3%	14.1%	12.3%	24.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 52	52	50	45.5	N	0700-0800	139	1.8%	0.8%	0.4%	39.5%	14.2%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	6.3%	0.0%	100.0%
Road 52	52	50	44.7	N	0800-0900	267	2.0%	0.6%	0.4%	41.4%	14.9%	11.6%	22.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 52	52	50	44.0	N	0900-1000	190	1.3%	0.5%	0.4%	42.3%	15.2%	11.5%	22.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	5.9%	0.0%	100.0%
Road 52	52	50	43.9	N	1000-1100	187	1.1%	0.4%	0.4%	39.8%	14.3%	12.6%	24.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.5%	0.0%	100.0%
Road 52	52	50	44.3	N	1100-1200	175	1.1%	0.5%	0.4%	40.0%	14.4%	12.5%	24.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 52	52	50	44.1	N	1200-1300	182	3.2%	1.2%	0.4%	36.4%	13.1%	13.0%	25.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.7%	0.0%	100.0%
Road 52	52	50	43.5	N	1300-1400	205	2.8%	1.1%	0.4%	39.2%	14.1%	12.1%	23.8%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 52	52	50	43.5	N	1400-1500	203	3.0%	1.2%	0.4%	37.4%	13.4%	12.7%	24.9%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	6.5%	0.0%	100.0%
Road 52	52	50	43.3	N	1500-1600	212	3.0%	1.2%	0.4%	42.4%	15.2%	10.7%	21.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	5.5%	0.0%	100.0%
Road 52	52	50	43.8	N	1600-1700	196	3.6%	1.2%	0.4%	38.5%	13.8%	12.0%	23.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 52	52	50	44.5	N	1700-1800	178	5.0%	1.6%	0.4%	42.9%	15.4%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.4%	5.0%	100.0%
Road 52	52	50	46.3	N	1800-1900	124	9.5%	2.2%	0.4%	41.7%	15.0%	8.7%	17.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.5%	4.5%	100.0%
Road 52	52	50	47.6	N	1900-2000	82	11.2%	3.5%	0.4%	38.3%	13.8%	9.1%	18.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%	4.7%	0.0%	100.0%
Road 52	52	50	48.1	N	2000-2100	65	10.1%	4.3%	0.4%	39.7%	14.2%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	4.5%	0.0%	100.0%
Road 52	52	50	48.0	N	2100-2200	67	10.0%	4.1%	0.4%	39.2%	14.1%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	4.5%	0.0%	100.0%
Road 52	52	50	48.2	N	2200-2300	58	11.0%	5.0%	0.4%	33.7%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	5.5%	0.0%	100.0%
Road 52	52	50	48.5	N	2300-0000	48	9.9%	4.5%	0.4%	34.3%	12.3%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	5.6%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

| Road Name | Road ID

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 11 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchise d Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 103	103	80	80.0	N	0000-0100	819	57.3%	25.7%	0.1%	4.9%	1.8%	1.6%	3.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	0.8%	0.0%	100.0%
Road 103	103	80	80.0	N	0100-0200	534	56.2%	25.1%	0.1%	5.4%	1.9%	1.7%	3.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	0.9%	0.0%	100.0%
Road 103	103	80	80.0	N	0200-0300	392	55.0%	24.5%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.0%	0.3%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	0.9%	0.0%	100.0%
Road 103	103	80	80.0	N	0300-0400	310	53.8%	23.9%	0.1%	6.3%	2.3%	2.0%	3.9%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	1.0%	0.0%	100.0%
Road 103	103	80	80.0	N	0400-0500	341	52.6%	23.3%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.1%	1.1%	0.0%	100.0%
Road 103	103	80	80.0	N	0500-0600	594	51.4%	22.6%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	0.0%	4.4%	1.2%	0.0%	100.0%
Road 103	103	80	80.0	N	0600-0700	1676	50.2%	22.0%	0.1%	7.7%	2.8%	2.4%	4.8%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.0%	4.7%	1.2%	0.0%	100.0%
Road 103	103	80	75.1	N	0700-0800	2589	49.0%	21.4%	0.1%	8.2%	2.9%	2.6%	5.1%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	5.0%	1.3%	0.0%	100.0%
Road 103	103	71.2	N	0800-0900	3015	54.4%	17.4%	0.1%	8.9%	3.2%	2.5%	4.9%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	0.0%	3.2%	1.3%	0.0%	100.0%	
Road 103	103	74.6	N	0900-1000	2528	48.8%	17.7%	0.1%	12.3%	4.4%	3.3%	6.6%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	1.9%	1.7%	0.0%	100.0%	
Road 103	103	77.0	N	1000-1100	2210	45.7%	17.7%	0.1%	13.0%	4.7%	4.1%	8.1%	0.0%	0.1%	0.5%	0.8%	0.5%	1.1%	0.0%	0.0%	1.4%	2.1%	0.0%	100.0%	
Road 103	103	78.3	N	1100-1200	2091	45.6%	18.8%	0.1%	13.0%	4.7%	4.1%	8.0%	0.0%	0.1%	0.8%	0.5%	0.3%	0.7%	0.0%	0.0%	1.3%	2.1%	0.0%	100.0%	
Road 103	103	78.7	N	1200-1300	2039	46.8%	18.0%	0.1%	11.6%	4.2%	4.2%	8.2%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	0.0%	1.4%	2.1%	0.0%	100.0%	
Road 103	103	78.0	N	1300-1400	2091	44.9%	17.3%	0.1%	13.7%	4.9%	4.3%	8.4%	0.0%	0.1%	0.6%	0.8%	0.4%	1.0%	0.0%	0.0%	1.4%	2.2%	0.0%	100.0%	
Road 103	103	76.8	N	1400-1500	2227	45.2%	18.3%	0.1%	12.2%	4.4%	4.1%	8.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	1.7%	2.1%	0.0%	100.0%	
Road 103	103	76.4	N	1500-1600	2281	44.8%	18.0%	0.1%	14.1%	5.1%	3.6%	7.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	1.6%	1.8%	0.0%	100.0%	
Road 103	103	75.3	N	1600-1700	2412	47.9%	16.5%	0.1%	11.2%	4.0%	3.5%	6.9%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	0.0%	2.3%	1.8%	0.0%	100.0%	
Road 103	103	74.0	N	1700-1800	2722	53.3%	16.6%	0.1%	10.0%	3.6%	2.3%	4.5%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	0.0%	4.6%	1.2%	0.0%	100.0%	
Road 103	103	73.1	N	1800-1900	2958	64.8%	15.2%	0.1%	6.2%	2.2%	1.3%	2.6%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.1%	0.7%	0.0%	100.0%	
Road 103	103	78.7	N	1900-2000	2335	63.9%	20.0%	0.1%	4.8%	1.7%	1.1%	2.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.4%	0.6%	0.0%	100.0%	
Road 103	103	80.0	N	2000-2100	1814	59.0%	25.0%	0.1%	5.1%	1.8%	1.1%	2.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.4%	0.6%	0.0%	100.0%	
Road 103	103	80.0	N	2100-2200	1817	59.9%	24.8%	0.1%	5.2%	1.9%	1.2%	2.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	0.6%	0.0%	100.0%	
Road 103	103	80.0	N	2200-2300	1759	59.6%	27.0%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%	
Road 103	103	80.0	N	2300-0000	1318	58.5%	26.3%	0.0%	4.0%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.6%	0.7%	0.0%	100.0%	
Road 104	104	80	80.0	N	0000-0100	500	49.7%	22.3%	0.1%	9.6%	3.5%	3.0%	6.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.6%	0.0%	100.0%
Road 104	104	80	80.0	N	0100-0200	330	48.1%	21.5%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%
Road 104	104	80	80.0	N	0200-0300	240	46.6%	20.8%	0.1%	11.2%	4.0%	3.5%	6.9%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	2.9%	1.8%	0.0%	100.0%
Road 104	104	80	80.0	N	0300-0400	196	45.0%	20.0%	0.1%	11.9%	4.3%	3.7%	7.4%	0.0%	0.0%	0.4%	0.6%	0.5%	1.0%	0.0%	0.0%	3.2%	1.9%	0.0%	100.0%
Road 104	104	80	80.0	N	0400-0500	219	43.5%	19.2%	0.1%	12.6%	4.5%	4.0%	7.8%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.0%	0.0%	100.0%
Road 104	104	80	80.0	N	0500-0600	385	42.0%	18.5%	0.1%	13.4%	4.8%	4.2%	8.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.6%	2.2%	0.0%	100.0%
Road 104	104	80	80.0	N	0600-0700	837	40.6%	17.8%	0.1%	14.1%	5.1%	4.4%	8.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	2.3%	0.0%	100.0%
Road 104	104	80	80.0	N	0700-0800	1719	39.1%	17.0%	0.2%	14.8%	5.3%	4.6%	9.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	2.4%	0.0%	100.0%
Road 104	104	78.4	N	0800-0900	2014	43.1%	13.8%	0.2%	15.9%	5.7%	4.4%	8.7%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	3.5%	2.8%	0.0%	100.0%	
Road 104	104	79.4	N	0900-1000	1817	35.9%	13.1%	0.2%	20.4%	7.3%	5.6%	10.9%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%	
Road 104	104	80.0	N	1000-1100	1644	32.5%	12.6%	0.2%	20.9%	7.5%	6.6%	13.1%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%	
Road 104	104	80.0	N	1100-1200	1551	32.6%	13.4%	0.2%	20.9%	7.5%	6.5%	12.9%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%	
Road 104	104	80.0	N	1200-1300	1272	50.0%	19.3%	0.1%	9.8%	3.5%	3.5%	6.9%	0.0%	0.1%	0.8%	0.4%	0.3%	0.6%	0.0%	0.0%	1.5%	1.8%	0.0%	100.0%	
Road 104	104	80.0	N	1300-1400	1296	48.4%	18.6%	0.1%	11.6%	4.2%	3.6%	7.1%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	0.0%	1.5%	1.9%	0.0%	100.0%	
Road 104	104	80.0	N	1400-1500	1388	48.3%	19.8%	0.1%	10.3%	3.7%	3.5%	6.9%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	1.8%	1.8%	0.0%	100.0%	
Road 104	104	80.0	N	1500-1600	1419	48.0%	19.3%	0.1%	11.9%	4.3%	3.0%	5.9%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	1.7%	1.6%	0.0%	100.0%	
Road 104	104	80.0	N	1600-1700	1515	50.9%	17.5%	0.1%	9.4%	3.4%	2.9%	5.8%	0.0%	0.2%	1.2%	1.5%	1.0%	2.3%	0.0%	0.0%	2.4%	1.5%	0.0%	100.0%	
Road 104	104	80.0	N	1700-1800	1732	55.8%	17.4%	0.1%	8.3%	3.0%	1.9%	3.7%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.0%	4.8%	1.0%	0.0%	100.0%	
Road 104	104	80.0	N	1800-1900	1918	66.7%	15.7%	0.1%	5.1%	1.8%	1.1%	2.1%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	0.0%	3.2%	0.5%	0.0%	100.0%	
Road 104	104	80.0	N	1900-2000	1523	65.3%	20.5%	0.0%	3.9%	1.4%	0.9%	1.8%	0.0%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.4%	0.5%	0.0%	100.0%
Road 104	104	80.0	N	2000-2100	1182	60.4%	25.6%	0.0%	4.1%	1.5%	0.9%	1.8%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.4%	0.5%	0.0%	100.0%	
Road 104	104	80.0	N	2100-2200	1183	61.3%	25.4%	0.0%	4.2%	1.5%	1.0%	1.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.8%	0.5%	0.0%	100.0%	
Road 104	104	80.0	N	2200-2300	1149	60.9%	27.5%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	0.5%	0.0%	100.0%	
Road 104	104	80	80.0	N	2300-0000	858	59.9%	27.0%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	0.6%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2038)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 11 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchise d Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 105	105	50	48.7	N	0000-0100	58	51.4%	23.1%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	1.4%	0.0%	100.0%
Road 105	105	50	49.2	N	0100-0200	38	49.9%	22.3%	0.1%	9.3%	3.3%	2.9%	5.8%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.8%	1.5%	0.0%	100.0%
Road 105	105	50	49.4	N	0200-0300	28	48.4%	21.6%	0.1%	10.0%	3.6%	3.2%	6.2%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.1%	1.6%	0.0%	100.0%
Road 105	105	50	49.5	N	0300-0400	23	46.9%	20.8%	0.1%	10.7%	3.9%	3.4%	6.6%	0.0%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	0.0%	3.3%	1.7%	0.0%	100.0%
Road 105	105	50	49.4	N	0400-0500	25	45.4%	20.1%	0.1%	11.4%	4.1%	3.6%	7.0%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	1.8%	0.0%	100.0%
Road 105	105	50	49.0	N	0500-0600	44	44.0%	19.3%	0.1%	12.1%	4.3%	3.8%	7.5%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.8%	1.9%	0.0%	100.0%
Road 105	105	50	47.8	N	0600-0700	96	42.5%	18.6%	0.1%	12.8%	4.6%	4.0%	7.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	2.1%	0.0%	100.0%
Road 105	105	50	45.4	N	0700-0800	197	41.1%	17.9%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	0.0%	4.2%	2.2%	0.0%	100.0%
Road 105	105	50	44.6	N	0800-0900	230	45.4%	14.5%	0.2%	14.5%	5.2%	4.0%	8.0%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	2.6%	2.1%	0.0%	100.0%
Road 105	105	50	44.9	N	0900-1000	205	38.4%	13.9%	0.2%	18.8%	6.8%	5.1%	10.1%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	1.5%	2.6%	0.0%	100.0%
Road 105	105	50	45.3	N	1000-1100	184	34.9%	13.6%	0.2%	19.5%	7.0%	6.2%	12.1%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.1%	3.2%	0.0%	100.0%
Road 105	105	50	45.6	N	1100-1200	174	35.0%	14.4%	0.2%	19.4%	7.0%	6.1%	11.9%	0.0%	0.1%	0.6%	0.4%	0.2%	0.5%	0.0%	0.0%	1.0%	3.1%	0.0%	100.0%
Road 105	105	50	41.7	N	1200-1300	260	3.9%	1.5%	0.4%	36.0%	12.9%	12.9%	25.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.6%	0.0%	100.0%
Road 105	105	50	40.7	N	1300-1400	292	3.4%	1.3%	0.4%	38.8%	13.9%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 105	105	50	40.7	N	1400-1500	290	3.7%	1.5%	0.4%	37.1%	13.3%	12.5%	24.7%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 105	105	50	40.5	N	1500-1600	302	3.6%	1.4%	0.4%	42.0%	15.1%	10.6%	20.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.5%	0.0%	100.0%
Road 105	105	50	41.1	N	1600-1700	280	4.4%	1.5%	0.4%	38.0%	13.7%	11.9%	23.4%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.1%	0.0%	100.0%
Road 105	105	50	42.2	N	1700-1800	255	6.0%	1.9%	0.4%	42.3%	15.2%	9.6%	18.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	4.9%	0.0%	100.0%
Road 105	105	50	44.7	N	1800-1900	180	11.2%	2.6%	0.4%	40.5%	14.6%	8.5%	16.6%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.3%	0.0%	100.0%
Road 105	105	50	46.5	N	1900-2000	119	13.2%	4.1%	0.4%	37.1%	13.3%	8.8%	17.4%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 105	105	50	47.2	N	2000-2100	95	11.9%	5.1%	0.4%	38.4%	13.8%	8.5%	16.6%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.3%	0.0%	100.0%
Road 105	105	50	47.1	N	2100-2200	97	11.8%	4.9%	0.4%	38.0%	13.7%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 105	105	50	47.4	N	2200-2300	86	12.9%	5.9%	0.3%	32.5%	11.7%	10.3%	20.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.3%	0.0%	100.0%
Road 105	105	50	47.9	N	2300-0000	70	11.7%	5.3%	0.3%	33.3%	11.9%	10.5%	20.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.4%	0.0%	100.0%
Road 106	106	50	45.6	N	0000-0100	207	53.6%	24.1%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.7%	1.2%	0.0%	100.0%
Road 106	106	50	47.1	N	0100-0200	136	52.2%	23.4%	0.1%	7.8%	2.8%	2.5%	4.9%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.0%	1.3%	0.0%	100.0%
Road 106	106	50	47.8	N	0200-0300	100	50.8%	22.7%	0.1%	8.5%	3.0%	2.7%	5.2%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	0.0%	3.2%	1.4%	0.0%	100.0%
Road 106	106	50	48.2	N	0300-0400	80	49.5%	22.0%	0.1%	9.1%	3.3%	2.9%	5.6%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	1.5%	0.0%	100.0%
Road 106	106	50	48.0	N	0400-0500	88	48.1%	21.3%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.7%	1.6%	0.0%	100.0%
Road 106	106	50	46.5	N	0500-0600	155	46.7%	20.6%	0.1%	10.3%	3.7%	3.2%	6.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.0%	1.7%	0.0%	100.0%
Road 106	106	50	42.4	N	0600-0700	335	45.4%	19.9%	0.1%	10.9%	3.9%	3.4%	6.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.2%	1.8%	0.0%	100.0%
Road 106	106	50	36.8	N	0700-0800	683	44.0%	19.2%	0.1%	11.5%	4.1%	3.6%	7.1%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.5%	1.9%	0.0%	100.0%
Road 106	106	50	35.3	N	0800-0900	2310	56.9%	18.2%	0.1%	12.4%	4.5%	3.5%	6.8%	0.0%	0.1%	0.7%	1.0%	0.7%	1.4%	0.0%	0.0%	2.8%	1.8%	0.0%	100.0%
Road 106	106	50	36.2	N	0900-1000	695	42.0%	15.3%	0.2%	16.6%	5.9%	4.5%	8.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	1.6%	2.3%	0.0%	100.0%
Road 106	106	50	37.0	N	1000-1100	619	38.6%	15.0%	0.2%	17.3%	6.2%	5.5%	10.8%	0.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	1.2%	2.8%	0.0%	100.0%
Road 106	106	50	37.5	N	1100-1200	585	38.6%	15.9%	0.2%	17.2%	6.2%	5.4%	10.6%	0.0%	0.1%	0.7%	0.4%	0.3%	0.8%	0.0%	0.0%	1.1%	2.8%	0.0%	100.0%
Road 106	106	50	32.9	N	1200-1300	870	32.9%	12.7%	0.2%	19.5%	7.0%	7.0%	13.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	3.6%	0.0%	100.0%
Road 106	106	50	32.0	N	1300-1400	921	30.7%	11.8%	0.2%	22.3%	8.0%	6.9%	13.6%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	0.0%	0.9%	3.6%	0.0%	100.0%
Road 106	106	50	31.6	N	1400-1500	957	31.5%	12.8%	0.2%	20.4%	7.3%	6.9%	13.5%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	1.2%	3.5%	0.0%	100.0%
Road 106	106	50	31.3	N	1500-1600	987	31.1%	12.5%	0.2%	23.4%	8.4%	5.9%	11.6%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	0.0%	1.1%	3.0%	0.0%	100.0%
Road 106	106	50	31.2	N	1600-1700	1001	34.7%	12.0%	0.2%	19.3%	6.9%	6.0%	11.9%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	0.0%	1.6%	3.1%	0.0%	100.0%
Road 106	106	50	31.3	N	1700-1800	1063	40.9%	12.8%	0.2%	18.4%	6.6%	4.2%	8.2%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.5%	2.1%	0.0%	100.0%
Road 106	106	50	32.5	N	1800-1900	1050	54.9%	12.9%	0.1%	12.6%	4.5%	2.6%	5.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.6%	1.4%	0.0%	100.0%
Road 106	106	50	35.8	N	1900-2000	804	55.7%	17.4%	0.1%	10.0%	3.6%	2.4%	4.7%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.0%	2.1%	1.2%	0.0%	100.0%
Road 106	106	50	38.0	N	2000-2100	627	51.2%	21.8%	0.1%	10.5%	3.8%	2.3%	4.6%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.0%	1.2%	0.0%	100.0%
Road 106	106	50	38.0	N	2100-2200	630	51.8%	21.4%	0.1%	10.7%	3.8%	2.5%	4.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.3%	0.0%	100.0%
Road 106	106	50	38.4	N	2200-2300	601	52.4%	23.7%	0.1%	8.4%	3.0%	2.7%	5.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.0%	1.4%	0.0%	100.0%
Road 106	106	50	40.0	N	2300-0000	456	50.7%	22.9%	0.1%	9.2%	3.3%	2.9%	5.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.2%	1.5%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush Approach (Y/N) | Hour | Total Vehicles (Veh/hr) | 01 - Private Cars | 02 - Ta

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 5	5	50	45.7	N	0000-0100	414	57.9%	26.0%	0.0%	2.7%	1.0%	0.8%	1.7%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	4.6%	2.9%	0.4%	0.0%	100.0%
Road 5	5	50	47.2	N	0100-0200	268	57.1%	25.5%	0.0%	2.9%	1.1%	0.9%	1.8%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	4.6%	3.2%	0.5%	0.0%	100.0%
Road 5	5	50	47.9	N	0200-0300	196	56.2%	25.1%	0.0%	3.2%	1.1%	1.0%	2.0%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	4.6%	3.6%	0.5%	0.0%	100.0%
Road 5	5	50	46.0	N	0300-0400	154	55.3%	24.6%	0.0%	3.5%	1.2%	1.1%	2.1%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	4.6%	3.9%	0.6%	0.0%	100.0%
Road 5	5	50	48.2	N	0400-0500	169	54.4%	24.1%	0.0%	3.8%	1.3%	1.2%	2.3%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	4.5%	4.2%	0.6%	0.0%	100.0%
Road 5	5	50	46.9	N	0500-0600	291	53.5%	23.6%	0.0%	4.0%	1.5%	1.3%	2.5%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	4.5%	4.6%	0.7%	0.0%	100.0%
Road 5	5	50	43.2	N	0600-0700	623	52.6%	23.0%	0.0%	4.3%	1.6%	1.4%	2.7%	0.0%	0.1%	0.7%	1.1%	0.8%	1.6%	0.0%	4.5%	4.9%	0.7%	0.0%	100.0%
Road 5	5	50	37.9	N	0700-0800	1255	51.7%	22.5%	0.0%	4.6%	1.7%	1.4%	2.8%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	4.5%	5.3%	0.7%	0.0%	100.0%
Road 5	5	50	36.8	N	0800-0900	1449	57.8%	18.5%	0.1%	5.0%	1.8%	1.4%	2.8%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	4.0%	3.4%	0.7%	0.0%	100.0%
Road 5	5	50	38.2	N	0900-1000	1170	53.8%	19.5%	0.1%	7.3%	2.6%	2.0%	3.9%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	4.2%	2.1%	1.0%	0.0%	100.0%
Road 5	5	50	39.2	N	1000-1100	1002	51.4%	20.0%	0.1%	7.9%	2.8%	2.5%	4.9%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	4.2%	1.6%	1.3%	0.0%	100.0%
Road 5	5	50	39.6	N	1100-1200	951	51.2%	21.1%	0.1%	7.8%	2.8%	2.4%	4.8%	0.0%	0.1%	0.9%	0.5%	0.4%	0.8%	0.0%	4.3%	1.4%	1.3%	0.0%	100.0%
Road 5	5	50	35.5	N	1200-1300	1610	53.2%	20.5%	0.1%	7.0%	2.5%	2.5%	4.9%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	2.5%	1.6%	1.3%	0.0%	100.0%
Road 5	5	50	35.4	N	1300-1400	1621	52.1%	20.1%	0.1%	6.4%	3.0%	2.6%	5.1%	0.0%	0.1%	0.7%	0.7%	0.5%	1.1%	0.0%	2.5%	1.6%	1.3%	0.0%	100.0%
Road 5	5	50	34.6	N	1400-1500	1750	51.6%	20.9%	0.1%	7.4%	2.6%	2.5%	4.9%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	2.4%	1.9%	1.3%	0.0%	100.0%
Road 5	5	50	34.4	N	1500-1600	1785	51.4%	20.7%	0.1%	8.6%	3.1%	2.2%	4.3%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	2.4%	1.9%	1.1%	0.0%	100.0%
Road 5	5	50	33.5	N	1600-1700	1936	53.6%	18.5%	0.1%	6.6%	2.4%	2.1%	4.1%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	2.6%	2.5%	1.1%	0.0%	100.0%
Road 5	5	50	32.2	N	1700-1800	2252	57.8%	18.1%	0.1%	5.8%	2.1%	1.3%	2.6%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	2.5%	5.0%	0.7%	0.0%	100.0%
Road 5	5	50	30.8	N	1800-1900	2557	67.4%	15.8%	0.0%	3.4%	1.2%	0.7%	1.4%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	2.5%	3.2%	0.4%	0.0%	100.0%
Road 5	5	50	33.8	N	1900-2000	2051	65.3%	20.5%	0.0%	2.6%	0.9%	0.6%	1.2%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	2.8%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	36.5	N	2000-2100	1593	60.3%	25.6%	0.0%	2.7%	1.0%	0.6%	1.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	3.0%	2.4%	0.3%	0.0%	100.0%
Road 5	5	50	36.6	N	2100-2200	1588	61.6%	25.5%	0.0%	2.8%	1.0%	0.6%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	2.6%	2.8%	0.3%	0.0%	100.0%
Road 5	5	50	36.9	N	2200-2300	1550	60.8%	27.5%	0.0%	2.2%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.8%	2.3%	0.4%	0.0%	100.0%
Road 5	5	50	39.0	N	2300-0000	1155	59.9%	27.0%	0.0%	2.4%	0.9%	0.8%	1.5%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	2.8%	2.2%	0.4%	0.0%	100.0%
Road 6	6	50	43.8	N	0000-0100	538	48.0%	21.5%	0.1%	8.9%	3.2%	2.8%	5.6%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	4.1%	2.4%	1.8%	0.0%	100.0%
Road 6	6	50	45.9	N	0100-0200	356	46.4%	20.8%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	4.0%	2.6%	2.1%	0.0%	100.0%
Road 6	6	50	46.9	N	0200-0300	264	44.9%	20.0%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.9%	2.8%	2.4%	0.0%	100.0%
Road 6	6	50	47.5	N	0300-0400	212	43.4%	19.3%	0.1%	11.1%	4.0%	3.5%	6.8%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	3.8%	3.1%	2.7%	0.0%	100.0%
Road 6	6	50	47.2	N	0400-0500	235	42.0%	18.6%	0.1%	11.8%	4.2%	3.7%	7.3%	0.0%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	3.7%	3.3%	2.7%	0.0%	100.0%
Road 6	6	50	45.0	N	0500-0600	412	40.8%	17.9%	0.1%	12.5%	4.5%	3.9%	7.7%	0.0%	0.1%	0.5%	0.8%	0.5%	1.1%	0.0%	3.7%	3.5%	2.6%	0.0%	100.0%
Road 6	6	50	39.5	N	0600-0700	893	39.5%	17.3%	0.1%	13.2%	4.7%	4.1%	8.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	3.6%	3.7%	2.3%	0.0%	100.0%
Road 6	6	50	32.9	N	0700-0800	1834	38.1%	16.6%	0.1%	13.9%	5.0%	4.3%	8.5%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	3.5%	3.9%	2.6%	0.0%	100.0%
Road 6	6	50	30.9	N	0800-0900	2137	42.2%	13.5%	0.2%	15.0%	5.4%	4.2%	8.2%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	3.1%	2.5%	2.5%	0.0%	100.0%
Road 6	6	50	31.7	N	0900-1000	1919	35.4%	12.8%	0.2%	19.3%	6.9%	5.3%	10.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.9%	1.4%	3.1%	0.0%	100.0%
Road 6	6	50	32.7	N	1000-1100	1732	32.1%	12.4%	0.2%	19.9%	7.1%	6.3%	12.4%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	2.8%	1.0%	3.7%	0.0%	100.0%
Road 6	6	50	33.5	N	1100-1200	1635	32.1%	13.2%	0.2%	19.9%	7.1%	6.2%	12.2%	0.0%	0.1%	0.6%	0.8%	0.6%	1.2%	0.0%	2.9%	0.9%	3.6%	0.0%	100.0%
Road 6	6	50	33.4	N	1200-1300	1593	29.1%	11.2%	0.2%	20.4%	7.3%	7.3%	14.4%	0.0%	0.1%	0.5%	0.5%	0.3%	0.8%	0.0%	3.0%	0.9%	4.2%	0.0%	100.0%
Road 6	6	50	32.6	N	1300-1400	1690	27.0%	10.4%	0.2%	23.3%	8.4%	7.2%	14.2%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	2.8%	0.8%	4.1%	0.0%	100.0%
Road 6	6	50	32.2	N	1400-1500	1750	27.9%	11.3%	0.2%	21.3%	7.6%	7.2%	14.2%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.8%	1.0%	4.1%	0.0%	100.0%
Road 6	6	50	31.9	N	1500-1600	1804	27.5%	11.0%	0.3%	24.4%	8.8%	6.2%	12.2%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.8%	1.0%	3.6%	0.0%	100.0%
Road 6	6	50	31.8	N	1600-1700	1823	30.8%	10.6%	0.2%	20.3%	7.3%	6.3%	12.5%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	3.2%	1.4%	3.7%	0.0%	100.0%
Road 6	6	50	32.0	N	1700-1800	1916	36.7%	11.5%	0.2%	19.5%	7.0%	4.4%	8.7%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	3.5%	3.2%	2.6%	0.0%	100.0%
Road 6	6	50	33.2	N	1800-1900	1860	50.0%	11.7%	0.1%	13.6%	4.9%	2.8%	5.6%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.0%	2.4%	1.8%	0.0%	100.0%
Road 6	6	50	36.3	N	1900-2000	1421	50.9%	15.9%	0.1%	10.8%	3.9%	2.6%	5.1%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.8%	1.9%	1.5%	0.0%	100.0%
Road 6	6	50	38.3	N	2000-2100	1112	46.7%	19.8%	0.1%	11.4%	4.1%	2.5%	4.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	5.0%	1.9%	1.5%	0.0%	100.0%
Road 6	6	50	38.4	N	2100-2200	1112	47.4%	19.6%	0.1%	11.6%	4.1%	2.7%	5.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	4.4%	2.2%	1.5%	0.0%	100.0%
Road 6	6	50	38.7	N	2200-2300	1061	48.0%	21.7%	0.1%	9.1%	3.3%	2.9%	5.7%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	4.8%	1.8%	1.7%	0.0%	100.0%
Road 6	6	50	40.5	N	2300-0000	808	46.3%	20.8%	0.1%	10.0%	3.6%	3.2%	6.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.7%	2.0%	1.9%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 7	7	70	70.0	N	0000-0100	372	56.6%	25.4%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.5%	2.8%	1.1%	0.0%	100.0%
Road 7	7	70	70.0	N	0100-0200	242	55.4%	24.8%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.5%	3.1%	1.4%	0.0%	100.0%
Road 7	7	70	70.0	N	0200-0300	178	54.3%	24.2%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.5%	3.4%	1.8%	0.0%	100.0%
Road 7	7	70	70.0	N	0300-0400	141	53.1%	23.6%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	3.4%	3.7%	2.1%	0.0%	100.0%
Road 7	7	70	70.0	N	0400-0500	154	52.2%	23.1%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.4%	4.1%	2.1%	0.0%	100.0%
Road 7	7	70	70.0	N	0500-0600	266	51.4%	22.6%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	3.4%	4.4%	1.6%	0.0%	100.0%
Road 7	7	70	70.0	N	0600-0700	568	50.5%	22.1%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	3.4%	4.7%	1.3%	0.0%	100.0%
Road 7	7	70	68.7	N	0700-0800	1152	49.3%	21.5%	0.1%	6.4%	2.3%	2.0%	3.9%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.3%	5.1%	1.7%	0.0%	100.0%
Road 7	7	70	63.9	N	0800-0900	1333	55.1%	17.6%	0.1%	6.9%	2.5%	1.9%	3.8%	0.0%	0.1%	0.8%	1.1%	0.7%	1.6%	0.0%	4.0%	3.4%	0.7%	0.0%	100.0%
Road 7	7	70	66.9	N	0900-1000	1100	50.2%	18.2%	0.1%	9.8%	3.5%	2.7%	5.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	4.2%	2.1%	1.0%	0.0%	100.0%
Road 7	7	70	69.0	N	1000-1100	953	47.4%	18.4%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	4.2%	1.6%	1.3%	0.0%	100.0%
Road 7	7	70	69.9	N	1100-1200	904	47.2%	19.5%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	4.3%	1.4%	1.3%	0.0%	100.0%
Road 7	7	70	59.5	N	1200-1300	1395	39.4%	15.2%	0.2%	14.5%	5.2%	5.2%	10.2%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	2.8%	1.2%	3.2%	0.0%	100.0%
Road 7	7	70	52.4	N	1300-1400	1448	37.4%	14.4%	0.2%	17.0%	6.1%	5.3%	10.3%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	2.6%	1.1%	3.2%	0.0%	100.0%
Road 7	7	70	44.7	N	1400-1500	1526	38.0%	15.4%	0.2%	15.3%	5.5%	5.2%	10.2%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	2.6%	1.4%	3.1%	0.0%	100.0%
Road 7	7	70	41.6	N	1500-1600	1565	37.6%	15.1%	0.2%	17.6%	6.3%	4.5%	8.8%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	2.5%	1.4%	2.8%	0.0%	100.0%
Road 7	7	70	35.1	N	1600-1700	1631	40.9%	14.1%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	1.0%	1.2%	0.8%	1.8%	0.0%	2.9%	1.9%	2.7%	0.0%	100.0%
Road 7	7	70	28.9	N	1700-1800	1796	46.5%	14.5%	0.1%	13.0%	4.7%	3.0%	5.8%	0.0%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	3.0%	4.0%	1.9%	0.0%	100.0%
Road 7	7	70	30.2	N	1800-1900	1882	58.8%	13.8%	0.1%	8.4%	3.0%	1.8%	3.5%	0.0%	0.0%	0.1%	1.0%	0.7%	1.6%	0.0%	3.2%	2.8%	1.3%	0.0%	100.0%
Road 7	7	70	62.1	N	1900-2000	1472	58.4%	18.3%	0.1%	6.5%	2.3%	1.6%	3.1%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	3.7%	2.2%	0.9%	0.0%	100.0%
Road 7	7	70	67.1	N	2000-2100	1148	53.7%	22.8%	0.1%	6.9%	2.5%	1.5%	3.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	3.9%	2.1%	0.9%	0.0%	100.0%
Road 7	7	70	67.4	N	2100-2200	1146	54.7%	22.6%	0.1%	7.0%	2.5%	1.6%	3.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.4%	2.5%	1.0%	0.0%	100.0%
Road 7	7	70	68.0	N	2200-2300	1107	54.7%	24.7%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.7%	2.1%	1.1%	0.0%	100.0%
Road 7	7	70	70.0	N	2300-0000	833	53.3%	24.0%	0.1%	6.0%	2.2%	1.9%	3.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.7%	2.4%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0000-0100	31	42.0%	18.8%	0.0%	4.6%	1.7%	1.5%	2.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.2%	24.1%	2.1%	0.7%	0.0%	100.0%
Road 8	8	70	70.0	N	0100-0200	20	41.1%	18.4%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.2%	0.4%	0.3%	0.7%	0.2%	23.9%	2.3%	0.8%	0.0%	100.0%
Road 8	8	70	70.0	N	0200-0300	15	40.3%	17.9%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.2%	23.6%	2.6%	0.9%	0.0%	100.0%
Road 8	8	70	70.0	N	0300-0400	12	39.4%	17.5%	0.1%	5.9%	2.1%	1.9%	3.7%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.2%	23.4%	2.8%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0400-0500	13	38.5%	17.0%	0.1%	6.4%	2.3%	2.0%	3.9%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.2%	23.2%	3.0%	1.0%	0.0%	100.0%
Road 8	8	70	70.0	N	0500-0600	23	37.7%	16.6%	0.1%	6.8%	2.4%	2.1%	4.2%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.2%	22.9%	3.2%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	0600-0700	49	36.8%	16.1%	0.1%	7.2%	2.6%	2.3%	4.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.2%	0.2%	22.7%	3.4%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0700-0800	98	35.9%	15.6%	0.1%	7.7%	2.8%	2.4%	4.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.2%	22.5%	3.7%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0800-0900	112	40.9%	13.1%	0.1%	8.5%	3.1%	2.4%	4.7%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.1%	20.4%	2.4%	1.2%	0.0%	100.0%
Road 8	8	70	70.0	N	0900-1000	95	36.0%	13.1%	0.1%	11.6%	4.2%	3.2%	6.2%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	20.3%	1.4%	1.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1000-1100	84	33.6%	13.0%	0.1%	12.3%	4.4%	3.9%	7.7%	0.0%	0.0%	0.4%	0.6%	0.4%	0.8%	0.1%	19.8%	1.0%	2.0%	0.0%	100.0%
Road 8	8	70	70.0	N	1100-1200	80	33.4%	13.1%	0.1%	12.2%	4.4%	3.8%	7.5%	0.0%	0.1%	0.6%	0.8%	0.5%	1.0%	0.0%	20.3%	0.9%	2.0%	0.1%	100.0%
Road 8	8	70	70.0	N	1200-1300	229	29.6%	11.4%	0.2%	16.8%	6.1%	6.0%	11.9%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	2.9%	0.8%	3.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1300-1400	240	27.9%	10.7%	0.2%	19.5%	7.0%	6.0%	11.9%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	2.8%	0.8%	3.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1400-1500	250	28.6%	11.6%	0.2%	17.7%	6.4%	6.0%	11.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.8%	1.0%	4.1%	0.0%	100.0%
Road 8	8	70	70.0	N	1500-1600	257	28.3%	11.3%	0.2%	20.4%	7.3%	5.2%	10.2%	0.0%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	2.8%	1.0%	3.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1600-1700	265	31.0%	10.7%	0.2%	16.6%	6.0%	5.2%	10.2%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	3.2%	1.4%	3.7%	0.0%	100.0%
Road 8	8	70	70.0	N	1700-1800	285	36.1%	11.3%	0.2%	15.6%	5.6%	3.5%	6.9%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	3.5%	3.2%	2.6%	0.0%	100.0%
Road 8	8	70	70.0	N	1800-1900	288	47.3%	11.1%	0.1%	10.5%	3.8%	2.2%	4.3%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	4.0%	2.4%	1.8%	0.0%	100.0%
Road 8	8	70	70.0	N	1900-2000	227	46.7%	14.6%	0.1%	8.0%	2.9%	1.9%	3.8%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.8%	1.9%	1.5%	0.0%	100.0%
Road 8	8	70	70.0	N	2000-2100	178	42.6%	18.1%	0.1%	8.4%	3.0%	1.9%	3.7%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	5.0%	2.0%	1.7%	0.0%	100.0%
Road 8	8	70	70.0	N	2100-2200	175	44.1%	18.2%	0.1%	8.7%	3.1%	2.0%	3.9%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	4.4%	2.2%	1.5%	0.0%	100.0%
Road 8	8	70	70.0	N	2200-2300	170	43.8%	19.8%	0.1%	6.7%	2.4%	2.1%	4.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	17.0%	1.7%	1.1%	0.0%	100.0%
Road 8	8	70	70.0	N	2300-0000	128	42.6%	19.2%	0.1%	7.4%	2.7%	2.4%	4.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	16.7%	1.9%	1.2%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

| Road Name |

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 13	13	50	27.6	N	0000-0100	20	4.7%	2.1%	0.0%	0.9%	0.3%	0.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	90.8%	0.0%	100.0%
Road 13	13	50	27.6	N	0100-0200	20	3.1%	1.4%	0.0%	0.7%	0.2%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	93.7%	0.0%	100.0%
Road 13	13	50	27.6	N	0200-0300	19	2.3%	1.0%	0.0%	0.5%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	95.3%	0.0%	100.0%
Road 13	13	50	27.7	N	0300-0400	19	1.8%	0.8%	0.0%	0.5%	0.2%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	96.2%	0.0%	100.0%
Road 13	13	50	27.6	N	0400-0500	19	1.9%	0.8%	0.0%	0.6%	0.2%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	95.7%	0.0%	100.0%
Road 13	13	50	27.6	N	0500-0600	20	3.1%	1.4%	0.0%	1.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	92.8%	0.0%	100.0%
Road 13	13	50	27.5	N	0600-0700	22	6.0%	2.6%	0.0%	2.1%	0.8%	0.7%	1.3%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	85.5%	0.0%	100.0%
Road 13	13	50	24.1	N	0700-0800	77	2.3%	1.4%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.1%	0.1%	0.6%	0.9%	0.6%	0.1%	0.1%	0.3%	91.7%	0.0%	100.0%
Road 13	13	50	24.1	N	0800-0900	78	4.2%	1.3%	0.0%	1.6%	0.6%	0.4%	0.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	90.4%	0.0%	100.0%
Road 13	13	50	24.1	N	0900-1000	78	3.2%	1.2%	0.0%	1.8%	0.7%	0.5%	1.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	91.3%	0.0%	100.0%
Road 13	13	50	24.1	N	1000-1100	77	2.6%	1.0%	0.0%	1.7%	0.6%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	92.1%	0.0%	100.0%
Road 13	13	50	24.1	N	1100-1200	77	2.5%	1.0%	0.0%	1.6%	0.6%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	92.5%	0.0%	100.0%
Road 13	13	50	24.1	N	1200-1300	77	2.8%	1.1%	0.0%	1.5%	0.5%	0.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	92.1%	0.0%	100.0%
Road 13	13	50	24.1	N	1300-1400	77	2.8%	1.1%	0.0%	1.8%	0.7%	0.6%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	91.7%	0.0%	100.0%
Road 13	13	50	24.1	N	1400-1500	78	2.9%	1.2%	0.0%	1.7%	0.6%	0.6%	1.2%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	91.4%	0.0%	100.0%
Road 13	13	50	24.1	N	1500-1600	78	3.0%	1.2%	0.0%	2.0%	0.7%	0.5%	1.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	91.1%	0.0%	100.0%
Road 13	13	50	24.1	N	1600-1700	78	3.4%	1.2%	0.0%	2.1%	0.8%	0.6%	1.1%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	91.0%	0.0%	100.0%
Road 13	13	50	24.1	N	1700-1800	79	4.2%	1.3%	0.0%	1.7%	0.6%	0.4%	0.8%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	90.3%	0.0%	100.0%
Road 13	13	50	24.1	N	1800-1900	79	5.6%	1.3%	0.0%	1.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.3%	90.2%	0.0%	100.0%
Road 13	13	50	27.6	N	1900-2000	24	13.9%	4.4%	0.0%	2.3%	0.8%	0.5%	1.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	75.7%	0.0%	100.0%
Road 13	13	50	27.4	N	2000-2100	23	10.6%	4.5%	0.0%	2.0%	0.7%	0.4%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	80.0%	0.0%	100.0%
Road 13	13	50	27.4	N	2100-2200	23	10.7%	4.4%	0.0%	2.0%	0.7%	0.5%	0.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	79.9%	0.0%	100.0%
Road 13	13	50	27.4	N	2200-2300	22	10.4%	4.7%	0.0%	1.5%	0.5%	0.5%	1.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	80.7%	0.0%	100.0%
Road 13	13	50	27.5	N	2300-0000	22	8.1%	3.6%	0.0%	1.3%	0.5%	0.4%	0.8%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	84.7%	0.0%	100.0%
Road 14	14	50	44.2	N	0000-0100	528	53.3%	23.9%	0.1%	5.0%	1.8%	1.6%	3.1%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.5%	2.7%	4.3%	0.0%	100.0%
Road 14	14	50	46.0	N	0100-0200	351	51.2%	22.9%	0.1%	5.3%	1.9%	1.7%	3.3%	0.1%	0.0%	0.3%	0.6%	0.4%	0.8%	0.0%	2.4%	2.9%	6.1%	0.0%	100.0%
Road 14	14	50	46.9	N	0200-0300	262	49.1%	21.9%	0.1%	5.7%	2.0%	1.8%	3.5%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.3%	3.1%	7.9%	0.0%	100.0%
Road 14	14	50	47.5	N	0300-0400	212	47.2%	20.9%	0.1%	6.0%	2.2%	1.9%	3.7%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.3%	3.3%	9.7%	0.0%	100.0%
Road 14	14	50	47.2	N	0400-0500	231	46.5%	20.5%	0.1%	6.5%	2.3%	2.0%	4.0%	0.1%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.3%	3.6%	9.0%	0.0%	100.0%
Road 14	14	50	45.5	N	0500-0600	389	47.0%	20.7%	0.1%	7.2%	2.6%	2.3%	4.4%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.3%	4.0%	5.9%	0.0%	100.0%
Road 14	14	50	40.6	N	0600-0700	816	47.1%	20.6%	0.1%	7.9%	2.8%	2.5%	4.9%	0.1%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.4%	4.4%	3.5%	0.0%	100.0%
Road 14	14	50	34.4	N	0700-0800	1691	45.0%	19.6%	0.1%	8.2%	2.9%	2.6%	5.0%	0.1%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.3%	4.6%	5.5%	0.0%	100.0%
Road 14	14	50	32.8	N	0800-0900	1952	50.3%	16.1%	0.1%	8.9%	3.2%	2.5%	4.9%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	2.0%	2.9%	4.9%	0.0%	100.0%
Road 14	14	50	34.2	N	0900-1000	1659	44.5%	16.2%	0.1%	12.2%	4.4%	3.3%	6.5%	0.1%	0.1%	0.4%	0.8%	0.5%	1.1%	0.0%	2.0%	1.7%	6.0%	0.0%	100.0%
Road 14	14	50	35.3	N	1000-1100	1463	41.3%	16.0%	0.1%	12.8%	4.6%	4.1%	8.0%	0.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	2.0%	1.3%	6.9%	0.0%	100.0%
Road 14	14	50	35.8	N	1100-1200	1388	41.1%	17.0%	0.1%	12.7%	4.6%	4.0%	7.8%	0.1%	0.1%	0.7%	0.8%	0.4%	0.9%	0.0%	2.0%	1.2%	7.1%	0.0%	100.0%
Road 14	14	50	33.6	N	1200-1300	1612	35.0%	13.5%	0.2%	15.7%	5.6%	5.6%	11.1%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	2.4%	1.0%	7.3%	0.0%	100.0%
Road 14	14	50	33.0	N	1300-1400	1682	33.1%	12.7%	0.2%	18.3%	6.6%	5.7%	11.1%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	2.2%	1.0%	7.1%	0.0%	100.0%
Road 14	14	50	32.5	N	1400-1500	1759	33.8%	13.7%	0.2%	16.5%	5.9%	5.6%	11.0%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	2.3%	1.3%	6.9%	0.0%	100.0%
Road 14	14	50	32.3	N	1500-1600	1806	33.5%	13.4%	0.2%	19.0%	6.8%	4.8%	9.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	2.2%	1.2%	6.4%	0.0%	100.0%
Road 14	14	50	32.0	N	1600-1700	1862	36.7%	12.7%	0.2%	15.5%	5.6%	4.8%	9.5%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	2.5%	1.7%	6.3%	0.0%	100.0%
Road 14	14	50	31.7	N	1700-1800	2017	42.5%	13.3%	0.2%	14.5%	5.2%	3.3%	6.5%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.7%	3.7%	5.2%	0.0%	100.0%
Road 14	14	50	32.1	N	1800-1900	2066	54.9%	12.9%	0.1%	9.6%	3.4%	2.0%	3.9%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	2.9%	2.6%	4.5%	0.0%	100.0%
Road 14	14	50	35.7	N	1900-2000	1572	56.1%	17.6%	0.1%	7.6%	2.7%	1.8%	3.6%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	3.5%	2.1%	2.1%	0.0%	100.0%
Road 14	14	50	37.8	N	2000-2100	1231	51.4%	21.8%	0.1%	8.0%	2.9%	1.8%	3.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	3.6%	2.1%	2.4%	0.0%	100.0%
Road 14	14	50	37.9	N	2100-2200	1230	52.3%	21.6%	0.1%	8.2%	2.9%	1.9%	3.7%	0.0%	0.0%	0.1%	0.1%	0.4%	0.3%	0.0%	3.2%	2.4%	2.5%	0.0%	100.0%
Road 14	14	50	38.2	N	2200-2300	1184	52.4%	23.7%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.5%	2.0%	2.6%	0.0%	100.0%
Road 14	14	50	39.9	N	2300-0000	898	50.8%	22.9%	0.1%	7.0%	2.5%	2.2%	4.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.4%	2.2%	3.2%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 15	15	50	47.4	N	0000-0100	111	50.4%	22.6%	0.0%	3.5%	1.2%	1.1%	2.2%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.9%	2.5%	13.9%	0.0%	100.0%
Road 15	15	50	48.0	N	0100-0200	77	46.2%	20.7%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	0.8%	2.6%	19.6%	0.0%	100.0%
Road 15	15	50	48.4	N	0200-0300	61	42.4%	18.9%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.8%	2.7%	24.9%	0.0%	100.0%
Road 15	15	50	48.6	N	0300-0400	51	39.0%	17.3%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.7%	2.7%	29.5%	0.0%	100.0%
Road 15	15	50	48.5	N	0400-0500	55	39.3%	17.4%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.7%	3.1%	27.7%	0.0%	100.0%
Road 15	15	50	47.8	N	0500-0600	84	43.5%	19.1%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.8%	3.7%	18.4%	0.0%	100.0%
Road 15	15	50	46.1	N	0600-0700	163	47.0%	20.6%	0.1%	5.8%	2.1%	1.8%	3.6%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.9%	4.4%	10.0%	0.0%	100.0%
Road 15	15	50	40.9	N	0700-0800	356	42.5%	18.5%	0.1%	5.7%	2.0%	1.8%	3.5%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.8%	4.3%	16.9%	0.0%	100.0%
Road 15	15	50	39.9	N	0800-0900	405	48.3%	15.5%	0.1%	6.3%	2.3%	1.8%	3.5%	0.0%	0.1%	0.7%	0.9%	0.7%	1.4%	0.0%	0.7%	2.8%	14.9%	0.0%	100.0%
Road 15	15	50	40.9	N	0900-1000	344	42.8%	15.5%	0.1%	8.6%	3.1%	2.3%	4.6%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.7%	1.7%	17.7%	0.0%	100.0%
Road 15	15	50	41.6	N	1000-1100	306	39.4%	15.3%	0.1%	9.0%	3.2%	2.9%	5.8%	0.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.7%	1.2%	20.0%	0.0%	100.0%
Road 15	15	50	42.0	N	1100-1200	292	38.9%	16.0%	0.1%	8.9%	3.2%	2.8%	5.5%	0.0%	0.1%	0.7%	0.4%	0.3%	0.6%	0.0%	0.7%	1.1%	20.8%	0.0%	100.0%
Road 15	15	50	38.9	N	1200-1300	422	31.1%	12.0%	0.2%	15.2%	5.5%	5.5%	10.7%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.5%	0.9%	16.3%	0.0%	100.0%
Road 15	15	50	38.6	N	1300-1400	440	29.3%	11.3%	0.2%	17.7%	6.3%	5.5%	10.8%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	0.5%	0.9%	15.7%	0.0%	100.0%
Road 15	15	50	38.4	N	1400-1500	457	30.2%	12.2%	0.2%	16.1%	5.8%	5.5%	10.7%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	0.5%	1.1%	15.2%	0.0%	100.0%
Road 15	15	50	38.3	N	1500-1600	469	29.9%	12.0%	0.2%	18.6%	6.7%	4.7%	9.3%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.5%	1.1%	14.5%	0.0%	100.0%
Road 15	15	50	38.2	N	1600-1700	479	33.1%	11.4%	0.2%	15.3%	5.5%	4.8%	9.4%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	0.5%	1.6%	14.3%	0.0%	100.0%
Road 15	15	50	38.1	N	1700-1800	512	38.8%	12.1%	0.2%	14.5%	5.2%	3.3%	6.4%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.6%	2.2%	12.8%	0.0%	100.0%
Road 15	15	50	38.4	N	1800-1900	518	50.8%	11.9%	0.1%	9.7%	3.5%	2.0%	4.0%	0.0%	0.0%	0.1%	0.9%	0.6%	1.4%	0.0%	0.6%	2.4%	12.0%	0.0%	100.0%
Road 15	15	50	41.6	N	1900-2000	371	55.1%	17.3%	0.1%	8.2%	2.9%	1.9%	3.8%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.0%	0.8%	2.0%	5.0%	0.0%	100.0%
Road 15	15	50	43.3	N	2000-2100	293	50.2%	21.3%	0.1%	8.5%	3.1%	1.9%	3.7%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.9%	2.0%	6.0%	0.0%	100.0%
Road 15	15	50	43.3	N	2100-2200	294	50.9%	21.0%	0.1%	8.7%	3.1%	2.0%	3.9%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.7%	2.3%	6.1%	0.0%	100.0%
Road 15	15	50	43.6	N	2200-2300	282	51.1%	23.1%	0.1%	6.8%	2.4%	2.2%	4.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.8%	2.0%	6.3%	0.0%	100.0%
Road 15	15	50	44.9	N	2300-0000	217	48.8%	22.0%	0.1%	7.3%	2.6%	2.3%	4.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.8%	2.2%	8.0%	0.0%	100.0%
Road 16	16	70	67.0	N	0000-0100	417	54.0%	24.2%	0.1%	5.4%	1.9%	1.7%	3.3%	0.2%	0.0%	0.2%	0.5%	0.3%	0.8%	0.0%	2.9%	2.7%	1.7%	0.0%	100.0%
Road 16	16	70	68.0	N	0100-0200	274	52.6%	23.5%	0.1%	5.8%	2.1%	1.8%	3.6%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.4%	2.9%	6.1%	0.0%	100.0%
Road 16	16	70	68.5	N	0200-0300	202	51.2%	22.8%	0.1%	6.3%	2.3%	2.0%	3.9%	0.2%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.3%	3.1%	7.9%	0.0%	100.0%
Road 16	16	70	68.8	N	0300-0400	161	49.8%	22.1%	0.1%	6.8%	2.4%	2.1%	4.2%	0.2%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.4%	3.3%	9.7%	0.0%	100.0%
Road 16	16	70	68.7	N	0400-0500	177	48.7%	21.5%	0.1%	7.3%	2.6%	2.3%	4.5%	0.2%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.3%	3.6%	9.0%	0.0%	100.0%
Road 16	16	70	68.9	N	0500-0600	306	48.0%	21.1%	0.1%	7.8%	2.8%	2.5%	4.8%	0.2%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	2.3%	4.0%	5.9%	0.0%	100.0%
Road 16	16	70	65.1	N	0600-0700	654	47.1%	20.6%	0.1%	8.4%	3.0%	2.6%	5.2%	0.2%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.4%	4.4%	3.5%	0.0%	100.0%
Road 16	16	70	48.5	N	0700-0800	1335	45.6%	19.9%	0.1%	8.9%	3.2%	2.8%	5.5%	0.2%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	2.3%	4.6%	5.5%	0.0%	100.0%
Road 16	16	70	40.8	N	0800-0900	1548	50.9%	16.3%	0.1%	9.6%	3.5%	2.7%	5.3%	0.1%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	2.0%	2.9%	4.9%	0.0%	100.0%
Road 16	16	70	47.3	N	0900-1000	1316	45.0%	16.3%	0.1%	13.1%	4.7%	3.6%	7.0%	0.2%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.0%	1.7%	6.0%	0.0%	100.0%
Road 16	16	70	51.8	N	1000-1100	1158	41.8%	16.2%	0.1%	13.8%	5.0%	4.4%	8.6%	0.2%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	2.0%	1.3%	6.9%	0.0%	100.0%
Road 16	16	70	54.3	N	1100-1200	1096	41.7%	17.2%	0.1%	13.8%	4.9%	4.3%	8.5%	0.2%	0.1%	0.6%	0.8%	0.4%	1.0%	0.0%	2.0%	1.2%	7.1%	0.0%	100.0%
Road 16	16	70	48.3	N	1200-1300	1190	36.4%	14.0%	0.2%	15.9%	5.7%	5.7%	11.2%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	2.4%	1.0%	7.3%	0.0%	100.0%
Road 16	16	70	45.9	N	1300-1400	1242	34.4%	13.3%	0.2%	18.5%	6.6%	5.7%	11.2%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	2.2%	1.0%	7.1%	0.0%	100.0%
Road 16	16	70	43.9	N	1400-1500	1302	35.1%	14.2%	0.2%	16.7%	6.0%	5.6%	11.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.3%	1.3%	6.9%	0.0%	100.0%
Road 16	16	70	43.0	N	1500-1600	1337	34.7%	13.9%	0.2%	19.2%	6.9%	4.9%	9.6%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	2.2%	1.2%	6.4%	0.0%	100.0%
Road 16	16	70	41.1	N	1600-1700	1383	38.0%	13.1%	0.2%	15.6%	5.6%	4.9%	9.6%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	2.5%	1.7%	6.3%	0.0%	100.0%
Road 16	16	70	39.1	N	1700-1800	1504	43.8%	13.7%	0.2%	14.5%	5.2%	3.3%	6.5%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	2.7%	3.7%	5.2%	0.0%	100.0%
Road 16	16	70	41.5	N	1800-1900	1548	56.3%	13.2%	0.1%	9.5%	3.4%	2.0%	3.9%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	2.9%	2.6%	4.5%	0.0%	100.0%
Road 16	16	70	54.4	N	1900-2000	1201	56.4%	17.7%	0.1%	7.4%	2.7%	1.8%	3.5%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	3.5%	2.1%	2.1%	0.0%	100.0%
Road 16	16	70	63.0	N	2000-2100	938	51.8%	22.0%	0.1%	7.9%	2.8%	1.7%	3.4%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.0%	3.6%	2.1%	2.4%	0.0%	100.0%
Road 16	16	70	63.1	N	2100-2200	936	52.8%	21.8%	0.1%	8.0%	2.9%	1.8%	3.6%	0.0%	0.0%	0.1%	0.1%	0.4%	0.3%	0.0%	3.2%	2.4%	2.5%	0.0%	100.0%
Road 16	16	70	63.4	N	2200-2300	902	52.8%	23.9%	0.1%	6.2%	2.2%	2.0%	3.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.5%	2.0%	2.6%	0.0%	100.0%
Road 16	16	70	64.9	N	2300-0000	681	51.4%	23.2%	0.1%	6.9%	2.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.4%	2.2%	3.2%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

| Road Name | Road ID | Speed Limit (km/hr) | Average Speed (km/hr) | Start Emission Estimated by Broad Brush Approach (Y/N) | Hour | Total Vehicles (Veh/hr) | 01 - Private Cars | 02 - Taxi | 03 - Light

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 21	21	70	68.2	N	0000-0100	485	46.9%	21.1%	0.1%	10.0%	3.6%	3.2%	6.2%	0.1%	0.0%	0.2%	0.4%	0.3%	0.7%	0.0%	2.4%	2.4%	2.4%	0.0%	100.0%
Road 21	21	70	68.8	N	0100-0200	322	45.2%	20.2%	0.1%	10.8%	3.9%	3.4%	6.7%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.3%	2.6%	2.9%	0.0%	100.0%
Road 21	21	70	69.1	N	0200-0300	240	43.5%	19.4%	0.1%	11.5%	4.1%	3.6%	7.1%	0.1%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	2.3%	2.8%	3.4%	0.0%	100.0%
Road 21	21	70	69.3	N	0300-0400	193	41.8%	18.6%	0.1%	12.2%	4.4%	3.8%	7.6%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.2%	2.9%	3.9%	0.0%	100.0%
Road 21	21	70	69.2	N	0400-0500	215	40.4%	17.9%	0.1%	13.0%	4.7%	4.1%	8.0%	0.1%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	2.2%	3.1%	3.8%	0.0%	100.0%
Road 21	21	70	68.5	N	0500-0600	377	39.3%	17.3%	0.1%	13.8%	5.0%	4.3%	8.5%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.1%	3.4%	3.2%	0.0%	100.0%
Road 21	21	70	66.8	N	0600-0700	816	38.1%	16.7%	0.2%	14.6%	5.3%	4.6%	9.0%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.1%	3.6%	2.8%	0.0%	100.0%
Road 21	21	70	63.4	N	0700-0800	1684	36.5%	15.9%	0.2%	15.3%	5.5%	4.8%	9.4%	0.1%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	2.0%	3.7%	3.3%	0.0%	100.0%
Road 21	21	70	59.8	N	0800-0900	1967	40.4%	12.9%	0.2%	16.5%	5.9%	4.6%	9.1%	0.1%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	1.8%	2.3%	3.1%	0.0%	100.0%
Road 21	21	70	61.3	N	0900-1000	1793	33.4%	12.1%	0.2%	20.9%	7.5%	5.7%	11.2%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	1.7%	1.3%	3.7%	0.0%	100.0%
Road 21	21	70	63.1	N	1000-1100	1629	30.0%	11.7%	0.2%	21.4%	7.7%	6.8%	13.4%	0.1%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	1.6%	0.9%	4.3%	0.0%	100.0%
Road 21	21	70	63.5	N	1100-1200	1538	30.1%	12.4%	0.2%	21.4%	7.7%	6.7%	13.1%	0.1%	0.1%	0.5%	0.3%	0.2%	0.5%	0.0%	1.6%	0.8%	4.3%	0.0%	100.0%
Road 21	21	70	63.4	N	1200-1300	1489	25.0%	9.6%	0.2%	22.9%	8.2%	8.2%	16.2%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	1.9%	0.7%	5.2%	0.0%	100.0%
Road 21	21	70	62.5	N	1300-1400	1596	23.0%	8.9%	0.3%	25.9%	9.3%	8.0%	15.8%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	1.7%	0.7%	5.0%	0.0%	100.0%
Road 21	21	70	61.8	N	1400-1500	1640	23.9%	9.7%	0.2%	23.9%	8.6%	8.1%	15.9%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	1.8%	0.9%	5.0%	0.0%	100.0%
Road 21	21	70	61.1	N	1500-1600	1694	23.5%	9.4%	0.3%	27.4%	9.8%	6.9%	13.6%	0.0%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	1.7%	0.9%	4.4%	0.0%	100.0%
Road 21	21	70	61.4	N	1600-1700	1686	26.8%	9.2%	0.2%	23.1%	8.3%	7.2%	14.2%	0.0%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	2.0%	1.3%	4.5%	0.0%	100.0%
Road 21	21	70	62.5	N	1700-1800	1735	32.6%	10.2%	0.2%	22.7%	8.2%	5.1%	10.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	2.3%	2.8%	3.4%	0.0%	100.0%
Road 21	21	70	63.8	N	1800-1900	1619	46.2%	10.9%	0.2%	16.5%	5.9%	3.4%	6.7%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	2.7%	2.2%	2.6%	0.0%	100.0%
Road 21	21	70	65.5	N	1900-2000	1213	48.0%	15.0%	0.1%	13.3%	4.8%	3.2%	6.2%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.3%	1.8%	1.9%	0.0%	100.0%
Road 21	21	70	66.4	N	2000-2100	951	43.9%	18.6%	0.1%	14.0%	5.0%	3.1%	6.1%	0.0%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	3.4%	1.8%	2.0%	0.0%	100.0%
Road 21	21	70	66.5	N	2100-2200	955	44.4%	18.4%	0.1%	14.1%	5.1%	3.3%	6.4%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.0%	2.0%	2.1%	0.0%	100.0%
Road 21	21	70	66.7	N	2200-2300	903	45.3%	20.5%	0.1%	11.2%	4.0%	3.6%	7.0%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	3.3%	1.7%	2.2%	0.0%	100.0%
Road 21	21	70	67.4	N	2300-0000	693	43.4%	19.6%	0.1%	12.2%	4.4%	3.9%	7.6%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	3.2%	1.9%	2.5%	0.0%	100.0%
Road 22	22	50	26.2	N	0000-0100	48	14.1%	6.3%	0.3%	31.7%	11.4%	10.0%	19.7%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.2%	0.0%	100.0%
Road 22	22	50	27.3	N	0100-0200	34	12.9%	5.8%	0.3%	32.4%	11.7%	10.2%	20.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.7%	5.3%	0.0%	100.0%
Road 22	22	50	27.9	N	0200-0300	26	11.9%	5.3%	0.3%	33.1%	11.9%	10.4%	20.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	5.3%	0.0%	100.0%
Road 22	22	50	28.2	N	0300-0400	22	10.9%	4.9%	0.4%	33.6%	12.1%	10.6%	20.8%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.2%	0.0%	0.0%	0.8%	5.4%	0.0%	100.0%
Road 22	22	50	27.9	N	0400-0500	26	10.1%	4.5%	0.4%	34.1%	12.3%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.5%	0.0%	100.0%
Road 22	22	50	26.1	N	0500-0600	47	9.3%	4.1%	0.4%	34.6%	12.4%	10.8%	21.3%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.6%	0.0%	100.0%
Road 22	22	50	24.2	N	0600-0700	107	8.7%	3.8%	0.4%	35.0%	12.6%	11.0%	21.5%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.6%	0.0%	100.0%
Road 22	22	50	22.2	N	0700-0800	229	8.0%	3.5%	0.4%	35.3%	12.7%	11.1%	21.8%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	5.7%	0.0%	100.0%
Road 22	22	50	21.5	N	0800-0900	273	8.7%	2.8%	0.4%	37.3%	13.4%	10.4%	20.5%	0.0%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	5.4%	0.0%	100.0%
Road 22	22	50	21.0	N	0900-1000	300	6.0%	2.2%	0.4%	39.4%	14.1%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.5%	0.0%	100.0%
Road 22	22	50	21.0	N	1000-1100	293	5.0%	1.9%	0.4%	37.4%	13.4%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	6.1%	0.0%	100.0%
Road 22	22	50	21.3	N	1100-1200	275	5.0%	2.1%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.0%	0.0%	100.0%
Road 22	22	50	21.2	N	1200-1300	283	6.5%	2.5%	0.4%	34.5%	12.4%	12.4%	24.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.4%	0.0%	100.0%
Road 22	22	50	20.7	N	1300-1400	316	5.8%	2.2%	0.4%	37.4%	13.4%	11.6%	22.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.9%	0.0%	100.0%
Road 22	22	50	20.7	N	1400-1500	315	6.2%	2.5%	0.4%	35.6%	12.8%	12.0%	23.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	6.2%	0.0%	100.0%
Road 22	22	50	20.5	N	1500-1600	328	6.0%	2.4%	0.4%	40.0%	14.5%	10.2%	20.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	5.3%	0.0%	100.0%
Road 22	22	50	20.9	N	1600-1700	307	7.3%	2.5%	0.4%	36.2%	13.0%	11.3%	22.2%	0.0%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.8%	0.0%	100.0%
Road 22	22	50	21.4	N	1700-1800	284	9.9%	3.1%	0.4%	39.6%	14.2%	9.0%	17.6%	0.0%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.8%	4.6%	0.0%	100.0%
Road 22	22	50	22.8	N	1800-1900	209	17.7%	4.2%	0.4%	36.4%	13.1%	7.6%	14.9%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	3.9%	0.0%	100.0%
Road 22	22	50	23.8	N	1900-2000	142	20.4%	6.4%	0.3%	32.5%	11.7%	7.8%	15.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.8%	4.0%	0.0%	100.0%
Road 22	22	50	24.3	N	2000-2100	112	18.4%	7.8%	0.4%	33.8%	12.1%	7.4%	14.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	3.8%	0.0%	100.0%
Road 22	22	50	24.3	N	2100-2200	115	18.3%	7.6%	0.4%	33.6%	12.1%	7.7%	15.2%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 22	22	50	24.4	N	2200-2300	102	19.8%	9.0%	0.3%	28.3%	10.2%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.6%	0.0%	100.0%
Road 22	22	50	24.7	N	2300-0000	82	18.1%	8.2%	0.3%	29.3%	10.5%	9.3%	18.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	4.8%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 23	23	50	29.1	N	0000-0100	11	8.7%	3.9%	0.4%	35.1%	12.6%	11.1%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%
Road 23	23	50	29.4	N	0100-0200	8	7.9%	3.5%	0.4%	35.6%	12.8%	11.2%	22.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 23	23	50	29.5	N	0200-0300	6	7.2%	3.2%	0.4%	36.0%	12.9%	11.3%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.8%	0.0%	100.0%
Road 23	23	50	29.6	N	0300-0400	5	6.6%	2.9%	0.4%	36.4%	13.1%	11.4%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.5	N	0400-0500	6	6.0%	2.7%	0.4%	36.7%	13.2%	11.5%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 23	23	50	29.1	N	0500-0600	16	5.6%	2.4%	0.4%	37.0%	13.3%	11.6%	22.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	27.9	N	0600-0700	25	5.1%	2.2%	0.4%	37.3%	13.4%	11.7%	23.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	25.4	N	0700-0800	54	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 23	23	50	24.9	N	0800-0900	65	5.1%	1.6%	0.4%	39.5%	14.2%	11.1%	21.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	0900-1000	72	3.4%	1.2%	0.4%	41.0%	14.7%	11.2%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.7%	0.0%	100.0%
Road 23	23	50	24.8	N	1000-1100	71	2.9%	1.1%	0.4%	38.7%	13.9%	12.3%	24.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 23	23	50	24.9	N	1100-1200	67	2.9%	1.2%	0.4%	38.9%	14.0%	12.2%	23.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 23	23	50	24.8	N	1200-1300	67	3.2%	1.2%	0.4%	36.4%	13.1%	13.0%	25.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.7%	0.0%	100.0%
Road 23	23	50	24.7	N	1300-1400	76	2.8%	1.1%	0.4%	39.1%	14.1%	12.1%	23.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 23	23	50	24.7	N	1400-1500	75	3.1%	1.2%	0.4%	37.4%	13.4%	12.7%	24.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.5%	0.0%	100.0%
Road 23	23	50	24.7	N	1500-1600	78	3.0%	1.2%	0.4%	42.4%	15.2%	10.7%	21.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.5%	0.0%	100.0%
Road 23	23	50	24.8	N	1600-1700	72	3.6%	1.3%	0.4%	38.5%	13.8%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 23	23	50	24.9	N	1700-1800	66	5.0%	1.6%	0.4%	42.9%	15.4%	9.7%	19.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.0%	0.0%	100.0%
Road 23	23	50	26.3	N	1800-1900	46	9.5%	2.2%	0.4%	41.6%	15.0%	8.7%	17.1%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.5%	4.5%	0.0%	100.0%
Road 23	23	50	27.6	N	1900-2000	30	11.3%	3.5%	0.4%	38.3%	13.7%	9.1%	18.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.7%	0.0%	100.0%
Road 23	23	50	28.1	N	2000-2100	24	10.1%	4.3%	0.4%	39.6%	14.2%	8.7%	17.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 23	23	50	28.0	N	2100-2200	25	10.1%	4.2%	0.4%	39.2%	14.1%	9.0%	17.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	4.6%	0.0%	100.0%
Road 23	23	50	28.2	N	2200-2300	22	11.1%	5.0%	0.4%	33.6%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.5%	0.0%	100.0%
Road 23	23	50	28.6	N	2300-0000	18	9.9%	4.5%	0.4%	34.3%	12.3%	10.9%	21.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	28.9	N	0000-0100	13	7.4%	3.3%	0.4%	35.9%	12.9%	11.4%	22.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 24	24	50	29.2	N	0100-0200	9	6.7%	3.0%	0.4%	36.4%	13.1%	11.5%	22.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.9%	0.0%	100.0%
Road 24	24	50	29.4	N	0200-0300	7	6.1%	2.7%	0.4%	36.7%	13.2%	11.6%	22.7%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.5%	5.9%	0.0%	100.0%
Road 24	24	50	29.5	N	0300-0400	6	5.6%	2.5%	0.4%	37.1%	13.3%	11.7%	22.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	6.0%	0.0%	100.0%
Road 24	24	50	29.4	N	0400-0500	7	5.1%	2.3%	0.4%	37.3%	13.4%	11.7%	23.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 24	24	50	28.9	N	0500-0600	13	4.7%	2.1%	0.4%	37.6%	13.5%	11.8%	23.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 24	24	50	27.5	N	0600-0700	30	4.3%	1.9%	0.4%	37.8%	13.6%	11.9%	23.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	6.0%	0.0%	100.0%
Road 24	24	50	24.9	N	0700-0800	64	4.0%	1.7%	0.4%	38.0%	13.7%	11.9%	23.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	6.1%	0.0%	100.0%
Road 24	24	50	24.7	N	0800-0900	77	4.3%	1.4%	0.4%	40.0%	14.4%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.7%	0.0%	100.0%
Road 24	24	50	24.5	N	0900-1000	86	2.9%	1.0%	0.4%	41.3%	14.8%	11.3%	22.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.4%	5.8%	0.0%	100.0%
Road 24	24	50	24.5	N	1000-1100	85	2.4%	0.9%	0.4%	39.0%	14.0%	12.4%	24.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.4%	0.0%	100.0%
Road 24	24	50	24.6	N	1100-1200	79	2.4%	1.0%	0.4%	39.2%	14.1%	12.3%	24.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 24	24	50	24.6	N	1200-1300	80	2.7%	1.0%	0.4%	36.7%	13.2%	13.1%	25.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.8%	0.0%	100.0%
Road 24	24	50	24.4	N	1300-1400	90	2.4%	0.9%	0.4%	39.4%	14.2%	12.2%	24.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	6.3%	0.0%	100.0%
Road 24	24	50	24.4	N	1400-1500	89	2.6%	1.0%	0.4%	37.7%	13.5%	12.8%	25.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.6%	0.0%	100.0%
Road 24	24	50	24.4	N	1500-1600	93	2.5%	1.0%	0.4%	42.7%	15.3%	10.8%	21.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	5.6%	0.0%	100.0%
Road 24	24	50	24.5	N	1600-1700	86	3.1%	1.1%	0.4%	38.8%	13.9%	12.1%	23.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 24	24	50	24.7	N	1700-1800	78	4.2%	1.3%	0.5%	43.5%	15.6%	9.8%	19.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.1%	0.0%	100.0%
Road 24	24	50	25.6	N	1800-1900	54	8.1%	1.9%	0.4%	42.5%	15.3%	8.9%	17.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.6%	0.0%	100.0%
Road 24	24	50	27.1	N	1900-2000	35	9.6%	3.0%	0.4%	39.3%	14.1%	9.4%	18.5%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%
Road 24	24	50	27.7	N	2000-2100	28	8.7%	3.7%	0.4%	40.7%	14.6%	9.0%	17.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.6%	0.0%	100.0%
Road 24	24	50	27.7	N	2100-2200	29	8.6%	3.5%	0.4%	40.2%	14.4%	9.3%	18.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	4.8%	0.0%	100.0%
Road 24	24	50	27.9	N	2200-2300	25	9.5%	4.3%	0.4%	34.6%	12.4%	11.0%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	5.6%	0.0%	100.0%
Road 24	24	50	28.3	N	2300-0000	21	8.5%	3.8%	0.4%	35.2%	12.6%	11.2%	21.9%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.4%	5.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

| Road Name | Road ID | Speed Limit (km/h

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 29	29	80	80.0	N	0000-0100	692	56.0%	25.1%	0.0%	3.2%	1.2%	1.0%	2.0%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.9%	2.8%	2.1%	0.0%	100.0%
Road 29	29	80	80.0	N	0100-0200	453	54.6%	24.4%	0.0%	3.5%	1.3%	1.1%	2.2%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.9%	3.1%	3.0%	0.0%	100.0%
Road 29	29	80	80.0	N	0200-0300	334	53.2%	23.7%	0.0%	3.8%	1.4%	1.2%	2.4%	0.6%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	3.8%	3.4%	3.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0300-0400	266	51.8%	23.0%	0.0%	4.1%	1.5%	1.3%	2.5%	0.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	3.7%	3.6%	4.8%	0.0%	100.0%
Road 29	29	80	80.0	N	0400-0500	290	51.1%	22.6%	0.0%	4.4%	1.6%	1.4%	2.7%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.7%	4.0%	4.5%	0.0%	100.0%
Road 29	29	80	80.0	N	0500-0600	495	51.0%	22.4%	0.1%	4.8%	1.7%	1.5%	3.0%	0.7%	0.1%	0.6%	0.9%	0.7%	1.4%	0.0%	3.8%	4.4%	3.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0600-0700	1047	50.6%	22.1%	0.1%	5.2%	1.9%	1.6%	3.2%	0.7%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	3.8%	4.7%	1.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0700-0800	2148	49.1%	21.4%	0.1%	6.1%	2.2%	1.9%	3.8%	0.7%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.7%	5.0%	2.9%	0.0%	100.0%
Road 29	29	80	80.0	N	0800-0900	2459	55.1%	17.6%	0.1%	6.1%	2.2%	1.7%	3.3%	0.5%	0.1%	0.8%	1.1%	0.7%	1.6%	0.0%	3.3%	3.2%	2.6%	0.0%	100.0%
Road 29	29	80	80.0	N	0900-1000	2020	50.4%	18.3%	0.1%	8.6%	3.1%	2.3%	4.6%	0.7%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	3.5%	2.0%	3.3%	0.0%	100.0%
Road 29	29	80	80.0	N	1000-1100	1747	47.7%	18.5%	0.1%	9.2%	3.3%	2.9%	5.7%	0.7%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	3.4%	1.4%	3.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1100-1200	1659	47.5%	19.6%	0.1%	9.1%	3.3%	2.8%	5.6%	0.7%	0.1%	0.9%	0.5%	0.3%	0.7%	0.0%	3.5%	1.3%	4.0%	0.0%	100.0%
Road 29	29	80	80.0	N	1200-1300	1757	30.0%	11.6%	0.2%	15.8%	5.7%	5.7%	11.1%	0.6%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	10.9%	0.9%	5.3%	0.0%	100.0%
Road 29	29	80	80.0	N	1300-1400	1832	28.4%	10.9%	0.2%	16.4%	6.6%	5.7%	11.2%	0.6%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	10.2%	0.9%	5.2%	0.0%	100.0%
Road 29	29	80	80.0	N	1400-1500	1914	29.1%	11.8%	0.2%	16.7%	6.0%	5.6%	11.1%	0.5%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	10.4%	1.1%	5.1%	0.0%	100.0%
Road 29	29	80	80.0	N	1500-1600	1963	28.8%	11.6%	0.2%	19.2%	6.9%	4.9%	9.6%	0.5%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	10.1%	1.0%	4.7%	0.0%	100.0%
Road 29	29	80	80.0	N	1600-1700	2033	31.5%	10.9%	0.2%	15.6%	5.6%	4.9%	9.6%	0.5%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	11.5%	1.5%	4.6%	0.0%	100.0%
Road 29	29	80	80.0	N	1700-1800	2194	36.6%	11.4%	0.2%	14.6%	5.2%	3.3%	6.5%	0.5%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	12.2%	3.1%	3.6%	0.0%	100.0%
Road 29	29	80	80.0	N	1800-1900	2233	47.5%	11.2%	0.1%	9.7%	3.5%	2.0%	4.0%	0.6%	0.0%	0.1%	0.8%	0.6%	1.3%	0.1%	13.4%	2.3%	2.9%	0.0%	100.0%
Road 29	29	80	80.0	N	1900-2000	1740	47.4%	14.9%	0.1%	7.5%	2.7%	1.8%	3.5%	0.7%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	15.6%	1.7%	1.6%	0.0%	100.0%
Road 29	29	80	80.0	N	2000-2100	1370	43.2%	18.3%	0.1%	7.9%	2.8%	1.7%	3.4%	0.7%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	16.3%	1.7%	1.7%	0.0%	100.0%
Road 29	29	80	80.0	N	2100-2200	1348	44.7%	18.5%	0.1%	8.2%	2.9%	1.9%	3.7%	0.7%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	14.5%	2.0%	1.8%	0.0%	100.0%
Road 29	29	80	80.0	N	2200-2300	1307	44.4%	20.1%	0.1%	6.3%	2.3%	2.0%	3.9%	0.6%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	15.7%	1.7%	1.9%	0.0%	100.0%
Road 29	29	80	80.0	N	2300-0000	990	43.1%	19.4%	0.1%	7.0%	2.5%	2.2%	4.3%	0.6%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	15.4%	1.9%	2.2%	0.0%	100.0%
Road 30	30	70	70.0	N	0000-0100	552	49.7%	22.3%	0.1%	7.4%	2.6%	2.3%	4.6%	0.1%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	2.3%	2.5%	4.5%	0.0%	100.0%
Road 30	30	70	70.0	N	0100-0200	369	47.5%	21.2%	0.1%	7.9%	2.8%	2.5%	4.9%	0.1%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	2.2%	2.7%	6.3%	0.0%	100.0%
Road 30	30	70	70.0	N	0200-0300	277	45.4%	20.2%	0.1%	8.3%	3.0%	2.6%	5.2%	0.1%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.1%	2.9%	8.0%	0.0%	100.0%
Road 30	30	70	70.0	N	0300-0400	225	43.4%	19.2%	0.1%	8.8%	3.2%	2.8%	5.4%	0.1%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	2.1%	3.0%	9.6%	0.0%	100.0%
Road 30	30	70	70.0	N	0400-0500	247	42.4%	18.8%	0.1%	9.4%	3.4%	3.0%	5.8%	0.1%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	2.1%	3.3%	9.0%	0.0%	100.0%
Road 30	30	70	70.0	N	0500-0600	419	42.5%	18.7%	0.1%	10.4%	3.7%	3.3%	6.4%	0.1%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	2.1%	3.6%	6.1%	0.0%	100.0%
Road 30	30	70	70.0	N	0600-0700	887	42.3%	18.5%	0.1%	11.2%	4.0%	3.5%	6.9%	0.1%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.1%	4.0%	3.9%	0.0%	100.0%
Road 30	30	70	69.7	N	0700-0800	2364	40.2%	17.5%	0.1%	11.6%	4.2%	3.6%	7.2%	0.1%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	2.0%	4.1%	5.7%	0.0%	100.0%
Road 30	30	70	67.3	N	0800-0900	2138	44.8%	14.3%	0.1%	12.6%	4.5%	3.5%	6.9%	0.0%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	1.8%	2.6%	5.1%	0.0%	100.0%
Road 30	30	70	68.7	N	0900-1000	1887	38.2%	13.9%	0.2%	16.6%	6.0%	4.5%	8.9%	0.1%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	1.7%	1.5%	6.1%	0.0%	100.0%
Road 30	30	70	69.9	N	1000-1100	1694	34.8%	13.5%	0.2%	17.2%	6.2%	5.5%	10.7%	0.1%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	1.7%	1.1%	7.0%	0.0%	100.0%
Road 30	30	70	70.0	N	1100-1200	1580	34.7%	14.3%	0.2%	17.1%	6.1%	5.3%	10.5%	0.1%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	1.7%	1.0%	7.2%	0.0%	100.0%
Road 30	30	70	69.1	N	1200-1300	1691	28.5%	11.0%	0.2%	19.7%	7.1%	7.1%	13.9%	0.0%	0.1%	0.5%	0.5%	0.3%	0.7%	0.0%	1.8%	0.8%	7.8%	0.0%	100.0%
Road 30	30	70	68.1	N	1300-1400	1792	26.5%	10.2%	0.2%	22.5%	8.1%	7.0%	13.7%	0.0%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	1.6%	0.8%	7.5%	0.0%	100.0%
Road 30	30	70	67.6	N	1400-1500	1853	27.5%	11.1%	0.2%	20.6%	7.4%	7.0%	13.7%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	1.7%	1.0%	7.4%	0.0%	100.0%
Road 30	30	70	67.3	N	1500-1600	1909	27.1%	10.9%	0.2%	23.7%	8.5%	6.0%	11.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	1.6%	1.0%	6.8%	0.0%	100.0%
Road 30	30	70	67.2	N	1600-1700	1926	30.4%	10.5%	0.2%	19.7%	7.1%	6.2%	12.1%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	1.9%	1.4%	6.8%	0.0%	100.0%
Road 30	30	70	67.4	N	1700-1800	2022	36.3%	11.3%	0.2%	19.0%	6.8%	4.3%	8.5%	0.0%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	2.1%	3.1%	5.7%	0.0%	100.0%
Road 30	30	70	69.0	N	1800-1900	1964	49.4%	11.6%	0.1%	13.3%	4.8%	2.8%	5.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.3%	0.1%	2.4%	2.4%	5.0%	0.0%	100.0%
Road 30	30	70	70.0	N	1900-2000	1465	51.5%	16.1%	0.1%	10.8%	3.9%	2.6%	5.0%	0.0%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	2.9%	1.9%	2.6%	0.0%	100.0%
Road 30	30	70	70.0	N	2000-2100	1149	47.1%	20.0%	0.1%	11.3%	4.1%	2.5%	4.9%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	3.1%	1.9%	2.9%	0.0%	100.0%
Road 30	30	70	70.0	N	2100-2200	1152	47.8%	19.8%	0.1%	11.6%	4.1%	2.6%	5.2%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	2.7%	2.2%	2.9%	0.0%	100.0%
Road 30	30	70	70.0	N	2200-2300	1098	48.3%	21.8%	0.1%	9.0%	3.2%	2.9%	5.6%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	2.9%	1.9%	3.1%	0.0%	100.0%
Road 30	30	70	70.0	N	2300-0000	840	46.4%	20.9%	0.1%	9.8%	3.5%	3.1%	6.1%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	2.8%	2.1%	3.8%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 31	31	80	80.0	N	0000-0100	115	38.6%	17.3%	0.1%	9.2%	3.3%	2.9%	5.7%	0.6%	0.0%	0.1%	0.4%	0.2%	0.5%	0.1%	8.0%	1.9%	11.1%	0.0%	100.0%
Road 31	31	80	80.0	N	0100-0200	80	35.5%	15.9%	0.1%	9.4%	3.4%	3.0%	5.9%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.1%	7.4%	2.0%	15.4%	0.0%	100.0%
Road 31	31	80	80.0	N	0200-0300	62	32.7%	14.6%	0.1%	9.7%	3.5%	3.0%	6.0%	0.5%	0.0%	0.2%	0.4%	0.3%	0.6%	0.1%	6.9%	2.1%	19.3%	0.0%	100.0%
Road 31	31	80	80.0	N	0300-0400	52	30.3%	13.4%	0.1%	9.9%	3.5%	3.1%	6.1%	0.5%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	6.5%	2.1%	22.8%	0.0%	100.0%
Road 31	31	80	80.0	N	0400-0500	57	29.9%	13.2%	0.1%	10.7%	3.8%	3.4%	6.6%	0.5%	0.0%	0.3%	0.5%	0.3%	0.7%	0.1%	6.5%	2.3%	21.1%	0.0%	100.0%
Road 31	31	80	80.0	N	0500-0600	92	31.4%	13.8%	0.1%	12.3%	4.4%	3.9%	7.6%	0.5%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	6.9%	2.7%	14.0%	0.0%	100.0%
Road 31	31	80	80.0	N	0600-0700	187	32.4%	14.2%	0.1%	13.8%	5.0%	4.3%	8.5%	0.6%	0.1%	0.4%	0.7%	0.5%	1.0%	0.1%	7.2%	3.0%	8.1%	0.0%	100.0%
Road 31	31	80	80.0	N	0700-0800	404	29.7%	12.9%	0.1%	13.8%	5.0%	4.3%	8.5%	0.5%	0.1%	0.4%	0.7%	0.5%	1.0%	0.1%	6.7%	3.0%	12.1%	0.0%	100.0%
Road 31	31	80	80.0	N	0800-0900	462	33.5%	10.7%	0.2%	15.2%	5.5%	4.2%	8.4%	0.4%	0.1%	0.5%	0.7%	0.5%	1.0%	0.0%	6.0%	1.9%	11.4%	0.0%	100.0%
Road 31	31	80	80.0	N	0900-1000	427	27.2%	9.9%	0.2%	19.0%	6.8%	5.2%	10.2%	0.5%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	5.5%	1.1%	12.6%	0.0%	100.0%
Road 31	31	80	80.0	N	1000-1100	393	24.3%	9.4%	0.2%	19.2%	6.9%	6.1%	12.0%	0.5%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	5.1%	0.7%	13.9%	0.0%	100.0%
Road 31	31	80	80.0	N	1100-1200	373	24.1%	9.9%	0.2%	19.1%	6.8%	6.0%	11.7%	0.5%	0.1%	0.4%	0.4%	0.2%	0.2%	0.0%	5.3%	0.7%	14.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1200-1300	273	32.5%	12.5%	0.1%	11.3%	4.0%	4.0%	7.9%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	6.5%	1.0%	17.6%	0.0%	100.0%
Road 31	31	80	80.0	N	1300-1400	280	31.2%	12.0%	0.1%	13.3%	4.8%	4.1%	8.1%	0.0%	0.1%	0.4%	0.4%	0.3%	0.7%	0.0%	6.2%	1.0%	17.3%	0.0%	100.0%
Road 31	31	80	80.0	N	1400-1500	293	31.9%	12.9%	0.1%	12.0%	4.3%	4.1%	8.0%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	6.3%	1.2%	16.5%	0.0%	100.0%
Road 31	31	80	80.0	N	1500-1600	300	31.7%	12.7%	0.1%	13.9%	5.0%	3.5%	6.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	6.1%	1.1%	16.0%	0.0%	100.0%
Road 31	31	80	80.0	N	1600-1700	313	34.4%	11.9%	0.1%	11.2%	4.0%	3.5%	6.9%	0.0%	0.1%	0.8%	1.0%	0.7%	1.5%	0.0%	6.9%	1.6%	15.4%	0.0%	100.0%
Road 31	31	80	80.0	N	1700-1800	342	39.4%	12.3%	0.1%	10.4%	3.7%	2.3%	4.6%	0.0%	0.1%	0.6%	0.7%	0.5%	1.5%	0.1%	7.2%	3.4%	13.6%	0.0%	100.0%
Road 31	31	80	80.0	N	1800-1900	360	49.6%	11.6%	0.1%	6.7%	2.4%	1.4%	2.7%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	7.7%	2.4%	12.5%	0.0%	100.0%
Road 31	31	80	80.0	N	1900-2000	262	52.9%	16.6%	0.1%	5.5%	2.0%	1.3%	2.6%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	9.6%	2.0%	4.9%	0.0%	100.0%
Road 31	31	80	80.0	N	2000-2100	208	47.9%	20.4%	0.1%	5.8%	2.1%	1.3%	2.5%	0.0%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	9.9%	1.9%	6.0%	0.0%	100.0%
Road 31	31	80	80.0	N	2100-2200	206	49.2%	20.4%	0.1%	5.9%	2.1%	1.4%	2.7%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	6.8%	2.2%	6.1%	0.0%	100.0%
Road 31	31	80	80.0	N	2200-2300	200	48.8%	22.0%	0.0%	4.6%	1.6%	1.4%	2.8%	0.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	9.5%	1.9%	6.3%	0.0%	100.0%
Road 31	31	80	80.0	N	2300-0000	153	46.8%	21.1%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	9.2%	2.1%	8.0%	0.0%	100.0%
Road 32	32	80	80.0	N	0000-0100	716	48.1%	21.6%	0.1%	7.1%	2.5%	2.2%	4.4%	0.6%	0.0%	0.2%	0.4%	0.3%	0.7%	0.1%	8.2%	2.4%	1.1%	0.0%	100.0%
Road 32	32	80	80.0	N	0100-0200	470	46.8%	20.9%	0.1%	7.7%	2.8%	2.4%	4.8%	0.6%	0.0%	0.2%	0.5%	0.4%	0.8%	0.1%	8.1%	2.7%	1.2%	0.0%	100.0%
Road 32	32	80	80.0	N	0200-0300	347	45.6%	20.3%	0.1%	8.3%	3.0%	2.6%	5.1%	0.6%	0.0%	0.3%	0.6%	0.4%	0.9%	0.1%	7.9%	2.9%	1.3%	0.0%	100.0%
Road 32	32	80	80.0	N	0300-0400	276	44.3%	19.7%	0.1%	8.9%	3.2%	2.8%	5.5%	0.6%	0.0%	0.3%	0.6%	0.4%	1.0%	0.1%	7.8%	3.1%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	0400-0500	306	43.1%	19.0%	0.1%	9.5%	3.4%	3.0%	5.9%	0.6%	0.1%	0.4%	0.7%	0.5%	1.1%	0.1%	7.7%	3.3%	1.5%	0.0%	100.0%
Road 32	32	80	80.0	N	0500-0600	535	41.9%	18.4%	0.1%	10.1%	3.6%	3.2%	6.2%	0.6%	0.1%	0.5%	0.8%	0.5%	1.2%	0.1%	7.6%	3.6%	1.6%	0.0%	100.0%
Road 32	32	80	80.0	N	0600-0700	1158	40.6%	17.8%	0.1%	10.7%	3.9%	3.4%	6.6%	0.6%	0.1%	0.5%	0.8%	0.6%	1.3%	0.1%	7.4%	3.8%	1.7%	0.0%	100.0%
Road 32	32	80	80.0	N	0700-0800	2364	39.4%	17.2%	0.1%	11.3%	4.1%	3.5%	7.0%	0.6%	0.1%	0.6%	0.9%	0.6%	1.4%	0.1%	7.3%	4.0%	1.8%	0.0%	100.0%
Road 32	32	80	80.0	N	0800-0900	2734	44.0%	14.1%	0.1%	12.3%	4.4%	3.5%	6.8%	0.4%	0.1%	0.6%	0.9%	0.6%	1.3%	0.0%	6.5%	2.6%	1.8%	0.0%	100.0%
Road 32	32	80	80.0	N	0900-1000	2399	37.7%	13.7%	0.2%	16.3%	5.9%	4.4%	8.7%	0.5%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	6.3%	1.5%	2.3%	0.0%	100.0%
Road 32	32	80	80.0	N	1000-1100	2138	34.6%	13.5%	0.2%	17.0%	6.1%	5.4%	10.6%	0.5%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	6.1%	1.1%	2.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1100-1200	2023	34.6%	14.3%	0.2%	16.9%	6.1%	5.3%	10.4%	0.5%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	6.1%	1.0%	2.7%	0.0%	100.0%
Road 32	32	80	80.0	N	1200-1300	1790	40.6%	15.6%	0.1%	13.8%	4.9%	4.9%	9.7%	0.5%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	3.0%	1.2%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1300-1400	1852	38.6%	14.9%	0.2%	16.2%	5.8%	5.0%	9.8%	0.5%	0.1%	0.6%	0.4%	0.8%	0.0%	0.0%	2.9%	1.6%	2.6%	0.0%	100.0%
Road 32	32	80	80.0	N	1400-1500	1956	39.1%	15.8%	0.2%	14.5%	5.2%	4.9%	9.6%	0.5%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	2.9%	1.5%	2.5%	0.0%	100.0%
Road 32	32	80	80.0	N	1500-1600	2065	38.8%	15.6%	0.2%	16.7%	6.0%	4.3%	8.4%	0.5%	0.1%	0.7%	0.8%	0.6%	1.2%	0.0%	2.8%	1.4%	2.2%	0.0%	100.0%
Road 32	32	80	80.0	N	1600-1700	2099	41.9%	14.5%	0.1%	13.4%	4.8%	4.2%	8.2%	0.5%	0.1%	1.0%	1.2%	0.9%	1.9%	0.0%	4.9%	1.8%	2.1%	0.0%	100.0%
Road 32	32	80	80.0	N	1700-1800	2325	47.4%	14.8%	0.1%	12.3%	4.4%	2.8%	5.5%	0.5%	0.1%	0.7%	0.8%	0.6%	1.3%	0.0%	3.3%	4.1%	1.4%	0.0%	100.0%
Road 32	32	80	80.0	N	1800-1900	2458	59.4%	13.9%	0.1%	7.8%	2.8%	1.6%	3.2%	0.5%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	3.4%	2.8%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	1900-2000	1935	58.7%	18.4%	0.1%	6.0%	2.2%	1.4%	2.8%	0.6%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.0%	2.2%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2000-2100	1509	54.0%	22.9%	0.1%	6.4%	2.3%	1.4%	2.8%	0.6%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	4.2%	2.2%	0.7%	0.0%	100.0%
Road 32	32	80	80.0	N	2100-2200	1505	55.0%	22.8%	0.1%	6.5%	2.3%	1.5%	2.9%	0.6%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.7%	2.5%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	2200-2300	1455	54.9%	24.8%	0.1%	5.0%	1.8%	1.6%	3.2%	0.6%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.0%	2.1%	0.8%	0.0%	100.0%
Road 32	32	80	80.0	N	2300-0000	1093	53.6%	24.2%	0.1%	5.6%	2.0%	1.8%	3.5%	0.6%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.9%	2.4%	0.9%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 37	37	50	50.0	Y	0000-0100	2	49.6%	22.3%	0.1%	9.7%	3.5%	3.1%	6.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.5%	1.6%	0.0%	100.0%
Road 37	37	50	50.0	Y	0100-0200	1	48.0%	21.5%	0.1%	10.5%	3.8%	3.3%	6.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.7%	1.7%	0.0%	100.0%
Road 37	37	50	50.0	Y	0200-0300	1	46.5%	20.7%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.9%	1.8%	0.0%	100.0%
Road 37	37	50	50.0	Y	0300-0400	1	44.9%	19.9%	0.1%	12.0%	4.3%	3.8%	7.4%	0.0%	0.0%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	3.2%	1.9%	0.0%	100.0%
Road 37	37	50	50.0	Y	0400-0500	1	43.4%	19.2%	0.1%	12.7%	4.6%	4.0%	7.9%	0.0%	0.1%	0.4%	0.7%	0.5%	1.1%	0.0%	0.0%	3.4%	2.1%	0.0%	100.0%
Road 37	37	50	50.0	Y	0500-0600	1	41.9%	18.4%	0.1%	13.4%	4.8%	4.2%	8.3%	0.0%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.6%	2.2%	0.0%	100.0%
Road 37	37	50	49.9	Y	0600-0700	3	40.4%	17.7%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	0.5%	0.8%	0.6%	1.3%	0.0%	0.0%	3.8%	2.3%	0.0%	100.0%
Road 37	37	50	49.8	Y	0700-0800	7	39.0%	17.0%	0.2%	14.9%	5.3%	4.6%	9.1%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	2.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	0800-0900	8	43.0%	13.8%	0.2%	16.0%	5.7%	4.5%	8.8%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	0.0%	2.5%	2.3%	0.0%	100.0%
Road 37	37	50	49.8	Y	0900-1000	7	35.8%	13.0%	0.2%	20.5%	7.4%	5.6%	11.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	1.4%	2.9%	0.0%	100.0%
Road 37	37	50	49.8	Y	1000-1100	6	32.4%	12.6%	0.2%	21.0%	7.5%	6.7%	13.1%	0.0%	0.0%	0.4%	0.5%	0.4%	0.8%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1100-1200	6	32.4%	13.4%	0.2%	21.0%	7.5%	6.6%	12.9%	0.0%	0.1%	0.6%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1200-1300	6	34.5%	13.3%	0.2%	18.6%	6.7%	6.7%	13.1%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1300-1400	7	32.2%	12.4%	0.2%	21.4%	7.7%	6.6%	13.0%	0.0%	0.1%	0.5%	0.6%	0.3%	0.7%	0.0%	0.0%	1.0%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1400-1500	7	33.1%	13.4%	0.2%	19.5%	7.0%	6.6%	12.9%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	3.4%	0.0%	100.0%
Road 37	37	50	49.8	Y	1500-1600	7	32.6%	13.1%	0.2%	22.4%	8.0%	5.7%	11.1%	0.0%	0.1%	0.6%	0.7%	0.5%	1.0%	0.0%	0.0%	1.2%	2.9%	0.0%	100.0%
Road 37	37	50	49.8	Y	1600-1700	7	36.2%	12.5%	0.2%	18.4%	6.6%	5.8%	11.3%	0.0%	0.1%	0.6%	0.9%	1.1%	0.7%	1.6%	0.0%	1.7%	3.0%	0.0%	100.0%
Road 37	37	50	49.8	Y	1700-1800	8	42.4%	13.3%	0.2%	17.4%	6.3%	3.9%	7.8%	0.0%	0.1%	0.6%	0.7%	0.5%	1.1%	0.0%	0.0%	3.6%	2.0%	0.0%	100.0%
Road 37	37	50	49.8	Y	1800-1900	8	56.2%	13.2%	0.1%	11.8%	4.2%	2.5%	4.8%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	0.0%	2.7%	1.3%	0.0%	100.0%
Road 37	37	50	49.9	Y	1900-2000	6	56.8%	17.8%	0.1%	9.3%	3.3%	2.2%	4.4%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 37	37	50	49.9	Y	2000-2100	5	52.3%	22.2%	0.1%	9.8%	3.5%	2.2%	4.3%	0.0%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	0.0%	2.1%	1.1%	0.0%	100.0%
Road 37	37	50	49.9	Y	2100-2200	5	52.9%	21.9%	0.1%	9.9%	3.6%	2.3%	4.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	1.2%	0.0%	100.0%
Road 37	37	50	49.9	Y	2200-2300	4	53.4%	24.1%	0.1%	7.8%	2.8%	2.5%	4.9%	0.0%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.1%	1.3%	0.0%	100.0%
Road 37	37	50	49.9	Y	2300-0000	3	51.8%	23.3%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.3%	1.4%	0.0%	100.0%
Road 38	38	50	48.2	Y	0000-0100	64	36.4%	16.3%	0.1%	7.0%	2.5%	2.2%	4.3%	1.1%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	27.0%	0.0%	100.0%
Road 38	38	50	48.5	Y	0100-0200	48	31.1%	13.9%	0.1%	6.7%	2.4%	2.1%	4.1%	0.9%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	35.7%	0.0%	100.0%
Road 38	38	50	48.7	Y	0200-0300	40	26.9%	12.0%	0.1%	6.4%	2.3%	2.0%	4.0%	0.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	42.6%	0.0%	100.0%
Road 38	38	50	48.8	Y	0300-0400	35	23.5%	10.5%	0.1%	6.2%	2.2%	1.9%	3.8%	0.7%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.7%	48.1%	0.0%	100.0%
Road 38	38	50	48.8	Y	0400-0500	37	23.9%	10.6%	0.1%	6.9%	2.5%	2.2%	4.3%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.9%	45.5%	0.0%	100.0%
Road 38	38	50	48.4	Y	0500-0600	53	28.6%	12.6%	0.1%	9.0%	3.2%	2.8%	5.6%	1.0%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.4%	32.7%	0.0%	100.0%
Road 38	38	50	47.4	Y	0600-0700	96	33.2%	14.5%	0.1%	11.4%	4.1%	3.6%	7.0%	1.1%	0.1%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.1%	19.1%	0.0%	100.0%
Road 38	38	50	43.1	Y	0700-0800	226	27.8%	12.1%	0.1%	10.4%	3.7%	3.3%	6.4%	1.0%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	3.7%	30.0%	0.0%	100.0%
Road 38	38	50	42.5	Y	0800-0900	254	32.0%	10.2%	0.1%	11.7%	4.2%	3.3%	6.4%	0.8%	0.1%	0.4%	0.6%	0.4%	1.0%	0.0%	0.0%	1.9%	26.8%	0.0%	100.0%
Road 38	38	50	42.7	Y	0900-1000	235	26.0%	9.4%	0.2%	14.7%	5.3%	4.0%	7.8%	0.9%	0.0%	0.3%	0.4%	0.3%	0.7%	0.0%	0.0%	1.0%	29.1%	0.0%	100.0%
Road 38	38	50	43.0	Y	1000-1100	219	22.9%	8.9%	0.2%	14.6%	5.3%	4.6%	9.1%	0.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	31.5%	0.0%	100.0%
Road 38	38	50	43.3	Y	1100-1200	210	22.5%	9.3%	0.1%	14.4%	5.2%	4.5%	8.8%	0.9%	0.1%	0.4%	0.2%	0.2%	0.3%	0.0%	0.0%	0.6%	32.6%	0.0%	100.0%
Road 38	38	50	45.4	Y	1200-1300	119	7.2%	2.8%	0.1%	13.7%	4.9%	4.9%	9.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	56.0%	0.0%	100.0%
Road 38	38	50	45.3	Y	1300-1400	124	6.8%	2.6%	0.2%	15.8%	5.7%	4.9%	9.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	53.7%	0.0%	100.0%
Road 38	38	50	45.2	Y	1400-1500	125	7.3%	2.9%	0.2%	14.9%	5.4%	5.1%	9.9%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	53.5%	0.0%	100.0%
Road 38	38	50	45.2	Y	1500-1600	127	7.2%	2.9%	0.2%	17.0%	6.2%	4.4%	8.6%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	52.2%	0.0%	100.0%
Road 38	38	50	45.3	Y	1600-1700	125	8.3%	2.9%	0.2%	14.8%	5.3%	4.6%	9.1%	0.0%	0.0%	0.2%	0.2%	0.2%	0.4%	0.0%	0.0%	0.4%	53.3%	0.0%	100.0%
Road 38	38	50	45.4	Y	1700-1800	123	10.6%	3.3%	0.2%	15.2%	5.5%	3.4%	6.8%	0.0%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.9%	53.4%	0.0%	100.0%
Road 38	38	50	45.8	Y	1800-1900	113	15.3%	3.6%	0.1%	11.2%	4.0%	2.3%	4.6%	0.0%	0.0%	0.3%	0.2%	0.1%	0.4%	0.0%	0.0%	0.7%	57.3%	0.0%	100.0%
Road 38	38	50	48.3	Y	1900-2000	52	25.7%	8.1%	0.2%	14.7%	5.3%	3.5%	6.9%	0.0%	0.0%	0.0%	0.4%	0.3%	0.6%	0.0%	0.0%	0.9%	33.4%	0.0%	100.0%
Road 38	38	50	48.5	Y	2000-2100	45	21.6%	9.2%	0.1%	14.2%	5.1%	3.1%	6.1%	0.0%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	0.9%	38.6%	0.0%	100.0%
Road 38	38	50	48.5	Y	2100-2200	45	21.8%	9.0%	0.1%	14.3%	5.1%	3.3%	6.5%	0.0%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	1.0%	38.4%	0.0%	100.0%
Road 38	38	50	48.6	Y	2200-2300	43	22.1%	10.0%	0.1%	11.3%	4.1%	3.6%	7.1%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.9%	40.5%	0.0%	100.0%
Road 38	38	50	48.7	Y	2300-0000	37	18.7%	8.4%	0.1%	10.9%	3.9%	3.4%	6.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.8%	46.4%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 39	39	50	49.7	Y	0000-0100	9	10.9%	4.9%	0.4%	33.7%	12.1%	10.7%	21.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.5%	5.5%	0.0%	100.0%
Road 39	39	50	49.8	Y	0100-0200	6	10.0%	4.5%	0.4%	34.3%	12.3%	10.8%	21.3%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.6%	0.0%	100.0%
Road 39	39	50	49.9	Y	0200-0300	5	9.1%	4.1%	0.4%	34.8%	12.5%	11.0%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.6%	0.0%	100.0%
Road 39	39	50	49.9	Y	0300-0400	4	8.4%	3.7%	0.4%	35.3%	12.7%	11.1%	21.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.7%	0.0%	100.0%
Road 39	39	50	49.9	Y	0400-0500	5	7.7%	3.4%	0.4%	35.7%	12.8%	11.2%	22.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.8%	0.0%	100.0%
Road 39	39	50	49.7	Y	0500-0600	9	7.1%	3.1%	0.4%	36.0%	12.9%	11.3%	22.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.8%	0.0%	100.0%
Road 39	39	50	49.4	Y	0600-0700	20	6.6%	2.9%	0.4%	36.3%	13.1%	11.4%	22.4%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.8%	0.0%	100.0%
Road 39	39	50	48.7	Y	0700-0800	42	6.1%	2.7%	0.4%	36.6%	13.2%	11.5%	22.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.6%	5.8%	0.0%	100.0%
Road 39	39	50	48.4	Y	0800-0900	50	6.6%	2.1%	0.4%	38.6%	13.9%	10.8%	21.2%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.0%	0.0%	0.4%	5.5%	0.0%	100.0%
Road 39	39	50	48.3	Y	0900-1000	56	4.5%	1.6%	0.4%	40.3%	14.5%	11.0%	21.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.2%	5.6%	0.0%	100.0%
Road 39	39	50	48.3	Y	1000-1100	55	3.7%	1.4%	0.4%	38.2%	13.7%	12.1%	23.8%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 39	39	50	48.4	Y	1100-1200	51	3.7%	1.5%	0.4%	38.4%	13.8%	12.0%	23.6%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%	0.0%	0.1%	6.2%	0.0%	100.0%
Road 39	39	50	49.7	Y	1200-1300	14	45.0%	17.3%	0.1%	12.6%	4.5%	4.5%	8.9%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	2.3%	0.0%	100.0%
Road 39	39	50	49.7	Y	1300-1400	15	43.0%	16.6%	0.2%	14.9%	5.3%	4.6%	9.1%	0.0%	0.1%	0.6%	0.6%	0.4%	0.9%	0.0%	0.0%	1.3%	2.4%	0.0%	100.0%
Road 39	39	50	49.6	Y	1400-1500	15	43.4%	17.5%	0.1%	13.3%	4.8%	4.5%	8.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.0%	1.6%	2.3%	0.0%	100.0%
Road 39	39	50	49.6	Y	1500-1600	16	43.0%	17.3%	0.2%	15.3%	5.5%	3.9%	7.6%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.0%	1.6%	2.0%	0.0%	100.0%
Road 39	39	50	49.6	Y	1600-1700	17	46.3%	15.9%	0.1%	12.2%	4.4%	3.8%	7.5%	0.0%	0.1%	1.1%	1.4%	0.9%	2.1%	0.0%	0.0%	2.2%	2.0%	0.0%	100.0%
Road 39	39	50	49.6	Y	1700-1800	19	51.8%	16.2%	0.1%	11.1%	4.0%	2.5%	4.9%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	3.0%	1.3%	0.0%	100.0%
Road 39	39	50	49.6	Y	1800-1900	20	63.7%	15.0%	0.1%	7.0%	2.5%	1.4%	2.9%	0.0%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.0%	0.7%	100.0%
Road 39	39	50	49.7	Y	1900-2000	16	63.0%	19.7%	0.1%	5.3%	1.9%	1.3%	2.5%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 39	39	50	49.7	Y	2000-2100	12	58.1%	24.7%	0.1%	5.7%	2.0%	1.3%	2.5%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.3%	0.6%	0.0%	100.0%
Road 39	39	50	49.8	Y	2100-2200	12	59.0%	24.4%	0.1%	5.8%	2.1%	1.3%	2.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	0.7%	0.0%	100.0%
Road 39	39	50	49.8	Y	2200-2300	12	58.9%	26.6%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 39	39	50	49.8	Y	2300-0000	9	57.6%	26.0%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.6%	0.8%	0.0%	100.0%
Road 40	40	50	46.6	Y	0000-0100	126	40.9%	18.4%	0.1%	5.9%	2.1%	1.9%	3.7%	0.8%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	22.8%	0.0%	100.0%
Road 40	40	50	47.3	Y	0100-0200	93	35.8%	16.0%	0.1%	5.8%	2.1%	1.8%	3.6%	0.7%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	30.7%	0.0%	100.0%
Road 40	40	50	47.7	Y	0200-0300	76	31.4%	14.0%	0.1%	5.6%	2.0%	1.8%	3.5%	0.6%	0.0%	0.2%	0.4%	0.3%	0.5%	0.0%	0.0%	2.7%	35.5%	0.0%	100.0%
Road 40	40	50	47.9	Y	0300-0400	66	28.0%	12.4%	0.1%	5.5%	2.0%	1.7%	3.4%	0.6%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.4%	42.8%	0.0%	100.0%
Road 40	40	50	47.8	Y	0400-0500	70	28.3%	12.5%	0.1%	6.2%	2.2%	1.9%	3.8%	0.6%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.2%	40.4%	0.0%	100.0%
Road 40	40	50	47.0	Y	0500-0600	102	33.1%	14.6%	0.1%	7.9%	2.8%	2.5%	4.9%	0.7%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.8%	28.3%	0.0%	100.0%
Road 40	40	50	45.0	Y	0600-0700	188	37.5%	16.4%	0.1%	9.8%	3.5%	3.1%	6.0%	0.9%	0.1%	0.5%	0.8%	0.5%	1.2%	0.0%	0.0%	3.5%	16.2%	0.0%	100.0%
Road 40	40	50	38.6	Y	0700-0800	435	32.2%	14.0%	0.1%	9.1%	3.3%	2.9%	5.6%	0.8%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	3.3%	25.9%	0.0%	100.0%
Road 40	40	50	37.9	Y	0800-0900	689	37.0%	11.8%	0.1%	10.2%	3.7%	2.9%	5.6%	0.6%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	2.4%	23.1%	0.0%	100.0%
Road 40	40	50	38.3	Y	0900-1000	443	30.7%	11.2%	0.1%	13.1%	4.7%	3.6%	7.0%	0.7%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	1.2%	25.8%	0.0%	100.0%
Road 40	40	50	38.6	Y	1000-1100	407	27.4%	10.6%	0.1%	13.2%	4.7%	4.2%	8.2%	0.7%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	28.2%	0.0%	100.0%
Road 40	40	50	38.9	Y	1100-1200	390	27.0%	11.1%	0.1%	13.0%	4.7%	4.1%	8.0%	0.7%	0.1%	0.5%	0.3%	0.2%	0.4%	0.0%	0.0%	0.8%	29.3%	0.0%	100.0%
Road 40	40	50	40.7	Y	1200-1300	268	16.9%	6.5%	0.1%	13.5%	4.8%	4.8%	9.5%	0.0%	0.0%	0.3%	0.3%	0.2%	0.4%	0.0%	0.0%	0.5%	42.0%	0.0%	100.0%
Road 40	40	50	40.3	Y	1300-1400	279	16.0%	6.2%	0.2%	15.7%	5.6%	4.9%	9.6%	0.0%	0.0%	0.2%	0.2%	0.2%	0.3%	0.0%	0.0%	0.5%	40.5%	0.0%	100.0%
Road 40	40	50	40.2	Y	1400-1500	285	16.8%	6.8%	0.2%	14.6%	5.2%	4.9%	9.7%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	39.8%	0.0%	100.0%
Road 40	40	50	40.1	Y	1500-1600	291	16.7%	6.7%	0.2%	16.9%	6.1%	4.3%	8.4%	0.0%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	38.7%	0.0%	100.0%
Road 40	40	50	40.2	Y	1600-1700	290	18.9%	6.5%	0.1%	14.2%	5.1%	4.4%	8.7%	0.0%	0.1%	0.4%	0.6%	0.4%	0.8%	0.0%	0.0%	0.9%	38.8%	0.0%	100.0%
Road 40	40	50	40.3	Y	1700-1800	297	21.2%	7.2%	0.1%	14.0%	5.0%	3.2%	6.2%	0.0%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	37.3%	0.0%	100.0%
Road 40	40	50	40.9	Y	1800-1900	287	31.7%	7.4%	0.1%	9.8%	3.5%	2.0%	4.0%	0.0%	0.0%	0.6%	0.4%	0.3%	0.6%	0.0%	0.0%	1.5%	38.0%	0.0%	100.0%
Road 40	40	50	45.6	Y	1900-2000	164	43.1%	13.5%	0.1%	10.4%	3.7%	2.5%	4.9%	0.0%	0.0%	0.1%	0.6%	0.5%	1.0%	0.0%	0.0%	1.6%	18.0%	0.0%	100.0%
Road 40	40	50	46.3	Y	2000-2100	134	37.8%	16.0%	0.1%	10.5%	3.8%	2.3%	4.5%	0.0%	0.0%	0.1%	0.5%	0.4%	0.8%	0.0%	0.0%	1.5%	21.7%	0.0%	100.0%
Road 40	40	50	46.3	Y	2100-2200	135	38.2%	15.8%	0.1%	10.6%	3.8%	2.4%	4.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	1.7%	21.6%	0.0%	100.0%
Road 40	40	50	46.5	Y	2200-2300	129	38.5%	17.4%	0.1%	8.3%	3.0%	2.6%	5.2%	0.0%	0.0%	0.0%	0.2%	0.2%	0.4%	0.0%	0.0%	1.5%	22.6%	0.0%	100.0%
Road 40	40	50	47.0	Y	2300-0000	105	34.7%	15.6%	0.1%	8.5%	3.1%	2.7%	5.3%	0.0%	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	1.5%	27.5%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 45	45	80	80.0	N	0000-0100	446	57.6%	25.9%	0.0%	3.5%	1.3%	1.1%	2.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.6%	0.0%	2.9%	2.9%	0.6%	0.0%	100.0%
Road 45	45	80	80.0	N	0100-0200	290	56.7%	25.3%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	2.9%	3.2%	0.6%	0.0%	100.0%
Road 45	45	80	80.0	N	0200-0300	212	56.1%	25.0%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	2.9%	3.5%	0.7%	0.0%	100.0%
Road 45	45	80	80.0	N	0300-0400	167	54.7%	24.3%	0.0%	4.6%	1.6%	1.4%	2.8%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	2.9%	3.8%	0.7%	0.0%	100.0%
Road 45	45	80	80.0	N	0400-0500	183	53.7%	23.7%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.9%	4.2%	0.8%	0.0%	100.0%
Road 45	45	80	80.0	N	0500-0600	318	52.6%	23.2%	0.1%	5.3%	1.9%	1.7%	3.3%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	2.9%	4.5%	0.9%	0.0%	100.0%
Road 45	45	80	80.0	N	0600-0700	681	51.6%	22.6%	0.1%	5.7%	2.0%	1.8%	3.5%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	2.8%	4.8%	0.9%	0.0%	100.0%
Road 45	45	80	72.3	N	0700-0800	1375	50.6%	22.0%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	2.8%	5.2%	1.0%	0.0%	100.0%
Road 45	45	80	68.2	N	0800-0900	1593	56.4%	18.0%	0.1%	6.6%	2.4%	1.8%	3.6%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.5%	3.3%	0.9%	0.0%	100.0%
Road 45	45	80	72.8	N	0900-1000	1306	51.7%	18.8%	0.1%	9.3%	3.3%	2.5%	5.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.6%	2.0%	1.3%	0.0%	100.0%
Road 45	45	80	75.7	N	1000-1100	1128	49.0%	19.0%	0.1%	10.0%	3.6%	3.2%	6.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.6%	1.5%	1.6%	0.0%	100.0%
Road 45	45	80	77.1	N	1100-1200	1069	48.9%	20.1%	0.1%	9.9%	3.6%	3.1%	6.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.7%	1.6%	1.5%	0.0%	100.0%
Road 45	45	80	72.9	N	1200-1300	1243	47.5%	18.3%	0.1%	10.0%	3.6%	3.6%	7.0%	0.0%	0.1%	0.8%	0.8%	0.6%	1.2%	0.0%	3.3%	1.4%	1.8%	0.0%	100.0%
Road 45	45	80	72.3	N	1300-1400	1267	45.9%	17.7%	0.1%	11.9%	4.3%	3.7%	7.2%	0.0%	0.1%	0.7%	0.7%	0.5%	1.0%	0.0%	3.1%	1.4%	1.9%	0.0%	100.0%
Road 45	45	80	70.6	N	1400-1500	1354	45.9%	18.6%	0.1%	10.5%	3.8%	3.6%	7.0%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.1%	1.7%	1.8%	0.0%	100.0%
Road 45	45	80	70.1	N	1500-1600	1384	45.6%	18.3%	0.1%	12.2%	4.4%	3.1%	6.1%	0.0%	0.1%	0.8%	0.9%	0.7%	1.4%	0.0%	3.1%	1.6%	1.6%	0.0%	100.0%
Road 45	45	80	68.3	N	1600-1700	1479	48.3%	16.7%	0.1%	9.6%	3.4%	3.0%	5.9%	0.0%	0.1%	1.1%	1.4%	1.0%	2.2%	0.0%	3.4%	2.3%	1.5%	0.0%	100.0%
Road 45	45	80	56.6	N	1700-1800	1684	53.2%	16.6%	0.1%	8.5%	3.1%	1.9%	3.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	3.4%	4.6%	1.0%	0.0%	100.0%
Road 45	45	80	45.9	N	1800-1900	1856	63.9%	15.0%	0.1%	5.2%	1.9%	1.1%	2.1%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	3.4%	3.0%	0.6%	0.0%	100.0%
Road 45	45	80	71.2	N	1900-2000	1478	62.4%	19.5%	0.0%	4.0%	1.4%	0.9%	1.9%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	3.9%	2.3%	0.5%	0.0%	100.0%
Road 45	45	80	77.2	N	2000-2100	1150	57.5%	24.4%	0.0%	4.2%	1.5%	0.9%	1.8%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	4.1%	2.3%	0.5%	0.0%	100.0%
Road 45	45	80	77.6	N	2100-2200	1146	58.7%	24.3%	0.0%	4.3%	1.5%	1.0%	1.9%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	3.6%	2.7%	0.5%	0.0%	100.0%
Road 45	45	80	78.2	N	2200-2300	1115	58.2%	26.3%	0.0%	3.3%	1.2%	1.1%	2.1%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	3.9%	2.2%	0.3%	0.0%	100.0%
Road 45	45	80	80.0	N	2300-0000	834	57.2%	25.8%	0.0%	3.7%	1.3%	1.2%	2.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	3.9%	2.5%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0000-0100	202	59.0%	26.5%	0.0%	3.2%	1.2%	1.0%	2.0%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	1.6%	3.0%	0.5%	0.0%	100.0%
Road 46	46	80	80.0	N	0100-0200	131	58.0%	25.9%	0.0%	3.6%	1.3%	1.1%	2.2%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	1.6%	3.3%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0200-0300	96	57.0%	25.4%	0.0%	3.9%	1.4%	1.2%	2.4%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	1.6%	3.6%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	0300-0400	75	56.1%	24.9%	0.0%	4.2%	1.5%	1.3%	2.6%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	1.6%	3.9%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	0400-0500	83	55.1%	24.3%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	1.6%	4.3%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	0500-0600	143	54.1%	23.8%	0.1%	4.9%	1.8%	1.5%	3.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	1.6%	4.6%	0.8%	0.0%	100.0%
Road 46	46	80	80.0	N	0600-0700	306	53.1%	23.2%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	1.6%	5.0%	0.8%	0.0%	100.0%
Road 46	46	80	80.0	N	0700-0800	618	52.0%	22.7%	0.1%	5.6%	2.0%	1.7%	3.4%	0.0%	0.1%	0.8%	1.2%	0.8%	1.8%	0.0%	1.6%	5.3%	0.9%	0.0%	100.0%
Road 46	46	80	80.0	N	0800-0900	717	58.0%	18.5%	0.1%	6.1%	2.2%	1.7%	3.3%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	1.4%	3.4%	0.9%	0.0%	100.0%
Road 46	46	80	80.0	N	0900-1000	584	53.5%	19.4%	0.1%	8.6%	3.1%	2.4%	4.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	1.5%	2.1%	1.2%	0.0%	100.0%
Road 46	46	80	80.0	N	1000-1100	503	50.9%	19.8%	0.1%	9.3%	3.3%	3.0%	5.8%	0.0%	0.1%	0.6%	0.8%	0.6%	1.3%	0.0%	1.4%	1.5%	1.5%	0.0%	100.0%
Road 46	46	80	80.0	N	1100-1200	476	50.7%	20.9%	0.1%	9.3%	3.3%	2.9%	5.7%	0.0%	0.1%	0.9%	0.6%	0.4%	0.8%	0.0%	1.5%	1.4%	1.5%	0.0%	100.0%
Road 46	46	80	80.0	N	1200-1300	632	45.5%	17.5%	0.1%	11.6%	4.2%	4.2%	8.2%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	1.8%	1.3%	2.1%	0.0%	100.0%
Road 46	46	80	80.0	N	1300-1400	648	43.7%	16.8%	0.1%	13.8%	4.9%	4.3%	8.4%	0.0%	0.1%	0.6%	0.6%	0.4%	1.0%	0.0%	1.7%	1.3%	2.2%	0.0%	100.0%
Road 46	46	80	80.0	N	1400-1500	690	43.9%	17.8%	0.1%	12.3%	4.4%	4.1%	8.2%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	1.7%	1.7%	2.1%	0.0%	100.0%
Road 46	46	80	80.0	N	1500-1600	706	43.6%	17.5%	0.1%	14.2%	5.1%	3.6%	7.1%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	1.7%	1.6%	1.8%	0.0%	100.0%
Road 46	46	80	80.0	N	1600-1700	747	46.6%	16.1%	0.1%	11.2%	4.0%	3.5%	6.9%	0.0%	0.1%	1.1%	1.4%	1.0%	2.1%	0.0%	1.9%	2.2%	1.8%	0.0%	100.0%
Road 46	46	80	80.0	N	1700-1800	842	51.9%	16.2%	0.1%	10.1%	3.6%	2.3%	4.5%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	1.9%	4.5%	1.2%	0.0%	100.0%
Road 46	46	80	80.0	N	1800-1900	913	63.3%	14.9%	0.1%	6.3%	2.3%	1.3%	2.6%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	2.0%	3.0%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	1900-2000	722	62.2%	19.5%	0.1%	4.8%	1.7%	1.1%	2.3%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	2.2%	2.3%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	2000-2100	562	57.4%	24.4%	0.1%	5.1%	1.8%	1.1%	2.2%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	2.4%	2.3%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	2100-2200	561	58.4%	24.2%	0.1%	5.2%	1.9%	1.2%	2.3%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	2.1%	2.7%	0.6%	0.0%	100.0%
Road 46	46	80	80.0	N	2200-2300	544	58.1%	26.3%	0.0%	4.0%	1.4%	1.3%	2.5%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	2.2%	2.2%	0.7%	0.0%	100.0%
Road 46	46	80	80.0	N	2300-0000	408	57.0%	25.7%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	2.2%	2.5%	0.7%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 47	47	50	49.1	N	0000-0100	92	58.7%	26.4%	0.0%	4.0%	1.5%	1.3%	2.5%	0.0%	0.0%	0.2%	0.5%	0.4%	0.6%	0.0%	3.0%	2.9%	0.6%	0.0%	100.0%
Road 47	47	50	49.4	N	0100-0200	60	57.7%	25.8%	0.0%	4.4%	1.6%	1.4%	2.7%	0.0%	0.0%	0.3%	0.6%	0.4%	1.0%	0.0%	3.3%	3.2%	0.7%	0.0%	100.0%
Road 47	47	50	49.5	N	0200-0300	44	56.6%	25.2%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.2%	3.5%	0.6%	0.0%	100.0%
Road 47	47	50	49.6	N	0300-0400	35	55.5%	24.6%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.4%	0.8%	0.6%	1.2%	0.0%	3.2%	3.9%	0.6%	0.0%	100.0%
Road 47	47	50	49.6	N	0400-0500	38	54.4%	24.1%	0.1%	5.6%	2.0%	1.8%	3.5%	0.0%	0.1%	0.5%	0.9%	0.6%	1.4%	0.0%	3.2%	4.2%	0.7%	0.0%	100.0%
Road 47	47	50	49.3	N	0500-0600	66	53.3%	23.5%	0.1%	6.0%	2.2%	1.9%	3.7%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.2%	4.5%	0.9%	0.0%	100.0%
Road 47	47	50	48.5	N	0600-0700	142	52.2%	22.9%	0.1%	6.4%	2.3%	2.0%	4.0%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.0%	4.8%	0.9%	0.0%	100.0%
Road 47	47	50	48.9	N	0700-0800	288	51.1%	22.3%	0.1%	6.9%	2.5%	2.1%	4.2%	0.0%	0.1%	0.7%	1.2%	0.8%	1.8%	0.0%	2.8%	5.2%	1.0%	0.0%	100.0%
Road 47	47	50	46.4	N	0800-0900	335	56.7%	18.1%	0.1%	7.4%	2.7%	2.1%	4.1%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.5%	3.3%	0.9%	0.0%	100.0%
Road 47	47	50	46.9	N	0900-1000	276	51.7%	18.8%	0.1%	10.4%	3.7%	2.8%	5.6%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.6%	2.0%	1.3%	0.0%	100.0%
Road 47	47	50	47.3	N	1000-1100	240	48.8%	18.9%	0.1%	11.2%	4.0%	3.5%	7.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.6%	1.5%	1.6%	0.0%	100.0%
Road 47	47	50	47.4	N	1100-1200	227	48.7%	20.1%	0.1%	11.1%	4.0%	3.5%	6.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.7%	1.6%	1.5%	0.0%	100.0%
Road 47	47	50	39.4	N	1200-1300	1008	53.7%	20.7%	0.1%	7.7%	2.8%	2.8%	5.4%	0.0%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	4.0%	2.1%	1.8%	0.0%	100.0%
Road 47	47	50	39.3	N	1300-1400	1018	52.4%	20.2%	0.1%	9.2%	3.3%	2.9%	5.6%	0.0%	0.1%	0.8%	0.7%	0.5%	1.1%	0.0%	4.0%	2.4%	2.0%	0.0%	100.0%
Road 47	47	50	38.8	N	1400-1500	1098	52.0%	21.0%	0.1%	8.1%	2.9%	2.7%	5.4%	0.0%	0.1%	0.9%	1.0%	0.7%	1.6%	0.0%	4.0%	2.5%	2.0%	0.0%	100.0%
Road 47	47	50	38.7	N	1500-1600	1120	51.7%	20.8%	0.1%	9.4%	3.4%	2.4%	4.7%	0.0%	0.1%	0.9%	1.1%	0.7%	1.6%	0.0%	4.0%	2.6%	2.0%	0.0%	100.0%
Road 47	47	50	38.2	N	1600-1700	1210	54.2%	18.7%	0.1%	7.3%	2.6%	2.3%	4.5%	0.0%	0.2%	1.3%	1.6%	1.1%	2.4%	0.0%	4.0%	3.2%	2.3%	0.0%	100.0%
Road 47	47	50	37.4	N	1700-1800	1403	58.6%	18.3%	0.1%	6.4%	2.3%	1.4%	2.8%	0.0%	0.1%	0.8%	1.0%	0.7%	1.6%	0.0%	4.0%	3.6%	2.5%	0.0%	100.0%
Road 47	47	50	36.7	N	1800-1900	1585	68.6%	16.1%	0.0%	3.8%	1.4%	0.8%	1.6%	0.0%	0.0%	0.1%	1.2%	0.8%	1.8%	0.0%	4.0%	4.0%	2.0%	0.0%	100.0%
Road 47	47	50	38.6	N	1900-2000	1266	66.8%	20.9%	0.0%	2.9%	1.0%	0.7%	1.4%	0.0%	0.0%	0.1%	1.0%	0.7%	1.5%	0.0%	4.0%	3.9%	1.7%	0.0%	100.0%
Road 47	47	50	40.3	N	2000-2100	982	61.8%	26.2%	0.0%	3.1%	1.1%	0.7%	1.3%	0.0%	0.0%	0.1%	0.9%	0.6%	1.3%	0.0%	4.0%	4.1%	1.5%	0.0%	100.0%
Road 47	47	50	40.4	N	2100-2200	982	62.8%	26.0%	0.0%	3.1%	1.1%	0.7%	1.4%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	4.0%	3.7%	1.4%	0.0%	100.0%
Road 47	47	50	40.7	N	2200-2300	956	62.2%	28.1%	0.0%	2.4%	0.9%	0.8%	1.5%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	4.0%	3.9%	1.4%	0.0%	100.0%
Road 47	47	50	43.0	N	2300-0000	713	61.3%	27.6%	0.0%	2.7%	1.0%	0.9%	1.7%	0.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	4.0%	3.7%	1.6%	0.0%	100.0%
Road 48	48	80	80.0	N	0000-0100	615	57.2%	25.7%	0.0%	3.4%	1.2%	1.1%	2.1%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	3.2%	2.9%	0.6%	0.0%	100.0%
Road 48	48	80	80.0	N	0100-0200	400	56.2%	25.2%	0.0%	3.8%	1.4%	1.2%	2.3%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	3.2%	3.4%	0.6%	0.0%	100.0%
Road 48	48	80	80.0	N	0200-0300	292	55.3%	24.6%	0.0%	4.1%	1.5%	1.3%	2.5%	0.0%	0.0%	0.4%	0.7%	0.5%	1.1%	0.0%	3.1%	3.5%	0.7%	0.0%	100.0%
Road 48	48	80	80.0	N	0300-0400	231	54.3%	24.1%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.1%	0.4%	0.8%	0.5%	1.2%	0.0%	3.1%	3.8%	0.7%	0.0%	100.0%
Road 48	48	80	80.0	N	0400-0500	253	53.3%	23.6%	0.1%	4.8%	1.7%	1.5%	3.0%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	3.1%	4.1%	0.8%	0.0%	100.0%
Road 48	48	80	80.0	N	0500-0600	438	52.3%	23.0%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	3.1%	4.5%	0.8%	0.0%	100.0%
Road 48	48	80	80.0	N	0600-0700	938	51.3%	22.4%	0.1%	5.5%	2.0%	1.7%	3.4%	0.0%	0.1%	0.7%	1.1%	0.7%	1.6%	0.0%	3.1%	4.8%	0.9%	0.0%	100.0%
Road 48	48	80	80.0	N	0700-0800	1896	50.2%	21.9%	0.1%	5.9%	2.1%	1.8%	3.6%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	3.0%	5.1%	0.9%	0.0%	100.0%
Road 48	48	80	80.0	N	0800-0900	2192	56.1%	18.0%	0.1%	6.4%	2.3%	1.8%	3.5%	0.0%	0.1%	0.8%	1.1%	0.8%	1.7%	0.0%	2.4%	3.3%	0.9%	0.0%	100.0%
Road 48	48	80	80.0	N	0900-1000	1798	51.5%	18.7%	0.1%	9.1%	3.3%	2.5%	4.8%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	2.6%	2.0%	1.3%	0.0%	100.0%
Road 48	48	80	80.0	N	1000-1100	1552	48.8%	18.9%	0.1%	9.7%	3.5%	3.1%	6.1%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.8%	1.5%	1.6%	0.0%	100.0%
Road 48	48	80	80.0	N	1100-1200	1471	48.6%	20.0%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	2.9%	1.4%	1.6%	0.0%	100.0%
Road 48	48	80	80.0	N	1200-1300	1431	30.4%	11.7%	0.2%	16.2%	5.8%	5.8%	11.4%	0.0%	0.1%	0.5%	0.5%	0.4%	0.8%	0.0%	4.0%	0.8%	2.1%	0.0%	100.0%
Road 48	48	80	80.0	N	1300-1400	1494	28.7%	11.1%	0.2%	18.8%	6.8%	5.8%	11.5%	0.0%	0.1%	0.4%	0.4%	0.3%	0.6%	0.0%	4.0%	0.7%	2.2%	0.0%	100.0%
Road 48	48	80	80.0	N	1400-1500	1561	29.4%	11.9%	0.2%	17.1%	6.1%	5.8%	11.4%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	4.0%	0.7%	2.2%	0.0%	100.0%
Road 48	48	80	80.0	N	1500-1600	1602	29.1%	11.7%	0.2%	19.7%	7.1%	5.0%	9.8%	0.0%	0.1%	0.5%	0.6%	0.4%	0.9%	0.0%	4.0%	0.7%	2.2%	0.0%	100.0%
Road 48	48	80	80.0	N	1600-1700	1660	31.8%	11.0%	0.2%	15.9%	5.7%	5.0%	9.8%	0.6%	0.1%	0.8%	0.9%	0.6%	1.4%	0.0%	4.0%	0.8%	2.2%	0.0%	100.0%
Road 48	48	80	80.0	N	1700-1800	1794	36.9%	11.5%	0.2%	14.9%	5.4%	3.4%	6.6%	0.7%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	4.0%	1.2%	2.2%	0.0%	100.0%
Road 48	48	80	80.0	N	1800-1900	1825	48.0%	11.3%	0.1%	9.9%	3.6%	2.1%	4.1%	0.7%	0.1%	0.5%	0.6%	0.4%	1.0%	0.0%	4.0%	2.3%	1.1%	0.0%	100.0%
Road 48	48	80	80.0	N	1900-2000	1441	47.3%	14.8%	0.1%	7.6%	2.7%	1.8%	3.6%	0.8%	0.0%	0.1%	0.7%	0.5%	1.1%	0.0%	4.0%	2.2%	1.4%	0.0%	100.0%
Road 48	48	80	80.0	N	2000-2100	1133	43.1%	18.3%	0.1%	8.0%	2.9%	1.8%	3.5%	0.9%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	4.0%	1.8%	1.8%	0.0%	100.0%
Road 48	48	80	80.0	N	2100-2200	1114	44.6%	18.4%	0.1%	8.2%	3.0%	1.9%	3.7%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	4.0%	1.9%	1.8%	0.0%	100.0%
Road 48	48	80	80.0	N	2200-2300	1080	44.3%	20.0%	0.1%	6.4%	2.3%	2.0%	4.0%	0.8%	0.0%	0.0%	0.3%	0.2%	0.4%	0.1%	16.3%	1.7%	1.0%	0.0%	100.0%
Road 48	48	80	80.0	N	2300-0000	816	43.1%	19.4%	0.1%	7.1%	2.5%	2.2%	4.4%	0.8%	0.0%	0.1%	0.3%	0.2%	0.5%	0.1%	16.0%	1.9%	1.1%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

| Road Name | Road ID | Speed Lim

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 53	53	50	28.2	N	0000-0100	26	23.7%	10.6%	0.2%	16.2%	5.8%	5.1%	10.1%	23.6%	0.0%	0.1%	0.2%	0.2%	0.3%	0.0%	0.0%	1.2%	2.6%	0.0%	100.0%
Road 53	53	50	28.8	N	0100-0200	17	22.4%	10.0%	0.2%	17.2%	6.2%	5.4%	10.7%	23.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	1.3%	2.8%	0.0%	100.0%
Road 53	53	50	29.0	N	0200-0300	13	21.3%	9.5%	0.2%	18.1%	6.5%	5.7%	11.2%	22.4%	0.0%	0.1%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	2.9%	0.0%	100.0%
Road 53	53	50	29.2	N	0300-0400	11	20.2%	9.0%	0.2%	18.9%	6.8%	5.9%	11.7%	21.8%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.4%	3.1%	0.0%	100.0%
Road 53	53	50	29.1	N	0400-0500	12	19.1%	8.5%	0.2%	19.7%	7.1%	6.2%	12.2%	21.3%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.2%	0.0%	100.0%
Road 53	53	50	28.4	N	0500-0600	22	18.1%	8.0%	0.2%	20.4%	7.3%	6.4%	12.6%	20.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	1.5%	3.3%	0.0%	100.0%
Road 53	53	50	26.4	N	0600-0700	48	17.2%	7.5%	0.2%	21.1%	7.6%	6.6%	13.0%	20.3%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	1.6%	3.4%	0.0%	100.0%
Road 53	53	50	21.5	N	0700-0800	101	16.3%	7.1%	0.2%	21.8%	7.8%	6.8%	13.4%	19.8%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	1.7%	3.5%	0.0%	100.0%
Road 53	53	50	24.3	N	0800-0900	114	18.7%	6.0%	0.3%	24.3%	8.7%	6.8%	13.4%	15.8%	0.0%	0.3%	0.4%	0.3%	0.6%	0.0%	0.0%	1.1%	3.5%	0.0%	100.0%
Road 53	53	50	24.2	N	0900-1000	117	13.7%	5.0%	0.3%	27.6%	9.9%	7.5%	14.8%	16.0%	0.0%	0.1%	0.2%	0.2%	0.4%	0.0%	0.0%	0.5%	3.9%	0.0%	100.0%
Road 53	53	50	24.3	N	1000-1100	110	11.9%	4.6%	0.3%	27.2%	9.8%	8.6%	17.0%	14.9%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.4%	0.0%	100.0%
Road 53	53	50	24.4	N	1100-1200	104	11.9%	4.9%	0.3%	27.1%	9.7%	8.5%	16.7%	15.6%	0.0%	0.2%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	4.4%	0.0%	100.0%
Road 53	53	50	24.0	N	1200-1300	131	24.1%	9.3%	0.2%	22.1%	7.9%	7.9%	15.6%	6.3%	0.0%	0.4%	0.4%	0.3%	0.6%	0.0%	0.0%	0.7%	4.1%	0.0%	100.0%
Road 53	53	50	23.9	N	1300-1400	139	22.3%	8.6%	0.3%	25.1%	9.0%	7.8%	15.3%	5.5%	0.0%	0.3%	0.3%	0.2%	0.5%	0.0%	0.0%	0.7%	4.0%	0.0%	100.0%
Road 53	53	50	23.9	N	1400-1500	144	23.1%	9.4%	0.2%	23.1%	8.3%	7.8%	15.3%	5.9%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.9%	4.0%	0.0%	100.0%
Road 53	53	50	23.8	N	1500-1600	148	22.9%	9.2%	0.3%	26.5%	9.5%	6.7%	13.2%	5.4%	0.1%	0.4%	0.5%	0.3%	0.7%	0.0%	0.0%	0.8%	3.5%	0.0%	100.0%
Road 53	53	50	23.8	N	1600-1700	147	26.0%	9.0%	0.2%	22.4%	8.0%	7.0%	13.7%	5.7%	0.1%	0.6%	0.8%	0.5%	1.2%	0.0%	0.0%	1.2%	3.6%	0.0%	100.0%
Road 53	53	50	23.9	N	1700-1800	153	31.5%	9.8%	0.2%	21.9%	7.9%	5.0%	9.7%	6.6%	0.1%	0.5%	0.6%	0.4%	0.8%	0.0%	0.0%	2.7%	2.5%	0.0%	100.0%
Road 53	53	50	24.2	N	1800-1900	143	44.4%	10.4%	0.2%	15.8%	5.7%	3.3%	6.5%	7.3%	0.0%	0.1%	0.8%	0.5%	1.2%	0.0%	0.0%	2.1%	1.7%	0.0%	100.0%
Road 53	53	50	24.6	N	1900-2000	109	45.3%	14.2%	0.1%	12.5%	4.5%	3.0%	5.9%	8.9%	0.0%	0.1%	0.7%	0.5%	1.0%	0.0%	0.0%	1.7%	1.5%	0.0%	100.0%
Road 53	53	50	24.9	N	2000-2100	86	41.3%	17.5%	0.1%	13.1%	4.7%	2.9%	5.7%	9.5%	0.0%	0.1%	0.6%	0.4%	0.9%	0.0%	0.0%	1.6%	1.5%	0.0%	100.0%
Road 53	53	50	24.9	N	2100-2200	86	41.9%	17.3%	0.1%	13.3%	4.8%	3.1%	6.0%	9.0%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	1.9%	1.6%	0.0%	100.0%
Road 53	53	50	25.0	N	2200-2300	81	43.1%	19.5%	0.1%	10.7%	3.8%	3.4%	6.7%	8.5%	0.0%	0.0%	0.3%	0.2%	0.4%	0.0%	0.0%	2.3%	1.7%	0.0%	100.0%
Road 53	53	50	26.1	N	2300-0000	62	41.4%	18.6%	0.1%	11.6%	4.2%	3.7%	7.2%	8.3%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	2.6%	1.8%	0.0%	100.0%
Road 54	54	50	26.8	N	0000-0100	50	36.4%	16.3%	0.1%	12.4%	4.5%	3.9%	7.7%	13.5%	0.0%	0.1%	0.3%	0.2%	0.5%	0.0%	0.0%	1.8%	2.0%	0.0%	100.0%
Road 54	54	50	27.8	N	0100-0200	33	34.9%	15.6%	0.1%	13.3%	4.8%	4.2%	8.2%	13.3%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.0%	2.2%	0.0%	100.0%
Road 54	54	50	28.3	N	0200-0300	25	33.4%	14.9%	0.1%	14.1%	5.1%	4.4%	8.7%	13.1%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	2.1%	2.3%	0.0%	100.0%
Road 54	54	50	28.6	N	0300-0400	20	32.0%	14.2%	0.2%	14.9%	5.4%	4.7%	9.2%	12.9%	0.0%	0.3%	0.5%	0.3%	0.7%	0.0%	0.0%	2.3%	2.4%	0.0%	100.0%
Road 54	54	50	28.5	N	0400-0500	23	30.7%	13.6%	0.2%	15.7%	5.6%	4.9%	9.7%	12.7%	0.0%	0.3%	0.5%	0.3%	0.8%	0.0%	0.0%	2.4%	2.5%	0.0%	100.0%
Road 54	54	50	27.2	N	0500-0600	40	29.4%	12.9%	0.2%	16.5%	5.9%	5.2%	10.2%	12.6%	0.0%	0.3%	0.5%	0.4%	0.8%	0.0%	0.0%	2.5%	2.7%	0.0%	100.0%
Road 54	54	50	24.8	N	0600-0700	88	28.1%	12.3%	0.2%	17.2%	6.2%	5.4%	10.6%	12.4%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.6%	2.8%	0.0%	100.0%
Road 54	54	50	23.4	N	0700-0800	182	26.9%	11.7%	0.2%	17.9%	6.4%	5.6%	11.0%	12.2%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	2.7%	2.9%	0.0%	100.0%
Road 54	54	50	23.1	N	0800-0900	208	30.4%	9.7%	0.2%	19.7%	7.1%	5.5%	10.8%	9.6%	0.1%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.8%	2.8%	0.0%	100.0%
Road 54	54	50	23.1	N	0900-1000	201	23.7%	8.6%	0.2%	23.7%	8.5%	6.5%	12.7%	10.3%	0.0%	0.2%	0.4%	0.3%	0.6%	0.0%	0.0%	0.9%	3.3%	0.0%	100.0%
Road 54	54	50	23.2	N	1000-1100	185	21.0%	8.2%	0.2%	23.9%	8.6%	7.6%	14.9%	9.8%	0.0%	0.2%	0.3%	0.2%	0.5%	0.0%	0.0%	0.6%	3.9%	0.0%	100.0%
Road 54	54	50	23.4	N	1100-1200	175	21.0%	8.6%	0.2%	23.8%	8.5%	7.4%	14.6%	10.2%	0.0%	0.2%	0.4%	0.2%	0.5%	0.0%	0.0%	0.6%	3.8%	0.0%	100.0%
Road 54	54	50	24.0	N	1200-1300	122	10.9%	4.2%	0.3%	29.4%	10.6%	10.6%	20.7%	6.7%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.3%	5.4%	0.0%	100.0%
Road 54	54	50	23.8	N	1300-1400	134	9.8%	3.8%	0.3%	32.6%	11.7%	10.1%	19.8%	5.7%	0.0%	0.1%	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	5.2%	0.0%	100.0%
Road 54	54	50	23.8	N	1400-1500	135	10.4%	4.2%	0.3%	30.6%	11.0%	10.3%	20.3%	6.3%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	5.3%	0.0%	100.0%
Road 54	54	50	23.8	N	1500-1600	132	10.2%	4.1%	0.4%	35.0%	12.6%	8.9%	17.4%	5.7%	0.0%	0.2%	0.2%	0.1%	0.3%	0.0%	0.0%	0.4%	4.5%	0.0%	100.0%
Road 54	54	50	23.8	N	1600-1700	134	12.1%	4.2%	0.3%	30.7%	11.0%	9.6%	18.9%	6.3%	0.0%	0.3%	0.4%	0.2%	0.5%	0.0%	0.0%	0.6%	4.9%	0.0%	100.0%
Road 54	54	50	24.0	N	1700-1800	130	15.7%	4.9%	0.3%	32.1%	11.5%	7.3%	14.3%	7.7%	0.0%	0.2%	0.3%	0.2%	0.4%	0.0%	0.0%	1.3%	3.7%	0.0%	100.0%
Road 54	54	50	24.5	N	1800-1900	105	25.5%	6.0%	0.3%	26.7%	9.6%	5.6%	10.9%	10.0%	0.0%	0.1%	0.5%	0.3%	0.7%	0.0%	0.0%	2.0%	2.5%	0.0%	100.0%
Road 54	54	50	24.9	N	1900-2000	76	27.3%	8.6%	0.2%	22.3%	8.0%	5.3%	10.5%	12.7%	0.0%	0.0%	0.4%	0.3%	0.6%	0.0%	0.0%	1.0%	2.7%	0.0%	100.0%
Road 54	54	50	25.7	N	2000-2100	61	24.7%	10.5%	0.2%	23.1%	8.3%	5.1%	10.0%	13.4%	0.0%	0.0%	0.3%	0.2%	0.5%	0.0%	0.0%	1.0%	2.6%	0.0%	100.0%
Road 54	54	50	25.6	N	2100-2200	61	24.9%	10.3%	0.2%	23.0%	8.4%	5.4%	10.5%	12.6%	0.0%	0.0%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	2.7%	0.0%	100.0%
Road 54	54	50	26.0	N	2200-2300	56	26.5%	12.0%	0.2%	19.3%	6.9%	6.1%	12.0%	12.3%	0.0%	0.0%	0.2%	0.1%	0.2%	0.0%	0.0%	1.0%	3.1%	0.0%	100.0%
Road 54	54	50	26.8	N	2300-0000	44	24.7%	11.1%	0.2%	20.5%	7.3%	6.5%	12.7%	11.8%	0.0%	0.1%	0.2%	0.1%	0.3%	0.0%	0.0%	1.1%	3.3%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Road 101	101	80	80.0	N	0000-0100	1055	56.9%	25.5%	0.1%	5.2%	1.9%	1.6%	3.2%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	0.8%	0.0%	100.0%
Road 101	101	80	80.0	N	0100-0200	688	55.7%	24.9%	0.1%	5.7%	2.0%	1.8%	3.5%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.2%	0.9%	0.0%	100.0%
Road 101	101	80	80.0	N	0200-0300	505	54.5%	24.3%	0.1%	6.2%	2.2%	1.9%	3.8%	0.0%	0.0%	0.3%	0.7%	0.5%	1.0%	0.0%	0.0%	3.5%	1.0%	0.0%	100.0%
Road 101	101	80	80.0	N	0300-0400	400	53.3%	23.6%	0.1%	6.7%	2.4%	2.1%	4.1%	0.0%	0.0%	0.4%	0.8%	0.5%	1.2%	0.0%	0.0%	3.8%	1.1%	0.0%	100.0%
Road 101	101	80	80.0	N	0400-0500	441	52.1%	23.0%	0.1%	7.1%	2.6%	2.2%	4.4%	0.0%	0.1%	0.5%	0.9%	0.6%	1.3%	0.0%	0.0%	4.1%	1.2%	0.0%	100.0%
Road 101	101	80	80.0	N	0500-0600	768	50.8%	22.4%	0.1%	7.6%	2.7%	2.4%	4.7%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.3%	1.2%	0.0%	100.0%
Road 101	101	80	80.0	N	0600-0700	1652	49.6%	21.7%	0.1%	8.1%	2.9%	2.5%	5.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.6%	0.0%	0.0%	4.6%	1.3%	0.0%	100.0%
Road 101	101	80	78.4	N	0700-0800	3353	48.4%	21.1%	0.1%	8.6%	3.1%	2.7%	5.3%	0.0%	0.1%	0.7%	1.1%	0.8%	1.7%	0.0%	0.0%	4.9%	1.4%	0.0%	100.0%
Road 101	101	80	75.1	N	0800-0900	3906	53.7%	17.2%	0.1%	9.3%	3.3%	2.6%	5.1%	0.0%	0.1%	0.7%	1.0%	0.7%	1.6%	0.0%	0.0%	3.1%	1.3%	0.0%	100.0%
Road 101	101	80	77.9	N	0900-1000	3291	47.9%	17.4%	0.1%	12.8%	4.6%	3.5%	6.9%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	1.9%	1.8%	0.0%	100.0%
Road 101	101	80	79.9	N	1000-1100	2884	44.7%	17.4%	0.1%	13.6%	4.9%	4.3%	8.5%	0.0%	0.1%	0.5%	0.7%	0.5%	1.1%	0.0%	0.0%	1.4%	2.2%	0.0%	100.0%
Road 101	101	80	80.0	N	1100-1200	2727	44.7%	18.4%	0.1%	13.6%	4.9%	4.2%	8.3%	0.0%	0.1%	0.4%	0.8%	0.4%	1.0%	0.0%	0.0%	1.3%	2.2%	0.0%	100.0%
Road 101	101	80	80.0	N	1200-1300	2674	45.1%	17.4%	0.1%	12.6%	4.5%	4.5%	8.9%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	2.3%	0.0%	100.0%
Road 101	101	80	80.0	N	1300-1400	2754	43.1%	16.6%	0.2%	14.8%	5.3%	4.6%	9.0%	0.0%	0.1%	0.6%	0.8%	0.4%	0.9%	0.0%	0.0%	1.3%	2.4%	0.0%	100.0%
Road 101	101	80	79.5	N	1400-1500	2923	43.4%	17.6%	0.1%	13.2%	4.8%	4.5%	8.8%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.0%	1.3%	2.3%	0.0%	100.0%
Road 101	101	80	79.2	N	1500-1600	2996	43.1%	17.3%	0.2%	15.3%	5.5%	3.9%	7.6%	0.0%	0.1%	0.8%	0.9%	0.6%	1.3%	0.0%	0.0%	1.6%	2.0%	0.0%	100.0%
Road 101	101	80	78.3	N	1600-1700	3152	46.3%	16.0%	0.1%	12.2%	4.4%	3.8%	7.5%	0.0%	0.1%	1.1%	1.4%	0.9%	2.1%	0.0%	0.0%	2.2%	2.0%	0.0%	100.0%
Road 101	101	80	77.3	N	1700-1800	3531	51.8%	16.2%	0.1%	11.0%	4.0%	2.5%	4.9%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	4.5%	1.3%	0.0%	100.0%
Road 101	101	80	76.9	N	1800-1900	3797	63.8%	15.0%	0.1%	6.9%	2.5%	1.4%	2.8%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.0%	0.7%	0.0%	100.0%
Road 101	101	80	80.0	N	1900-2000	2689	63.0%	19.7%	0.1%	5.3%	1.9%	1.3%	2.5%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 101	101	80	80.0	N	2000-2100	2322	58.2%	24.7%	0.1%	5.7%	2.0%	1.2%	2.4%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.3%	0.6%	0.0%	100.0%
Road 101	101	80	80.0	N	2100-2200	2327	59.0%	24.4%	0.1%	5.7%	2.1%	1.3%	2.6%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	0.7%	0.0%	100.0%
Road 101	101	80	80.0	N	2200-2300	2250	58.9%	26.6%	0.0%	4.5%	1.6%	1.4%	2.8%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 101	101	80	80.0	N	2300-0000	1687	57.7%	26.0%	0.1%	5.0%	1.8%	1.6%	3.1%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.6%	0.8%	0.0%	100.0%
Road 102	102	80	80.0	N	0000-0100	896	51.9%	23.3%	0.1%	8.3%	3.0%	2.6%	5.2%	0.0%	0.0%	0.2%	0.5%	0.3%	0.7%	0.0%	0.0%	2.6%	1.3%	0.0%	100.0%
Road 102	102	80	80.0	N	0100-0200	589	50.4%	22.5%	0.1%	9.0%	3.2%	2.8%	5.6%	0.0%	0.0%	0.2%	0.5%	0.4%	0.8%	0.0%	0.0%	2.9%	1.5%	0.0%	100.0%
Road 102	102	80	80.0	N	0200-0300	436	48.9%	21.8%	0.1%	9.7%	3.5%	3.0%	6.0%	0.0%	0.0%	0.3%	0.6%	0.4%	0.9%	0.0%	0.0%	3.3%	1.6%	0.0%	100.0%
Road 102	102	80	80.0	N	0300-0400	348	47.4%	21.1%	0.1%	10.4%	3.7%	3.3%	6.4%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	3.6%	1.7%	0.0%	100.0%
Road 102	102	80	80.0	N	0400-0500	387	46.0%	20.3%	0.1%	11.0%	4.0%	3.5%	6.8%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	3.6%	1.8%	0.0%	100.0%
Road 102	102	80	80.0	N	0500-0600	678	44.6%	19.6%	0.1%	11.7%	4.2%	3.7%	7.2%	0.0%	0.1%	0.5%	0.8%	0.6%	1.2%	0.0%	0.0%	4.2%	1.5%	0.0%	100.0%
Road 102	102	80	80.0	N	0600-0700	1471	43.1%	18.9%	0.1%	12.4%	4.4%	3.9%	7.6%	0.0%	0.1%	0.6%	0.9%	0.6%	1.4%	0.0%	0.0%	4.0%	2.0%	0.0%	100.0%
Road 102	102	80	79.3	N	0700-0800	3011	41.7%	18.2%	0.1%	13.0%	4.7%	4.1%	8.0%	0.0%	0.1%	0.6%	1.0%	0.7%	1.5%	0.0%	0.0%	4.3%	2.1%	0.0%	100.0%
Road 102	102	80	76.0	N	0800-0900	3522	46.1%	14.7%	0.1%	14.0%	5.0%	3.9%	7.7%	0.0%	0.1%	0.7%	1.0%	0.7%	1.5%	0.0%	0.0%	3.0%	1.6%	0.0%	100.0%
Road 102	102	80	77.6	N	0900-1000	3119	39.2%	14.2%	0.2%	18.4%	6.6%	5.0%	9.8%	0.0%	0.0%	0.4%	0.7%	0.5%	1.0%	0.0%	0.0%	1.5%	2.6%	0.0%	100.0%
Road 102	102	80	79.1	N	1000-1100	2798	35.7%	13.9%	0.2%	19.0%	6.8%	6.0%	11.9%	0.0%	0.0%	0.4%	0.6%	0.4%	0.9%	0.0%	0.0%	1.1%	3.1%	0.0%	100.0%
Road 102	102	80	80.0	N	1100-1200	2641	35.7%	14.7%	0.2%	19.0%	6.8%	5.9%	11.7%	0.0%	0.1%	0.7%	0.9%	0.6%	1.2%	0.0%	0.0%	1.2%	3.0%	0.0%	100.0%
Road 102	102	80	80.0	N	1200-1300	2413	44.6%	17.2%	0.1%	12.8%	4.6%	4.6%	9.0%	0.0%	0.1%	0.7%	0.8%	0.5%	1.2%	0.0%	0.0%	1.3%	2.4%	0.0%	100.0%
Road 102	102	80	80.0	N	1300-1400	2487	42.7%	16.4%	0.2%	15.1%	5.4%	4.7%	9.2%	0.0%	0.1%	0.6%	0.8%	0.4%	0.9%	0.0%	0.0%	1.4%	2.4%	0.0%	100.0%
Road 102	102	80	80.0	N	1400-1500	2638	43.0%	17.4%	0.1%	13.5%	4.8%	4.6%	9.0%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	1.6%	2.3%	0.0%	100.0%
Road 102	102	80	80.0	N	1500-1600	2704	42.6%	17.1%	0.2%	15.6%	5.6%	3.9%	7.8%	0.0%	0.1%	0.7%	0.9%	0.6%	1.3%	0.0%	0.0%	1.5%	2.0%	0.0%	100.0%
Road 102	102	80	80.0	N	1600-1700	2842	45.9%	15.8%	0.1%	12.4%	4.5%	3.9%	7.6%	0.0%	0.1%	1.1%	1.3%	0.9%	2.1%	0.0%	0.0%	2.2%	2.0%	0.0%	100.0%
Road 102	102	80	79.3	N	1700-1800	3178	51.5%	16.1%	0.1%	11.3%	4.0%	2.5%	5.0%	0.0%	0.1%	0.7%	0.9%	0.6%	1.4%	0.0%	0.0%	4.4%	1.3%	0.0%	100.0%
Road 102	102	80	79.0	N	1800-1900	3408	63.5%	14.9%	0.1%	7.1%	2.5%	1.5%	2.9%	0.0%	0.0%	0.1%	1.1%	0.8%	1.7%	0.0%	0.0%	3.0%	0.8%	0.0%	100.0%
Road 102	102	80	80.0	N	1900-2000	2680	62.8%	19.7%	0.1%	5.5%	2.0%	1.3%	2.6%	0.0%	0.0%	0.1%	0.9%	0.7%	1.4%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 102	102	80	80.0	N	2000-2100	2083	58.0%	24.6%	0.1%	5.8%	2.1%	1.3%	2.5%	0.0%	0.0%	0.1%	0.8%	0.6%	1.2%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 102	102	80	80.0	N	2100-2200	2087	58.8%	24.3%	0.1%	5.9%	2.1%	1.4%	2.7%	0.0%	0.0%	0.1%	0.4%	0.3%	0.6%	0.0%	0.0%	2.7%	0.7%	0.0%	100.0%
Road 102	102	80	80.0	N	2200-2300	2017	58.7%	26.5%	0.0%	4.6%	1.6%	1.5%	2.9%	0.0%	0.0%	0.1%	0.4%	0.2%	0.5%	0.0%	0.0%	2.3%	0.7%	0.0%	100.0%
Road 102	102	80	80.0	N	2300-0000	1514	57.5%	25.9%	0.1%	5.1%	1.8%	1.6%	3.2%	0.0%	0.0%	0.1%	0.4%	0.3%	0.7%	0.0%	0.0%	2.5%	0.8%	0.0%	100.0%

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Traffic Data / Modeling Parameters For AERMOD (Year 2043)

Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Open Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAGL)	(m)	(m)	(m)
Road 106	106_3	826696.10	823523.02	826739.15	823536.90	31,37	0.0	66.2	0.0	13.2	5.0
Road 106	106_4	826739.15	823536.90	826791.57	823502.81	31,37	0.0	63.2	0.0	14.3	6.0
Road 106	106_5	826791.57	823502.81	826834.72	823484.29	31,37	0.0	61.6	0.0	14.3	6.0
Road 106	106_6	826834.72	823484.29	826891.25	823446.27	31,37	0.0	57.5	0.0	14.3	7.0

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Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Meteorological Data

Grid (I,J)	Hour	Annual Minimum		Month Minimum																			
		Temperature	RH	January		February		March		April		May		June		July		August		September		October		November		December	
				Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH
30,36	0000-0100	14	29	15	38	18	62	18	72	21	73	22	71	26	72	28	72	27	71	26	40	23	42	19	45	14	29
30,36	0100-0200	14	29	14	39	17	63	17	72	21	73	22	71	25	77	28	75	27	71	25	42	23	54	18	49	14	29
30,36	0200-0300	13	28	14	42	17	64	18	69	21	80	21	70	26	77	28	79	27	74	25	42	22	54	18	49	13	28
30,36	0300-0400	13	27	13	40	17	62	18	65	21	78	21	70	26	74	28	78	26	76	25	40	22	55	17	47	13	27
30,36	0400-0500	13	27	13	40	17	61	17	59	21	75	21	63	25	74	28	76	27	76	24	40	22	55	17	48	13	27
30,36	0500-0600	12	26	13	43	16	60	17	56	21	73	22	60	25	77	28	74	27	78	24	41	21	52	17	45	12	26
30,36	0600-0700	12	27	13	46	17	63	17	51	21	74	22	61	25	77	27	72	27	76	24	44	21	47	17	45	12	27
30,36	0700-0800	12	29	13	48	17	65	18	47	21	71	22	58	24	74	28	67	27	74	24	42	21	46	17	44	12	29
30,36	0800-0900	13	29	15	50	17	67	18	46	21	74	23	60	25	72	27	62	27	68	24	38	22	44	17	42	13	29
30,36	0900-1000	13	30	15	49	17	69	19	49	21	72	24	61	25	68	28	63	28	63	26	37	24	42	18	43	13	30
30,36	1000-1100	14	29	15	48	18	68	20	51	21	70	24	60	25	71	28	62	28	61	25	36	24	42	18	43	14	29
30,36	1100-1200	15	27	16	47	18	68	19	55	22	72	24	60	25	71	28	62	28	61	27	37	25	42	20	40	15	27
30,36	1200-1300	16	27	16	48	19	66	19	55	22	71	23	61	25	75	27	65	28	59	27	36	25	41	20	43	16	27
30,36	1300-1400	16	26	16	50	20	67	19	58	22	73	23	63	26	72	28	63	27	63	27	35	26	43	21	42	16	26
30,36	1400-1500	17	26	17	39	20	62	18	59	22	65	24	53	26	67	27	58	27	54	27	35	26	42	22	40	17	26
30,36	1500-1600	17	24	17	39	20	66	19	59	22	64	23	56	27	65	27	56	27	57	28	32	26	42	22	38	17	24
30,36	1600-1700	17	25	17	39	20	63	19	58	21	67	23	54	27	63	26	62	27	52	28	30	26	44	22	38	17	25
30,36	1700-1800	16	24	17	42	20	63	19	59	21	65	23	61	27	66	27	64	27	60	28	28	25	46	21	39	16	24
30,36	1800-1900	17	24	17	37	20	64	19	63	21	65	22	64	26	69	27	64	28	61	28	30	25	51	20	41	17	24
30,36	1900-2000	16	25	17	39	19	66	18	64	21	73	22	63	27	69	27	67	27	64	27	31	25	55	20	39	16	25
30,36	2000-2100	16	25	17	41	18	71	18	72	21	77	22	73	26	73	27	73	28	71	27	33	24	59	19	41	16	25
30,36	2100-2200	16	25	17	44	19	72	18	71	21	77	22	74	26	75	27	72	27	68	27	36	24	56	19	43	16	25
30,36	2200-2300	15	28	17	39	18	67	18	69	21	76	22	74	26	75	27	69	26	65	26	39	24	51	19	43	15	28
30,36	2300-0000	14	29	16	38	18	77	18	70	21	72	22	73	26	76	27	71	27	69	26	39	23	46	19	47	14	29
30,36 31,36 31,37	0000-0100	13	25	14	35	18	59	18	69	21	71	22	66	26	72	27	71	27	68	25	35	23	39	18	42	13	25
30,36 31,36 31,37	0100-0200	13	25	14	36	17	59	17	70	21	70	22	67	25	76	28	73	27	68	25	37	22	51	18	45	13	25
30,36 31,36 31,37	0200-0300	12	23	13	39	17	59	17	65	21	71	21	69	25	74	28	77	27	71	24	39	22	52	17	46	12	23
30,36 31,36 31,37	0300-0400	12	22	13	36	17	58	17	60	21	73	21	68	26	73	28	76	26	74	24	37	22	53	17	44	12	22
30,36 31,36 31,37	0400-0500	12	22	13	36	17	57	17	56	21	72	21	61	25	73	28	74	26	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	0500-0600	12	22	13	40	16	57	17	53	20	71	21	57	25	74	28	73	27	76	24	36	22	53	17	44	12	22
30,36 31,36 31,37	0600-0700	11	22	12	44	17	59	17	45	21	69	22	56	24	73	27	70	27	73	24	37	22	53	17	44	12	22
30,36 31,36 31,37	0700-0800	12	23	13	45	17	63	17	40	21	68	22	54	24	73	27	69	27	74	24	37	22	53	17	44	12	22
30,36 31,36 31,37	0800-0900	12	24	15	43	17	65	18	39	21	68	23	53	24	73	27	68	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	0900-1000	13	24	15	41	18	61	19	38	21	71	24	53	25	74	28	68	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1000-1100	15	22	16	38	18	56	20	37	21	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1100-1200	15	19	16	36	18	54	19	38	21	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1200-1300	16	18	16	34	19	52	19	38	21	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1300-1400	16	18	16	34	19	51	19	42	21	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1400-1500	17	20	17	32	20	56	19	48	22	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1500-1600	17	19	17	32	20	56	19	48	22	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1600-1700	16	20	17	32	20	56	19	48	22	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1700-1800	16	19	17	33	20	57	19	52	21	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1800-1900	16	19	17	33	20	57	19	52	21	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	1900-2000	16	20	17	33	20	57	19	52	21	74	24	55	25	74	28	69	27	74	24	36	22	53	17	45	12	22
30,36 31,36 31,37	2000-2100	16	20	17	35	18	68	18	63	21	69	22	64	26	73	27	73	28	70	27	32	24	58	19	41	16	25
30,36 31,36 31,37	2100-2200	15	21	17	41	19	71	18	66	21	72	22	69	26	73	27	72	27	69	26	29	24	54	19	39	15	21
30,36 31,36 31,37	2200-2300	14	23	16	35	18	74	18	65	21	72	22	69	26	73	27	72	25	68	26	32	23	48	19	40	14	23
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30,37	0000-0100	14	29	14	39	17	63	18	73	21	72	22	70	26	71	28	72	27	70	26	40	23	43	19	46	14	29
30,37	0100-0200	13	29	13	39	17	63	17	73	21	73	22	70	25	77	28	75	27	70	25	42	23	54	18	49	13	29
30,37	0200-0300	13	28	13	42	17	63	18	68	21	76	21	70	26	76	28	79	27	73	25	42	22	55	18	49	13	28
30,37	0300-0400	13	27	13	40	17	62	18	63	21	78	21	69	26	74	28	78	26	75	25	41	22	55	17	48	13	27
30,37	0400-0500	12	26	13	40	17	61	17	57	21	74	22	63	25	74	28	76	27	76	24	40	22	55	17	48	12	26
30,37	0500-0600	12	26	13	43	17	60	17	55	21	73	22	60	25	76	27	74	27	77	24	42	21	52	17	45	12	26
30,37	0600-0700	12	26	12	47	17	63	17	48	21	72	22	60	25	76	27	72	27	76	24	44	21	47	17	46	12	26
30,37	0700-0800	12	28	13	48	17	65	18	46	21	70	22	57	25	73	28	67	27	73	24	42	21	46	17	43	12	28
30,37	0800-0900	13	28	15	50	17	67	18	44	21	71	23	61	25	71	27	62	27	66	25	38	22	44	17	42	13	28
30,37	0900-1000	13	30	15	48	18	68	19	46	21	70	24	61	25	67	28	61	29	62	26	36	24	41	18	43	13	30
30,37	1000-1100	15	28	16	46	18	67	20	51	21	67	24	60	25	70	28	59	28	61	25	35	24	41	19	42	15	28
30,37	1100-1200	15	26	16	46	18	68	19	59	22	70	24	61	26	68	28	61	28	61	27	35	25	42	20	39	15	26
30,37	1200-1300	16	25	16	48	19	66	19	55	22	69	24	62	26	71	27	64	28	58	27	35	26	41	20	41	16	25
30,37	1300-1400	16	25	16	51	20	66	19	59	22	71	23	60	26	69	28	61	27	61	27	35	26	42	21	41	16	25
30,37	1400-1500	17	25	17	38	20	59	18	56	22	63	24	53	26	63	27	56	28	54	27	35	26	42	22	37	17	25
30,37	1500-1600	17	24	17	38	20	63	19	57	22	63	23	57	27	62	27	53	27	53	28	31	26	42	22	38	17	24
30,37	1600-1700	16	25	17	37	20	63	19	56	22	64	23	52	27	62	27	60	27	51	28	29	26	43	22	38	16	25
30,37	1700-1800	17	24	17	38	20	62	19	58	21	62	23	56	27	62	27	62	27	58	28	27	25	46	21	40	17	24
30,37	1800-1900	17	23	17	37	20	63	19	62	21	62	22	62	27	69	26	64	28	61	28	30	25	51	20	41	17	23
30,37	1900-2000	16	24	17	38	19	64	18	63	21	72	22	63	27	68	27	66	27	63	27	31	25	54	19	39	16	24
30,37	2000-2100	16	25	17	41	18	69	18	71	21	76	22	73	26	72	27	72	28	70	27	33	24	57	19	41	16	25
30,37	2100-2200	15	21	17	43	19	71	18	70	21	75	22	73	26	74	27	70	26	67	27	35	24	54	19	43	15	26
30,37	2200-2300	15	27	17	39	19	76	18	69	21	74	23	73	26	75	27	66	25	64	26	38	24	51	19	44	15	27
30,37	2300-0000	14	29	16	38	18	76	18	71	21	72	22	72	26	76	27	70	27	68	26	39	23	45	19	47	14	29
31,37	0000-0100	13	25	14	35	18	59	18	69	21	71	22	66	26	72	27	71	27	68	25	35	23	39	18	42	13	25
31,37	0100-0200	13	25	14	36	17	59	17	70	21	70	22	67	25	76	28	73	27	68	25	37	22	51	18	45	13	25
31,37	0200-0300	12	23	13	39	17	59	17	65	21	71	21	69	25	74	28	77	27	71	24	39	22	52	17	46	12	23
31,37	0300-0400	12	22	13	36	17	58	17	60	21	73	21	68	26	73	28	76	26	74	24	37	22	53	17	44	12	22

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Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Meteorological Data

Grid (I,J)	Hour	Annual Minimum		Month Minimum																			
		Temperature	RH	January		February		March		April		May		June		July		August		September		October		November		December	
				Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH
31,37	0400-0500	12	22	13	36	17	57	17	56	21	72	21	61	25	73	28	74	26	74	24	36	22	53	17	45	12	22
31,37	0500-0600	12	22	13	40	17	57	17	53	20	71	21	57	25	76	27	73	27	75	24	37	21	49	17	42	12	22
31,37	0600-0700	11	22	12	44	17	59	17	45	21	69	22	56	25	73	27	70	27	73	24	39	21	44	16	43	11	22
31,37	0700-0800	12	23	14	45	17	63	17	40	21	64	22	53	24	68	27	62	27	68	24	37	22	41	17	39	12	23
31,37	0800-0900	12	24	15	43	17	65	18	39	21	65	23	48	25	65	27	57	27	59	25	33	23	39	17	37	12	24
31,37	0900-1000	13	24	15	41	18	61	20	38	21	61	24	48	25	58	27	55	29	53	26	30	24	37	18	37	13	24
31,37	1000-1100	15	22	16	38	18	56	20	37	22	57	25	44	25	57	27	52	28	44	25	28	25	36	19	35	15	22
31,37	1100-1200	15	19	16	36	19	54	19	38	22	56	25	42	26	57	28	50	29	42	27	27	25	36	20	34	15	19
31,37	1200-1300	16	18	17	34	20	52	19	38	22	55	24	42	26	58	27	53	29	43	28	26	27	34	21	33	16	18
31,37	1300-1400	16	18	17	34	20	51	19	42	22	55	24	42	27	53	28	49	28	47	28	26	27	35	22	33	16	18
31,37	1400-1500	17	20	17	32	20	53	18	45	22	55	24	41	27	54	27	50	28	45	28	27	27	36	22	33	16	20
31,37	1500-1600	17	19	17	32	20	56	19	48	22	55	24	41	27	54	27	48	27	46	28	23	26	36	22	33	16	19
31,37	1600-1700	16	20	17	32	20	56	19	48	22	55	24	41	27	54	27	48	27	46	28	23	26	36	22	33	16	20
31,37	1700-1800	16	19	17	33	20	57	19	52	21	57	23	50	27	55	26	57	27	52	28	22	25	43	20	35	16	19
31,37	1800-1900	16	19	17	33	20	60	18	58	21	60	22	56	26	64	26	61	28	57	27	26	25	48	20	37	16	19
31,37	1900-2000	16	20	17	35	19	62	18	60	21	69	22	60	26	65	27	64	27	59	27	27	24	54	19	39	15	21
31,37	2000-2100	16	20	17	35	18	68	18	63	21	69	22	64	26	67	27	67	27	63	27	28	24	52	19	40	14	23
31,37	2100-2200	15	21	17	41	19	71	18	66	21	72	22	69	26	73	27	72	27	69	26	29	24	54	19	39	15	21
31,37	2200-2300	14	23	16	35	18	74	18	65	21	72	22	69	26	73	27	72	25	68	26	32	23	48	19	40	14	23
31,37	2300-0000	14	24	16	35	18	76	18	68	20	70	22	68	26	75	27	68	26	65	25	33	23	42	18	41	14	24
31,38	0000-0100	13	25	14	36	18	60	18	69	21	69	22	66	26	70	27	70	27	68	25	35	23	40	18	43	13	25
31,38	0100-0200	13	25	13	37	18	59	17	71	21	69	22	66	25	75	28	73	27	69	25	37	22	52	18	45	13	25
31,38	0200-0300	12	23	13	40	17	59	18	64	21	68	21	68	26	72	28	76	27	71	24	39	22	52	18	46	12	23
31,38	0300-0400	12	22	13	36	17	58	18	57	21	73	21	66	26	71	27	77	25	73	24	37	22	51	17	45	12	22
31,38	0400-0500	12	22	12	37	17	57	17	53	21	72	22	59	26	72	27	74	26	74	24	36	21	51	17	45	12	22
31,38	0500-0600	11	22	12	40	17	58	17	51	20	71	21	57	25	74	27	73	27	74	24	37	21	49	17	42	11	22
31,38	0600-0700	11	22	12	44	17	59	17	43	20	69	22	55	26	72	27	70	27	72	23	40	21	43	17	45	11	22
31,38	0700-0800	12	23	14	45	17	62	18	39	21	63	22	52	25	68	27	62	28	67	24	38	21	41	17	39	12	23
31,38	0800-0900	13	24	15	43	17	64	18	38	21	64	23	47	25	64	27	57	27	60	25	33	23	38	18	37	13	24
31,38	0900-1000	14	24	16	42	18	60	20	38	21	58	24	48	25	57	28	55	29	52	26	30	24	37	19	36	14	24
31,38	1000-1100	15	21	16	38	19	56	20	36	22	54	25	44	25	55	27	52	28	44	25	28	25	36	19	35	15	21
31,38	1100-1200	15	19	16	36	19	53	20	38	22	55	25	42	26	56	28	50	29	41	27	27	25	36	20	34	15	19
31,38	1200-1300	16	17	17	34	20	52	20	37	22	54	24	41	27	53	27	52	28	43	29	26	27	34	21	33	16	17
31,38	1300-1400	16	17	17	33	20	51	19	41	22	54	24	42	27	47	28	48	29	45	29	26	27	35	21	33	16	17
31,38	1400-1500	17	19	17	32	20	51	19	44	22	54	24	42	27	46	27	50	28	43	28	28	27	36	22	33	17	19
31,38	1500-1600	17	20	17	32	20	53	19	47	22	53	23	43	27	51	27	48	27	47	29	24	27	38	22	33	17	20
31,38	1600-1700	16	20	17	33	20	54	19	48	22	58	23	44	27	52	27	54	27	46	28	24	26	40	22	34	16	20
31,38	1700-1800	16	19	16	33	20	55	19	52	21	56	23	47	27	52	27	57	27	51	28	23	25	43	20	35	16	19
31,38	1800-1900	16	19	16	33	20	59	18	57	21	59	23	55	27	64	26	61	28	58	27	26	24	48	19	37	17	19
31,38	1900-2000	16	20	17	34	19	63	18	60	21	67	22	59	27	65	27	63	27	58	27	27	24	52	19	36	16	20
31,38	2000-2100	16	20	17	35	18	66	18	63	21	66	22	63	26	66	27	67	28	62	27	29	24	52	19	37	16	20
31,38	2100-2200	15	22	17	40	19	71	18	66	21	69	22	68	26	69	27	65	26	62	26	29	24	51	19	39	15	22
31,38	2200-2300	14	23	16	35	19	74	18	67	21	71	22	69	26	73	27	72	25	68	26	32	23	48	19	40	14	23
31,38	2300-0000	14	25	16	35	19	75	18	69	20	69	22	68	26	75	27	67	26	65	25	33	23	42	19	41	14	25
31,38 31,37	0000-0100	13	25	14	35	18	59	18	69	21	69	22	66

Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Meteorological Data

Grid (I,J)	Hour	Month Average																							
		January		February		March		April		May		June		July		August		September		October		November		December	
		Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH
30,36	0000-0100	19	77	21	85	22	85	25	88	26	88	28	88	29	83	29	83	28	72	26	71	22	67	18	68
30,36	0100-0200	19	77	21	85	22	85	25	88	26	88	28	89	29	83	29	83	28	72	26	72	22	67	18	68
30,36	0200-0300	19	77	21	87	22	86	24	90	25	89	28	90	29	85	29	85	27	73	25	72	21	66	18	66
30,36	0300-0400	18	77	21	87	22	86	24	90	25	89	28	90	29	84	28	86	27	73	25	72	21	66	18	66
30,36	0400-0500	18	77	21	87	21	86	24	90	25	89	28	90	29	84	28	85	27	73	25	72	21	66	18	65
30,36	0500-0600	18	77	21	87	21	85	24	90	25	89	28	91	29	85	28	85	27	73	25	71	21	65	18	65
30,36	0600-0700	18	77	21	87	21	84	24	90	25	88	28	90	29	84	28	84	27	73	25	71	21	64	18	65
30,36	0700-0800	18	77	21	86	21	83	24	89	25	87	28	90	29	83	29	82	27	71	25	70	21	64	18	65
30,36	0800-0900	19	76	21	84	22	81	25	87	26	85	28	86	29	81	29	78	28	67	26	67	22	61	18	64
30,36	0900-1000	19	74	22	82	22	79	25	85	26	84	28	85	30	79	30	77	29	64	26	64	22	59	19	63
30,36	1000-1100	20	73	22	81	23	78	25	84	27	82	29	85	30	79	30	76	29	63	27	63	24	59	20	63
30,36	1100-1200	20	73	22	80	23	78	25	84	27	81	29	84	30	79	30	76	29	63	27	60	24	56	20	61
30,36	1200-1300	20	73	22	80	23	78	25	84	27	81	29	84	30	79	30	76	29	63	27	60	24	55	20	61
30,36	1300-1400	20	72	22	79	23	78	25	84	27	82	29	84	30	78	30	77	30	64	28	60	24	56	20	61
30,36	1400-1500	21	68	23	75	24	74	26	80	28	78	30	80	30	75	31	74	30	62	28	59	25	53	21	57
30,36	1500-1600	21	68	23	75	24	74	26	79	28	78	30	80	30	76	30	75	30	63	28	59	25	55	22	57
30,36	1600-1700	21	68	23	75	24	76	26	81	28	79	30	80	30	78	30	76	30	64	28	60	25	57	21	57
30,36	1700-1800	21	70	23	75	23	77	26	82	27	82	29	82	30	78	30	77	30	65	28	63	24	59	21	59
30,36	1800-1900	21	71	23	78	23	78	26	83	27	83	29	82	30	79	30	78	29	67	27	65	24	62	21	60
30,36	1900-2000	21	71	22	80	23	80	26	84	27	83	29	82	30	79	30	79	29	66	27	67	24	63	20	63
30,36	2000-2100	20	76	22	84	22	83	25	87	26	87	29	85	29	82	29	81	29	69	27	70	23	65	19	66
30,36	2100-2200	20	77	22	85	22	84	25	87	26	87	29	86	29	82	29	82	29	70	26	71	23	67	19	69
30,36	2200-2300	20	77	22	85	22	85	25	87	26	88	29	86	29	83	29	82	28	71	26	71	22	67	19	69
30,36	2300-0000	19	76	21	86	22	85	25	87	26	88	29	87	29	83	29	82	28	71	26	72	22	67	18	69
30,36 31,36 31,37	0000-0100	19	75	21	83	22	83	24	86	26	85	28	87	29	81	28	70	25	70	22	65	18	65	17	62
30,36 31,36 31,37	0100-0200	18	75	21	83	22	83	24	86	25	86	28	88	29	82	28	82	27	70	25	71	21	64	18	65
30,36 31,36 31,37	0200-0300	18	75	21	83	21	83	24	86	25	86	28	88	29	83	28	83	27	71	25	71	21	64	18	64
30,36 31,36 31,37	0300-0400	18	75	21	84	21	83	24	87	25	87	28	88	29	83	28	84	27	72	25	71	21	64	17	63
30,36 31,36 31,37	0400-0500	18	75	21	84	21	83	24	87	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0500-0600	18	75	21	85	21	83	24	88	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0600-0700	18	75	21	85	21	83	24	88	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0700-0800	18	75	21	86	21	83	24	88	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0800-0900	19	75	22	84	22	82	25	87	26	86	28	88	29	83	29	82	28	71	26	72	22	67	18	65
30,36 31,36 31,37	0900-1000	19	74	22	82	22	80	25	86	26	85	28	87	29	82	29	80	28	69	26	70	22	64	18	65
30,36 31,36 31,37	1000-1100	20	73	22	81	22	80	25	83	26	84	28	84	29	79	29	79	28	67	26	69	22	64	19	63
30,36 31,36 31,37	1100-1200	20	73	21	82	22	82	25	84	26	85	28	84	29	80	29	79	28	69	26	70	22	64	18	65
30,36 31,36 31,37	1200-1300	20	72	21	82	22	82	25	84	26	85	28	84	29	80	29	79	28	69	26	70	22	64	18	65
30,36 31,36 31,37	1300-1400	19	74	21	83	22	82	25	85	26	85	28	84	29	80	28	79	28	69	26	70	22	64	18	65
30,36 31,36 31,37	1400-1500	21	70	23	75	24	74	26	80	28	78	30	80	30	75	31	74	30	62	28	59	25	53	21	57
30,36 31,36 31,37	1500-1600	21	68	23	75	24	74	26	79	28	78	30	80	30	76	30	75	30	63	28	59	25	55	22	57
30,36 31,36 31,37	1600-1700	21	68	23	75	24	76	26	81	28	79	30	80	30	78	30	76	30	64	28	60	25	57	21	57
30,36 31,36 31,37	1700-1800	21	70	23	75	23	77	26	82	27	82	29	82	30	78	30	77	30	65	28	63	24	59	21	59
30,36 31,36 31,37	1800-1900	21	71	23	78	23	78	26	83	27	83	29	82	30	79	30	78	29	67	27	65	24	62	21	60
30,36 31,36 31,37	1900-2000	21	71	22	80	23	80	26	84	27	83	29	82	30	79	30	79	29	66	27	67	24	63	20	63
30,36 31,36 31,37	2000-2100	20	76	22	84	22	83	25	87	26	87	29	85	29	82	29	81	29	69	27	70	23	65	19	66
30,36 31,36 31,37	2100-2200	20	77	22	85	22	84	25	87	26	87	29	86	29	82	29	82	29	70	26	71	23	67	19	69
30,36 31,36 31,37	2200-2300	20	77	22	85	22	85	25	87	26	88	29	86	29	83	29	82	28	71	26	71	22	67	19	69
30,36 31,36 31,37	2300-0000	19	76	21	86	22	85	25	87	26	88	29	87	29	83	29	82	28	71	26	72	22	67	18	69
30,36 31,36 31,37	0000-0100	19	75	21	83	22	83	24	86	26	85	28	87	29	81	28	70	25	70	22	65	18	65	17	62
30,36 31,36 31,37	0100-0200	18	75	21	83	22	83	24	86	25	86	28	88	29	82	28	82	27	70	25	71	21	64	18	65
30,36 31,36 31,37	0200-0300	18	75	21	83	21	83	24	86	25	86	28	88	29	83	28	83	27	71	25	71	21	64	18	64
30,36 31,36 31,37	0300-0400	18	75	21	84	21	83	24	87	25	87	28	88	29	83	28	84	27	72	25	71	21	64	17	63
30,36 31,36 31,37	0400-0500	18	75	21	84	21	83	24	87	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0500-0600	18	75	21	85	21	83	24	88	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0600-0700	18	75	21	85	21	83	24	88	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0700-0800	18	73	21	86	21	83	24	88	25	86	28	88	29	83	28	84	27	72	25	71	20	64	17	62
30,36 31,36 31,37	0800-0900	19	69	22	75	23	72	26	76	27	74	29	77	30	73	30	71	29	60	26	60	22	55	19	57
30,36 31,36 31,37	0900-1000	20	64	23	70	24	68	27	71	28	71	30	75	31	69	31	66	30	55	27	56	23	51	20	53
30,36 31,36 31,37	1000-1100	21	60	24	66	25	65	28	68	29	67	30	71	31	67	32	63	31	52	28	53	24	48	21	50
30,36 31,36 31,37	1100-1200	22	58	24	64	25	64	28	66	29	66	31	70	32	66	32	60	31	50	29	51	25	45	22	47
30,36 31,36 31,37	1200-1300	22	57	25	62	25	63	28	67	29	65	31	69	32	65	32	61	32	48	29	49	26	43	22	46
30,36 31,36 31,37	1300-1400	23	56	25	62	25	63	28	67	29	66	31	69	32	64	32	61	32	48	29	49	26	43	23	46
30,36 31,36 31,37	1400-1500	23	57	25	61	25	62	28	66	29	66	31	68	32	64	32	61	32	50	29	49	26	43	23	46
30,36 31,36 31,37	1500-1600	22	58	25	63	25	63	28	67	29	67	31	69	32	65	32	63	31	53	29	51	26	45	22	47
30,36 31,36 31,37	1600-1700	22	60	24	66	25	65	27	70	29	70	31	71	31	68	32	66	31	56	28	53	25	49	22	49
30,36 31,36 31,37	1700-1800	21	63	24	68	24	68	27	74	28	73	30	74	31	71	31	69	30	59	28	57	24	54	21	53
30,36 31,36 31,37	1800-1900	21	66	23	73	23	72	26	77	27	77	29	78	30	73	30	73	29	62	27	61	24	57	20	56
30,36 31,36 31,37	1900-2000	20	68	22	76	23	75	26	79	27	78	29	78	30	74	30	75	29	63	27	64	23	60	20	58
30,36 31,36 31,37	2000-2100	20	71	22	78	23	77	26	80	27	81	29	81	30	76	30	76	29	64	26	67	23	61	19	60
30,36 31,36 31,37	2100-2200	20	73	22	80	22	79	25	82	26	83	29	82	29	78	29	78	28	66	26	68	22	63	19	62
30,36 31,36 31,37	2200-2300	19	72	21	81	22	81	25	83	26	84	29	83	29	79	29	78	28	68	26	69	22	63	18	63
30,36 31,36 31,37	2300-0000	19	73	21	83	22	82	25	84	26	84	29	84	29	80	29	80	28	69	25	70	22	63	18	64
32,38	0000-0100	19	74	21	82	22	82	25	84	26	84	28	86	29	80	29	81	27	70	25	69	22	64	18	64
32,38	0100-0200	18	74	21	83	22	82	25	85	26	84	28	87	29	81	28	81	27	70	25	70	21	63	18	64
32,38	0200-0300	18	74	21	83	22	82	24	85	25	85	28	87	29	82	28	82	27	71	25	71	21	63	18	63
32,38	0300-0400	18	74	21	83	22	82	24	86	25	86	28	87	29	82	28	83	27	71	25	71	21	63	18	62
32,38	0400-0500	18	74	21	83	21	82	24	86	25	85	28	87	29	82	28	83	27	71	24	70	20	63	17	61
32,38	0500-0600	18	74	21	84	21	82	24	87	25	85	28	87	28	83	28	83	27	71	24	69	20	62	17	62
32,38	0600-0700	18	74	20	84	21	81	25	85	26	83	28	86	29	80	29	81	27	70	24	69	20	62	17	62
32,38	0700-0800	18	73	21	81	22	77	25	80	27	79	29	82	30	76	29	76	28	66	25	66	21	59	18	59
32,38	0800-0900	19	69	22	75	23	72	26	76	27	74	29	77	30	73	30	71	29	60	26	60	22	55	19	57
32,38	0900-1000	20	64	23	70	24	68	27	71	28	71	30	75	31	69	31	66	30	55	27	56	23	51	20	53
32,38	1000-1100	21	60	24	66	25	65	28	68	29	67	30	71	31	67	32	63	31	52	28	53	24	48	21	50
32,38	1100-1200	22	58	24	64	25	64	28	66	29	66	31	70	32	66	32	60	31	50	29	51	25	45	22	47
32,38	1200-1300	22	57	25	62	25	63	28	67	29	65	31	69	32	65	32	61	32	48	29	49	26	43	22	46
32,38	1300-1400	23	56	25	62	25	63	28	67	29	66	31	69	32	64	32	61	32	48	29	49	26	43	23	46
32,38	1400-1500	23	57	25	61	25	62	28	66	29	66	31	68	32	64	32	61	32	50	29	49	26	43	23	46
32,38	1500-1600	22	58	25	63	25	63	28	67	29	67	31	69	32	65	32	63	31	53	29	51	26	45	22	47
32,38	1600-1700	22	60	24	66	25	65	27	70	29	70	31	71	31	68	32	66	31	56	28	53	25	49	22	49
32,38	1700-1800	21	63	24	68	24	68	27	74	28	73	30	74	31	71	31	69	30	59	28	57	24	54	21	53
32,38	1800-1900	21	66	23	73	23	72	26	77	27	77	29	78	30	73	30	73	29	62	27	61	24	57	20	56
32,38	1900-2000	20	68	22	76	23	75	26	79	27	78	29	78	30	74	30	75	29	63	27	64	23	60	20	58
32,38	2000-2100	20	71	22	78	23	77	26	80	27	81	29	81	30	77	30	76	29	64	26	67	23	61	19	60
32,38	2100-2200	20	73	22	80	22	79	25	82	26	83	29	82	29	78	29	78	28	66	26	68	22	63	19	62
32,38	2200-2300	19	72	21	81	22	81	25	83	26	84	29	83	29	79	29	78	28	68	26	69	22	63	18	63
32,38	2300-0000	19	73	21	83	22	82	25	84	26	84	29	84	29	80	29	80	28	69	25	70	22	63	18	64

Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Meteorological Data

Grid (I,J)	Hour	Month Average																							
		January		February		March		April		May		June		July		August		September		October		November		December	
		Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH	Temperature	RH
31,38 31,37	0800-0900	19	69	22	76	23	73	26	77	27	75	29	78	30	74	30	72	29	60	26	61	22	55	18	57
31,38 31,37	0900-1000	20	64	23	70	24	68	27	72	28	71	29	76	30	70	31	67	30	56	27	56	23	51	20	53
31,38 31,37	1000-1100	21	61	24	67	24	66	27	70	28	68	30	73	31	68	31	64	30	53	28	53	24	48	21	50
31,38 31,37	1100-1200	22	59	24	65	24	65	27	68	29	67	30	72	31	67	32	62	31	51	28	51	25	46	21	48
31,38 31,37	1200-1300	22	58	24	64	25	64	27	68	29	66	30	71	31	66	31	63	31	50	29	50	25	44	22	47
31,38 31,37	1300-1400	22	57	24	63	25	64	27	68	29	68	30	70	31	65	31	63	31	50	29	50	26	44	22	46
31,38 31,37	1400-1500	22	58	24	63	25	63	27	67	29	67	31	69	31	65	32	62	31	51	29	50	26	44	22	47
31,38 31,37	1500-1600	22	59	24	64	25	64	27	68	29	68	30	70	31	66	31	63	31	50	29	50	26	46	22	48
31,38 31,37	1600-1700	22	61	24	66	25	65	27	71	28	70	30	73	31	68	31	64	30	53	28	53	24	48	21	50
31,38 31,37	1700-1800	22	63	24	68	24	68	27	74	28	73	30	74	31	71	31	69	30	59	28	57	24	54	21	53
31,38 31,37	1800-1900	21	66	23	73	23	72	26	77	27	77	29	78	30	73	30	73	29	62	27	61	24	57	20	56
31,38 31,37	1900-2000	20	68	22	76	23	75	26	79	27	78	29	78	30	74	30	75	29	63	27	64	23	60	20	58
31,38 31,37	2000-2100	20	71	22	78	23	77	26	81	27	81	29	81	30	76	30	76	29	64	26	67	23	61	19	60
31,38 31,37	2100-2200	20	73	22	80	22	79	25	82	26	83	29	82	29	78	29	78	28	66	26	68	22	63	19	62
31,38 31,37	2200-2300	19	72	21	81	22	81	25	83	26	84	29	83	29	79	29	78	28	68	26	69	22	63	18	63
31,38 31,37	2300-0000	19	73	21	83	22	82	25	84	26	84	29	84	29	80	29	80	28	69	25	70	22	63	18	64
32,38	0000-0100	19	74	21	82	22	82	25	84	26	84	28	86	29	80	29	81	27	70	25	69	22	64	18	64
32,38	0100-0200	18	74	21	83	22	82	25	85	26	84	28	87	29	81	28	81	27	70	25	70	21	63	18	64
32,38	0200-0300	18	74	21	83	22	82	24	85	25	85	28	87	29	82	28	82	27	71	25	71	21	63	18	63
32,38	0300-0400	18	74	21	83	22	82	24	86	25	86	28	87	29	82	28	83	27	71	25	71	21	63	18	62
32,38	0400-0500	18	74	21	83	21	82	24	86	25	85	28	87	29	82	28	83	27	71	24	70	20	63	17	61
32,38	0500-0600	18	74	21	84	21	82	24	87	25	85	28	87	28	83	28	83	27	71	24	69	20	62	17	62
32,38	0600-0700	18	74	20	84	21	81	25	85	26	83	28	86	29	80	29	81	27	70	24	69	20	62	17	62
32,38	0700-0800	18	73	21	81	22	77	25	80	27	79	29	82	30	76	29	76	28	66	25	66	21	59	18	59
32,38	0800-0900	19	69	22	75	23	72	26	76	27	74	29	77	30	73	30	71	29	60	26	60	22	55	19	57
32,38	0900-1000	20	64	23	70	24	68	27	71	28	71	30	75	31	69	31	66	30	55	27	56	23	51	20	53
32,38	1000-1100	21	60	24	66	25	65	28	68	29	67	30	71	31	67	32	63	31	52	28	53	24	48	21	50
32,38	1100-1200	22	58	24	64	25	64	28	66	29	66	31	70	32	66	32	60	31	50	29	51	25	45	22	47
32,38	1200-1300	22	57	25	62	25	63	28	67	29	65	31	69	32	65	32	61	32	48	29	49	26	43	22	46
32,38	1300-1400	23	56	25	62	25	63	28	67	29	66	31	69	32	64	32	61	32	48	29	49	26	43	23	46
32,38	1400-1500	23	57	25	61	25	62	28	66	29	66	31	68	32	64	32	61	32	50	29	49	26	43	23	46
32,38	1500-1600	22	58	25	63	25	63	28	67	29	67	31	69	32	65	32	63	31	53	29	51	26	45	22	47
32,38	1600-1700	22	60	24	66	25	65	27	70	29	70	31	71	31	68	32	66	31	56	28	53	25	49	22	49
32,38	1700-1800	21	63	24	68	24	68	27	74	28	73	30	74	31	71	31	69	30	59	28	57	24	54	21	53
32,38	1800-1900	21	66	23	73	23	72	26	77	27	77	29	78	30	73	30	73	29	62	27	61	24	57	20	56
32,38	1900-2000	20	68	22	76	23	75	26	79	27	78	29	78	30	74	30	75	29	63	27	64	23	60	20	58
32,38	2000-2100	20	71	22	78	23	77	26	80	27	81

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826000 E

827000 E

825200 N

824200 N

823200 N

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- 500m ASSESSMENT AREA
- DESIGN UNDER TSING YI - LANTAU LINK
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- ASSESSED ROAD LINKS

N

NGAU KOK WAN

WOK TAI WAN

YAU KOM TAU

SCVA NO. 10
(TSING YI NORTH)

LIU TO SHAN

SHEK WAN

MA WAN CHANNEL

KAM CHUK KOK

TSING YI NORTH COASTAL ROAD

NORTHWEST TSING YI INTERCHANGE

TSING KAU BRIDGE

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

TSING YI ROAD WEST

LIU TO ROAD

CHING HONG ROAD

TIN KOK SHAN ROAD

CASAM BEACH

LIDO BEACH

APPROACH BEACH

Cheung Hang Estate

Cheung Wang Estate

Mount Haven

Lib To

Cheung Shue Tau

Tsing Ma Bridge

Tsing Kau Bridge

Cement Works

Shipyard

Seawall

Pier

Jetty

HWM

Tower

Tank

Workshop

Open Storage

Fuel Tank

Fountain

Hong Kong United Dockyards

Gemini Point Pier

Control Station

CASTLE PEAK ROAD - TSING KAU

The Bay Bridge

馬灣海峽

V:\BA\CUS95-BA\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltPlot File by: ZHAOHQ2PATH P:\PROJECT\60733229\DRAWING\REPORT\B7187_505.dgn20250412

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
狀態

SCALE 比例: A3 1 : 8000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

500m ASSESSMENT AREA OF UNDERGROUND QUARRYING AT TSING YI NORTH (AFTER COMMISSIONING OF THE TSING YI – LANTAU LINK)

SHEET NUMBER
圖紙編號

60733229/Figure 2.2

Figure B

Figure A

Figure C

Figure D

Figure E

(30,38)

(31,38)

(32,38)

(30,37)

(31,37)

(32,37)

(30,36)

(31,36)

N

0 0.23 0.45 0.9 Kilometers

Location of Open Road Emission Sources (Key Plan)

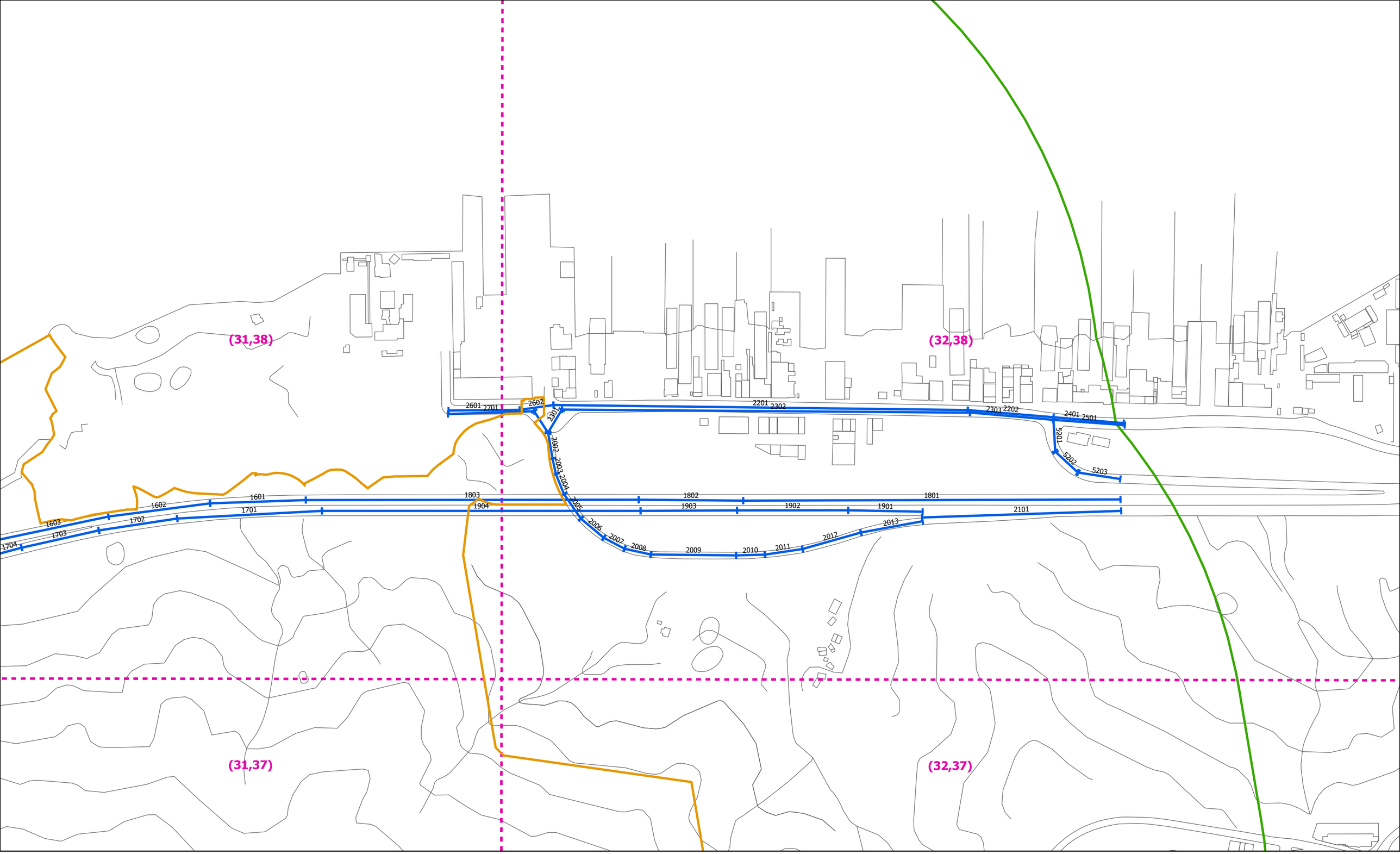
Legend

Open Roads
- Without Start Emissions
- With Start Emissions

Concerned PATH Grids

500m Assessment Boundary

Project Boundary



N

0 0.05 0.1 0.2 Kilometers

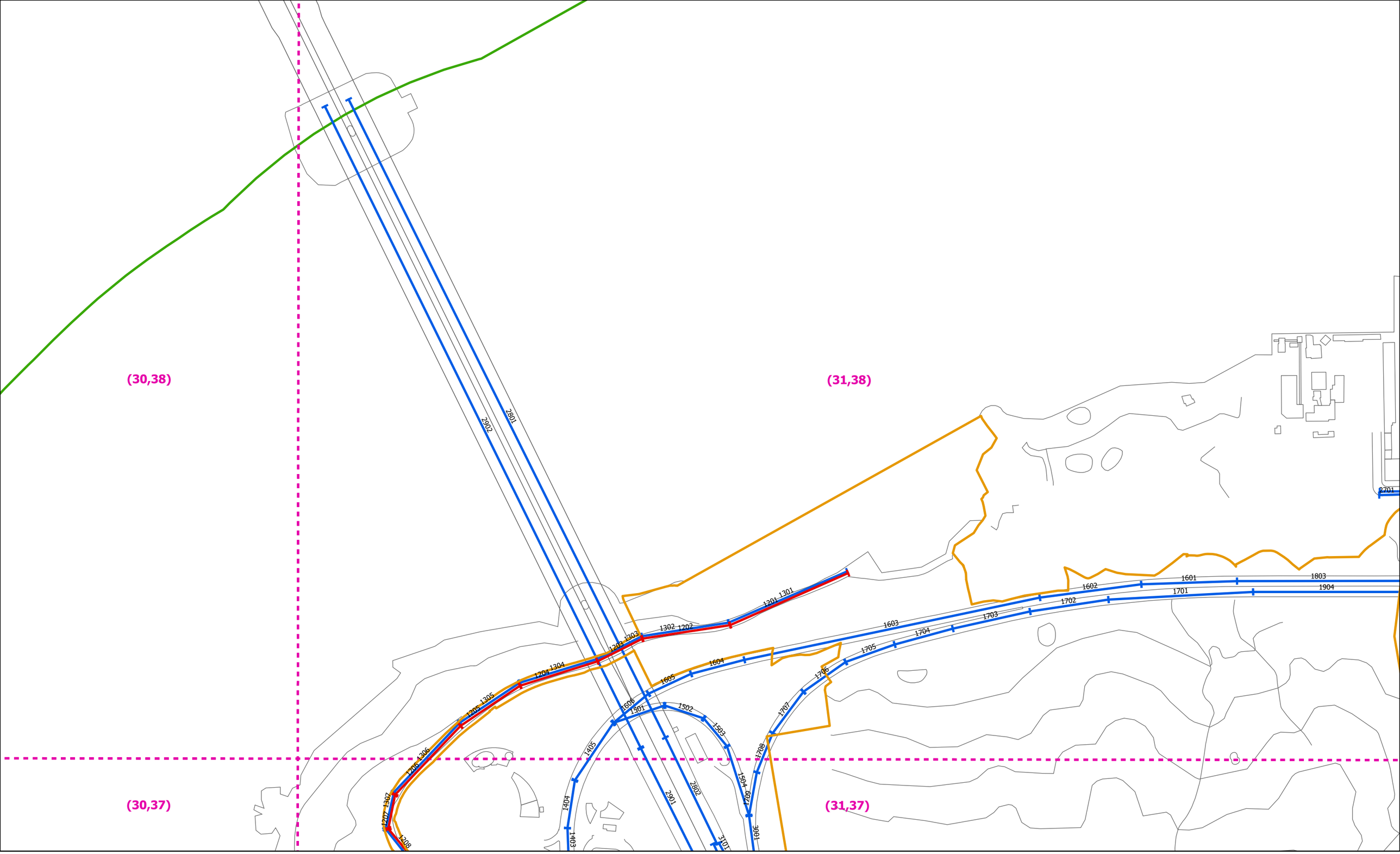
Location of Open Road Emission Sources

Figure A

Legend

Open Roads
- Without Start Emissions
- With Start Emissions

- Concerned PATH Grids
- 500m Assessment Boundary
- Project Boundary



N

0 0.05 0.1 0.2 Kilometers

Location of Open Road Emission Sources

Figure B

Legend

- Open Roads
  - Without Start Emissions
  - With Start Emissions
- Concerned PATH Grids
- 500m Assessment Boundary
- Project Boundary

(30,38)

(31,38)

(32,38)

(30,37)

(31,37)

(32,37)

FAI01

FAI02

FAI04

FAI03

FAI05

N

0 0.05 0.1 0.2 Kilometers

Location of Open Road Emission Sources

Figure C

Legend

Open Roads

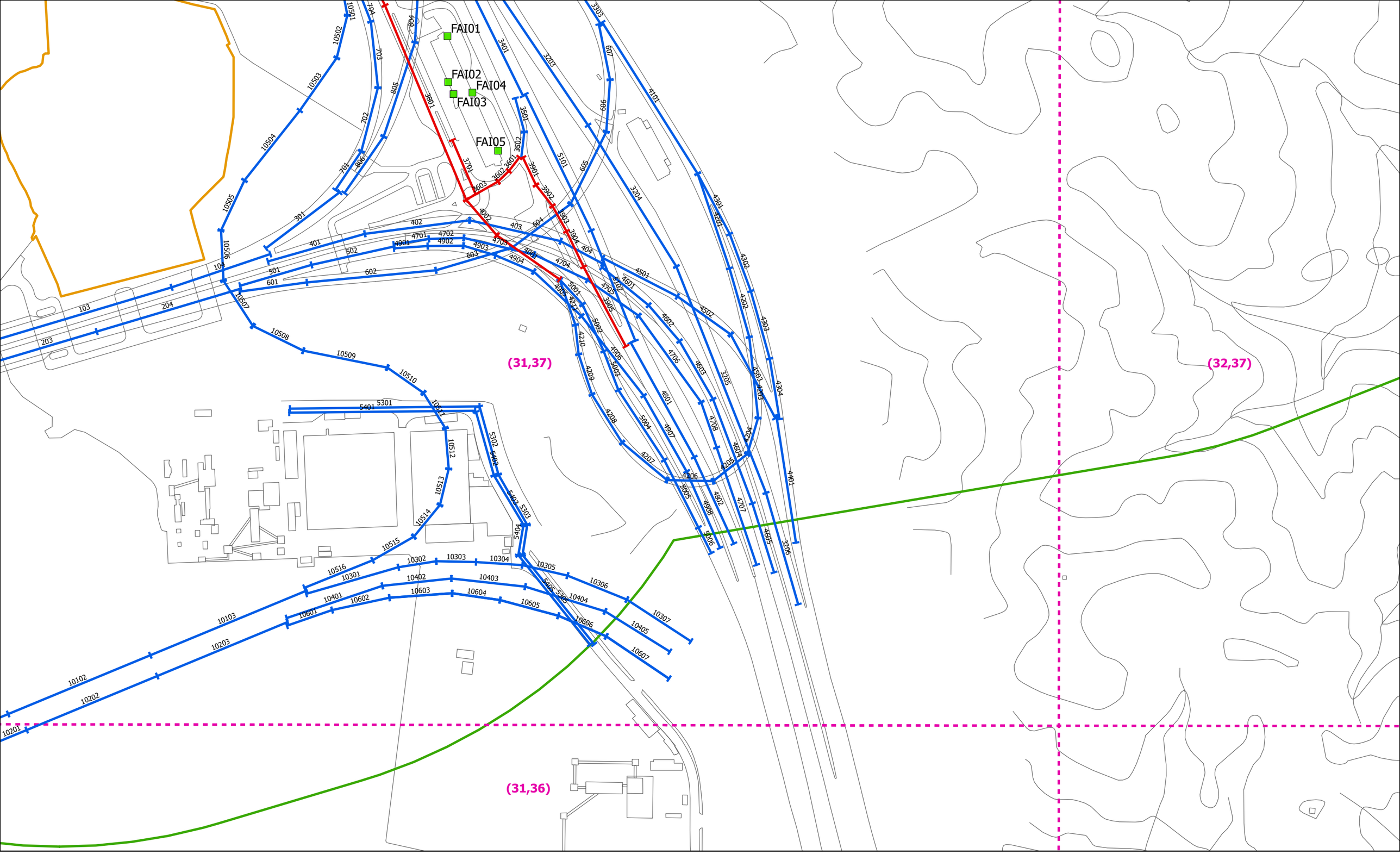
Without Start Emissions

With Start Emissions

Concerned PATH Grids

500m Assessment Boundary

Project Boundary



N

0 0.05 0.1 0.2 Kilometers

Location of Open Road Emission Sources

Figure D

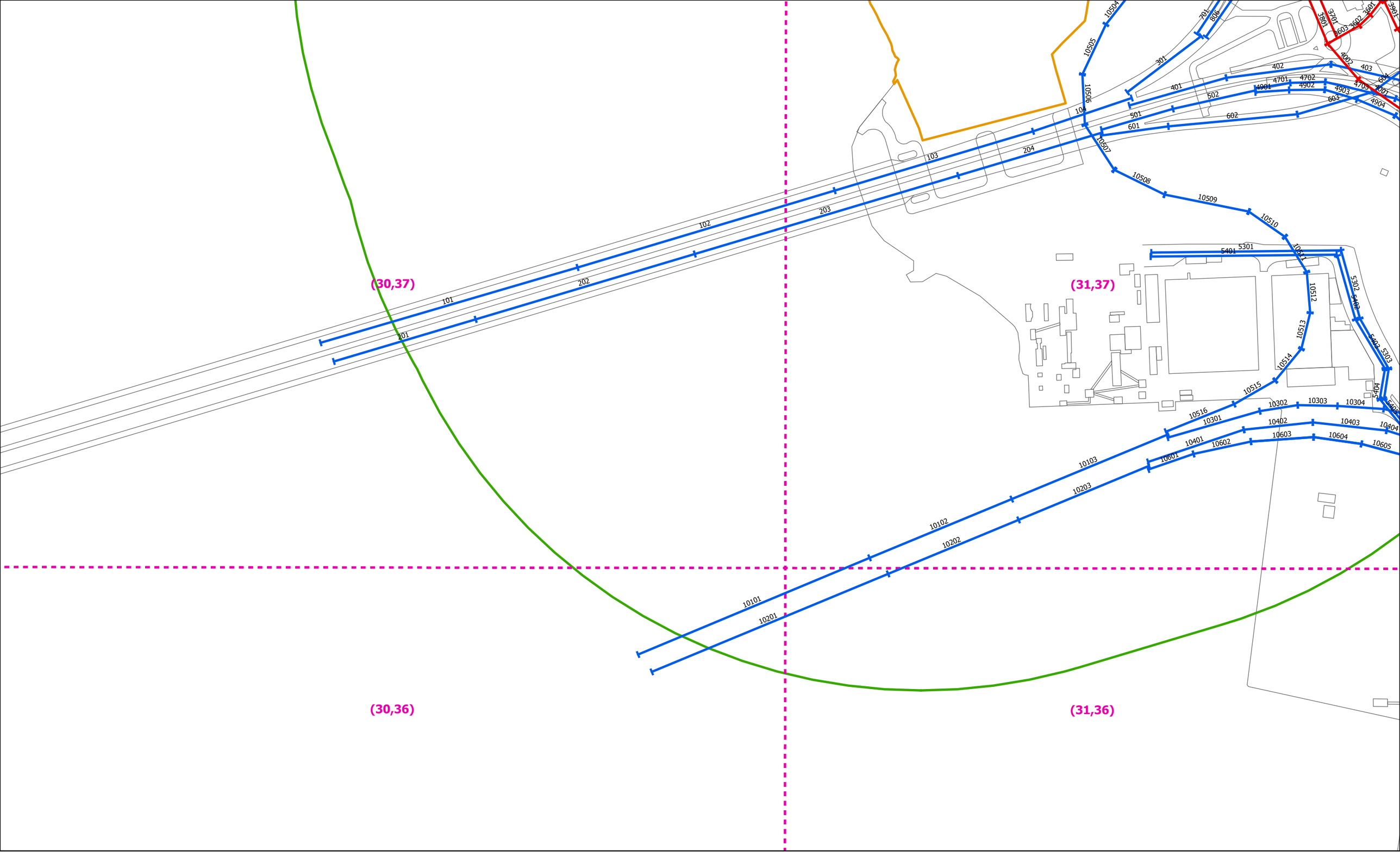
Legend

Open Roads
- Without Start Emissions
- With Start Emissions

Concerned PATH Grids

500m Assessment Boundary

Project Boundary



N

0 0.05 0.1 0.2 Kilometers

Location of Open Road Emission Sources

Figure E

Legend

Open Roads
- Without Start Emissions
- With Start Emissions

Concerned PATH Grids

500m Assessment Boundary

Project Boundary

Appendix 4.5 Calculation of Vehicular Emission

Tsing Yi North Underground Quarry

Summary of Paved Haul Road Segments

Road Name	Road ID	X coordinate of endpoint 1	Y coordinate of endpoint 1	X coordinate of endpoint 2	Y coordinate of endpoint 2	Grid (I,J)	Vehicle height	Release height	Szinit	Width	Elevation
		(m)	(m)	(m)	(m)		(m)	(mAG)	(m)	(m)	(m)
Haul Road 1	HR01	826702.63	824592.56	826711.26	824593.51	31,38	3.9	3.3	3.1	14.0	7.0
Haul Road 2	HR02	826706.76	824593.01	826745.26	824620.21	31,38	3.9	3.3	3.1	14.0	7.0
Haul Road 3	HR03	826673.72	824582.55	826661.11	824607.14	31,38	3.9	3.3	3.1	14.0	5.0
Haul Road 4	HR04	826677.41	824583.59	826702.63	824592.56	31,38	3.9	3.3	3.1	14.0	7.0
Haul Road 5	HR05	826711.26	824593.51	826756.40	824593.26	31,38	3.9	3.3	3.1	14.0	6.0
Haul Road 6	HR06	826756.40	824593.26	826779.20	824597.20	31,38	3.9	3.3	3.1	14.0	5.0
Haul Road 7	HR07	826768.96	824622.44	826779.20	824597.20	31,38	3.9	3.3	3.1	14.0	5.0
Haul Road 8	HR08	826742.54	824669.48	826768.96	824622.44	31,38	3.9	3.3	3.1	14.0	5.0
Haul Road 12	HR12	826608.25	824595.11	826620.30	824601.95	31,38	3.9	3.3	3.1	14.0	5.0
Haul Road 13	HR13	826546.24	824560.01	826608.27	824595.07	31,38	3.9	3.3	3.1	14.0	4.0
Haul Road 14	HR14	826528.56	824549.98	826546.24	824560.01	31,38	3.9	3.3	3.1	14.0	9.0
Haul Road 15	HR15	826677.41	824583.59	826668.23	824581.00	31,38	3.9	3.3	3.1	14.0	10.0
Haul Road 16	HR16	826668.21	824581.06	826635.95	824569.57	31,38	3.9	3.3	3.1	14.0	10.0
Haul Road 17	HR17	826635.95	824569.57	826627.47	824566.90	31,38	3.9	3.3	3.1	14.0	9.0
Haul Road 18	HR18	826630.98	824567.80	826616.42	824599.75	31,38	3.9	3.3	3.1	14.0	5.0
Haul Road 21	HR21	826790.38	824638.91	826819.20	824656.69	31,38	3.9	3.3	3.1	14.0	6.0
Haul Road 22	HR22	826627.47	824566.90	826596.68	824549.62	31,38	3.9	3.3	3.1	14.0	12.0
Haul Road 23	HR23	826580.24	824579.23	826589.19	824560.00	31,38	3.9	3.3	3.1	14.0	6.0

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Short-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 1	HR01	8	8.0	N	0000-0100	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0100-0200	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0200-0300	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0300-0400	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0400-0500	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0500-0600	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0600-0700	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0700-0800	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0800-0900	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	0900-1000	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1000-1100	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1100-1200	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1200-1300	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1300-1400	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1400-1500	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1500-1600	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1600-1700	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1700-1800	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1800-1900	258	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	1900-2000	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	2000-2100	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	2100-2200	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	2200-2300	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 1	HR01	8	8.0	N	2300-0000	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0700-0800	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0800-0900	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	0900-1000	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1000-1100	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1100-1200	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1200-1300	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1300-1400	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1400-1500	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1500-1600	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1600-1700	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1700-1800	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1800-1900	61	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 2	HR02	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Short-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles1 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 3	HR03	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0700-0800	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0800-0900	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	0900-1000	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1000-1100	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1100-1200	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1200-1300	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1300-1400	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1400-1500	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1500-1600	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1600-1700	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1700-1800	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1800-1900	41	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 3	HR03	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0000-0100	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0100-0200	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0200-0300	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0300-0400	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0400-0500	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0500-0600	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0600-0700	126	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0700-0800	166	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0800-0900	166	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	0900-1000	166	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	1000-1100	166	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 4	HR04	8	8.0	N	1100-1200

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Short-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 7	HR07	8	8.0	N	0000-0100	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0100-0200	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0200-0300	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0300-0400	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0400-0500	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0500-0600	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0600-0700	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0700-0800	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0800-0900	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0900-1000	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1000-1100	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1100-1200	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1200-1300	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1300-1400	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1400-1500	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1500-1600	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1600-1700	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1700-1800	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1800-1900	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1900-2000	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2000-2100	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2100-2200	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2200-2300	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2300-0000	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0000-0100	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0100-0200	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0200-0300	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0300-0400	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0400-0500	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0500-0600	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0600-0700	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0700-0800	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0800-0900	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0900-1000	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1000-1100	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1100-1200	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1200-1300	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1300-1400	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1400-1500	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1500-1600	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1600-1700	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1700-1800	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1800-1900	70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1900-2000	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	2000-2100	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	2100-2200	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	2200-2300	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	2300-0000	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Short-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 12	HR12	8	8.0	N	0000-0100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0100-0200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0200-0300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0300-0400	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0400-0500	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0500-0600	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0600-0700	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0700-0800	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0800-0900	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	0900-1000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1000-1100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1100-1200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1200-1300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1300-1400	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1400-1500	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1500-1600	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1600-1700	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1700-1800	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1800-1900	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	1900-2000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	2000-2100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	2100-2200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	2200-2300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 12	HR12	8	8.0	N	2300-0000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0000-0100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0100-0200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0200-0300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0300-0400	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0400-0500	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0500-0600	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0600-0700	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0700-0800	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0800-0900	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	0900-1000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1000-1100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1100-1200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1200-1300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1300-1400	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1400-1500	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1500-1600	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1600-1700	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1700-1800	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1800-1900	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	1900-2000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	2000-2100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	2100-2200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 13	HR13	8	8.0	N	2200-2300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Haul Roads, Short-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 18	HR18	8	8.0	N	0000-0100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0100-0200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0200-0300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0300-0400	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0400-0500	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0500-0600	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0600-0700	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0700-0800	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0800-0900	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0900-1000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1000-1100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1100-1200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1200-1300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1300-1400	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1400-1500	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1500-1600	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1600-1700	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1700-1800	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1800-1900	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1900-2000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2000-2100	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2100-2200	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2200-2300	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2300-0000	86	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0700-0800	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0800-0900	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0900-1000	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1000-1100	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1100-1200	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1200-1300	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1300-1400	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1400-1500	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1500-1600	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1600-1700	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1700-1800	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1800-1900	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	2300-0000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Haul Roads, Short-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 22	HR22	8	8.0	N	0000-0100	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0100-0200	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0200-0300	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0300-0400	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0400-0500	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0500-0600	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0600-0700	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0700-0800	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0800-0900	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	0900-1000	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1000-1100	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1100-1200	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1200-1300	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1300-1400	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1400-1500	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1500-1600	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1600-1700	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1700-1800	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1800-1900	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	1900-2000	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	2000-2100	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	2100-2200	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	2200-2300	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 22	HR22	8	8.0	N	2300-0000	40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0000-0100	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0100-0200	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0200-0300	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0300-0400	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0400-0500	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0500-0600	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0600-0700	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0700-0800	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0800-0900	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	0900-1000	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1000-1100	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1100-1200	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1200-1300	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1300-1400	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1400-1500	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1500-1600	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1600-1700	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1700-1800	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1800-1900	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	1900-2000	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	2000-2100	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	2100-2200	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23	HR23	8	8.0	N	2200-2300	168	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 23

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Long-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 5	HR05	8	8.0	N	0000-0100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0100-0200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0200-0300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0300-0400	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0400-0500	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0500-0600	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0600-0700	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0700-0800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0800-0900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	0900-1000	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1000-1100	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1100-1200	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1200-1300	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1300-1400	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1400-1500	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1500-1600	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1600-1700	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1700-1800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1800-1900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	1900-2000	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	2000-2100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	2100-2200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	2200-2300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 5	HR05	8	8.0	N	2300-0000	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0000-0100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0100-0200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0200-0300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0300-0400	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0400-0500	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0500-0600	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0600-0700	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0700-0800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0800-0900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	0900-1000	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1000-1100	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1100-1200	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1200-1300	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1300-1400	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1400-1500	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1500-1600	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1600-1700	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1700-1800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1800-1900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	1900-2000	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	2000-2100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	2100-2200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	2200-2300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 6	HR06	8	8.0	N	2300-0000	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Long-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 7	HR07	8	8.0	N	0000-0100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0100-0200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0200-0300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0300-0400	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0400-0500	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0500-0600	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0600-0700	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0700-0800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0800-0900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	0900-1000	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1000-1100	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1100-1200	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1200-1300	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1300-1400	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1400-1500	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1500-1600	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1600-1700	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1700-1800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1800-1900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	1900-2000	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2000-2100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2100-2200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2200-2300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 7	HR07	8	8.0	N	2300-0000	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0000-0100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0100-0200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0200-0300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0300-0400	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0400-0500	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0500-0600	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0600-0700	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0700-0800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0800-0900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	0900-1000	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1000-1100	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1100-1200	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1200-1300	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1300-1400	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1400-1500	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1500-1600	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1600-1700	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1700-1800	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1800-1900	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	1900-2000	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	2000-2100	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	2100-2200	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 8	HR08	8	8.0	N	2200-2300	16	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Long-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles15- 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 16	HR16	8	8.0	N	0000-0100	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0100-0200	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0200-0300	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0300-0400	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0400-0500	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0500-0600	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0600-0700	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0700-0800	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0800-0900	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	0900-1000	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1000-1100	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1100-1200	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1200-1300	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1300-1400	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1400-1500	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1500-1600	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1600-1700	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1700-1800	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1800-1900	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	1900-2000	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	2000-2100	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	2100-2200	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	2200-2300	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 16	HR16	8	8.0	N	2300-0000	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0000-0100	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0100-0200	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0200-0300	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0300-0400	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0400-0500	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0500-0600	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0600-0700	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0700-0800	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0800-0900	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	0900-1000	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1000-1100	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1100-1200	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1200-1300	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1300-1400	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1400-1500	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1500-1600	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1600-1700	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1700-1800	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1800-1900	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	1900-2000	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	2000-2100	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	2100-2200	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	2200-2300	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 17	HR17	8	8.0	N	2300-0000	50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%

Appendix 4.5 Calculation of Vehicular Emission

Traffic Data / Modeling Parameters For AERMOD (Hual Roads, Long-term Assessment,Year 2028)

Road Name	Road ID	Speed Limit (km/hr)	Average Speed (km/hr)	Start Emission Estimated by Broad Brush Approach (Y/N)	Hour	Total Vehicles (Veh/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles <=2.5t	04 - Light Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles> 3.5t	06 - Medium Goods Vehicles< =15t	07 - Medium Goods Vehicles15- 5-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus Single Deck	15 - Franchised Bus Double Deck	16 - Motorcycles	17 - Heavy Goods Vehicles> 24t	18 - Non-franchised Bus >24t	Total
							PC	TAXI	LGV3	LGV4	LGV6	HGV7	HGV8	PLB	PV4	PV5	NFB6	NFB7	NFB8	FBSD	FBDD	MC	HGV9	NFB9	
Haul Road 18	HR18	8	8.0	N	0000-0100	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0100-0200	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0200-0300	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0300-0400	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0400-0500	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0500-0600	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0600-0700	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0700-0800	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0800-0900	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	0900-1000	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1000-1100	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1100-1200	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1200-1300	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1300-1400	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1400-1500	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1500-1600	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1600-1700	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1700-1800	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1800-1900	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	1900-2000	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2000-2100	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2100-2200	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2200-2300	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 18	HR18	8	8.0	N	2300-0000	34	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0000-0100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0100-0200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0200-0300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0300-0400	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0400-0500	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0500-0600	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0600-0700	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0700-0800	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0800-0900	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	0900-1000	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1000-1100	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1100-1200	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1200-1300	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1300-1400	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1400-1500	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1500-1600	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1600-1700	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1700-1800	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1800-1900	228	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	1900-2000	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	2000-2100	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	2100-2200	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Haul Road 21	HR21	8	8.0	N	2200-2300	0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Location of Paved Haul Roads (Ngau Kok Wan)



Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2028**

Road Name	Road ID	Hour	NO_x Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 1	1	0000-0100	2.47E-01	2.66E-07	5.35E-03	1.29E-01	1.92E-07	5.86E-03	1.14E-02	1.23E-07	2.66E-04	1.12E-02	1.21E-07	2.68E-03
Road 1	1	0100-0200	2.69E-02	1.88E-07	3.79E-03	2.79E-01	1.96E-06	3.94E-02	1.28E-02	8.98E-08	1.81E-03			
Road 1	1	0200-0300	2.92E-02	1.50E-07	3.01E-03	2.90E-01	1.49E-06	2.99E-02	1.22E-02	6.28E-08	1.26E-03	1.33E-02	6.83E-08	1.37E-03
Road 1	1	0300-0400	3.14E-02	1.27E-07	2.56E-03	2.99E-01	1.21E-06	2.43E-02	1.27E-02	5.14E-08	1.03E-03	1.38E-02	5.59E-08	1.12E-03
Road 1	1	0400-0500	3.34E-02	1.48E-07	2.97E-03	3.07E-01	1.36E-06	2.73E-02	1.30E-02	5.79E-08	1.16E-03	1.42E-02	6.29E-08	1.26E-03
Road 1	1	0500-0600	3.49E-02	2.68E-07	5.38E-03	3.12E-01	2.39E-06	4.80E-02	1.33E-02	1.02E-07	2.05E-03	1.44E-02	1.11E-07	2.22E-03
Road 1	1	0600-0700	3.49E-02	3.89E-07	7.82E-03	3.12E-01	3.47E-06	6.97E-02	1.33E-02	1.48E-07	2.97E-03	1.44E-02	1.61E-07	3.24E-03
Road 1	1	0700-0800	3.89E-02	1.29E-06	2.59E-02	3.27E-01	1.08E-05	2.17E-01	1.41E-02	4.65E-07	9.35E-03	1.53E-02	5.06E-07	1.02E-02
Road 1	1	0800-0900	3.77E-02	1.44E-06	2.89E-02	3.00E-01	1.15E-05	2.30E-01	1.32E-02	5.04E-07	1.01E-02	1.43E-02	5.48E-07	1.10E-02
Road 1	1	0900-1000	4.40E-02	1.31E-06	2.63E-02	3.41E-01	1.02E-05	2.05E-01	1.60E-02	4.76E-07	9.57E-03	1.60E-02	5.00E-07	1.00E-02
Road 1	1	1000-1100	5.00E-02	1.35E-06	2.70E-02	3.54E-01	9.53E-06	1.91E-01	1.59E-02	4.28E-07	8.60E-03	1.73E-02	4.65E-07	9.35E-03
Road 1	1	1100-1200	4.79E-02	1.22E-06	2.46E-02	3.50E-01	8.93E-06	1.79E-01	1.55E-02	3.95E-07	7.94E-03	1.68E-02	4.30E-07	8.63E-03
Road 1	1	1200-1300	4.89E-02	1.22E-06	2.46E-02	3.47E-01	8.66E-06	1.74E-01	1.55E-02	3.86E-07	7.76E-03	1.68E-02	4.19E-07	8.41E-03
Road 1	1	1300-1400	6.13E-02	1.22E-06	2.46E-02	4.06E-01	8.06E-06	1.62E-01	1.73E-02	3.44E-07	6.91E-03	1.87E-02	3.71E-07	7.45E-03
Road 1	1	1400-1500	6.04E-02	2.43E-06	4.89E-02	3.95E-01	1.59E-05	3.20E-01	1.80E-02	7.26E-07	1.46E-02	1.96E-02	7.88E-07	1.58E-02
Road 1	1	1500-1600	5.80E-02	2.39E-06	4.80E-02	3.85E-01	1.59E-05	3.19E-01	1.72E-02	7.09E-07	1.42E-02	1.87E-02	7.70E-07	1.55E-02
Road 1	1	1600-1700	5.83E-02	2.29E-06	4.61E-02	3.86E-01	1.52E-05	3.06E-01	1.72E-02	6.79E-07	1.36E-02	1.87E-02	7.37E-07	1.48E-02
Road 1	1	1700-1800	4.36E-02	2.17E-06	4.35E-02	3.34E-01	1.66E-05	3.34E-01	1.49E-02	7.40E-07	1.49E-02	1.62E-02	8.05E-07	1.62E-02
Road 1	1	1800-1900	3.12E-02	1.51E-06	3.02E-02	2.83E-01	1.54E-05	3.08E-01	1.29E-02	7.01E-07	1.41E-02	1.40E-02	7.62E-07	1.53E-02
Road 1	1	1900-2000	2.87E-02	1.39E-06	2.78E-02	2.81E-01	1.52E-05	3.05E-01	1.24E-02	6.75E-07	1.35E-02	1.35E-02	7.34E-07	1.47E-02
Road 1	1	2000-2100	2.84E-02	9.53E-07	1.92E-02	3.00E-01	1.01E-05	2.03E-01	1.32E-02	4.43E-07	8.90E-03	1.43E-02	4.82E-07	9.68E-03
Road 1	1	2100-2200	2.56E-02	8.55E-07	1.72E-02	2.75E-01	9.20E-06	1.85E-01	1.17E-02	3.92E-07	7.87E-03	1.27E-02	4.26E-07	8.56E-03
Road 1	1	2200-2300	2.56E-02	8.55E-07	1.72E-02	2.75E-01	9.20E-06	1.85E-01	1.17E-02	3.92E-07	7.87E-03	1.27E-02	4.26E-07	8.56E-03
Road 1	1	2300-2400	2.73E-02	6.64E-07	1.34E-02	2.92E-01	7.11E-06	1.43E-01	1.26E-02	3.06E-07	6.15E-03	1.37E-02	3.33E-07	6.69E-03
Road 2	2	0000-0100	2.68E-02	3.94E-07	7.29E-03	2.61E-01	3.84E-06	7.10E-02	1.08E-02	1.58E-07	2.93E-03	1.17E-02	1.72E-07	3.18E-03
Road 2	2	0100-0200	2.92E-02	2.80E-07	5.18E-03	2.71E-01	2.60E-06	4.80E-02	1.22E-02	1.17E-07	2.16E-03	1.32E-02	1.27E-07	2.34E-03
Road 2	2	0200-0300	3.17E-02	2.23E-07	4.11E-03	2.82E-01	1.98E-06	3.65E-02	1.17E-02	8.22E-08	1.52E-03	1.27E-02	8.93E-08	1.65E-03
Road 2	2	0300-0400	3.41E-02	1.90E-07	3.50E-03	2.91E-01	1.62E-06	2.99E-02	1.22E-02	6.76E-08	1.25E-03	1.32E-02	7.35E-08	1.36E-03
Road 2	2	0400-0500	3.64E-02	2.22E-07	4.09E-03	3.01E-01	1.84E-06	3.39E-02	1.27E-02	7.79E-08	1.44E-03	1.37E-02	8.33E-08	1.54E-03
Road 2	2	0500-0600	3.83E-02	4.04E-07	7.47E-03	3.07E-01	3.24E-06	5.99E-02	1.29E-02	1.36E-07	2.52E-03	1.40E-02	1.48E-07	2.74E-03
Road 2	2	0600-0700	4.04E-02	9.13E-07	1.69E-02	3.15E-01	7.13E-06	1.32E-01	1.32E-02	3.00E-07	5.54E-03	1.44E-02	3.26E-07	6.02E-03
Road 2	2	0700-0800	4.27E-02	1.96E-06	3.62E-02	3.23E-01	1.48E-05	2.74E-01	1.37E-02	6.30E-07	1.16E-02	1.49E-02	6.85E-07	1.27E-02
Road 2	2	0800-0900	4.44E-02	1.44E-06	2.66E-02	3.59E-01	1.16E-05	2.14E-01	1.38E-02	4.65E-07	8.59E-03	1.49E-02	5.04E-07	9.31E-03
Road 2	2	0900-1000	4.96E-02	2.18E-06	4.03E-02	3.36E-01	1.48E-05	2.73E-01	1.59E-02	7.02E-07	1.30E-02			
Road 2	2	1000-1100	5.60E-02	2.14E-06	3.95E-02	3.59E-01	1.37E-05	2.54E-01	1.66E-02	6.61E-07	1.23E-02			
Road 2	2	1100-1200	5.56E-02	1.28E-06	2.37E-02	3.59E-01	8.26E-06	1.53E-01	1.66E-02	3.82E-07	7.09E-03			
Road 2	2	1200-1300	6.88E-02	1.89E-06	3.49E-02	4.38E-01	1.20E-05	2.22E-01	1.92E-02	5.27E-07	9.75E-03			
Road 2	2	1300-1400	6.63E-02	2.01E-06	3.72E-02	4.26E-01	1.29E-05	2.39E-01	1.86E-02	5.64E-07	1.04E-02			
Road 2	2	1400-1500	8.71E-02	1.86E-06	3.44E-02	5.50E-01	1.17E-05	2.17E-01	2.38E-02	5.09E-07	9.42E-03			
Road 2	2	1500-1600	8.35E-02	1.83E-06	3.39E-02	5.27E-01	1.16E-05	2.14E-01	2.28E-02	5.00E-07	9.26E-03			
Road 2	2	1600-1700	6.63E-02	2.14E-06	3.95E-02	4.30E-01	1.39E-05	2.56E-01	2.00E-02	6.44E-07	1.19E-02			
Road 2	2	1700-1800	5.34E-02	1.80E-06	3.33E-02	3.58E-01	1.32E-05	2.44E-01	1.61E-02	5.93E-07	1.10E-02			
Road 2	2	1800-1900	3.69E-02	1.41E-06	2.62E-02	3.12E-01	1.20E-05	2.21E-01	1.45E-02	5.54E-07	1.02E-02			
Road 2	2	1900-2000	3.29E-02	9.95E-07	1.84E-02	3.17E-01	9.59E-06	1.77E-01	1.46E-02	4.41E-07	8.15E-03	1.58E-02	4.79E-07	8.86E-03
Road 2	2	2000-2100	3.01E-02	7.20E-07	1.33E-02	3.04E-01	7.15E-06	1.32E-01	1.32E-02	3.32E-07	6.27E-03	1.43E-02	3.62E-07	6.69E-03
Road 2	2	2100-2200	3.01E-02	7.06E-07	1.31E-02	3.04E-01	7.15E-06	1.32E-01	1.32E-02	3.27E-07	6.17E-03	1.43E-02	3.55E-07	6.57E-03
Road 2	2	2200-2300	2.95E-02	6.73E-07	1.24E-02	3.14E-01	7.15E-06	1.32E-01	1.38E-02	3.15E-07	5.82E-03	1.50E-02	3.42E-07	6.33E-03
Road 2	2	2300-2400	2.95E-02	6.73E-07	1.24E-02	3.14E-01	7.15E-06	1.32E-01	1.38E-02	3.15E-07	5.82E-03	1.50E-02	3.42E-07	6.33E-03
Road 3	3	0100-0200	3.20E-02	7.19E-08	1.61E-04	3.78E-01	8.48E-07	1.90E-03	1.73E-02	3.89E-08	8.71E-05	1.88E-02	4.23E-08	9.46E-05
Road 3	3	0200-0300	3.49E-02	5.74E-08	1.29E-04	3.91E-01	6.43E-07	1.44E-03	1.79E-02	2.94E-08	6.58E-05	1.94E-02	3.20E-08	7.16E-05
Road 3	3	0300-0400	3.77E-02	5.59E-08	1.25E-04	4.07E-01	6.04E-07	1.35E-03	1.86E-02	2.76E-08	6.18E-05	2.02E-02	3.00E-08	6.73E-05
Road 3	3	0400-0500	3.92E-02	5.59E-08	1.25E-04	4.07E-01	5.80E-07	1.30E-03	1.87E-02	2.66E-08	5.96E-05	2.03E-02	2.89E-08	6.48E-05
Road 3	3	0500-0600	3.98E-02	9.74E-08	2.18E-04	4.08E-01	1.86E-06	4.56E-03	2.02E-02	4.96E-08	1.11E-04			
Road 3	3	0600-0700	4.15E-02	2.15E-07	4.82E-04	4.08E-01	4.24E-06	1.04E-02	2.27E-02	1.18E-07	2.64E-04			
Road 3	3	0700-0800	4.35E-02	4.60E-07	1.03E-03	4.21E-01	4.45E-06	9.96E-03	1.93E-02	2.04E-07	4.56E-04	2.09E-02	2.22E-07	4.96E-04
Road 3	3	0800-0900	4.19E-02	5.09E-07	1.14E-03	3.85E-01	4.68E-06	1.05E-02	1.79E-02	2.17E-07	4.86E-04	1.94E-02	2.36E-07	5.29E-04
Road 3	3	0900-1000	4.66E-02	4.68E-07	1.05E-03	4.31E-01	4.33E-06	9.68E-03	2.01E-02	2.09E-07	4.68E-04	2.17E-02	2.27E-07	5.09E-04
Road 3	3	1000-1100	5.46E-02	4.70E-07	1.05E-03	4.43E-01	3.82E-06	8.55E-03	2.08E-02	1.79E-07	4.01E-04	2.26E-02	1.94E-07	4.35E-04
Road 3	3	1100-1200	5.27E-02	4.31E-07	9.65E-04	4.42E-01	3.61E-06	8.09E-03	2.05E-02	1.68E-07	3.75E-04	2.23E-02	1.82E-07	4.08E-04
Road 3	3	1200-1300	6.60E-02	4.68E-07	1.05E-03	4.96E-01	3.32E-06	7.43E-03	2.30E-02	1.63E-07	3.64E-04	2.54E-02	1.77E-07	3.96E-04
Road 3	3	1300-1400	6.77E-02	7.90E-07	1.77E-03	5.03E-01	5.87E-06	1.31E-02	2.35E-02	2.75E-07	6.15E-04	2.56E-02	2.99E-07	6.69E-04
Road 3	3	1400-1500	6.65E-02	8.25E-07	1.85E-03	4.96E-01	6.15E-06	1.38E-02	2.32E-02	2.87E-07	6.43E-04	2.52E-02	3.12E-07	7.00E-04
Road 3	3	1500-1600	6.41E-02	8.13E-07	1.82E-03	4.85E-01	6.06E-06	1.36E-02	2.25E-02	2.82E-07	6.32E-04	2.46E-02	3.07E-07	6.88E-04
Road 3	3	1600-1700	6.63E-02	8.69E-07	1.94E-03	4.99E-01	6.37E-06	1.42E-02	2.34E-02	2.91E-07	6.51E-04	2.58E-02	3.49E-07	7.81E-04
Road 3	3	1700-1800	4.98E-02	7.57E-07	1.69E-03	4.44E-01	6.76E-06	1.51E-02	2.08E-02	3.16E-07	7.07E-04	2.29E-02	3.44E-07	7.69E-04
Road 3	3	1800-1900	3.80E-02	6.28E-07	1.41E-03	3.94E-01	6.50E-06	1.45E-02	1.90E-02	3.13E-07	7.01E-04	2.06E-02	3.40E-07	7.61E-04
Road 3	3	1900-2000	3.48E-02	4.48E-07	1.00E-03	4.06E-01	5.33E-06	1.19E-02	1.96E-02	2.57E-07	5.76E-04	2.13E-02	2.79E-07	6.25E-04

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2028

Road Name	Road ID	Hour	NO_x Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 3	3	2000-2100	3.41E-02	3.49E-07	7.82E-04	4.25E-01	4.35E-06	9.75E-03	2.01E-02	2.88E-07	6.45E-04	2.18E-02	2.24E-07	5.01E-04
Road 3	3	2100-2200	3.11E-02	3.15E-07	7.06E-04	3.88E-01	3.94E-06	8.81E-03	1.80E-02	2.68E-07	6.00E-04	3.13E-02	3.40E-08	1.15E-04
Road 3	3	2200-2300	3.08E-02	3.05E-07	6.83E-04	4.04E-01	4.00E-06	8.96E-03	1.88E-02	1.87E-07	4.18E-04	2.05E-02	2.03E-07	4.54E-04
Road 3	3	2300-2400	3.31E-02	2.46E-07	5.50E-04	4.11E-01	3.05E-06	6.83E-03	1.92E-02	1.43E-07	3.19E-04	2.09E-02	1.55E-07	3.47E-04
Road 4	4	0000-0100	2.26E-02	1.85E-07	1.35E-03	2.26E-01	1.85E-06	1.36E-02	8.76E-03	7.18E-08	5.26E-04	9.52E-03	7.81E-08	5.71E-04
Road 4	4	0100-0200	2.45E-02	1.30E-07	9.55E-04	2.34E-01	1.24E-06	9.10E-03	9.14E-03	4.87E-08	3.56E-04	9.93E-03	5.29E-08	3.87E-04
Road 4	4	0200-0300	2.66E-02	1.04E-07	7.58E-04	2.44E-01	9.47E-07	6.93E-03	9.53E-03	3.70E-08	2.71E-04	1.04E-02	4.03E-08	2.95E-04
Road 4	4	0300-0400	2.87E-02	8.79E-08	6.43E-04	2.52E-01	7.72E-07	5.65E-03	9.92E-03	3.04E-08	2.23E-04	1.08E-02	3.31E-08	2.42E-04
Road 4	4	0400-0500	3.07E-02	1.03E-07	7.55E-04	2.60E-01	8.72E-07	6.38E-03	1.03E-02	3.47E-08	2.54E-04	1.12E-02	3.77E-08	2.76E-04
Road 4	4	0500-0600	3.28E-02	1.56E-07	1.14E-03	2.68E-01	1.27E-06	9.34E-03	1.07E-02	5.06E-08	3.71E-04	1.17E-02	5.50E-08	4.03E-04
Road 4	4	0600-0700	3.50E-02	4.36E-07	3.19E-03	2.77E-01	3.45E-06	2.52E-02	1.11E-02	1.40E-07	1.02E-03	1.21E-02	1.52E-07	1.11E-03
Road 4	4	0700-0800	3.70E-02	9.29E-07	6.80E-03	2.83E-01	7.13E-06	5.21E-02	1.15E-02	2.90E-07	2.12E-03	1.25E-02	3.16E-07	2.31E-03
Road 4	4	0800-0900	3.50E-02	3.16E-07	2.31E-03	2.68E-01	2.61E-06	7.61E-02	1.07E-02	1.06E-07	7.76E-04	1.16E-02	1.15E-07	8.41E-04
Road 4	4	0900-1000	4.26E-02	1.01E-06	7.39E-03	2.93E-01	6.95E-06	5.08E-02	1.24E-02	2.94E-07	2.15E-03	1.35E-02	3.19E-07	2.34E-03
Road 4	4	1000-1100	4.81E-02	9.83E-07	7.19E-03	3.14E-01	6.42E-06	4.70E-02	1.35E-02	2.77E-07	2.02E-03	1.47E-02	3.01E-07	2.20E-03
Road 4	4	1100-1200	4.59E-02	8.89E-07	6.51E-03	3.09E-01	5.98E-06	4.37E-02	1.31E-02	2.51E-07	1.85E-03	1.42E-02	2.72E-07	2.01E-03
Road 4	4	1200-1300	5.73E-02	1.64E-06	1.20E-02	3.52E-01	1.01E-05	7.36E-02	1.58E-02	4.82E-07	3.53E-03	1.72E-02	5.24E-07	3.84E-03
Road 4	4	1300-1400	5.90E-02	1.72E-06	1.26E-02	3.57E-01	1.04E-05	7.62E-02	1.56E-02	4.54E-07	3.32E-03	1.69E-02	4.94E-07	3.61E-03
Road 4	4	1400-1500	5.81E-02	1.81E-06	1.32E-02	3.53E-01	1.10E-05	8.03E-02	1.55E-02	4.83E-07	3.54E-03	1.69E-02	5.25E-07	3.84E-03
Road 4	4	1500-1600	5.78E-02	1.80E-06	1.32E-02	3.46E-01	1.08E-05	7.90E-02	1.54E-02	4.80E-07	3.51E-03	1.68E-02	5.23E-07	3.82E-03
Road 4	4	1600-1700	5.61E-02	1.90E-06	1.39E-02	3.47E-01	1.18E-05	8.61E-02	1.54E-02	5.22E-07	3.82E-03	1.67E-02	5.67E-07	4.15E-03
Road 4	4	1700-1800	4.13E-02	1.59E-06	1.16E-02	2.89E-01	1.11E-05	8.14E-02	1.23E-02	4.72E-07	3.45E-03	1.33E-02	5.13E-07	3.75E-03
Road 4	4	1800-1900	3.93E-02	1.32E-06	9.63E-03	2.87E-01	8.89E-06	6.50E-02	1.22E-02	3.92E-07	2.87E-03	1.32E-02	4.26E-07	3.12E-03
Road 4	4	1900-2000	2.64E-02	8.85E-07	6.48E-03	2.36E-01	7.90E-06	5.78E-02	1.01E-02	3.37E-07	2.47E-03	1.09E-02	3.66E-07	2.68E-03
Road 4	4	2000-2100	2.66E-02	6.77E-07	4.96E-03	2.47E-01	6.43E-06	4.70E-02	1.00E-02	2.61E-07	1.92E-03	1.10E-02	2.86E-07	2.09E-03
Road 4	4	2100-2200	2.33E-02	6.06E-07	4.44E-03	2.14E-01	5.56E-06	4.07E-02	9.08E-03	2.36E-07	1.73E-03	9.71E-03	2.52E-07	1.85E-03
Road 4	4	2200-2300	2.27E-02	5.73E-07	4.19E-03	2.32E-01	5.87E-06	4.30E-02	9.17E-03	2.32E-07	1.70E-03	9.96E-03	2.52E-07	1.84E-03
Road 4	4	2300-0000	2.48E-02	4.70E-07	3.44E-03	2.40E-01	4.55E-06	3.33E-02	9.59E-03	1.81E-07	1.33E-03	1.04E-02	1.97E-07	1.44E-03
Road 5	5	0000-0100	3.07E-02	3.03E-07	6.91E-04	3.54E-01	3.49E-06	7.96E-03	1.62E-02	2.39E-07	5.44E-04	1.51E-02	2.23E-07	5.09E-04
Road 5	5	0100-0200	3.22E-02	2.10E-07	6.41E-04	2.86E-01	1.87E-06	5.70E-03	1.04E-02	6.77E-08	2.06E-04	1.13E-02	7.36E-08	2.25E-04
Road 5	5	0200-0300	3.44E-02	1.64E-07	5.01E-04	2.94E-01	1.40E-06	4.28E-03	1.07E-02	5.09E-08	1.55E-04	1.16E-02	5.53E-08	1.69E-04
Road 5	5	0300-0400	3.64E-02	1.37E-07	4.19E-04	3.00E-01	1.13E-06	3.46E-03	1.09E-02	4.12E-08	1.26E-04	1.19E-02	4.49E-08	1.37E-04
Road 5	5	0400-0500	3.84E-02	1.36E-07	4.16E-04	3.06E-01	1.12E-06	3.43E-03	1.10E-02	4.09E-08	1.25E-04	1.21E-02	4.46E-08	1.36E-04
Road 5	5	0500-0600	4.39E-02	3.14E-07	9.57E-04	3.35E-01	2.40E-06	7.32E-03	1.23E-02	8.79E-08	2.68E-04	1.34E-02	9.56E-08	2.92E-04
Road 5	5	0600-0700	5.15E-02	7.89E-07	2.41E-03	3.80E-01	5.83E-06	1.78E-02	1.37E-02	2.09E-07	6.39E-04	1.49E-02	2.28E-07	6.95E-04
Road 5	5	0700-0800	6.08E-02	1.58E-06	4.83E-03	4.31E-01	1.17E-05	3.57E-02	1.64E-02	4.77E-07	1.45E-03	1.78E-02	5.19E-07	1.58E-03
Road 5	5	0800-0900	6.20E-02	1.22E-06	6.81E-03	4.20E-01	1.51E-05	4.60E-02	1.52E-02	5.45E-07	1.66E-03	1.65E-02	5.93E-07	1.81E-03
Road 5	5	0900-1000	7.04E-02	2.07E-06	6.30E-03	4.56E-01	1.34E-05	4.08E-02	1.65E-02	4.86E-07	1.48E-03	1.80E-02	5.28E-07	1.61E-03
Road 5	5	1000-1100	7.08E-02	2.09E-06	6.36E-03	4.61E-01	1.36E-05	4.13E-02	1.66E-02	4.91E-07	1.49E-03	1.81E-02	5.34E-07	1.63E-03
Road 5	5	1100-1200	7.28E-02	1.75E-06	5.33E-03	4.62E-01	1.11E-05	3.38E-02	1.66E-02	4.00E-07	1.22E-03	1.83E-02	4.40E-07	1.34E-03
Road 5	5	1200-1300	8.41E-02	1.65E-06	5.03E-03	5.17E-01	1.01E-05	3.09E-02	1.98E-02	3.89E-07	1.19E-03	2.16E-02	4.23E-07	1.29E-03
Road 5	5	1300-1400	8.30E-02	1.77E-06	5.38E-03	5.03E-01	1.07E-05	3.25E-02	1.94E-02	4.15E-07	1.26E-03	2.11E-02	4.52E-07	1.37E-03
Road 5	5	1400-1500	8.71E-02	1.86E-06	5.67E-03	5.28E-01	1.13E-05	3.44E-02	2.01E-02	4.30E-07	1.31E-03	2.19E-02	4.68E-07	1.42E-03
Road 5	5	1500-1600	8.35E-02	1.83E-06	5.57E-03	5.16E-01	1.13E-05	3.44E-02	1.92E-02	4.20E-07	1.28E-03	2.09E-02	4.57E-07	1.39E-03
Road 5	5	1600-1700	8.63E-02	1.91E-06	5.82E-03	5.33E-01	1.18E-05	3.60E-02	2.01E-02	4.46E-07	1.36E-03	2.18E-02	4.84E-07	1.47E-03
Road 5	5	1700-1800	6.32E-02	1.68E-06	5.11E-03	4.42E-01	1.17E-05	3.58E-02	1.66E-02	4.40E-07	1.34E-03	1.80E-02	4.79E-07	1.46E-03
Road 5	5	1800-1900	4.73E-02	1.38E-06	4.21E-03	3.70E-01	1.08E-05	3.30E-02	1.44E-02	4.20E-07	1.28E-03	1.56E-02	4.56E-07	1.39E-03
Road 5	5	1900-2000	3.91E-02	9.59E-07	2.77E-03	3.44E-01	8.08E-06	2.46E-02	1.56E-02	3.15E-07	9.62E-04	1.47E-02	3.44E-07	1.04E-03
Road 5	5	2000-2100	3.76E-02	8.61E-07	2.08E-03	3.56E-01	6.64E-06	1.74E-02	1.52E-02	2.43E-07	7.40E-04	1.46E-02	2.64E-07	8.04E-04
Road 5	5	2100-2200	3.36E-02	6.06E-07	1.85E-03	3.27E-01	5.89E-06	1.80E-02	1.19E-02	2.15E-07	6.55E-04	1.30E-02	2.33E-07	7.12E-04
Road 5	5	2200-2300	3.21E-02	5.63E-07	1.72E-03	3.28E-01	5.75E-06	1.75E-02	1.21E-02	2.12E-07	6.45E-04	1.31E-02	2.30E-07	7.02E-04
Road 5	5	2300-0000	3.31E-02	5.63E-07	1.72E-03	3.31E-01	5.63E-06	1.72E-02	1.24E-02	2.12E-07	6.45E-04	1.33E-02	2.30E-07	7.02E-04
Road 6	6	0000-0100	4.04E-02	3.10E-07	3.19E-03	3.63E-01	2.78E-06	2.86E-02	1.42E-02	1.09E-07	1.12E-03	1.54E-02	1.18E-07	1.22E-03
Road 6	6	0100-0200	4.25E-02	2.14E-07	2.20E-03	3.64E-01	1.83E-06	1.88E-02	1.42E-02	7.25E-08	7.45E-04	1.57E-02	7.87E-08	8.09E-04
Road 6	6	0200-0300	4.47E-02	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) **Year 2028**

Road Name	Road ID	Hour	NO_x Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 23	23	1600-1700	3.28E-01	6.08E-07	4.10E-03	1.48E+00	2.75E-06	1.85E-02	6.16E-02	5.36E-03	3.94E-04	6.70E-04		
Road 23	23	1700-1800	2.93E-01	4.93E-07	3.33E-03	1.35E+00	2.27E-06	1.53E-02	4.33E-02	7.28E-08	4.91E-04	4.71E-02	7.92E-08	5.34E-04
Road 23	23	1800-1900	2.63E-01	3.08E-07	2.08E-03	1.22E+00	1.44E-06	9.68E-03	3.90E-02	4.57E-08	3.08E-04	4.24E-02	4.97E-08	3.35E-04
Road 23	23	1900-2000	2.48E-01	1.92E-07	1.29E-03	1.15E+00	8.84E-07	5.96E-03	3.78E-02	2.91E-08	1.96E-04	4.11E-02	3.17E-08	2.13E-04
Road 23	23	2000-2100	2.43E-01	1.50E-07	1.01E-03	1.13E+00	6.97E-07	4.70E-03	3.68E-02	2.26E-08	1.53E-04	4.01E-02	2.46E-08	1.66E-04
Road 23	23	2100-2200	2.47E-01	1.56E-07	1.05E-03	1.14E+00	7.22E-07	4.87E-03	3.74E-02	2.36E-08	1.59E-04	4.07E-02	2.56E-08	1.73E-04
Road 23	23	2200-2300	2.57E-01	1.56E-07	1.05E-03	1.19E+00	7.22E-07	4.87E-03	3.89E-02	2.36E-08	1.59E-04	4.24E-02	2.56E-08	1.73E-04
Road 23	23	2300-0000	2.61E-01	1.18E-07	7.95E-04	1.18E+00	5.31E-07	3.58E-03	4.07E-02	1.84E-08	1.24E-04	4.42E-02	2.00E-08	1.35E-04
Road 24	24	0000-0100	8.05E-02	3.88E-09	3.55E-06	4.32E-01	2.08E-08	1.90E-05	1.32E-02	6.37E-10	5.83E-07	1.44E-02	6.93E-10	6.34E-07
Road 24	24	0100-0200	8.19E-02	2.77E-09	2.53E-06	4.46E-01	1.51E-08	1.38E-05	1.34E-02	4.53E-10	4.15E-07	1.55E-02	5.93E-10	4.51E-07
Road 24	24	0200-0300	9.38E-02	2.21E-09	2.03E-06	4.86E-01	1.15E-08	1.05E-05	1.53E-02	3.60E-10	3.29E-07	1.66E-02	3.91E-10	3.58E-07
Road 24	24	0300-0400	1.01E-01	1.90E-09	1.74E-06	5.15E-01	9.74E-09	8.91E-06	1.62E-02	3.07E-10	2.81E-07	1.77E-02	3.34E-10	3.06E-07
Road 24	24	0400-0500	1.07E-01	2.21E-09	2.03E-06	5.40E-01	1.14E-08	1.04E-05	1.72E-02	3.54E-10	3.25E-07	1.87E-02	3.84E-10	3.53E-07
Road 24	24	0500-0600	1.13E-01	4.19E-09	3.83E-06	5.65E-01	2.10E-08	1.92E-05	1.82E-02	6.73E-10	6.16E-07	1.97E-02	7.32E-10	6.70E-07
Road 24	24	0600-0700	1.19E-01	9.62E-09	8.80E-06	5.92E-01	4.78E-08	4.37E-05	1.91E-02	1.54E-09	1.41E-06	2.07E-02	1.68E-09	1.53E-06
Road 24	24	0700-0800	1.25E-01	2.06E-08	1.89E-05	6.11E-01	1.01E-07	9.27E-05	2.00E-02	3.31E-09	3.03E-06	2.17E-02	3.60E-09	3.30E-06
Road 24	24	0800-0900	1.28E-01	2.38E-08	2.17E-05	6.25E-01	1.16E-07	1.07E-04	2.04E-02	3.82E-09	3.49E-06	2.22E-02	4.15E-09	3.80E-06
Road 24	24	0900-1000	1.46E-01	2.55E-08	2.34E-05	6.96E-01	1.22E-07	1.12E-04	2.32E-02	4.06E-09	3.72E-06	2.52E-02	4.41E-09	4.04E-06
Road 24	24	1000-1100	1.64E-01	2.61E-08	2.39E-05	7.68E-01	1.22E-07	1.12E-04	2.61E-02	4.15E-09	3.79E-06	2.84E-02	4.51E-09	4.12E-06
Road 24	24	1100-1200	1.68E-01	2.77E-08	2.53E-05	7.90E-01	1.30E-07	1.19E-04	2.68E-02	4.41E-09	4.03E-06	2.92E-02	4.80E-09	4.39E-06
Road 24	24	1200-1300	1.61E-01	2.57E-08	2.35E-05	7.50E-01	1.19E-07	1.09E-04	2.57E-02	4.10E-09	3.75E-06	2.80E-02	4.46E-09	4.08E-06
Road 24	24	1300-1400	1.65E-01	2.77E-08	2.53E-05	7.71E-01	1.29E-07	1.18E-04	2.60E-02	4.36E-09	3.99E-06	2.82E-02	4.74E-09	4.34E-06
Road 24	24	1400-1500	1.52E-01	2.74E-08	2.51E-05	7.27E-01	1.31E-07	1.20E-04	2.40E-02	4.33E-09	3.96E-06	2.61E-02	4.70E-09	4.30E-06
Road 24	24	1500-1600	1.52E-01	2.74E-08	2.51E-05	7.27E-01	1.31E-07	1.20E-04	2.40E-02	4.33E-09	3.96E-06	2.61E-02	4.70E-09	4.30E-06
Road 24	24	1600-1700	1.56E-01	2.87E-08	2.62E-05	7.30E-01	1.34E-07	1.23E-04	2.49E-02	4.57E-09	4.18E-06	2.70E-02	4.97E-09	4.55E-06
Road 24	24	1700-1800	1.41E-01	1.29E-07	1.18E-04	7.91E-01	7.20E-07	6.62E-04	2.30E-02	2.10E-08	1.92E-05	2.50E-02	2.28E-08	2.09E-05
Road 24	24	1800-1900	8.11E-02	1.59E-08	1.46E-05	4.16E-01	8.16E-08	7.47E-05	1.34E-02	2.63E-09	2.41E-06	1.46E-02	2.86E-09	2.62E-06
Road 24	24	1900-2000	7.04E-02	1.06E-08	9.73E-06	3.75E-01	5.67E-08	5.19E-05	1.18E-02	1.78E-09	1.63E-06	1.28E-02	1.93E-09	1.77E-06
Road 24	24	2000-2100	6.92E-02	8.14E-09	7.47E-06	3.94E-01	4.52E-08	4.14E-05	1.23E-02	1.44E-09	1.32E-06	1.34E-02	1.56E-09	1.43E-06
Road 24	24	2100-2200	6.65E-02	7.86E-09	7.20E-06	3.75E-01	4.43E-08	4.05E-05	1.10E-02	1.30E-09	1.19E-06	1.19E-02	1.41E-09	1.29E-06
Road 24	24	2200-2300	6.50E-02	7.35E-09	6.73E-06	3.68E-01	4.15E-08	3.80E-05	1.08E-02	1.22E-09	1.12E-06	1.18E-02	1.33E-09	1.22E-06
Road 24	24	2300-0000	7.15E-02	6.12E-09	5.60E-06	3.93E-01	3.37E-08	3.08E-05	1.19E-02	1.02E-09	9.31E-07	1.29E-02	1.11E-09	1.01E-06
Road 25	25	0000-0100	2.16E-01	2.27E-08	2.11E-05	9.90E-01	1.04E-07	9.66E-05	3.40E-02	3.58E-09	3.32E-06	3.68E-02	3.87E-09	3.61E-06
Road 25	25	0100-0200	2.16E-01	2.27E-08	2.11E-05	9.90E-01	1.04E-07	9.66E-05	3.40E-02	3.58E-09	3.32E-06	3.68E-02	3.87E-09	3.61E-06
Road 25	25	0200-0300	2.23E-01	1.81E-08	1.69E-05	1.02E+00	8.26E-08	7.69E-05	3.49E-02	2.83E-09	2.64E-06	3.79E-02	3.08E-09	2.87E-06
Road 25	25	0300-0400	2.34E-01	1.56E-08	1.45E-05	1.07E+00	7.08E-08	6.59E-05	3.67E-02	2.43E-09	2.26E-06	3.98E-02	2.65E-09	2.46E-06
Road 25	25	0400-0500	2.33E-01	1.84E-08	1.71E-05	1.06E+00	8.34E-08	7.76E-05	3.66E-02	2.86E-09	2.66E-06	3.95E-02	3.11E-09	2.89E-06
Road 25	25	0500-0600	2.38E-01	3.41E-08	3.18E-05	1.08E+00	1.55E-07	1.44E-04	3.74E-02	5.32E-09	4.95E-06	4.02E-02	5.78E-09	5.38E-06
Road 25	25	0600-0700	2.41E-01	6.01E-08	5.60E-05	1.09E+00	2.73E-07	2.54E-04	3.79E-02	9.38E-09	8.73E-06	4.07E-02	1.02E-08	9.48E-06
Road 25	25	0700-0800	2.59E-01	1.78E-07	1.65E-04	1.17E+00	8.04E-07	7.48E-04	4.07E-02	2.79E-08	2.60E-05	4.33E-02	2.97E-08	2.77E-05
Road 25	25	0800-0900	2.60E-01	2.12E-07	1.98E-04	1.18E+00	9.66E-07	8.99E-04	3.95E-02	3.23E-08	3.01E-05	4.29E-02	3.51E-08	3.27E-05
Road 25	25	0900-1000	2.39E-01	2.39E-07	2.23E-04	1.08E+00	1.09E-06	1.01E-03	3.64E-02	3.65E-08	3.40E-05	3.96E-02	3.97E-08	3.69E-05
Road 25	25	1000-1100	2.91E-01	2.47E-07	2.30E-04	1.30E+00	1.10E-06	1.03E-03	4.44E-02	3.78E-08	3.52E-05	4.83E-02	4.11E-08	3.82E-05
Road 25	25	1100-1200	2.89E-01	2.31E-07	2.15E-04	1.30E+00	1.03E-06	9.62E-04	4.40E-02	3.51E-08	3.27E-05	4.78E-02	3.82E-08	3.55E-05
Road 25	25	1200-1300	2.97E-01	2.47E-07	2.30E-04	1.34E+00	1.07E-06	1.00E-03	4.56E-02	3.78E-08	3.52E-05	4.96E-02	4.11E-08	3.82E-05
Road 25	25	1300-1400	2.97E-01	2.63E-07	2.44E-04	1.34E+00	1.18E-06	1.09E-03	4.56E-02	4.03E-08	3.75E-05	4.96E-02	4.38E-08	4.07E-05
Road 25	25	1400-1500	3.01E-01	2.65E-07	2.47E-04	1.34E+00	1.18E-06	1.10E-03	4.60E-02	4.05E-08	3.77E-05	5.00E-02	4.41E-08	4.10E-05
Road 25	25	1500-1600	2.77E-01	2.54E-07	2.37E-04	1.23E+00	1.13E-06	1.05E-03	4.15E-02	3.81E-08	3.54E-05	4.59E-02	4.21E-08	3.91E-05
Road 25	25	1600-1700	2.90E-01	2.49E-07	2.32E-04	1.30E+00	1.11E-06	1.04E-03	4.43E-02	3.81E-08	3.54E-05	4.82E-02	4.14E-08	3.85E-05
Road 25	25	1700-1800	2.54E-01	2.02E-07	1.88E-04	1.18E+00	9.38E-07	8.72E-04	3.81E-02	3.04E-08	2.83E-05	4.14E-02	3.30E-08	3.07E-05
Road 25	25	1800-1900	2.16E-01	1.27E-07	1.19E-04	1.01E+00	5.98E-07	5.57E-04	3.27E-02	1.93E-08	1.80E-05	3.55E-02	2.10E-08	1.95E-05
Road 25	25	1900-2000	2.00E-01	1.15E-07	1.07E-04	9.51E-01	5.43E-07	5.05E-04	3.08E-02	1.75E-08	1.63E-05	3.34E-02	1.91E-08	1.77E-05
Road 25	25	2000-2100	2.00E-01	6.38E-08	5.93E-05	9.46E-01	3.02E-07	2.81E-04	3.07E-02	9.78E-09	9.10E-06	3.34E-02	1.06E-08	9.90E-06
Road 25	25	2100-2200	2.03E-01	6.60E-08	6.14E-05	9.55E-01	3.11E-07	2.89E-04	3.11E-02	1.01E-08	9.38E-06	3.38E-02	1.10E-08	1.03E-05
Road 25	25	2200-2300	2.09E-01	6.60E-08	6.14E-05	9.85E-01	3.11E-07	2.89E-04	3.21E-02	1.01E-08	9.38E-06	3.49E-02	1.10E-08	1.03E-05
Road 25	25	2300-0000	2.20E-01	5.15E-08	4.79E-05	1.01E+00	2.35E-07	2.19E-04	3.45E-02	8.05E-09	7.49E-06	3.75E-02	8.75E-09	8.15E-06
Road 26	26	0000-0100	2.79E-01	1.13E-07	1.54E-04	1.25E+00	5.04E-07	6.91E-04	4.31E-02	1.75E-08	2.42E-05	4.01E-02	3.36E-08	4.61E-05
Road 26	26	0100-0200	2.81E-01	1.13E-07	1.54E-04	1.26E+00	5.04E-07	6.91E-04	4.34E-02	1.75E-08	2.42E-05	4.04E-02	3.36E-08	4.61E-05
Road 26	26	0200-0300	2.85E-01	6.41E-08	8.78E-05	1.27E+00	2.87E-07	3.93E-04	4.39E-02	9.90E-09	1.36E-05	4.08E-02	1.90E-08	2.61E-05
Road 26	26	0300-0400	2.87E-01	5.49E-08	7.52E-05	1.28E+00	2.46E-07	3.36E-04	4.42E-02	8.47E-09	1.16E-05	4.09E-02	1.63E-08	2.23E-05
Road 26	26	0400-0500	2.87E-01	1.84E-08	2.52E-05	1.28E+00	8.25E-08	1.13E-04	4.42E-02	2.84E-09	3.89E-06	4.09E-02	5.46E-09	7.48E-06
Road 26	26	0500-0600	2.82E-01	1.14E-07	1.28E-04	1.26E+00	5.09E-07	5.72E-04	4.35E-02	1.75E-08	1.97E-05	4.73E-02	1.90E-08	2.14E-05
Road 26	26	0600-0700	3.01E-01	2.76E-07	3.10E-04	1.34E+00	1.24E-06	1.39E-03	4.64E-02	4.26E-08	4.79E-05	5.09E-02	4.66E-08	5.24E-05
Road 26	26	0700-0800	3.22E-01	7.55E-07	8.49E-04	1.45E+00	3.40E-06	3.82E-03	4.77E-02	1.12E-07	1.26E-04	5.19E-02	1.22E-07	1.37E-04
Road 26	26	0800-0900	3.26E-01	8.55E-07	9.60E-04	1.47E+00	3.85E-06	4.33E-03	4.82E-02	1.27E-07	1.42E-04	5.26E-02	1.38E-07	1.55E-04
Road 26	26	0900-1000	3.26E-01	8.55E-07	9.60E-04	1.47E+00	3.85E-06	4.33E-03	4.82E-02	1.27E-07	1.42E-04	5.26E-02	1.38E-07	1.55E-04
Road 26	26	1000-1100	3.24E-01	8.29E-07	9.32E-04	1.46E+00	3.74E-06	4.20E-03	4.79E-02	1.23E-07	1.38E-04	5.23E-02	1.34E-07	1.50E-04
Road 26	26	1100-1200	3.34E-01	8.29E-07	9.32E-04	1.52E+00	3.69E-06	4.14E-03	5.09E-02	1.23E-07	1.38E-04	5.54E-02	1.34E-07	1.50E-04
Road 26	26	1200-1300	3.60E-01	8.67E-07	9.74E-04	1.58E+00	3.80E-06	4.27E-03	5.38E-02	1.29E-07	1.45E-04	5.85E-02	1.41E-07	1.58E-04
Road 26	26	1300-1400	3.60E-01	8.67E-07	9.74E-04	1.58E+00	3.80E-06	4.27E-03	5.38E-02	1.29E-07	1.45E-04	5.85E-02	1.41E-07	1.58E-04
Road 26	26	1400-1500	3.53E-01	9.48E-07	1.07E-03	1.56E+00	4.18E-06	4.69E-03	5.28E-02	1.42E-07	1.59E-04	5.75E-02	1.54E-07	1.73E-04
Road 26	26	1500-1600	3.24E-01	9.10E-07	1.02E-03	1.47E+00	4.13E-06	4.64E-03	4.79E-02	1.34E-07	1.51E-04	5.22E-02	1.46E-07	1.64E-04
Road 26	26	1600-1700	3.44E-01	8.89E-07	1.00E-03	1.56E+00	4.03E-06	4.53E-03	5.12E-02	1.32E-07	1.48E-04	5.58E-02	1.44E-07	1.62E-04
Road 26	26	1700-1800	3.09E-01	7.21E-07	8.09E-04	1.42E+00	3.31E-06	3.72E-03	4.52E-02	1.06E-07	1.19E-04	4.92E-02	1.15E-07	1.29E-04
Road 26	26	1800-1900	2.80E-01	4.49E-07	5.04E-04	1.30E+00	2.09E-06	2.34E-03	4.13E-02	6.61E-08	7.43E-05	4.49E-02	7.19E-08	8.08E-05
Road 26	26	1900-2000	2.67E-01	2.79E-07	3.13E-04	1.23E+00	1.28E-06	1.44E-03	4.03E-02	4.20E-08	4.72E-05	4.28E-02	4.57E-08	5.13E-05
Road 27	27	2000-2100	2.61E-01	2.18E-07	2.45E-04	1.20E+00	1.00E-06	1.12E-03	3.93E-02	3.27E-08	3.68E-05	4.22E-02	3.53E-08	3.96E-05
Road 27	27	2100-2200	2.65E-01	2.27E-07	2.54E-04	1.22E+00	1.05E-06	1.18E-03	3.99E-02	3.41E-08	3.83E-05	4.28E-02	3.68E-08	4.13E-05
Road 27	27	2200-2300	2.98E-01	2.63E-07	2.95E-04	1.37E+00	1.21E-06	1.36E-03	4.49E-02	3.96E-08	4.44E-05	4.82E-02	4.26E-08	4.78E-05
Road 27	27	2300-0000	3.01E-01	1.32E-07	1.48E-04	1.38E+00	6.08E-07	6.81E-04	4.54E-02	2.00E-08	2.24E-05	4.87E-02	2.15E-08	2.41E-05
Road 28	28	0000-0100	3.94E-02	7.30E-11	1.34E-07	2.11E-01	3.91E-10	7.17E-07	1.82E-02	3.37E-11	6.19E-08	1.98E-02	3.67E-11	6.73E-08
Road 28	28	0100-0200	4.29E-02	5.24E-11	1.09E-07	2.31E-01	2.82E-10	5.87E-07	1.98E-02	2.42E-11	5.04E-08	2.16E-02	2.64E-11	5.50E-08
Road 28	28	0200-0300	4.44E-02	3.29E-11	6.85E-08	2.39E-01	1.77E-10	3.68E-07	2.05E-02	1.52E-11	3.16E-08	2.24E-02	1.66E-11	3.45E-08
Road 28	28	0300-0400	5.02E-02	3.63E-11	7.52E-08	2.70E-01	1.95E-10	4.06E-07	2.32E-02	1.68E-11	3.49E-08	2.53E-02	1.83E-11	3.81E-08
Road 28	28	0400-0500	5.26E-02	4.20E-07	8.70E-03	3.85E-01	3.07E-06	6.36E-02	1.70E-02	1.36E-07	2.81E-03	1.85E-02	1.47E-07	3.05E-03
Road 28	28	0500-0600	5.23E-02	1.63E-06	3.36E-02	3.54E-01	1.17E-05	2.43E-01	1.72E-02	5.12E-07	1.06E-02	1.87E-02	5.57E-07	1.15E-02
Road 28	28	0600-0700	5.60E-02	1.66E-06	3.45E-02	3.94E-01	1.17E-05	2.43E-01	1.72E-02	5.12E-07	1.06E-02	1.87E-02	5.57E-07	1.15E-02
Road 28	28	0700-0800	5.97E-02	3.63E-06	7.53E-02	4.10E-01	2.49E-05	5.16E-01	1.79E-02	1.09E-06	2.26E-02	1.95E-02	1.19E-06	2.46E-02
Road 28	28	0800-0900	6.00E-02	5.13E-06	4.30E-06	4.39E-01	3.45E-08	2.89E-05	1.52E-02	1.29E-06	3.73E-05	1.99E-02	1.69E-06	4.87E-05
Road 28	28	0900-1000	7.09E-02	4.36E-06	9.02E-02	4.36E-01	2.68E-05	5.55E-01	1.92E-02	1.18E-06	2.44E-02	2.09E-02	1.28E-06	2.66E-02
Road 28	28	1000-1100	7.78E-02	4.25E-06	8.80E-02	4.60E-01	2.51E-05	5.21E-01	2.07E-02	1.13E-06	2.35E-02	2.25E-02	1.23E-06	2.55E-02
Road 28	28	1100-1200	7.59E-02	3.22E-06	8.72E-02	4.56E-01	1.93E-05	4.88E-01	2.04E-02	1.05E-06	2.08E-02	2.23E-02	1.14E-06	2.37E-02
Road 28	28	1200-1300	7.82E-02	2.32E-06	4.80E-02	4.52E-01	1.34E-05	2.77E-01	2.06E-02	6.11E-07	1.27E-02	2.24E-02	6.64E-07	1.38E-02
Road 28	28	1300-1400	7.99E-02	2.46E-06	5.09E-02	4.55E-01	1.40E-05	2.90E-01	2.06E-02	6.32E-07	1.31E-02	2.23E-02	6.87E-07	1.42E-02
Road 28	28	1400-1500	7.84E-02	2.53E-06	5.25E-02	4.48E-01	1.45E-05	3.00E-01	2.04E-02	6.61E-07	1.37E-02	2.22E-02	7.18E-07	1.49E-02
Road 28	28	1500-1600	7.42E-02	2.56E-06	5.31E-02	4.36E-01	1.50E-05	3.12E-01	2.00E-02	6.90E-07	1.43E-02	2.17E-02	7.50E-07	1.55E-02
Road 28	28	1600-1700	5.70E-02	2.16E-06	4.47E-02	3.37E-01	1.27E-05	2.63E-01	1.54E-02	5.81E-07	1.20E-02	1.67E-02	6.32E-07	1.31E-02
Road 28	28	1700-1800	5.70E-02	2.16E-06	4.47E-02	3.37E-01	1.27E-05	2.63E-01	1.54E-02	5.81E-07	1.20E-02	1.67E-02	6.32E-07	1.31E-02
Road 28	28	1800-1900	5.70E-02	2.16E-06	4.47E-02	3.37E-01	1.27E-05	2.63E-01	1.54E-02	5.81E-07	1.20E-02	1.67E-02	6.32E-07	1.31E-02
Road 28	28	1900-2000	5.59E-02	2.12E-06	4.39E-02	3.31E-01	1.25E-05	2.58E-01	1.51E-02	5.72E-07	1.18E-02	1.64E-02	6.21E-07	1.29E-02
Road 28	28	2000-2100	5.59E-02	2.12E-06	4.39E-02	3.31E-01	1.25E-05	2.58E-01	1.51E-02	5.72E-07	1.18E-02	1.64E-02	6.21E-07	1.29E-02
Road 28	28	2100-2200	5.66E-02	2.15E-06	4.45E-02	3.35E-01	1.27E-05	2.62E-01	1.53E-02	5.81E-07	1.20E-02	1.66E-02	6.29E-07	1.30E-02
Road 28	28	2200-2300	5.66E-02	2.15E-06	4.45E-02	3.35E-01	1.27E-05	2.62E-01	1.53E-02	5.81E-07	1.20E-02	1.66E-02	6.29E-07	1.30E-02
Road 28	28	2300-0000	5.66E-02	2.15E-06	4.45E-02	3.35E-01	1.27E-05	2.62E-01	1.53E-02	5.81E-07	1.20E-02	1.66E-02	6.29E-07	1.30E-02
Road 29	29	0000-0100	2.76E-01	2.26E-07	2.19E-04	1.24E+00	1.00E-06	9.82E-04	4.27E-02	3.49E-08	3.39E-05	4.71E-02	3.85E-08	3.74E-05
Road 29	29	0100-0200	2.76E-01	2.26E-07	2.19E-04	1.24E+00	1.00E-06	9.82E-04	4.27E-02	3.49E-08	3.39E-05	4.71E-02	3.85E-08	3.74E-05
Road 29	29	0200-0300	2.83E-01	1.80E-08	1.74E-05	1.27E+00	8.00E-08	7.76E-05	4.37E-02	2.77E-09	2.69E-06	4.82E-02	3.77E-09	3.66E-06
Road 29	29	0300-0400	2.94E-01	1.56E-08	1.51E-05	1.32E+00	6.93E-08	6.72E-05	4.54E-02	2.40E-09	2.33E-06	5.01E-02	3.27E-09	3.17E-06
Road 29	29	0400-0500	2.93E-01	1.84E-08	1.78E-05	1.32E+00	8.17E-08	7.92E-05	4.53E-02	2.84E-09	2.75E-06	5.00E-02	3.87E-09	3.75E-06
Road 29	29	0500-0600	2.96E-01	3.41E-08	3.30E-05	1.33E+00	1.51E-07	1.46E-04	4.58E-02	5.26E-09	5.10E-06	5.06E-02	5.82E-09	5.64E-06
Road 29	29	0600-0700	3.00E-01	5.98E-08	5.79E-05	1.35E+00	2.65E-07	2.57E-04	4.64E-02	9.22E-09	8.93E-06	5.12E-02	1.02E-08	9.87E-06
Road 29	29	0700-0800	3.22E-01	1.77E-07	1.71E-04	1.45E+00	7.85E-07	7.61E-04	4.97E-02	2.73E-08	2.65E-05	5.49E-02	3.02E-08	2.93E-05
Road 29	29	0800-0900	3.26E-01	2.12E-07	2.05E-04	1.47E+00	9.40E-07	9.11E-04	5.03E-02	3.27E-08	3.17E-05	5.56E-02	3.61E-08	3.50E-05
Road 29	29	0900-1000	3.26E-01	2.39E-07	2.31E-04	1.47E+00	1.06E-06	1.03E-03	5.03E-02	3.69E-08	3.57E-05	5.56E-02	4.07E-08	3.94E-05
Road 29	29	1000-1100	3.24E-01	2.47E-07	2.39E-04	1.46E+00	1.10E-06	1.06E-03	5.00E-02	3.82E-08	3.70E-05	5.52E-02	4.21E-08	4.08E-05
Road 29	29	1100-1200	3.34E-01	2.31E-07	2.24E-04	1.52E+00	1.03E-06	1.00E-03	5.09E-02	3.51E-08	3.40E-05	5.54E-02	3.99E-08	3.87E-05
Road 29	29	1200-1300	3.60E-01	2.47E-07	2.39E-04	1.58E+00	1.10E-06	1.06E-03	5.38E-02	3.82E-08	3.70E-05	5.85E-02	4.21E-08	4.08E-05
Road 29	29	1300-1400	3.60E-01	2.63E-07	2.55E-04	1.58E+00	1.17E-06	1.13E-03	5.38E-02	4.07E-08	3.94E-05	5.85E-02	4.48E-08	4.34E-05
Road 29	29	1400-1500	3.53E-01	2.65E-07	2.57E-04	1.56E+00	1.18E-06	1.14E-03	5.28E-02	4.09E-08	3.96E-05	5.75E-02	4.50E-08	4.36E-05
Road 29	29	1500-1600	3.24E-01	2.54E-07	2.46E-04	1.47E+00	1.13E-06	1.09E-03	4.79E-02	3.93E-08	3.81E-05	5.22E-02	4.33E-08	4.20E-05
Road 29	29	1600-1700	3.44E-01	2.49E-07	2.41E-04	1.56E+00	1.11E-06	1.08E-03	5.12E-02	3.93E-08	3.81E-05	5.58E-02	4.28E-08	4.15E-05
Road 29	29	1700-1800	3.09E-01	2.02E-07	1.96E-04	1.42E+00	9.38E-07	9.08E-04	4.52E-02	3.04E-08	2.94E-05	4.92E-02	3.30E-08	3.19E-05
Road 29	29	1800-1900	2.80E-01	1.27E-07	1.23E-04	1.30E+00	5.98E-07	5.79E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) **Year 2028**

Road Name	Road ID	Hour	NO_x Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 46	46	0800-0900	3.28E-01	5.74E-03	1.89E-01	2.12E-01	3.69E-03	2.50E-01	6.17E-03	1.41E-07	9.67E-04	8.88E-03	1.55E-07	1.05E-03
Road 46	46	0900-1000	3.90E-02	5.52E-07	3.74E-03	2.40E-01	3.39E-06	2.30E-02	9.42E-03	1.33E-07	9.03E-04	1.02E-02	1.45E-07	9.81E-04
Road 46	46	1000-1100	4.43E-02	5.38E-07	3.65E-03	2.60E-01	3.16E-06	2.14E-02	1.05E-02	1.28E-07	8.68E-04	1.15E-02	1.39E-07	9.43E-04
Road 46	46	1100-1200	4.20E-02	4.84E-07	3.28E-03	2.53E-01	2.91E-06	1.98E-02	9.98E-03	1.15E-07	7.78E-04	1.08E-02	1.25E-07	8.46E-04
Road 46	46	1200-1300	5.63E-02	9.61E-07	6.51E-03	3.11E-01	5.31E-06	3.60E-02	1.32E-02	2.24E-07	1.52E-03	1.43E-02	2.44E-07	1.65E-03
Road 46	46	1300-1400	5.81E-02	1.01E-06	6.87E-03	3.18E-01	5.54E-06	3.76E-02	1.33E-02	2.32E-07	1.57E-03	1.45E-02	2.53E-07	1.71E-03
Road 46	46	1400-1500	5.72E-02	1.00E-06	6.83E-03	3.15E-01	5.52E-06	3.74E-02	1.32E-02	2.32E-07	1.57E-03	1.44E-02	2.52E-07	1.70E-03
Road 46	46	1500-1600	5.48E-02	1.04E-06	7.08E-03	3.05E-01	5.80E-06	3.93E-02	1.26E-02	2.39E-07	1.62E-03	1.37E-02	2.60E-07	1.76E-03
Road 46	46	1600-1700	5.50E-02	1.11E-06	7.55E-03	3.04E-01	6.16E-06	4.17E-02	1.30E-02	2.63E-07	1.78E-03	1.41E-02	2.85E-07	1.93E-03
Road 46	46	1700-1800	5.40E-02	1.13E-06	7.67E-03	3.01E-01	6.26E-06	4.24E-02	1.27E-02	2.66E-07	1.80E-03	1.38E-02	2.89E-07	1.96E-03
Road 46	46	1800-1900	2.84E-02	7.14E-07	4.84E-03	1.90E-01	4.77E-06	3.23E-02	7.65E-03	1.93E-07	1.30E-03	8.24E-03	2.07E-07	1.40E-03
Road 46	46	1900-2000	2.46E-02	4.91E-07	3.33E-03	1.83E-01	3.66E-06	2.48E-02	7.08E-03	1.41E-07	9.57E-04	7.69E-03	1.53E-07	1.04E-03
Road 46	46	2000-2100	2.16E-02	3.73E-07	2.53E-03	1.92E-01	3.32E-06	2.97E-02	2.01E-02	6.94E-03	1.08E-07	7.29E-04	7.54E-03	1.17E-07	7.92E-04
Road 46	46	2100-2200	2.16E-02	3.34E-07	2.27E-03	1.78E-01	2.76E-06	1.87E-02	6.16E-03	9.54E-08	6.47E-04	6.69E-03	1.04E-07	7.02E-04
Road 46	46	2200-2300	2.08E-02	3.13E-07	2.12E-03	1.80E-01	2.71E-06	1.83E-02	6.17E-03	9.27E-08	6.29E-04	6.70E-03	1.01E-07	6.83E-04
Road 46	46	2300-0000	2.30E-02	2.59E-07	1.76E-03	1.89E-01	2.12E-06	1.44E-02	6.62E-03	7.45E-08	5.05E-04	7.19E-03	8.09E-08	5.49E-04
Road 47	47	0000-0100	2.37E-02	1.10E-07	1.26E-03	1.75E-01	8.13E-07	9.28E-03	4.98E-03	2.08E-08	2.38E-04	4.85E-03	2.26E-08	2.57E-04
Road 47	47	0100-0200	2.57E-02	7.76E-08	8.85E-04	1.82E-01	5.49E-07	6.26E-03	4.83E-03	1.46E-08	1.66E-04	5.27E-03	1.59E-08	1.81E-04
Road 47	47	0200-0300	2.79E-02	6.15E-08	7.00E-04	1.91E-01	4.22E-07	4.81E-03	5.21E-03	1.15E-08	1.31E-04	5.68E-03	1.26E-08	1.42E-04
Road 47	47	0300-0400	2.68E-02	5.55E-08	6.33E-04	1.83E-01	3.78E-07	4.31E-03	5.01E-03	1.03E-08	1.18E-04	5.46E-03	1.13E-08	1.28E-04
Road 47	47	0400-0500	3.29E-02	6.26E-08	7.13E-04	2.11E-01	4.03E-07	4.59E-03	6.10E-03	1.16E-08	1.32E-04	6.62E-03	1.26E-08	1.44E-04
Road 47	47	0500-0600	3.60E-02	1.19E-07	1.35E-03	2.25E-01	7.41E-07	8.44E-03	6.62E-03	2.18E-08	2.48E-04	7.22E-03	2.38E-08	2.71E-04
Road 47	47	0600-0700	4.27E-02	1.75E-07	1.99E-03	2.70E-01	1.11E-06	1.26E-02	8.05E-03	3.30E-08	3.75E-04	8.78E-03	3.61E-08	4.10E-04
Road 47	47	0700-0800	4.77E-02	6.79E-07	7.74E-03	2.80E-01	3.99E-06	4.54E-02	8.51E-03	1.21E-07	1.38E-03	9.26E-03	1.32E-07	1.50E-03
Road 47	47	0800-0900	4.76E-02	7.86E-07	8.96E-03	2.68E-01	4.43E-06	5.05E-02	8.56E-03	1.41E-07	1.61E-03	9.30E-03	1.54E-07	1.75E-03
Road 47	47	0900-1000	4.27E-02	7.33E-07	8.36E-03	2.99E-01	5.14E-06	5.86E-02	7.68E-03	1.32E-07	1.50E-03	8.35E-03	1.44E-07	1.64E-03
Road 47	47	1000-1100	6.12E-02	7.05E-07	8.04E-03	3.23E-01	3.72E-06	4.24E-02	1.09E-02	1.25E-07	1.43E-03	1.18E-02	1.36E-07	1.55E-03
Road 47	47	1100-1200	5.80E-02	6.32E-07	7.20E-03	3.12E-01	3.40E-06	3.88E-02	1.02E-02	1.11E-07	1.26E-03	1.11E-02	1.21E-07	1.37E-03
Road 47	47	1200-1300	6.79E-02	7.77E-07	8.85E-03	3.66E-01	4.19E-06	4.77E-02	1.57E-02	1.80E-07	2.05E-03	1.70E-02	1.95E-07	2.22E-03
Road 47	47	1300-1400	7.01E-02	8.15E-07	9.29E-03	3.59E-01	4.18E-06	4.76E-02	1.23E-02	1.43E-07	1.62E-03	1.33E-02	1.55E-07	1.77E-03
Road 47	47	1400-1500	7.07E-02	8.82E-07	1.00E-02	3.61E-01	4.50E-06	5.13E-02	1.25E-02	1.56E-07	1.77E-03	1.36E-02	1.69E-07	1.93E-03
Road 47	47	1500-1600	6.79E-02	8.65E-07	9.86E-03	3.53E-01	4.50E-06	5.13E-02	1.18E-02	1.51E-07	1.72E-03	1.28E-02	1.64E-07	1.87E-03
Road 47	47	1600-1700	5.00E-02	5.58E-07	6.35E-03	2.91E-01	4.85E-06	5.52E-02	8.68E-03	1.44E-07	1.63E-03	9.50E-03	1.58E-07	1.79E-03
Road 47	47	1700-1800	4.96E-02	7.77E-07	8.86E-03	2.75E-01	4.30E-06	4.90E-02	8.83E-03	1.38E-07	1.58E-03	9.61E-03	1.51E-07	1.72E-03
Road 47	47	1800-1900	3.59E-02	6.26E-07	7.14E-03	2.08E-01	3.63E-06	4.14E-02	6.77E-03	1.18E-07	1.35E-03	7.35E-03	1.28E-07	1.46E-03
Road 47	47	1900-2000	2.84E-02	5.07E-07	5.79E-03	2.16E-01	3.86E-06	4.40E-02	5.35E-03	9.56E-08	1.09E-03	5.98E-03	1.07E-07	1.22E-03
Road 47	47	2000-2100	2.74E-02	2.95E-07	3.36E-03	1.89E-01	2.03E-06	2.31E-02	5.11E-03	5.50E-08	6.27E-04	5.56E-03	5.98E-08	6.82E-04
Road 47	47	2100-2200	2.39E-02	2.58E-07	2.94E-03	1.76E-01	1.89E-06	2.16E-02	4.48E-03	4.83E-08	5.50E-04	4.87E-03	5.25E-08	5.98E-04
Road 47	47	2200-2300	2.16E-02	2.33E-07	2.65E-03	1.82E-01	1.96E-06	2.23E-02	4.04E-03	4.36E-08	4.97E-04	4.89E-03	5.27E-08	5.57E-04
Road 47	47	2300-0000	2.47E-02	1.93E-07	2.20E-03	1.80E-01	1.40E-06	1.60E-02	4.62E-03	3.60E-08	4.10E-04	5.04E-03	3.94E-08	4.50E-04
Road 48	48	0000-0100	3.35E-02	3.76E-07	2.07E-03	3.66E-01	2.57E-06	1.42E-02	1.58E-02	1.11E-07	6.12E-04	1.72E-02	1.21E-07	6.66E-04
Road 48	48	0100-0200	3.57E-02	2.66E-07	1.46E-03	3.79E-01	1.76E-06	9.71E-03	1.62E-02	7.58E-08	4.22E-04	1.79E-02	8.32E-08	4.58E-04
Road 48	48	0200-0300	6.10E-02	2.11E-07	1.16E-03	3.93E-01	1.37E-06	7.52E-03	1.70E-02	5.91E-08	3.28E-04	1.85E-02	6.43E-08	3.54E-04
Road 48	48	0300-0400	6.45E-02	1.80E-07	9.92E-04	4.06E-01	1.13E-06	6.24E-03	1.76E-02	4.92E-08	2.71E-04	1.92E-02	5.35E-08	2.95E-04
Road 48	48	0400-0500	6.21E-02	1.73E-07	9.56E-04	3.90E-01	1.08E-06	5.98E-03	1.72E-02	4.80E-08	2.65E-04	1.87E-02	5.21E-08	2.87E-04
Road 48	48	0500-0600	7.11E-02	3.92E-07	2.16E-03	4.29E-01	2.36E-06	1.30E-02	1.87E-02	1.03E-07	5.69E-04	2.04E-02	1.12E-07	6.19E-04
Road 48	48	0600-0700	7.45E-02	8.97E-07	4.94E-03	4.41E-01	5.31E-06	2.93E-02	1.93E-02	2.32E-07	1.28E-03	2.10E-02	2.52E-07	1.39E-03
Road 48	48	0700-0800	7.71E-02	1.92E-06	1.06E-02	4.50E-01	1.12E-05	6.14E-02	1.98E-02	4.91E-07	2.71E-03	2.15E-02	5.34E-07	2.94E-03
Road 48	48	0800-0900	7.59E-02	2.20E-06	1.21E-02	4.29E-01	1.24E-05	6.84E-02	1.90E-02	5.50E-07	3.03E-03	2.06E-02	5.98E-07	3.29E-03
Road 48	48	0900-1000	8.85E-02	2.37E-06	1.31E-02	4.77E-01	1.28E-05	7.04E-02	2.12E-02	5.67E-07	3.13E-03	2.30E-02	6.17E-07	3.40E-03
Road 48	48	1000-1100	9.81E-02	2.40E-06	1.32E-02	5.10E-01	1.25E-05	6.88E-02	2.31E-02	5.66E-07	3.12E-03	2.51E-02	6.15E-07	3.39E-03
Road 48	48	1100-1200	9.45E-02	2.22E-06	1.22E-02	5.07E-01	1.19E-05	6.54E-02	2.27E-02	5.34E-07	2.94E-03	2.47E-02	5.80E-07	3.19E-03
Road 48	48	1200-1300	7.74E-02	2.59E-06	1.43E-02	5.20E-01	1.74E-05	9.59E-02	2.45E-02	8.20E-07	4.52E-03	2.66E-02	8.92E-07	4.91E-03
Road 48	48	1300-1400	7.91E-02	2.75E-06	1.51E-02	5.18E-01	1.80E-05	9.92E-02	2.41E-02	8.39E-07	4.62E-03	2.62E-02	9.12E-07	5.02E-03
Road 48	48	1400-1500	7.91E-02	2.75E-06	1.51E-02	5.18E-01	1.80E-05	9.92E-02	2.41E-02	8.39E-07	4.62E-03	2.62E-02	9.12E-07	5.02E-03
Road 48	48	1500-1600	7.42E-02	2.78E-06	1.53E-02	4.97E-01	1.86E-05	1.03E-01	2.29E-02	8.60E-07	4.74E-03	2.49E-02	9.35E-07	5.15E-03
Road 48	48	1600-1700	7.41E-02	2.90E-06	1.60E-02	5.10E-01	2.00E-05	1.10E-01	2.41E-02	9.45E-07	5.21E-03	2.62E-02	1.03E-06	5.66E-03
Road 48	48	1700-1800	7.05E-02	2.74E-06	1.51E-02	5.07E-01	1.97E-05	1.08E-01	2.27E-02	9.00E-07	4.96E-03	2.47E-02	9.79E-07	5.39E-03
Road 48	48	1800-1900	4.29E-02	1.93E-06	1.06E-02	3.96E-01	1.78E-05	9.80E-02	1.88E-02	8.47E-07	4.66E-03	2.05E-02	9.20E-07	5.07E-03
Road 48	48	1900-2000	3.91E-02	1.39E-06	7.63E-03	4.10E-01	1.45E-05	8.00E-02	1.86E-02	6.94E-07	3.82E-03	2.13E-02	7.55E-07	4.16E-03
Road 48	48	2000-2100	3.89E-02	1.00E-06	5.51E-03	3.93E-01	1.08E-05	5.95E-02	1.81E-02	4.96E-07	2.73E-03	1.96E-02	5.40E-07	2.97E-03
Road 48	48	2100-2200	3.64E-02	1.00E-06	5.51E-03	3.93E-01	1.08E-05	5.95E-02	1.81E-02	4.96E-07	2.73E-03	1.96E-02	5.40E-07	2.97E-03
Road 48	48	2200-2300	3.60E-02	9.60E-07	5.29E-03	4.09E-01	1.09E-05	6.00E-02	1.90E-02	5.05E-07	2.78E-03	2.06E-02	5.49E-07	3.02E-03
Road 48	48	2300-0000	3.87E-02	7.76E-07	4.27E-03	4.16E-01	8.34E-06	4.60E-02	1.91E-02	3.88E-07	2.14E-03	2.10E-02	4.22E-07	2.32E-03
Road 49	49	0000-0100	3.66E-02	1.82E-07	1.67E-03	3.91E-01	1.94E-06	1.79E-02	1.59E-02	7.87E-08	7.25E-04	1.72E-02	8.56E-08	7.88E-04
Road 49	49	0100-0200	3.79E-02	1.22E-07	1.13E-03	3.87E-01	1.25E-06	1.15E-02	1.59E-02	5.11E-08	4.72E-04	1.73E-02	5.58E-08	5.14E-04
Road 49	49	0200-0300	4.01E-02	9.47E-08	8.73E-04	3.94E-01	9.29E-07	8.56E-03	1.81E-02	3.80E-08	3.50E-04	1.75E-02	4.13E-08	3.80E-04
Road 49	49	0300-0400	4.21E-02	7.86E-08	7.24E-04	3.97E-01	7.41E-07	6.83E-03	1.63E-02	3.04E-08	2.80E-04	1.77E-02	3.31E-08	3.05E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) Year 2028

Road Name	Road ID	Hour	NO_x Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 49	49	0400-0500	4.55E-02	9.32E-08	8.58E-04	4.13E-01	8.46E-07	7.79E-03	1.68E-02	3.46E-08	3.76E-04	1.84E-02	3.76E-08	3.46E-04
Road 49	49	0500-0600	5.01E-02	1.77E-07	1.63E-03	4.38E-01	1.55E-06	1.43E-02	1.78E-02	6.30E-08	5.81E-04	1.93E-02	6.85E-08	6.31E-04
Road 49	49	0600-0700	5.82E-02	4.43E-07	4.08E-03	4.93E-01	3.75E-06	3.45E-02	1.94E-02	1.48E-07	1.36E-03	2.11E-02	1.61E-07	1.48E-03
Road 49	49	0700-0800	6.99E-02	1.08E-06	9.91E-03	5.69E-01	8.75E-06	8.06E-02	2.13E-02	3.27E-07	3.10E-03	2.38E-02	3.67E-07	3.38E-03
Road 49	49	0800-0900	7.14E-02	1.27E-06	1.17E-02	5.53E-01	9.82E-06	9.05E-02	2.13E-02	3.78E-07	3.48E-03	2.32E-02	4.11E-07	3.79E-03
Road 49	49	0900-1000	8.05E-02	1.18E-06	1.09E-02	5.88E-01	8.63E-06	7.95E-02	2.27E-02	3.34E-07	3.07E-03	2.47E-02	3.63E-07	3.34E-03
Road 49	49	1000-1100	8.65E-02	1.10E-06	1.01E-02	5.97E-01	7.60E-06	7.00E-02	2.35E-02	2.99E-07	2.75E-03	2.55E-02	3.25E-07	2.99E-03
Road 49	49	1100-1200	8.32E-02	1.00E-06	9.25E-03	5.91E-01	7.14E-06	6.57E-02	2.30E-02	2.78E-07	2.56E-03	2.50E-02	3.02E-07	2.78E-03
Road 49	49	1200-1300	9.82E-02	6.97E-07	6.42E-03	7.36E-01	5.22E-06	4.81E-02	3.13E-02	2.22E-07	2.05E-03	3.41E-02	2.42E-07	2.23E-03
Road 49	49	1300-1400	1.03E-01	7.37E-07	6.83E-03	7.50E-01	5.46E-06	5.05E-02	3.13E-02	2.28E-07	2.10E-03	3.84E-02	2.48E-07	2.28E-03
Road 49	49	1400-1500	1.01E-01	7.19E-07	7.98E-03	7.39E-01	5.71E-06	6.30E-02	3.81E-02	2.64E-07	2.92E-03	3.39E-02	2.69E-07	2.98E-03
Road 49	49	1500-1600	9.67E-02	7.64E-07	7.03E-03	7.22E-01	5.71E-06	5.26E-02	3.00E-02	2.37E-07	2.18E-03	3.26E-02	2.58E-07	2.37E-03
Road 49	49	1600-1700	9.70E-02	8.13E-07	7.49E-03	7.42E-01	6.22E-06	5.73E-02	3.17E-02	2.66E-07	2.45E-03	3.45E-02	2.89E-07	2.66E-03
Road 49	49	1700-1800	9.65E-02	1.02E-06	9.54E-03	6.47E-01	6.35E-06	5.85E-02	2.87E-02	2.69E-07	2.48E-03	3.12E-02	2.93E-07	2.70E-03
Road 49	49	1800-1900	5.85E-02	5.90E-07	5.43E-03	6.04E-01	6.09E-06	5.61E-02	2.66E-02	2.68E-07	2.47E-03	2.89E-02	2.91E-07	2.68E-03
Road 49	49	1900-2000	5.29E-02	4.26E-07	3.92E-03	6.18E-01	4.98E-06	4.59E-02	2.26E-02	2.22E-07	2.05E-03	3.00E-02	2.42E-07	2.23E-03
Road 49	49	2000-2100	5.06E-02	2.74E-07	9.21E-07	5.07E-01	2.64E-03	6.19E-01	3.90E-06	3.59E-02	2.75E-01	1.74E-07	1.60E-03	2.95E-06
Road 49	49	2100-2200	4.56E-02	2.84E-07	2.61E-03	5.56E-01	3.46E-06	3.19E-02	2.45E-02	1.52E-07	1.40E-03	2.66E-02	1.65E-07	1.52E-03
Road 49	49	2200-2300	4.53E-02	2.75E-07	2.54E-03	5.79E-01	3.52E-06	3.24E-02	2.57E-02	1.56E-07	1.44E-03	2.79E-02	1.69E-07	1.56E-03
Road 49	49	2300-0000	4.61E-02	3.12E-07	2.95E-03	5.61E-01	3.80E-06	3.59E-02	2.47E-02	1.67E-07	1.58E-03	2.68E-02	1.82E-07	1.72E-03
Road 50	50	0000-0100	1.23E-01	5.85E-08	3.05E-04	5.93E-01	2.83E-07	7.47E-03	2.33E-02	1.11E-08	5.79E-05	2.54E-02	1.21E-08	6.29E-05
Road 50	50	0100-0200	1.31E-01	4.40E-08	2.29E-04	6.33E-01	2.13E-07	5.11E-03	2.55E-02	8.58E-09	4.47E-05	2.77E-02	9.33E-09	4.86E-05
Road 50	50	0200-0300	1.30E-01	4.40E-08	2.29E-04	6.25E-01	2.13E-07	5.11E-03	2.52E-02	8.58E-09	4.47E-05	2.74E-02	9.33E-09	4.86E-05
Road 50	50	0300-0400	1.48E-01	3.34E-08	1.74E-04	7.18E-01	1.62E-07	8.44E-04	2.96E-02	6.67E-09	3.47E-05	3.22E-02	7.26E-09	3.78E-05
Road 50	50	0400-0500	1.49E-01	3.76E-08	1.96E-04	7.17E-01	1.81E-07	9.43E-04	2.93E-02	7.40E-09	3.86E-05	3.19E-02	8.06E-09	4.20E-05
Road 50	50	0500-0600	1.45E-01	6.20E-08	3.23E-04	6.89E-01	2.94E-07	1.53E-03	2.73E-02	1.17E-08	6.07E-05	2.97E-02	1.27E-08	6.60E-05
Road 50	50	0600-0700	1.42E-01	1.29E-07	6.70E-04	6.65E-01	6.02E-07	3.13E-03	2.57E-02	2.33E-08	1.21E-04	2.80E-02	2.53E-08	1.32E-04
Road 50	50	0700-0800	1.55E-01	3.04E-07	1.59E-03	7.25E-01	1.43E-06	7.43E-03	2.85E-02	5.60E-08	2.92E-04	3.09E-02	6.09E-08	3.17E-04
Road 50	50	0800-0900	1.55E-01	3.46E-07	1.80E-03	7.02E-01	1.62E-06	8.43E-03	2.74E-02	6.35E-08	3.28E-04	2.97E-02	6.91E-08	3.59E-04
Road 50	50	0900-1000	1.65E-01	3.89E-07	2.03E-03	7.65E-01	1.81E-06	9.40E-03	2.97E-02	7.00E-08	3.64E-04	3.23E-02	7.61E-08	3.96E-04
Road 50	50	1000-1100	1.77E-01	3.98E-07	2.07E-03	8.09E-01	1.82E-06	9.50E-03	3.20E-02	7.22E-08	3.76E-04	3.48E-02	7.85E-08	4.09E-04
Road 50	50	1100-1200	1.73E-01	3.68E-07	1.92E-03	7.96E-01	1.69E-06	8.82E-03	3.15E-02	6.69E-08	3.48E-04	3.42E-02	7.27E-08	3.78E-04
Road 50	50	1200-1300	1.16E-01	4.46E-07	2.32E-03	5.35E-01	2.06E-06	1.07E-02	2.11E-02	8.14E-08	4.23E-04	2.30E-02	8.84E-08	4.60E-04
Road 50	50	1300-1400	2.01E-01	2.16E-07	1.13E-03	9.24E-01	9.96E-07	5.19E-03	3.77E-02	4.06E-08	2.11E-04	4.10E-02	4.41E-08	2.30E-04
Road 50	50	1400-1500	2.02E-01	2.17E-07	1.13E-03	9.28E-01	9.94E-07	5.18E-03	3.84E-02	4.11E-08	2.14E-04	4.17E-02	4.47E-08	2.33E-04
Road 50	50	1500-1600	1.95E-01	2.59E-07	1.35E-03	8.96E-01	1.19E-06	6.22E-03	3.71E-02	4.92E-08	2.56E-04	4.03E-02	5.34E-08	2.78E-04
Road 50	50	1600-1700	1.98E-01	2.07E-07	1.08E-03	9.14E-01	9.55E-07	4.97E-03	3.75E-02	3.92E-08	2.04E-04	4.08E-02	4.26E-08	2.22E-04
Road 50	50	1700-1800	1.82E-01	1.77E-07	9.20E-04	8.59E-01	8.35E-07	4.35E-03	3.44E-02	3.34E-08	1.74E-04	3.74E-02	3.63E-08	1.89E-04
Road 50	50	1800-1900	1.31E-01	1.13E-07	5.87E-04	6.17E-01	5.32E-07	2.77E-03	2.47E-02	2.13E-08	1.11E-04	2.68E-02	2.31E-08	1.20E-04
Road 50	50	1900-2000	1.54E-01	1.84E-07	9.58E-04	7.24E-01	3.17E-07	1.65E-03	2.85E-02	1.25E-08	6.50E-05	3.09E-02	1.36E-08	7.06E-05
Road 50	50	2000-2100	1.55E-01	5.50E-08	2.86E-04	7.37E-01	2.62E-07	1.36E-03	2.89E-02	1.03E-08	5.36E-05	3.14E-02	1.12E-08	5.82E-05
Road 50	50	2100-2200	1.56E-01	5.50E-08	2.86E-04	7.47E-01	2.62E-07	1.36E-03	2.91E-02	1.03E-08	5.36E-05	3.17E-02	1.12E-08	5.82E-05
Road 50	50	2200-2300	1.64E-01	5.35E-08	2.79E-04	7.71E-01	2.51E-07	1.31E-03	3.13E-02	1.02E-08	5.31E-05	3.41E-02	1.11E-08	5.78E-05
Road 50	50	2300-0000	1.68E-01	4.55E-08	2.37E-04	7.90E-01	2.14E-07	1.11E-03	3.26E-02	8.83E-09	4.60E-05	3.55E-02	9.60E-09	5.00E-05
Road 51	51	0000-0100	5.57E-02	2.46E-07	1.67E-03	3.75E-01	1.65E-06	1.12E-02	1.63E-02	7.17E-08	4.88E-04	1.77E-02	7.80E-08	5.31E-04
Road 51	51	0100-0200	5.95E-02	1.95E-07	1.33E-03	3.89E-01	1.28E-06	8.70E-03	1.68E-02	5.53E-08	3.76E-04	1.83E-02	6.01E-08	4.09E-04
Road 51	51	0200-0300	6.30E-02	1.74E-07	1.19E-03	4.12E-01	1.14E-06	7.76E-03	1.68E-02	4.64E-08	3.16E-04	1.83E-02	5.05E-08	3.43E-04
Road 51	51	0300-0400	6.63E-02	1.96E-07	1.33E-03	4.13E-01	1.22E-06	8.29E-03	1.80E-02	5.30E-08	3.61E-04	1.96E-02	5.77E-08	3.92E-04
Road 51	51	0500-0600	6.96E-02	3.62E-07	2.46E-03	4.24E-01	2.21E-06	1.50E-02	1.85E-02	9.65E-08	6.56E-04	2.01E-02	1.05E-07	7.14E-04
Road 51	51	0600-0700	7.29E-02	8.28E-07	5.64E-03	4.37E-01	4.96E-06	3.38E-02	1.91E-02	2.17E-07	1.47E-03	2.07E-02	2.36E-07	1.60E-03
Road 51	51	0700-0800	7.50E-02	1.27E-06	8.66E-03	4.45E-01	7.60E-06	5.18E-02	1.97E-02	3.34E-07	2.27E-03	2.13E-02	3.62E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	1600-1700	1.44E-02	1.43E-07	2.15E-06	1.43E-02	1.32E-06	1.74E-05	2.42E-01	2.15E-06	1.52E-05
Road 2	2	1700-1800	4.11E-02	6.31E-07	7.40E-06	3.70E-02	5.66E-06	6.50E-05	3.21E-01	4.93E-06	5.78E-05
Road 3	3	1800-1900	3.15E-02	5.36E-07	6.29E-06	2.81E-02	4.79E-06	5.61E-05	3.14E-01	5.34E-06	6.26E-05
Road 4	4	1900-2000	2.79E-02	4.78E-07	5.57E-06	2.51E-02	4.30E-06	5.01E-05	3.14E-01	5.38E-06	6.26E-05
Road 5	5	2000-2100	2.78E-02	2.94E-07	3.44E-06	2.49E-02	2.63E-06	3.08E-05	3.38E-01	3.58E-06	4.19E-05
Road 6	6	2100-2200	2.44E-02	2.59E-07	3.02E-06	2.31E-02	2.45E-06	2.86E-05	3.64E-01	3.85E-06	4.51E-05
Road 7	7	2200-2300	2.45E-02	2.51E-07	2.95E-06	2.19E-02	2.25E-06	2.64E-05	3.63E-01	3.72E-06	4.37E-05
Road 8	8	2300-0000	2.66E-02	2.04E-07	2.39E-06	2.38E-02	1.82E-06	2.13E-05	3.95E-01	3.02E-06	3.54E-05
Road 9	9	0000-0100	2.75E-02	1.66E-07	1.94E-06	2.46E-02	1.48E-06	1.73E-05	4.08E-01	2.46E-06	2.88E-05
Road 10	10	0100-0200	1.63E-01	1.62E-07	1.08E-06	1.48E-01	1.47E-06	9.85E-06	2.42E+00	2.41E-05	1.61E-04
Road 10	10	0200-0300	1.63E-01	1.62E-07	1.08E-06	1.48E-01	1.47E-06	9.85E-06	2.42E+00	2.41E-05	1.61E-04
Road 10	10	0300-0400	1.63E-01	1.62E-07	1.08E-06	1.48E-01	1.47E-06	9.85E-06	2.42E+00	2.41E-05	1.61E-04
Road 10	10	0400-0500	1.74E-01	1.73E-07	1.15E-06	1.57E-01	1.56E-06	1.04E-05	2.42E+00	2.41E-05	1.61E-04
Road 10	10	0500-0600	1.41E-01	5.50E-07	2.35E-06	1.26E-01	5.00E-06	2.14E-05	2.42E+00	9.44E-06	4.03E-05
Road 10	10	0600-0700	1.41E-01	5.50E-07	2.35E-06	1.26E-01	5.00E-06	2.14E-05	2.42E+00	9.44E-06	4.03E-05
Road 10	10	0700-0800	1.72E-01	1.71E-07	1.14E-06	1.55E-01	1.54E-06	1.03E-05	2.42E+00	2.41E-05	1.61E-04
Road 10	10	0800-0900	1.72E-01	1.71E-07	1.14E-06	1.55E-01	1.54E-06	1.03E-05	2.42E+00	2.41E-05	1.61E-04
Road 10	10	0900-1000	1.90E-01	1.89E-07	1.26E-06	1.71E-01	1.70E-06	1.13E-05	2.42E+00	2.41E-05	1.61E-04
Road 10	10	1000-1100	2.00E-01	1.99E-07	1.33E-06	1.80E-01	1.79E-06	1.19E-05	2.42E+00	2.41E-05	1.61E-04
Road 10	10	1100-1200	2.00E-01	1.99E-07	1.33E-06	1.80E-01	1.79E-06	1.19E-05	2.42E+00	2.41E-05	1.61E-04
Road 10	10	1200-1300	2.00E-01	1.99E-07	1.33E-06	1.80E-01	1.79E-06	1.19E-05	2.42E+00	2.41E-05	1.61E-04
Road 10	10	1300-1400	2.09E-01	1.95E-07	1.30E-06	1.88E-01	1.76E-06	1.17E-05	2.42E+00	2.26E-05	1.51E-04
Road 10	10	1400-1500	2.06E-01	1.21E-06	8.08E-06	1.85E-01	1.09E-05	7.26E-05	2.42E+00	1.42E-05	9.48E-05
Road 10	10	1500-1600	2.06E-01	1.21E-06	8.08E-06	1.85E-01	1.09E-05	7.26E-05	2.42E+00	1.42E-05	9.48E-05
Road 10	10	1600-1700	1.99E-01	1.96E-06	1.31E-05	1.79E-01	1.76E-05	1.17E-04	2.42E+00	2.38E-05	1.59E-04
Road 10	10	1700-1800	3.84E-01	3.77E-06	2.51E-05	3.45E-01	3.39E-05	2.26E-04	2.42E+00	2.38E-05	1.59E-04
Road 10	10	1800-1900	3.52E-02	3.45E-07	2.30E-06	3.52E-02	3.45E-07	2.30E-06	3.52E-01	3.45E-06	2.30E-05
Road 10	10	1900-2000	3.79E-02	3.72E-07	2.48E-06	3.79E-02	3.72E-07	2.48E-06	3.79E-01	3.72E-06	2.48E-05
Road 10	10	2000-2100	4.06E-02	3.98E-07	2.66E-06	4.06E-02	3.98E-07	2.66E-06	4.06E-01	3.98E-06	2.66E-05
Road 10	10	2100-2200	4.33E-02	4.25E-07	2.83E-06	4.33E-02	4.25E-07	2.83E-06	4.33E-01	4.25E-06	2.83E-05
Road 10	10	2200-2300	4.60E-02	4.51E-07	3.01E-06	4.60E-02	4.51E-07	3.01E-06	4.60E-01	4.51E-06	3.01E-05
Road 10	10	2300-0000	1.11E-01	2.64E-07	1.77E-06	1.01E-01	2.40E-07	1.61E-06	6.35E-01	1.51E-06	1.01E-05
Road 10	10	0000-0100	1.98E-02	4.97E-08	1.33E-06	1.82E-02	4.57E-08	1.22E-06	5.11E-01	1.28E-06	8.54E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	6.40E-02	2.72E-07	1.04E-06	5.83E-02	2.45E-07	9.39E-07	5.66E-01	2.39E-06	9.18E-06
Road 11	11	0100-0200	7.40E-02	2.11E-07	8.08E-07	6.75E-02	1.92E-07	7.37E-07	6.02E-01	1.71E-06	6.58E-06
Road 11	11	0200-0300	8.43E-02	1.82E-07	6.98E-07	7.68E-02	1.66E-07	6.36E-07	6.47E-01	1.40E-06	5.36E-06
Road 11	11	0300-0400	9.42E-02	1.66E-07	6.38E-07	8.55E-02	1.51E-07	5.78E-07	6.88E-01	1.21E-06	4.66E-06
Road 11	11	0400-0500	9.48E-02	1.81E-07	6.96E-07	8.61E-02	1.65E-07	6.32E-07	6.90E-01	1.32E-06	5.06E-06
Road 11	11	0500-0600	9.32E-02	2.72E-07	1.04E-06	8.47E-02	2.47E-07	9.56E-07	7.58E-01	2.21E-06	8.55E-06
Road 11	11	0600-0700	8.35E-02	5.35E-07	2.05E-06	7.65E-02	4.90E-07	1.88E-06	6.50E-01	4.16E-06	1.60E-05
Road 11	11	0700-0800	1.04E-01	1.40E-06	5.38E-06	9.66E-02	1.30E-06	4.99E-06	7.43E-01	1.00E-05	3.84E-05
Road 11	11	0800-0900	1.50E-01	1.57E-06	6.03E-06	1.42E-01	1.48E-06	5.67E-06	8.86E-01	9.26E-06	3.55E-05
Road 11	11	0900-1000	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 11	11	1000-1100	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 11	11	1100-1200	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 11	11	1200-1300	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 11	11	1300-1400	1.36E-01	1.36E-06	5.23E-06	1.27E-01	1.26E-06	4.84E-06	8.08E-01	8.06E-06	3.10E-05
Road 11	11	1400-1500	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 11	11	1500-1600	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 11	11	1600-1700	1.30E-01	1.27E-06	4.89E-06	1.21E-01	1.18E-06	4.54E-06	7.73E-01	7.54E-06	2.90E-05
Road 11	11	1700-1800	2.50E-01	2.45E-06	9.43E-06	2.33E-01	2.28E-06	8.78E-06	1.49E+00	1.46E-05	5.61E-05
Road 11	11	1800-1900	2.29E-02	2.24E-07	8.62E-07	2.29E-02	2.24E-07	8.62E-07	1.46E-01	1.43E-06	5.50E-06
Road 11	11	1900-2000	2.47E-02	2.42E-07	9.31E-07	2.47E-02	2.42E-07	9.31E-07	1.57E-01	1.54E-06	5.93E-06
Road 11	11	2000-2100	2.64E-02	2.59E-07	9.95E-07	2.64E-02	2.59E-07	9.95E-07	1.68E-01	1.65E-06	6.34E-06
Road 11	11	2100-2200	2.82E-02	2.76E-07	1.06E-06	2.82E-02	2.76E-07	1.06E-06	1.80E-01	1.76E-06	6.76E-06
Road 11	11	2200-2300	2.99E-02	2.93E-07	1.13E-06	2.99E-02	2.93E-07	1.13E-06	1.91E-01	1.87E-06	7.18E-06
Road 11	11	2300-0000	7.21E-02	1.71E-07	6.58E-07	6.55E-02	1.56E-07	5.98E-07	4.13E-01	9.79E-07	3.76E-06
Road 11	11	0000-0100	1.29E-02	3.23E-08	8.62E-07	1.18E-02	2.97E-08	7.92E-07	3.32E-01	8.32E-07	5.55E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 12	12	0000-0100	7.40E-02	2.11E-07	8.08E-07	6.75E-02	1.92E-07	7.37E-07	6.02E-01	1.71E-06	6.58E-06
Road 12	12	0100-0200	8.43E-02	1.82E-07	6.98E-07	7.68E-02	1.66E-07	6.36E-07	6.47E-01	1.40E-06	5.36E-06
Road 12	12	0200-0300	9.42E-02	1.66E-07	6.38E-07	8.55E-02	1.51E-07	5.78E-07	6.88E-01	1.21E-06	4.66E-06
Road 12	12	0300-0400	9.48E-02	1.81E-07	6.96E-07	8.61E-02	1.65E-07	6.32E-07	6.90E-01	1.32E-06	5.06E-06
Road 12	12	0400-0500	9.32E-02	2.72E-07	1.04E-06	8.47E-02	2.47E-07	9.56E-07	7.58E-01	2.21E-06	8.55E-06
Road 12	12	0500-0600	8.35E-02	5.35E-07	2.05E-06	7.65E-02	4.90E-07	1.88E-06	6.50E-01	4.16E-06	1.60E-05
Road 12	12	0600-0700	1.04E-01	1.40E-06	5.38E-06	9.66E-02	1.30E-06	4.99E-06	7.43E-01	1.00E-05	3.84E-05
Road 12	12	0700-0800	1.50E-01	1.57E-06	6.03E-06	1.42E-01	1.48E-06	5.67E-06	8.86E-01	9.26E-06	3.55E-05
Road 12	12	0800-0900	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 12	12	0900-1000	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 12	12	1000-1100	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 12	12	1100-1200	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 12	12	1200-1300	1.36E-01	1.36E-06	5.23E-06	1.27E-01	1.26E-06	4.84E-06	8.08E-01	8.06E-06	3.10E-05
Road 12	12	1300-1400	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 12	12	1400-1500	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 12	12	1500-1600	1.30E-01	1.27E-06	4.89E-06	1.21E-01	1.18E-06	4.54E-06	7.73E-01	7.54E-06	2.90E-05
Road 12	12	1600-1700	2.50E-01	2.45E-06	9.43E-06	2.33E-01	2.28E-06	8.78E-06	1.49E+00	1.46E-05	5.61E-05
Road 12	12	1700-1800	2.29E-02	2.24E-07	8.62E-07	2.29E-02	2.24E-07	8.62E-07	1.46E-01	1.43E-06	5.50E-06
Road 12	12	1800-1900	2.47E-02	2.42E-07	9.31E-07	2.47E-02	2.42E-07	9.31E-07	1.57E-01	1.54E-06	5.93E-06
Road 12	12	1900-2000	2.64E-02	2.59E-07	9.95E-07	2.64E-02	2.59E-07	9.95E-07	1.68E-01	1.65E-06	6.34E-06
Road 12	12	2000-2100	2.82E-02	2.76E-07	1.06E-06	2.82E-02	2.76E-07	1.06E-06	1.80E-01	1.76E-06	6.76E-06
Road 12	12	2100-2200	2.99E-02	2.93E-07	1.13E-06	2.99E-02	2.93E-07	1.13E-06	1.91E-01	1.87E-06	7.18E-06
Road 12	12	2200-2300	7.21E-02	1.71E-07	6.58E-07	6.55E-02	1.56E-07	5.98E-07	4.13E-01	9.79E-07	3.76E-06
Road 12	12	2300-0000	1.29E-02	3.23E-08	8.62E-07	1.18E-02	2.97E-08	7.92E-07	3.32E-01	8.32E-07	5.55E-06
Road 12	12	0000-0100	1.29E-02	3.23E-08	8.62E-07	1.18E-02	2.97E-08	7.92E-07	3.32E-01	8.32E-07	5.55E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 13	13	0000-0100	7.40E-02	2.11E-07	8.08E-07	6.75E-02	1.92E-07	7.37E-07	6.02E-01	1.71E-06	6.58E-06
Road 13	13	0100-0200	8.43E-02	1.82E-07	6.98E-07	7.68E-02	1.66E-07	6.36E-07	6.47E-01	1.40E-06	5.36E-06
Road 13	13	0200-0300	9.42E-02	1.66E-07	6.38E-07	8.55E-02	1.51E-07	5.78E-07	6.88E-01	1.21E-06	4.66E-06
Road 13	13	0300-0400	9.48E-02	1.81E-07	6.96E-07	8.61E-02	1.65E-07	6.32E-07	6.90E-01	1.32E-06	5.06E-06
Road 13	13	0400-0500	9.32E-02	2.72E-07	1.04E-06	8.47E-02	2.47E-07	9.56E-07	7.58E-01	2.21E-06	8.55E-06
Road 13	13	0500-0600	8.35E-02	5.35E-07	2.05E-06	7.65E-02	4.90E-07	1.88E-06	6.50E-01	4.16E-06	1.60E-05
Road 13	13	0600-0700	1.04E-01	1.40E-06	5.38E-06	9.66E-02	1.30E-06	4.99E-06	7.43E-01	1.00E-05	3.84E-05
Road 13	13	0700-0800	1.50E-01	1.57E-06	6.03E-06	1.42E-01	1.48E-06	5.67E-06	8.86E-01	9.26E-06	3.55E-05
Road 13	13	0800-0900	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 13	13	0900-1000	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 13	13	1000-1100	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 13	13	1100-1200	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 13	13	1200-1300	1.36E-01	1.36E-06	5.23E-06	1.27E-01	1.26E-06	4.84E-06	8.08E-01	8.06E-06	3.10E-05
Road 13	13	1300-1400	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 13	13	1400-1500	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 13	13	1500-1600	1.30E-01	1.27E-06	4.89E-06	1.21E-01	1.18E-06	4.54E-06	7.73E-01	7.54E-06	2.90E-05
Road 13	13	1600-1700	2.50E-01	2.45E-06	9.43E-06	2.33E-01	2.28E-06	8.78E-06	1.49E+00	1.46E-05	5.61E-05
Road 13	13	1700-1800	2.29E-02	2.24E-07	8.62E-07	2.29E-02	2.24E-07	8.62E-07	1.46E-01	1.43E-06	5.50E-06
Road 13	13	1800-1900	2.47E-02	2.42E-07	9.31E-07	2.47E-02	2.42E-07	9.31E-07	1.57E-01	1.54E-06	5.93E-06
Road 13	13	1900-2000	2.64E-02	2.59E-07	9.95E-07	2.64E-02	2.59E-07	9.95E-07	1.68E-01	1.65E-06	6.34E-06
Road 13	13	2000-2100	2.82E-02	2.76E-07	1.06E-06	2.82E-02	2.76E-07	1.06E-06	1.80E-01	1.76E-06	6.76E-06
Road 13	13	2100-2200	2.99E-02	2.93E-07	1.13E-06	2.99E-02	2.93E-07	1.13E-06	1.91E-01	1.87E-06	7.18E-06
Road 13	13	2200-2300	7.21E-02	1.71E-07	6.58E-07	6.55E-02	1.56E-07	5.98E-07	4.13E-01	9.79E-07	3.76E-06
Road 13	13	2300-0000	1.29E-02	3.23E-08	8.62E-07	1.18E-02	2.97E-08	7.92E-07	3.32E-01	8.32E-07	5.55E-06
Road 13	13	0000-0100	1.29E-02	3.23E-08	8.62E-07	1.18E-02	2.97E-08	7.92E-07	3.32E-01	8.32E-07	5.55E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0000-0100	7.40E-02	2.11E-07	8.08E-07	6.75E-02	1.92E-07	7.37E-07	6.02E-01	1.71E-06	6.58E-06
Road 14	14	0100-0200	8.43E-02	1.82E-07	6.98E-07	7.68E-02	1.66E-07	6.36E-07	6.47E-01	1.40E-06	5.36E-06
Road 14	14	0200-0300	9.42E-02	1.66E-07	6.38E-07	8.55E-02	1.51E-07	5.78E-07	6.88E-01	1.21E-06	4.66E-06
Road 14	14	0300-0400	9.48E-02	1.81E-07	6.96E-07	8.61E-02	1.65E-07	6.32E-07	6.90E-01	1.32E-06	5.06E-06
Road 14	14	0400-0500	9.32E-02	2.72E-07	1.04E-06	8.47E-02	2.47E-07	9.56E-07	7.58E-01	2.21E-06	8.55E-06
Road 14	14	0500-0600	8.35E-02	5.35E-07	2.05E-06	7.65E-02	4.90E-07	1.88E-06	6.50E-01	4.16E-06	1.60E-05
Road 14	14	0600-0700	1.04E-01	1.40E-06	5.38E-06	9.66E-02	1.30E-06	4.99E-06	7.43E-01	1.00E-05	3.84E-05
Road 14	14	0700-0800	1.50E-01	1.57E-06	6.03E-06	1.42E-01	1.48E-06	5.67E-06	8.86E-01	9.26E-06	3.55E-05
Road 14	14	0800-0900	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 14	14	0900-1000	1.17E-01	1.53E-06	5.89E-06	1.09E-01	1.42E-06	5.46E-06	7.34E-01	9.59E-06	3.68E-05
Road 14	14	1000-1100	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 14	14	1100-1200	1.26E-01	1.39E-06	5.33E-06	1.16E-01	1.27E-06	4.89E-06	7.66E-01	8.41E-06	3.23E-05
Road 14	14	1200-1300	1.36E-01	1.36E-06	5.23E-06	1.27E-01	1.26E-06	4.84E-06	8.08E-01	8.06E-06	3.10E-05
Road 14	14	1300-1400	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 14	14	1400-1500	1.34E-01	1.79E-06	6.89E-06	1.25E-01	1.67E-06	6.43E-06	7.93E-01	1.06E-05	4.08E-05
Road 14	14	1500-1600	1.30E-01	1.27E-06	4.89E-06	1.21E-01	1.18E-06	4.54E-06	7.73E-01	7.54E-06	2.90E-05
Road 14	14	1600-1700	2.50E-01	2.45E-06	9.43E-06	2.33E-01	2.28E-06	8.78E-06	1.49E+00	1.46E-05	5.61E-05
Road 14	14	1700-1800	2.29E-02	2.24E-07	8.62E-07	2.29E-02	2.24E-07	8.62E-07	1.46E-01	1.43E-06	5.50E-06
Road 14	14	1800-1900	2.47E-02	2.42E-07	9.31E-07	2.47E-02	2.42E-07	9.31E-07	1.57E-01	1.54E-06	5.93E-06
Road 14	14	1900-2000	2.64E-02	2.59E-07	9.95E-07	2.64E-02	2.59E-07	9.95E-07	1.68E-01	1.65E-06	6.34E-06
Road 14	14	2000-2100	2.82E-02	2.76E-07	1.06E-06	2.82E-02	2.76E-07	1.06E-06	1.80E-01	1.76E-06	6.76E-06
Road 14	14	2100-2200	2.99E-02	2.93E-07	1.13E-06	2.99E-02	2.93E-07	1.13E-06	1.91E-01	1.87E-06	7.18E-06
Road 14	14	2200-2300	7.21E-02	1.71E-07	6.58E-07	6.55E-02	1.56E-07	5.98E-07	4.13E-01	9.79E-07	3.76E-06
Road 14	14	2300-0000	1.29E-02	3.23E-08	8.62E-07	1.18E-02	2.97E-08	7.92E-07	3.32E-01	8.32E-07	5.55E-06
Road 14	14	0000-0100	1.29E-02	3.23E-08	8.62E-07	1.18E-02	2.97E-08	7.92E-07	3.32E-01	8.32E-07	5.55E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 15	15	0000-0100	1.29E-01	1.05E-07	9.71E-07	1.17E-01	9.49E-08	8.79E-07	7.13E-01	5.78E-07	5.35E-06
Road 15	15	0100-0200	1.29E-01	1.05E-07	9.71E-07	1.17E-01	9.49E-08	8.79E-07	7.13E-01	5.78E-07	5.35E-06
Road 15	15	0200-0300	1.29E-01	1.05E-07	9.71E-07	1.17E-01	9.49E-08	8.79E-07	7.13E-01	5.78E-07	5.35E-06
Road 15	15	0300-0400	1.45E-01	1.02E-07	9.44E-07	1.30E-01	9.18E-08	8.50E-07	7.87E-01	5.55E-07	5.14E-06
Road 15	15	0400-0500	1.45E-01	1.06E-07	9.81E-07	1.31E-01	9.54E-08	8.84E-07	7.90E-01	5.76E-07	5.33E-06
Road 15	15	0500-0600	1.18E-01	1.28E-07	1.19E-06	1.06E-01	1.16E-07	1.07E-06	6.49E-01	7.06E-07	6.53E-06
Road 15	15	0600-0700	1.29E-01	1.64E-07	1.52E-06	1.16E-01	1.48E-07	1.37E-06	7.13E-01	9.04E-07	8.37E-06
Road 15	15	0700-0800	1.29E-01	1.64E-07	1.52E-06	1.16E-01	1.48E-07	1.37E-06	7.13E-01	9.04E-07	8.37E-06
Road 15	15	0800-0900	1.20E-01	6.23E-07	5.77E-06	1.10E-01	5.73E-07	5.30E-06	6.38E-01	3.31E-06	3.07E-05
Road 15	15	0900-1000	1.20E-01	6.23E-07	5.77E-06	1.10E-01	5.73E-07	5.30E-06	6.38E-01	3.31E-06	3.07E-05
Road 15	15	1000-1100	1.68E-01	6.25E-07	5.79E-06	1.56E-01	5.72E-07	5.30E-06	7.65E-01	3.23E-06	2.99E-05
Road 15	15	1100-1200	1.68E-01	6.25E-07	5.79E-06	1.56E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	1.26E-01	2.18E-04	4.99E-06	1.19E-01	2.01E-04	4.60E-06	1.33E-01	2.30E-04	5.26E-06	1.04E-01	1.80E-04	4.12E-06
Road 37	37	1700-1800	1.06E-01	1.91E-04	4.38E-06	9.82E-02	1.77E-04	4.06E-06	5.55E-01	9.99E-04	2.29E-05	5.07E-01	9.14E-04	2.10E-05
Road 37	37	1800-1900	7.41E-02	1.33E-04	3.06E-06	6.84E-02	1.23E-04	2.83E-06	4.25E-01	7.65E-04	1.76E-05	3.96E-01	7.13E-04	1.64E-05
Road 37	37	1900-2000	1.35E-02	8.80E-05	2.02E-06	5.89E-02	8.16E-05	1.87E-06	3.96E-01	5.48E-04	1.26E-05	3.62E-01	5.02E-04	1.15E-05
Road 37	37	2000-2100	6.38E-02	6.89E-05	1.58E-06	5.90E-02	6.37E-05	1.46E-06	4.13E-01	4.46E-04	1.02E-05	3.76E-01	4.06E-04	9.32E-06
Road 37	37	2100-2200	6.19E-02	6.72E-05	1.54E-06	5.73E-02	6.21E-05	1.43E-06	4.01E-01	4.35E-04	9.98E-06	3.64E-01	3.96E-04	9.12E-06
Road 37	37	2200-2300	5.84E-02	6.05E-05	1.39E-06	5.42E-02	5.61E-05	1.29E-06	3.78E-01	3.92E-04	8.98E-06	3.51E-01	3.63E-04	8.33E-06
Road 37	37	2300-0000	6.40E-02	5.02E-05	1.15E-06	5.90E-02	4.63E-05	1.06E-06	4.25E-01	3.33E-04	7.65E-06	3.86E-01	3.03E-04	6.95E-06
Road 38	38	0000-0100	1.22E-01	2.08E-04	4.76E-06	1.17E-01	1.97E-04	4.52E-06	1.31E-01	2.26E-04	5.17E-06	7.02E-01	1.19E-03	2.73E-05
Road 38	38	0100-0200	1.43E-01	1.79E-04	4.10E-06	1.37E-01	1.72E-04	3.94E-06	7.72E-01	9.93E-04	2.28E-05	7.38E-01	9.57E-04	2.19E-05
Road 38	38	0200-0300	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 38	38	0300-0400	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 38	38	0400-0500	1.69E-01	1.52E-04	3.48E-06	1.62E-01	1.46E-04	3.35E-06	9.16E-01	8.24E-04	1.89E-05	8.77E-01	7.89E-04	1.81E-05
Road 38	38	0500-0600	1.66E-01	1.49E-04	3.42E-06	1.59E-01	1.43E-04	3.29E-06	9.00E-01	8.10E-04	1.86E-05	8.62E-01	7.75E-04	1.78E-05
Road 38	38	0600-0700	1.63E-01	1.47E-04	3.36E-06	1.56E-01	1.41E-04	3.24E-06	8.84E-01	7.96E-04	1.83E-05	8.47E-01	7.62E-04	1.75E-05
Road 38	38	0700-0800	1.60E-01	1.44E-04	3.30E-06	1.53E-01	1.38E-04	3.18E-06	8.68E-01	7.82E-04	1.79E-05	8.31E-01	7.48E-04	1.72E-05
Road 38	38	0800-0900	1.57E-01	1.41E-04	3.24E-06	1.50E-01	1.35E-04	3.12E-06	8.52E-01	7.67E-04	1.76E-05	8.16E-01	7.34E-04	1.69E-05
Road 38	38	0900-1000	1.54E-01	1.39E-04	3.18E-06	1.48E-01	1.33E-04	3.06E-06	8.36E-01	7.53E-04	1.73E-05	8.00E-01	7.20E-04	1.66E-05
Road 38	38	1000-1100	1.51E-01	1.36E-04	3.12E-06	1.45E-01	1.30E-04	3.00E-06	8.20E-01	7.38E-04	1.70E-05	7.85E-01	7.06E-04	1.62E-05
Road 38	38	1100-1200	1.48E-01	1.33E-04	3.06E-06	1.42E-01	1.28E-04	2.94E-06	8.04E-01	7.24E-04	1.66E-05	7.69E-01	6.92E-04	1.59E-05
Road 38	38	1200-1300	1.45E-01	1.31E-04	3.00E-06	1.39E-01	1.25E-04	2.88E-06	7.88E-01	7.09E-04	1.63E-05	7.54E-01	6.78E-04	1.56E-05
Road 38	38	1300-1400	1.42E-01	1.28E-04	2.94E-06	1.36E-01	1.22E-04	2.82E-06	7.72E-01	6.94E-04	1.60E-05	7.38E-01	6.64E-04	1.53E-05
Road 38	38	1400-1500	1.39E-01	1.25E-04	2.88E-06	1.33E-01	1.20E-04	2.76E-06	7.56E-01	6.80E-04	1.56E-05	7.23E-01	6.50E-04	1.50E-05
Road 38	38	1500-1600	1.36E-01	1.22E-04	2.82E-06	1.30E-01	1.17E-04	2.70E-06	7.40E-01	6.66E-04	1.53E-05	7.08E-01	6.36E-04	1.47E-05
Road 38	38	1600-1700	1.33E-01	1.20E-04	2.76E-06	1.27E-01	1.14E-04	2.64E-06	7.24E-01	6.52E-04	1.50E-05	6.93E-01	6.23E-04	1.44E-05
Road 38	38	1700-1800	1.30E-01	1.17E-04	2.70E-06	1.24E-01	1.12E-04	2.58E-06	7.08E-01	6.37E-04	1.47E-05	6.77E-01	6.09E-04	1.41E-05
Road 38	38	1800-1900	1.27E-01	1.14E-04	2.64E-06	1.21E-01	1.09E-04	2.52E-06	6.92E-01	6.23E-04	1.44E-05	6.62E-01	5.96E-04	1.38E-05
Road 38	38	1900-2000	1.24E-01	1.12E-04	2.58E-06	1.18E-01	1.06E-04	2.46E-06	6.76E-01	6.09E-04	1.41E-05	6.47E-01	5.82E-04	1.35E-05
Road 38	38	2000-2100	1.21E-01	1.09E-04	2.52E-06	1.15E-01	1.04E-04	2.40E-06	6.60E-01	5.95E-04	1.38E-05	6.31E-01	5.68E-04	1.32E-05
Road 38	38	2100-2200	1.18E-01	1.06E-04	2.46E-06	1.12E-01	1.01E-04	2.34E-06	6.44E-01	5.80E-04	1.34E-05	6.16E-01	5.54E-04	1.29E-05
Road 38	38	2200-2300	1.15E-01	1.03E-04	2.40E-06	1.09E-01	9.82E-05	2.28E-06	6.28E-01	5.65E-04	1.31E-05	6.00E-01	5.40E-04	1.25E-05
Road 38	38	2300-0000	1.12E-01	1.01E-04	2.34E-06	1.06E-01	9.56E-05	2.22E-06	6.12E-01	5.51E-04	1.28E-05	5.85E-01	5.26E-04	1.22E-05
Road 39	39	0000-0100	1.22E-01	2.08E-04	4.76E-06	1.17E-01	1.97E-04	4.52E-06	1.31E-01	2.26E-04	5.17E-06	7.02E-01	1.19E-03	2.73E-05
Road 39	39	0100-0200	1.43E-01	1.79E-04	4.10E-06	1.37E-01	1.72E-04	3.94E-06	7.72E-01	9.93E-04	2.28E-05	7.38E-01	9.57E-04	2.19E-05
Road 39	39	0200-0300	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 39	39	0300-0400	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 39	39	0400-0500	1.69E-01	1.52E-04	3.48E-06	1.62E-01	1.46E-04	3.35E-06	9.16E-01	8.24E-04	1.89E-05	8.77E-01	7.89E-04	1.81E-05
Road 39	39	0500-0600	1.66E-01	1.49E-04	3.42E-06	1.59E-01	1.43E-04	3.29E-06	9.00E-01	8.10E-04	1.86E-05	8.62E-01	7.75E-04	1.78E-05
Road 39	39	0600-0700	1.63E-01	1.47E-04	3.36E-06	1.56E-01	1.41E-04	3.24E-06	8.84E-01	7.96E-04	1.83E-05	8.47E-01	7.62E-04	1.75E-05
Road 39	39	0700-0800	1.60E-01	1.44E-04	3.30E-06	1.53E-01	1.38E-04	3.18E-06	8.68E-01	7.82E-04	1.79E-05	8.31E-01	7.48E-04	1.72E-05
Road 39	39	0800-0900	1.57E-01	1.41E-04	3.24E-06	1.50E-01	1.35E-04	3.12E-06	8.52E-01	7.67E-04	1.76E-05	8.16E-01	7.34E-04	1.69E-05
Road 39	39	0900-1000	1.54E-01	1.39E-04	3.18E-06	1.48E-01	1.33E-04	3.06E-06	8.36E-01	7.53E-04	1.73E-05	8.00E-01	7.20E-04	1.66E-05
Road 39	39	1000-1100	1.51E-01	1.36E-04	3.12E-06	1.45E-01	1.30E-04	3.00E-06	8.20E-01	7.38E-04	1.70E-05	7.85E-01	7.06E-04	1.62E-05
Road 39	39	1100-1200	1.48E-01	1.33E-04	3.06E-06	1.42E-01	1.28E-04	2.94E-06	8.04E-01	7.24E-04	1.66E-05	7.69E-01	6.92E-04	1.59E-05
Road 39	39	1200-1300	1.45E-01	1.31E-04	3.00E-06	1.39E-01	1.25E-04	2.88E-06	7.88E-01	7.09E-04	1.63E-05	7.54E-01	6.78E-04	1.56E-05
Road 39	39	1300-1400	1.42E-01	1.28E-04	2.94E-06	1.36E-01	1.22E-04	2.82E-06	7.72E-01	6.94E-04	1.60E-05	7.38E-01	6.64E-04	1.53E-05
Road 39	39	1400-1500	1.39E-01	1.25E-04	2.88E-06	1.33E-01	1.20E-04	2.76E-06	7.56E-01	6.80E-04	1.56E-05	7.23E-01	6.50E-04	1.50E-05
Road 39	39	1500-1600	1.36E-01	1.22E-04	2.82E-06	1.30E-01	1.17E-04	2.70E-06	7.40E-01	6.66E-04	1.53E-05	7.08E-01	6.36E-04	1.47E-05
Road 39	39	1600-1700	1.33E-01	1.20E-04	2.76E-06	1.27E-01	1.14E-04	2.64E-06	7.24E-01	6.52E-04	1.50E-05	6.93E-01	6.23E-04	1.44E-05
Road 39	39	1700-1800	1.30E-01	1.17E-04	2.70E-06	1.24E-01	1.12E-04	2.58E-06	7.08E-01	6.37E-04	1.47E-05	6.77E-01	6.09E-04	1.41E-05
Road 39	39	1800-1900	1.27E-01	1.14E-04	2.64E-06	1.21E-01	1.09E-04	2.52E-06	6.92E-01	6.23E-04	1.44E-05	6.62E-01	5.96E-04	1.38E-05
Road 39	39	1900-2000	1.24E-01	1.12E-04	2.58E-06	1.18E-01	1.06E-04	2.46E-06	6.76E-01	6.09E-04	1.41E-05	6.47E-01	5.82E-04	1.35E-05
Road 39	39	2000-2100	1.21E-01	1.09E-04	2.52E-06	1.15E-01	1.04E-04	2.40E-06	6.60E-01	5.95E-04	1.38E-05	6.31E-01	5.68E-04	1.32E-05
Road 39	39	2100-2200	1.18E-01	1.06E-04	2.46E-06	1.12E-01	1.01E-04	2.34E-06	6.44E-01	5.80E-04	1.34E-05	6.16E-01	5.54E-04	1.29E-05
Road 39	39	2200-2300	1.15E-01	1.03E-04	2.40E-06	1.09E-01	9.82E-05	2.28E-06	6.28E-01	5.65E-04	1.31E-05	6.00E-01	5.40E-04	1.25E-05
Road 39	39	2300-0000	1.12E-01	1.01E-04	2.34E-06	1.06E-01	9.56E-05	2.22E-06	6.12E-01	5.51E-04	1.28E-05	5.85E-01	5.26E-04	1.22E-05
Road 40	40	0000-0100	1.22E-01	2.08E-04	4.76E-06	1.17E-01	1.97E-04	4.52E-06	1.31E-01	2.26E-04	5.17E-06	7.02E-01	1.19E-03	2.73E-05
Road 40	40	0100-0200	1.43E-01	1.79E-04	4.10E-06	1.37E-01	1.72E-04	3.94E-06	7.72E-01	9.93E-04	2.28E-05	7.38E-01	9.57E-04	2.19E-05
Road 40	40	0200-0300	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 40	40	0300-0400	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 40	40	0400-0500	1.69E-01	1.52E-04	3.48E-06	1.62E-01	1.46E-04	3.35E-06	9.16E-01	8.24E-04	1.89E-05	8.77E-01	7.89E-04	1.81E-05
Road 40	40	0500-0600	1.66E-01	1.49E-04	3.42E-06	1.59E-01	1.43E-04	3.29E-06	9.00E-01	8.10E-04	1.86E-05	8.62E-01	7.75E-04	1.78E-05
Road 40	40	0600-0700	1.63E-01	1.47E-04	3.36E-06	1.56E-01	1.41E-04	3.24E-06	8.84E-01	7.96E-04	1.83E-05	8.47E-01	7.62E-04	1.75E-05
Road 40	40	0700-0800	1.60E-01	1.44E-04	3.30E-06	1.53E-01	1.38E-04	3.18E-06	8.68E-01	7.82E-04	1.79E-05	8.31E-01	7.48E-04	1.72E-05
Road 40	40	0800-0900	1.57E-01	1.41E-04	3.24E-06	1.50E-01	1.35E-04	3.12E-06	8.52E-01	7.67E-04	1.76E-05	8.16E-01	7.34E-04	1.69E-05
Road 40	40	0900-1000	1.54E-01	1.39E-04	3.18E-06	1.48E-01	1.33E-04	3.06E-06	8.36E-01	7.53E-04	1.73E-05	8.00E-01	7.20E-04	1.66E-05
Road 40	40	1000-1100	1.51E-01	1.36E-04	3.12E-06	1.45E-01	1.30E-04	3.00E-06	8.20E-01	7.38E-04	1.70E-05	7.85E-01	7.06E-04	1.62E-05
Road 40	40	1100-1200	1.48E-01	1.33E-04	3.06E-06	1.42E-01	1.28E-04	2.94E-06	8.04E-01	7.24E-04	1.66E-05	7.69E-01	6.92E-04	1.59E-05
Road 40	40	1200-1300	1.45E-01	1.31E-04	3.00E-06	1.39E-01	1.25E-04	2.88E-06	7.88E-01	7.09E-04	1.63E-05	7.54E-01	6.78E-04	1.56E-05
Road 40	40	1300-1400	1.42E-01	1.28E-04	2.94E-06	1.36E-01	1.22E-04	2.82E-06	7.72E-01	6.94E-04	1.60E-05	7.38E-01	6.64E-04	1.53E-05
Road 40	40	1400-1500	1.39E-01	1.25E-04	2.88E-06	1.33E-01	1.20E-04	2.76E-06	7.56E-01	6.80E-04	1.56E-05	7.23E-01	6.50E-04	1.50E-05
Road 40	40	1500-1600	1.36E-01	1.22E-04	2.82E-06	1.30E-01	1.17E-04	2.70E-06	7.40E-01	6.66E-04	1.53E-05	7.08E-01	6.36E-04	1.47E-05
Road 40	40	1600-1700	1.33E-01	1.20E-04	2.76E-06	1.27E-01	1.14E-04	2.64E-06	7.24E-01	6.52E-04	1.50E-05	6.93E-01	6.23E-04	1.44E-05
Road 40	40	1700-1800	1.30E-01	1.17E-04	2.70E-06	1.24E-01	1.12E-04	2.58E-06	7.08E-01	6.37E-04	1.47E-05	6.77E-01	6.09E-04	1.41E-05
Road 40	40	1800-1900	1.27E-01	1.14E-04	2.64E-06	1.21E-01	1.09E-04	2.52E-06	6.92E-01	6.23E-04	1.44E-05	6.62E-01	5.96E-04	1.38E-05
Road 40	40	1900-2000	1.24E-01	1.12E-04	2.58E-06	1.18E-01	1.06E-04	2.46E-06	6.76E-01	6.09E-04	1.41E-05	6.47E-01	5.82E-04	1.35E-05
Road 40	40	2000-2100	1.21E-01	1.09E-04	2.52E-06	1.15E-01	1.04E-04	2.40E-06	6.60E-01	5.95E-04	1.38E-05	6.31E-01	5.68E-04	1.32E-05
Road 40	40	2100-2200	1.18E-01	1.06E-04	2.46E-06	1.12E-01	1.01E-04	2.34E-06	6.44E-01	5.80E-04	1.34E-05	6.16E-01	5.54E-04	1.29E-05
Road 40	40	2200-2300	1.15E-01	1.03E-04	2.40E-06	1.09E-01	9.82E-05	2.28E-06	6.28E-01	5.65E-04	1.31E-05	6.00E-01	5.40E-04	1.25E-05
Road 40	40	2300-0000	1.12E-01	1.01E-04	2.34E-06	1.06E-01	9.56E-05	2.22E-06	6.12E-01	5.51E-04	1.28E-05	5.85E-01	5.26E-04	1.22E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	9.02E-02	1.91E-03	3.79E-06	8.58E-02	1.82E-03	3.61E-06	1.00E-01	2.12E-03	4.20E-06	9.52E-02	2.02E-03	4.00E-06
Road 41	41	0100-0200	9.52E-02	1.86E-03	1.56E-06	8.58E-02	1.50E-03	1.40E-06	5.20E-01	9.06E-03	8.50E-06	4.65E-01	8.10E-03	7.60E-06
Road 41	41	0200-0300	1.08E-01	1.53E-03	1.44E-06	9.75E-02	1.38E-03	1.30E-06	5.89E-01	8.34E-03	7.82E-06	5.27E-01	7.47E-03	7.01E-06
Road 41	41	0300-0400	1.19E-01	1.47E-03	1.38E-06	1.07E-01	1.32E-03	1.24E-06	6.47E-01	7.96E-03	7.47E-06	5.77E-01	7.11E-03	6.67E-06
Road 41	41	0400-0500	1.17E-01	1.54E-03	1.45E-06	1.05E-01	1.39E-03	1.30E-06	6.32E-01	8.31E-03	7.82E-06	5.64E-01	7.44E-03	6.98E-06
Road 41	41	0500-0600	1.05E-01	1.39E-03	1.30E-06	1.05E-01	1.39E-03	1.30E-06	5.67E-01	7.47E-03	7.01E-06	5.64E-01	7.44E-03	6.98E-06
Road 41	41	0600-0700	8.49E-02	1.66E-03	1.56E-06	8.49E-02	1.66E-03	1.56E-06	4.58E-01	8.94E-03	8.41E-06	4.58E-01	8.94E-03	8.41E-06
Road 41	41	0700-0800	9.96E-02	1.94E-03	1.82E-06	9.16E-02	1.78E-03	1.67E-06	5.37E-01	1.04E-02	9.82E-06	4.94E-01	9.61E-03	9.03E-06
Road 41	41	0800-0900	1.08E-01	2.11E-03	1.98E-06	9.82E-02	1.91E-03	1.80E-06	5.82E-01	1.13E-02	1.07E-05	5.29E-01	1.03E-02	9.68E-06
Road 41	41	0900-1000	1.08E-01	2.11E-03	1.98E-06	9.82E-02	1.91E-03	1.80E-06	5.82E-01	1.13E-02	1.07E-05	5.29E-01	1.03E-02	9.68E-06
Road 41	41	1000-1100	1.17E-01	2.28E-03	2.14E-06	1.07E-01	2.08E-03	1.95E-06	6.29E-01	1.22E-02	1.15E-05	5.74E-01	1.12E-02	1.05E-05
Road 41	41	1100-1200	1.17E-01	2.28E-03	2.14E-06	1.07E-01	2.08E-03	1.95E-06	6.29E-01	1.22E-02	1.15E-05	5.74E-01	1.12E-02	1.05E-05
Road 41	41	1200-1300	1.17E-01	2.28E-03	2.14E-06	1.07E-01	2.08E-03	1.95E-06	6.29E-01	1.22E-02	1.15E-05	5.74E-01	1.12E-02	1.05E-05
Road 41	41	1300-1400	1.17E-01	2.28E-03	2.14E-06	1.07E-01	2.08E-03	1.95E-06	6.29E-01	1.22E-02	1.15E-05	5.74E-01	1.12E-02	1.05E-05
Road 41	41	1400-1500	1.16E-01	2.26E-03	2.12E-06	1.06E-01	2.06E-03	1.93E-06	6.23E-01	1.21E-02	1.14E-05	5.68E-01	1.11E-02	1.04E-05
Road 41	41	1500-1600	1.16E-01	2.26E-03	2.12E-06	1.06E-01	2.06E-03	1.93E-06	6.23E-01	1.21E-02	1.14E-05	5.68E-01	1.11E-02	1.04E-05
Road 41	41	1600-1700	1.16E-01	2.26E-03	2.12E-06	1.06E-01	2.06E-03	1.93E-06	6.23E-01	1.21E-02	1.14E-05	5.68E-01	1.11E-02	1.04E-05
Road 41	41	1700-1800	1.15E-01	2.24E-03	2.10E-06	1.05E-01	2.04E-03	1.91E-06	6.17E-01	1.20E-02	1.13E-05	5.62E-01	1.09E-02	1.03E-05
Road 41	41	1800-1900	1.14E-01	2.22E-03	2.08E-06	1.04E-01	2.02E-03	1.89E-06	6.11E-01	1.19E-02	1.12E-05	5.57E-01	1.08E-02	1.02E-05
Road 41	41	1900-2000	1.13E-01	2.20E-03	2.06E-06	1.03E-01	2.00E-03	1.88E-06	6.05E-01	1.18E-02	1.11E-05	5.51E-01	1.07E-02	1.01E-05
Road 41	41	2000-2100	1.12E-01	2.18E-03	2.04E-06	1.02E-01	1.98E-03	1.86E-06	5.99E-01	1.16E-02	1.10E-05	5.46E-01	1.06E-02	1.00E-05
Road 41	41	2100-2200	1.11E-01	2.16E-03	2.02E-06	1.01E-01	1.96E-03	1.84E-06	5.93E-01	1.15E-02	1.08E-05	5.40E-01	1.05E-02	9.85E-06
Road 41	41	2200-2300	1.10E-01	2.14E-03	2.00E-06	1.00E-01	1.94E-03	1.82E-06	5.87E-01	1.14E-02	1.07E-05	5.35E-01	1.04E-02	9.74E-06
Road 41	41	2300-0000	1.09E-01	2.12E-03	1.98E-06	9.89E-02	1.92E-03	1.80E-06	5.81E-01	1.13E-02	1.06E-05	5.29E-01	1.03E-02	9.63E-06
Road 42	42	0000-0100	1.22E-01	2.08E-04	4.76E-06	1.17E-01	1.97E-04	4.52E-06	1.31E-01	2.26E-04	5.17E-06	7.02E-01	1.19E-03	2.73E-05
Road 42	42	0100-0200	1.43E-01	1.79E-04	4.10E-06	1.37E-01	1.72E-04	3.94E-06	7.72E-01	9.93E-04	2.28E-05	7.38E-01	9.57E-04	2.19E-05
Road 42	42	0200-0300	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 42	42	0300-0400	1.71E-01	1.54E-04	3.52E-06	1.64E-01	1.48E-04	3.39E-06	9.27E-01	8.33E-04	1.91E-05	8.87E-01	8.02E-04	1.84E-05
Road 42	42	0400-0500	1.69E-01	1.52E-04	3.48E-06	1.62E-01	1.46E-04	3.35E-06	9.16E-01	8.24E-04	1.89E-05	8.77E-01	7.89E-04	1.81E-05
Road 42	42	0500-0600	1.66E-01	1.49E-04	3.42E-06	1.59E-01	1.43E-04	3.29E-06	9.00E-01	8.10E-04	1.86E-05	8.62E-01	7.75E-04	1.78E-05
Road 42	42	0600-0700	1.63E-01	1.47E-04	3.36E-06	1.56E-01	1.41E-04	3.24E-06	8.84E-01	7.96E-04	1.83E-05	8.47E-01	7.62E-04	1.75E-05
Road 42	42	0700-0800	1.60E-01	1.44E-04	3.30E-06	1.53E-01	1.38E-04	3.18E-06	8.68E-01	7.82E-04	1.79E-05	8.31E-01	7.48E-04	1.72E-05
Road 42	42	0800-0900	1.57E-01	1.41E-04	3.24E-06	1.50E-01	1.35E-04	3.12E-06	8.52E-01	7.67E-04	1.76E-05	8.16E-01	7.34E-04	1.69E-05
Road 42	42	0900-1000	1.54E-01	1.39E-04	3.18E-06	1.48E-01	1.33E-04	3.06E-06	8.36E-01	7.53E-04	1.73E-05	8.00E-01	7.20E-04	1.66E-05
Road 42	42	1000-1100	1.51E-01	1.36E-04	3.12E-06	1.45E-01	1.30E-04	3.00E-06	8.20E-01	7.38E-04	1.70E-05	7.85E-01	7.06E-04	1.62E-05
Road 42	42	1100-1200	1.48E-01	1.33E-04	3.06E-06	1.42E-01	1.28E-04	2.94E-06	8.04E-01	7.24E-04	1.66E-05	7.69E-01	6.92E-04	1.59E-05
Road 42	42	1200-1300	1.45E-01	1.31E-04	3.00E-06	1.39E-01	1.25E-04	2.88E-06	7.88E-01	7.09E-04	1.63E-05	7.54E-01	6.78E-04	1.56E-05
Road 42	42	1300-1400	1.42E-01	1.28E-04	2.94E-06	1.36E-01	1.22E-04	2.82E-06	7.72E-01	6.94E-04	1.60E-05	7.38E-01	6.64E-04	1.53E-05
Road 42	42	1400-1500	1.39E-01	1.25E-04	2.88E-06	1.33E-01	1.20E-04	2.76E-06	7.56E-01	6.80E-04	1.56E-05	7.23E-01	6.50E-04	1.50E-05
Road 42	42	1500-1600	1.36E-01	1.22E-04	2.82E-06	1.30E-01	1.17E-04	2.70E-06	7.40E-01	6.66E-04	1.53E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	2.26E-02	4.21E-07	1.34E-05	2.19E-02	1.28E-06	2.41E-05	1.44E-06	2.15E-02	2.32E-06	4.35E-05	2.56E-06	1.28E-06
Road 1	1	0100-0200	2.66E-02	1.72E-07	9.48E-06	2.21E-02	1.55E-07	8.52E-06	2.21E-02	1.76E-06	9.68E-05	2.22E-02	1.55E-06	8.56E-05
Road 1	1	0200-0300	2.66E-02	1.36E-07	7.50E-06	2.39E-02	1.22E-07	6.74E-06	2.58E-02	1.33E-06	7.30E-05	2.29E-02	1.17E-06	6.45E-05
Road 1	1	0300-0400	2.87E-02	1.16E-07	6.37E-06	2.57E-02	1.04E-07	5.72E-06	2.67E-02	1.08E-06	5.96E-05	2.35E-02	9.53E-07	5.25E-05
Road 1	1	0400-0500	3.06E-02	1.36E-07	7.46E-06	2.72E-02	1.21E-07	6.65E-06	2.75E-02	1.22E-06	6.73E-05	2.41E-02	1.07E-06	5.89E-05
Road 1	1	0500-0600	3.25E-02	2.45E-07	1.35E-05	2.88E-02	2.18E-07	1.20E-05	2.81E-02	2.13E-06	1.18E-04	2.45E-02	1.86E-06	1.03E-04
Road 1	1	0600-0700	3.35E-02	5.48E-07	3.02E-05	2.97E-02	4.85E-07	2.68E-05	2.97E-02	4.53E-06	2.50E-04	2.53E-02	4.14E-06	2.28E-04
Road 1	1	0700-0800	3.54E-02	1.17E-06	6.45E-05	3.20E-02	1.06E-06	5.84E-05	2.91E-02	9.63E-06	5.30E-04	2.60E-02	8.60E-06	4.74E-04
Road 1	1	0800-0900	3.31E-02	1.09E-06	6.02E-05	3.00E-02	9.85E-07	5.45E-05	2.61E-02	8.63E-06	4.75E-04	2.36E-02	7.78E-06	4.29E-04
Road 1	1	0900-1000	3.03E-02	1.26E-06	6.93E-05	2.71E-02	1.12E-06	6.18E-05	2.37E-02	9.86E-06	5.42E-04	2.11E-02	8.77E-06	4.82E-04
Road 1	1	1000-1100	2.79E-02	1.36E-06	7.48E-05	2.49E-02	1.21E-06	6.67E-05	2.12E-02	1.03E-05	5.68E-04	1.88E-02	9.16E-06	5.04E-04
Road 1	1	1100-1200	2.56E-02	1.29E-06	7.09E-05	2.29E-02	1.15E-06	6.32E-05	1.94E-02	9.77E-06	5.37E-04	1.72E-02	8.68E-06	4.77E-04
Road 1	1	1200-1300	2.35E-02	1.22E-06	6.72E-05	2.10E-02	1.09E-06	5.99E-05	1.77E-02	9.22E-06	5.07E-04	1.57E-02	8.19E-06	4.50E-04
Road 1	1	1300-1400	2.15E-02	1.16E-06	6.37E-05	1.92E-02	1.03E-06	5.68E-05	1.62E-02	8.76E-06	4.82E-04	1.44E-02	7.78E-06	4.28E-04
Road 1	1	1400-1500	1.96E-02	1.09E-06	6.03E-05	1.75E-02	9.77E-07	5.38E-05	1.48E-02	8.29E-06	4.56E-04	1.31E-02	7.37E-06	4.05E-04
Road 1	1	1500-1600	1.79E-02	1.03E-06	5.70E-05	1.60E-02	9.24E-07	5.09E-05	1.35E-02	7.84E-06	4.31E-04	1.20E-02	6.97E-06	3.83E-04
Road 1	1	1600-1700	1.63E-02	9.75E-07	5.39E-05	1.46E-02	8.74E-07	4.82E-05	1.23E-02	7.42E-06	4.08E-04	1.09E-02	6.59E-06	3.63E-04
Road 1	1	1700-1800	1.48E-02	9.23E-07	5.10E-05	1.32E-02	8.27E-07	4.56E-05	1.12E-02	7.02E-06	3.86E-04	9.91E-03	6.23E-06	3.43E-04
Road 1	1	1800-1900	1.34E-02	8.74E-07	4.83E-05	1.20E-02	7.83E-07	4.32E-05	1.02E-02	6.65E-06	3.67E-04	9.00E-03	5.90E-06	3.26E-04
Road 1	1	1900-2000	1.21E-02	8.28E-07	4.57E-05	1.08E-02	7.41E-07	4.09E-05	9.21E-03	6.29E-06	3.47E-04	8.13E-03	5.58E-06	3.08E-04
Road 1	1	2000-2100	1.09E-02	7.84E-07	4.33E-05	9.76E-03	7.02E-07	3.87E-05	8.29E-03	5.96E-06	3.29E-04	7.32E-03	5.28E-06	2.92E-04
Road 1	1	2100-2200	9.84E-03	7.42E-07	4.10E-05	8.78E-03	6.65E-07	3.67E-05	7.46E-03	5.64E-06	3.12E-04	6.59E-03	5.00E-06	2.77E-04
Road 1	1	2200-2300	8.86E-03	7.03E-07	3.89E-05	7.90E-03	6.29E-07	3.48E-05	6.71E-03	5.34E-06	2.96E-04	5.93E-03	4.73E-06	2.62E-04
Road 1	1	2300-2400	7.97E-03	6.66E-07	3.68E-05	7.11E-03	5.95E-07	3.29E-05	6.04E-03	5.05E-06	2.80E-04	5.34E-03	4.47E-06	2.47E-04
Road 2	2	0000-0100	2.66E-02	3.62E-07	1.83E-05	2.21E-02	1.65E-05	2.35E-04	3.45E-06	2.75E-04	2.07E-03	3.05E-06	1.55E-04	1.83E-06
Road 2	2	0100-0200	2.66E-02	2.57E-07	1.30E-05	2.39E-02	1.17E-05	1.67E-04	3.78E-06	1.95E-04	1.47E-03	3.34E-06	1.10E-04	1.30E-06
Road 2	2	0200-0300	2.90E-02	2.03E-07	1.03E-05	2.60E-02	1.82E-07	9.24E-06	2.52E-02	1.77E-06	8.99E-05	2.27E-02	1.59E-06	8.07E-05
Road 2	2	0300-0400	3.13E-02	1.97E-07	1.08E-05	2.81E-02	1.77E-07	9.71E-06	2.67E-02	1.68E-06	9.21E-05	2.40E-02	1.51E-06	8.29E-05
Road 2	2	0400-0500	3.33E-02	2.03E-07	1.03E-05	2.97E-02	1.81E-07	9.17E-06	2.70E-02	1.64E-06	8.32E-05	2.36E-02	1.44E-06	7.29E-05
Road 2	2	0500-0600	3.51E-02	3.71E-07	1.88E-05	3.12E-02	3.29E-07	1.67E-05	2.76E-02	1.52E-06	7.68E-05	2.41E-02	1.33E-06	6.72E-05
Road 2	2	0600-0700	3.89E-02	8.34E-07	4.23E-05	3.46E-02	7.39E-07	3.75E-05	2.98E-02	3.41E-06	1.73E-04	2.60E-02	2.98E-06	1.51E-04
Road 2	2	0700-0800	3.89E-02	1.78E-06	9.02E-05	3.52E-02	1.61E-06	8.18E-05	2.88E-02	1.32E-05	6.70E-04	2.58E-02	1.18E-05	5.98E-04
Road 2	2	0800-0900	3.51E-02	1.58E-06	8.01E-05	3.18E-02	1.43E-06	7.26E-05	2.60E-02	1.17E-05	5.94E-04	2.33E-02	1.05E-05	5.31E-04
Road 2	2	0900-1000	4.50E-02	1.98E-06	1.00E-04	4.15E-02	1.82E-06	9.24E-05	3.00E-02	1.32E-05	6.68E-04	2.77E-02	1.22E-05	6.16E-04
Road 2	2	1000-1100	4.92E-02	1.86E-06	9.43E-05	4.53E-02	1.71E-06	8.68E-05	3.28E-02	1.24E-05	6.30E-04	3.02E-02	1.14E-05	5.80E-04
Road 2	2	1100-1200	4.92E-02	1.78E-06	9.01E-05	4.53E-02	1.64E-06	8.31E-05	3.28E-02	1.18E-05	6.03E-04	3.02E-02	1.09E-05	5.56E-04
Road 2	2	1200-1300	4.26E-02	1.72E-06	8.69E-05	3.92E-02	1.58E-06	8.01E-05	2.84E-02	1.14E-05	5.81E-04	2.61E-02	1.05E-05	5.36E-04
Road 2	2	1300-1400	3.60E-02	1.66E-06	8.39E-05	3.31E-02	1.53E-06	7.73E-05	2.40E-02	1.10E-05	5.61E-04	2.21E-02	1.02E-05	5.17E-04
Road 2	2	1400-1500	3.33E-02	1.60E-06	8.09E-05	3.06E-02	1.48E-06	7.45E-05	2.22E-02	1.07E-05	5.41E-04	2.04E-02	9.87E-06	4.98E-04
Road 2	2	1500-1600	3.06E-02	1.54E-06	7.80E-05	2.82E-02	1.43E-06	7.18E-05	2.04E-02	1.03E-05	5.22E-04	1.88E-02	9.51E-06	4.80E-04
Road 2	2	1600-1700	2.79E-02	1.48E-06	7.52E-05	2.58E-02	1.37E-06	6.92E-05	1.87E-02	9.92E-06	5.03E-04	1.72E-02	9.16E-06	4.63E-04
Road 2	2	1700-1800	2.53E-02	1.42E-06	7.25E-05	2.34E-02	1.32E-06	6.67E-05	1.70E-02	9.56E-06	4.85E-04	1.56E-02	8.83E-06	4.47E-04
Road 2	2	1800-1900	2.29E-02	1.37E-06	6.99E-05	2.12E-02	1.27E-06	6.43E-05	1.54E-02	9.21E-06	4.67E-04	1.42E-02	8.51E-06	4.31E-04
Road 2	2	1900-2000	2.07E-02	1.32E-06	6.73E-05	1.91E-02	1.22E-06	6.20E-05	1.39E-02	8.88E-06	4.50E-04	1.28E-02	8.20E-06	4.16E-04
Road 2	2	2000-2100	1.87E-02	1.27E-06	6.49E-05	1.73E-02	1.18E-06	5.98E-05	1.26E-02	8.56E-06	4.34E-04	1.16E-02	7.91E-06	4.01E-04
Road 2	2	2100-2200	1.69E-02	1.23E-06	6.26E-05	1.56E-02	1.14E-06	5.77E-05	1.14E-02	8.26E-06	4.19E-04	1.05E-02	7.63E-06	3.87E-04
Road 2	2	2200-2300	1.53E-02	1.19E-06	6.04E-05	1.41E-02	1.10E-06	5.57E-05	1.03E-02	7.97E-06	4.04E-04	9.49E-03	7.36E-06	3.73E-04
Road 2	2	2300-2400	1.38E-02	1.15E-06	5.83E-05	1.27E-02	1.06E-06	5.38E-05	9.29E-03	7.69E-06	3.90E-04	8.56E-03	7.09E-06	3.60E-04
Road 3	3	0000-0100	2.66E-02	4.21E-07	1.34E-05	2.21E-02	1.65E-06	2.35E-05	3.45E-06	2.75E-04	2.07E-03	3.05E-06	1.55E-04	1.83E-06
Road 3	3	0100-0200	2.66E-02	1.72E-07	9.48E-06	2.39E-02	1.17E-05	1.67E-04	3.78E-06	1.95E-04	1.47E-03	3.34E-06	1.10E-04	1.30E-06
Road 3	3	0200-0300	2.90E-02	2.03E-07	1.03E-05	2.60E-02	1.82E-07	9.24E-06	2.52E-02	1.77E-06	8.99E-05	2.27E-02	1.59E-06	8.07E-05
Road 3	3	0300-0400	3.13E-02	1.97E-07	1.08E-05	2.81E-02	1.77E-07	9.71E-06	2.67E-02	1.68E-06	9.21E-05	2.40E-02	1.51E-06	8.29E-05
Road 3	3	0400-0500	3.33E-02	2.03E-07	1.03E-05	2.97E-02	1.81E-07	9.17E-06	2.70E-02	1.64E-06	8.32E-05	2.36E-02	1.44E-06	7.29E-05
Road 3	3	0500-0600	3.51E-02	3.71E-07	1.88E-05	3.12E-02	3.29E-07	1.67E-05	2.76E-02	1.52E-06	7.68E-05	2.41E-02	1.33E-06	6.72E-05
Road 3	3	0600-0700	3.89E-02	8.34E-07	4.23E-05	3.46E-02	7.39E-07	3.75E-05	2.98E-02	3.41E-06	1.73E-04	2.60E-02	2.98E-06	1.51E-04
Road 3	3	0700-0800	3.89E-02	1.78E-06	9.02E-05	3.52E-02	1.61E-06	8.18E-05	2.88E-02	1.32E-05	6.70E-04	2.58E-02	1.18E-05	5.98E-04
Road 3	3	0800-0900	3.51E-02	1.58E-06	8.01E-05	3.18E-02	1.43E-06	7.26E-05	2.60E-02	1.17E-05	5.94E-04	2.33E-02	1.05E-05	5.31E-04
Road 3	3	0900-1000	4.50E-02	1.98E-06	1.00E-04	4.15E-02	1.82E-06	9.24E-05	3.00E-02	1.32E-05	6.68E-04	2.77E-02	1.22E-05	6.16E-04
Road 3	3	1000-1100	4.92E-02	1.86E-06	9.43E-05	4.53E-02	1.71E-06	8.68E-05	3.28E-02	1.24E-05	6.30E-04	3.02E-02	1.14E-05	5.80E-04
Road 3	3	1100-1200	4.92E-02	1.78E-06	9.01E-05	4.53E-02	1.64E-06	8.31E-05	3.28E-02	1.18E-05	6.03E-04	3.02E-02	1.09E-05	5.56E-04
Road 3	3	1200-1300	4.26E-02	1.72E-06	8.69E-05	3.92E-02	1.58E-06	8.01E-05	2.84E-02	1.14E-05	5.81E-04	2.61E-02	1.05E-05	5.36E-04
Road 3	3	1300-1400	3.60E-02	1.66E-06	8.39E-05	3.31E-02	1.53E-06	7.73E-05	2.40E-02	1.10E-05	5.61E-04	2.21E-02	1.02E-05	5.17E-04
Road 3	3	1400-1500	3.33E-02	1.60E-06	8.09E-05	3.06E-02	1.48E-06	7.45E-05	2.22E-02	1.07E-05	5.41E-04	2.04E-02	9.87E-06	4.98E-04
Road 3	3	1500-1600	3.06E-02	1.54E-06	7.80E-05	2.82E-02	1.43E-06	7.18E-05	2.04E-02	1.03E-05	5.22E-04	1.88E-02	9.51E-06	4.80E-04
Road 3	3	1600-1700	2.79E-02	1.48E-06	7.52E-05	2.58E-02	1.37E-06	6.92E-05	1.87E-02	9.92E-06	5.03E-04	1.72E-02	9.16E-06	4.63E-04
Road 3	3	1700-1800	2.53E-02	1.42E-06	7.25E-05	2.34E-02	1.32E-06	6.67E-05	1.70E-02	9.56E-06	4.85E-04	1.56E-02	8.83E-06	4.47E-04
Road 3	3	1800-1900	2.29E-02	1.37E-06	6.99E-05	2.12E-02	1.27E-06	6.43E-05	1.54E-02	9.21E-06	4.67E-04	1.42E-02	8.51E-06	4.31E-04
Road 3	3	1900-2000	2.07E-02	1.32E-06	6.73E-05	1.91E-02	1.22E-06	6.20E-05	1.39E-02	8.88E-06	4.50E-04	1.28E-02	8.20E-06	4.16E-04
Road 3	3	2000-2100	1.87E-02	1.27E-06	6.49E-05	1.73E-02	1.18E-06	5.98E-05	1.26E-02	8.56E-06	4.34E-04	1.16E-02	7.91E-06	4.01E-04
Road 3	3	2100-2200	1.69E-02	1.23E-06	6.26E-05	1.56E-02	1.14E-06	5.77E-05	1.14E-02	8.26E-06	4.19E-04	1.05E-02	7.63E-06	3.87E-04
Road 3	3	2200-2300	1.53E-02	1.19E-06	6.04E-05	1.41E-02	1.10E-06	5.57E-05	1.03E-02	7.97E-06	4.04E-04	9.49E-03	7.36E-06	3.73E-04
Road 3	3	2300-2400	1.38E-02	1.15E-06	5.83E-05	1.27E-02	1.06E-06	5.38E-05	9.29E-03	7.69E-06	3.90E-04	8.56E-03	7.09E-06	3.60E-04
Road 4	4	0000-0100	2.26E-02	4.21E-07	1.34E-05	2.19E-02	1.28E-06	2.41E-05	1.44E-06	2.15E-02	2.32E-06	4.35E-05	2.56E-06	1.28E-06
Road 4	4	0100-0200	2.66E-02	1.72E-07	9.48E-06	2.21E-02	1.55E-07	8.52E-06	2.21E-02	1.76E-06	9.68E-05	2.22E-02	1.55E-06	8.56E-05
Road 4	4	0200-0300	2.66E-02	1.36E-07	7.50E-06	2.39E-02	1.22E-07	6.74E-06	2.58E-02	1.33E-06	7.30E-05	2.29E-02	1.17E-06	6.45E-05
Road 4	4	0300-0400	2.87E-02	1.16E-07	6.37E-06	2.57E-02	1.04E-07	5.72E-06	2.67E-02	1.08E-06	5.96E-05	2.35E-02	9.53E-07	5.25E-05
Road 4	4	0400-0500	3.06E-02	1.36E-07	7.46E-06	2.72E-02	1.21E-07	6.65E-06	2.75E-02	1.22E-06	6.73E-05	2.41E-02	1.07E-06	5.89E-05
Road 4	4	0500-0600	3.25E-02	2.45E-07	1.35E-05	2.88E-02	2.18E-07	1.20E-05	2.81E-02	2.13E-06	1.18E-04	2.45E-02	1.86E-06	1.03E-04
Road 4	4	0600-0700	3.35E-02	5.48E-07	3.02E-05	2.97E-02	4.85E-07	2.68E-05	2.97E-02	4.53E-06	2.50E-04	2.53E-02	4.14E-06	2.28E-04
Road 4	4	0700-0800	3.54E-02	1.17E-06	6.45E-05	3.20E-02	1.06E-06	5.84E-05	2.91E-02	9.63E-06	5.30E-04	2.60E-02	8.60E-06	4.74E-04
Road 4	4	0800-0900	3.31E-02	1.09E-06	6.02E-05	3.00E-02	9.85E-07	5.45E-05	2.61E-02	8.63E-06	4.75E-04	2.36E-02	7.78E-06	4.29E-04
Road 4	4	0900-1000	3.03E-02	1.26E-06	6.93E-05	2.71E-02	1.12E-06	6.18E-05	2.37E-02	9.86E-06	5.42E-04	2.11E-02	8.77E-06	4.82E-04
Road 4	4	1000-1100	2.79E-02	1.36E-06	7.48E-05	2.49E-02	1.21E-06	6.67E-05	2.12E-02	1.03E-05	5.68E-04	1.88E-02	9.16E-06	5.04E-04
Road 4	4	1100-1200	2.56E-02	1.29E-06	7.09E-05	2.29E-02	1.15E-06	6.32E-05	1.94E-02	9.77E-06	5.37E-04	1.72E-02	8.68E-06	4.77E-04
Road 4	4	1200-1300	2.35E-02	1.22E-06	6.72E-05	2.10E-02	1.09E-06	5.99E-05	1.77E-02	9.22E-06	5.07E-04	1.57E-02	8.19E-06	4.50E-04
Road 4	4	1300-1400	2.15E-02	1.16E-06	6.37E-05	1.92E-02	1.03E-06	5.68E-05	1.62E-02	8.76E-06	4.82E-04	1.44E-02	7.78E-06	4.28E-04
Road 4	4	1400-1500	1.96E-02	1.09E-06	6.03E-05	1.75E-02	9.77E-07	5.38E-05	1.48E-02	8.29E-06	4.56E-04	1.31E-02	7.37E-06	4.05E-04
Road 4	4	1500-1600	1.79E-02	1.03E-06	5.70E-05	1.60E-02	9.24E-07	5.09E-05	1.35E-02	7.84E-06	4.31E-04	1.20E-02	6.97E-06	3.83E-04
Road 4	4	1600-1700	1.63E-02	9.75E-07	5.39E-05	1.46E-02	8.74E-07	4.82E-05	1.23E-02	7.42E-06	4.08E-04	1.09E-02	6.59E-06	3.63E-04
Road 4	4	1700-1800	1.48E-02	9.23E-07	5.10E-05	1.32E-02	8.27E-07	4.56E-05	1.12E-02	7.02E-06	3.86E-04	9.91E-03	6.23E-06	3.43E-04
Road 4	4	1800-1900	1.34E-02	8.74E-07	4.83E-05	1.20E-02	7.83E-07	4.32E-05	1.02E-02	6.65E-06	3.67E-04	9.00E-03	5.90E-06	3.26E-04
Road 4	4	1900-2000	1.21E-02	8.28E-07	4.57E-05	1.08E-02	7.41E-07	4.09E-05	9.21E-03	6.29E-06	3.47E-04	8.13E-03	5.58E-06	3.08E-04
Road 4	4	2000-2100	1.09E-02	7.84E-07	4.33E-05	9.76E-03	7.02E-07	3.87E-05	8.29E-03	5.96E-06	3.29E-04	7.32E-03	5.28E-06	2.92E-04
Road 4	4	2100-2200	9.84E-03	7.42E-07	4.10E-05	8.78E-03	6.65E-07	3.67E-05	7.46E-03	5.64E-06	3.12E-04	6.59E-03	5.00E-06	2.77E-04
Road 4	4	2200-2300	8.86E-03	7.03E-07	3.89E-05	7.90E-03	6.29E-07	3.48E-05	6.71E-03	5.34E-06	2.96E-04	5.93E-03	4.73E-06	2.62E-04
Road 4	4	2300-2400	7.97E-03	6.66E-07	3.68E-05	7.11E-03	5.95E-07	3.29E-05	6.04E-03	5.05E-06	2.80E-04	5.34E-03	4.47E-06	2.47E-04
Road 5	5	0000-0100	2.66E-02	3.62E-07	1.83E-05	2.21E-02	1.65E-06	2.35E-05	3.45E-06	2.75E-04	2.07E-03	3.05E-06	1.55E-04	1.83E-06
Road 5	5	0100-0200	2.66E-02	2.57E-07	1.30E-05	2.39E-02	1.17E-05	1.67E-04	3.78E-06	1.95E-04	1.47E-03	3.34E-06	1.10E-04	1.30E-06
Road 5	5	0200-0300	2.90E-02	2.03E-07	1.03E-05	2.60E-02	1.82E-07	9.24E-06	2.52E-02	1.77E-06	8.99E-05	2.27E-02	1.59E-06	8.07E-05
Road 5	5	0300-0400	3.13E-02	1.97E-07	1.08E-05	2.81E-02	1.77E-07	9.71E-06	2.67E-02	1.68E-06	9.21E-05	2.40E-02	1.51E-06	8.29E-05
Road 5	5	0400-0500	3.33E-02	2.03E-07	1.03E-05	2.97E-02	1.81E-07	9.17E-06	2.70E-02	1.64E-06	8.32E-05	2.36E-02	1.44E-06	7.29E-05
Road 5	5	0500-0600	3.51E-02	3.71E-07	1.88E-05	3.12E-02	3.29E-07	1.67E-05	2.76E-02	1.52E-06	7.68E-05	2.41E-02	1.33E-06	6.72E-05
Road 5	5	0600-0700	3.89E-02	8.34E-07	4.23E-05	3.46E-02	7.39E-07	3.75E-05	2.98E-02	3.41E-06	1.73E-04	2.60E-02	2.98E-06	1.51E-04
Road 5	5	0700-0800	3.89E-02	1.78E-06	9.02E-05	3.52E-02	1.61E-06	8.18E-05	2.88E-02	1.32E-05	6.70E-04	2.58E-02	1.18E-05	5.98E-04
Road 5	5	0800-0900	3.51E-02	1.58E-06	8.01E-05	3.18E-02	1.43E-06	7.26E-05	2.60E-02	1.17E-05	5.94E-04	2.33E-02	1.05E-05	5.31E-04
Road 5	5	0900-1000	4.50E-02	1.98E-06	1.00E-04	4.15E-02	1.82E-06	9.24E-05	3.00E-02	1.32E-05	6.68E-04	2.77E-02	1.22E-05	6.16E-04
Road 5	5	1000-1100	4.92E-02	1.86E-06	9.43E-05	4.53E-02	1.71E-06	8.68E-05	3.28E-02	1.24E-05	6.30E-04	3.02E-02	1.14E-05	5.80E-04
Road 5	5	1100-1200	4.92E-02	1.78E-06	9.01E-05	4.53E-02	1.64E-06	8.31E-05	3.28E-02	1.18E-05	6.03E-04	3.02E-02	1.09E-05	5.56E-04
Road 5	5	1200-1300	4.26E-02	1.72E-06	8.69E-05	3.92E-02	1.58E-06	8.01E-05	2.84E-02	1.14E-05	5.81E-04	2.61E-02	1.05E-05	5.36E-04
Road 5	5	1300-1400	3.60E-02	1.66E-06	8.39E-05	3.31E-02	1.53E-06	7.73E-05	2.40E-02	1.10E-05	5.61E-04	2.21E-02	1.02E-05	5.17E-04
Road 5	5	1400-1500	3.33E-02	1.60E-06	8.09E-05	3.06E-02	1.48E-06	7.45E-05	2.22E-02	1.07E-05	5.41E-04	2.04E-02	9.87E-06	4.98E-04
Road 5	5	1500-1600	3.06E-02	1.54E-06	7.80E-05	2.82E-02	1.43E-06	7.18E-05	2.04E-02	1.03E-05	5.22E-04	1.88E-02	9.51E-06	4.80E-04
Road 5	5	1600-1700	2.79E-02	1.48E-06	7.52E-05	2.58E-02	1.37E-06	6.92E-05	1.87E-02	9.92E-06	5.03E-04	1.72E-02	9.16E-06	4.63E-04
Road 5	5	1700-1800	2.53E-02	1.42E-06	7.25E-05	2.34E-02	1.32E-06	6.67E-05	1.70E-02	9.56E-06	4.85E-04	1.56E-02	8.83E-06	4.47E-04
Road 5	5	1800-1900	2.29E-02	1.37E-06	6.99E-05	2.12E-02	1.27E-06	6.43E-05	1.54E-02	9.21E-06	4.67E-04	1.42E-02	8.51E-06	4.31E-04
Road 5	5	1900-2000	2.07E-02	1.32E-06	6.73E-05	1.91E-02	1.22E-06	6.20E-05	1.39E-02	8.88E-06	4.50E-04	1.28E-02	8.20E-06	4.16E-04
Road 5	5	2000-2100	1.87E-02	1.27E-06	6.49E-05	1.73E-02	1.18E-06	5.98E-05	1.26E-02	8.56E-06	4.34E-04	1.16E-02	7.91E-06	4.01E-04
Road 5	5	2100-2200	1.69E-02	1.23E-06	6.26E-05	1.56E-02	1.14E-06	5.77E-05	1.14E-02	8.26E-06	4.19E-04	1.05E-02	7.63E-06	3.87E-04
Road 5	5	2200-2300	1.53E-02	1.19E-06	6.04E-05	1.41E-02	1.10E-06	5.57E-05	1.03E-02	7.97E-06	4.04E-04	9.49E-03	7.36E-06	3.73E-04
Road 5	5	2300-2400	1.38E-02	1.15E-06	5.83E-05	1.27E-02	1.06E-06	5.38E-05	9.29E-03	7.69E-06	3.90E-04	8.56E-03	7.09E-06	3.60E-04
Road 6	6	0000-0100	2.66E-02	4.21E-07	1.34E-05	2.21E-02	1.65E-06	2.35E-05	3.45E-06	2.75E-04	2.07E-03	3.05E-06	1.55E-04	1.83E-06
Road 6	6	0100-0200	2.66E-02	1.72E-07	9.48E-06	2.39E-02	1.17E-05	1.67E-04	3.78E-06	1.95E-04	1.47E-03	3.34E-06	1.10E-04	1.30E-06
Road 6	6	0200-0300	2.90E-02	2.03E-07	1.03E-05	2.60E-02	1.82E-07	9.24E-06	2.52E-02	1.77E-06	8.99E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	2.14E-01	4.28E-02	2.50E-06	3.88E-01	7.46E-02	7.38E-06	1.13E+00	2.75E-01	8.21E-06
Road 27	27	1700-1800	2.81E-01	6.55E-02	2.02E-06	2.57E-01	1.85E-06	1.29E+00	3.01E-06	9.26E-06	1.18E+00	2.75E-06	8.48E-06
Road 27	27	1800-1900	2.52E-01	4.04E-02	1.24E-06	2.34E-01	3.74E-07	1.15E-06	1.17E+00	1.88E-06	5.77E-06	1.08E+00	1.73E-06	5.34E-06
Road 27	27	1900-2000	2.41E-01	3.51E-02	7.73E-07	2.24E-01	3.24E-07	7.20E-07	1.12E+00	1.63E-06	3.59E-06	1.03E+00	1.50E-06	3.30E-06
Road 27	27	2000-2100	2.36E-01	1.97E-02	6.06E-07	2.18E-01	1.81E-07	5.58E-07	1.10E+00	9.13E-07	2.81E-06	1.01E+00	8.39E-07	2.58E-06
Road 27	27	2100-2200	2.31E-01	1.67E-02	4.95E-07	2.13E-01	1.54E-07	4.57E-07	1.08E+00	7.78E-07	2.30E-06	9.98E-01	7.17E-07	2.12E-06
Road 27	27	2200-2300	2.44E-01	1.82E-02	3.35E-07	2.24E-01	1.67E-07	3.08E-07	1.13E+00	8.44E-07	1.55E-06	1.04E+00	7.77E-07	1.43E-06
Road 27	27	2300-0000	2.46E-01	1.51E-02	2.46E-07	2.26E-01	1.39E-07	2.26E-07	1.14E+00	7.00E-07	1.14E-06	1.05E+00	6.43E-07	1.05E-06
Road 28	28	0000-0100	2.32E-01	1.29E-02	2.11E-07	2.13E-01	1.19E-07	1.94E-07	1.08E+00	6.68E-07	1.09E-06	9.98E-01	6.15E-07	1.00E-06
Road 28	28	0100-0200	1.92E-02	4.79E-07	2.72E-03	1.76E-02	4.41E-07	2.50E-03	8.92E-02	2.23E-06	1.27E-02	8.24E-02	2.06E-06	1.17E-02
Road 28	28	0200-0300	1.92E-02	4.79E-07	2.72E-03	1.76E-02	4.41E-07	2.50E-03	8.92E-02	2.23E-06	1.27E-02	8.24E-02	2.06E-06	1.17E-02
Road 28	28	0300-0400	4.61E-02	3.33E-07	1.89E-05	4.14E-02	2.99E-07	1.70E-05	3.41E-01	2.46E-06	1.40E-04	3.07E-01	2.21E-06	1.26E-04
Road 28	28	0400-0500	4.96E-02	6.87E-07	3.90E-05	4.45E-02	6.17E-07	3.50E-05	3.67E-01	5.08E-06	2.89E-04	3.30E-01	4.57E-06	2.59E-04
Road 28	28	0500-0600	5.12E-02	1.52E-06	8.63E-05	4.66E-02	1.39E-06	7.86E-05	3.55E-01	1.05E-05	5.99E-04	3.20E-01	9.50E-06	5.39E-04
Road 28	28	0600-0700	5.12E-02	1.52E-06	8.63E-05	4.66E-02	1.39E-06	7.86E-05	3.55E-01	1.05E-05	5.99E-04	3.20E-01	9.50E-06	5.39E-04
Road 28	28	0700-0800	4.96E-02	6.87E-07	3.90E-05	4.45E-02	6.17E-07	3.50E-05	3.67E-01	5.08E-06	2.89E-04	3.30E-01	4.57E-06	2.59E-04
Road 28	28	0800-0900	4.97E-02	4.92E-06	2.79E-04	4.46E-02	4.41E-06	2.50E-04	3.68E-01	3.64E-05	2.06E-03	3.31E-01	3.27E-05	1.85E-03
Road 28	28	0900-1000	5.59E-02	4.78E-07	4.27E-06	5.17E-02	4.42E-07	3.95E-06	4.14E-01	3.54E-06	3.16E-05	3.81E-01	3.26E-06	2.91E-05
Road 28	28	1000-1100	2.76E-02	4.27E-02	2.88E-06	2.57E-02	2.39E-06	3.94E-02	2.47E-07	2.21E-06	3.78E-01	2.37E-06	2.12E-05	3.48E-01
Road 28	28	1100-1200	3.31E-02	1.56E-02	1.05E-06	3.08E-02	1.45E-06	2.40E-02	2.96E-07	1.34E-06	2.30E-01	2.84E-06	1.29E-05	2.12E-01
Road 28	28	1200-1300	3.31E-02	1.56E-02	1.05E-06	3.08E-02	1.45E-06	2.40E-02	2.96E-07	1.34E-06	2.30E-01	2.84E-06	1.29E-05	2.12E-01
Road 28	28	1300-1400	7.30E-02	2.24E-06	1.27E-04	6.67E-02	2.05E-06	1.16E-04	4.12E-01	1.27E-05	7.19E-04	3.75E-01	1.15E-05	6.54E-04
Road 28	28	1400-1500	2.21E-02	2.13E-06	1.32E-06	1.98E-02	1.91E-06	1.18E-06	1.23E-01	1.19E-05	7.37E-06	1.10E-01	1.06E-05	6.57E-06
Road 28	28	1500-1600	6.82E-02	2.26E-06	1.28E-04	6.24E-02	2.07E-06	1.18E-04	3.93E-01	1.30E-05	7.39E-04	3.59E-01	1.19E-05	6.73E-04
Road 28	28	1600-1700	6.76E-02	2.33E-06	1.32E-04	6.21E-02	2.14E-06	1.22E-04	3.94E-01	1.36E-05	7.71E-04	3.60E-01	1.24E-05	7.05E-04
Road 28	28	1700-1800	3.57E-02	2.19E-06	1.32E-06	3.26E-02	2.00E-06	1.21E-06	1.30E-01	1.25E-05	7.56E-06	1.16E-01	1.11E-05	6.72E-06
Road 28	28	1800-1900	3.77E-02	1.49E-06	8.45E-05	3.51E-02	1.39E-06	7.86E-05	3.98E-01	1.58E-05	8.96E-04	3.71E-01	1.47E-05	8.32E-04
Road 28	28	1900-2000	3.22E-02	7.74E-07	4.39E-05	2.95E-02	7.09E-07	4.03E-05	3.76E-01	9.02E-06	5.12E-04	3.44E-01	8.26E-06	4.69E-04
Road 28	28	2000-2100	2.95E-02	7.07E-07	4.01E-05	2.75E-02	6.59E-07	3.74E-05	2.49E-01	5.97E-06	3.39E-04	2.32E-01	5.56E-06	3.16E-04
Road 28	28	2100-2200	2.95E-02	7.07E-07	4.01E-05	2.75E-02	6.59E-07	3.74E-05	2.49E-01	5.97E-06	3.39E-04	2.32E-01	5.56E-06	3.16E-04
Road 28	28	2200-2300	2.95E-02	6.62E-07	3.76E-05	2.75E-02	6.17E-07	3.50E-05	2.49E-01	5.59E-06	3.17E-04	2.32E-01	5.21E-06	2.96E-04
Road 28	28	2300-0000	3.15E-02	5.49E-07	3.11E-05	3.02E-02	5.26E-07	2.98E-05	2.66E-01	4.63E-06	2.62E-04	2.48E-01	4.33E-06	2.46E-04
Road 29	29	0000-0100	3.15E-02	5.49E-07	3.11E-05	3.02E-02	5.26E-07	2.98E-05	2.66E-01	4.63E-06	2.62E-04	2.48E-01	4.33E-06	2.46E-04
Road 29	29	0100-0200	5.50E-02	2.72E-07	1.88E-05	4.99E-02	2.47E-07	1.70E-05	4.41E-01	2.18E-06	1.50E-04	4.00E-01	1.98E-06	1.36E-04
Road 29	29	0200-0300	5.50E-02	2.72E-07	1.88E-05	4.99E-02	2.47E-07	1.70E-05	4.41E-01	2.18E-06	1.50E-04	4.00E-01	1.98E-06	1.36E-04
Road 29	29	0300-0400	4.44E-02	1.94E-07	1.34E-05	5.78E-02	1.74E-07	1.20E-05	4.15E-01	1.25E-06	8.61E-05	3.69E-01	1.11E-06	7.66E-05
Road 29	29	0400-0500	6.67E-02	2.23E-07	1.54E-05	5.98E-02	2.00E-07	1.38E-05	4.22E-01	1.41E-06	9.73E-05	3.75E-01	1.25E-06	8.64E-05
Road 29	29	0500-0600	6.77E-02	8.44E-07	5.82E-05	6.18E-02	7.69E-07	5.31E-05	4.17E-01	5.19E-06	3.58E-04	3.77E-01	4.69E-06	3.24E-04
Road 29	29	0600-0700	6.77E-02	8.44E-07	5.82E-05	6.18E-02	7.69E-07	5.31E-05	4.17E-01	5.19E-06	3.58E-04	3.77E-01	4.69E-06	3.24E-04
Road 29	29	0700-0800	1.44E-01	1.83E-06	1.26E-04	1.31E-01	1.66E-06	1.15E-04	8.85E-01	1.12E-05	7.76E-04	8.07E-01	1.02E-05	7.08E-04
Road 29	29	0800-0900	6.96E-02	2.09E-06	1.44E-04	6.37E-02	1.92E-06	1.32E-04	4.07E-01	1.22E-05	8.44E-04	3.72E-01	1.12E-05	7.72E-04
Road 29	29	0900-1000	8.12E-02	2.24E-06	1.55E-04	7.47E-02	2.06E-06	1.42E-04	4.51E-01	1.25E-05	8.60E-04	4.13E-01	1.14E-05	7.88E-04
Road 29	29	1000-1100	4.27E-02	2.13E-06	1.46E-06	3.93E-02	1.96E-06	1.34E-06	2.37E-01	1.18E-05	8.09E-06	2.18E-01	1.08E-05	7.44E-06
Road 29	29	1100-1200	9.00E-02	2.12E-06	1.46E-04	8.15E-02	1.94E-06	1.34E-04	4.83E-01	1.15E-05	7.93E-04	4.40E-01	1.05E-05	7.23E-04
Road 29	29	1200-1300	1.54E-01	2.79E-06	1.92E-04	1.39E-01	2.55E-06	1.76E-04	4.91E-01	1.65E-05	1.14E-03	4.48E-01	1.51E-05	1.04E-03
Road 29	29	1300-1400	7.54E-02	2.79E-06	1.92E-04	6.90E-02	2.55E-06	1.76E-04	4.91E-01	1.65E-05	1.14E-03	4.48E-01	1.51E-05	1.04E-03
Road 29	29	1400-1500	2.89E-02	2.89E-06	1.99E-06	2.65E-02	2.65E-06	1.83E-06	1.66E-01	1.66E-05	1.14E-05	1.52E-01	1.39E-05	1.05E-05
Road 29	29	1500-1600	7.67E-02	2.56E-06	1.76E-04	7.02E-02	2.35E-06	1.62E-04	4.71E-01	1.57E-05	1.08E-03	4.31E-01	1.44E-05	9.94E-04
Road 29	29	1600-1700	7.03E-02	2.92E-06	2.01E-04	6.46E-02	2.68E-06	1.85E-04	4.81E-01	2.00E-05	1.38E-03	4.42E-01	1.83E-05	1.26E-03
Road 29	29	1700-1800	4.11E-02	2.29E-06	1.58E-06	3.78E-02	2.11E-06	1.45E-06	1.89E-01	1.05E-05	7.24E-06	1.74E-01	9.70E-06	6.68E-06
Road 29	29	1800-1900	4.11E-02	1.95E-06	1.34E-04	3.80E-02	1.80E-06	1.24E-04	3.71E-01	1.76E-05	1.21E-03	3.42E-01	1.62E-05	1.12E-03
Road 29	29	1900-2000	3.66E-02	1.83E-06	1.26E-06	3.37E-02	1.69E-06	1.16E-06	3.30E-01	1.65E-05	1.14E-05	3.04E-01	1.52E-05	1.05E-05
Road 29	29	2000-2100	3.66E-02	7.33E-05	3.36E-02	9.74E-07	6.72E-05	3.95E-01	1.15E-05	7.92E-04	3.60E-01	1.04E-05	7.21E-04	
Road 29	29	2100-2200	3.35E-02	9.65E-07	6.66E-05	3.11E-02	8.99E-07	6.21E-05	3.55E-01	1.02E-05	7.04E-04	3.29E-01	9.45E-06	6.52E-04
Road 29	29	2200-2300	3.77E-02	8.77E-07	6.05E-05	3.50E-02	8.15E-07	5.62E-05	3.98E-01	9.26E-06	6.39E-04	3.70E-01	8.61E-06	5.94E-04
Road 29	29	2300-0000	3.55E-02	5.47E-07	3.58E-05	7.11E-07	4.91E-05	3.73E-01	7.83E-06	5.40E-04	3.53E-01	7.42E-06	5.12E-04	
Road 30	30	0000-0100	3.55E-02	5.47E-07	3.58E-05	7.11E-07	4.91E-05	3.73E-01	7.83E-06	5.40E-04	3.53E-01	7.42E-06	5.12E-04	
Road 30	30	0100-0200	4.06E-02	1.97E-07	1.93E-06	6.57E-02	1.78E-06	3.00E-01	1.44E-06	1.43E-05	2.69E-01	1.31E-06	1.28E-05	
Road 30	30	0200-0300	4.67E-02	1.70E-07	1.67E-06	4.23E-02	1.54E-07	1.51E-06	3.29E-01	1.20E-06	1.18E-05	2.94E-01	1.08E-06	1.06E-05
Road 30	30	0300-0400	4.67E-02	1.70E-07	1.67E-06	4.23E-02	1.54E-07	1.51E-06	3.29E-01	1.20E-06	1.18E-05	2.94E-01	1.08E-06	1.06E-05
Road 30	30	0400-0500	5.34E-02	1.72E-07	1.69E-06	4.85E-02	1.56E-07	1.53E-06	3.77E-01	1.21E-06	1.19E-05	3.42E-01	1.10E-06	1.08E-05
Road 30	30	0500-0600	5.34E-02	1.72E-07	1.69E-06	4.85E-02	1.56E-07	1.53E-06	3.77E-01	1.21E-06	1.19E-05	3.42E-01	1.10E-06	1.08E-05
Road 30	30	0600-0700	4.66E-02	4.95E-07	4.85E-06	4.49E-06	0.09E-06	3.43E-06	3.36E-01	3.57E-06	3.50E-05	3.24E-01	3.44E-06	3.37E-05
Road 30	30	0700-0800	5.07E-02	1.17E-06	1.15E-05	4.88E-02	1.12E-06	1.10E-05	3.66E-01	8.44E-06	8.27E-05	3.52E-01	8.12E-06	7.96E-05
Road 30	30	0800-0900	5.07E-02	1.17E-06	1.15E-05	4.88E-02	1.12E-06	1.10E-05	3.66E-01	8.44E-06	8.27E-05	3.52E-01	8.12E-06	7.96E-05
Road 30	30	0900-1000	5.77E-02	1.33E-06	1.30E-05	5.27E-02	1.21E-06	1.19E-05	3.96E-01	9.12E-06	8.94E-05	3.81E-01	8.77E-06	8.60E-05
Road 30	30	1000-1100	4.39E-02	1.32E-06	1.29E-06	3.98E-02	1.20E-06	1.17E-06	3.01E-01	9.05E-06	8.87E-06	2.73E-01	8.21E-06	8.05E-06
Road 30	30	1100-1200	4.39E-02	1.20E-06	1.18E-05	3.98E-02	1.09E-06	1.07E-05	3.01E-01	8.21E-06	8.05E-05	2.73E-01	7.45E-06	7.30E-05
Road 30	30	1200-1300	4.39E-02	1.20E-06	1.18E-05	3.98E-02	1.09E-06	1.07E-05	3.01E-01	8.21E-06	8.05E-05	2.73E-01	7.45E-06	7.30E-05
Road 30	30	1300-1400	9.20E-02	1.51E-06	1.48E-05	8.45E-02	1.39E-06	1.36E-05	5.15E-01	8.46E-06	8.28E-05	4.71E-01	7.75E-06	7.58E-05
Road 30	30	1400-1500	9.03E-02	1.54E-06	1.51E-05	8.34E-02	1.42E-06	1.40E-05	5.07E-01	8.67E-06	8.49E-05	4.67E-01	7.98E-06	7.81E-05
Road 30	30	1500-1600	8.50E-02	1.53E-06	1.49E-05	7.82E-02	1.40E-06	1.37E-05	4.90E-01	8.81E-06	8.61E-05	4.49E-01	8.07E-06	7.90E-05
Road 30	30	1600-1700	8.50E-02	1.53E-06	1.49E-05	7.82E-02	1.40E-06	1.37E-05	4.90E-01	8.81E-06	8.61E-05	4.49E-01	8.07E-06	7.90E-05
Road 30	30	1700-1800	8.33E-02	1.27E-06	1.24E-05	7.22E-02	1.10E-06	1.07E-05	4.80E-01	7.32E-06	7.16E-05	4.16E-01	6.35E-06	6.21E-05
Road 30	30	1800-1900	5.33E-02	1.03E-06	1.01E-05	4.92E-02	9.51E-07	9.31E-06	3.07E-01	5.94E-06	5.81E-05	2.84E-01	5.49E-06	5.37E-05
Road 30	30	1900-2000	4.21E-02	6.03E-07	5.90E-06	3.89E-02	5.57E-07	5.45E-06	3.35E-01	4.79E-06	4.69E-05	3.08E-01	4.40E-06	4.31E-05
Road 30	30	2000-2100	4.21E-02	4.71E-07	3.95E-06	3.89E-02	4.35E-07	3.64E-06	3.35E-01	3.74E-06	3.13E-05	3.08E-01	3.44E-06	2.88E-05
Road 30	30	2100-2200	4.04E-02	4.53E-07	4.44E-06	3.74E-02	4.20E-07	4.11E-06	3.22E-01	3.61E-06	3.54E-05	2.96E-01	3.32E-06	3.25E-05
Road 30	30	2200-2300	3.97E-02	4.29E-07	3.78E-06	3.68E-02	3.98E-07	3.50E-06	3.17E-01	3.42E-06	3.01E-05	2.91E-01	3.15E-06	2.77E-05
Road 30	30	2300-0000	4.39E-02	3.62E-07	3.55E-06	4.19E-02	3.46E-07	3.38E-06	3.43E-01	2.83E-06	2.77E-05	3.25E-01	2.69E-06	2.63E-05

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	5.82E-02	1.27E-06	1.67E-06	4.55E-02	1.00E-06	1.32E-06	3.68E-01	8.07E-06	1.06E-05	2.88E-01	6.31E-06	8.31E-06
Road 31	31	0100-0200	5.73E-02	1.45E-07	1.29E-06	5.19E-02	1.31E-07	1.17E-06	3.97E-01	1.00E-06	8.97E-06	3.57E-01	9.03E-07	8.07E-06
Road 31	31	0200-0300	6.40E-02	1.23E-07	1.10E-06	5.81E-02	1.12E-07	1.00E-06	4.26E-01	8.22E-07	7.34E-06	3.84E-01	7.40E-07	6.61E-06
Road 31	31	0300-0400	7.08E-02	1.11E-07	9.96E-07	6.35E-02	1.01E-07	8.99E-07	4.54E-01	7.20E-07	6.43E-06	4.07E-01	6.45E-07	5.76E-06
Road 31	31	0400-0500	7.18E-02	1.25E-07	1.11E-06	6.41E-02	1.11E-07	9.95E-07	4.59E-01	7.97E-07	7.12E-06	4.07E-01	7.06E-07	6.31E-06
Road 31	31	0500-0600	6.61E-02	1.35E-07	1.19E-06	5.92E-02	1.21E-07	1.07E-06	4.24E-01	8.68E-07	7.68E-06	3.76E-01	7.69E-07	6.81E-06
Road 31	31	0600-0700	6.36E-02	3.83E-07	3.43E-06	5.78E-02	3.48E-07	3.11E-06	4.09E-01	2.47E-06	2.20E-05	3.68E-01	2.22E-06	1.98E-05
Road 31	31	0700-0800	6.98E-02	8.88E-07	7.94E-06	6.35E-02	8.08E-07	7.22E-06	4.35E-01	5.54E-06	4.95E-05	3.93E-01	5.00E-06	4.47E-05
Road 31	31	0800-0900	6.73E-02	8.88E-07	7.94E-06	6.12E-02	8.08E-07	7.22E-06	4.20E-01	5.54E-06	4.95E-05	3.80E-01	5.00E-06	4.47E-05
Road 31	31	0900-1000	7.88E-02	1.04E-06	9.27E-06	7.22E-02	9.52E-07	8.51E-06	4.51E-01	5.99E-06	5.35E-05	4.17E-01	5.47E-06	4.89E-05
Road 31	31	1000-1100	8.65E-02	9.81E-07	8.77E-06	7.88E-02	8.94E-07	7.99E-06	4.88E-01	5.53E-06	4.94E-05	4.42E-01	5.01E-06	4.48E-05
Road 31	31	1100-1200	9.14E-02	1.22E-06	5.56E-06	8.38E-02	1.71E-07	5.59E-06	5.50E-01	1.74E-06	5.34E-06	5.02E-01	1.55E-06	5.37E-06
Road 31	31	1200-1300	9.14E-02	1.22E-06	5.56E-06	8.38E-02	1.71E-07	5.59E-06	5.50E-01	1.74E-06	5.34E-06	5.02E-01	1.55E-06	5.37E-06
Road 31	31	1300-1400	9.06E-02	2.24E-07	2.77E-06	8.31E-02	2.05E-07	2.54E-06	5.45E-01	1.34E-06	1.66E-05	4.97E-01	1.67E-06	2.37E-06
Road 31	31	1400-1500	9.06E-02	2.24E-07	2.77E-06	8.31E-02	2.05E-07	2.54E-06	5.45E-01	1.34E-06	1.66E-05	4.97E-01	1.67E-06	2.37E-06
Road 31	31	1500-1600	9.06E-02	2.24E-07	2.77E-06	8.31E-02	2.05E-07	2.54E-06	5.45E-01	1.34E-06	1.66E-05	4.97E-01	1.67E-06	2.37E-06
Road 31	31	1600-1700	8.55E-02	6.65E-07	5.84E-06	7.86E-02	6.12E-07	5.47E-06	5.26E-01	4.09E-06	3.66E-05	4.82E-01	3.75E-06	3.35E-05
Road 31	31	1700-1800	5.59E-02	4.78E-07	4.27E-06	5.17E-02	4.42E-07	3.95E-06	4.14E-01	3.54E-06	3.16E-05	3.81E-01	3.26E-06	2.91E-05
Road 31	31	1800-1900	2.76E-02	4.27E-02	2.88E-06	2.57E-02	2.39E-06	3.94E-02	2.47E-07	2.21E-06	3.78E-01	2.37E-06	2.12E-05	3.48E-01
Road 31	31	1900-2000	4.47E-02	2.08E-07	1.43E-06	4.14E-02	1.92E-07	1.32E-06	4.31E-01	2.01E-06	1.38E-05	4.00E-01	1.86E-06	1.28E-05
Road 31	31	2000-2100	4.11E-02	2.08E-07	1.43E-06	3.81E-02	1.92E-07	1.32E-06	3.96E-01	2.01E-06	1.38E-05	3.68E-01	1.86E-06	1.28E-05
Road 31	31	2100-2200	4.51E-02	1.64E-07	1.13E-06	4.18E-02	1.52E-07	1.04E-06	4.35E-01	1.58E-06	1.09E-05	4.03E-01	1.47E-06	1.01E-05
Road 31	31	2200-2300	4.51E-02	1.64E-07	1.13E-06	4.18E-02	1.52E-07	1.04E-06	4.35E-01	1.58E-06	1.09E-05	4.03E-01	1.47E-06	1.01E-05
Road 31	31	2300-0000	4.51E-02	1.64E-07	1.13E-06	4.18E-02	1.52E-07	1.04E-06	4.35E-01	1.58E-06	1.09E-05	4.03E-01	1.47E-06	1.01E-05
Road 32	32	0000-0100	3.36E-02	5.73E-07	3.80E-05	3.05E-02	5.19E-07	3.45E-05	2.89E-01	4.92E-06	3.26E-04	2.58E-01	4.40E-06	2.92E-04
Road 32	32	0100-0200	3.32E-02	5.32E-07	3.52E-05	3.02E-02	4.82E-07	3.19E-05	2.86E-01	4.57E-06	3.02E-04	2.55E-01	4.08E-06	2.70E-04
Road 32	32	0200-0300	3.87E-02	2.11E-05	3.51E-02	2.88E-07	1.91E-05	3.07E-01	2.52E-06	1.67E-04	2.75E-01	2.25E-06	1.49E-04	2.45E-01
Road 32	32	0300-0400	3.73E-02	2.04E-05	3.73E-02	2.77E-07	1.84E-05	3.27E-01	2.43E-06	1.61E-04	2.93E-01	2.17E-06	1.44E-04	2.61E-01
Road 32	32	0400-0500	4.43E-02	3.20E-07	2.12E-05	3.95E-02	2.86E-07	1.90E-05	3.30E-01	2.38E-06	1.58E-04	2.90E-01	2.10E-06	1.39E-04
Road 32	32	0500-0600	4.68E-02	5.91E-07	3.92E-05	4.17E-02	5.26E-07	3.49E-05	3.48E-01	4.50E-06	2.98E-04	3.05E-01	4.02E-06	2.66E-04
Road 32	32	0600-0700	4.68E-02	1.51E-06	1.00E-04	4.17E-02	1.34E-06	8.89E-05	3.48E-01	1.15E-05	7.63E-04	3.05E-01	1.02E-05	6.76E-04
Road 32	32	0700-0800	5.14E-02	2.86E-06	1.90E-04	4.68E-02	2.60E-06	1.72E-04	3.54E-01	1.96E-05	1.30E-03	3.18E-01	1.77E-05	1.17E-03
Road 32	32	0800-0900	5.01E-02	3.32E-06	2.20E-04	4.51E-02	2.99E-06	1.98E-04	3.47E-01	2.29E-05	1.52E-03	3.11E-01	2.06E-05	1.37E-03
Road 32	32	0900-1000	6.03E-02	3.36E-06	2.23E-04	5.53E-02	3.09E-06	2.05E-04	3.74E-01	2.08E-05	1.38E-03	3.41E-01	1.90E-05	1.26E-03
Road 32	32	1000-1100	6.14E-02	3.09E-06	2.05E-04	5.63E-02	2.84E-06	1.88E-04	3.81E-01	1.91E-05	1.27E-03	3.47E-01	1.75E-05	1.16E-03
Road 32	32	1100-1200	6.61E-02	3.09E-06	2.05E-04	6.05E-02	2.82E-06	2.82E-06	3.87E-04	3.98E-01	1.86E-05	1.23E-03	3.60E-01	1.68E-05	1.12E-03
Road 32	32	1200-1300	6.74E-02	1.79E-06	1.19E-04	6.18E-02	1.64E-06	1.09E-04	3.48E-01	9.24E-06	6.14E-04	3.18E-01	8.48E-06	5.64E-04
Road 32	32	1300-1400	1.50E-01	1.91E-06	1.27E-04	1.37E-01	1.75E-06	1.16E-04	3.77E-01	1.07E-05	7.11E-04	3.45E-01	9.82E-06	6.53E-04
Road 32	32	1400-1500	1.45E-01	1.91E-06	1.27E-04	1.33E-01	1.75E-06	1.16E-04	3.77E-01	1.07E-05	7.11E-04	3.45E-01	9.82E-06	6.53E-04
Road 32	32	1500-1600	6.82E-02	1.98E-06	1.31E-04	6.24E-02	1.81E-06	1.21E-04	3.82E-01	1.11E-05	7.36E-04	3.50E-01	1.02E-05	6.76E-04
Road 32	32	1600-1700	6.76E-02	2.03E-06	1.35E-04	6.21E-02	1.86E-06	1.24E-04	3.82E-01	1.14E-05	7.59E-04	3.50E-01	1.05E-05	6.97E-04
Road 32

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.67E-01	4.18E-07	1.41E-05	1.52E-01	3.65E-07	1.28E-05	7.34E-01	1.85E-06	6.23E-05	6.67E-01	1.67E-06	5.66E-05
Road 54	54	0900-1000	1.91E-01	6.78E-07	1.55E-05	1.75E-01	6.22E-07	1.42E-05	9.03E-01	3.21E-06	7.31E-05	8.23E-01	2.92E-06	6.66E-05
Road 54	54	1000-1100	2.14E-01	6.97E-07	1.59E-05	1.93E-01	6.30E-07	1.44E-05	9.90E-01	3.23E-06	7.37E-05	8.88E-01	2.90E-06	6.61E-05
Road 54	54	1100-1200	2.08E-01	6.44E-07	1.47E-05	1.90E-01	5.86E-07	1.34E-05	9.70E-01	3.00E-06	6.83E-05	8.77E-01	2.71E-06	6.18E-05
Road 54	54	1200-1300	2.74E-01	6.19E-07	1.41E-05	2.51E-01	5.68E-07	1.29E-05	1.22E+00	2.76E-06	6.30E-05	1.12E+00	2.53E-06	5.76E-05
Road 54	54	1300-1400	2.70E-01	6.70E-07	1.53E-05	2.48E-01	6.16E-07	1.40E-05	1.22E+00	3.03E-06	6.90E-05	1.12E+00	2.77E-06	6.32E-05
Road 54	54	1400-1500	2.71E-01	6.79E-07	1.55E-05	2.50E-01	6.26E-07	1.43E-05	1.22E+00	3.04E-06	6.94E-05	1.12E+00	2.80E-06	6.39E-05
Road 54	54	1500-1600	2.50E-01	6.48E-07	1.48E-05	2.32E-01	6.01E-07	1.37E-05	1.15E+00	2.99E-06	6.81E-05	1.07E+00	2.76E-06	6.30E-05
Road 54	54	1600-1700	1.50E-01	3.94E-07	1.34E-05	1.39E-01	3.65E-07	1.24E-05	1.17E+00	3.08E-06	1.04E-04	1.08E+00	2.84E-06	9.64E-05
Road 54	54	1700-1800	2.18E-01	5.20E-07	1.19E-05	2.02E-01	4.84E-07	1.10E-05	1.02E+00	2.45E-06	5.59E-05	9.50E-01	2.27E-06	5.18E-05
Road 54	54	1800-1900	1.65E-01	3.94E-07	1.19E-05	1.53E-01	3.65E-07	1.10E-05	8.43E-01	2.01E-06	6.07E-05	7.81E-01	1.87E-06	5.62E-05
Road 54	54	1900-2000	1.62E-01	2.28E-07	5.19E-06	1.50E-01	2.11E-07	4.81E-06	7.85E-01	1.10E-06	2.51E-05	7.21E-01	1.01E-06	2.31E-05
Road 54	54	2000-2100	1.56E-01	1.73E-07	3.93E-06	1.44E-01	1.60E-07	3.63E-06	7.61E-01	8.45E-07	1.92E-05	6.96E-01	7.73E-07	1.77E-05
Road 54	54	2100-2200	1.53E-01	1.73E-07	3.93E-06	1.41E-01	1.61E-07	3.67E-06	7.50E-01	8.48E-07	1.92E-05	6.96E-01	7.83E-07	1.79E-05
Road 54	54	2200-2300	1.57E-01	1.60E-07	3.65E-06	1.50E-01	1.53E-07	3.48E-06	7.49E-01	7.64E-07	1.74E-05	7.10E-01	7.24E-07	1.65E-05
Road 54	54	2300-2400	1.59E-01	1.73E-07	3.93E-06	1.52E-01	1.65E-07	3.76E-06	7.57E-01	8.23E-07	1.87E-05	7.18E-01	7.81E-07	1.77E-05
Road 101	101	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	2.41E-02	1.69E-07	9.30E-06	2.17E-02	1.52E-07	8.39E-06	1.06E-01	7.42E-07	2.87E-05	9.58E-02	6.71E-07	2.59E-05
Road 1	1	0100-0200	2.61E-02	1.69E-07	9.30E-06	2.17E-02	1.52E-07	8.39E-06	1.06E-01	7.42E-07	2.87E-05	8.83E-02	6.71E-07	2.59E-05
Road 1	1	0200-0300	2.63E-02	1.35E-07	7.41E-06	2.35E-02	1.20E-07	6.62E-06	2.55E-01	1.31E-06	7.20E-05	2.44E-01	1.25E-06	6.88E-05
Road 1	1	0300-0400	2.86E-02	1.16E-07	6.37E-06	2.57E-02	1.04E-07	5.74E-06	2.66E-01	1.08E-06	5.94E-05	2.36E-01	9.55E-07	5.26E-05
Road 1	1	0400-0500	3.07E-02	1.36E-07	7.50E-06	2.73E-02	1.21E-07	6.67E-06	2.77E-01	1.23E-06	6.76E-05	2.42E-01	1.07E-06	5.91E-05
Road 1	1	0500-0600	3.23E-02	2.48E-07	1.36E-05	2.87E-02	2.20E-07	1.21E-05	2.96E-01	2.27E-06	1.25E-04	2.58E-01	1.98E-06	1.09E-04
Road 1	1	0600-0700	3.45E-02	5.64E-07	3.11E-05	3.01E-02	4.93E-07	2.71E-05	2.94E-01	4.82E-06	2.65E-04	2.52E-01	4.13E-06	2.28E-04
Road 1	1	0700-0800	3.69E-02	1.22E-06	6.73E-05	3.19E-02	1.06E-06	5.81E-05	3.05E-01	1.01E-05	5.55E-04	2.59E-01	8.56E-06	4.71E-04
Road 1	1	0800-0900	3.91E-02	1.31E-06	7.24E-05	3.36E-02	1.13E-06	6.22E-05	3.16E-01	1.06E-05	5.86E-04	2.68E-01	9.00E-06	4.96E-04
Road 1	1	0900-1000	4.20E-02	1.31E-06	7.37E-05	3.61E-02	1.13E-06	6.33E-05	3.08E-01	9.63E-06	5.41E-04	2.64E-01	8.29E-06	4.62E-04
Road 1	1	1000-1100	4.49E-02	1.31E-06	7.50E-05	3.86E-02	1.13E-06	6.44E-05	3.27E-01	9.54E-06	5.46E-04	2.81E-01	8.19E-06	4.69E-04
Road 1	1	1100-1200	4.49E-02	1.31E-06	7.50E-05	3.86E-02	1.13E-06	6.44E-05	3.27E-01	9.54E-06	5.46E-04	2.81E-01	8.19E-06	4.69E-04
Road 1	1	1200-1300	4.79E-02	1.31E-06	7.63E-05	4.12E-02	1.13E-06	6.55E-05	3.48E-01	9.54E-06	5.55E-04	2.99E-01	8.19E-06	4.77E-04
Road 1	1	1300-1400	4.79E-02	1.31E-06	7.63E-05	4.12E-02	1.13E-06	6.55E-05	3.48E-01	9.54E-06	5.55E-04	2.99E-01	8.19E-06	4.77E-04
Road 1	1	1400-1500	5.09E-02	2.29E-06	1.26E-04	5.06E-02	2.04E-06	1.12E-04	3.70E-01	1.49E-05	8.22E-04	3.26E-01	1.31E-05	7.23E-04
Road 1	1	1500-1600	5.09E-02	2.29E-06	1.26E-04	5.06E-02	2.04E-06	1.12E-04	3.70E-01	1.49E-05	8.22E-04	3.26E-01	1.31E-05	7.23E-04
Road 1	1	1600-1700	5.41E-02	2.37E-06	1.31E-04	4.85E-02	2.13E-06	1.17E-04	3.61E-01	1.58E-05	8.72E-04	3.25E-01	1.42E-05	7.84E-04
Road 1	1	1700-1800	4.01E-02	1.99E-06	1.10E-04	3.58E-02	1.78E-06	9.82E-05	3.05E-01	1.51E-05	8.32E-04	2.68E-01	1.33E-05	7.34E-04
Road 1	1	1800-1900	2.94E-02	1.60E-06	8.79E-05	2.66E-02	1.45E-06	7.96E-05	2.56E-01	1.39E-05	7.64E-04	2.29E-01	1.24E-05	6.85E-04
Road 1	1	1900-2000	2.61E-02	1.13E-06	6.21E-05	2.35E-02	1.01E-06	5.57E-05	2.59E-01	1.12E-05	6.15E-04	2.36E-01	9.90E-06	5.45E-04
Road 1	1	2000-2100	2.56E-02	8.59E-07	4.73E-05	2.31E-02	7.84E-07	4.32E-05	2.62E-01	8.87E-06	4.88E-04	2.41E-01	8.10E-06	4.46E-04
Road 1	1	2100-2200	2.29E-02	7.66E-07	4.22E-05	2.09E-02	6.99E-07	3.85E-05	2.42E-01	8.10E-06	4.46E-04	2.18E-01	7.29E-06	4.01E-04
Road 1	1	2200-2300	2.25E-02	6.64E-07	3.65E-05	2.04E-02	6.04E-07	3.32E-05	2.42E-01	7.14E-06	3.93E-04	2.18E-01	6.42E-06	3.53E-04
Road 1	1	2300-0000	2.44E-02	5.94E-07	3.27E-05	2.22E-02	5.40E-07	2.97E-05	2.56E-01	6.23E-06	3.43E-04	2.30E-01	5.59E-06	3.08E-04
Road 2	2	0000-0100	2.39E-02	3.51E-07	1.78E-05	2.17E-02	3.19E-07	1.62E-05	2.26E-01	3.31E-06	1.69E-04	2.03E-01	2.99E-06	1.51E-04
Road 2	2	0100-0200	2.61E-02	3.51E-07	1.78E-05	2.17E-02	3.19E-07	1.62E-05	2.26E-01	3.31E-06	1.69E-04	2.03E-01	2.99E-06	1.51E-04
Road 2	2	0200-0300	2.85E-02	2.00E-07	1.01E-05	2.55E-02	1.79E-07	9.08E-06	2.47E-01	1.74E-06	8.80E-05	2.18E-01	1.53E-06	7.75E-05
Road 2	2	0300-0400	3.27E-02	1.67E-07	8.47E-06	2.93E-02	1.49E-07	7.58E-06	2.96E-01	1.51E-06	7.68E-05	2.58E-01	1.32E-06	6.67E-05
Road 2	2	0400-0500	3.35E-02	2.04E-07	1.03E-05	2.98E-02	1.82E-07	9.20E-06	2.71E-01	1.65E-06	8.37E-05	2.37E-01	1.44E-06	7.32E-05
Road 2	2	0500-0600	3.55E-02	3.74E-07	1.90E-05	3.14E-02	3.31E-07	1.68E-05	2.79E-01	2.95E-06	5.49E-04	2.43E-01	2.56E-06	1.30E-04
Road 2	2	0600-0700	3.78E-02	8.34E-07	4.23E-05	3.35E-02	7.38E-07	3.75E-05	2.79E-01	6.16E-06	3.13E-04	2.43E-01	5.36E-06	2.72E-04
Road 2	2	0700-0800	4.05E-02	1.86E-06	9.40E-05	3.50E-02	1.61E-06	8.13E-05	3.01E-01	1.38E-05	6.99E-04	2.56E-01	1.17E-05	5.94E-04
Road 2	2	0800-0900	3.95E-02	1.86E-06	9.40E-05	3.41E-02	1.61E-06	8.13E-05	2.93E-01	1.38E-05	6.99E-04	2.48E-01	1.17E-05	5.94E-04
Road 2	2	0900-1000	4.69E-02	2.06E-06	1.04E-04	4.11E-02	1.81E-06	9.16E-05	3.13E-01	1.38E-05	6.97E-04	2.71E-01	1.19E-05	6.04E-04
Road 2	2	1000-1100	5.26E-02	1.25E-06	3.07E-05	4.62E-02	1.09E-06	2.70E-05	2.45E+00	5.80E-06	1.43E-04	2.15E+00	5.09E-06	1.26E-04
Road 2	2	1100-1200	5.02E-02	1.82E-06	9.21E-05	4.50E-02	1.63E-06	8.25E-05	3.27E-01	1.18E-05	5.99E-04	2.90E-01	1.05E-05	5.32E-04
Road 2	2	1200-1300	6.45E-02	1.77E-06	8.96E-05	5.75E-02	1.58E-06	7.99E-05	4.09E-01	1.12E-05	5.68E-04	3.62E-01	9.92E-06	5.02E-04
Road 2	2	1300-1400	6.56E-02	1.95E-06	9.89E-05	5.81E-02	1.74E-06	8.81E-05	4.07E-01	1.21E-05	6.18E-04	3.60E-01	1.08E-05	5.46E-04
Road 2	2	1400-1500	6.52E-02	1.95E-06	9.89E-05	5.81E-02	1.74E-06	8.81E-05	4.08E-01	1.22E-05	6.18E-04	3.60E-01	1.08E-05	5.46E-04
Road 2	2	1500-1600	6.15E-02	1.89E-06	9.55E-05	5.53E-02	1.70E-06	8.59E-05	3.85E-01	1.18E-05	5.95E-04	3.40E-01	1.04E-05	5.26E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	3.15E-02	1.49E-07	1.97E-06	3.87E-02	1.80E-06	2.39E-05	1.38E-07	6.44E-13	8.53E-12
Road 21	21	0100-0200	3.50E-02	1.09E-07	1.44E-06	3.17E-02	9.89E-08	1.31E-06	1.25E-07	3.90E-13	5.17E-12
Road 21	21	0200-0300	3.84E-02	8.84E-08	1.17E-06	3.47E-02	8.01E-08	1.06E-06	2.79E-01	6.44E-07	8.51E-06
Road 21	21	0300-0400	4.23E-02	7.79E-08	1.03E-06	3.77E-02	6.93E-08	9.18E-07	2.98E-01	5.49E-07	7.26E-06
Road 21	21	0400-0500	4.50E-02	9.12E-08	1.21E-06	4.02E-02	8.13E-08	1.08E-06	3.11E-01	6.30E-07	8.33E-06
Road 21	21	0500-0600	4.31E-02	2.13E-07	2.81E-06	3.88E-02	1.92E-06	2.53E-05	3.14E-01	1.55E-06	2.05E-05
Road 21	21	0600-0700	4.82E-02	3.60E-07	4.76E-06	4.32E-02	3.23E-06	4.27E-05	3.51E-01	2.62E-06	3.47E-05
Road 21	21	0700-0800	5.19E-02	7.95E-07	1.05E-05	4.52E-02	9.15E-06	3.39E-01	5.19E-06	6.85E-05	2.91E-01
Road 21	21	0800-0900	4.26E-02	7.87E-07	1.04E-05	3.84E-02	9.08E-06	3.36E-01	5.14E-06	6.79E-05	2.89E-01
Road 21	21	0900-1000	6.06E-02	9.22E-07	1.22E-05	5.33E-02	8.11E-06	1.07E-04	3.14E-01	4.78E-06	6.32E-05
Road 21	21	1000-1100	6.63E-02	8.45E-07	1.12E-05	5.83E-02	7.43E-06	9.83E-05	3.36E-01	4.28E-06	5.66E-05
Road 21	21	1100-1200	6.63E-02	8.45E-07	1.12E-05	5.83E-02	7.43E-06	9.82E-05	3.85E-01	4.90E-06	6.48E-05
Road 21	21	1200-1300	9.31E-02	8.22E-07	1.09E-05	8.20E-02	7.23E-06	9.56E-05	5.30E-01	4.67E-06	6.17E-05
Road 21	21	1300-1400	9.46E-02	8.79E-07	1.16E-05	8.32E-02	7.73E-06	1.02E-04	5.39E-01	5.00E-06	6.61E-05
Road 21	21	1400-1500	9.30E-02	8.96E-07	1.18E-05	8.20E-02	7.90E-06	1.04E-04	5.30E-01	5.11E-06	6.75E-05
Road 21	21	1500-1600	9.31E-02	8.22E-07	1.09E-05	8.20E-02	7.23E-06	9.56E-05	5.30E-01	4.67E-06	6.17E-05
Road 21	21	1600-1700	8.71E-02	8.77E-07	1.16E-05	7.66E-02	7.72E-06	1.02E-04	4.96E-01	4.99E-06	6.59E-05
Road 21	21	1700-1800	8.88E-02	7.13E-07	9.41E-06	7.82E-02	6.27E-06	8.28E-05	5.06E-01	4.06E-06	5.36E-05
Road 21	21	1800-1900	5.17E-02	5.40E-07	7.14E-06	4.70E-02	4.91E-07	6.49E-06	3.77E-01	3.94E-06	5.21E-05
Road 21	21	1900-2000	4.49E-02	3.58E-07	4.73E-06	4.06E-02	3.25E-06	4.29E-05	3.31E-01	2.64E-06	3.48E-05
Road 21	21	2000-2100	4.49E-02	2.78E-07	3.68E-06	4.06E-02	2.51E-06	3.32E-05	3.31E-01	2.05E-06	2.71E-05
Road 21	21	2100-2200	4.27E-02	2.66E-07	3.51E-06	3.92E-02	2.44E-06	3.23E-05	3.21E-01	2.00E-06	2.65E-05
Road 21	21	2200-2300	4.56E-02	2.84E-07	3.75E-06	4.19E-02	2.61E-06	3.45E-05	3.43E-01	2.14E-06	2.82E-05
Road 21	21	2300-0000	4.56E-02	2.07E-07	2.74E-06	4.17E-02	1.89E-06	2.50E-05	3.73E-01	1.69E-06	2.24E-05
Road 22	22	0000-0100	2.13E-01	2.01E-07	3.58E-06	1.94E-01	1.84E-07	3.28E-06	9.66E-01	9.13E-07	1.63E-05
Road 22	22	0100-0200	1.80E-01	1.70E-07	3.03E-06	1.64E-01	1.55E-07	2.77E-06	8.88E-01	8.39E-07	1.50E-05
Road 22	22	0200-0300	2.19E-01	1.11E-07	1.98E-06	1.99E-01	1.01E-07	1.80E-06	9.90E-01	5.04E-07	8.98E-06
Road 22	22	0300-0400	2.23E-01	1.03E-07	1.84E-06	2.03E-01	9.38E-08	1.67E-06	1.01E+00	4.67E-07	8.32E-06
Road 22	22	0400-0500	3.35E-01	1.16E-07	2.07E-06	2.10E-01	1.04E-07	1.85E-06	1.06E+00	5.24E-07	9.35E-06
Road 22	22	0500-0600	2.47E-01	2.24E-07	3.99E-06	2.20E-01	1.99E-07	3.55E-06	1.12E+00	1.01E-06	1.80E-05
Road 22	22	0600-0700	2.96E-01	1.28E-06	2.28E-05	2.58E-01	1.12E-06	1.99E-05	1.32E+00	5.73E-06	1.02E-04
Road 22	22	0700-0800	2.96E-01	1.28E-06	2.28E-05	2.58E-01	1.12E-06	1.99E-05	1.32E+00	5.73E-06	1.02E-04
Road 22	22	0800-0900	3.09E-01	1.72E-06	3.07E-05	2.72E-01	1.52E-06	2.71E-05	1.39E+00	7.77E-06	1.38E-04
Road 22	22	0900-1000	3.09E-01	1.72E-06	3.07E-05	2.72E-01	1.52E-06	2.71E-05	1.39E+00	7.77E-06	1.38E-04
Road 22	22	1000-1100	3.15E-01	1.60E-06	2.85E-05	2.77E-01	1.41E-06	2.51E-05	1.40E+00	7.13E-06	1.27E-04
Road 22	22	1100-1200	3.15E-01	1.60E-06	2.85E-05	2.77E-01	1.41E-06	2.51E-05	1.40E+00	7.13E-06	1.27E-04
Road 22	22	1200-1300	3.18E-01	1.68E-06	2.99E-05	2.80E-01	1.48E-06	2.64E-05	1.40E+00	7.40E-06	1.32E-04
Road 22	22	1300-1400	3.24E-01	1.90E-06	3.39E-05	2.85E-01	1.67E-06	2.98E-05	1.42E+00	8.33E-06	1.48E-04
Road 22	22	1400-1500	3.18E-01	1.68E-06	2.99E-05	2.80E-01	1.48E-06	2.64E-05	1.40E+00	7.40E-06	1.32E-04
Road 22	22	1500-1600	3.15E-01	1.60E-06	2.85E-05	2.77E-01	1.41E-06	2.51E-05	1.40E+00	7.13E-06	1.27E-04
Road 22	22	1600-1700	3.09E-01	1.78E-06	3.17E-05	2.75E-01	1.58E-06	2.81E-05	1.39E+00	8.00E-06	1.42E-04
Road 22	22	1700-1800	2.54E-01	1.37E-06	2.45E-05	2.30E-01	1.24E-06	2.21E-05	1.17E+00	6.31E-06	1.13E-04
Road 22	22	1800-1900	2.00E-01	1.40E-06	2.50E-05	1.76E-01	1.23E-06	2.20E-05	8.67E-01	6.07E-06	1.08E-04
Road 22	22	1900-2000	1.99E-01	5.68E-07	1.01E-05	1.80E-01	5.13E-07	9.16E-06	9.31E-01	2.66E-06	4.74E-05
Road 22	22	2000-2100	1.89E-01	4.35E-07	7.76E-06	1.74E-01	4.00E-07	7.14E-06	8.93E-01	2.05E-06	3.67E-05
Road 22	22	2100-2200	1.89E-01	4.09E-07	7.29E-06	1.88E-01	4.07E-07	7.26E-06	9.67E-01	2.09E-06	3.73E-05
Road 22	22	2200-2300	2.05E-01	4.37E-07	7.80E-06	2.03E-01	4.33E-07	7.73E-06	1.04E+00	2.22E-06	3.97E-05
Road 22	22	2300-0000	2.40E-01	6.72E-08	1.24E-06	2.20E-01	6.15E-08	1.14E-06	1.08E+00	3.02E-07	5.57E-06
Road 23	23	0000-0100	2.40E-01	6.72E-08	1.24E-06	2.20E-01	6.15E-08	1.14E-06	1.08E+00	3.02E-07	5.57E-06
Road 23	23	0100-0200	2.48E-01	3.84E-08	7.09E-07	2.25E-01	3.49E-08	6.44E-07	1.11E+00	1.72E-07	3.17E-06
Road 23	23	0200-0300	2.48E-01	3.84E-08	7.09E-07	2.25E-01	3.49E-08	6.44E-07	1.11E+00	1.72E-07	3.17E-06
Road 23	23	0300-0400	2.60E-01	3.98E-08	7.34E-07	2.33E-01	3.58E-08	6.61E-07	1.16E+00	1.76E-07	3.26E-06
Road 23	23	0400-0500	2.60E-01	6.00E-08	7.38E-07	2.33E-01	3.58E-08	6.61E-07	1.16E+00	1.76E-07	3.26E-06
Road 23	23	0500-0600	2.63E-01	7.48E-08	1.38E-06	2.66E-08	1.23E-06	1.35E-07	1.31E+00	3.68E-07	6.79E-06
Road 23	23	0600-0700	2.77E-01	4.91E-08	9.06E-07	2.48E-01	4.40E-07	8.12E-06	1.23E+00	2.17E-06	4.00E-05
Road 23	23	0700-0800	3.07E-01	4.24E-07	7.84E-06	2.68E-01	3.71E-07	6.85E-06	1.37E+00	1.89E-06	3.49E-05
Road 23	23	0800-0900	2.63E-01	4.31E-07	7.96E-06	2.30E-01	3.77E-07	6.96E-06	1.15E+00	1.88E-06	3.48E-05
Road 23	23	0900-1000	2.99E-01	5.54E-07	1.02E-05	2.64E-01	4.88E-07	9.02E-06	1.32E+00	2.44E-06	4.51E-05
Road 23	23	1000-1100	3.14E-01	5.72E-07	1.06E-05	2.77E-01	5.04E-07	9.32E-06	1.38E+00	2.52E-06	4.66E-05
Road 23	23	1100-1200	3.14E-01	5.72E-07	1.06E-05	2.77E-01	5.04E-07	9.32E-06	1.38E+00	2.52E-06	4.66E-05
Road 23	23	1200-1300	3.25E-01	5.85E-07	1.08E-05	2.87E-01	5.16E-07	9.54E-06	1.43E+00	2.58E-06	4.77E-05
Road 23	23	1300-1400	3.68E-01	5.85E-07	1.08E-05	3.24E-01	5.16E-07	9.54E-06	1.62E+00	2.58E-06	4.77E-05
Road 23	23	1400-1500	3.25E-01	5.85E-07	1.08E-05	2.87E-01	5.16E-07	9.54E-06	1.43E+00	2.58E-06	4.77E-05
Road 23	23	1500-1600	3.14E-01	5.72E-07	1.06E-05	2.77E-01	5.04E-07	9.32E-06	1.38E+00	2.52E-06	4.66E-05
Road 23	23	1600-1700	3.14E-01	5.72E-07	1.06E-05	2.77E-01	5.04E-07	9.32E-06	1.38E+00	2.52E-06	4.66E-05
Road 23	23	1700-1800	2.70E-01	4.55E-07	8.40E-06	2.38E-01	4.01E-07	7.41E-06	1.19E+00	2.00E-06	3.70E-05
Road 23	23	1800-1900	2.70E-01	4.55E-07	8.40E-06	2.38E-01	4.01E-07	7.41E-06	1.19E+00	2.00E-06	3.70E-05
Road 23	23	1900-2000	2.28E-01	2.76E-07	5.10E-06	2.01E-01	2.43E-07	4.49E-06	1.00E+00	1.21E-06	2.24E-05
Road 23	23	2000-2100	2.28E-01	2.69E-07	4.97E-06	2.01E-01	2.37E-07	4.38E-06	1.00E+00	1.18E-06	2.18E-05
Road 23	23	2100-2200	2.23E-01	1.41E-07	2.60E-06	2.05E-01	1.29E-07	2.39E-06	1.03E+00	6.47E-07	1.19E-05
Road 23	23	2200-2300	2.39E-01	1.32E-07	2.44E-06	2.19E-01	1.21E-07	2.24E-06	1.09E+00	6.06E-07	1.12E-05
Road 23	23	2300-0000	1.32E-01	1.26E-07	2.33E-06	1.21E-01	1.16E-07	2.14E-06	6.04E-01	5.77E-07	1.06E-05
Road 24	24	0000-0100	1.26E-01	1.19E-07	2.12E-06	1.15E-01	1.09E-07	1.94E-06	5.64E-01	5.34E-07	9.51E-06
Road 24	24	0100-0200	1.26E-01	1.19E-07	2.12E-06	1.15E-01	1.09E-07	1.94E-06	5.64E-01	5.34E-07	9.51E-06
Road 24	24	0200-0300	1.38E-01	1.22E-07	2.18E-06	1.26E-01	1.12E-07	1.99E-06	6.18E-01	5.47E-07	9.74E-06
Road 24	24	0300-0400	1.38E-01	1.22E-07	2.18E-06	1.26E-01	1.12E-07	1.99E-06	6.18E-01	5.47E-07	9.74E-06
Road 24	24	0400-0500	1.38E-01	1.22E-07	2.18E-06	1.26E-01	1.12E-07	1.99E-06	6.18E-01	5.47E-07	9.74E-06
Road 24	24	0500-0600	1.38E-01	1.22E-07	2.18E-06	1.26E-01	1.12E-07	1.99E-06	6.18E-01	5.47E-07	9.74E-06
Road 24	24	0600-0700	1.38E-01	1.22E-07	2.18E-06	1.26E-01	1.12E-07	1.99E-06	6.18E-01	5.47E-07	9.74E-06
Road 24	24	0700-0800	1.38E-01	1.96E-06	4.92E-08	1.03E-01	1.71E-06	1.71E-05	6.18E-01	8.77E-06	1.54E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 24	24	0800-0900	1.38E-01	2.42E-06	6.08E-08	1.22E-01	2.13E-06	5.35E-08	6.56E-01	1.15E-05	2.89E-07
Road 24	24	0900-1000	1.38E-01	2.42E-06	6.08E-08	1.22E-01	2.13E-06	5.35E-08	6.56E-01	1.15E-05	2.89E-07
Road 24	24	1000-1100	1.55E-01	2.46E-06	6.17E-08	1.36E-01	2.17E-06	5.43E-08	7.25E-01	1.15E-05	2.89E-07
Road 24	24	1100-1200	1.55E-01	2.27E-06	5.70E-08	1.37E-01	2.00E-06	5.01E-08	7.09E-01	1.04E-05	2.66E-07
Road 24	24	1200-1300	1.52E-01	2.42E-06	6.08E-08	1.34E-01	2.14E-06	5.37E-08	7.03E-01	1.12E-05	2.81E-07
Road 24	24	1300-1400	1.52E-01	2.42E-06	6.08E-08	1.34E-01	2.14E-06	5.37E-08	7.03E-01	1.12E-05	2.81E-07
Road 24	24	1400-1500	1.52E-01	2.66E-06	6.68E-08	1.34E-01	2.35E-06	5.90E-08	7.03E-01	1.24E-05	3.10E-07
Road 24	24	1500-1600	1.42E-01	2.57E-06	6.44E-08	1.28E-01	2.30E-06	5.76E-08	6.77E-01	1.22E-05	3.06E-07
Road 24	24	1600-1700	1.45E-01	2.67E-06	6.70E-08	1.30E-01	2.39E-06	5.97E-08	6.76E-01	1.24E-05	3.11E-07
Road 24	24	1700-1800	1.06E-01	2.08E-06	5.23E-08	9.58E-02	1.88E-06	4.72E-08	5.21E-01	1.02E-05	2.57E-07
Road 24	24	1800-1900	1.06E-01	2.08E-06	5.23E-08	9.58E-02	1.88E-06	4.72E-08	5.21E-01	1.02E-05	2.57E-07
Road 24	24	1900-2000	6.43E-02	9.71E-09	2.44E-08	5.79E-02	8.75E-09	2.19E-08	3.38E-01	5.11E-08	1.28E-07
Road 24	24	2000-2100	6.27E-02	9.48E-09	2.38E-08	5.66E-02	8.56E-09	2.15E-08	3.30E-01	4.99E-08	1.25E-07
Road 24	24	2100-2200	5.84E-02	6.59E-09	1.65E-08	5.51E-02	6.01E-09	1.51E-08	3.21E-01	3.63E-08	9.10E-08
Road 24	24	2200-2300	5.84E-02	6.59E-09	1.65E-08	5.51E-02	6.01E-09	1.51E-08	3.21E-01	3.63E-08	9.10E-08
Road 24	24	2300-0000	5.84E-02	6.59E-09	1.65E-08	5.51E-02	6.01E-09	1.51E-08	3.21E-01	3.63E-08	9.10E-08
Road 25	25	0000-0100	1.89E-01	2.86E-08	7.29E-08	1.73E-01	2.62E-08	6.67E-08	8.62E-01	1.31E-07	3.33E-07
Road 25	25	0100-0200	1.96E-01	2.05E-08	5.23E-08	1.79E-01	1.87E-08	4.76E-08	8.91E-01	9.34E-08	2.38E-07
Road 25	25	0200-0300	2.01E-01	1.63E-08	4.17E-08	1.83E-01	1.48E-08	3.79E-08	9.13E-01	7.42E-08	1.89E-07
Road 25	25	0300-0400	2.04E-01	1.42E-08	3.62E-08	1.87E-01	1.30E-08	3.32E-08	9.31E-01	6.45E-08	1.64E-07
Road 25	25	0400-0500	2.04E-01	1.42E-08	3.62E-08	1.87E-01	1.30E-08	3.32E-08	9.31E-01	6.45E-08	1.64E-07
Road 25	25	0500-0600	2.22E-01	3.19E-08	8.12E-08	1.97E-01	2.83E-08	7.23E-08	1.00E+00	1.44E-07	3.68E-07
Road 25	25	0600-0700	2.34E-01	7.62E-08	1.94E-07	2.07E-01	6.74E-08	1.71E-07	1.06E+00	3.44E-07	8.75E-07
Road 25	25	0700-0800	2.47E-01	1.04E-07	2.65E-07	2.19E-01	9.24E-08	2.35E-07	1.12E+00	4.68E-07	1.19E-06
Road 25	25	0800-0900	2.47E-01	1.04E-07	2.65E-07	2.19E-01	9.24E-08	2.35E-07	1.12E+00	4.68E-07	1.19E-06
Road 25	25	0900-1000	2.47E-01	1.04E-07	2.65E-07	2.19E-01	9.24E-08	2.35E-07	1.12E+00	4.68E-07	1.19E-06
Road 25	25	1000-1100	2.47E-01	1.04E-07	2.65E-07	2.19E-01	9.24E-08	2.35E-07	1.12E+00	4.68E-07	1.19E-06
Road 25	25	1100-1200	2.47E-01	1.04E-07	2.65E-07	2.19E-01	9.24E-08	2.35E-07	1.12E+00	4.68E-07	1.19E-06
Road 25	25	1200-1300	2.88E-01	2.28E-07	5.81E-07	2.54E-01	2.01E-07	5.13E-07	1.27E+00	1.00E-06	2.56E-06
Road 25	25	1300-1400	2.80E-01	2.47E-07	6.30E-07	2.47E-01	2.17E-07	5.54E-07	1.23E+00	1.08E-06	2.76E-06
Road 25	25	1400-1500	2.80E-01	2.47E-07	6.30E-07	2.47E-01	2.17E-07	5.54E-07	1.23E+00	1.08E-06	2.76E-06
Road 25	25	1500-1600	2.59E-01	2.38E-07	6.07E-07	2.33E-01	2.14E-07	5.44E-07	1.18E+00	1.09E-06	2.77E-06
Road 25	25	1600-1700	2.59E-01	2.38E-07	6.07E-07	2.33E-01	2.14E-07	5.44E-07	1.18E+00	1.09E-06	2.77E-06
Road 25	25	1700-1800	2.34E-01	1.86E-07	4.75E-07	2.11E-01	1.69E-07	4.30E-07	1.06E+00	8.63E-07	2.20E-06
Road 25	25	1800-1900	2.34E-01	1.86E-07	4.75E-07	2.11E-01	1.69E-07	4.30E-07	1.06E+00	8.63E-07	2.20E-06
Road 25	25	1900-2000	1.87E-01	7.50E-08	1.91E-07	1.68E-01	6.77E-08	1.73E-07	8.69E-01	3.49E-07	8.90E-07
Road 25	25	2000-2100	1.82E-01	5.80E-08	1.48E-07	1.65E-01	5.25E-08	1.34E-07	8.47E-01	2.70E-07	6.87E-07
Road 25	25	2100-2200	1.82E-01	5.59E-08	1.43E-07	1.64E-01	5.06E-08	1.29E-07	8.47E-01	2.62E-07	6.67E-07
Road 25	25	2200-2300	1.92E-01	5.59E-08	1.43E-07	1.73E-01	5.06E-08	1.29E-07	8.93E-01	2.62E-07	6.67E-07
Road 25	25	2300-0000	1.92E-01	5.59E-08	1.43E-07	1.73E-01	5.06E-08	1.29E-07	8.93E-01	2.62E-07	6.67E-07
Road 26	26	0000-0100	2.54E-01	7.25E-08	2.72E-07	2.32E-01	6.61E-08	2.48E-07	1.14E+00	3.24E-07	1.22E-06
Road 26	26	0100-0200	2.57E-01	3.57E-08	1.34E-07	2.35E-01	3.25E-08	1.22E-07	1.15E+00	1.59E-07	5.96E-07
Road 26	26	0200-0300	2.63E-01	2.63E-08	9.87E-08	2.40E-01	2.40E-08	9.00E-08	1.17E+00	1.17E-07	4.40E-07
Road 26	26	0300-0400	2.63E-01	2.63E-08	9.87E-08	2.40E-01	2.40E-08	9.00E-08	1.17E+00	1.17E-07	4.40E-07
Road 26	26	0400-0500	2.63E-01	2.63E-08	9.87E-08	2.40E-01	2.40E-08	9.00E-08	1.17E+00	1.17E-07	4.40E-07
Road 26	26	0500-0600	2.71E-01	1.13E-07	4.23E-07	2.47E-01	1.03E-07	3.85E-07	1.21E+00	5.04E-07	1.89E-06
Road 26	26	0600-0700	2.75E-01	1.28E-07	4.80E-07	2.51E-01	1.17E-07	4.37E-07	1.23E+00	5.73E-07	2.14E-06
Road 26	26	0700-0800	3.16E-01	7.69E-07	2.89E-06	2.75E-01	6.70E-07	2.51E-06	1.42E+00	3.45E-06	1.30E-05
Road 26	26	0800-0900	3.16E-01	7.69E-07	2.89E-06	2.75E-01	6.70E-07	2.51E-06	1.42E+00	3.45E-06	1.30E-05
Road 26	26	0900-1000	3.31E-01	8.97E-07	3.37E-06	2.92E-01	7.91E-07	2.97E-06	1.47E+00	3.97E-06	1.49E-05
Road 26	26	1000-1100	3.31E-01	8.97E-07	3.37E-06	2.92E-01	7.91E-07	2.97E-06	1.47E+00	3.97E-06	1.49E-05
Road 26	26	1100-1200	3.25E-01	8.75E-07	3.29E-06	2.86E-01	7.70E-07	2.89E-06	1.44E+00	3.84E-06	1.44E-05
Road 26	26	1200-1300	3.25E-01	8.75E-07	3.29E-06	2.86E-01	7.70E-07	2.89E-06	1.44E+00	3.84E-06	1.44E-05
Road 26	26	1300-1400	3.14E-01	9.49E-07	3.56E-06	2.77E-01	8.37E-07	3.14E-06	1.40E+00	4.22E-06	1.59E-05
Road 26	26	1400-1500	3.17E-01	9.54E-07	3.58E-06	2.79E-01	8.41E-07	3.16E-06	1.41E+00	4.24E-06	1.59E-05
Road 26	26	1500-1600	2.91E-01	9.12E-07	3.42E-06	2.60E-01	8.16E-07	3.06E-06	1.32E+00	4.15E-06	1.56E-05
Road 26	26	1600-1700	3.04E-01	8.89E-07	3.33E-06	2.71E-01	7.93E-07	2.97E-06	1.38E+00	4.03E-06	1.51E-05
Road 26	26	1700-1800	2.65E-01	2.13E-07	2.68E-06	2.39E-01	6.41E-07	2.42E-06	1.22E+00	3.29E-06	1.24E-05
Road 26	26	1800-1900	2.28E-01	4.45E-07	1.67E-06	2.07E-01	4.03E-07	1.51E-06	1.06E+00	2.08E-06	7.80E-06
Road 26	26	1900-2000	2.16E-01	2.84E-07	1.07E-06	1.96E-01	2.57E-07	9.64E-07	1.00E+00	1.32E-06	4.96E-06
Road 26	26	2000-2100	2.05E-01	2.31E-07	8.01E-07	1.85E-01	2.33E-07	8.72E-07	1.28E+00	6.72E-06	2.51E-05
Road 26	26	2100-2200	2.05E-01	2.31E-07	8.01E-07	1.85E-01	2.33E-07	8.72E-07	1.28E+00	6.72E-06	2.51E-05
Road 26	26	2200-2300	2.18E-01	2.06E-07	7.73E-07	1.99E-01	1.89E-07	7.08E-07	9.88E-01	9.35E-07	3.51E-06
Road 26	26	2300-0000	2.17E-01	1.66E-07	6.23E-07	1.99E-01	1.52E-07	5.70E-07	9.82E-01	7.51E-07	2.82E-06
Road 27	27	0000-0100	2.44E-01	6.82E-08	2.10E-07	2.23E-01	6.22E-08	1.91E-07	1.10E+00	3.06E-07	9.44E-07
Road 27	27	0100-0200	2.44E-01	6.82E-08	2.10E-07	2.23E-01	6.22E-08	1.91E-07	1.10E+00	3.06E-07	9.44E-07
Road 27	27	0200-0300	2.54E-01	4.70E-08	1.46E-07	2.27E-01	4.20E-08	1.30E-07	1.14E+00	2.12E-07	6.52E-07
Road 27	27	0300-0400	2.54E-01	4.70E-08	1.46E-07	2.27E-01	4.20E-08	1.30E-07	1.14E+00	2.12E-07	6.52E-07
Road 27	27	0400-0500	2.54E-01	4.70E-08	1.46E-07	2.27E-01	4.20E-08	1.30E-07	1.14E+00	2.12E-07	6.52E-07
Road 27	27	0500-0600	2.63E-01	1.06E-07	3.26E-07	2.34E-01	9.44E-08	2.91E-07	1.18E+00	4.75E-07	1.46E-06
Road 27	27	0600-0700	2.86E-01	2.62E-07	8.06E-07	2.51E-01	2.30E-07	7.08E-07	1.28E+00	1.17E-06	3.60E-06
Road 27	27	0700-0800	3.08E-01	7.24E-07	2.23E-06	2.68E-01	6.30E-07	1.94E-06	1.39E+00	3.26E-06	1.00E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March) — **Year 2028**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	4.52E-02	9.05E-07	2.78E-05	4.94E-02	7.98E-07	2.48E-05	1.32E-01	2.65E-06	8.14E-05	2.89E-01	4.66E-06	1.45E-04
Road 47	47	1700-1800	4.56E-02	7.14E-07	2.23E-05	4.08E-02	6.39E-07	1.99E-05	2.48E-01	3.88E-06	1.21E-04	2.18E-01	3.41E-06	1.07E-04
Road 47	47	1800-1900	3.28E-02	5.72E-07	1.79E-05	2.96E-02	5.16E-07	1.61E-05	1.86E-01	3.25E-06	1.01E-04	1.69E-01	2.97E-06	8.97E-05
Road 47	47	1900-2000	2.67E-02	3.70E-07	1.16E-05	2.39E-02	3.31E-07	1.04E-05	1.66E-01	2.30E-06	7.17E-05	1.44E-01	2.00E-06	6.24E-05
Road 47	47	2000-2100	2.47E-02	2.66E-07	8.29E-06	2.25E-02	2.42E-07	7.55E-06	1.65E-01	1.77E-06	5.54E-05	1.46E-01	1.57E-06	4.90E-05
Road 47	47	2100-2200	2.14E-02	1.30E-07	4.06E-06	1.94E-02	1.18E-07	3.69E-06	1.51E-01	9.16E-07	2.86E-05	1.37E-01	8.31E-07	2.59E-05
Road 47	47	2200-2300	2.04E-02	2.13E-07	6.65E-06	1.85E-02	1.92E-07	5.98E-06	1.44E-01	1.50E-06	4.68E-05	1.29E-01	1.35E-06	4.21E-05
Road 47	47	2300-0000	2.19E-02	1.71E-07	5.35E-06	1.99E-02	1.55E-07	4.84E-06	1.29E-01	1.01E-06	3.15E-05	1.17E-01	9.11E-07	2.84E-05
Road 48	48	0000-0100	1.66E-02	1.30E-07	4.06E-06	1.51E-02	1.18E-07	3.69E-06	1.10E-01	8.61E-07	2.69E-05	1.00E-01	7.82E-07	2.44E-05
Road 48	48	0100-0200	1.56E-02	1.22E-07	3.81E-06	1.42E-02	1.11E-07	3.46E-06	1.03E-01	8.07E-07	2.52E-05	9.37E-02	7.33E-07	2.29E-05
Road 48	48	0200-0300	1.47E-02	1.15E-07	3.59E-06	1.33E-02	1.04E-07	3.25E-06	9.68E-02	7.56E-07	2.36E-05	8.79E-02	6.87E-07	2.15E-05
Road 48	48	0300-0400	1.41E-02	1.10E-07	3.44E-06	1.28E-02	1.00E-07	3.12E-06	9.29E-02	7.25E-07	2.26E-05	8.44E-02	6.59E-07	2.06E-05
Road 48	48	0400-0500	1.41E-02	1.10E-07	3.44E-06	1.28E-02	1.00E-07	3.12E-06	9.29E-02	7.25E-07	2.26E-05	8.44E-02	6.59E-07	2.06E-05
Road 48	48	0500-0600	1.47E-02	1.15E-07	3.59E-06	1.33E-02	1.04E-07	3.25E-06	9.68E-02	7.56E-07	2.36E-05	8.79E-02	6.87E-07	2.15E-05
Road 48	48	0600-0700	1.56E-02	1.22E-07	3.81E-06	1.42E-02	1.11E-07	3.46E-06	1.03E-01	8.07E-07	2.52E-05	9.37E-02	7.33E-07	2.29E-05
Road 48	48	0700-0800	1.66E-02	1.30E-07	4.06E-06	1.51E-02	1.18E-07	3.69E-06	1.10E-01	8.61E-07	2.69E-05	1.00E-01	7.82E-07	2.44E-05
Road 48	48	0800-0900	1.66E-02	1.30E-07	4.06E-06	1.51E-02	1.18E-07	3.69E-06	1.10E-01	8.61E-07	2.69E-05	1.00E-01	7.82E-07	2.44E-05
Road 48	48	0900-1000	1.66E-02	1.30E-07	4.06E-06	1.51E-02	1.18E-07	3.69E-06	1.10E-01	8.61E-07	2.69E-05	1.00E-01	7.82E-07	2.44E-05
Road 48	48	1000-1100	9.33E-02	2.29E-06	3.45E-05	8.23E-02	2.02E-06	3.04E-05	4.83E-01	1.18E-05	1.79E-04	4.24E-01	1.04E-05	1.57E-04
Road 48	48	1100-1200	9.18E-02	2.12E-06	3.20E-05	8.09E-02	1.87E-06	2.82E-05	4.80E-01	1.11E-05	1.67E-04	4.21E-01	9.72E-06	1.47E-04
Road 48	48	1200-1300	9.15E-02	2.46E-06	3.72E-05	8.06E-02	2.16E-06	3.26E-05	4.91E-01	1.32E-05	1.99E-04	4.32E-01	1.16E-05	1.75E-04
Road 48	48	1300-1400	7.45E-02	2.59E-06	1.90E-05	6.55E-02	2.28E-06	3.43E-05	4.86E-01	1.69E-05	2.55E-04	4.25E-01	1.47E-05	2.23E-04
Road 48	48	1400-1500	7.36E-02	2.46E-06	4.26E-05	6.47E-02	2.16E-06	3.74E-05	4.84E-01	1.62E-05	2.80E-04	4.25E-01	1.42E-05	2.46E-04
Road 48	48	1500-1600	6.92E-02	2.60E-06	3.92E-05	6.17E-02	2.31E-06	3.49E-05	4.61E-01	1.73E-05	2.61E-04	4.09E-01	1.53E-05	2.31E-04
Road 48	48	1600-1700	6.90E-02	2.70E-06	4.08E-05	6.20E-02	2.43E-06	3.66E-05	4.73E-01	1.85E-05	2.80E-04	4.22E-01	1.65E-05	2.50E-04
Road 48	48	1700-1800	6.92E-02	2.28E-06	4.06E-05	6.20E-02	2.04E-06	3.64E-05	4.81E-01	1.58E-05	2.82E-04	4.29E-01	1.43E-05	2.51E-04
Road 48	48	1800-1900	3.93E-02	1.77E-06	2.66E-05	3.56E-02	1.60E-06	2.41E-05	3.60E-01	1.62E-05	2.44E-04	3.24E-01	1.45E-05	2.20E-04
Road 48	48	1900-2000	3.57E-02	1.61E-06	2.41E-05	3.23E-02	1.46E-06	2.18E-05	3.71E-01	1.67E-05	2.51E-04	3.36E-01	1.51E-05	2.27E-04
Road 48	48	2000-2100	3.53E-02	9.79E-07	1.48E-05	3.22E-02	8.94E-07	1.35E-05	3.83E-01	1.06E-05	1.60E-04	3.47E-01	9.62E-06	1.45E-04
Road 48	48	2100-2200	3.27E-02	9.00E-07	1.36E-05	2.99E-02	8.23E-07	1.24E-05	3.49E-01	9.60E-06	1.45E-04	3.16E-01	8.69E-06	1.31E-04
Road 48	48	2200-2300	2.84E-02	7.83E-07	1.18E-05	2.59E-02	7.15E-07	1.08E-05	3.34E-01	9.21E-06	1.39E-04	3.04E-01	8.38E-06	1.26E-04
Road 48	48	2300-0000	3.47E-02	6.95E-07	1.05E-05	3.16E-02	6.34E-07	9.57E-06	3.68E-01	7.38E-06	1.11E-04	3.33E-01	6.67E-06	1.01E-04
Road 49	49	0000-0100	3.40E-02	6.81E-07	1.47E-05	3.10E-02	6.21E-07	1.34E-05	3.60E-01	7.22E-06	1.56E-04	3.32E-01	6.65E-06	1.43E-04
Road 49	49	0100-0200	3.40E-02	5.10E-07	2.77E-05	3.07E-02	9.91E-08	2.50E-06	3.41E-01	1.10E-06	2.78E-05	3.04E-01	9.80E-07	2.47E-05
Road 49	49	0200-0300	3.40E-02	5.10E-07	2.77E-05	3.07E-02	9.91E-08	2.50E-06	3.41E-01	1.10E-06	2.78E-05	3.04E-01	9.80E-07	2.47E-05
Road 49	49	0300-0400	3.84E-02	7.16E-08	1.81E-06	3.45E-02	6.43E-08	1.62E-06	3.56E-01	6.63E-07	1.67E-05	3.15E-01	5.88E-07	1.48E-05
Road 49	49	0400-0500	4.19E-02	8.57E-08	2.16E-06	3.73E-02	7.63E-08	1.93E-06	3.79E-01	7.75E-07	1.96E-05	3.29E-01	6.72E-07	1.70E-05
Road 49	49	0500-0600	4.84E-02	1.44E-07	3.63E-06	4.32E-02	1.45E-07	3.67E-06	4.09E-01	1.24E-06	3.12E-05	3.61E-01	1.08E-06	2.72E-05
Road 49	49	0600-0700	5.46E-02	4.16E-07	1.05E-05	4.78E-02	3.64E-07	9.18E-06	4.56E-01	3.47E-06	8.75E-05	3.93E-01	2.99E-06	7.54E-05
Road 49	49	0700-0800	6.24E-02	1.02E-06	2.58E-05	5.47E-02	8.94E-07	2.25E-05	5.08E-01	8.31E-06	2.10E-04	4.37E-01	7.14E-06	1.80E-04
Road 49	49	0800-0900	6.79E-02	1.21E-06	3.04E-05	5.87E-02	1.04E-06	2.63E-05	5.20E-01	9.23E-06	2.33E-04	4.44E-01	7.89E-06	1.99E-04
Road 49	49	0900-1000	7.61E-02	1.12E-06	2.82E-05	6.66E-02	9.78E-07	2.47E-05	5.49E-01	8.06E-06	2.03E-04	4.77E-01	7.00E-06	1.77E-04
Road 49	49	1000-1100	8.05E-02	1.19E-06	3.20E-05	7.02E-02	1.04E-06	2.77E-05	5.62E-01	8.31E-06	2.24E-04	4.91E-01	7.26E-06	1.96E-04
Road 49	49	1100-1200	7.89E-02	9.52E-07	2.40E-05	6.94E-02	8.38E-07	2.11E-05	5.56E-01	6.71E-06	1.69E-04	4.85E-01	5.85E-06	1.48E-04
Road 49	49	1200-1300	7.76E-02	1.03E-06	2.78E-05	6.82E-02	9.04E-07	2.44E-05	5.48E-01	7.26E-06	1.96E-04	4.77E-01	6.32E-06	1.71E-04
Road 49	49	1300-1400	9.65E-02	7.03E-07	1.77E-05	8.49E-02	6.18E-07	1.56E-05	7.02E-01	5.12E-06	1.29E-04	6.14E-01	4.47E-06	1.13E-04
Road 49	49	1400-1500	9.57E-02	7.37E-07	1.86E-05	8.42E-02	6.50E-07	1.64E-05	6.98E-01	5.39E-06	1.36E-04	6.11E-01	4.72E-06	1.19E-04
Road 49	49	1500-1600	9.01E-02	7.12E-07	1.79E-05	8.04E-02	6.36E-07	1.60E-05	6.70E-01	5.30E-06	1.34E-04	5.87E-01	4.64E-06	1.16E-04
Road 49	49	1600-1700	9.03E-02	7.57E-07	1.91E-05	8.10E-02	6.79E-07	1.71E-05	6.88E-01	5.77E-06	1.45E-04	6.14E-01	5.15E-06	1.30E-04
Road 49	49	1700-1800	9.15E-02	7.68E-07	1.93E-05	8.20E-02	6.88E-07	1.73E-05	6.97E-01	5.85E-06	1.47E-04	6.22E-01	5.22E-06	1.31E-04
Road 49	49	1800-1900	9.35E-02	5.40E-07	1.36E-05	8.84E-02	4.88E-07	1.23E-05	6.50E-01	3.75E-06	9.46E-05	4.95E-01	3.99E-06	1.26E-04
Road 49	49	1900-2000	9.39E-02	5.42E-07	1.37E-05	8.88E-02	4.90E-07	1.24E-05	6.53E-01	3.77E-06	9.51E-05	4.97E-01	4.01E-06	1.26E-04
Road 49	49	2000-2100	4.58E-02	2.89E-07	7.29E-06	4.18E-02	2.64E-07	6.66E-06	5.57E-01	3.51E-06	8.86E-05	5.05E-01	3.18E-06	8.03E-05
Road 49	49	2100-2200	4.10E-02	2.55E-07	6.43E-06	3.74E-02	2.33E-07	5.87E-06	4.95E-01	3.08E-06	7.76E-05	4.94E-01	3.07E-06	7.74E-05
Road 49	49	2200-2300	3.84E-02	2.39E-07	6.02E-06	3.50E-02	2.18E-07	5.49E-06	4.64E-01	2.89E-06	7.27E-05	4.63E-01	2.88E-06	7.25E-05
Road 49	49	2300-0000	4.17E-02	1.90E-07	4.79E-06	3.80E-02	1.73E-07	4.36E-06	5.02E-01	2.28E-06	5.76E-05	4.54E-01	2.07E-06	5.21E-05
Road 50	50	0000-0100	1.18E-01	3.97E-06	1.00E-04	1.07E-01	3.60E-06	9.08E-05	1.28E-01	4.31E-06	1.09E-04	1.16E-01	3.91E-06	9.86E-05
Road 50	50	0100-0200	1.27E-01	3.39E-06	4.84E-07	1.14E-01	3.04E-06	4.34E-07	6.15E-01	1.63E-06	2.33E-06	5.49E-01	1.46E-06	2.08E-06
Road 50	50	0200-0300	1.27E-01	3.39E-06	4.84E-07	1.14E-01	3.04E-06	4.34E-07	6.15E-01	1.63E-06	2.33E-06	5.49E-01	1.46E-06	2.08E-06
Road 50	50	0300-0400	1.27E-01	3.39E-06	4.84E-07	1.14E-01	3.04E-06	4.34E-07	6.15E-01	1.63E-06	2.33E-06	5.49E-01	1.46E-06	2.08E-06
Road 50	50	0400-0500	1.38E-01	3.48E-06	4.96E-07	1.23E-01	3.11E-06	4.44E-07	6.60E-01	1.67E-06	2.38E-06	5.89E-01	1.49E-06	2.12E-06
Road 50	50	0500-0600	1.44E-01	1.21E-07	1.73E-06	1.28E-01	1.08E-07	1.54E-06	6.87E-01	5.77E-07	8.23E-06	6.13E-01	5.15E-07	7.34E-06
Road 50	50	0600-0700	1.44E-01	1.21E-07	1.73E-06	1.28E-01	1.08E-07	1.54E-06	6.87E-01	5.77E-07	8.23E-06	6.13E-01	5.15E-07	7.34E-06
Road 50	50	0700-0800	1.48E-01	2.91E-07	4.15E-06	1.28E-01	2.52E-07	3.60E-06	6.87E-01	1.35E-06	1.92E-05	5.95E-01	1.17E-06	1.67E-05
Road 50	50	0800-0900	1.56E-01	3.69E-07	5.26E-06	1.37E-01	3.24E-07	4.62E-06	7.23E-01	1.71E-06	2.43E-05	6.34E-01	1.50E-06	2.13E-05
Road 50	50	0900-1000	1.56E-01	3.69E-07	5.26E-06	1.37E-01	3.24E-07	4.62E-06	7.23E-01	1.71E-06	2.43E-05	6.34E-01	1.50E-06	2.13E-05
Road 50	50	1000-1100	1.64E-01	3.88E-07	5.53E-06	1.44E-01	3.41E-07	4.86E-06	7.60E-01	1.80E-06	2.56E-05	6.67E-01	1.58E-06	2.24E-05
Road 50	50	1100-1200	1.64E-01	4.99E-06	1.45E-04	1.44E-01	4.38E-06	1.27E-04	7.60E-01	2.31E-05	6.70E-04	6.67E-01	2.03E-05	5.88E-04
Road 50	50	1200-1300	1.64E-01	3.96E-06	3.05E-04	1.44E-01	3.48E-06	2.68E-04	7.60E-01	1.83E-05	1.41E-03	6.67E-01	1.61E-05	1.24E-03
Road 50	50	1300-1400	1.89E-01	2.04E-07	2.91E-06	1.66E-01	1.79E-07	2.56E-06	8.71E-01	9.38E-07	1.34E-05	7.66E-01	8.25E-07	1.18E-05
Road 50	50	1400-1500	1.92E-01	2.05E-07	2.93E-06	1.69E-01	1.81E-07	2.59E-06	8.79E-01	9.42E-07	1.34E-05	7.76E-01	8.31E-07	1.19E-05
Road 50	50	1500-1600	1.76E-01	1.88E-07	2.68E-06	1.55E-01	1.66E-07	2.37E-06	8.26E-01	8.84E-07	1.26E-05	7.30E-01	7.80E-07	1.11E-05
Road 50	50	1600-1700	1.85E-01	1.93E-07	2.75E-06	1.66E-01	1.74E-07	2.48E-06	8.52E-01	8.90E-07	1.27E-05	7.65E-01	8.00E-07	1.14E-05
Road 50	50	1700-1800	1.68E-01	2.33E-07	3.31E-06	1.47E-01	2.08E-07	2.96E-06	7.91E-01	1.10E-06	1.56E-05	7.11E-01	9.91E-07	9.86E-06
Road 50	50	1800-1900	1.57E-01	1.56E-07	1.66E-06	1.43E-01	1.06E-07	1.51E-06	7.99E-01	6.85E-07	5.08E-06	7.24E-01	6.20E-07	7.24E-06
Road 50	50	1900-2000	1.41E-01	6.17E-08	8.81E-07	1.27E-01	5.57E-08	7.95E-07	6.42E-01	2.80E-07	4.14E-06	5.96E-01	2.61E-07	3.73E-06
Road 50	50	2000-2100	1.41E-01	5.00E-08	7.14E-07	1.29E-01	4.53E-08	6.47E-07	6.42E-01	2.28E-07	3.39E-06	6.12E-01	2.18E-07	3.11E-06
Road 50	50	2100-2200	1.41E-01	5.12E-08	7.30E-07	1.29E-01	4.65E-08	6.62E-07	6.42E-01	2.34E-07	3.46E-06	6.11E-01	2.22E-07	3.17E-06
Road 50	50	2200-2300	1.49E-01	4.85E-08	6.92E-07	1.35E-01	4.41E-08	6.28E-07	6.96E-01	2.26E-07	3.23E-06	6.61E-01	2.15E-07	3.06E-06
Road 50	50	2300-0000	1.51E-01	4.10E-08	5.85E-07	1.38E-01	3.75E-08	5.35E-07	7.10E-01	1.92E-07	2.74E-06	6.48E-01	1.76E-07	2.51E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	4.67E-02	3.11E-07	1.80E-06	4.26E-02	2.84E-07	1.29E-05	1.39E-01	2.12E-06	3.95E-05	2.88E-01	1.32E-06	3.57E-05
Road 51	51	0100-0200	5.03E-02	2.22E-07	4.14E-06	4.56E-02	2.01E-07	3.75E-06	3.33E-01	1.47E-06	2.74E-05	2.98E-01	1.31E-06	2.45E-05
Road 51	51	0200-0300	5.40E-02	1.77E-07	3.30E-06	4.84E-02	1.59E-07	2.96E-06	3.48E-01	1.14E-06	2.13E-05	3.08E-01	1.01E-06	1.89E-05
Road 51	51	0300-0400	5.27E-02	1.52E-07	2.84E-06	5.20E-02	1.37E-07	2.56E-06	3.63E-01	9.58E-07	1.79E-05	3.24E-01	8.55E-07	1.59E-05
Road 51	51	0400-0500	6.12E-02	1.81E-07	3.37E-06	5.48E-02	1.62E-07	3.01E-06	3.77E-01	1.11E-06	2.07E-05	3.33E-01	9.83E-07	1.83E-05
Road 51	51	0500-0600	6.37E-02	3.37E-07	6.27E-06	5.75E-02	2.96E-07	5.58E-06	3.90E-01	2.03E-06	3.78E-05	3.45E-01	1.79E-06	3.33E-05
Road 51	51	0600-0700	6.87E-02	7.80E-07	1.45E-05	6.03E-02	6.85E-07	1.28E-05	4.07E-01	4.62E-06	8.62E-05	3.53E-01	4.01E-06	7.48E-05
Road 51	51	0700-0800	7.23E-02	1.69E-06	3.15E-05	6.27E-02	1.47E-06	2.73E-05	4.21E-01	9.85E-06	1.84E-04	3.61E-01	8.44E-06	1.57E-04
Road 51	51	0800-0900	7.09E-02	1.94E-06	3.61E-05	6.22E-02	1.70E-06	3.16E-05	4.16E-01	1.14E-05	2.12E-04	4.01E-01	1.09E-05	2.04E-04
Road 51	51	0900-1000	8.23E-02	2.07E-06	3.86E-05	7.23E-02	1.82E-06	3.39E-05	4.44E-01	1.11E-05	2.08E-04	3.87E-01	9.73E-06	1.81E-04
Road 51	51	1000-1100	8.17E-02	2.03E-06	3.78E-05	7.17E-02	1.78E-06	3.32E-05	4.41E-01	1.09E-05	2.04E-04	3.84E-01	9.53E-06	1.77E-04
Road 51	51	1100-1200	9.02E-02	1.95E-06	3.63E-05	7.95E-02	1.72E-06	3.20E-05	4.75E-01	1.03E-05	1.91E-04	4.17E-01	9.00E-06	1.68E-04
Road 51	51	1200-1300	7.35E-02	2.37E-06	4.40E-05	6.47E-02	2.07E-06	3.85E-05	4.92E-01	1.59E-05	2.96E-04	4.32E-01	1.37E-05	2.56E-04
Road 51	51	1300-1400	7.36E-02	1.98E-06	3.67E-05	6.47E-02	1.73E-06	3.21E-05	4.92E-01	1.32E-05	2.46E-04	4.32E-01	1.16E-05	2.14E-04
Road 51	51	1400-1500	7.36E-02	2.09E-06	3.88E-05	6.47E-02	1.83E-06	3.40E-05	4.92E-01	1.40E-05	2.60E-04	4.32E-01	1.22E-05	2.27E-04
Road 51	51	1500-1600	7.36E-02	2.22E-06	4.12E-05	6.47E-02	1.95E-06	3.62E-05	4.92E-01	1.48E-05	2.75E-04	4.32E-01	1.30E-05	2.42E-04
Road 51	51	1600-1700	6.90E-02	2.60E-06	4.82E-05	6.20E-02	2.34E-06	4.36E-05	4.74E-01	1.79E-05	3.33E-04	4.23E-01	1.59E-05	2.97E-04
Road 51	51	1700-1800	1.29E-02	2.19E-06	4.09E-05	4.75E-02	1.97E-06	3.67E-05	4.13E-01	1.71E-05	3.19E-04	3.68E-01	1.52E-05	2.84E-04
Road 51	51	1800-1900	3.93E-02	1.70E-06	3.17E-05	3.56E-02	1.54E-06	2.87E-05	3.61E-01	1.56E-05	2.91E-04	3.24E-01	1.40E-05	2.62E-04
Road 51	51	1900-2000	3.57E-02	1.22E-06	2.27E-05	3.21E-02	1.10E-06	2.04E-05	3.72E-01	1.27E-05	2.37E-04	3.32E-01	1.13E-05	2.11E-04
Road 51	51	2000-2100	3.53E-02	1.03E-06	1.92E-05	3.22E-02	9.41E-07	1.75E-05	3.83E-01	1.12E-05	2.08E-04	3.47E-01	1.01E-05	1.88E-04
Road 51	51	2100-2200	3.27E-02	8.67E-07	1.62E-05	2.99E-02	7.93E-07	1.48E-05	3.50E-01	9.26E-06	1.73E-04	3.17E-01	8.39E-06	1.56E-04
Road 51	51	2200-2300	2.84E-02	8.33E-07	1.55E-05	2.59E-02	7.62E-07	1.41E-05	3.34E-01	9.34E-06	1.74E-04	3.04E-01	8.49E-06	1.58E-04
Road 51	51	2300-0000	3.47E-02	8.70E-07	1.25E-05	3.16E-02	6.11E-07	1.14E-05	3.68E-01	7.12E-06	1.33E-04	3.33E-01	6.44E-06	1.20E-04
Road 52	52	0000-0100	1.59E-01	4.71E-08	2.41E-07	1.46E-01	4.31E-08	2.21E-07	7.12E-01	2.11E-07	1.08E-06	6.51E-01	1.93E-07	9.87E-07
Road 52	52	0100-0200	1.56E-01	4.62E-08	2.37E-07	1.43E-01	4.23E-08	2.17E-07	7.00E-01	2.07E-07	1.06E-06	6.40E-01	1.89E-07	9.69E-07
Road 52	52	0200-0300	1.61E-01	2.69E-08	1.38E-07	1.48E-01	2.44E-08	1.25E-07	7.27E-01	1.20E-07	6.15E-07	6.66E-01	1.09E-07	5.59E-07
Road 52	52	0300-0400	1.70E-01	2.84E-08	1.46E-07	1.56E-01	2.58E-08	1.32E-07	7.67E-01	1.27E-07	6.50E-07	7.04E-01	1.17E-07	5.91E-07
Road 52	52	0400-0500	1.70E-01	2.80E-08	1.43E-07	1.52E-01	2.51E-08	1.29E-07	7.58E-01	1.25E-07	6.40E-07	6.78E-01	1.12E-07	5.73E-07
Road 52	52	0500-0600	1.74E-01	1.52E-08	2.73E-07	1.55E-01	1.35E-08	2.43E-07	7.84E-01	6.84E-08	1.23E-06	7.01E-01	6.12E-08	1.10E-06
Road 52	52	0600-0700	1.85E-01	2.76E-07	1.41E-06	1.62E-01	2.41E-07	1.24E-06	8.25E-01	1.23E-06	6.31E-06	7.20E-01	1.07E-06	5.51E-06
Road 52	52	0700-0800	1.85E-01	2.76E-07	1.41E-06	1.62E-01	2.41E-07	1.24E-06	8.25E-01	1.23E-06	6.31E-06	7.20E-01	1.07E-06	5.51E-06
Road 52	52	0800-0900	1.66E-01	3.22E-07	1.65E-06	1.45E-01	2.81E-07	1.44E-06	8.09E-01	1.57E-06	8.07E-06	7.06E-01	1.37E-06	7.04E-06
Road 52	52	0900-1000	1.80E-01	3.62E-07	1.85E-06	1.58E-01	3.19E-07	1.64E-06	8.07E-01	1.63E-06	8.33E-06	7.11E-01	1.43E-06	7.34E-06
Road 52	52	1000-1100	1.84E-01	3.72E-07	1.90E-06	1.61E-01	3.27E-07	1.68E-06	8.07E-01	1.63E-06	8.33E-06	7.11E-01	1.44E-06	7.34E-06
Road 52	52	1100-1200	1.87E-01	3.48E-07	1.78E-06	1.65E-01	3.07E-07	1.57E-06	8.33E-01	1.55E-06	7.94E-06	7.34E-01	1.36E-06	6.99E-06
Road 52	52	1200-1300	1.84E-01	3.41E-07	1.75E-06	1.63E-01	3.01E-07	1.54E-06	8.14E-01	1.51E-06	8.25E-06	7.19E-01	1.42E-06	7.29E-06
Road 52	52	1300-1400	1.84E-01	3.41E-07	1.75E-06	1.63E-01	3.01E-07	1.54E-06	8.14E-01	1.51E-06	8.25E-06	7.19E-01	1.42E-06	7.29E-06
Road 52	52	1400-1500	1.84E-01	3.41E-07	1.75E-06	1.63E-01	3.01E-07	1.54E-06	8.14E-01	1.51E-06	8.25E-06	7.19E-01	1.42E-06	7.29E-06
Road 52	52	1500-1600	1.84E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	1.56E-02	1.15E-06	1.96E-05	4.47E-02	1.01E-05	1.73E-04	4.74E-01	3.21E-06	1.23E-04	4.16E-01	3.32E-06	1.08E-04
Road 14	14	0900-1000	8.87E-02	1.14E-06	1.95E-05	7.72E-02	9.95E-07	1.70E-05	3.83E-02	6.90E-06	1.18E-04	4.63E-01	5.97E-06	1.02E-04
Road 14	14	1000-1100	9.75E-02	1.11E-06	1.89E-05	8.56E-02	9.74E-07	1.66E-05	5.68E-01	6.47E-06	1.10E-04	4.96E-01	5.65E-06	9.63E-05
Road 14	14	1100-1200	9.60E-02	1.04E-06	1.77E-05	8.49E-02	9.20E-07	1.57E-05	5.66E-01	6.14E-06	1.05E-04	4.99E-01	5.40E-06	9.21E-05
Road 14	14	1200-1300	1.04E-01	1.25E-06	2.13E-05	9.11E-02	1.10E-06	1.87E-05	6.16E-01	7.43E-06	1.27E-04	5.39E-01	6.50E-06	1.11E-04
Road 14	14	1300-1400	1.05E-01	1.30E-06	2.21E-05	9.17E-02	1.14E-06	1.95E-05	6.19E-01	7.64E-06	1.30E-04	5.42E-01	6.70E-06	1.14E-04
Road 14	14	1400-1500	1.03E-01	1.33E-06	2.30E-05	9.12E-02	1.19E-06	2.08E-05	6.10E-01	7.96E-06	1.38E-04	5.34E-01	7.00E-06	1.19E-04
Road 14	14	1500-1600	9.94E-02	1.33E-06	2.26E-05	8.77E-02	1.17E-06	1.99E-05	5.96E-01	7.95E-06	1.36E-04	5.23E-01	6.98E-06	1.19E-04
Road 14	14	1600-1700	1.07E-01	1.43E-06	2.47E-05	9.43E-02	1.26E-06	2.17E-05	6.41E-01	8.58E-06	1.48E-04	5.62E-01	7.53E-06	1.30E-04
Road 14	14	1700-1800	9.97E-02	1.25E-06	2.13E-05	8.86E-02	1.11E-06	1.89E-05	5.98E-01	7.48E-06	1.27E-04	5.28E-01	6.61E-06	1.12E-04
Road 14	14	1800-1900	9.47E-02	1.19E-06	2.03E-05	8.47E-02	1.06E-06	1.81E-05	5.68E-01	7.13E-06	1.21E-04	5.04E-01	6.31E-06	1.08E-04
Road 14	14	1900-2000	6.34E-02	7.97E-07	1.36E-05	5.67E-02	7.13E-07	1.21E-05	3.80E-01	4.78E-06	8.13E-05	3.40E-01	4.27E-06	7.26E-05
Road 14	14	2000-2100	4.34E-02	5.57E-07	9.49E-06	3.88E-02	4.98E-07	8.48E-06	2.60E-01	3.34E-06	5.69E-05	2.33E-01	2.98E-06	5.08E-05
Road 14	14	2100-2200	3.80E-02	3.70E-07	6.30E-06	3.40E-02	3.31E-07	5.64E-06	1.53E-01	1.43E-06	5.85E-05	1.13E-01	3.04E-06	5.18E-05
Road 14	14	2200-2300	3.70E-02	3.60E-07	6.13E-06	3.31E-02	3.22E-07	5.49E-06	1.53E-01	1.43E-06	5.85E-05	1.13E-01	2.94E-06	5.01E-05
Road 14	14	2300-2400	3.70E-02	3.60E-07	6.13E-06	3.31E-02	3.22E-07	5.49E-06	1.53E-01	1.43E-06	5.85E-05	1.13E-01	2.94E-06	5.01E-05
Road 15	15	0000-0100	1.15E-01	3.30E-08	8.61E-07	8.37E-02	7.75E-07	2.62E-05	5.08E-07	4.70E-06	5.62E-01	4.56E-07	4.22E-06	
Road 15	15	0100-0200	1.15E-01	3.30E-08	8.61E-07	8.37E-02	7.75E-07	2.62E-05	5.08E-07	4.70E-06	5.62E-01	4.56E-07	4.22E-06	
Road 15	15	0200-0300	1.15E-01	3.30E-08	8.61E-07	8.37E-02	7.75E-07	2.62E-05	5.08E-07	4.70E-06	5.62E-01	4.56E-07	4.22E-06	
Road 15	15	0300-0400	1.26E-01	3.48E-08	1.98E-06	9.05E-02	7.47E-07	4.79E-05	4.79E-07	4.43E-06	6.16E-01	4.35E-07	4.02E-06	
Road 15	15	0400-0500	1.26E-01	3.48E-08	1.98E-06	9.05E-02	7.47E-07	4.79E-05	4.79E-07	4.43E-06	6.16E-01	4.35E-07	4.02E-06	
Road 15	15	0500-0600	1.05E-01	1.14E-07	1.05E-06	9.31E-02	1.01E-07	9.37E-07	5.69E-01	6.19E-07	5.73E-06	5.04E-01	5.48E-07	5.08E-06
Road 15	15	0600-0700	1.16E-01	1.56E-07	1.39E-06	1.03E-01	1.39E-07	1.24E-06	6.41E-01	8.61E-07	7.67E-06	5.69E-01	7.61E-07	6.78E-06
Road 15	15	0700-0800	1.16E-01	1.53E-07	4.75E-06	1.03E-01	4.76E-07	4.40E-06	6.20E-01	2.86E-06	8.55E-06	5.45E-01	2.52E-06	7.53E-05
Road 15	15	0800-0900	1.09E-01	5.67E-07	5.25E-06	9.65E-02	5.01E-07	4.64E-06	5.77E-01	2.99E-06	2.77E-05	5.07E-01	2.63E-06	2.44E-05
Road 15	15	0900-1000	1.29E-01	5.38E-07	1.29E-06	1.14E-01	4.74E-07	1.13E-06	6.84E-01	2.85E-06	6.82E-06	6.04E-01	2.50E-06	5.99E-05
Road 15	15	1000-1100	1.37E-01	5.77E-07	5.35E-06	1.20E-01	5.07E-07	4.69E-06	7.26E-01	3.06E-06	2.82E-05	6.41E-01	2.69E-06	2.49E-05
Road 15	15	1100-1200	1.61E-01	1.00E-06	9.29E-06	1.41E-01	8.78E-07	8.13E-06	7.76E-01	4.85E-06	4.49E-05	6.78E-01	4.24E-06	3.92E-05
Road 15	15	1200-1300	1.61E-01	1.00E-06	9.29E-06	1.41E-01	8.78E-07	8.13E-06	7.76E-01	4.85E-06	4.49E-05	6.78E-01	4.24E-06	3.92E-05
Road 15	15	1300-1400	1.61E-01	1.05E-06	9.74E-06	1.40E-01	9.23E-07	8.55E-06	7.75E-01	5.10E-06	4.72E-05	6.77E-01	4.46E-06	4.13E-05
Road 15	15	1400-1500	1.52E-01	1.05E-06	9.76E-06	1.33E-01	9.20E-07	8.53E-06	7.43E-01	5.16E-06	4.78E-05	6.49E-01	4.50E-06	4.16E-05
Road 15	15	1500-1600	1.52E-01	1.05E-06	9.76E-06	1.33E-01	9.20E-07	8.53E-06	7.43E-01	5.16E-06	4.78E-05	6.48E-01	4.50E-06	4.16E-05
Road 15	15	1600-1700	1.40E-01	9.23E-07	8.55E-06	1.22E-01	8.03E-07	7.44E-06	6.85E-01	4.52E-06	4.18E-05	5.98E-01	3.92E-06	3.63E-05
Road 15	15	1700-1800	1.28E-01	8.59E-07	1.11E-05	8.03E-02	7.47E-07	6.68E-06	6.34E-01	4.26E-06	5.51E-05	4.04E-01	3.74E-06	3.25E-05
Road 15	15	1800-1900	1.28E-01	8.59E-07	1.11E-05	8.03E-02	7.47E-07	6.68E-06	6.34E-01	4.26E-06	5.51E-05	4.04E-01	3.74E-06	3.25E-05
Road 15	15	1900-2000	6.77E-02	3.21E-07	2.88E-06	5.99E-02	2.84E-07	2.63E-06	3.72E-01	1.77E-06	1.64E-05	3.27E-01	1.55E-06	1.43E-05
Road 15	15	2000-2100	6.96E-02	2.62E-07	2.41E-06	6.12E-02	2.31E-07	2.14E-06	3.90E-01	1.47E-06	1.36E-05	3.40E-01	1.28E-06	1.19E-05
Road 15	15	2100-2200	6.61E-02	2.39E-07	2.21E-06	5.93E-02	2.14E-07	1.98E-06	3.71E-01	1.34E-06	1.24E-05	3.30E-01	1.19E-06	1.10E-05
Road 15	15	2200-2300	6.61E-02	2.39E-07	2.21E-06	5.93E-02	2.14E-07	1.98E-06	3.71E-01	1.34E-06	1.24E-05	3.30E-01	1.19E-06	1.10E-05
Road 15	15	2300-2400	6.76E-02	1.13E-07	3.46E-06	6.42E-02	9.96E-08	3.05E-06	3.79E-01	6.35E-07	1.94E-05	3.59E-01	5.57E-07	1.71E-05
Road 16	16	0100-0200	1.08E-02	8.30E-08	2.54E-06	2.72E-02	7.31E-08	2.26E-06	2.86E-01	7.70E-07	2.36E-05	2.56E-01	6.73E-07	2.06E-05
Road 16	16	0200-0300	1.08E-02	8.30E-08	2.54E-06	2.72E-02	7.31E-08	2.26E-06	2.86E-01	7.70E-07	2.36E-05	2.56E-01	6.73E-07	2.06E-05
Road 16	16	0300-0400	1.70E-02	5.87E-08	1.80E-06	3.56E-02	3.34E-08	1.02E-06	4.50E-01	1.55E-06	4.75E-05	3.35E-01	3.14E-06	9.63E-05
Road 16	16	0400-0500	1.70E-02	5.87E-08	1.80E-06	3.56E-02	3.34E-08	1.02E-06	4.50E-01	1.55E-06	4.75E-05	3.35E-01	3.14E-06	9.63E-05
Road 16	16	0500-0600	1.82E-02	1.13E-07	3.47E-06	3.99E-02	2.31E-07	7.08E-06	4.81E-01	2.99E-06	9.17E-05	3.75E-01	2.33E-06	7.14E-05
Road 16	16	0600-0700	2.44E-02	7.40E-08	3.41E-06	5.36E-02	1.63E-07	7.49E-06	6.34E-01	1.92E-06	8.85E-05	5.03E-01	1.53E-06	7.02E-05
Road 16	16	0700-0800	4.23E-02	4.42E-07	4.79E-06	9.27E-02	4.05E-07	5.11E-06	1.10E-01	1.15E-06	1.24E-05	8.70E-01	3.80E-06	4.09E-05
Road 16	16	0800-0900	4.10E-02	6.06E-07	1.86E-06	3.62E-02	5.35E-07	1.64E-06	3.07E-01	4.54E-06	1.39E-05	2.69E-01	3.98E-06	1.22E-04
Road 16	16	0900-1000	5.56E-02	5.98E-07	1.83E-06	4.91E-02	5.28E-07	1.61E-06	4.16E-01	4.48E-06	1.37E-05	3.65E-01	3.93E-06	1.20E-04
Road 16	16	1000-1100	5.56E-02	5.98E-07	1.83E-06	4.91E-02	5.28E-07	1.61E-06	4.16E-01	4.48E-06	1.37E-05	3.65E-01	3.93E-06	1.20E-04
Road 16	16	1100-1200	4.60E-02	8.45E-07	1.36E-06	4.06E-02	7.46E-07	1.20E-06	3.44E-01	6.32E-06	1.02E-05	3.03E-01	5.58E-06	8.98E-05
Road 16	16	1200-1300	4.60E-02	8.45E-07	1.36E-06	3.99E-02	3.86E-07	1.18E-05	3.82E-01	3.70E-06	1.13E-04	3.30E-01	3.19E-06	9.78E-05
Road 16	16	1300-1400	4.68E-02	4.56E-07	1.40E-06	4.07E-02	3.96E-07	1.21E-06	3.82E-01	3.72E-06	1.14E-05	3.32E-01	3.23E-06	9.83E-05
Road 16	16	1400-1500	4.54E-02	4.84E-07	1.48E-06	3.93E-02	4.19E-07	1.29E-06	3.73E-01	3.98E-06	1.22E-05	3.21E-01	3.42E-06	1.05E-04
Road 16	16	1500-1600	4.54E-02	4.84E-07	1.48E-06	3.93E-02	4.19E-07	1.29E-06	3.73E-01	3.98E-06	1.22E-05	3.21E-01	3.42E-06	1.05E-04
Road 16	16	1600-1700	4.55E-02	4.84E-07	1.48E-06	4.07E-02	4.33E-07	1.32E-06	3.73E-01	3.98E-06	1.22E-05	3.21E-01	3.42E-06	1.05E-04
Road 16	16	1700-1800	3.55E-02	4.76E-07	1.46E-06	3.03E-02	4.53E-07	1.39E-06	2.87E-01	3.85E-06	1.18E-05	2.47E-01	3.31E-06	1.01E-04
Road 16	16	1800-1900	2.81E-02	4.27E-07	1.31E-06	2.43E-02	3.69E-07	1.13E-06	2.98E-01	4.52E-06	1.38E-05	2.56E-01	3.88E-06	1.18E-04
Road 16	16	1900-2000	4.34E-02	5.57E-07	9.49E-06	3.83E-02	4.91E-07	8.37E-06	3.83E-01	4.91E-06	8.37E-05	3.38E-01	4.33E-06	7.38E-05
Road 16	16	2000-2100	4.32E-02	5.55E-07	9.45E-06	3.84E-02	4.93E-07	8.40E-06	3.81E-01	4.89E-06	8.33E-05	3.39E-01	4.35E-06	7.41E-05
Road 16	16	2100-2200	3.93E-02	5.05E-07	8.60E-06	3.49E-02	4.48E-07	7.63E-06	3.47E-01	4.45E-06	7.58E-05	3.08E-01	3.95E-06	6.73E-05
Road 16	16	2200-2300	2.76E-02	3.54E-07	6.04E-06	2.05E-02	2.63E-07	4.48E-06	2.43E-01	3.12E-06	5.32E-05	1.81E-01	2.32E-06	3.95E-05
Road 16	16	2300-2400	2.76E-02	2.53E-07	4.31E-06	2.05E-02	1.88E-07	3.20E-06	2.43E-01	2.23E-06	3.80E-05	1.81E-01	1.66E-06	2.82E-05
Road 17	17	0000-0100	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0100-0200	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0200-0300	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0300-0400	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0400-0500	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0500-0600	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0600-0700	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0700-0800	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0800-0900	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	0900-1000	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1000-1100	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1100-1200	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1200-1300	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1300-1400	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1400-1500	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1500-1600	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1600-1700	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1700-1800	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1800-1900	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	1900-2000	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	2000-2100	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	2100-2200	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	2200-2300	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 17	17	2300-2400	2.86E-02	2.12E-07	3.62E-06	2.12E-02	1.57E-07	2.68E-06	2.52E-01	1.87E-06	3.19E-05	1.87E-01	1.39E-06	2.37E-05
Road 18	18	0000-0100	3.08E-02	8.19E-08	3.20E-06	2.72E-02	7.23E-08	2.82E-06	2.86E-01	7.60E-07	2.97E-05	2.52E-01	6.65E-07	2.59E-05
Road 18	18	0100-0200	3.08E-02	8.19E-08	3.20E-06	2.72E-02	7.23E-08	2.82E-06	2.86E-01	7.60E-07	2.97E-05	2.52E-01	6.65E-07	2.59E-05
Road 18	18	0200-0300	3.08E-02	8.19E-08	3.20E-06	2.72E-02	7.23E-08	2.82E-06	2.86E-01	7.60E-07	2.97E-05	2.52E-01	6.65E-07	2.59E-05
Road 18	18	0300-0400	3.70E-02	5.80E-08	2.27E-06	3.36E-02	5.26E-08	2.06E-06	3.10E-01	4.86E-07	1.90E-05	2.75E-01	4.37E-07	1.71E-05
Road 18	18	0400-0500	3.83E-02	6.56E-08	2.56E-06	3.47E-02	5.95E-08	2.32E-06	3.19E-01	5.47E-07	2.14E-05	2.84E-01	4.93E-07	1.93E-05
Road 18	18	0500-0600	3.83E-02	6.56E-08	2.56E-06	3.47E-02	5.95E-08	2.32E-06	3.19E-01	5.47E-07	2.14E-05	2.84E-01	4.93E-07	1.93E-05
Road 18	18	0600-0700	3.81E-02	2.36E-07	9.21E-06	3.37E-02	2.09E-07	8.15E-06	3.11E-01	1.93E-06	7.53E-05	2.77E-01	1.69E-06	6.60E-05
Road 18	18	0700-0800	4.07E-02	5.32E-07	2.76E-06	3.73E-02	4.88E-07	2.53E-06	3.34E-01	4.36E-06	2.27E-05	3.06E-01	4.01E-06	2.08E-05
Road 18	18	0800-0900	4.07E-02	6.53E-07	2.32E-06	3.60E-02	5.25E-07	2.05E-06	3.34E-01	5.37E-06	1.91E-05	2.96E-01	4.32E-06	1.53E-04
Road 18	18	0900-1000	4.91E-02	6.20E-07	2.15E-06	4.84E-02	6.12E-07	2.12E-06	4.29E-01	5.42E-06	1.88E-05	3.79E-01	4.79E-06	1.66E-04
Road 18	18	1000-1100	5.54E-02	5.87E-07	2.29E-06	4.90E-02	5.19E-07	2.02E-06	4.84E-01	5.13E-06	2.00E-05	4.29E-01	4.54E-06	1.77E-04
Road 18	18	1100-1200	5.41E-02	6.31E-07	2.46E-06	4.78E-02	5.57E-07	2.17E-06	4.72E-01	5.52E-06	2.15E-05	4.18E-01	4.88E-06	1.90E-04
Road 18	18	1200-1300	5.41E-02	6.31E-07	2.46E-06	4.78E-02	5.57E-07	2.17E-06	4.72E-01	5.52E-06	2.15E-05	4.18E-01	4.88E-06	1.90E-04
Road 18	18	1300-1400	4.69E-02	4.50E-07	1.76E-06	4.07E-02	3.91E-07	1.53E-06	3.83E-01	3.67E-06	1.44E-05	3.30E-01	3.17E-06	1.24E-04
Road 18	18	1400-1500	4.68E-02	4.44E-07	1.74E-06	4.06E-02	3.86E-07	1.51E-06	3.82E-01	3.62E-06	1.42E-05	3.30E-01	3.13E-06	1.23E-04
Road 18	18	1500-1600	4.53E-02	5.20E-07	2.03E-05	4.03E-02	4.60E-07	1.80E-05	3.77E-01	4.31E-06	1.68E-04	3.32E-01	3.79E-06	1.48E-04
Road 18	18	1600-1700	4.55E-02	5.20E-07	2.03E-05	4.03E-02	4.60E-07	1.80E-05	3.77E-01	4.31E-06	1.68E-04	3.32E-01	3.79E-06	1.48E-04
Road 18	18	1700-1800	4.55E-02	5.20E-07	2.03E-05	4.03E-02	4.60E-07	1.80E-05	3.77E-01	4.31E-06	1.68E-04	3.32E-01	3.79E-06	1.48E-04
Road 18	18	1800-1900	2.80E-02	4.18E-07	1.64E-06	2.42E-02	3.63E-07	1.42E-06	2.55E-01	3.82E-06	1.49E-05	2.24E-01	3.36E-06	1.31E-04
Road 18	18	1900-2000	2.36E-02	2.20E-07	8.59E-06	2.06E-02	1.92E-07	7.49E-06	3.09E-01	2.88E-06	1.13E-04	2.67E-01	2.49E-06	9.73E-05
Road 18	18	2000-2100	2.04E-02	1.88E-07	7.36E-06	1.82E-02	1.68E-07	6.57E-06	2.75E-01	2.54E-06	9.92E-05	2.46E-01	2.27E-06	8.90E-05
Road 18	18	2100-2200	2.04E-02	1.88E-07	7.36E-06	1.82E-02	1.68E-07	6.57E-06	2.75E-01	2.54E-06	9.92E-05	2.46E-01	2.27E-06	8.90E-05
Road 18	18	2300-0000	2.24E-02	1.51E-07	5.90E-06	1.95E-02	1.32E-07	5.15E-06	2.98E-01	2.01E-06	7.86E-05	2.58E-01	1.74E-06	6.80E-05
Road 19	19	0000-0100	2.86E-02	1.32E-07	3.24E-06	2.52E-02	9.93E-08	2.86E-06	2.86E-01	1.89E-06	3.61E-05	2.52E-01	1.67E-06	3.19E-05
Road 19	19	0100-0200	2.86E-02	1.32E-07	3.24E-06	2.52E-02	9.93E-08	2.86E-06	2.86E-01	1.89E-06	3.61E-05	2.52E-01	1.67E-06	3.19E-05
Road 19	19	0200-0300	2.86E-02	1.32E-07	3.24E-06	2.52E-02	9.93E-08	2.86E-06	2.86E-01	1.89E-06	3.61E-05	2.52E-01	1.67E-06	3.19E-05
Road 19	19	0300-0400	3.41E-02	7.88E-08	2.27E-06	3.10E-02	7.15E-08	2.06E-06	2.60E-01	6.00E-07	1.73E-05	2.34E-01	5.40E-07	1.56E-05
Road 19	19	0400-0500	3.57E-02	9.04E-08	2.60E-06	3.24E-02	8.19E-08	2.36E-06	2.66E-01	6.73E-07	1.94E-05	2.40E-01	6.07E-07	1.74E-05
Road 19	19	0500-0600	3.57E-02	9.04E-08	2.60E-06	3.24E-02	8.19E-08	2.36E-06	2.66E-01	6.73E-07	1.94E-05	2.40E-01	6.07E-07	1.74E-05
Road 19	19	0600-0700	3.72E-02	3.45E-07	9.93E-06	3.30E-02	3.05E-07	8.79E-06	2.70E-01	2.50E-06	7.21E-05	2.37E-01	2.19E-06	6.31E-05
Road 19	19	0700-0800	3.96E-02	3.66E-07	1.05E-06	3.51E-02	3.24E-07	9.34E-07	2.87E-01	2.65E-06	7.65E-06	2.52E-01	2.33E-06	6.70E-05
Road 19	19	0800-0900	3.97E-02	2.68E-07	2.48E-06	3.51E-02	2.37E-07	2.19E-06	2.87E-01	1.94E-06	1.68E-05	2.52E-01	1.71E-06	1.48E-04
Road 19	19	0900-1000	4.86E-02	8.86E-07	2.55E-05	4.23E-02	7.72E-07	2.22E-05	3.11E-01	5.68E-06	1.63E-04	2.69E-01	4.90E-06	1.41E-04
Road 19	19	1000-1100	6.48E-02	1.32E-07	3.79E-06	5.64E-02	4.44E-07	1.27E-05	3.72E-01	7.58E-07	2.18E-05	3.23E-01	2.54E-06	7.31E-05
Road 19	19	1100-1200	5.27E-02	7.95E-07	2.29E-06	4.62E-02	6.96E-07	2.01E-06	3.30E-01	4.97E-06	1.43E-05	2.87E-01	4.34E-06	1.25E-04
Road 19	19	1200-1300	5.27E-02	7.95E-07	2.29E-06	4.62E-02	6.96E-07	2.01E-06	3.30E-01	4.97E-06	1.43E-05	2.87E-01	4.34E-06	1.25E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	7.02E-02	1.69E-07	1.57E-06	3.44E-02	1.38E-06	3.30E-05	6.58E-01	1.58E-06	1.47E-05	3.24E-01	1.29E-05	3.10E-04
Road 41	41	0100-0200	8.38E-02	1.46E-07	1.37E-06	7.41E-02	1.29E-06	1.21E-05	4.53E-01	7.89E-07	7.41E-06	3.98E-01	6.94E-06	6.51E-05
Road 41	41	0200-0300	9.50E-02	1.35E-07	1.26E-06	8.60E-02	1.22E-06	1.14E-05	5.12E-01	7.26E-07	6.81E-06	4.62E-01	6.55E-06	6.14E-05
Road 41	41	0300-0400	1.04E-01	1.27E-07	1.20E-06	9.40E-02	1.16E-06	1.09E-05	5.58E-01	6.87E-07	6.44E-06	5.05E-01	6.21E-06	5.81E-05
Road 41	41	0400-0500	1.02E-01	1.35E-07	1.26E-06	9.24E-02	1.22E-06	1.14E-05	5.47E-01	7.21E-07	6.76E-06	4.93E-01	6.50E-06	6.10E-05
Road 41	41	0500-0600	1.92E-01	1.75E-07	1.64E-06	1.73E-01	1.57E-06	1.48E-05	1.03E+00	9.36E-07	8.78E-06	9.28E-01	8.43E-06	7.91E-05
Road 41	41	0600-0700	7.53E-02	2.80E-07	2.63E-06	6.75E-02	2.51E-06	2.36E-05	3.88E-01	1.44E-06	1.35E-05	3.45E-01	1.28E-06	1.20E-05
Road 41	41	0700-0800	9.05E-02	7.69E-07	7.22E-06	8.00E-02	6.80E-06	6.38E-05	4.70E-01	3.99E-06	3.75E-05	4.13E-01	3.51E-06	3.29E-05
Road 41	41	0800-0900	1.56E-01	1.56E-06	1.46E-05	1.38E-01	1.38E-06	1.29E-05	8.37E-01	8.37E-06	7.85E-05	7.39E-01	7.39E-06	6.93E-05
Road 41	41	0900-1000	9.85E-02	8.80E-07	8.26E-06	8.58E-02	7.67E-06	7.19E-05	5.00E-01	4.47E-06	4.19E-05	4.34E-01	3.88E-06	3.64E-05
Road 41	41	1000-1100	1.08E-01	8.03E-07	7.53E-06	9.46E-02	7.04E-06	6.60E-05	5.47E-01	4.07E-06	3.82E-05	4.78E-01	3.56E-06	3.34E-05
Road 41	41	1100-1200	1.07E-01	8.50E-07	7.98E-06	9.49E-02	7.51E-06	7.05E-05	5.43E-01	4.30E-06	4.03E-05	4.78E-01	3.79E-06	3.55E-05
Road 41	41	1200-1300	1.14E-01	8.72E-07	8.18E-06	1.00E-01	7.68E-06	7.21E-05	5.78E-01	4.41E-06	4.14E-05	5.04E-01	3.87E-06	3.63E-05
Road 41	41	1300-1400	1.08E-01	8.03E-07	7.53E-06	9.49E-02	7.04E-06	6.60E-05	5.47E-01	4.07E-06	3.82E-05	4.78E-01	3.56E-06	3.34E-05
Road 41	41	1400-1500	1.06E-01	8.16E-07	7.66E-06	9.35E-02	7.19E-06	6.74E-05	5.40E-01	4.14E-06	3.88E-05	4.73E-01	3.63E-06	3.41E-05
Road 41	41	1500-1600	1.06E-01	8.16E-07	7.66E-06	9.35E-02	7.19E-06	6.74E-05	5.38E-01	4.14E-06	3.88E-05	4.73E-01	3.63E-06	3.41E-05
Road 41	41	1600-1700	1.00E-01	8.01E-07	7.51E-06	8.81E-02	7.04E-06	6.60E-05	5.09E-01	4.06E-06	3.81E-05	4.46E-01	3.56E-06	3.34E-05
Road 41	41	1700-1800	3.66E-02	7.31E-07	6.86E-06	3.54E-02	7.06E-07	6.63E-06	1.87E-01	3.73E-06	3.50E-05	1.81E-01	3.62E-06	3.39E-05
Road 41	41	1800-1900	7.29E-02	6.17E-07	5.79E-06	6.31E-02	5.35E-07	5.02E-06	3.90E-01	3.31E-06	3.10E-05	3.37E-01	2.85E-06	2.67E-05
Road 41	41	1900-2000	4.61E-02	2.58E-07	2.42E-06	4.08E-02	2.28E-07	2.14E-06	2.50E-01	1.40E-06	1.31E-05	2.19E-01	1.23E-06	1.15E-05
Road 41	41	2000-2100	3.02E-02	2.19E-07	2.06E-06	3.04E-02	2.20E-07	2.06E-06	1.64E-01	1.19E-06	1.11E-05	1.65E-01	1.19E-06	1.01E-05
Road 41	41	2100-2200	4.75E-02	2.13E-07	2.00E-06	4.27E-02	1.92E-07	1.80E-06	2.65E-01	1.19E-06	1.11E-05	2.36E-01	1.06E-06	9.94E-06
Road 41	41	2200-2300	1.92E-02	1.83E-07	1.72E-06	1.66E-02	1.58E-07	1.48E-06	1.07E-01	1.02E-06	9.56E-06	9.24E-02	8.80E-07	8.26E-06
Road 41	41	2300-0000	5.60E-02	1.89E-07	1.77E-06	4.96E-02	1.67E-07	1.56E-06	3.09E-01	1.04E-06	9.78E-06	2.68E-01	9.06E-07	8.51E-06
Road 42	42	0000-0100	9.14E-02	1.97E-07	4.98E-06	8.09E-02	1.74E-07	4.41E-06	4.88E-01	1.05E-06	2.66E-05	4.30E-01	9.24E-07	2.34E-05
Road 42	42	0100-0200	1.09E-01	1.78E-07	4.51E-06	9.66E-02	1.57E-07	3.98E-06	5.68E-01	9.26E-07	2.34E-05	5.03E-01	8.20E-07	2.08E-05
Road 42	42	0200-0300	1.28E-01	1.70E-07	4.31E-06	1.15E-01	1.54E-07	3.90E-06	6.73E-01	8.93E-07	2.26E-05	6.07E-01	8.05E-07	2.04E-05
Road 42	42	0300-0400	1.49E-01	1.64E-07	4.16E-06	1.34E-01	1.48E-07	3.75E-06	7.84E-01	8.61E-07	2.18E-05	7.07E-01	7.79E-07	1.97E-05
Road 42	42	0400-0500	1.38E-01	1.70E-07	4.31E-06	1.24E-01	1.53E-07	3.89E-06	7.18E-01	8.87E-07	2.25E-05	6.48E-01	7.99E-07	2.03E-05
Road 42	42	0500-0600	1.15E-01	1.99E-07	5.05E-06	1.02E-01	1.76E-07	4.46E-06	5.98E-01	1.04E-06	2.63E-05	5.28E-01	9.17E-07	2.32E-05
Road 42	42	0600-0700	1.45E-01	2.89E-07	7.32E-06	1.29E-01	2.56E-07	6.49E-06	7.55E-01	1.50E-06	3.81E-05	6.68E-01	1.33E-06	3.37E-05
Road 42	42	0700-0800	1.35E-01	9.90E-07	2.51E-05	1.19E-01	8.74E-07	2.22E-05	6.84E-01	5.01E-06	1.27E-04	6.01E-01	4.40E-06	1.12E-04
Road 42	42	0800-0900	1.45E-01	1.07E-06	2.70E-05	1.28E-01	9.46E-07	2.39E-05	7.34E-01	5.40E-06	1.37E-04	6.45E-01	4.75E-06	1.20E-04
Road 42	42	0900-1000	1.45E-01	1.07E-06	2.70E-05	1.28E-01	9.52E-07	2.41E-05	7.34E-01	5.43E-06	1.37E-04	6.45E-01	4.78E-06	1.21E-04
Road 42	42	1000-1100	1.56E-01	1.01E-06	2.57E-05	1.38E-01	8.94E-07	2.27E-05	7.96E-01	5.16E-06	1.30E-04	7.04E-01	4.56E-06	1.15E-04
Road 42	42	1100-1200	1.56E-01	1.01E-06	2.57E-05	1.38E-01	8.94E-07	2.27E-05	7.96E-01	5.16E-06	1.30E-04	7.04E-01	4.56E-06	1.15E-04
Road 42	42	1200-1300	1.74E-01	1.25E-06	3.17E-05	1.53E-01	1.10E-06	2.80E-05	8.84E-01	6.35E-06	1.61E-04	7.82E-01	5.62E-06	1.42E-04
Road 42	42	1300-1400	1.74E-01	1.25E-06	3.17E-05	1.53E-01	1.10E-06	2.80E-05	8.84E-01	6.35E-06	1.61E-04	7.82E-01	5.62E-06	1.42E-04
Road 42	42	1400-1500	1.75E-01	1.34E-06	3.41E-05	1.54E-01	1.18E-06	3.00E-05	8.83E-01	6.49E-06	1.65E-04	7.41E-01	5.70E-06	1.45E-04
Road 42	42	1500-1600	1.66E-01	1.34E-06	3.41E-05	1.46E-01	1.18E-06	3.00E-05	8.37E-01	6.49E-06	1.65E-04	7.02E-01	5.70E-06	1.45E-04
Road 42	42	1600-1700	1.66E-01	1.32E-06	3.34E-05	1.46E-01	1.16E-06	2.95E-05	8.01E-01	6.36E-06	1.62E-04	7.02E-01	5.58E-06	1.42E-04
Road 42	42	1700-1800	1.46E-01	1.22E-06	3.08E-05	1.29E-01	1.07E-06	2.72E-05	7.04E-01	5.87E-06	1.49E-04	6.19E-01	5.16E-06	1.31E-04
Road 42	42	1800-1900	1.46E-01	1.22E-06	3.08E-05	1.29E-01	1.07E-06	2.72E-05	7.04E-01	5.87E-06	1.49E-04	6.19E-01	5.16E-06	1.31E-04
Road 42	42	1900-2000	1.56E-01	2.19E-07	4.99E-06	1.38E-01	1.94E-07	4.42E-06	7.51E-01	1.05E-06	2.40E-05	6.59E-01	9.25E-07	2.11E-05
Road 42	42	2000-2100	1.66E-01	1.84E-07	4.37E-06	1.47E-01	1.63E-07	3.87E-06	8.14E-01	1.00E-06	2.38E-05	7.21E-01	8.87E-07	2.10E-05
Road 42	42	2100-2200	1.49E-01	1.84E-07	4.37E-06	1.32E-01	1.63E-07	3.87E-06	7.28E-01	9.03E-07	2.14E-05	6.50E-01	8.06E-07	1.91E-05
Road 42	42	2200-2300	1.54E-01	1.57E-07	3.58E-06	1.38E-01	1.41E-07	3.21E-06	7.32E-01	7.46E-07	1.70E-05	6.50E-01	6.63E-07	1.51E-05
Road 42	42	2300-0000	1.60E-01	1.57E-07	3.58E-06	1.43E-01	1.41E-07	3.21E-06	7.59E-01	7.46E-07	1.70E-05	6.74E-01	6.63E-07	1.51E-05
Road 43	101	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 43	101	2300-0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2300-0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 44	44	0000-0100	5.36E-02	8.99E-07	5.55E-06	4.67E-02	7.83E-07	4.83E-06	3.40E-01	5.71E-06	3.52E-05	2.94E-01	4.93E-06	3.05E-05
Road 44	44	0100-0200	6.05E-02	8.93E-07	5.52E-06	5.32E-02	7.85E-07	4.85E-06	3.67E-01	5.42E-06	3.35E-05	3.21E-01	4.73E-06	2.92E-05
Road 44	44	0200-0300	6.88E-02	8.21E-07	5.07E-06	6.20E-02	7.26E-07	4.48E-06	3.63E-01	5.07E-06	3.13E-05	3.19E-01	4.46E-06	2.75E-05
Road 44	44	0300-0400	1.20E-01	8.21E-07	5.07E-06	1.05E-01	7.26E-07	4.48E-06	3.63E-01	5.07E-06	3.13E-05	3.19E-01	4.46E-06	2.75E-05
Road 44	44	0400-0500	5.40E-02	9.51E-07	5.87E-06	4.74E-02	8.34E-07	5.15E-06	3.53E-01	6.21E-06	3.84E-05	3.08E-01	5.41E-06	3.34E-05
Road 44	44	0500-0600	9.38E-02	9.38E-07	5.79E-06	8.23E-02	8.23E-07	5.08E-06	5.47E-01	5.47E-06	3.38E-05	4.76E-01	4.76E-06	2.94E-05
Road 44	44	0600-0700	1.40E-01	1.54E-06	9.52E-06	1.23E-01	1.35E-06	8.34E-06	8.16E-01	8.97E-06	5.54E-05	7.09E-01	7.79E-06	4.81E-05
Road 44	44	0700-0800	1.44E-01	1.54E-06	9.52E-06	1.26E-01	1.35E-06	8.34E-06	8.39E-01	8.97E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Max			Monthly Hour Min			Monthly Hour Max		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 7	7	1600-1700	3.09E-02	8.83E-03	4.03E-05	4.25E-02	5.60E-06	4.88E-06	3.58E-01	1.03E-01	4.67E-04	5.07E-01	6.68E-05	5.82E-05
Road 7	7	1700-1800	3.78E-02	5.79E-07	6.79E-06	3.16E-02	4.85E-07	5.69E-06	3.29E-01	5.05E-06	5.92E-05	2.73E-01	4.18E-06	4.90E-05
Road 7	7	1800-1900	2.84E-02	4.83E-07	5.66E-06	2.43E-02	4.13E-07	4.84E-06	2.82E-01	4.79E-06	5.62E-05	2.39E-01	4.06E-06	4.76E-05
Road 7	7	1900-2000	2.51E-02	4.31E-07	5.09E-06	2.13E-02	2.89E-07	3.39E-06	2.88E-01	3.91E-06	4.58E-05	2.42E-01	3.29E-06	3.85E-05
Road 7	7	2000-2100	2.47E-02	2.61E-07	3.06E-06	2.15E-02	2.28E-07	2.67E-06	2.97E-01	3.15E-06	3.69E-05	2.57E-01	2.72E-06	3.19E-05
Road 7	7	2100-2200	2.16E-02	2.26E-07	2.65E-06	1.90E-02	1.99E-07	2.33E-06	2.64E-01	2.76E-06	3.24E-05	2.32E-01	2.43E-06	2.85E-05
Road 7	7	2200-2300	2.13E-02	2.18E-07	2.56E-06	1.86E-02	1.90E-07	2.23E-06	2.74E-01	2.81E-06	3.29E-05	2.37E-01	2.43E-06	2.84E-05
Road 7	7	2300-0000	2.32E-02	1.78E-07	2.09E-06	2.02E-02	1.55E-07	1.82E-06	2.82E-01	2.16E-06	2.53E-05	2.43E-01	1.86E-06	2.18E-05
Road 8	8	0000-0100	3.06E-02	2.68E-07	3.14E-06	2.61E-02	2.29E-07	2.69E-06	3.39E-01	2.97E-06	3.48E-05	2.89E-01	2.53E-06	2.97E-05
Road 8	8	0100-0200	4.16E-02	3.62E-08	4.24E-07	3.56E-02	3.09E-08	3.62E-07	4.60E-01	4.00E-07	4.69E-06	3.92E-01	3.41E-07	4.00E-06
Road 8	8	0200-0300	4.53E-02	1.02E-08	1.19E-07	3.87E-02	8.73E-09	1.02E-07	5.01E-01	1.13E-07	1.32E-06	4.27E-01	9.64E-08	1.13E-06
Road 8	8	0300-0400	4.53E-02	1.02E-08	2.07E-07	3.96E-02	8.96E-09	1.81E-07	5.01E-01	1.13E-07	2.29E-06	4.38E-01	9.91E-08	2.00E-06
Road 8	8	0400-0500	4.53E-02	1.02E-08	2.07E-07	3.96E-02	8.96E-09	1.81E-07	5.01E-01	1.13E-07	2.29E-06	4.38E-01	9.91E-08	2.00E-06
Road 8	8	0500-0600	3.39E-02	1.13E-08	1.48E-07	2.97E-02	9.91E-09	1.29E-07	3.75E-01	1.25E-07	1.64E-06	3.29E-01	1.10E-07	1.44E-06
Road 8	8	0600-0700	5.02E-02	2.17E-08	3.85E-07	4.39E-02	1.90E-08	3.37E-07	5.55E-01	2.40E-07	4.26E-06	4.85E-01	2.10E-07	3.72E-06
Road 8	8	0700-0800	5.16E-02	4.78E-08	9.67E-07	4.36E-02	4.04E-08	8.18E-07	6.79E-01	6.30E-07	1.27E-05	5.71E-01	5.30E-07	1.07E-05
Road 8	8	0800-0900	5.24E-02	4.78E-08	9.67E-07	4.36E-02	3.98E-08	8.05E-07	6.89E-01	6.30E-07	1.27E-05	5.71E-01	5.22E-07	1.06E-05
Road 8	8	0900-1000	6.50E-02	1.03E-07	2.07E-06	5.58E-02	8.81E-08	1.78E-06	6.86E-01	1.08E-06	2.19E-05	5.87E-01	9.26E-07	1.87E-05
Road 8	8	1100-1200	6.39E-02	9.58E-08	1.94E-06	5.36E-02	8.04E-08	1.63E-06	6.94E-01	1.04E-06	2.11E-05	5.82E-01	8.68E-07	1.76E-05
Road 8	8	1200-1300	6.27E-02	1.34E-07	2.67E-06	6.92E-02	1.48E-07	2.95E-06	6.28E-01	1.34E-06	2.68E-05	6.93E-01	1.48E-06	2.95E-05
Road 8	8	1300-1400	8.39E-02	3.54E-07	7.16E-06	6.96E-02	2.94E-07	5.94E-06	6.18E-01	2.61E-06	5.28E-05	5.10E-01	2.15E-06	4.35E-05
Road 8	8	1400-1500	8.39E-02	3.54E-07	7.16E-06	6.96E-02	2.94E-07	5.94E-06	6.18E-01	2.61E-06	5.28E-05	5.10E-01	2.15E-06	4.35E-05
Road 8	8	1500-1600	7.95E-02	3.60E-07	7.28E-06	6.56E-02	2.97E-07	6.01E-06	6.22E-01	2.72E-06	5.51E-05	4.94E-01	2.24E-06	4.52E-05
Road 8	8	1600-1700	7.92E-02	3.71E-07	7.51E-06	6.62E-02	3.10E-07	6.28E-06	6.26E-01	2.93E-06	5.93E-05	5.21E-01	2.44E-06	4.94E-05
Road 8	8	1700-1800	8.38E-02	3.37E-07	6.82E-06	7.01E-02	2.82E-07	5.71E-06	6.29E-01	2.53E-06	5.12E-05	5.26E-01	2.12E-06	4.29E-05
Road 8	8	1800-1900	8.80E-02	2.46E-07	4.98E-06	4.51E-02	2.12E-07	4.29E-06	6.44E-01	2.46E-06	4.98E-05	4.63E-01	2.22E-06	4.49E-05
Road 8	8	1900-2000	4.46E-02	1.42E-07	2.86E-06	3.90E-02	1.24E-07	2.50E-06	5.69E-01	1.81E-06	3.65E-05	4.95E-01	1.57E-06	3.18E-05
Road 8	8	2000-2100	4.15E-02	1.30E-07	2.62E-06	3.67E-02	1.14E-07	2.30E-06	5.31E-01	1.66E-06	3.34E-05	4.69E-01	1.47E-06	2.95E-05
Road 8	8	2100-2200	4.15E-02	1.30E-07	2.62E-06	3.67E-02	1.14E-07	2.30E-06	5.31E-01	1.66E-06	3.34E-05	4.69E-01	1.47E-06	2.95E-05
Road 8	8	2200-2300	4.42E-02	1.01E-07	2.05E-06	3.88E-02	8.84E-08	1.79E-06	5.66E-01	1.29E-06	2.63E-05	4.97E-01	1.13E-06	2.30E-05
Road 8	8	2300-0000	4.42E-02	1.01E-07	2.05E-06	3.88E-02	8.84E-08	1.79E-06	5.66E-01	1.29E-06	2.63E-05	4.97E-01	1.13E-06	2.30E-05
Road 9	9	0000-0100	3.08E-02	6.55E-08	4.86E-07	2.66E-02	5.65E-08	4.19E-07	3.02E-01	6.41E-07	4.76E-06	2.57E-01	5.46E-07	4.05E-06
Road 9	9	0100-0200	3.27E-02	1.34E-07	6.71E-06	2.82E-02	1.16E-07	5.79E-06	3.21E-01	1.31E-06	6.58E-05	2.73E-01	1.12E-06	5.60E-05
Road 9	9	0200-0300	3.67E-02	4.53E-08	3.36E-07	3.20E-02	3.95E-08	2.93E-07	3.25E-01	4.01E-07	2.97E-06	2.80E-01	3.45E-07	2.56E-06
Road 9	9	0300-0400	3.91E-02	5.27E-08	3.91E-07	3.36E-02	4.52E-08	3.36E-07	3.38E-01	4.55E-07	3.38E-06	2.90E-01	3.91E-07	2.90E-06
Road 9	9	0400-0500	3.91E-02	5.27E-08	3.91E-07	3.36E-02	4.52E-08	3.36E-07	3.38E-01	4.55E-07	3.38E-06	2.90E-01	3.91E-07	2.90E-06
Road 9	9	0500-0600	4.01E-02	9.36E-08	5.86E-07	3.44E-02	8.03E-08	5.03E-07	3.47E-01	8.09E-07	5.06E-06	2.98E-01	6.95E-07	4.35E-06
Road 9	9	0600-0700	4.40E-02	2.16E-07	1.61E-06	3.77E-02	1.85E-07	1.38E-06	3.80E-01	1.87E-06	1.39E-05	3.08E-01	1.52E-06	1.12E-05
Road 9	9	0700-0800	5.44E-02	6.21E-07	4.61E-06	4.68E-02	5.25E-07	3.90E-06	4.16E-01	4.75E-06	3.53E-05	3.58E-01	4.05E-06	3.01E-05
Road 9	9	0800-0900	5.41E-02	6.21E-07	4.61E-06	4.68E-02	5.25E-07	3.90E-06	4.16E-01	4.75E-06	3.53E-05	3.58E-01	4.05E-06	3.01E-05
Road 9	9	0900-1000	6.19E-02	5.80E-07	4.31E-06	5.25E-02	4.92E-07	3.65E-06	4.52E-01	4.24E-06	3.15E-05	3.80E-01	3.57E-06	2.65E-05
Road 9	9	1000-1100	6.53E-02	1.14E-07	8.47E-07	5.54E-02	9.66E-08	7.17E-07	4.77E-01	8.32E-07	6.18E-06	4.05E-01	7.06E-07	5.24E-06
Road 9	9	1100-1200	6.46E-02	4.95E-07	3.68E-06	5.42E-02	4.15E-07	3.08E-06	4.72E-01	3.61E-06	2.68E-05	3.96E-01	3.03E-06	2.25E-05
Road 9	9	1200-1300	6.34E-02	5.91E-07	4.39E-06	6.80E-02	6.34E-07	4.71E-06	4.63E-01	4.32E-06	3.21E-05	4.97E-01	4.63E-06	3.44E-05
Road 9	9	1300-1400	8.26E-02	4.56E-07	3.39E-06	6.85E-02	3.78E-07	2.81E-06	4.55E-01	2.51E-06	1.87E-05	3.77E-01	2.08E-06	1.55E-05
Road 9	9	1400-1500	7.96E-02	3.44E-07	5.45E-06	6.59E-02	2.85E-07	4.51E-06	6.21E-01	2.68E-06	4.25E-05	5.14E-01	2.22E-06	3.52E-05
Road 9	9	1500-1600	7.92E-02	3.71E-07	5.88E-06	6.56E-02	3.07E-07	4.87E-06	6.26E-01	2.93E-06	4.65E-05	5.18E-01	2.43E-06	3.85E-05
Road 9	9	1600-1700	8.38E-02	3.37E-07	5.34E-06	7.01E-02	2.82E-07	4.47E-06	6.29E-01	2.53E-06	4.01E-05	5.26E-01	2.12E-06	3.36E-05
Road 9	9	1700-1800	8.80E-02	2.46E-07	3.90E-06	4.51E-02	2.12E-07	3.36E-06	6.44E-01	2.46E-06	3.90E-05	4.63E-01	2.22E-06	3.52E-05
Road 9	9	1800-1900	4.46E-02	1.42E-07	2.24E-06	3.90E-02	1.24E-07	1.96E-06	5.69E-01	1.81E-06	2.86E-05	4.95E-01	1.57E-06	2.49E-05
Road 9	9	1900-2000	4.15E-02	1.30E-07	2.05E-06	3.67E-02	1.14E-07	1.80E-06	5.31E-01	1.66E-06	2.62E-05	4.69E-01	1.47E-06	2.31E-05
Road 9	9	2000-2100	4.15E-02	1.30E-07	2.05E-06	3.67E-02	1.14E-07	1.80E-06	5.31E-01	1.66E-06	2.62E-05	4.69E-01	1.47E-06	2.31E-05
Road 9	9	2100-2200	4.42E-02	1.01E-07	1.60E-06	3.88E-02	8.84E-08	1.40E-06	5.66E-01	1.29E-06	2.05E-05	4.97E-01	1.13E-06	1.80E-05
Road 9	9	2200-2300	4.42E-02	1.01E-07	1.60E-06	3.88E-02	8.84E-08	1.40E-06	5.66E-01	1.29E-06	2.05E-05	4.97E-01	1.13E-06	1.80E-05
Road 9	9	2300-0000	4.42E-02	1.01E-07	1.60E-06	3.88E-02	8.84E-08	1.40E-06	5.66E-01	1.29E-06	2.05E-05	4.97E-01	1.13E-06	1.80E-05
Road 10	10	0000-0100	1.45E-01	1.44E-07	9.66E-07	1.29E-01	1.28E-07	8.61E-07	2.77E-01	2.75E-07	1.84E-06	2.47E-01	2.45E-07	1.64E-06
Road 10	10	0100-0200	1.45E-01	1.44E-07	9.66E-07	1.29E-01	1.28E-07	8.61E-07	2.77E-01	2.75E-07	1.84E-06	2.47E-01	2.45E-07	1.64E-06
Road 10	10	0200-0300	1.45E-01	1.44E-07	9.66E-07	1.29E-01	1.28E-07	8.61E-07	2.77E-01	2.75E-07	1.84E-06	2.47E-01	2.45E-07	1.64E-06
Road 10	10	0300-0400	1.45E-01	1.44E-07	9.66E-07	1.29E-01	1.28E-07	8.61E-07	2.77E-01	2.75E-07	1.84E-06	2.47E-01	2.45E-07	1.64E-06
Road 10	10	0400-0500	1.58E-01	1.47E-07	9.88E-07	1.38E-01	1.29E-07	8.67E-07	3.02E-01	2.80E-07	1.89E-06	2.64E-01	2.45E-07	1.65E-06
Road 10	10	0500-0600	1.58E-01	1.47E-07	9.88E-07	1.38E-01	1.29E-07	8.67E-07	3.02E-01	2.80E-07	1.89E-06	2.64E-01	2.45E-07	1.65E-06
Road 10	10	0600-0700	1.30E-01	1.23E-07	2.16E-06	1.13E-01	1.07E-07	1.88E-06	2.48E-01	2.35E-07	4.12E-06	2.16E-01	2.05E-07	3.59E-06
Road 10	10	0700-0800	1.61E-01	9.34E-07	6.26E-06	1.40E-01	8.13E-07	5.45E-06	3.24E-01	1.87E-06	1.25E-05	2.81E-01	1.63E-06	1.09E-05
Road 10	10	0800-0900	1.77E-01	1.08E-06	7.25E-06	1.54E-01	9.43E-07	6.32E-06	3.49E-01	2.13E-06	1.43E-05	3.04E-01	1.85E-06	1.24E-05
Road 10	10	0900-1000	1.77E-01	1.08E-06	7.25E-06	1.54E-01	9.43E-07	6.32E-06	3.49E-01	2.13E-06	1.43E-05	3.04E-01	1.85E-06	1.24E-05
Road 10	10	1000-1100	1.87E-01	1.02E-06	6.85E-06	1.61E-01	8.81E-07	5.91E-06	3.68E-01	2.01E-06	1.35E-05	3.20E-01	1.74E-06	1.17E-05
Road 10	10	1100-1200	1.86E-01	1.34E-06	8.98E-06	1.60E-01	1.15E-06	7.72E-06	3.66E-01	2.64E-06	1.77E-05	3.18E-01	2.29E-06	1.54E-05
Road 10	10	1200-1300	1.98E-01	1.13E-06	7.55E-06	1.69E-01	9.60E-07	6.44E-06	3.91E-01	2.23E-06	1.49E-05	3.33E-01	1.89E-06	1.27E-05
Road 10	10	1300-1400	1.98E-01	1.13E-06	7.55E-06	1.69E-01	9.60E-07	6.44E-06	3.91E-01	2.23E-06	1.49E-05	3.33E-01	1.89E-06	1.27E-05
Road 10	10	1400-1500	1.95E-01	1.14E-06	7.63E-06	1.66E-01	9.70E-07	6.50E-06	3.85E-01	2.25E-06	1.51E-05	3.27E-01	1.91E-06	1.28E-05
Road 10	10	1500-1600	1.95E-01	1.14E-06	7.63E-06	1.66E-01	9.70E-07	6.50E-06	3.85E-01	2.25E-06	1.51E-05	3.27E-01	1.91E-06	1.28E-05
Road 10	10	1600-1700	1.88E-01	1.10E-06	7.37E-06	1.60E-01	9.38E-07	6.29E-06	3.71E-01	2.17E-06	1.46E-05	3.15E-01	1.85E-06	1.24E-05
Road 10	10	1700-1800	1.88E-01	1.10E-06	7.37E-06	1.60E-01	9.38E-07	6.29E-06	3.71E-01	2.17E-06	1.46E-05	3.15E-01	1.85E-06	1.24E-05
Road 10	10	1800-1900	1.44E-01	8.13E-07	5.45E-06	1.27E-01	7.17E-07	4.81E-06	2.74E-01	1.55E-06	1.04E-05	2.42E-01	1.37E-06	9.18E-06
Road 10	10	1900-2000	9.01E-02	3.50E-07	2.35E-06	7.95E-02	3.09E-07	2.07E-06	4.99E-01	1.94E-06	1.30E-05	4.38E-01	1.70E-06	1.14E-05
Road 10	10	2000-2100	8.78E-02	2.90E-07	1.94E-06	7.75E-02	2.56E-07	1.71E-06	4.86E-01	1.61E-06	1.07E-05	4.27E-01	1.41E-06	9.47E-06
Road 10	10	2100-2200	9.06E-02	2.84E-07	1.90E-06	8.00E-02	2.51E-07	1.68E-06	5.01E-01	1.57E-06	1.05E-05	4.41E-01	1.39E-06	9.27E-06
Road 10	10	2200-2300	9.78E-02	2.90E-07	1.94E-06	8.63E-02	2.56E-07	1.71E-06	5.41E-01	1.61E-06	1.07E-05	4.77E-01	1.41E-06	9.47E-06
Road 10	10	2300-0000	9.93E-02	2.36E-07	1.58E-06	8.87E-02	2.11E-07	1.41E-06	5.59E-01	1.33E-06	8.90E-06	4.99E-01	1.18E-06	7.93E-06

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.1 Emission Factor in 2028.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Max			Monthly Hour Min			Monthly Hour Max		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 11	11	0000-0100	1.51E-02	2.41E-07	3.26E-07	1.09E-02	1.74E-07	2.35E-07	1.76E-01	2.80E-06	3.79E-06	1.26E-01	2.02E-06	2.73E-06
Road 11	11	0100-0200	6.56E-02	1.87E-07	7.16E-07	5.82E-02	1.66E-07	6.36E-07	5.20E-01	1.48E-06	5.68E-06	4.61E-01	1.31E-06	5.04E-06
Road 11	11	0200-0300	7.51E-02	1.62E-07	6.22E-07	6.74E-02	1.45E-07	5.58E-07	5.61E-01	1.21E-06	4.66E-06	5.04E-01	1.09E-06	4.17E-06
Road 11	11	0300-0400	8.38E-02	1.48E-07	5.67E-07	7.47E-02	1.32E-07	5.06E-07	5.99E-01	1.06E-06	4.05E-06	5.33E-01	9.39E-07	3.61E-06
Road 11	11	0400-0500	8.59E-02	1.64E-07	6.30E-07	7.57E-02	1.45E-07	5.55E-07	6.10E-01	1.17E-06	4.48E-06	5.37E-01	1.03E-06	3.94E-06
Road 11	11	0500-0600	8.53E-02	2.51E-07	9.61E-07	7.04E-02	2.07E-07	7.93E-07	5.89E-01	1.73E-06	6.64E-06	5.15E-01	1.51E-06	5.78E-06
Road 11	11	0600-0700	7.65E-02	4.89E-07	1.88E-06	6.71E-02	4.30E-07	1.65E-06	5.72E-01	3.67E-06	1.41E-05	5.02E-01	3.21E-06	1.23E-05
Road 11	11	0700-0800	9.70E-02	1.31E-06	5.01E-06	8.49E-02	1.14E-06	4.39E-06	6.76E-01	9.10E-06	3.49E-05	5.90E-01	7.95E-06	3.05E-05
Road 11	11	0800-0900	9.53E-02	1.47E-06	5.63E-06	8.33E-02	1.28E-06	4.93E-06	6.64E-01	1.02E-05	3.92E-05	5.78E-01	8.91E-06	3.42E-05
Road 11	11	0900-1000	1.09E-01	1.43E-06	5.48E-06	9.57E-02	1.25E-06	4.81E-06	7.60E-01	9.97E-06	3.82E-05	6.63E-01	8.74E-06	3.35E-05
Road 11	11	1000-1100	1.30E-01	1.29E-06	4.95E-06	1.14E-01	1.13E-06	4.33E-06	9.04E-01	8.99E-06	3.44E-05	7.89E-01	7.85E-06	3.01E-05
Road 11	11	1100-1200	1.25E-01	1.25E-06	4.80E-06	1.10E-01	1.09E-06	4.18E-06	8.68E-01	8.68E-06	3.33E-05	7.58E-01	7.58E-06	2.91E-05
Road 11	11	1200-1300	1.38E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 11	11	1300-1400	1.37E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 11	11	1400-1500	1.26E-01	1.30E-06	4.99E-06	1.11E-01	1.14E-06	4.37E-06	8.77E-01	9.04E-06	3.47E-05	7.65E-01	7.89E-06	3.03E-05
Road 11	11	1500-1600	1.26E-01	1.30E-06	4.99E-06	1.11E-01	1.14E-06	4.37E-06	8.77E-01	9.04E-06	3.47E-05	7.65E-01	7.89E-06	3.03E-05
Road 11	11	1600-1700	1.28E-01	1.25E-06	4.80E-06	1.13E-01	1.09E-06	4.18E-06	8.88E-01	8.68E-06	3.33E-05	7.75E-01	7.58E-06	2.91E-05
Road 11	11	1700-1800	1.37E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 11	11	1800-1900	1.37E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 11	11	1900-2000	1.26E-01	1.30E-06	4.99E-06	1.11E-01	1.14E-06	4.37E-06	8.77E-01	9.04E-06	3.47E-05	7.65E-01	7.89E-06	3.03E-05
Road 11	11	2000-2100	1.26E-01	1.30E-06	4.99E-06	1.11E-01	1.14E-06	4.37E-06	8.77E-01	9.04E-06	3.47E-05	7.65E-01	7.89E-06	3.03E-05
Road 11	11	2100-2200	1.28E-01	1.25E-06	4.80E-06	1.13E-01	1.09E-06	4.18E-06	8.88E-01	8.68E-06	3.33E-05	7.75E-01	7.58E-06	2.91E-05
Road 11	11	2200-2300	1.37E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 11	11	2300-0000	1.37E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 12	12	0000-0100	1.51E-02	2.41E-07	3.26E-07	1.09E-02	1.74E-07	2.35E-07	1.76E-01	2.80E-06	3.79E-06	1.26E-01	2.02E-06	2.73E-06
Road 12	12	0100-0200	6.56E-02	1.87E-07	7.16E-07	5.82E-02	1.66E-07	6.36E-07	5.20E-01	1.48E-06	5.68E-06	4.61E-01	1.31E-06	5.04E-06
Road 12	12	0200-0300	7.51E-02	1.62E-07	6.22E-07	6.74E-02	1.45E-07	5.58E-07	5.61E-01	1.21E-06	4.66E-06	5.04E-01	1.09E-06	4.17E-06
Road 12	12	0300-0400	8.38E-02	1.48E-07	5.67E-07	7.47E-02	1.32E-07	5.06E-07	5.99E-01	1.06E-06	4.05E-06	5.33E-01	9.39E-07	3.61E-06
Road 12	12	0400-0500	8.59E-02	1.64E-07	6.30E-07	7.57E-02	1.45E-07	5.55E-07	6.10E-01	1.17E-06	4.48E-06	5.37E-01	1.03E-06	3.94E-06
Road 12	12	0500-0600	8.53E-02	2.51E-07	9.61E-07	7.04E-02	2.07E-07	7.93E-07	5.89E-01	1.73E-06	6.64E-06	5.15E-01	1.51E-06	5.78E-06
Road 12	12	0600-0700	7.65E-02	4.89E-07	1.88E-06	6.71E-02	4.30E-07	1.65E-06	5.72E-01	3.67E-06	1.41E-05	5.02E-01	3.21E-06	1.23E-05
Road 12	12	0700-0800	9.70E-02	1.31E-06	5.01E-06	8.49E-02	1.14E-06	4.39E-06	6.76E-01	9.10E-06	3.49E-05	5.90E-01	7.95E-06	3.05E-05
Road 12	12	0800-0900	9.53E-02	1.47E-06	5.63E-06	8.33E-02	1.28E-06	4.93E-06	6.64E-01	1.02E-05	3.92E-05	5.78E-01	8.91E-06	3.42E-05
Road 12	12	0900-1000	1.09E-01	1.43E-06	5.48E-06	9.57E-02	1.25E-06	4.81E-06	7.60E-01	9.97E-06	3.82E-05	6.63E-01	8.74E-06	3.35E-05
Road 12	12	1000-1100	1.30E-01	1.29E-06	4.95E-06	1.14E-01	1.13E-06	4.33E-06	9.04E-01	8.99E-06	3.44E-05	7.89E-01	7.85E-06	3.01E-05
Road 12	12	1100-1200	1.25E-01	1.25E-06	4.80E-06	1.10E-01	1.09E-06	4.18E-06	8.68E-01	8.68E-06	3.33E-05	7.58E-01	7.58E-06	2.91E-05
Road 12	12	1200-1300	1.38E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 12	12	1300-1400	1.37E-01	1.36E-06	5.22E-06	1.21E-01	1.19E-06	4.57E-06	9.57E-01	9.43E-06	3.62E-05	8.35E-01	8.23E-06	3.16E-05
Road 12	12	1400-1500	1.26E-01	1.30E-06	4.99E-06	1.11E-01	1.14E-06	4.37E-06	8.77E-01	9.04E-06	3.47E-05	7.65E-01	7.89E-06	3.03E-05
Road 12	12	1500-1600	1.26E-01	1.30E-06	4.99E-06	1.11E-01	1.14E-06	4.37E-06	8.77E-01	9.04E-06	3.47E-05	7.65E-01	7.89E-06	3.03E-05
Road 12	12	1600-1700	1.28E-01	1.25E-06	4.80E-06	1.13E-01	1.09E-06	4.18E-06	8.88E-01	8.68E-06	3.33E-05	7.75E-01	7.58E-06	2.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	1.23E-01	2.07E-08	4.75E-04	1.23E-01	2.07E-08	4.75E-04	1.08E-01	1.82E-08	4.18E-04	5.32E-02	8.97E-09	2.06E-04
Road 37	37	1700-1800	9.96E-02	1.79E-08	4.12E-04	8.87E-02	1.60E-08	3.67E-04	5.12E-02	9.22E-09	2.12E-04	4.53E-02	8.16E-09	1.87E-04
Road 37	37	1800-1900	6.87E-02	1.24E-08	2.84E-04	6.19E-02	1.11E-08	2.56E-04	3.85E-02	6.93E-09	1.59E-04	3.47E-02	6.23E-09	1.43E-04
Road 37	37	1900-2000	5.89E-02	8.15E-09	1.87E-04	5.27E-02	7.30E-09	1.68E-04	3.59E-02	4.97E-09	1.14E-04	3.20E-02	4.43E-09	1.02E-04
Road 37	37	2000-2100	5.87E-02	6.34E-09	1.45E-04	5.36E-02	5.79E-09	1.33E-04	3.71E-02	4.00E-09	9.19E-05	3.37E-02	3.63E-09	8.33E-05
Road 37	37	2100-2200	5.99E-02	6.17E-09	1.41E-04	5.47E-02	5.63E-09	1.29E-04	3.77E-02	3.88E-09	8.91E-05	3.44E-02	3.54E-09	8.13E-05
Road 37	37	2200-2300	5.27E-02	5.46E-09	1.25E-04	4.82E-02	4.99E-09	1.14E-04	3.32E-02	3.44E-09	7.90E-05	3.03E-02	3.14E-09	7.22E-05
Road 37	37	2300-0000	5.79E-02	4.55E-09	1.04E-04	5.26E-02	4.13E-09	9.48E-05	3.73E-02	2.93E-09	6.73E-05	3.38E-02	2.65E-09	6.09E-05
Road 38	38	0000-0100	1.09E-01	1.85E-08	4.25E-04	1.09E-01	1.85E-08	4.25E-04	9.68E-02	1.63E-08	3.74E-04	4.76E-02	8.03E-09	1.84E-04
Road 38	38	0100-0200	1.27E-01	1.20E-08	2.75E-04	1.09E-01	1.03E-08	2.36E-04	1.12E-01	1.06E-08	2.43E-04	4.95E-02	4.68E-09	1.07E-04
Road 38	38	0200-0300	1.52E-01	1.37E-08	3.15E-04	1.35E-01	1.21E-08	2.78E-04	1.34E-01	1.20E-08	2.76E-04	5.92E-02	5.32E-09	1.22E-04
Road 38	38	0300-0400	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	0400-0500	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	0500-0600	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	0600-0700	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	0700-0800	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	0800-0900	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	0900-1000	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1000-1100	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1100-1200	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1200-1300	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1300-1400	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1400-1500	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1500-1600	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1600-1700	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1700-1800	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1800-1900	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	1900-2000	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	2000-2100	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	2100-2200	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	2200-2300	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 38	38	2300-0000	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	0000-0100	1.23E-01	2.07E-08	4.75E-04	1.23E-01	2.07E-08	4.75E-04	1.08E-01	1.82E-08	4.18E-04	5.32E-02	8.97E-09	2.06E-04
Road 39	39	0100-0200	1.27E-01	1.20E-08	2.75E-04	1.09E-01	1.03E-08	2.36E-04	1.12E-01	1.06E-08	2.43E-04	4.95E-02	4.68E-09	1.07E-04
Road 39	39	0200-0300	1.52E-01	1.37E-08	3.15E-04	1.35E-01	1.21E-08	2.78E-04	1.34E-01	1.20E-08	2.76E-04	5.92E-02	5.32E-09	1.22E-04
Road 39	39	0300-0400	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	0400-0500	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	0500-0600	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	0600-0700	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	0700-0800	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	0800-0900	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	0900-1000	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1000-1100	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1100-1200	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1200-1300	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1300-1400	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1400-1500	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1500-1600	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1600-1700	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1700-1800	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1800-1900	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	1900-2000	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	2000-2100	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	2100-2200	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	2200-2300	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 39	39	2300-0000	1.54E-01	1.37E-08	3.15E-04	1.54E-01	1.37E-08	3.15E-04	1.36E-01	1.21E-08	2.78E-04	6.42E-02	5.71E-09	1.31E-04
Road 40	40	0000-0100	1.42E-01	2.41E-08	5.53E-04	1.42E-01	2.41E-08	5.53E-04	1.25E-01	2.12E-08	4.86E-04	6.17E-02	1.04E-08	2.39E-04
Road 40	40	0100-0200	1.47E-01	1.39E-08	3.19E-04	1.26E-01	1.19E-08	2.73E-04	1.29E-01	1.23E-08	2.82E-04	5.74E-02	5.43E-09	1.24E-04
Road 40	40	0200-0300	1.76E-01	1.59E-08	3.64E-04	1.56E-01	1.41E-08	3.23E-04	1.55E-01	1.40E-08	3.20E-04	6.86E-02	6.20E-09	1.42E-04
Road 40	40	0300-0400	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	0400-0500	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	0500-0600	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	0600-0700	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	0700-0800	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	0800-0900	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	0900-1000	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1000-1100	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1100-1200	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1200-1300	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1300-1400	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1400-1500	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1500-1600	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1600-1700	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1700-1800	1.78E-01	1.61E-08	3.68E-04	1.78E-01	1.61E-08	3.68E-04	1.54E-01	1.39E-08	3.17E-04	7.13E-02	6.44E-09	1.47E-04
Road 40	40	1800-1900	1.51E-01	1.43E-08	3.95E-04	1.51E-01	1.43E-08	3.95E-04	1.34E-01	1.27E-08	3.51E-04	6.78E-02	6.42E-09	1.77E-04
Road 40	40	1900-2000	9.95E-02	2.94E-08	7.89E-04	8.76E-02	5.23E-08	2.55E-04	5.37E-02	3.21E-08	1.56E-05	4.71E-02	2.81E-08	1.37E-05
Road 40	40	2000-2100	1.01E-01	4.84E-08	2.36E-04	9.06E-02	4.31E-08	2.12E-04	5.51E-02	2.61E-08	1.28E-05	4.97E-02	2.39E-08	1.16E-05
Road 40	40	2100-2200	9.57E-02	4.76E-08	2.32E-04	8.92E-02	4.31E-08	2.12E-04	5.45E-02	2.64E-08	1.28E-05	4.90E-02	2.42E-08	1.16E-05
Road 40	40	2200-2300	9.57E-02	4.84E-08	2.36E-04	9.06E-02	4.58E-08	2.23E-04	5.51E-02	2.79E-08	1.36E-05	4.97E-02	2.51E-08	1.23E-05
Road 40	40	2300-0000	1.06E-01	3.90E-08	1.90E-04	9.48E-02	3.48E-08	1.69E-04	5.86E-02	2.15E-08	1.05E-05	5.22E-02	1.92E-08	9.32E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	1.42E-01	2.41E-08	5.53E-04	1.42E-01	2.41E-08	5.53E-04	1.25E-01	2.12E-08	4.86E-04	6.17E-02	1.04E-08	2.39E-04
Road 51	51	0100-0200	4.78E-02	2.11E-07	3.93E-06	4.15E-02	1.83E-07	3.41E-06	3.14E-02	1.39E-06	2.58E-05	2.70E-02	1.19E-06	2.22E-05
Road 51	51	0200-0300	5.12E-02	1.68E-07	3.15E-06	4.52E-02	1.48E-07	2.76E-06	3.27E-02	1.07E-06	2.00E-05	2.86E-02	9.39E-07	1.75E-05
Road 51	51	0300-0400	5.83E-02	1.72E-07	3.21E-06	5.09E-02	1.50E-07	2.80E-06	3.39E-02	1.00E-06	1.87E-05	2.94E-02	8.67E-07	1.62E-05
Road 51	51	0400-0500	5.83E-02	1.72E-07	3.21E-06	5.03E-02	1.48E-07	2.77E-06	3.56E-02	1.05E-06	1.96E-05	3.04E-02	8.97E-07	1.67E-05
Road 51	51	0500-0600	6.73E-02	2.32E-07	4.33E-06	5.67E-02	1.95E-07	3.64E-06	3.91E-02	1.35E-06	2.51E-05	3.30E-02	1.13E-06	2.11E-05
Road 51	51	0600-0700	6.42E-02	2.30E-07	4.29E-06	5.46E-02	1.95E-07	3.64E-06	3.71E-02	1.33E-06	2.48E-05	3.16E-02	1.13E-06	2.11E-05
Road 51	51	0700-0800	6.76E-02	1.58E-06	2.95E-05	5.76E-02	1.35E-06	2.51E-05	3.91E-02	9.14E-06	1.70E-04	3.30E-02	7.71E-06	1.44E-04
Road 51	51	0800-0900	6.68E-02	1.82E-06	3.40E-05	5.97E-02	1.63E-06	3.04E-05	3.76E-02	1.02E-05	1.91E-04	3.36E-02	9.16E-06	1.71E-04
Road 51	51	0900-1000	7.76E-02	1.95E-06	3.64E-05	6.61E-02	1.66E-06	3.10E-05	4.17E-02	1.05E-05	1.95E-04	3.53E-02	8.87E-06	1.65E-04
Road 51	51	1000-1100	8.46E-02	1.85E-06	3.44E-05	7.19E-02	1.57E-06	2.89E-05	4.49E-02	9.83E-06	1.81E-04	3.81E-02	8.33E-06	1.53E-04
Road 51	51	1100-1200	8.54E-02	1.85E-06	3.44E-05	7.19E-02	1.55E-06	2.89E-05	4.49E-02	9.70E-06	1.81E-04	3.75E-02	8.11E-06	1.51E-04
Road 51	51	1200-1300	7.01E-02	2.27E-06	4.23E-05	5.89E-02	1.91E-06	3.55E-05	3.53E-02	1.14E-05	2.12E-04	2.96E-02	9.59E-06	1.78E-04
Road 51	51	1300-1400	7.18E-02	2.46E-06	4.58E-05	6.03E-02	2.07E-06	3.84E-05	3.61E-02	1.24E-05	2.30E-04	3.03E-02	1.04E-05	1.93E-04
Road 51	51	1400-1500	7.12E-02	2.51E-06	4.67E-05	5.91E-02	2.08E-06	3.88E-05	4.67E-02	1.65E-05	3.07E-04	3.85E-02	1.36E-05	2.53E-04
Road 51	51	1500-1600	7.76E-02	2.45E-06	4.55E-05	6.44E-02	2.03E-06	3.77E-05	4.53E-02	1.64E-05	3.04E-04	3.75E-02	1.36E-05	2.50E-04
Road 51	51	1600-1700	6.76E-02	2.55E-06	4.75E-05	5.65E-02	2.13E-06	3.97E-05	4.63E-02	1.75E-05	3.25E-04	3.84E-02	1.45E-05	2.70E-04
Road 51	51	1700-1800	3.74E-02	1.63E-06	3.03E-05	3.22E-02	1.39E-06	2.60E-05	3.44E-02	1.49E-05	2.77E-04	2.92E-02	1.26E-05	2.36E-04
Road 51	51	1800-1900	3.76E-02	1.63E-06	3.03E-05	3.22E-02	1.39E-06	2.60E-05	3.44E-02	1.49E-05	2.77E-04	2.92E-02	1.26E-05	2.36E-04
Road 51	51	1900-2000	3.42E-02	1.17E-06	2.18E-05	2.92E-02	9.96E-07	1.86E-05	3.55E-02	1.21E-05	2.26E-04	3.00E-02	1.02E-05	1.91E-04
Road 51	51	2000-2100	3.37E-02	8.99E-07	1.68E-05	2.86E-02	7.63E-07	1.42E-05	3.44E-02	9.72E-06	1.81E-04	3.11E-02	8.81E-06	1.65E-04
Road 51	51	2100-2200	3.09E-02	8.18E-07	1.52E-05	2.72E-02	7.21E-07	1.34E-05	3.28E-02	8.68E-06	1.62E-04	2.86E-02	7.59E-06	1.41E-04
Road 51	51	2200-2300	2.86E-02	7.86E-07	1.46E-05	2.68E-02	7.36E-07	1.37E-05	3.41E-02	9.37E-06	1.74E-04	2.98E-02	8.19E-06	1.53E-04
Road 51	51	2300-0000	3.30E-02	6.38E-07	1.19E-05	2.88E-02	5.57E-07	1.04E-05	3.49E-02	6.75E-06	1.26E-04	3.02E-02	5.83E-06	1.09E-04
Road 52	52	0000-0100	1.53E-01	4.33E-08	2.32E-07	1.34E-01	3.96E-08	2.03E-07	6.84E-01	2.02E-07	1.04E-06	5.98E-01	1.77E-07	9.08E-07
Road 52	52	0100-0200	1.51E-01	4.27E-08	2.29E-07	1.32E-01	3.91E-08	2.00E-07	6.45E-01	1.82E-07	9.76E-07	5.64E-01	1.66E-07	8.55E-07
Road 52	52	0200-0300	1.56E-01	2.58E-08	1.32E-07	1.37E-01	2.26E-08	1.16E-07	6.98E-01	1.15E-07	5.91E-07	6.17E-01	1.02E-07	5.23E-07
Road 52	52	0300-0400	1.58E-01	2.58E-08	1.32E-07	1.38E-01	2.25E-08	1.15E-07	7.14E-01	1.16E-07	5.95E-07	6.34E-01	1.03E-07	5.28E-07
Road 52	52	0400-0500	1.60E-01	2.64E-08	1.36E-07	1.40E-01	2.31E-08	1.18E-07	7.16E-01	1.18E-07	6.05E-07	6.24E-01	1.03E-07	5.27E-07
Road 52	52	0500-0600	1.67E-01	5.09E-08	2.61E-07	1.43E-01	4.36E-08	2.24E-07	7.44E-01	2.27E-07	1.16E-06	6.37E-01	1.94E-07	9.96E-07
Road 52	52	0600-0700	1.64E-01	5.05E-08	2.59E-07	1.41E-01	4.33E-08	2.22E-07	7.46E-01	2.30E-07	1.18E-06	6.41E-01	1.97E-07	1.01E-06
Road 52	52	0700-0800	1.74E-01	2.60E-07	1.33E-06	1.46E-01	2.18E-07	1.12E-06	7.76E-01	1.16E-06	5.93E-06	6.51E-01	9.72E-07	4.98E-06
Road 52	52	0800-0900	1.74E-01	2.60E-07	1.33E-06	1.46E-01	2.18E-07	1.12E-06	7.76E-01	1.16E-06	5.93E-06	6.51E-01	9.72E-07	4.98E-06
Road 52	52	0900-1000	1.69E-01	3.40E-07	1.74E-06	1.46E-01	2.94E-07	1.51E-06	7.58E-01	1.53E-06	7.83E-06	6.54E-01	1.32E-06	6.75E-06
Road 52	52	1000-1100	1.78E-01	3.32E-07	1.70E-06	1.53E-01	2.84E-07	1.45E-06	7.94E-01	1.48E-06	7.56E-06	6.78E-01	1.26E-06	6.46E-06
Road 52	52	1100-1200	1.78E-01	3.32E-07	1.70E-06	1.53E-01	2.84E-07	1.45E-06	7.94E-01	1.48E-06	7.56E-06	6.78E-01	1.26E-06	6.46E-06
Road 52	52	1200-1300	1.77E-01	3.51E-07	1.80E-06	1.51E-01	2.98E-07	1.53E-06	7.85E-01	1.55E-06	7.96E-06	6.66E-01	1.32E-06	6.75E-06
Road 52	52	1300-1400	1.78E-01	3.92E-07	2.01E-06	1.51E-01	3.32E-07	1.70E-06	7.90E-01	1.74E-06	8.92E-06	6.68E-01	1.47E-06	7.55E-06
Road 52	52	1400-1500	1.78E-01	3.92E-07	2.01E-06	1.51E-01	3.32E-07	1.70E-06	7.90E-01	1.74E-06	8.92E-06	6.68E-01	1.47E-06	7.55E-06
Road 52	52	1500-1600	1.78E-01	3.92E-07	2.01E-06	1.51E-01	3.32E-07	1.70E-06	7.90E-01	1.74E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.94E-2	1.09E-2	1.15E-05	1.71E-02	1.64E-07	1.01E-05	2.04E-01	1.92E-06	1.06E-04
Road 1	1	0100-0200	2.10E-02	1.48E-07	8.13E-06	1.85E-02	1.30E-07	7.15E-06	2.11E-01	1.48E-06	8.13E-05
Road 1	1	0200-0300	2.28E-02	1.17E-07	6.44E-06	2.00E-02	1.03E-07	5.67E-06	2.18E-01	1.12E-06	6.15E-05
Road 1	1	0300-0400	2.44E-02	1.39E-06	2.15E-02	8.73E-08	4.81E-06	2.24E-01	9.03E-07	9.97E-06	4.33E-05
Road 1	1	0400-0500	2.64E-02	1.17E-07	6.44E-06	2.29E-02	1.01E-07	5.58E-06	2.33E-01	1.03E-06	5.70E-05	1.99E-01	8.84E-07	4.87E-05
Road 1	1	0500-0600	2.81E-02	2.09E-07	1.15E-05	2.46E-02	1.83E-07	1.01E-05	2.31E-01	1.92E-06	1.06E-04	2.72E-01	2.02E-06	1.11E-04
Road 1	1	0600-0700	2.89E-02	4.74E-07	2.61E-05	2.52E-02	4.13E-07	2.28E-05	2.44E-01	4.00E-06	2.20E-04	2.68E-01	4.39E-06	2.42E-04
Road 1	1	0700-0800	3.17E-02	1.05E-06	5.78E-05	2.73E-02	9.02E-07	4.97E-05	2.57E-01	8.51E-06	4.69E-04	2.18E-01	7.22E-06	3.97E-04
Road 1	1	0800-0900	3.18E-02	1.01E-06	5.56E-05	2.74E-02	8.68E-07	4.78E-05	2.38E-01	7.56E-06	4.16E-04	2.03E-01	6.45E-06	3.55E-04
Road 1	1	0900-1000	3.74E-02	1.17E-06	6.43E-05	3.16E-02	9.88E-07	5.44E-05	2.73E-01	8.54E-06	4.69E-04	2.31E-01	7.24E-06	3.98E-04
Road 1	1	1000-1100	3.97E-02	1.01E-06	5.58E-05	3.46E-02	8.84E-07	4.86E-05	2.98E-01	7.61E-06	4.19E-04	2.57E-01	6.60E-06	3.63E-04
Road 1	1	1100-1200	4.13E-02	1.01E-06	5.58E-05	3.61E-02	8.84E-07	4.86E-05	3.11E-01	7.61E-06	4.19E-04	2.68E-01	6.60E-06	3.63E-04
Road 1	1	1200-1300	4.13E-02	1.01E-06	5.58E-05	3.61E-02	8.84E-07	4.86E-05	3.11E-01	7.61E-06	4.19E-04	2.68E-01	6.60E-06	3.63E-04
Road 1	1	1300-1400	3.92E-02	1.01E-06	5.58E-05	3.43E-02	8.84E-07	4.86E-05	2.95E-01	7.61E-06	4.19E-04	2.55E-01	6.60E-06	3.63E-04
Road 1	1	1400-1500	3.92E-02	1.01E-06	5.58E-05	3.43E-02	8.84E-07	4.86E-05	2.95E-01	7.61E-06	4.19E-04	2.55E-01	6.60E-06	3.63E-04
Road 1	1	1500-1600	3.92E-02	1.01E-06	5.58E-05	3.43E-02	8.84E-07	4.86E-05	2.95E-01	7.61E-06	4.19E-04	2.55E-01	6.60E-06	3.63E-04
Road 1	1	1600-1700	3.92E-02	1.01E-06	5.58E-05	3.43E-02	8.84E-07	4.86E-05	2.95E-01	7.61E-06	4.19E-04	2.55E-01	6.60E-06	3.63E-04
Road 1	1	1700-1800	3.92E-02	1.01E-06	5.58E-05	3.43E-02	8.84E-07	4.86E-05	2.95E-01	7.61E-06	4.19E-04	2.55E-01	6.60E-06	3.63E-04
Road 1	1	1800-1900	2.60E-02	1.41E-06	7.78E-05	2.29E-02	1.24E-06	6.83E-05	2.24E-01	1.22E-05	6.69E-04	1.95E-01	1.06E-05	5.83E-04
Road 1	1	1900-2000	2.31E-02	9.96E-07	5.48E-05	2.03E-02	8.76E-07	4.83E-05	2.07E-01	8.51E-06	4.68E-04	1.77E-01	7.50E-06	4.12E-04
Road 1	1	2000-2100	2.24E-02	1.42E-07	7.82E-06	1.97E-02	1.24E-07	6.84E-06	2.01E-01	1.27E-06	6.97E-05	1.71E-01	1.08E-06	5.94E-05
Road 1	1	2100-2200	2.04E-02	6.83E-07	3.76E-05	1.79E-02	5.99E-07	3.30E-05	1.83E-01	6.13E-06	3.37E-04	1.56E-01	5.22E-06	2.87E-04
Road 1	1	2200-2300	2.11E-02	5.15E-07	2.83E-05	1.85E-02	4.52E-07	2.48E-05	1.89E-01	4.61E-06	2.54E-04	1.61E-01	3.92E-06	2.16E-04
Road 1	1	2300-0000	2.11E-02	5.15E-07	2.83E-05	1.85E-02	4.52E-07	2.48E-05	1.89E-01	4.61E-06	2.54E-04	1.61E-01	3.92E-06	2.16E-04
Road 2	2	0000-0100	2.12E-02	3.11E-07	1.58E-05	1.87E-02	2.74E-07	1.39E-05	1.98E-01	2.91E-06	1.47E-04	1.72E-01	2.53E-06	1.28E-04
Road 2	2	0100-0200	2.20E-02	2.20E-07	1.49E-05	1.94E-02	1.94E-07	1.32E-05	2.06E-01	2.06E-06	1.40E-04	1.79E-01	1.79E-06	1.21E-04
Road 2	2	0200-0300	2.48E-02	1.74E-07	8.81E-06	2.18E-02	1.53E-07	7.74E-06	2.11E-01	1.48E-06	7.50E-05	1.83E-01	1.28E-06	6.50E-05
Road 2	2	0300-0400	2.68E-02	1.74E-07	8.81E-06	2.36E-02	1.53E-07	7.74E-06	2.29E-01	1.48E-06	7.50E-05	1.98E-01	1.28E-06	6.50E-05
Road 2	2	0400-0500	2.88E-02	1.76E-07	8.89E-06	2.50E-02	1.52E-07	7.71E-06	2.29E-01	1.39E-06	7.06E-05	1.95E-01	1.19E-06	6.02E-05
Road 2	2	0500-0600	3.00E-02	3.17E-07	1.61E-05	2.62E-02	2.77E-07	1.40E-05	2.31E-01	2.44E-06	1.24E-04	1.97E-01	2.08E-06	1.05E-04
Road 2	2	0600-0700	3.13E-02	1.80E-06	9.90E-05	2.73E-02	1.57E-06	8.64E-05	2.41E-01	1.39E-06	7.65E-05	2.06E-01	1.19E-06	6.55E-05
Road 2	2	0700-0800	3.47E-02	1.59E-06	8.66E-05	2.99E-02	1.37E-06	6.94E-05	2.54E-01	1.16E-05	5.89E-04	2.15E-01	9.88E-06	5.00E-04
Road 2	2	0800-0900	3.50E-02	1.49E-06	8.13E-05	3.02E-02	1.28E-06	6.51E-05	2.56E-01	1.09E-05	5.53E-04	2.17E-01	9.27E-06	4.69E-04
Road 2	2	0900-1000	4.16E-02	1.83E-06	9.28E-05	3.52E-02	1.55E-06	7.85E-05	2.75E-01	1.21E-05	6.13E-04	2.30E-01	1.01E-05	5.13E-04
Road 2	2	1000-1100	4.45E-02	1.81E-06	9.16E-05	3.76E-02	1.53E-06	7.75E-05	2.93E-01	1.19E-05	6.05E-04	2.45E-01	9.97E-06	5.06E-04
Road 2	2	1100-1200	4.45E-02	1.81E-06	9.16E-05	3.87E-02	1.40E-06	7.10E-05	2.85E-01	1.04E-05	5.26E-04	2.47E-01	8.96E-06	4.54E-04
Road 2	2	1200-1300	4.56E-02	1.55E-06	7.85E-05	3.96E-02	1.35E-06	6.83E-05	2.92E-01	1.00E-05	5.07E-04	2.54E-01	8.68E-06	4.39E-04
Road 2	2	1300-1400	4.56E-02	1.55E-06	7.85E-05	3.96E-02	1.35E-06	6.83E-05	2.92E-01	1.00E-05	5.07E-04	2.54E-01	8.68E-06	4.39E-04
Road 2	2	1400-1500	4.56E-02	1.55E-06	7.85E-05	3.96E-02	1.35E-06	6.83E-05	2.92E-01	1.00E-05	5.07E-04	2.54E-01	8.68E-06	4.39E-04
Road 2	2	1500-1600	4.56E-02	1.55E-06	7.85E-05	3.96E-02	1.35E-06	6.83E-05	2.92E-01	1.00E-05	5.07E-04	2.54E-01	8.68E-06	4.39E-04
Road 2	2	1600-1700	4.56E-02	1.55E-06	7.85E-05	3.96E-02	1.35E-06	6.83E-05	2.92E-01	1.00E-05	5.07E-04	2.54E-01	8.68E-06	4.39E-04
Road 2	2	1700-1800	4.56E-02	1.55E-06	7.85E-05	3.96E-02	1.35E-06	6.83E-05	2.92E-01	1.00E-05	5.07E-04	2.54E-01	8.68E-06	4.39E-04
Road 2	2	1800-1900	3.25E-02	1.76E-06	9.72E-05	2.86E-02	1.55E-06	8.54E-05	2.80E-01	1.52E-05	8.36E-04	2.44E-01	1.32E-05	7.29E-04
Road 2	2	1900-2000	2.89E-02	1.24E-06	6.85E-05	2.54E-02	1.09E-06	6.02E-05	2.59E-01	1.11E-05	6.14E-04	2.25E-01	9.66E-06	5.33E-04
Road 2	2	2000-2100	2.80E-02	1.77E-07	9.76E-06	2.46E-02	1.56E-07	8.60E-06	2.51E-01	1.59E-06	8.77E-05	2.18E-01	1.38E-06	7.61E-05
Road 2	2	2100-2200	2.40E-02	5.83E-07	2.85E-05	2.08E-02	4.89E-07	2.47E-05	2.36E-01	5.54E-06	2.81E-04	2.02E-01	4.75E-06	2.41E-04
Road 2	2	2200-2300	2.52E-02	2.66E-07	2.00E-05	2.18E-02	2.34E-07	1.76E-05	2.48E-01	2.72E-06	2.07E-04	2.13E-01	2.29E-06	1.72E-04
Road 2	2	2300-0000	2.52E-02	4.27E-07	2.14E-05	2.18E-02	3.82E-07	1.92E-05	2.48E-01	4.36E-06	2.19E-04	2.13E-01	3.74E-06	1.88E-04
Road 3	3	0000-0100	2.30E-02	7.93E-08	4.86E-07	2.04E-02	7.00E-08	4.30E-07	2.80E-01	9.65E-07	5.92E-06	2.44E-01	8.47E-07	5.19E-06
Road 3	3	0100-0200	2.39E-02	4.96E-08	3.04E-07	2.12E-02	4.39E-08	2.69E-07	2.91E-01	6.03E-07	3.70E-06	2.54E-01	5.29E-07	3.24E-06
Road 3	3	0200-0300	2.75E-02	4.52E-08	2.78E-07	2.40E-02	3.94E-08	2.42E-07	3.00E-01	4.93E-07	3.03E-06	2.61E-01	4.26E-07	2.61E-06
Road 3	3	0300-0400	3.03E-02	4.52E-08	2.78E-07	2.64E-02	3.94E-08	2.42E-07	3.30E-01	4.93E-07	3.03E-06	2.87E-01	4.26E-07	2.61E-06
Road 3	3	0400-0500	3.11E-02	4.83E-08	2.72E-07	2.71E-02	4.47E-07	2.74E-06	2.70E-01	3.85E-07	2.36E-06	2.63E-01	3.57E-07	2.19E-06
Road 3	3	0500-0600	3.11E-02	7.62E-08	4.68E-07	2.72E-02	6.66E-08	4.08E-07	2.70E-01	1.05E-06	6.59E-06	2.64E-01	9.27E-07	5.68E-06
Road 3	3	0600-0700	3.58E-02	3.97E-07	2.23E-06	3.13E-02	3.47E-07	1.95E-06	3.07E-01	3.41E-06	1.91E-05	2.99E-01	3.32E-06	1.86E-05
Road 3	3	0700-0800	3.58E-02	3.79E-07	2.32E-06	3.07E-02	3.24E-07	1.99E-06	3.38E-01	3.57E-06	2.19E-05	2.87E-01	3.03E-06	1.86E-05
Road 3	3	0800-0900	3.58E-02	3.79E-07	2.32E-06	3.07E-02	3.24E-07	1.99E-06	3.38E-01	3.57E-06	2.19E-05	2.87E-01	3.03E-06	1.86E-05
Road 3	3	0900-1000	4.15E-02	4.14E-07	2.54E-06	3.51E-02	3.50E-07	2.15E-06	2.95E-01	2.94E-06	1.80E-05	2.46E-01	2.49E-06	1.53E-05
Road 3	3	1000-1100	4.66E-02	4.01E-07	2.46E-06	3.89E-02	3.35E-07	2.06E-06	3.17E-01	3.22E-06	1.97E-05	3.09E-01	2.66E-06	1.63E-05
Road 3	3	1100-1200	4.62E-02	2.22E-07	1.77E-06	3.88E-02	1.88E-07	1.49E-06	3.40E-01	1.63E-06	1.30E-05	3.08E-01	1.50E-06	1.19E-05
Road 3	3	1200-1300	5.52E-02	6.30E-07	3.87E-06	4.73E-02	5.40E-07	3.31E-06	4.66E-01	5.31E-06	3.26E-05	4.00E-01	4.56E-06	2.80E-05
Road 3	3	1300-1400	5.52E-02	6.30E-07	3.87E-06	4.73E-02	5.40E-07	3.31E-06	4.66E-01	5.31E-06	3.26E-05	4.00E-01	4.56E-06	2.80E-05
Road 3	3	1400-1500	5.52E-02	6.30E-07	3.87E-06	4.73E-02	5.40E-07	3.31E-06	4.66E-01	5.31E-06	3.26E-05	4.00E-01	4.56E-06	2.80E-05
Road 3	3	1500-1600	5.52E-02	6.30E-07	3.87E-06	4.73E-02	5.40E-07	3.31E-06	4.66E-01	5.31E-06	3.26E-05	4.00E-01	4.56E-06	2.80E-05
Road 3	3	1600-1700	5.52E-02	6.30E-07	3.87E-06	4.73E-02	5.40E-07	3.31E-06	4.66E-01	5.31E-06	3.26E-05	4.00E-01	4.56E-06	2.80E-05
Road 3	3	1700-1800	5.52E-02	6.30E-07	3.87E-06	4.73E-02	5.40E-07	3.31E-06	4.66E-01	5.31E-06	3.26E-05	4.00E-01	4.56E-06	2.80E-05
Road 3	3	1800-1900	4.16E-02	3.25E-07	1.99E-06	3.61E-02	2.82E-07	1.73E-06	3.58E-01	2.79E-06	1.71E-05	3.10E-01	2.42E-06	1.48E-05
Road 3	3	1900-2000	3.70E-02	2.77E-07	1.70E-06	3.21E-02	2.40E-07	1.47E-06	3.18E-01	2.38E-06	1.46E-05	2.76E-01	2.06E-06	1.26E-05
Road 3	3	2000-2100	3.51E-02	2.34E-07	1.56E-06	3.04E-02	2.03E-07	1.35E-06	3.01E-01	2.01E-06	1.34E-05	2.61E-01	1.74E-06	1.16E-05
Road 3	3	2100-2200	3.51E-02	2.34E-07	1.56E-06	3.04E-02	2.03E-07	1.35E-06	3.01E-01	2.01E-06	1.34E-05	2.61E-01	1.74E-06	1.16E-05
Road 3	3	2200-2300	3.72E-02	3.19E-07	1.96E-06	3.23E-02	2.77E-07	1.70E-06	3.20E-01	2.74E-06	1.69E-05	2.77E-01	2.37E-06	1.46E-05
Road 3	3	2300-0000	3.49E-02	2.93E-07	1.80E-06	3.03E-02	2.54E-07	1.56E-06	3.01E-01	2.53E-06	1.55E-05	2.61E-01	2.19E-06	1.34E-05
Road 4	4	0000-0100	1.76E-02	1.44E-07	2.89E-06	1.55E-02	1.27E-07	2.55E-06	1.84E-01	1.51E-06	3.03E-05	1.58E-01	1.30E-06	2.61E-05
Road 4	4	0100-0200	1.90E-02	1.44E-07	2.89E-06	1.67E-02	1.27E-07	2.55E-06	1.99E-01	1.51E-06	3.03E-05	1.71E-01	1.30E-06	2.61E-05
Road 4	4	0200-0300	2.24E-02	1.44E-07	2.89E-06	1.97E-02	1.27E-07	2.55E-06	2.34E-01	1.51E-06	3.03E-05	2.02E-01	1.30E-06	2.61E-05
Road 4	4	0300-0400	2.22E-02	8.80E-08	1.36E-06	1.96E-02	7.76E-08	1.20E-06	2.32E-01	9.19E-07	1.42E-05	2.00E-01	7.93E-07	1.22E-05
Road 4	4	0400-0500	2.42E-02	1.14E-07	2.00E-06	2.13E-02	1.01E-07	1.77E-06	2.53E-01	1.19E-06	2.09E-05	2.17E-01	1.03E-06	1.81E-05
Road 4	4	0500-0600	2.56E-02	1.49E-07	2.98E-06	2.26E-02	1.32E-07	2.63E-06	2.83E-01	1.65E-06	3.29E-05	2.43E-01	1.42E-06	2.83E-05
Road 4	4	0600-0700	2.66E-02	1.41E-07	3.05E-06	2.35E-02	1.24E-07	2.68E-06	2.94E-01	1.56E-06	3.36E-05	2.52E-01	1.34E-06	2.89E-05
Road 4	4	0700-0800	3.04E-02	7.64E-07	1.53E-05	2.60E-02	6.54E-07	1.31E-05	3.24E-01	5.62E-06	1.13E-04	2.89E-01	4.97E-06	9.51E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 4	4	0800-0900	3.35E-02	8.59E-07	1.72E-05	2.83E-02	7.32E-07	1.47E-05	3.57E-01	6.03E-06	1.21E-04	3.17E-01	5.38E-06	1.08E-04
Road 4	4	0900-1000	3.61E-02	8.57E-07	1.72E-05	3.05E-02	7.24E-07	1.45E-05	2.42E-01	5.73E-06	1.15E-04	2.02E-01	4.78E-06	9.59E-05
Road 4	4	1000-1100	4.11E-02	8.39E-07	1.68E-05	3.43E-02	7.01E-07	1.41E-05	2.85E-01	5.73E-06	1.08E-04	2.37E-01	4.43E-06	8.88E-05
Road 4	4	1100-1200	4.31E-02	7.45E-07	1.49E-05	3.61E-02	6.23E-07	1.25E-05	3.00E-01	5.18E-06	9.81E-05	2.51E-01	4.12E-06	8.26E-05
Road 4	4	1200-1300	4.79E-02	1.37E-06	2.74E-05	4.10E-02	1.17E-06	2.35E-05	2.90E-01	8.27E-06	1.66E-04	2.46E-01	7.02E-06	1.41E-04
Road 4	4	1300-1400	4.79E-02	1.45E-06	2.90E-05	4.10E-02	1.24E-06	2.49E-05	2.94E-01	8.64E-06	1.73E-04	2.51E-01	7.32E-06	1.47E-04
Road 4	4	1400-1500	4.90E-02	1.53E-06	3.06E-05	4.13E-02	1.28E-06	2.57E-05	2.93E-01	9.12E-06	1.83E-04	2.44E-01	7.61E-06	1.52E-04
Road 4	4	1500-1600	4.70E-02	1.50E-06	3.00E-05	4.06E-02	1.29E-06	2.59E-05	2.85E-01	9.08E-06	1.82E-04	2.44E-01	7.77E-06	1.56E-04
Road 4	4	1600-1700	4.32E-02	1.59E-06	3.18E-05	3.73E-02	1.37E-06	2.74E-05	2.84E-01	1.04E-05	2.09E-04	2.45E-01	8.24E-06	1.65E-04
Road 4	4	1700-1800	3.45E-02	1.31E-06	2.66E-05	2.92E-02	1.12E-06	2.25E-05	2.66E-01	9.09E-06	1.82E-04	1.97E-01	7.59E-06	1.52E-04
Road 4	4	1800-1900	3.45E-02	1.31E-06	2.66E-05	2.92E-02	1.12E-06	2.25E-05	2.66E-01	9.09E-06	1.82E-04	1.97E-01	7.59E-06	1.52E-04
Road 4	4	1900-2000	2.14E-02	7.18E-07	1.44E-05	1.87E-02	6.27E-07	1.26E-05	1.86E-01	6.22E-06	1.25E-04	1.60E-01	5.38E-06	1.08E-04
Road 4	4	2000-2100	2.08E-02	5.44E-07	1.09E-05	1.80E-02	4.71E-07	9.47E-06	1.91E-01	4.99E-06	1.00E-04	1.62E-01	4.26E-06	8.56E-05
Road 4	4	2100-2200	1.88E-02	4.87E-07	9.77E-06	1.61E-02	4.18E-07	8.37E-06	1.73E-01	4.49E-06	9.00E-05	1.46E-01	3.78E-06	7.58E-05
Road 4	4	2200-2300	1.76E-02	4.45E-07	8.92E-06	1.55E-02	3.91E-07	7.84E-06	1.73E-01	4.36E-06	8.74E-05	1.49E-01	3.77E-06	7.56E-05
Road 4	4	2300-0000	1.85E-02	4.68E-07	9.38E-06	1.63E-02	4.12E-07	8.26E-06	1.82E-01	4.59E-06	9.21E-05	1.54E-01	3.89E-06	7.81E-05
Road 5	5	0000-0100	2.39E-02	2.41E-07	2.01E-06	2.12E-02	2.13E-07	1.78E-06	2.51E-01	2.53E-06	2.11E-05	2.23E-01	2.24E-06	1.87E-05
Road 5	5	0100-0200	2.52E-02	1.05E-07	1.88E-06	2.24E-02	9.35E-08	1.67E-06	2.21E-01	9.24E-07	1.65E-05	1.96E-01	8.19E-07	1.46E-05
Road 5	5	0200-0300	2.70E-02	1.29E-07	1.08E-06	2.35E-02	1.12E-07	9.38E-07	2.19E-01	1.05E-06	8.76E-06	1.88E-01	8.97E-07	7.50E-06
Road 5	5	0300-0400	2.82E-02	1.06E-07	8.88E-07	2.49E-02	9.35E-08	7.85E-07	2.20E-01	8.31E-07	6.94E-06	1.92E-01	7.24E-07	6.05E-06
Road 5	5	0400-0500	3.13E-02	1.28E-07	1.07E-06	2.77E-02	1.13E-07	9.47E-07	2.21E-01	9.79E-07	8.18E-06	1.93E-01	8.37E-07	6.98E-06
Road 5	5	0500-0600	3.43E-02	2.45E-07	2.05E-06	3.03E-02	2.16E-07	1.81E-06	2.21E-01	1.58E-06	1.32E-05	1.93E-01	1.38E-06	1.15E-05
Road 5	5	0600-0700	3.50E-02	3.52E-07	2.95E-06	3.09E-02	3.11E-07	2.60E-06	2.21E-01	2.26E-06	1.89E-05	1.93E-01	1.97E-06	1.65E-05
Road 5	5	0700-0800	3.70E-02	7.71E-07	1.73E-05	3.27E-02	6.81E-07	1.53E-05	2.21E-01	4.95E-06	1.11E-04	1.93E-01	4.32E-06	9.69E-05
Road 5	5	0800-0900	3.70E-02	7.71E-07	1.73E-05	3.27E-02	6.81E-07	1.53E-05	2.21E-01	4.95E-06	1.11E-04	1.93E-01	4.32E-06	9.69E-05
Road 5	5	0900-1000	4.41E-02	8.16E-07	1.83E-05	3.90E-02	7.22E-07	1.62E-05	2.64E-01	4.89E-06	1.10E-04	2.31E-01	4.28E-06	9.60E-05
Road 5	5	1000-1100	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1100-1200	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1200-1300	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1300-1400	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1400-1500	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1500-1600	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1600-1700	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1700-1800	4.71E-02	8.14E-07	1.82E-05	4.16E-02	7.19E-07	1.61E-05	2.64E-01	4.56E-06	1.02E-04	2.31E-01	4.03E-06	9.03E-05
Road 5	5	1800-1900	3.37E-02	7.36E-07	1.65E-05	2.97E-02	6.45E-07	1.39E-05	2.66E-01	5.81E-06	1.30E-04	2.34E-01	5.09E-06	1.14E-04
Road 5	5	1900-2000	3.17E-02	7.36E-07	1.65E-05	2.79E-02	6.45E-07	1.39E-05	2.50E-01	5.81E-06	1.30E-04	2.20E-01	5.09E-06	1.14E-04
Road 5	5	2000-2100	3.02E-02	5.46E-07	4.58E-06	2.61E-02	4.73E-07	3.95E-06	2.77E-01	5.01E-06	4.19E-05	2.39E-01	4.32E-06	3.58E-05
Road 5	5	2100-2200	2.70E-02	4.87E-07	4.07E-06	2.34E-02	4.22E-07	3.52E-06	2.61E-01	4.70E-06	3.93E-05	2.25E-01	4.06E-06	3.39E-05
Road 5	5	2200-2300	2.49E-02	4.37E-07	3.65E-06	2.19E-02	3.84E-07	3.21E-06	2.44E-01	4.29E-06	3.58E-05	2.12E-01	3.71E-06	3.10E-05
Road 5	5	2300-0000	2.49E-02	4.37E-07	3.65E-06	2.19E-02	3.84E-07	3.21E-06	2.44E-01	4.29E-06	3.58E-05	2.12E-01	3.71E-06	3.10E-05
Road 6	6	0000-0100	3.17E-02	2.43E-07	6.86E-06	2.81E-02	2.16E-07	6.08E-06	2.74E-01	2.10E-06	5.93E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	2.93E-01	5.57E-01	2.33E-06	5.51E-01	8.50E-07	2.00E-06	1.11E+00	2.88E-06	8.87E-06
Road 27	27	1700-1800	2.63E-01	6.13E-07	1.89E-06	2.22E-01	5.17E-07	1.59E-06	3.64E-01	8.47E-07	2.61E-06
Road 27	27	1800-1900	2.27E-01	3.63E-07	1.12E-06	2.03E-01	3.25E-07	1.00E-06	3.15E-01	5.04E-07	1.55E-06
Road 27	27	1900-2000	2.15E-01	2.25E-07	6.91E-07	1.94E-01	2.02E-07	6.22E-07	2.98E-01	3.12E-07	9.57E-07
Road 27	27	2000-2100	2.14E-01	1.78E-07	5.47E-07	1.87E-01	1.55E-07	4.78E-07	9.90E-01	8.24E-07	2.54E-06
Road 27	27	2100-2200	2.14E-01	1.83E-07	5.63E-07	1.88E-01	1.61E-07	4.95E-07	9.84E-01	8.44E-07	2.59E-06
Road 27	27	2200-2300	2.20E-01	1.84E-07	5.65E-07	1.98E-01	1.66E-07	5.09E-07	2.26E-01	1.89E-07	5.81E-07
Road 27	27	2300-0000	2.21E-01	1.35E-07	4.17E-07	2.03E-01	1.24E-07	3.82E-07	9.89E-01	6.05E-07	1.86E-06
Road 27	27	0000-0100	2.16E-01	1.06E-07	3.26E-07	1.98E-01	9.72E-08	2.99E-07	9.05E-01	4.45E-07	1.37E-06
Road 28	28	0100-0200	3.41E-01	4.16E-07	2.36E-05	3.08E-01	2.67E-01	3.26E-06	1.85E-04	2.33E-01	2.85E-06
Road 28	28	0200-0300	3.41E-01	3.32E-07	1.89E-05	3.08E-01	2.13E-01	2.60E-06	1.85E-04	1.86E-01	2.28E-06
Road 28	28	0300-0400	3.96E-01	2.86E-07	1.62E-05	3.50E-01	2.53E-01	3.09E-06	1.85E-04	1.33E-01	1.62E-06
Road 28	28	0400-0500	4.14E-01	3.30E-07	1.87E-05	3.65E-01	2.91E-01	3.55E-06	1.85E-04	1.48E-01	1.80E-06
Road 28	28	0500-0600	4.29E-01	5.39E-07	3.06E-05	3.79E-01	4.76E-01	5.81E-06	1.85E-04	2.33E-01	2.84E-06
Road 28	28	0600-0700	4.40E-01	1.31E-06	7.42E-05	3.90E-01	1.16E-06	8.93E-06	5.07E-04	1.50E-01	1.15E-06
Road 28	28	0700-0800	4.44E-01	2.04E-06	1.16E-04	3.93E-01	1.80E-06	1.38E-05	5.07E-04	2.33E-01	1.79E-06
Road 28	28	0800-0900	4.44E-01	2.54E-06	5.49E-02	3.87E-01	2.20E-06	4.90E-01	2.75E-05	1.58E-01	3.52E-02
Road 28	28	0900-1000	4.37E-01	3.17E-06	2.21E-04	3.68E-01	2.68E-06	1.87E-05	5.07E-04	3.68E-01	2.57E-06
Road 28	28	1000-1100	4.70E-02	3.86E-06	5.63E-02	3.08E-02	1.75E-04	3.92E-01	2.86E-05	1.31E-01	2.65E-06
Road 28	28	1100-1200	6.41E-02	3.31E-06	1.88E-04	3.59E-02	2.79E-06	1.58E-05	1.80E-04	1.06E-01	6.03E-06
Road 28	28	1200-1300	1.95E-01	3.95E-06	1.11E-04	1.65E-01	9.38E-01	2.63E-05	1.11E-04	6.38E-01	1.79E-05
Road 28	28	1300-1400	6.90E-02	2.12E-06	1.20E-04	5.74E-02	1.77E-06	1.00E-04	8.89E-01	2.12E-01	5.74E-06
Road 28	28	1400-1500	1.43E-02	2.21E-06	1.25E-04	5.91E-02	1.83E-06	1.04E-04	8.89E-01	2.21E-01	5.94E-06
Road 28	28	1500-1600	6.38E-02	2.12E-06	1.20E-04	5.40E-02	1.79E-06	1.02E-04	5.78E-04	1.92E-01	5.19E-06
Road 28	28	1600-1700	6.31E-02	2.18E-06	1.24E-04	5.41E-02	1.87E-06	1.06E-04	3.66E-01	1.26E-01	3.41E-06
Road 28	28	1700-1800	1.88E-01	1.25E-06	7.08E-05	1.59E-01	1.06E-06	6.00E-05	3.66E-01	2.43E-01	6.57E-06
Road 28	28	1800-1900	3.38E-02	7.59E-05	3.02E-02	3.19E-02	7.16E-05	2.85E-02	3.66E-01	8.22E-01	3.27E-04
Road 28	28	1900-2000	2.90E-02	6.96E-07	3.95E-05	2.52E-02	6.06E-07	3.44E-05	2.41E-01	5.79E-06	3.28E-04
Road 28	28	2000-2100	2.69E-02	6.44E-07	3.65E-05	2.52E-02	6.03E-07	3.42E-05	2.64E-01	6.32E-06	3.58E-04
Road 28	28	2100-2200	2.69E-02	6.44E-07	3.65E-05	2.52E-02	6.03E-07	3.42E-05	2.64E-01	6.32E-06	3.58E-04
Road 28	28	2200-2300	2.81E-02	4.91E-07	2.78E-05	2.57E-02	4.48E-07	2.54E-05	2.32E-01	4.05E-06	2.30E-04
Road 28	28	2300-0000	2.81E-02	4.91E-07	2.78E-05	2.57E-02	4.48E-07	2.54E-05	2.32E-01	4.05E-06	2.30E-04
Road 29	29	0000-0100	2.79E-02	2.37E-07	1.63E-05	4.23E-02	2.09E-07	1.44E-05	9.32E-01	4.60E-06	3.17E-04
Road 29	29	0100-0200	2.79E-02	2.37E-07	1.63E-05	4.23E-02	2.09E-07	1.44E-05	9.32E-01	4.60E-06	3.17E-04
Road 29	29	0200-0300	2.79E-02	2.37E-07	1.63E-05	4.23E-02	2.09E-07	1.44E-05	9.32E-01	4.60E-06	3.17E-04
Road 29	29	0300-0400	5.54E-02	1.87E-07	1.15E-05	4.90E-02	1.47E-07	1.02E-05	1.53E-01	1.06E-06	7.32E-05
Road 29	29	0400-0500	5.73E-02	1.91E-07	1.32E-05	5.05E-02	1.69E-07	1.16E-05	1.58E-01	1.20E-06	8.29E-05
Road 29	29	0500-0600	5.79E-02	1.31E-07	1.04E-05	5.10E-02	1.15E-07	9.21E-06	1.60E-01	3.62E-06	2.89E-04
Road 29	29	0600-0700	5.85E-02	7.28E-07	5.02E-05	5.20E-02	6.48E-07	4.47E-05	3.55E-01	4.43E-06	3.05E-04
Road 29	29	0700-0800	5.85E-02	1.68E-06	1.16E-04	5.20E-02	9.81E-01	1.03E-04	3.55E-01	1.02E-05	7.03E-04
Road 29	29	0800-0900	8.35E-02	1.91E-06	1.32E-04	5.45E-02	1.65E-06	1.14E-04	3.68E-01	1.01E-05	6.98E-04
Road 29	29	0900-1000	7.60E-02	2.10E-06	1.45E-04	6.37E-02	1.76E-06	1.21E-04	4.21E-01	1.16E-05	8.02E-04
Road 29	29	1000-1100	8.14E-02	2.24E-06	1.54E-04	6.82E-02	1.88E-06	1.29E-04	4.50E-01	1.24E-05	8.57E-04
Road 29	29	1100-1200	8.19E-02	1.95E-06	1.35E-04	6.92E-02	1.65E-06	1.14E-04	4.43E-01	1.05E-05	7.27E-04
Road 29	29	1200-1300	1.13E-01	2.06E-06	1.42E-04	9.56E-02	1.74E-06	1.20E-04	6.13E-01	1.12E-05	7.72E-04
Road 29	29	1300-1400	7.13E-02	2.63E-06	1.82E-04	5.95E-02	2.22E-06	1.53E-04	3.84E-01	1.42E-05	9.80E-04
Road 29	29	1400-1500	2.75E-02	2.68E-06	1.85E-04	5.87E-02	2.26E-06	1.56E-04	3.82E-01	1.48E-05	1.02E-03
Road 29	29	1500-1600	6.66E-02	2.68E-06	1.85E-04	5.34E-02	2.26E-06	1.56E-04	3.82E-01	1.48E-05	1.02E-03
Road 29	29	1600-1700	6.56E-02	2.72E-06	1.88E-04	5.62E-02	2.33E-06	1.61E-04	4.48E-01	1.58E-05	1.09E-03
Road 29	29	1700-1800	1.95E-01	1.56E-06	1.08E-04	1.65E-01	1.32E-06	9.14E-05	4.48E-01	3.79E-06	2.61E-04
Road 29	29	1800-1900	3.70E-02	1.75E-06	1.21E-04	3.49E-02	1.65E-06	1.14E-04	2.94E-01	1.39E-05	9.62E-04
Road 29	29	1900-2000	3.29E-02	5.56E-07	3.84E-05	2.86E-02	4.83E-07	3.34E-05	2.73E-01	4.62E-06	3.19E-04
Road 29	29	2000-2100	3.29E-02	5.56E-07	6.60E-05	2.87E-02	8.32E-07	3.74E-05	2.91E-01	6.30E-06	6.10E-04
Road 29	29	2100-2200	3.06E-02	8.81E-07	6.08E-05	2.64E-02	2.93E-06	2.87E-05	2.28E-01	2.53E-06	2.48E-05
Road 29	29	2200-2300	3.15E-02	1.31E-07	9.04E-06	2.72E-02	4.35E-07	4.26E-06	2.35E-01	9.72E-07	9.52E-06
Road 29	29	2300-0000	3.15E-02	1.31E-07	9.04E-06	2.72E-02	4.35E-07	4.26E-06	2.35E-01	9.72E-07	9.52E-06
Road 30	30	0000-0100	6.40E-02	6.02E-08	6.16E-07	5.48E-02	3.15E-01	3.22E-06	3.84E-01	3.61E-07	3.69E-06
Road 30	30	0100-0200	6.40E-02	6.02E-08	6.16E-07	5.48E-02	3.15E-01	2.96E-07	3.03E-06	2.78E-01	2.62E-07
Road 30	30	0200-0300	7.57E-02	5.79E-08	3.88E-07	6.63E-02	3.32E-08	3.99E-07	3.92E-01	2.62E-07	1.66E-06
Road 30	30	0300-0400	8.22E-02	3.84E-08	3.93E-07	7.17E-02	3.35E-08	3.43E-07	4.01E-01	1.87E-07	1.91E-06
Road 30	30	0400-0500	8.22E-02	3.84E-08	3.93E-07	7.17E-02	3.35E-08	3.43E-07	4.01E-01	1.87E-07	1.91E-06
Road 30	30	0500-0600	7.98E-02	6.40E-08	6.55E-07	7.01E-02	5.73E-08	5.26E-07	3.82E-01	3.06E-07	3.13E-06
Road 30	30	0600-0700	7.98E-02	6.40E-08	6.55E-07	7.01E-02	5.73E-08	5.26E-07	3.82E-01	3.06E-07	3.13E-06
Road 30	30	0700-0800	8.78E-02	3.22E-07	3.30E-06	7.56E-02	2.77E-07	2.84E-06	4.16E-01	1.53E-06	1.56E-05
Road 30	30	0800-0900	9.00E-02	3.16E-07	3.24E-06	7.90E-02	2.77E-07	2.84E-06	4.27E-01	1.50E-06	1.54E-05
Road 30	30	0900-1000	3.38E-02	3.16E-07	3.24E-06	3.19E-02	2.98E-07	3.05E-06	2.73E-01	2.55E-06	2.61E-05
Road 30	30	1000-1100	3.38E-02	3.16E-07	3.24E-06	3.19E-02	2.98E-07	3.05E-06	2.73E-01	2.55E-06	2.61E-05
Road 30	30	1100-1200	3.87E-02	3.16E-07	3.24E-06	3.65E-02	2.98E-07	3.05E-06	3.12E-01	2.55E-06	2.61E-05
Road 30	30	1200-1300	3.87E-02	3.16E-07	3.24E-06	3.65E-02	2.98E-07	3.05E-06	3.12E-01	2.55E-06	2.61E-05
Road 30	30	1300-1400	8.48E-02	1.39E-06	1.37E-05	7.27E-02	1.19E-06	1.17E-05	4.74E-01	7.78E-06	7.62E-05
Road 30	30	1400-1500	8.33E-02	1.42E-06	1.39E-05	7.02E-02	1.20E-06	1.18E-05	4.66E-01	7.96E-06	7.80E-05
Road 30	30	1500-1600	8.33E-02	1.42E-06	1.39E-05	7.02E-02	1.20E-06	1.18E-05	4.66E-01	7.96E-06	7.80E-05
Road 30	30	1600-1700	7.86E-02	1.41E-06	1.38E-05	6.75E-02	1.21E-06	1.18E-05	4.48E-01	8.03E-06	7.87E-05
Road 30	30	1700-1800	1.87E-01	1.19E-06	1.17E-05	1.59E-01	1.01E-06	9.91E-06	4.48E-01	2.85E-06	2.79E-05
Road 30	30	1800-1900	4.87E-02	9.40E-07	9.20E-06	4.26E-02	8.22E-07	8.05E-06	3.44E-01	6.65E-06	6.52E-05
Road 30	30	1900-2000	3.81E-02	5.45E-07	5.34E-06	3.35E-02	4.78E-07	4.68E-06	3.01E-01	4.31E-06	4.22E-05
Road 30	30	2000-2100	2.93E-02	6.28E-07	6.15E-06	2.56E-02	5.50E-07	5.23E-06	2.62E-01	5.62E-06	5.50E-05
Road 30	30	2100-2200	3.72E-02	4.18E-07	4.09E-06	3.32E-02	3.66E-07	3.58E-06	2.96E-01	3.32E-06	3.25E-05
Road 30	30	2200-2300	3.58E-02	2.86E-07	2.80E-06	3.14E-02	2.51E-07	2.46E-06	2.76E-01	2.21E-06	2.16E-05
Road 30	30	2300-0000	3.94E-02	3.25E-07	3.18E-06	3.58E-02	2.95E-07	2.89E-06	3.25E-01	2.68E-06	2.62E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	4.96E-02	1.34E-02	1.32E-06	1.45E-06	3.81E-06	3.44E-07	1.29E-06	3.42E-01	2.39E-07
Road 31	31	0100-0200	4.96E-02	1.26E-07	1.12E-06	4.37E-02	1.11E-07	9.89E-07	3.40E-01	8.61E-07	7.68E-06
Road 31	31	0200-0300	5.59E-02	1.08E-07	9.63E-07	4.89E-02	9.43E-08	8.42E-07	3.69E-01	7.11E-07	6.36E-06
Road 31	31	0300-0400	6.02E-02	9.58E-08	8.56E-07	5.36E-02	8.50E-08	7.59E-07	3.87E-01	6.13E-07	5.48E-06
Road 31	31	0400-0500	6.22E-02	1.08E-07	9.65E-07	5.42E-02	9.41E-08	8.40E-07	3.94E-01	6.84E-07	6.11E-06
Road 31	31	0500-0600	6.05E-02	1.66E-07	1.48E-06	5.31E-02	1.45E-07	1.29E-06	3.84E-01	1.05E-06	9.41E-06
Road 31	31	0600-0700	5.53E-02	3.34E-07	2.98E-06	4.85E-02	2.92E-07	2.61E-06	3.52E-01	2.12E-06	1.90E-05
Road 31	31	0700-0800	6.35E-02	8.08E-07	7.22E-06	5.45E-02	6.94E-07	6.20E-06	3.93E-01	5.00E-06	4.46E-05
Road 31	31	0800-0900	6.32E-02	8.99E-07	2.00E-05	5.27E-02	7.49E-07	1.67E-05	3.80E-01	5.41E-06	1.20E-04
Road 31	31	0900-1000	7.34E-02	9.69E-07	8.66E-06	6.22E-02	8.21E-07	7.34E-06	4.22E-01	5.57E-06	4.98E-05
Road 31	31	1000-1100	7.29E-02	9.01E-07	8.05E-06	6.78E-02	8.38E-07	7.49E-06	4.20E-01	5.19E-06	4.64E-05
Road 31	31	1100-1200	7.95E-02	9.01E-07	8.05E-06	6.78E-02	7.69E-07	6.87E-06	4.46E-01	5.06E-06	4.52E-05
Road 31	31	1200-1300	8.39E-02	5.71E-07	5.10E-06	7.18E-02	4.89E-07	4.37E-06	5.04E-01	3.43E-06	3.06E-05
Road 31	31	1300-1400	8.52E-02	6.03E-07	5.39E-06	7.29E-02	5.16E-07	4.61E-06	5.04E-01	3.57E-06	3.19E-05
Road 31	31	1400-1500	8.36E-02	6.16E-07	5.50E-06	7.04E-02	5.19E-07	4.64E-06	4.97E-01	3.67E-06	3.28E-05
Road 31	31	1500-1600	8.36E-02	6.16E-07	5.50E-06	7.04E-02	5.19E-07	4.64E-06	4.97E-01	3.67E-06	3.28E-05
Road 31	31	1600-1700	7.91E-02	6.16E-07	5.50E-06	6.78E-02	5.28E-07	4.72E-06	4.86E-01	3.78E-06	3.38E-05
Road 31	31	1700-1800	1.91E-01	6.47E-07	5.42E-06	1.45E-01	4.91E-07	4.60E-06	8.66E-01	2.93E-06	2.74E-05
Road 31	31	1800-1900	5.11E-02	4.37E-07	3.91E-06	4.46E-02	3.82E-07	3.41E-06	3.77E-01	3.23E-06	2.88E-05
Road 31	31	1900-2000	3.86E-02	2.42E-07	2.17E-06	3.39E-02	2.12E-07	1.90E-06	3.40E-01	2.14E-06	1.91E-05
Road 31	31	2000-2100	2.02E-02	2.42E-07	2.17E-06	1.76E-02	2.12E-07	1.90E-06	1.75E-01	2.10E-06	1.87E-05
Road 31	31	2100-2200	3.79E-02	1.87E-07	1.67E-06	3.26E-02	1.60E-07	1.43E-06	3.32E-01	1.63E-06	1.46E-05
Road 31	31	2200-2300	2.16E-02	1.87E-07	1.67E-06	1.89E-02	1.64E-07	1.46E-06	1.87E-01	1.62E-06	1.45E-05
Road 31	31	2300-0000	4.05E-02	1.48E-07	1.32E-06	3.68E-02	1.34E-07	1.20E-06	3.41E-01	1.24E-06	1.11E-05
Road 32	32	0000-0100	2.90E-02	4.94E-07	3.28E-05	2.57E-02	4.39E-07	2.91E-05	2.45E-01	4.17E-06	2.77E-04
Road 32	32	0100-0200	2.90E-02	4.94E-07	3.28E-05	2.57E-02	4.39E-07	2.91E-05	2.45E-01	4.17E-06	2.77E-04
Road 32	32	0200-0300	3.38E-02	2.77E-07	1.84E-05	2.95E-02	2.42E-07	1.61E-05	2.64E-01	2.17E-06	1.44E-04
Road 32	32	0300-0400	3.83E-02	2.77E-07	1.84E-05	3.34E-02	2.41E-07	1.60E-05	2.81E-01	2.03E-06	1.35E-04
Road 32	32	0400-0500	3.83E-02	2.77E-07	1.84E-05	3.34E-02	2.41E-07	1.60E-05	2.81E-01	2.03E-06	1.35E-04
Road 32	32	0500-0600	4.00E-02	5.05E-07	3.35E-05	3.51E-02	4.43E-07	2.94E-05	2.81E-01	3.55E-06	2.36E-04
Road 32	32	0600-0700	4.67E-02	2.59E-06	1.72E-04	4.01E-02	2.23E-06	1.48E-04	3.17E-01	1.76E-05	1.17E-03
Road 32	32	0700-0800	4.67E-02	2.59E-06	1.72E-04	4.01E-02	2.23E-06	1.48E-04	3.17E-01	1.76E-05	1.17E-03
Road 32	32	0800-0900	5.63E-02	3.14E-06	2.08E-04	4.77E-02	2.66E-06	1.77E-04	3.99E-01	2.22E-05	1.48E-03
Road 32	32	0900-1000	5.63E-02	3.14E-06	2.08E-04	4.77E-02	2.66E-06	1.77E-04	3.99E-01	2.22E-05	1.48E-03
Road 32	32	1000-1100	6.07E-02	2.84E-06	1.89E-04	5.20E-02	2.42E-06	1.61E-04	3.63E-01	1.70E-05	1.13E-03
Road 32	32	1100-1200	6.19E-02	2.96E-06	1.97E-04	5.30E-02	2.53E-06	1.68E-04	3.70E-01	1.77E-05	1.18E-03
Road 32	32	1200-1300	6.19E-02	2.96E-06	1.97E-04	5.30E-02	2.53E-06	1.68E-04	3.70E-01	1.77E-05	1.18E-03
Road 32	32	1300-1400	6.28E-02	1.83E-06	1.21E-04	5.29E-02	1.54E-06	1.02E-04	3.66E-01	1.06E-05	7.04E-04
Road 32	32	1400-1500	6.28E-02	1.83E-06	1.21E-04	5.29E-02	1.54E-06	1.02E-04	3.66E-01	1.06E-05	7.04E-04
Road 32	32	1500-1600	6.28E-02	1.83E-06	1.21E-04	5.29E-02	1.54E-06	1.02E-04	3.66E-01	1.06E-05	7.04E-04
Road 32	32	1600-1700	5.92E-02	1.84E-06	1.22E-04	5.08E-02	1.58E-06	1.05E-04	3.68E-01	1.14E-05	7.56E-04
Road 32	32	1700-1800	4.47E-02	1.53E-06	1.01E-04	3.79E-02	1.30E-06	8.60E-05	2.82E-01	9.65E-06	6.41E-04
Road 32	32	1800-1900	4.47E-02	1.53E-06	1.01E-04	3.79E-02	1.30E-06	8.60E-05	2.82E-01	9.65E-06	6.41E-04
Road 32	32	1900-2000	2.77E-02	5.17E-07	3.42E-05	2.38E-02	4.44E-07	2.94E-05	2.29E-01	4.27E-06	2.83E-04
Road 32	32	2000-2100	2.64E-02	5.17E-07	3.42E-05	2.38E-02	4.44E-07	2.94E-05	2.29E-01	4.27E-06	2.83E-04
Road 32	32	2100-2200	2.64E-02	5.17E-07	3.42E-05	2.38E-02	4.44E-07	2.94E-05	2.29E-01	4.27E-06	2.83E-04
Road 32	32	2200-2300	2.76E-02	4.32E-07	2.86E-05	2.52E-02	3.94E-07	2.61E-05	2.28E-01	3.56E-06	2.36E-04
Road 32	32	2300-0000	2.76E-02	4.32E-07	2.86E-05	2.52E-02	3.94E-07	2.61E-05	2.28E-01	3.56E-06	2.36E-04
Road 33	33	0000-0100	1.46E-02	1.34E-02	1.32E-06	1.45E-06	3.81E-06	3.44E-07	1.29E-06	3.42E-01	2.39E-07
Road 33	33	0100-0200	4.96E-02	1.26E-07	1.12E-06	4.37E-02	1.11E-07	9.89E-07	3.40E-01	8.61E-07	7.68E-06
Road 33	33	0200-0300	5.59E-02	1.08E-07	9.63E-07	4.89E-02	9.43E-08	8.42E-07	3.69E-01	7.11E-07	6.36E-06
Road 33	33	0300-0400	6.02E-02	9.58E-08	8.56E-07	5.36E-02	8.50E-08	7.59E-07	3.87E-01	6.13E-07	5.48E-06
Road 33	33	0400-0500	6.22E-02	1.08E-07	9.65E-07	5.42E-02	9.41E-08	8.40E-07	3.94E-01	6.84E-07	6.11E-06
Road 33	33	0500-0600	6.05E-02	1.66E-07	1.48E-06	5.31E-02	1.45E-07	1.29E-06	3.84E-01	1.05E-06	9.41E-06
Road 33	33	0600-0700	5.53E-02	3.34E-07	2.98E-06	4.85E-02	2.92E-07	2.61E-06	3.52E-01	2.12E-06	1.90E-05
Road 33	33	0700-0800	6.35E-02	8.08E-07	7.22E-06	5.45E-02	6.94E-07	6.20E-06	3.93E-01	5.00E-06	4.46E-05
Road 33	33	0800-0900	6.32E-02	8.99E-07	2.00E-05	5.27E-02	7.49E-07	1.67E-05	3.80E-01	5.41E-06	1.20E-04
Road 33	33	0900-1000	7.34E-02	9.69E-07	8.66E-06	6.22E-02	8.21E-07	7.34E-06	4.22E-01	5.57E-06	4.98E-05
Road 33	33	1000-1100	7.29E-02	9.01E-07	8.05E-06	6.78E-02	8.38E-07	7.49E-06	4.20E-01	5.19E-06	4.64E-05
Road 33	33	1100-1200	7.95E-02	9.01E-07	8.05E-06	6.78E-02	7.69E-07	6.87E-06	4.46E-01	5.06E-06	4.52E-05
Road 33	33	1200-1300	8.39E-02	5.71E-07	5.10E-06	7.18E-02	4.89E-07	4.37E-06	5.04E-01	3.43E-06	3.06E-05
Road 33	33	1300-1400	8.52E-02	6.03E-07	5.39E-06	7.29E-02	5.16E-07	4.61E-06	5.04E-01	3.57E-06	3.19E-05
Road 33	33	1400-1500	8.36E-02	6.16E-07	5.50E-06	7.04E-02	5.19E-07	4.64E-06	4.97E-01	3.67E-06	3.28E-05
Road 33	33	1500-1600	8.36E-02	6.16E-07	5.50E-06	7.04E-02	5.19E-07	4.64E-06	4.97E-01	3.67E-06	3.28E-05
Road 33	33	1600-1700	7.91E-02	6.16E-07	5.50E-06	6.78E-02	5.28E-07	4.72E-06	4.86E-01	3.78E-06	3.38E-05
Road 33	33	1700-1800	1.91E-01	6.47E-07	5.42E-06	1.45E-01	4.91E-07	4.60E-06	8.66E-01	2.93E-06	2.74E-05
Road 33	33	1800-1900	5.11E-02	4.37E-07	3.91E-06	4.46E-02	3.82E-07	3.41E-06	3.77E-01	3.23E-06	2.88E-05
Road 33	33	1900-2000	3.86E-02	2.42E-07	2.17E-06	3.39E-02	2.12E-07	1.90E-06	3.40E-01	2.14E-06	1.91E-05
Road 33	33	2000-2100	2.02E-02	2.42E-07	2.17E-06	1.76E-02	2.12E-07	1.90E-06	1.75E-01	2.10E-06	1.87E-05
Road 33	33	2100-2200	3.79E-02	1.87E-07	1.67E-06	3.26E-02	1.60E-07	1.43E-06	3.32E-01	1.63E-06	1.46E-05
Road 33	33	2200-2300	2.16E-02	1.87E-07	1.67E-06	1.89E-02	1.64E-07	1.46E-06	1.87E-01	1.62E-06	1.45E-05
Road 33	33	2300-0000	4.05E-02	1.48E-07	1.32E-06	3.68E-02	1.34E-07	1.20E-06	3.41E-01	1.24E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.51E-01	3.42E-07	1.28E-05	1.30E-01	4.83E-07	1.32E-05	5.58E-01	2.98E-01	4.02E-06	4.79E-01	6.74E-06	5.55E-05
Road 54	54	0900-1000	1.78E-01	6.33E-07	1.44E-05	1.51E-01	5.36E-07	1.22E-05	8.38E-01	2.98E-06	6.78E-05	7.03E-01	2.50E-06	5.69E-05
Road 54	54	1000-1100	1.98E-01	6.47E-07	1.47E-05	1.66E-01	5.41E-07	1.23E-05	9.12E-01	2.98E-06	6.79E-05	7.56E-01	2.47E-06	5.63E-05
Road 54	54	1100-1200	1.91E-01	5.91E-07	1.35E-05	1.63E-01	5.04E-07	1.15E-05	8.86E-01	2.74E-06	6.24E-05	7.49E-01	2.31E-06	5.27E-05
Road 54	54	1200-1300	2.51E-01	5.68E-07	1.30E-05	2.15E-01	4.87E-07	1.11E-05	1.12E+00	2.53E-06	5.77E-05	9.54E-01	2.16E-06	4.92E-05
Road 54	54	1300-1400	2.49E-01	5.43E-07	1.41E-05	2.14E-01	5.29E-07	1.37E-05	1.12E+00	2.79E-06	5.35E-05	9.58E-01	2.38E-06	5.41E-05
Road 54	54	1400-1500	2.50E-01	6.26E-07	1.43E-05	2.11E-01	5.28E-07	1.20E-05	1.12E+00	2.80E-06	6.39E-05	9.39E-01	2.35E-06	5.36E-05
Road 54	54	1500-1600	2.33E-01	6.03E-07	1.37E-05	2.01E-01	5.22E-07	1.19E-05	1.07E+00	2.77E-06	6.32E-05	9.23E-01	2.39E-06	5.45E-05
Road 54	54	1600-1700	2.17E-01	5.70E-07	1.36E-05	1.86E-01	4.88E-07	1.17E-05	9.98E-01	2.62E-06	6.28E-05	8.57E-01	2.25E-06	5.38E-05
Road 54	54	1700-1800	2.02E-01	4.83E-07	1.10E-05	1.72E-01	4.10E-07	9.35E-06	9.48E-01	2.27E-06	5.17E-05	7.99E-01	1.91E-06	4.36E-05
Road 54	54	1800-1900	1.47E-01	3.29E-07	1.27E-05	1.25E-01	4.68E-07	1.81E-05	7.73E-01	2.73E-06	1.05E-04	6.56E-01	2.32E-06	8.95E-05
Road 54	54	1900-2000	1.47E-01	2.07E-07	4.71E-06	1.29E-01	1.81E-07	4.14E-06	7.05E-01	9.90E-07	2.26E-05	6.14E-01	8.61E-07	1.96E-05
Road 54	54	2000-2100	1.43E-01	1.99E-07	4.54E-06	1.25E-01	1.75E-07	3.99E-06	6.86E-01	9.54E-07	2.18E-05	5.97E-01	8.30E-07	1.89E-05
Road 54	54	2100-2200	1.42E-01	1.99E-07	4.54E-06	1.24E-01	1.73E-07	3.95E-06	6.84E-01	9.54E-07	2.18E-05	5.94E-01	8.30E-07	1.89E-05
Road 54	54	2200-2300	1.42E-01	1.44E-07	3.29E-06	1.25E-01	1.27E-07	2.91E-06	6.69E-01	6.82E-07	1.55E-05	5.84E-01	5.96E-07	1.36E-05
Road 54	54	2300-2400	1.39E-01	1.53E-07	3.51E-06	1.22E-01	1.35E-07	3.09E-06	6.57E-01	7.26E-07	1.66E-05	5.73E-01	6.34E-07	1.45E-05
Road 101	101	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

L:\Secure\Environment_Projects\607332\P1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.1 Emission Factor in 2028.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0000-0100	0.00E+

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	2.74E-2	1.20E-03	1.72E-06	1.49E-02	1.18E-07	1.56E-06	1.24E-01	1.03E-06	1.34E-05	1.82E-01	1.02E-07	1.20E-05
Road 21	21	0100-0200	2.94E-2	9.16E-08	1.21E-06	2.73E-02	8.51E-08	1.12E-06	2.19E-01	6.82E-07	9.02E-06	2.02E-01	6.29E-07	8.31E-06
Road 21	21	0200-0300	3.17E-02	7.31E-08	9.66E-07	2.98E-02	6.86E-08	9.06E-07	2.27E-01	5.22E-07	6.90E-06	2.11E-01	4.87E-07	6.44E-06
Road 21	21	0300-0400	3.41E-02	6.27E-08	8.28E-07	3.23E-02	5.94E-08	7.85E-07	2.37E-01	4.36E-07	5.76E-06	2.22E-01	4.08E-07	5.39E-06
Road 21	21	0400-0500	5.63E-02	7.35E-08	9.71E-07	3.39E-02	6.86E-08	9.07E-07	2.45E-01	4.97E-07	6.56E-06	2.27E-01	4.61E-07	6.09E-06
Road 21	21	0500-0600	3.79E-02	1.32E-07	1.75E-06	3.55E-02	1.23E-07	1.63E-06	2.56E-01	8.91E-07	1.17E-05	2.39E-01	8.31E-07	1.09E-05
Road 21	21	0600-0700	3.95E-02	2.96E-07	3.91E-06	3.59E-02	2.68E-07	3.55E-06	2.64E-01	1.97E-06	2.61E-05	2.39E-01	1.78E-06	2.31E-05
Road 21	21	0700-0800	4.41E-02	6.75E-07	8.93E-06	3.85E-02	5.89E-07	7.79E-06	2.83E-01	4.34E-06	5.73E-05	2.45E-01	3.75E-06	4.95E-05
Road 21	21	0800-0900	4.62E-02	1.04E-06	1.37E-05	4.02E-02	9.04E-07	1.19E-05	2.97E-01	6.68E-06	8.83E-05	2.57E-01	5.78E-06	7.63E-05
Road 21	21	0900-1000	5.36E-02	8.16E-07	1.08E-05	4.62E-02	7.04E-07	9.30E-06	3.17E-01	4.82E-06	6.37E-05	2.71E-01	4.13E-06	5.46E-05
Road 21	21	1000-1100	5.36E-02	7.58E-07	1.00E-05	5.04E-02	7.13E-07	9.42E-06	3.17E-01	4.49E-06	5.93E-05	2.98E-01	4.21E-06	5.57E-05
Road 21	21	1100-1200	5.95E-02	7.58E-07	1.00E-05	5.04E-02	6.41E-07	8.48E-06	3.44E-01	4.37E-06	5.78E-05	2.89E-01	3.68E-06	4.86E-05
Road 21	21	1200-1300	6.33E-02	7.58E-07	1.00E-05	5.04E-02	6.03E-07	7.98E-06	3.44E-01	4.12E-06	5.45E-05	3.04E-01	3.64E-06	4.80E-05
Road 21	21	1300-1400	8.53E-02	7.52E-07	9.95E-06	4.67E-02	4.09E-07	5.41E-06	3.44E-01	3.03E-06	4.00E-05	2.79E-01	2.46E-06	3.25E-05
Road 21	21	1400-1500	8.48E-02	8.17E-07	1.08E-05	7.22E-02	6.95E-07	9.19E-06	4.76E-01	4.59E-06	6.06E-05	4.04E-01	3.89E-06	5.14E-05
Road 21	21	1500-1600	8.53E-02	1.32E-07	1.75E-06	7.27E-02	1.12E-07	1.48E-06	4.67E-01	7.23E-07	9.55E-06	4.04E-01	6.25E-07	8.26E-06
Road 21	21	1600-1700	7.95E-02	8.00E-07	1.06E-05	6.81E-02	6.86E-07	9.06E-06	4.61E-01	4.64E-06	6.13E-05	3.94E-01	3.96E-06	5.24E-05
Road 21	21	1700-1800	7.11E-02	8.73E-07	1.15E-05	6.68E-02	8.20E-07	1.08E-05	4.20E-01	5.15E-06	6.80E-05	3.94E-01	4.84E-06	6.39E-05
Road 21	21	1800-1900	4.67E-02	4.89E-07	6.46E-06	4.08E-02	4.26E-07	5.63E-06	3.39E-01	3.54E-06	4.68E-05	2.94E-01	3.07E-06	4.06E-05
Road 21	21	1900-2000	3.97E-02	3.16E-07	4.18E-06	3.52E-02	2.81E-07	3.71E-06	3.24E-01	2.58E-06	3.41E-05	2.84E-01	2.26E-06	2.99E-05
Road 21	21	2000-2100	3.82E-02	2.66E-07	3.51E-06	3.26E-02	2.27E-07	3.00E-06	3.24E-01	2.26E-06	2.98E-05	2.76E-01	1.92E-06	2.54E-05
Road 21	21	2100-2200	3.82E-02	2.38E-07	3.14E-06	3.41E-02	2.12E-07	2.81E-06	3.13E-01	1.95E-06	2.57E-05	2.77E-01	1.73E-06	2.28E-05
Road 21	21	2200-2300	3.82E-02	2.04E-07	2.69E-06	3.26E-02	1.74E-07	2.30E-06	3.13E-01	1.67E-06	2.20E-05	2.77E-01	1.48E-06	1.95E-05
Road 21	21	2300-0000	4.04E-02	1.83E-07	2.43E-06	3.62E-02	1.64E-07	2.17E-06	3.27E-01	1.48E-06	1.96E-05	2.91E-01	1.32E-06	1.75E-05
Road 22	22	0000-0100	1.86E-01	1.76E-07	3.14E-06	1.69E-01	1.60E-07	2.85E-06	8.43E-01	7.97E-07	1.42E-05	7.65E-01	7.23E-07	1.29E-05
Road 22	22	0100-0200	1.86E-01	1.04E-07	1.85E-06	1.69E-01	9.47E-08	1.69E-06	8.43E-01	4.71E-07	8.39E-06	7.65E-01	4.28E-07	7.63E-06
Road 22	22	0200-0300	1.82E-01	9.26E-08	1.65E-06	1.71E-01	8.70E-08	1.55E-06	8.21E-01	4.18E-07	7.45E-06	7.70E-01	3.92E-07	7.00E-06
Road 22	22	0300-0400	1.82E-01	1.26E-07	2.25E-06	1.71E-01	1.18E-07	2.11E-06	8.21E-01	5.68E-07	1.01E-05	7.70E-01	5.32E-07	9.49E-06
Road 22	22	0400-0500	1.90E-01	9.40E-08	1.68E-06	1.78E-01	8.79E-08	1.57E-06	8.56E-01	4.23E-07	7.55E-06	8.00E-01	3.95E-07	7.05E-06
Road 22	22	0500-0600	2.04E-01	1.85E-07	3.30E-06	1.90E-01	1.72E-07	3.07E-06	9.19E-01	8.31E-07	1.48E-05	8.58E-01	7.73E-07	1.38E-05
Road 22	22	0600-0700	2.44E-01	1.55E-07	2.76E-06	2.27E-01	1.44E-07	2.57E-06	1.10E-00	6.97E-07	1.24E-05	1.02E-00	6.48E-07	1.16E-05
Road 22	22	0700-0800	2.52E-01	1.09E-06	1.95E-05	2.20E-01	9.54E-07	1.70E-05	1.13E+00	4.87E-06	8.69E-05	9.82E-01	4.25E-06	7.59E-05
Road 22	22	0800-0900	2.74E-01	1.53E-06	2.73E-05	2.35E-01	1.23E+00	2.20E-05	1.23E+00	6.88E-06	1.23E-04	1.06E+00	5.93E-06	1.06E-04
Road 22	22	0900-1000	2.74E-01	1.53E-06	2.73E-05	2.35E-01	1.23E+00	2.20E-05	1.23E+00	6.88E-06	1.23E-04	1.06E+00	5.93E-06	1.06E-04
Road 22	22	1000-1100	2.83E-01	1.44E-06	2.56E-05	2.39E-01	1.22E-06	2.17E-05	1.26E+00	6.39E-06	1.14E-04	1.06E+00	5.41E-06	9.64E-05
Road 22	22	1100-1200	2.83E-01	1.44E-06	2.56E-05	2.39E-01	1.22E-06	2.17E-05	1.26E+00	6.39E-06	1.14E-04	1.06E+00	5.41E-06	9.64E-05
Road 22	22	1200-1300	2.87E-01	1.51E-06	2.70E-05	2.43E-01	1.28E-06	2.29E-05	1.26E+00	6.65E-06	1.19E-04	1.07E+00	5.63E-06	1.00E-04
Road 22	22	1300-1400	3.47E-02	9.96E-08	1.77E-06	2.94E-02	8.44E-08	1.50E-06	1.53E-01	4.39E-07	7.80E-06	1.30E-01	3.72E-07	6.61E-06
Road 22	22	1400-1500	2.95E-01	1.73E-06	3.09E-05	2.51E-01	1.47E-06	2.63E-05	1.30E+00	7.64E-06	1.36E-04	1.11E+00	6.50E-06	1.16E-04
Road 22	22	1500-1600	2.95E-01	1.73E-06	3.09E-05	2.51E-01	1.47E-06	2.63E-05	1.30E+00	7.64E-06	1.36E-04	1.11E+00	6.50E-06	1.16E-04
Road 22	22	1600-1700	2.82E-01	1.62E-06	2.89E-05	2.48E-01	1.25E+00	2.70E-06	1.27E+00	7.30E-06	1.30E-04	1.09E+00	6.17E-06	1.10E-04
Road 22	22	1700-1800	2.29E-01	1.24E-06	2.21E-05	1.97E-01	1.06E-06	1.90E-05	1.06E+00	5.72E-06	1.02E-04	9.09E-01	4.91E-06	8.76E-05
Road 22	22	1800-1900	1.76E-01	1.21E-06	2.16E-05	1.44E-01	9.91E-07	1.77E-05	8.81E-01	6.06E-06	1.08E-04	7.68E-01	5.28E-06	9.42E-05
Road 22	22	1900-2000	1.76E-01	5.03E-07	8.98E-06	1.57E-01	4.47E-07	7.98E-06	8.22E-01	2.34E-06	4.19E-05	7.29E-01	2.08E-06	3.71E-05
Road 22	22	2000-2100	1.69E-01	3.33E-07	5.94E-06	1.57E-01	3.09E-07	5.51E-06	7.90E-01	1.55E-06	2.77E-05	7.29E-01	1.44E-06	2.56E-05
Road 22	22	2100-2200	1.69E-01	3.90E-07	6.95E-06	1.52E-01	3.49E-07	6.22E-06	7.97E-01	1.83E-06	3.27E-05	7.12E-01	1.64E-06	2.92E-05
Road 22	22	2200-2300	1.81E-01	3.74E-07	6.67E-06	1.51E-01	3.12E-07	5.82E-06	8.53E-01	1.76E-06	3.05E-05	7.12E-01	1.47E-06	2.65E-05
Road 22	22	2300-0000	1.81E-01	3.74E-07	6.67E-06	1.51E-01	3.12E-07	5.82E-06	8.53E-01	1.76E-06	3.05E-05	7.12E-01	1.47E-06	2.65E-05
Road 23	23	0000-0100	2.11E-01	5.89E-08	1.09E-06	1.91E-01	5.35E-08	9.88E-07	9.43E-01	2.64E-07	4.87E-06	8.57E-01	2.40E-07	4.42E-06
Road 23	23	0100-0200	2.06E-01	5.19E-08	9.59E-07	1.87E-01	4.72E-08	8.72E-07	9.22E-01	2.33E-07	4.30E-06	8.38E-01	2.12E-07	3.90E-06
Road 23	23	0200-0300	2.06E-01	5.19E-08	1.90E-07	1.90E-01	3.00E-08	1.09E-07	9.22E-01	2.33E-07	8.54E-07	8.38E-01	1.34E-07	4.90E-07
Road 23	23	0300-0400	2.06E-01	5.98E-07	1.97E-06	3.03E-08	5.60E-07	9.42E-01	1.45E-07	2.67E-06	8.88E-01	1.35E-07	2.50E-06	
Road 23	23	0400-0500	2.11E-01	8.16E-08	1.61E-06	3.11E-01	3.22E-06	8.10E-06	7.24E-01	2.80E-06	7.06E-06			
Road 23	23	0500-0600	2.18E-01	6.18E-08	1.14E-06	2.03E-01	5.76E-08	1.06E-06	9.73E-01	2.76E-07	5.10E-06	9.05E-01	2.57E-07	4.75E-06
Road 23	23	0600-0700	2.18E-01	1.34E-07	2.48E-06	2.03E-01	1.25E-07	2.31E-06	9.73E-01	5.99E-07	1.11E-05	9.05E-01	5.57E-07	1.03E-05
Road 23	23	0700-0800	2.62E-01	6.82E-07	6.68E-06	2.29E-01	3.16E-07	6.84E-06	1.61E-06	2.97E-05	1.02E+00	1.41E-06	2.60E-05	
Road 23	23	0800-0900	2.74E-01	1.74E-06	3.21E-05	2.39E-01	1.52E-06	2.80E-05	1.68E+00	1.07E-05	1.97E-04	1.47E+00	9.34E-06	1.72E-04
Road 23	23	0900-1000	2.74E-01	1.53E-06	2.82E-05	2.39E-01	1.33E-06	2.46E-05	1.68E+00	9.37E-06	1.73E-04	1.47E+00	8.18E-06	1.51E-04
Road 23	23	1000-1100	2.83E-01	1.44E-06	2.65E-05	2.47E-01	1.26E-06	2.32E-05	1.74E+00	8.85E-06	1.63E-04	1.52E+00	7.74E-06	1.43E-04
Road 23	23	1100-1200	2.83E-01	1.44E-06	2.65E-05	2.47E-01	1.26E-06	2.32E-05	1.74E+00	8.85E-06	1.63E-04	1.52E+00	7.74E-06	1.43E-04
Road 23	23	1200-1300	2.87E-01	1.51E-06	2.79E-05	2.51E-01	1.32E-06	2.44E-05	1.74E+00	9.18E-06	1.69E-04	1.53E+00	8.03E-06	1.48E-04
Road 23	23	1300-1400	4.03E-07	9.81E-07	2.28E-05	3.47E-07	8.45E-07	7.43E-01	2.01E-06	4.89E-06	6.38E-01	1.73E-06	4.20E-06	
Road 23	23	1400-1500	4.11E-07	1.00E-06	1.22E-03	3.46E-07	8.42E-07	7.26E-01	2.06E-06	5.02E-06	6.10E-01	1.73E-06	4.21E-06	
Road 23	23	1500-1600	4.11E-07	1.00E-06	1.22E-03	3.46E-07	8.42E-07	7.26E-01	2.06E-06	5.02E-06	6.10E-01	1.73E-06	4.21E-06	
Road 23	23	1600-1700	3.81E-07	9.27E-07	2.16E-05	3.21E-07	7.81E-07	6.25E-01	1.91E-06	4.64E-06	5.34E-01	1.63E-06	3.96E-06	
Road 23	23	1700-1800	3.23E-07	7.85E-07	1.83E-05	2.72E-07	6.61E-07	5.29E-01	1.62E-06	3.93E-06	4.52E-01	1.38E-06	3.35E-06	
Road 23	23	1800-1900	2.09E-07	5.08E-07	1.18E-05	1.76E-07	4.28E-07	3.42E-01	1.05E-06	2.54E-06	2.92E-01	8.92E-07	2.17E-06	
Road 23	23	1900-2000	2.09E-07	5.08E-07	1.18E-05	1.76E-07	4.28E-07	3.42E-01	1.05E-06	2.54E-06	2.92E-01	8.92E-07	2.17E-06	
Road 23	23	2000-2100	2.00E-07	5.26E-07	1.23E-05	1.79E-07	4.70E-07	3.68E-01	1.00E-06	2.63E-06	3.14E-01	8.96E-07	2.35E-06	
Road 23	23	2100-2200	2.19E-07	1.21E-07	2.83E-06	1.95E-07	1.08E-07	2.53E-06	1.09E-06	6.04E-07	1.41E-05	9.73E-07	5.38E-07	1.26E-05
Road 23	23	2200-2300	2.19E-07	1.21E-07	2.83E-06	1.95E-07	1.08E-07	2.53E-06	1.09E-06	6.04E-07	1.41E-05	9.73E-07	5.38E-07	1.26E-05
Road 23	23	2300-0000	2.00E-07	1.11E-07	2.60E-06	1.79E-07	9.94E-08	2.32E-06	1.00E-06	5.54E-07	1.29E-05	8.96E-07	4.97E-07	1.16E-05
Road 24	24	0000-0100	2.94E-02	9.16E-08	1.21E-06	2.73E-02	8.51E-08	1.12E-06	2.19E-01	6.82E-07	9.02E-06	2.02E-01	6.29E-07	8.31E-06
Road 24	24	0100-0200	3.17E-02	7.31E-08	9.66E-07	2.98E-02	6.86E-08	9.06E-07	2.27E-01	5.22E-07	6.90E-06	2.11E-01	4.87E-07	6.44E-06
Road 24	24	0200-0300	3.41E-02	6.27E-08	8.28E-07	3.23E-02	5.94E-08	7.85E-07	2.37E-01	4.36E-07	5.76E-06	2.22E-01	4.08E-07	5.39E-06
Road 24	24	0300-0400	5.63E-02	7.35E-08	9.71E-07	3.39E-02	6.86E-08	9.07E-07	2.45E-01	4.97E-07	6.56E-06	2.27E-01	4.61E-07	6.09E-06
Road 24	24	0400-0500	3.79E-02	1.32E-07	1.75E-06	3.55E-02	1.23E-07	1.63E-06	2.56E-01	8.91E-07	1.17E-05	2.39E-01	8.31E-07	1.09E-05
Road 24	24	0500-0600	3.95E-02	2.96E-07	3.91E-06	3.59E-02	2.68E-07	3.55E-06	2.64E-01	1.97E-06	2.61E-05	2.39E-01	1.78E-06	2.31E-05
Road 24	24	0600-0700	4.41E-02	6.75E-07	8.93E-06	3.85E-02	5.89E-07	7.79E-06	2.83E-01	4.34E-06	5.73E-05	2.45E-01	3.75E-06	4.95E-05
Road 24	24	0700-0800	4.62E-02	1.04E-06	1.37E-05	4.02E-02	9.04E-07	1.19E-05	2.97E-01	6.68E-06	8.83E-05	2.57E-01	5.78E-06	7.63E-05
Road 24	24	0800-0900	5.36E-02	8.16E-07	1.08E-05	4.62E-02	7.04E-07	9.30E-06	3.17E-01	4.82E-06	6.37E-05	2.71E-01	4.13E-06	5.46E-05
Road 24	24	0900-1000	5.36E-02	7.58E-07	1.00E-05	5.04E-02	7.13E-07	9.42E-06	3.17E-01	4.49E-06	5.93E-05	2.98E-01	4.21E-06	5.57E-05
Road 24	24	1000-1100	5.95E-02	7.58E-07	1.00E-05	5.04E-02	6.41E-07	8.48E-06	3.44E-01	4.37E-06	5.78E-05	2.89E-01	3.68E-06	4.86E-05
Road 24	24	1100-1200	6.33E-02	7.58E-07	1.00E-05	5.04E-02	6.03E-07	7.98E-06	3.44E-01	4.12E-06	5.45E-05	3.04E-01	3.64E-06	4.80E-05
Road 24	24	1200-1300	8.53E-02	7.52E-07	9.95E-06	4.67E-02	4.09E-07	5.41E-06	3.44E-01	3.03E-06	4.00E-05	2.79E-01	2.46E-06	3.25E-05
Road 24	24	1300-1400	8.48E-02	8.17E-07	1.08E-05	7.22E-02	6.95E-07	9.19E-06	4.76E-01	4.59E-06	6.06E-05	4.04E-01	3.89E-06	5.14E-05
Road 24	24	1400-1500	8.53E-02	1.32E-07	1.75E-06	7.27E-02	1.12E-07	1.48E-06	4.67E-01	7.23E-07	9.55E-06	4.04E-01	6.25E-07	8.26E-06
Road 24	24	1500-1600	7.95E-02	8.00E-07	1.06E-05	6.81E-02	6.86E-07	9.06E-06	4.61E-01	4.64E-06	6.13E-05	3.94E-01	3.96E-06	5.24E-05
Road 24	24	1600-1700	7.11E-02	8.73E-07	1.15E-05	6.68E-02	8.20E-07	1.08E-05	4.20E-01	5.15E-06	6.80E-05	3.94E-01	4.84E-06	6.39E-05
Road 24	24	1700-1800	4.67E-02	4.89E-07	6.46E-06	4.08E-02	4.26E-07	5.63E-06	3.39E-01	3.54E-06	4.68E-05	2.94E-01	3.07E-06	4.06E-05
Road 24	24	1800-1900	3.97E-02	3.16E-07	4.18E-06	3.52E-02	2.81E-07	3.71E-06	3.24E-01	2.58E-06	3.41E-05	2.84E-01	2.26E-06	2.99E-05
Road 24	24	1900-2000	3.82E-02	2.66E-07	3.51E-06	3.26E-02	2.27E-07	3.00E-06	3.24E-01	2.26E-06	2.98E-05	2.76E-01	1.92E-06	2.54E-05
Road 24	24	2000-2100	3.82E-02	2.38E-07	3.14E-06	3.41E-02	2.12E-07	2.81E-06	3.13E-01	1.95E-06	2.57E-05	2.77E-01	1.73E-06	2.28E-05
Road 24	24	2100-2200	3.82E-02	2.04E-07	2.69E-06	3.26E-02	1.74E-07	2.30E-06	3.13E-01	1.67E-06	2.20E-05	2.77E-01	1.48E-06	1.95E-05
Road 24	24	2200-2300	4.04E-02	1.83E-07	2.43E-06	3.62E-02	1.64E-07	2.17E-06	3.27E-01	1.48E-06	1.96E-05	2.91E-01	1.32E-06	1.75E-05
Road 24	24	2300-0000	1.86E-01	1.76E-07	3.14E-06	1.69E-01	1.60E-07	2.85E-06	8.43E-01	7.97E-07	1.42E-05	7.65E-01	7.23E-07	1.29E-05
Road 25	25	0000-0100	1.86E-01	1.04E-07	1.85E-06	1.69E-01	9.47E-08	1.69E-06	8.43E-01	4.71E-07	8.39E-06	7.65E-01	4.28E-07	7.63E-06
Road 25	25	0100-0200	1.82E-01	9.26E-08	1.65E-06	1.71E-01	8.70E-08	1.55E-06	8.21E-01	4.18E-07	7.45E-06	7.70E-01	3.92E-07	7.00E-06
Road 25	25	0200-0300	1.82E-01	1.26E-07	2.25E-06	1.71E-01	1.18E-07	2.11E-06	8.21E-01	5.68E-07	1.01E-05	7.70E-01	5.32E-07	9.49E-06
Road 25	25	0300-0400	1.90E-01	9.40E-08	1.68E-06	1.78E-01	8.79E-08	1.57E-06	8.56E-01	4.23E-07	7.55E-06	8.00E-01	3.95E-07	7.05E-06
Road 25	25	0400-0500	2.04E-01	1.85E-07	3.30E-06	1.90E-01	1.72E-07	3.07E-06	9.19E-01	8.31E-07	1.48E-05	8.58E-01	7.73E-07	1.38E-05
Road 25	25	0500-0600	2.44E-01	1.55E-07	2.76E-06	2.27E-01	1.44E-07	2.57E-06	1.10E-00	6.97E-07	1.24E-05	1.02E-00	6.48E-07	1.16E-05
Road 25	25	0600-0700	2.52E-01	1.09E-06	1.95E-05	2.20E-01	9.54E-07	1.70E-05	1.13E+00	4.87E-06	8.69E-05	9.82E-01	4.25E-06	7.59E-05
Road 25	25	0700-0800	2.74E-01	1.53E-06	2.73E-05	2.35E-01	1.23E+00	2.20E-05	1.23E+00	6.88E-06	1.23E-04	1.06E+00	5.93E-06	1.06E-04
Road 25	25	0800-0900	2.74E-01	1.53E-06	2.73E-05	2.35E-01	1.23E+00	2.20E-05	1.23E+00	6.88E-06	1.23E-04	1.06E+00	5.93E-06	1.06E-04
Road 25	25	0900-1000	2.83E-01	1.44E-06	2.56E-05	2.39E-01	1.22E-06	2.17E-05	1.26E+00	6.39E-06	1.14E-04	1.06E+00	5.41E-06	9.64E-05
Road 25	25	1000-1100	2.87E-01	1.51E-06	2.70E-05	2.43E-01	1.28E-06	2.29E-05	1.26E+00	6.65E-06	1.19E-04	1.07E+00	5.63E-06	1.00E-04
Road 25	25	1100-1200	3.47E-02	9.96E-08	1.77E-06	2.94E-02	8.44E-08	1.50E-06	1.53E-01	4.39E-07	7.80E-06	1.30E-01	3.72E-07	6.61E-06
Road 25	25	1200-1300	2.95E-01	1.73E-06	3.09E-05	2.51E-01	1.47E-06	2.63E-05	1.30E+00	7.64E-06	1.36E-04	1.11E+00	6.50E-06	1.16E-04
Road 25	25	1300-1400	2.95E-01	1.73E-06	3.09E-05	2.51E-01	1.47E-06	2.63E-05	1.30E+00	7.64E-06	1.36E-04	1.11E+00	6.50E-06	1.16E-04
Road 25	25	1400-1500	2.82E-01	1.62E-06	2.89E-05	2.48E-01	1.25E+00	2.70E-06	1.27E+00	7.30E-06	1.30E-04	1.09E+00	6.17E-06	1.10E-04
Road 25	25	1500-1600	2.29E-01	1.24E-06	2.21E-05	1.97E-01	1.06E-06	1.90E-05	1.06E+00	5.72E-06	1.02E-04	9.09E-01	4.91E-06	8.76E-05
Road 25	25	1600-1700	1.76E-01	1.21E-06	2.16E-05	1.44E-01	9.91E-07	1.77E-05	8.81E-01	6.06E-06	1.08E-04	7.68E-01	5.28E-06	9.42E-05
Road 25	25	1700-1800	1.76E-01	5.03E-07	8.98E-06	1.57E-01	4.47E-07	7.98E-06	8.22E-01	2.34E-06	4.19E-05	7.29E-01	2.08E-06	3.71E-05
Road 25	25	1800-1900	1.69E-01	3.33E-07	5.94E-06	1.57E-01	3.09E-07	5.51E-06	7.90E-01	1.55E-06	2.77E-05	7.29E-01	1.44E-06	2.56E-05
Road 25	25	1900-2000	1.69E-01	3.90E-07	6.95E-06	1.52E-01	3.49E-07	6.22E-06	7.97E-01	1.83E-06	3.27E-05	7.12E-01	1.64E-06	2.92E-05
Road 25	25	2000-2100	1.81E-01	3.74E-07	6.67E-06	1.51E-01	3.12E-07	5.82E-06	8.53E-01	1.76E-06	3.05E-05	7.12E-01	1.47E-06	2.65E-05
Road 25	25	2100-2200	1.81E-01	3.74E-07	6.67E-06	1.51E-01	3.12E-07	5.82E-06	8.53E-01	1.76E-06	3.05E-05	7.12E-01	1.47E-06	2.65E-05
Road 25	25	2200-2300	1.81E-01	3.74E-07	6.67E-06	1.51E-01	3.12E-07	5.82E-06	8.53E-01	1.76E-06	3.05E-05	7.12E-01	1.47E-06	2.65E-05
Road 25	25	2300-0000	1.81E-01	3.74E-07	6.67E-06	1.51E-01	3.12E-07	5.82E-06	8.53E-01	1.76E-06	3.05E-05	7.12E-01	1.47E-06	2.65E-05
Road 26	26	0000-0100	2.11E-01	5.89E-08	1.09E-06	1.91E-01	5.35E-08	9.88E-07	9.43E-01	2.64E-07	4.87E-06	8.57E-01	2.40E-07	4.42E-06
Road 26	26	0100-0200	2.06E-01	5.19E-08	9.59E-07	1.87E-01	4.72E-08	8.72E-07	9.22E-01	2.33E-07	4.30E-06	8.38E-01	2.12E-07	3.90E-06
Road 26	26	0200-0300	2.06E-01	5.19E-08	1.90E-07	1.90E-01	3.00E-08	1.09E-07	9.22E-01	2.33E-07	8.54E-07	8.38E-01	1.34E-07	4.90E-07
Road 26	26	0300-0400	2.06E-01	5.98E-07	1.97E-06	3.03E-08	5.60E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 47	47	1600-1700	5.88E-02	1.04E-02	2.51E-05	4.99E-02	3.82E-02	6.77E-03	1.63E-05	3.24E-02
Road 47	47	1700-1800	4.16E-02	6.52E-03	2.04E-05	3.56E-02	5.58E-02	1.09E-02	1.88E-05	2.94E-02
Road 47	47	1800-1900	2.96E-02	5.16E-03	1.61E-05	2.53E-02	4.42E-02	1.38E-05	1.65E-05	2.87E-02
Road 47	47	1900-2000	2.34E-02	3.94E-03	1.25E-05	2.01E-02	3.85E-02	4.52E-06	2.27E-05	1.47E-02
Road 47	47	2000-2100	2.15E-02	2.31E-03	7.21E-06	1.94E-02	2.08E-02	6.51E-06	1.39E-05	4.19E-02
Road 47	47	2100-2200	1.94E-02	1.94E-03	6.56E-06	1.81E-02	1.94E-02	1.04E-05	1.28E-05	6.87E-02
Road 47	47	2200-2300	1.82E-02	1.94E-03	1.58E-05	5.16E-02	1.82E-02	1.34E-05	4.20E-05	1.08E-01
Road 47	47	2300-0000	1.92E-02	1.50E-03	1.71E-02	1.34E-03	4.17E-06	1.29E-02	1.01E-06	1.34E-03
Road 48	48	0000-0100	4.68E-06	1.71E-02	1.34E-03	4.17E-06	1.29E-02	1.01E-06	1.34E-03	4.17E-06
Road 48	48	0100-0200	4.33E-02	2.01E-07	1.04E-06	4.42E-02	1.87E-07	2.83E-06	2.78E-01	1.29E-06
Road 48	48	0200-0300	4.33E-02	2.01E-07	1.04E-06	4.42E-02	1.87E-07	2.83E-06	2.78E-01	1.29E-06
Road 48	48	0300-0400	4.78E-02	1.34E-07	2.02E-06	4.49E-02	1.25E-07	3.89E-06	2.92E-01	1.25E-07
Road 48	48	0400-0500	5.09E-02	1.59E-07	2.40E-06	4.57E-02	1.48E-07	2.23E-06	3.04E-01	1.42E-06
Road 48	48	0500-0600	5.82E-02	2.61E-07	4.24E-06	3.21E-01	2.43E-07	3.77E-06	2.98E-01	1.66E-06
Road 48	48	0600-0700	5.80E-02	6.99E-07	1.05E-05	5.24E-02	6.31E-07	9.53E-06	1.35E-01	4.04E-06
Road 48	48	0700-0800	5.99E-02	1.39E-06	2.09E-05	5.37E-02	1.29E-06	1.94E-05	1.73E-01	4.01E-06
Road 48	48	0800-0900	6.30E-02	1.83E-06	2.76E-05	5.42E-02	1.57E-06	2.37E-05	1.50E-01	4.35E-06
Road 48	48	0900-1000	7.43E-02	1.99E-06	3.01E-05	6.44E-02	1.73E-06	2.61E-05	1.36E-01	3.64E-06
Road 48	48	1000-1100	8.35E-02	2.05E-06	3.09E-05	7.08E-02	1.73E-06	2.62E-05	4.31E-01	1.06E-05
Road 48	48	1100-1200	8.15E-02	1.88E-06	2.84E-05	6.98E-02	1.61E-06	2.43E-05	4.24E-01	9.80E-06
Road 48	48	1200-1300	8.15E-02	1.29E-06	3.30E-05	1.87E-06	2.82E-01	7.74E-06	4.24E-01	6.72E-06
Road 48	48	1300-1400	6.70E-02	2.33E-06	3.51E-05	5.78E-02	2.01E-06	3.03E-05	4.35E-01	1.51E-05
Road 48	48	1400-1500	6.42E-02	2.44E-06	3.69E-05	5.54E-02	2.09E-06	3.16E-05	4.37E-01	1.66E-05
Road 48	48	1500-1600	6.42E-02	2.41E-06	3.63E-05	5.42E-02	2.03E-06	3.07E-05	4.26E-01	1.60E-05
Road 48	48	1600-1700	6.24E-02	2.44E-06	3.69E-05	5.29E-02	2.07E-06	3.13E-05	4.26E-01	1.67E-05
Road 48	48	1700-1800	5.88E-02	2.08E-06	3.14E-05	5.07E-02	1.76E-06	2.66E-05	4.08E-01	1.44E-05
Road 48	48	1800-1900	3.55E-02	1.60E-06	2.41E-05	3.05E-02	1.37E-06	2.07E-05	2.74E-01	1.24E-05
Road 48	48	1900-2000	3.08E-02	1.39E-06	2.10E-05	2.64E-02	1.19E-06	1.80E-05	2.37E-01	1.07E-05
Road 48	48	2000-2100	3.08E-02	8.55E-07	1.29E-05	2.79E-02	7.74E-07	1.17E-05	3.31E-01	9.19E-06
Road 48	48	2100-2200	2.90E-02	7.99E-07	1.21E-05	2.59E-02	7.12E-07	1.08E-05	3.07E-01	8.46E-06
Road 48	48	2200-2300	2.91E-02	8.78E-07	6.30E-06	1.02E-02	3.23E-06	2.82E-05	7.46E-06	1.03E-04
Road 48	48	2300-0000	3.05E-02	6.11E-07	9.23E-06	2.72E-02	5.46E-07	8.24E-06	3.21E-01	6.43E-06
Road 49	49	0000-0100	2.79E-06	1.02E-02	8.02E-04	2.49E-06	7.27E-03	5.72E-07	8.02E-04	2.49E-06
Road 49	49	0100-0200	2.84E-02	9.16E-08	2.31E-06	2.63E-02	8.50E-08	2.15E-06	2.79E-01	9.02E-07
Road 49	49	0200-0300	2.84E-02	9.16E-08	2.31E-06	2.63E-02	8.50E-08	2.15E-06	2.79E-01	9.02E-07
Road 49	49	0300-0400	3.09E-02	5.76E-08	1.45E-06	2.89E-02	5.39E-08	1.36E-06	2.80E-01	5.22E-07
Road 49	49	0400-0500	3.38E-02	6.91E-08	1.74E-06	3.13E-02	6.40E-08	1.62E-06	2.99E-01	6.11E-07
Road 49	49	0500-0600	3.81E-02	1.35E-07	3.41E-06	3.26E-02	1.16E-07	2.93E-06	3.97E-01	1.41E-06
Road 49	49	0600-0700	4.49E-02	3.42E-07	8.63E-06	4.05E-02	3.08E-07	7.77E-06	1.68E-01	1.28E-06
Road 49	49	0700-0800	5.22E-02	8.45E-07	2.13E-05	4.66E-02	7.54E-07	1.90E-05	1.93E-01	3.12E-06
Road 49	49	0800-0900	5.89E-02	1.05E-06	2.64E-05	5.05E-02	8.98E-07	2.27E-05	4.46E-01	7.92E-06
Road 49	49	0900-1000	6.73E-02	9.88E-07	2.49E-05	5.83E-02	8.57E-07	2.16E-05	4.15E-01	6.10E-06
Road 49	49	1000-1100	7.54E-02	1.34E-06	3.38E-05	6.53E-02	1.16E-06	2.93E-05	4.15E-01	7.37E-06
Road 49	49	1100-1200	6.99E-02	8.44E-07	2.13E-05	6.07E-02	7.32E-07	1.85E-05	5.01E-01	1.26E-06
Road 49	49	1200-1300	6.27E-02	1.02E-06	2.57E-05	5.42E-02	8.84E-07	2.23E-05	4.83E-01	7.87E-06
Road 49	49	1300-1400	6.68E-02	6.32E-07	1.60E-05	5.78E-02	5.47E-07	1.38E-05	4.29E-01	4.06E-06
Road 49	49	1400-1500	8.66E-02	6.99E-07	1.76E-05	7.49E-02	6.30E-07	1.58E-05	5.31E-01	4.29E-06
Road 49	49	1500-1600	8.66E-02	6.84E-07	1.73E-05	7.49E-02	6.19E-07	1.56E-05	5.31E-01	4.19E-06
Road 49	49	1600-1700	8.16E-02	6.84E-07	1.73E-05	6.91E-02	6.19E-07	1.33E-05	5.21E-01	4.37E-06
Road 49	49	1700-1800	8.16E-02	6.84E-07	1.73E-05	6.91E-02	6.19E-07	1.33E-05	5.21E-01	4.37E-06
Road 49	49	1800-1900	4.83E-02	4.87E-07	1.23E-05	4.15E-02	4.19E-07	1.06E-05	4.26E-01	3.07E-06
Road 49	49	1900-2000	4.34E-02	4.87E-07	1.23E-05	3.74E-02	4.19E-07	1.06E-05	3.83E-01	3.07E-06
Road 49	49	2000-2100	4.01E-02	2.52E-07	6.37E-06	3.82E-02	2.28E-07	5.76E-06	4.82E-01	3.04E-06
Road 49	49	2100-2200	1.64E-02	2.26E-07	5.70E-06	1.24E-02	2.01E-07	5.08E-06	4.34E-01	2.74E-06
Road 49	49	2200-2300	1.67E-02	2.26E-07	1.98E-06	3.92E-03	1.96E-06	1.72E-05	4.46E-06	6.16E-05
Road 49	49	2300-0000	1.67E-02	4.21E-06	3.27E-02	1.49E-07	3.78E-06	2.93E-01	1.33E-06	3.78E-06
Road 50	50	0000-0100	1.56E-08	8.57E-03	6.16E-08	1.56E-08	3.64E-03	2.62E-08	6.16E-08	1.56E-08
Road 50	50	0100-0200	9.93E-02	3.34E-08	4.77E-07	9.83E-02	4.75E-08	1.66E-07	2.28E-06	4.41E-07
Road 50	50	0200-0300	1.04E-01	2.76E-08	3.94E-07	9.80E-02	2.61E-08	3.72E-07	4.98E-01	1.32E-07
Road 50	50	0300-0400	1.04E-01	2.49E-08	3.55E-07	9.80E-02	2.33E-08	3.32E-07	4.98E-01	1.19E-07
Road 50	50	0400-0500	1.12E-01	2.83E-08	4.03E-07	1.04E-01	2.63E-08	3.75E-07	5.29E-01	1.34E-07
Road 50	50	0500-0600	1.11E-01	1.01E-07	1.43E-06	9.09E-08	3.30E-06	5.14E-07	4.63E-01	4.23E-07
Road 50	50	0600-0700	1.26E-01	2.47E-07	3.51E-06	1.25E-02	3.20E-07	3.44E-06	6.25E-01	1.02E-06
Road 50	50	0700-0800	1.26E-01	2.47E-07	3.51E-06	1.25E-02	3.20E-07	3.44E-06	6.25E-01	1.02E-06
Road 50	50	0800-0900	1.39E-01	3.27E-07	4.66E-06	1.20E-01	2.84E-07	4.05E-06	6.40E-01	1.51E-06
Road 50	50	0900-1000	1.39E-01	3.27E-07	4.66E-06	1.20E-01	2.84E-07	4.05E-06	6.40E-01	1.51E-06
Road 50	50	1000-1100	1.39E-01	3.09E-07	2.87E-06	1.20E-01	2.68E-07	2.49E-06	6.40E-01	1.42E-06
Road 50	50	1100-1200	1.46E-01	3.11E-07	4.43E-06	1.25E-02	2.68E-07	3.82E-06	6.72E-01	1.43E-06
Road 50	50	1200-1300	1.46E-01	3.11E-07	4.43E-06	1.25E-02	2.68E-07	3.82E-06	6.72E-01	1.43E-06
Road 50	50	1300-1400	1.70E-01	1.83E-07	2.61E-06	1.47E-01	1.58E-07	2.26E-06	7.87E-01	1.04E-05
Road 50	50	1400-1500	1.74E-01	1.86E-07	2.66E-06	1.49E-01	1.59E-07	2.27E-06	7.97E-01	1.04E-05
Road 50	50	1500-1600	1.70E-01	1.82E-07	2.60E-06	1.46E-01	1.56E-07	2.23E-06	7.79E-01	1.03E-05
Road 50	50	1600-1700	1.67E-01	1.75E-07	2.49E-06	1.42E-01	1.49E-07	2.12E-06	7.71E-01	8.05E-07
Road 50	50	1700-1800	1.54E-01	2.13E-07	3.03E-06	1.28E-02	1.77E-07	2.52E-06	7.12E-01	9.84E-06
Road 50	50	1800-1900	1.42E-01	1.95E-07	1.50E-06	1.38E-01	8.00E-08	1.38E-06	6.57E-01	7.58E-06
Road 50	50	1900-2000	1.25E-01	5.46E-08	7.78E-07	1.10E-01	4.82E-08	6.87E-07	5.84E-01	2.55E-07
Road 50	50	2000-2100	1.25E-01	5.46E-08	7.78E-07	1.10E-01	4.82E-08	6.87E-07	5.84E-01	2.55E-07
Road 50	50	2100-2200	1.26E-01	4.56E-08	6.51E-07	1.12E-01	4.08E-08	5.82E-07	5.96E-01	2.15E-07
Road 50	50	2200-2300	1.34E-01	4.77E-08	1.22E-06	1.83E-08	5.47E-07	6.26E-01	2.04E-07	2.91E-06
Road 50	50	2300-0000	1.34E-01	3.62E-08	5.16E-07	1.20E-01	3.24E-08	4.63E-07	6.26E-01	1.69E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 1	1	0000-0100	2.59E-02	1.14E-05	1.75E-02	3.85E-02	1.03E-05	2.16E-06	1.79E-01	3.93E-06
Road 1	1	0100-0200	2.09E-02	1.46E-07	8.07E-06	1.39E-02	1.33E-07	7.31E-06	1.44E-01	7.25E-05
Road 1	1	0200-0300	2.24E-02	1.15E-07	6.32E-06	2.06E-02	1.06E-07	6.02E-06	1.95E-01	9.98E-07
Road 1	1	0300-0400	2.43E-02	1.84E-08	1.01E-05	2.25E-02	1.85E-08	1.01E-05	2.12E-01	1.85E-07
Road 1	1	0400-0500	2.56E-02	1.14E-07	6.25E-06	2.34E-02	1.04E-07	5.72E-06	2.26E-01	1.00E-06
Road 1	1	0500-0600	2.63E-02	2.01E-07	1.11E-05	2.47E-02	1.89E-07	1.04E-05	2.23E-01	1.71E-06
Road 1	1	0600-0700	2.78E-02	4.56E-07	2.51E-05	2.60E-02	4.25E-07	2.34E-05	2.32E-01	3.79E-06
Road 1	1	0700-0800	3.03E-02	1.00E-06	5.51E-05	2.76E-02	9.13E-07	5.02E-05	2.25E-01	7.41E-06
Road 1	1	0800-0900	3.17E-06	1.68E-02	1.32E-03	4.09E-06	2.36E-03	1.85E-07	1.32E-03	4.09E-06
Road 1	1	0900-1000	3.60E-02	1.12E-06	6.18E-05	3.21E-02	1.00E-06	5.52E-05	2.63E-01	8.21E-06
Road 1	1	1000-1100	3.66E-02	1.14E-06	6.29E-05	3.26E-02	1.02E-06	5.61E-05	2.67E-01	8.34E-06
Road 1	1	1100-1200	4.06E-02	1.04E-06	5.70E-05	3.51E-02	8.97E-07	4.93E-05	2.87E-01	7.34E-06
Road 1	1	1200-1300	3.50E-02	1.88E-06	1.03E-04	4.34E-02	2.33E-06	1.28E-04	3.56E-01	1.91E-05
Road 1	1	1300-1400	3.51E-02	1.94E-06	1.07E-04	4.35E-02	2.41E-06	1.32E-04	3.57E-01	1.97E-05
Road 1	1	1400-1500	5.18E-02	2.09E-06	1.15E-04	4.42E-02	1.78E-06	9.78E-05	3.78E-01	1.52E-05
Road 1	1	1500-1600	4.99E-02	2.09E-06	1.15E-04	4.26E-02	1.78E-06	9.78E-05	3.64E-01	1.52E-05
Road 1	1	1600-1700	5.05E-02	2.22E-06	1.22E-04	4.20E-02	1.84E-06	1.01E-04	3.49E-01	1.53E-05
Road 1	1	1700-1800	4.73E-02	1.99E-06	1.09E-04	3.93E-02	1.65E-06	9.08E-05	3.27E-01	1.38E-05
Road 1	1	1800-1900	2.62E-02	1.42E-06	7.82E-05	2.25E-02	1.22E-06	6.74E-05	1.94E-01	1.06E-05
Road 1	1	1900-2000	2.34E-02	2.04E-06	1.12E-04	2.01E-02	1.75E-06	9.65E-05	1.73E-01	1.51E-05
Road 1	1	2000-2100	2.15E-02	1.51E-06	8.31E-05	1.94E-02	1.36E-06	7.48E-05	1.74E-01	1.22E-05
Road 1	1	2100-2200	1.94E-02	1.27E-06	6.99E-05	1.81E-02	1.19E-06	6.55E-05	1.69E-01	1.11E-05
Road 1	1	2200-2300	1.82E-02	1.27E-06	1.68E-05	5.16E-02	1.19E-06	1.57E-05	4.80E-01	1.11E-05
Road 1	1	2300-0000	1.92E-02	9.82E-07	1.82E-04	1.34E-03	9.19E-07	1.71E-04	1.34E-03	9.19E-07
Road 2	2	0000-0100	2.09E-02	1.46E-07	8.07E-06	1.39E-02	1.47E-06	8.08E-05	1.88E-01	1.32E-06
Road 2	2	0100-0200	2.24E-02	1.15E-07	6.32E-06	2.06E-02	1.06E-07	6.02E-06	1.95E-01	9.98E-07
Road 2	2	0200-0300	2.43E-02	1.84E-08	1.01E-05	2.25E-02	1.85E-08	1.01E-05	2.12E-01	1.85E-07
Road 2	2	0300-0400	2.56E-02	1.14E-07	6.25E-06	2.34E-02	1.04E-07	5.72E-06	2.26E-01	1.00E-06
Road 2	2	0400-0500	2.79E-02	1.70E-07	8.61E-06	2.47E-02	1.66E-07	8.41E-06	2.34E-01	1.42E-06
Road 2	2	0500-0600	2.88E-02	2.44E-07	1.27E-05	2.72E-01	2.37E-07	1.24E-05	2.57E-01	2.17E-06
Road 2	2	0600-0700	3.32E-02	1.52E-06	7.71E-05	3.02E-02	1.39E-06	7.02E-05	2.42E-01	1.11E-05
Road 2	2	0700-0800	3.79E-06	2.01E-02	1.58E-03	4.88E-06	2.82E-03	2.21E-07	1.58E-03	4.88E-06
Road 2	2	0800-0900	3.99E-02	1.76E-06	8.90E-05	3.59E-02	1.58E-06	8.00E-05	2.64E-01	1.16E-05
Road 2	2	0900-1000	4.02E-02	2.31E-06	8.50E-08	2.15E-06	2.79E-01	9.02E-07	2.28E-01	2.57E-01
Road 2	2	1000-1100	4.53E-02	1.84E-06	8.31E-05	3.96E-02	1.44E-06	7.27E-05	2.93E-01	1.18E-05
Road 2	2	1100-1200	4.53E-02	1.84E-06	8.31E-05	3.96E-02	1.44E-06	7.27E-05	2.93E-01	1.18E-05
Road 2	2	1200-1300	4.52E-02	1.60E-06	8.08E-05	5.09E-02	1.24E-06	6.25E-05	3.26E-01	1.15E-05
Road 2	2	1300-1400	3.81E-02	1.35E-07	6.81E-06	2.01E-02	1.22E-06	6.19E-05	2.74E-01	9.68E-06
Road 2	2	1400-1500	3.93E-02	1.77E-06	8.88E-05	5.07E-02	1.52E-06	7.68E-05	3.68E-01	1.66E-05
Road 2	2	1500-1600	3.74E-02	1.47E-06	7.43E-05	5.15E-02	1.44E-06	7.26E-05	3.51E-01	1.38E-05
Road 2	2	1600-1700	3.74E-02	1.85E-06	9.37E-05	4.75E-02	1.64E-06	8.29E-05	3.32E-01	1.47E-05
Road 2	2	1700-1800	3.42E-02	1.63E-06	8.26E-05	4.34E-02	1.44E-06	7.29E-05	3.03E-01	1.28E-05
Road 2	2	1800-1900	3.45E-02	1.63E-06	8.26E-05	4.34E-02	1.44E-06	7.29E-05	3.03E-01	1.28E-05
Road 2	2	1900-2000	3.08E-02	1.39E-06	2.10E-05	2.64E-02	1.19E-06	1.80E-05	2.37E-01	1.07E-05
Road 2	2	2000-2100	2.90E-02	7.99E-07	1.21E-05	2.59E-02	7.12E-07	1.08E-05	3.07E-01	8.46E-06
Road 2	2	2100-2200	2.91E-02	7.99E-07	1.21E-05	2.59E-02	7.12E-07	1.08E-05	3.07E-01	8.46E-06
Road 2	2	2200-2300	3.05E-02	6.11E-07	9.23E-06	2.72E-02	5.46E-07	8.24E-06	3.21E-01	6.43E-06
Road 2	2	2300-0000	3.05E-02	6.11E-07	9.23E-06	2.72E-02	5.46E-07	8.24E-06	3.21E-01	6.43E-06
Road 3	3	0000-0100	2.79E-06	1.02E-02	8.02E-04	2.49E-06	7.27E-03	5.72E-07	8.02E-04	2.49E-06
Road 3	3	0100-0200	2.84E-02	9.16E-08	2.31E-06	2.63E-02	8.50E-08	2.15E-06	2.79E-01	9.02E-07
Road 3	3	0200-0300	2.84E-02	9.16E-08	2.31E-06	2.63E-02	8.50E-08	2.15E-06	2.79E-01	9.02E-07
Road 3	3	0300-0400	3.09E-02	5.76E-08	1.45E-06	2.89E-02	5.39E-08	1.36E-06	2.80E-01	5.22E-07
Road 3	3	0400-0500	3.38E-02	6.91E-08	1.74E-06	3.13E-02	6.40E-08	1.62E-06	2.99E-01	6.11E-07
Road 3	3	0500-0600	3.81E-02	1.35E-07	3.41E-06	3.26E-02	1.16E-07	2.93E-06	3.97E-01	1.41E-06
Road 3	3	0600-0700	4.49E-02	3.42E-07	8.63E-06	4.05E-02	3.08E-07	7.77E-06	1.68E-01	1.28E-06
Road 3	3	0700-0800	5.22E-02	8.45E-07	2.13E-05	4.66E-02	7.54E-07	1.90E-05	1.93E-01	3.12E-06
Road 3	3	0800-0900	5.89E-02	1.05E-06	2.64E-05	5.05E-02	8.98E-07	2.27E-05	4.46E-01	7.92E-06
Road 3	3	0900-1000	6.73E-02	9.88E-07	2.49E-05	5.83E-02	8.57E-07	2.16E-05	4.15E-01	6.10E-06
Road 3	3	1000-1100	7.54E-02	1.34E-06	3.38E-05	6.53E-02	1.16E-06	2.93E-05	4.15E-01	7.37E-06
Road 3	3	1100-1200	6.99E-02	8.44E-07	2.13E-05	6.07E-02	7.32E-07	1.85E-05	5.01E-01	1.26E-06
Road 3	3	1200-1300	6.27E-02	1.02E-06	2.57E-05	5.42E-02	8.84E-07	2.23E-05	4.83E-01	7.87E-06
Road 3	3	1300-1400	6.68E-02	6.32E-07	1.60E-05	5.78E-02	5.47E-07	1.38E-05	4.29E-01	4.06E-06
Road 3	3	1400-1500	8.66E-02	6.99E-07	1.76E-05	7.49E-02	6.30E-07	1.58E-05	5.31E-01	4.29E-06
Road 3	3	1500-1600	8.66E-02	6.84E-07	1.73E-05	7.49E-02	6.19E-07	1.56E-05	5.31E-01	4.19E-06
Road 3	3	1600-1700	8.16E-02	6.84E-07	1.73E-05	6.91E-02	6.19E-07	1.33E-05	5.21E-01	4.37E-06
Road 3	3	1700-1800	8.16E-02	6.84E-07	1.73E-05	6.91E-02	6.19E-07	1.33E-05	5.21E-01	4.37E-06
Road 3	3	1800-1900	4.83E-02	4.87E-07	1.23E-05	4.15E-02	4.19E-07	1.06E-05	4.26E-01	3.07E-06
Road 3	3	1900-2000	4.34E-02	4.87E-07	1.23E-05	3.74E-02	4.19E-07	1.06E-05	3.83E-01	3.07E-06
Road 3	3	2000-2100	4.01E-02	2.52E-07	6.37E-06	3.82E-02	2.28E-07	5.76E-06	4.82E-01	3.04E-06
Road 3	3	2100-2200	1.64E-02	2.26E-07	5.70E-06	1.24E-02	2.01E-07	5.08E-06	4.34E-01	2.74E-06
Road 3	3	2200-2300	1.67E-02	2.26E-07	1.98E-06	3.92E-03	1.96E-06	1.72E-05	4.46E-06	6.16E-05
Road 3	3	2300-0000	1.67E-02	4.21E-06	3.27E-02	1.49E-07	3.78E-06	2.93E-01	1.33E-06	3.78E-06
Road 4	4	0000-0100	1.56E-08	8.57E-03	6.16E-08	1.56E-08	3.64E-03	2.62E-08	6.16E-08	1.56E-08
Road 4	4	0100-0200	9.93E-02	3.34E-08	4.77E-07	9.83E-02	4.75E-08	1.66E-07	2.28E-06	4.41E-07
Road 4	4	0200-0300	1.04E-01	2.76E-08	3.94E-07	9.80E-02	2.61E-08	3.72E-07	4.98E-01	1.32E-07
Road 4	4	0300-0400	1.04E-01	2.49E-08	3.55E-07	9.80E-02	2.33E-08	3.32E-07	4.98E-01	1.19E-07
Road 4	4	0400-0500	1.12E-01	2.83E-08	4.03E-07	1.04E-01	2.63E-08	3.75E-07	5.29E-01	1.34E-07
Road 4	4	0500-0600	1.11E-01	1.01E-07	1.43E-06	9.09E-08	3.30E-06	5.14E-07	4.63E-01	4.23E-07
Road 4	4	0600-0700	1.26E-01	2.47E-07	3.51E-06	1.25E-02	3.20E-07	3.44E-06	6.25E-01	1.02E-06
Road 4	4	0700-0800	1.26E-01	2.47E-07	3.51E-06	1.25E-02	3.20E-07	3.44E-06	6.25E-01	1.02E-06
Road 4	4	0800-0900	1.39E-01	3.27E-07	4.66E-06	1.20E-01	2.84E-07	4.05E-06	6.40E-01	1.51E-06
Road 4	4	0900-1000	1.39E-01	3.27E-07	4.66E-06	1.20E-01	2.84E-07	4.05E-06	6.40E-01	1.51E-06
Road 4	4	1000-1100	1.39E-01	3.09E-07	2.87E-06	1.20E-01	2.68E-07	2.49E-06	6.40E-01	1.42E-06
Road 4	4	1100-1200	1.46E-01	3.11E-07	4.43E-06	1.25E-02	2.68E-07	3.82E-06	6.72E-01	1.43E-06
Road 4	4	1200-1300	1.46E-01	3.11E-07	4.43E-06	1.25E-02	2.68E-07	3.82E-06	6.72E-01	1.43E-06
Road 4	4	1300-1400	1.70E-01	1.83E-07	2.61E-06	1.47E-01	1.58E-07	2.26E-06	7.87E-01	1.04E-05
Road 4	4	1400-1500	1.74E-01	1.86E-07	2.66E-06	1.49E-01	1.59E-07	2.27E-06	7.97E-01	1.04E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 14	14	0800-0900	7.11E-02	1.08E-06	1.84E-05	3.34E-02	5.49E-07	1.82E-05	4.47E-01	8.27E-06	1.55E-04
Road 14	14	0900-1000	8.22E-02	1.06E-06	1.81E-05	7.24E-02	9.34E-07	1.59E-05	4.95E-01	6.39E-06	1.09E-04
Road 14	14	1000-1100	9.53E-02	1.09E-06	1.85E-05	9.22E-02	1.57E-05	5.56E-01	6.33E-06	1.08E-04	4.70E-01
Road 14	14	1100-1200	9.36E-02	1.01E-06	1.73E-05	7.88E-02	8.54E-07	1.46E-05	5.33E-01	5.79E-06	9.92E-05
Road 14	14	1200-1300	1.00E-01	1.21E-06	2.06E-05	8.66E-02	1.04E-06	1.78E-05	5.97E-01	7.20E-06	1.23E-04
Road 14	14	1300-1400	1.01E-01	1.25E-06	2.13E-05	8.76E-02	1.08E-06	1.84E-05	5.96E-01	7.34E-06	1.25E-04
Road 14	14	1400-1500	1.00E-01	1.31E-06	2.23E-05	8.45E-02	1.10E-06	1.88E-05	5.93E-01	7.73E-06	1.32E-04
Road 14	14	1500-1600	9.63E-02	1.28E-06	2.19E-05	8.18E-02	1.09E-06	1.86E-05	5.77E-01	7.70E-06	1.31E-04
Road 14	14	1600-1700	8.35E-02	1.16E-06	1.98E-05	7.15E-02	9.94E-07	1.70E-05	5.00E-01	6.95E-06	1.19E-04
Road 14	14	1700-1800	7.56E-02	1.18E-06	2.02E-05	6.35E-02	9.94E-07	1.70E-05	5.00E-01	7.83E-06	1.34E-04
Road 14	14	1800-1900	7.27E-02	1.17E-06	2.00E-05	6.14E-02	9.87E-07	1.69E-05	4.29E-01	6.91E-06	1.18E-04
Road 14	14	1900-2000	6.13E-02	5.29E-07	9.02E-06	5.55E-02	4.65E-07	7.96E-06	3.95E-01	3.40E-06	5.82E-05
Road 24	24	2000-2100	5.37E-02	4.63E-07	7.90E-06	5.55E-02	4.79E-07	8.20E-06	3.95E-01	3.41E-06	5.84E-05
Road 24	24	2100-2200	4.77E-02	4.11E-07	7.02E-06	5.28E-02	4.55E-07	7.79E-06	3.76E-01	3.24E-06	5.55E-05
Road 24	24	2200-2300	3.74E-02	3.64E-07	6.20E-06	5.96E-02	5.80E-07	9.88E-06	4.24E-01	4.13E-06	7.03E-05
Road 24	24	2300-2400	3.22E-02	3.13E-07	5.33E-06	5.13E-02	4.99E-07	8.50E-06	3.65E-01	3.55E-06	6.05E-05
Road 25	25	0000-0100	1.67E-02	1.44E-07	2.46E-06	2.66E-02	2.30E-07	3.93E-06	1.89E-01	1.64E-06	2.80E-05
Road 25	25	0100-0200	1.74E-02	1.41E-07	2.41E-06	2.77E-02	2.24E-07	3.83E-06	1.97E-01	1.60E-06	2.73E-05
Road 25	25	0200-0300	1.80E-02	1.22E-07	2.08E-06	2.87E-02	1.94E-07	3.31E-06	2.04E-01	1.38E-06	2.35E-05
Road 25	25	0300-0400	1.80E-02	1.22E-07	2.08E-06	2.87E-02	1.94E-07	3.31E-06	2.04E-01	1.38E-06	2.35E-05
Road 25	25	0400-0500	1.80E-02	1.22E-07	2.08E-06	2.87E-02	1.94E-07	3.31E-06	2.04E-01	1.38E-06	2.35E-05
Road 25	25	0500-0600	1.80E-02	1.22E-07	2.08E-06	2.87E-02	1.94E-07	3.31E-06	2.04E-01	1.38E-06	2.35E-05
Road 25	25	0600-0700	1.74E-02	1.41E-07	2.41E-06	2.77E-02	2.24E-07	3.83E-06	1.97E-01	1.60E-06	2.73E-05
Road 25	25	0700-0800	2.04E-01	1.65E-06	2.82E-05	3.25E-01	2.63E-06	4.49E-05	2.31E-01	1.87E-06	3.19E-05
Road 25	25	0800-0900	2.15E-01	1.76E-06	3.00E-05	4.48E-01	3.66E-06	6.25E-05	3.19E-01	2.61E-06	4.45E-05
Road 25	25	0900-1000	2.15E-01	1.76E-06	3.00E-05	4.48E-01	3.66E-06	6.25E-05	3.19E-01	2.61E-06	4.45E-05
Road 25	25	1000-1100	2.15E-01	1.76E-06	3.00E-05	4.48E-01	3.66E-06	6.25E-05	3.19E-01	2.61E-06	4.45E-05
Road 25	25	1100-1200	2.15E-01	1.76E-06	3.00E-05	4.48E-01	3.66E-06	6.25E-05	3.19E-01	2.61E-06	4.45E-05
Road 25	25	1200-1300	2.66E-01	2.11E-06	3.57E-05	7.26E-01	5.76E-06	9.75E-05	3.99E-01	3.17E-06	5.36E-05
Road 25	25	1300-1400	2.54E-01	2.01E-06	3.40E-05	6.44E-01	5.10E-06	8.64E-05	3.76E-01	2.98E-06	5.04E-05
Road 25	25	1400-1500	2.47E-01	2.02E-06	3.41E-05	6.07E-01	4.96E-06	8.39E-05	3.65E-01	2.98E-06	5.04E-05
Road 25	25	1500-1600	2.22E-01	1.76E-06	2.97E-05	5.67E-01	4.50E-06	7.61E-05	3.41E-01	2.71E-06	4.58E-05
Road 25	25	1600-1700	2.16E-01	1.71E-06	2.89E-05	5.57E-01	4.42E-06	7.47E-05	3.35E-01	2.66E-06	4.49E-05
Road 25	25	1700-1800	2.22E-01	1.76E-06	2.97E-05	5.67E-01	4.50E-06	7.61E-05	3.41E-01	2.71E-06	4.58E-05
Road 25	25	1800-1900	2.22E-01	1.76E-06	2.97E-05	5.67E-01	4.50E-06	7.61E-05	3.41E-01	2.71E-06	4.58E-05
Road 25	25	1900-2000	1.70E-01	6.81E-06	1.74E-05	1.46E-01	5.87E-06	1.50E-05	7.88E-01	3.17E-05	8.08E-05
Road 25	25	2000-2100	1.61E-01	6.51E-06	1.66E-05	1.41E-01	5.70E-06	1.45E-05	7.64E-01	3.09E-05	7.88E-05
Road 25	25	2100-2200	1.52E-01	6.14E-06	1.57E-05	1.34E-01	5.41E-06	1.38E-05	7.24E-01	2.92E-05	7.47E-05
Road 25	25	2200-2300	1.80E-01	5.24E-06	1.34E-05	1.54E-01	4.48E-06	1.14E-05	8.23E-01	2.39E-05	6.10E-05
Road 25	25	2300-2400	1.74E-01	5.06E-06	1.29E-05	1.49E-01	4.33E-06	1.10E-05	7.96E-01	2.31E-05	5.90E-05
Road 26	26	0000-0100	2.22E-01	6.35E-06	2.28E-05	2.09E-01	5.97E-06	2.14E-05	9.51E-01	2.72E-05	9.77E-05
Road 26	26	0100-0200	2.29E-01	6.55E-06	2.35E-05	2.15E-01	6.15E-06	2.21E-05	9.80E-01	2.80E-05	1.01E-04
Road 26	26	0200-0300	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 26	26	0300-0400	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 26	26	0400-0500	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 26	26	0500-0600	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 26	26	0600-0700	2.22E-01	6.35E-06	2.28E-05	2.09E-01	5.97E-06	2.14E-05	9.51E-01	2.72E-05	9.77E-05
Road 26	26	0700-0800	2.72E-01	6.62E-06	2.48E-05	2.41E-01	5.87E-06	2.20E-05	1.22E+00	2.97E-05	1.12E-04
Road 26	26	0800-0900	2.72E-01	6.62E-06	2.48E-05	2.41E-01	5.87E-06	2.20E-05	1.22E+00	2.97E-05	1.12E-04
Road 26	26	0900-1000	2.72E-01	6.62E-06	2.48E-05	2.41E-01	5.87E-06	2.20E-05	1.22E+00	2.97E-05	1.12E-04
Road 26	26	1000-1100	3.02E-01	8.18E-07	3.07E-06	2.59E-01	7.01E-07	2.63E-06	1.34E+00	3.63E-06	1.36E-05
Road 26	26	1100-1200	2.99E-01	8.06E-07	3.02E-06	2.52E-01	6.79E-07	2.55E-06	1.32E+00	3.55E-06	1.33E-05
Road 26	26	1200-1300	2.99E-01	8.06E-07	3.02E-06	2.52E-01	6.80E-07	2.55E-06	1.32E+00	3.55E-06	1.33E-05
Road 26	26	1300-1400	2.98E-01	8.03E-07	3.01E-06	2.51E-01	6.77E-07	2.54E-06	1.31E+00	3.54E-06	1.33E-05
Road 26	26	1400-1500	2.94E-01	7.92E-07	2.97E-06	2.48E-01	6.68E-07	2.50E-06	1.30E+00	3.50E-06	1.31E-05
Road 26	26	1500-1600	2.71E-01	8.49E-07	3.19E-06	2.27E-01	7.12E-07	2.67E-06	1.20E+00	3.76E-06	1.41E-05
Road 26	26	1600-1700	2.66E-01	8.33E-07	3.13E-06	2.23E-01	6.98E-07	2.62E-06	1.18E+00	3.69E-06	1.38E-05
Road 26	26	1700-1800	2.74E-01	8.58E-07	3.22E-06	2.29E-01	7.19E-07	2.70E-06	1.21E+00	3.79E-06	1.42E-05
Road 26	26	1800-1900	2.74E-01	8.58E-07	3.22E-06	2.29E-01	7.19E-07	2.70E-06	1.21E+00	3.79E-06	1.42E-05
Road 26	26	1900-2000	2.10E-01	3.32E-06	1.25E-05	1.79E-01	2.86E-06	1.08E-05	9.72E-01	1.54E-05	5.82E-05
Road 26	26	2000-2100	1.99E-01	3.14E-06	1.18E-05	1.70E-01	2.71E-06	1.02E-05	9.22E-01	1.46E-05	5.52E-05
Road 26	26	2100-2200	1.88E-01	2.97E-06	1.12E-05	1.61E-01	2.56E-06	9.66E-06	8.72E-01	1.38E-05	5.22E-05
Road 26	26	2200-2300	2.23E-01	2.65E-06	1.00E-05	1.90E-01	2.26E-06	8.55E-06	1.03E+00	1.22E-05	4.62E-05
Road 26	26	2300-2400	2.15E-01	2.56E-06	9.68E-06	1.84E-01	2.19E-06	8.27E-06	9.96E-01	1.18E-05	4.47E-05
Road 27	27	0000-0100	2.22E-01	6.35E-06	2.28E-05	2.09E-01	5.97E-06	2.14E-05	9.51E-01	2.72E-05	9.77E-05
Road 27	27	0100-0200	2.29E-01	6.55E-06	2.35E-05	2.15E-01	6.15E-06	2.21E-05	9.80E-01	2.80E-05	1.01E-04
Road 27	27	0200-0300	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 27	27	0300-0400	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 27	27	0400-0500	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 27	27	0500-0600	2.29E-01	4.38E-06	1.64E-05	2.15E-01	4.12E-06	1.54E-05	9.80E-01	1.87E-05	7.01E-05
Road 27	27	0600-0700	2.22E-01	6.35E-06	2.28E-05	2.09E-01	5.97E-06	2.14E-05	9.51E-01	2.72E-05	9.77E-05
Road 27	27	0700-0800	2.72E-01	6.62E-06	2.48E-05	2.41E-01	5.87E-06	2.20E-05	1.22E+00	2.97E-05	1.12E-04
Road 27	27	0800-0900	2.72E-01	6.62E-06	2.48E-05	2.41E-01	5.87E-06	2.20E-05	1.22E+00	2.97E-05	1.12E-04
Road 27	27	0900-1000	2.72E-01	6.62E-06	2.48E-05	2.41E-01	5.87E-06	2.20E-05	1.22E+00	2.97E-05	1.12E-04
Road 27	27	1000-1100	3.02E-01	8.18E-07	3.07E-06	2.59E-01	7.01E-07	2.63E-06	1.34E+00	3.63E-06	1.36E-05
Road 27	27	1100-1200	2.99E-01	8.06E-07	3.02E-06	2.52E-01	6.79E-07	2.55E-06	1.32E+00	3.55E-06	1.33E-05
Road 27	27	1200-1300	2.99E-01	8.06E-07	3.02E-06	2.52E-01	6.80E-07	2.55E-06	1.32E+00	3.55E-06	1.33E-05
Road 27	27	1300-1400	2.98E-01	8.03E-07	3.01E-06	2.51E-01	6.77E-07	2.54E-06	1.31E+00	3.54E-06	1.33E-05
Road 27	27	1400-1500	2.94E-01	7.92E-07	2.97E-06	2.48E-01	6.68E-07	2.50E-06	1.30E+00	3.50E-06	1.31E-05
Road 27	27	1500-1600	2.71E-01	8.49E-07	3.19E-06	2.27E-01	7.12E-07	2.67E-06	1.20E+00	3.76E-06	1.41E-05
Road 27	27	1600-1700	2.66E-01	8.33E-07	3.13E-06	2.23E-01	6.98E-07	2.62E-06	1.18E+00	3.69E-06	1.38E-05
Road 27	27	1700-1800	2.74E-01	8.58E-07	3.22E-06	2.29E-01	7.19E-07	2.70E-06	1.21E+00	3.79E-06	1.42E-05
Road 27	27	1800-1900	2.74E-01	8.58E-07	3.22E-06	2.29E-01	7.19E-07	2.70E-06	1.21E+00	3.79E-06	1.42E-05
Road 27	27	1900-2000	2.10E-01	3.32E-06	1.25E-05	1.79E-01	2.86E-06	1.08E-05	9.72E-01	1.54E-05	5.82E-05
Road 27	27	2000-2100	1.99E-01	3.14E-06	1.18E-05	1.70E-01	2.71E-06	1.02E-05	9.22E-01	1.46E-05	5.52E-05
Road 27	27	2100-2200	1.88E-01	2.97E-06	1.12E-05	1.61E-01	2.56E-06	9.66E-06	8.72E-01	1.38E-05	5.22E-05
Road 27	27	2200-2300	2.23E-01	2.65E-06	1.00E-05	1.90E-01	2.26E-06	8.55E-06	1.03E+00	1.22E-05	4.62E-05
Road 27	27	2300-2400	2.15E-01	2.56E-06	9.68E-06	1.84E-01	2.19E-06	8.27E-06	9.96E-01	1.18E-05	4.47E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.1 Emission Factor in 2028.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	7.56E-02	8.23E-07	4.62E-06	3.56E-02	4.16E-07	4.29E-06	1.25E-01	1.46E-06	1.51E-05
Road 17	17	1700-1800	5.54E-02	6.83E-07	2.00E-05	4.67E-02	5.75E-07	1.68E-05	3.88E-01	4.79E-06	1.40E-04
Road 17	17	1800-1900	3.97E-02	5.04E-07	1.47E-05	3.52E-02	4.46E-07	1.31E-05	3.20E-01	4.06E-06	1.19E-04
Road 17	17	1900-2000	3.35E-02	2.57E-07	7.52E-06	2.99E-02	2.29E-07	6.71E-06	2.59E-01	1.98E-06	5.80E-05
Road 17	17	2000-2100	3.35E-02	2.57E-07	7.52E-06	2.97E-02	2.28E-07	6.67E-06	3.22E-01	2.47E-06	7.22E-05
Road 17	17	2100-2200	3.35E-02	2.50E-07	7.31E-06	2.97E-02	2.21E-07	6.47E-06	3.22E-01	2.40E-06	7.02E-05
Road 17	17	2200-2300	3.31E-02	2.44E-07	7.13E-06	2.80E-02	2.07E-07	6.03E-06	3.24E-01	2.40E-06	7.02E-05
Road 17	17	2300-0000	3.48E-02	1.94E-07	5.67E-06	3.03E-02	1.69E-07	4.94E-06	3.24E-01	1.80E-06	5.28E-05
Road 18	18	0000-0100	2.51E-02	1.02E-07	1.97E-06	2.34E-02	9.56E-08	1.84E-06	2.86E-01	1.16E-06	2.24E-05
Road 18	18	0100-0200	2.80E-02	7.45E-08	2.58E-06	2.68E-02	7.13E-08	2.47E-06	2.86E-01	7.61E-07	2.63E-05
Road 18	18	0200-0300	3.43E-02	5.37E-08	2.10E-06	3.09E-02	4.84E-08	1.89E-06	2.86E-01	4.48E-07	1.75E-05
Road 18	18	0300-0400	3.43E-02	5.37E-08	2.10E-06	3.09E-02	4.84E-08	1.89E-06	2.86E-01	4.48E-07	1.75E-05
Road 18	18	0400-0500	3.50E-02	6.00E-08	2.34E-06	3.19E-02	5.47E-08	2.14E-06	2.86E-01	4.91E-07	1.92E-05
Road 18	18	0500-0600	3.37E-02	9.84E-08	3.84E-06	3.14E-02	9.18E-08	3.59E-06	2.79E-01	8.15E-07	3.18E-05
Road 18	18	0600-0700	3.39E-02	2.10E-07	8.21E-06	3.12E-02	1.93E-07	7.56E-06	2.75E-01	1.71E-06	6.66E-05
Road 18	18	0700-0800	3.52E-02	2.20E-07	4.75E-06	3.25E-02	2.03E-07	4.37E-06	2.75E-01	1.72E-06	3.70E-05
Road 18	18	0800-0900	3.82E-02	2.57E-07	5.55E-06	3.38E-02	2.27E-07	4.91E-06	2.86E-01	1.92E-06	4.15E-05
Road 18	18	0900-1000	3.82E-02	2.57E-07	5.55E-06	3.38E-02	2.27E-07	4.91E-06	2.86E-01	1.92E-06	4.15E-05
Road 18	18	1000-1100	5.36E-02	5.68E-07	2.22E-05	4.57E-02	4.85E-07	1.89E-05	3.62E-01	3.84E-06	1.50E-04
Road 18	18	1100-1200	5.18E-02	5.21E-07	2.04E-05	4.46E-02	4.48E-07	1.75E-05	3.58E-01	3.60E-06	1.41E-04
Road 18	18	1200-1300	5.48E-02	4.28E-07	1.68E-05	4.72E-02	3.68E-07	1.44E-05	3.68E-01	2.87E-06	1.12E-04
Road 18	18	1300-1400	4.51E-02	4.33E-07	1.69E-05	3.86E-02	3.70E-07	1.45E-05	3.68E-01	3.54E-06	1.38E-04
Road 18	18	1400-1500	4.49E-02	4.28E-07	1.67E-05	3.84E-02	3.66E-07	1.43E-05	3.70E-01	3.52E-06	1.38E-04
Road 18	18	1500-1600	4.49E-02	4.28E-07	1.67E-05	3.84E-02	3.66E-07	1.43E-05	3.70E-01	3.52E-06	1.38E-04
Road 18	18	1600-1700	4.47E-02	5.11E-07	2.00E-05	3.82E-02	4.37E-07	1.71E-05	3.61E-01	4.12E-06	1.61E-04
Road 18	18	1700-1800	4.39E-02	4.25E-07	1.66E-05	3.68E-02	3.56E-07	1.39E-05	3.80E-01	3.68E-06	1.44E-04
Road 18	18	1800-1900	2.55E-02	2.32E-07	9.07E-06	2.14E-02	1.95E-07	7.61E-06	2.21E-01	2.01E-06	7.86E-05
Road 18	18	1900-2000	2.16E-02	2.01E-07	7.85E-06	1.91E-02	1.78E-07	6.95E-06	2.82E-01	2.62E-06	1.03E-04
Road 18	18	2000-2100	1.95E-02	1.80E-07	7.07E-06	1.69E-02	1.56E-07	6.09E-06	2.62E-01	2.42E-06	9.46E-05
Road 18	18	2100-2200	1.76E-02	1.63E-07	6.36E-06	1.52E-02	1.41E-07	5.49E-06	2.41E-01	2.23E-06	8.71E-05
Road 18	18	2200-2300	2.08E-02	1.40E-07	5.48E-06	1.80E-02	1.22E-07	4.75E-06	2.76E-01	1.86E-06	7.27E-05
Road 18	18	2300-0000	2.08E-02	1.40E-07	5.48E-06	1.80E-02	1.22E-07	4.75E-06	2.76E-01	1.86E-06	7.27E-05
Road 19	19	0000-0100	2.60E-02	1.02E-07	2.95E-06	2.39E-02	9.43E-08	2.72E-06	2.15E-01	8.45E-07	2.43E-05
Road 19	19	0100-0200	2.60E-02	1.02E-07	2.95E-06	2.39E-02	9.43E-08	2.72E-06	2.15E-01	8.45E-07	2.43E-05
Road 19	19	0200-0300	3.17E-02	7.32E-08	2.11E-06	2.91E-02	6.72E-08	1.94E-06	2.15E-01	4.96E-07	1.43E-05
Road 19	19	0300-0400	3.17E-02	7.32E-08	2.11E-06	2.91E-02	6.72E-08	1.94E-06	2.15E-01	4.96E-07	1.43E-05
Road 19	19	0400-0500	3.24E-02	8.18E-08	2.36E-06	2.98E-02	7.51E-08	2.17E-06	2.15E-01	5.43E-07	1.57E-05
Road 19	19	0500-0600	3.12E-02	1.34E-07	3.84E-06	2.87E-02	1.23E-07	3.54E-06	2.08E-01	8.93E-07	2.57E-05
Road 19	19	0600-0700	3.32E-02	2.87E-07	8.24E-06	3.05E-02	2.64E-07	7.58E-06	2.41E-01	2.08E-06	5.98E-05
Road 19	19	0700-0800	3.98E-02	2.70E-07	5.83E-06	3.66E-02	2.48E-07	5.36E-06	3.19E-01	2.17E-06	4.68E-05
Road 19	19	0800-0900	4.49E-02	3.04E-07	6.57E-06	4.13E-02	2.80E-07	6.04E-06	3.72E-01	2.52E-06	5.44E-05
Road 19	19	0900-1000	4.49E-02	8.19E-07	2.36E-05	3.98E-02	7.26E-07	2.09E-05	2.87E-01	5.24E-06	1.51E-04
Road 19	19	1000-1100	5.54E-02	2.81E-07	8.10E-06	4.91E-02	2.49E-07	7.21E-06	2.08E-01	1.05E-06	3.03E-05
Road 19	19	1100-1200	5.12E-02	7.72E-07	2.22E-05	4.39E-02	6.62E-07	1.91E-05	3.31E-01	4.84E-06	1.39E-04
Road 19	19	1200-1300	5.54E-02	7.75E-07	2.23E-05	6.44E-02	6.64E-07	1.91E-05	4.57E-01	4.70E-06	1.35E-04
Road 19	19	1300-1400	7.54E-02	2.75E-07	2.23E-05	6.44E-02	6.64E-07	1.91E-05	4.57E-01	4.70E-06	1.35E-04
Road 19	19	1400-1500	7.54E-02	2.75E-07	2.23E-05	6.39E-02	6.88E-07	1.98E-05	4.58E-01	4.95E-06	1.43E-04
Road 19	19	1500-1600	7.54E-02	2.75E-07	2.23E-05	6.39E-02	6.88E-07	1.98E-05	4.58E-01	4.95E-06	1.43E-04
Road 19	19	1600-1700	7.12E-02	8.14E-07	2.35E-05	5.95E-02	6.80E-07	1.96E-05	4.50E-01	5.15E-06	1.48E-04
Road 19	19	1700-1800	7.12E-02	8.14E-07	2.35E-05	5.95E-02	6.80E-07	1.96E-05	4.50E-01	5.15E-06	1.48E-04
Road 19	19	1800-1900	3.95E-02	2.55E-07	1.46E-05	3.51E-02	2.26E-07	1.30E-05	4.08E-01	2.63E-06	1.51E-04
Road 19	19	1900-2000	3.47E-02	2.95E-07	4.95E-06	2.97E-02	2.53E-07	4.24E-06	2.09E-01	1.78E-06	2.98E-05
Road 19	19	2000-2100	3.35E-02	2.59E-07	7.45E-06	2.91E-02	2.30E-07	6.62E-06	2.08E-01	1.66E-06	4.77E-05
Road 19	19	2100-2200	3.23E-02	2.50E-07	7.19E-06	2.80E-02	2.22E-07	6.39E-06	2.08E-01	1.61E-06	4.63E-05
Road 19	19	2200-2300	3.48E-02	2.03E-07	5.84E-06	3.03E-02	1.77E-07	5.09E-06	2.08E-01	1.21E-06	3.48E-05
Road 19	19	2300-0000	3.48E-02	2.03E-07	5.84E-06	3.03E-02	1.77E-07	5.09E-06	2.08E-01	1.21E-06	3.48E-05
Road 20	20	0000-0100	9.51E-02	3.39E-08	6.26E-07	8.22E-02	3.15E-08	5.80E-07	4.99E-01	1.57E-07	2.89E-06
Road 20	20	0100-0200	9.51E-02	3.39E-08	6.26E-07	8.22E-02	3.15E-08	5.80E-07	4.99E-01	1.57E-07	2.89E-06
Road 20	20	0200-0300	9.51E-02	3.39E-08	6.26E-07	8.22E-02	3.15E-08	5.80E-07	4.99E-01	1.57E-07	2.89E-06
Road 20	20	0300-0400	9.95E-02	2.93E-08	5.41E-07	9.08E-02	2.68E-08	4.94E-07	4.58E-01	1.35E-07	2.49E-06
Road 20	20	0400-0500	1.02E-01	4.56E-08	8.37E-07	9.37E-02	4.20E-08	7.71E-07	4.58E-01	2.05E-07	3.76E-06
Road 20	20	0500-0600	1.08E-01	1.50E-07	2.77E-06	1.00E-01	1.37E-07	2.53E-06	5.02E-01	6.85E-07	1.26E-05
Road 20	20	0600-0700	1.08E-01	1.38E-07	3.39E-06	1.00E-01	1.27E-07	3.13E-06	5.02E-01	6.39E-07	1.57E-05
Road 20	20	0700-0800	1.58E-01	3.39E-07	6.25E-06	1.09E-01	3.14E-07	5.79E-06	5.37E-01	1.54E-06	2.84E-05
Road 20	20	0800-0900	1.58E-01	3.39E-07	6.25E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	3.44E-02	3.54E-07	1.45E-06	3.75E-02	3.38E-07	1.28E-06	3.48E-01	3.61E-07	1.45E-06	3.81E-01	3.09E-07	1.39E-06
Road 41	41	0100-0200	7.65E-02	1.33E-07	1.25E-06	7.02E-02	1.22E-07	1.15E-06	4.12E-01	7.18E-07	6.74E-06	3.77E-01	6.56E-07	6.16E-06
Road 41	41	0200-0300	8.61E-02	1.22E-07	1.14E-06	7.93E-02	1.12E-07	1.05E-06	4.63E-01	6.56E-07	6.16E-06	4.25E-01	6.03E-07	5.65E-06
Road 41	41	0300-0400	9.51E-02	1.27E-07	1.19E-06	8.66E-02	1.07E-07	9.99E-07	5.11E-01	6.84E-07	6.42E-06	4.64E-01	5.71E-07	5.36E-06
Road 41	41	0400-0500	9.35E-02	1.23E-07	1.16E-06	8.51E-02	1.12E-07	1.05E-06	4.99E-01	6.58E-07	6.18E-06	4.53E-01	5.98E-07	5.61E-06
Road 41	41	0500-0600	9.84E-02	1.54E-07	1.44E-06	8.96E-02	1.40E-07	1.31E-06	4.11E-01	6.43E-07	6.03E-06	3.74E-01	5.85E-07	5.49E-06
Road 41	41	0600-0700	6.73E-02	2.50E-07	2.35E-06	6.29E-02	2.34E-07	2.20E-06	3.44E-01	1.28E-06	1.20E-05	3.20E-01	1.19E-06	1.12E-05
Road 41	41	0700-0800	8.17E-02	6.94E-07	6.51E-06	7.47E-02	6.35E-07	5.96E-06	4.22E-01	3.59E-06	3.37E-05	3.85E-01	3.27E-06	3.07E-05
Road 41	41	0800-0900	8.81E-02	1.07E-06	1.00E-05	8.05E-02	9.77E-07	9.17E-06	4.56E-01	5.54E-06	5.20E-05	4.16E-01	5.05E-06	4.74E-05
Road 41	41	0900-1000	9.14E-02	8.17E-07	7.66E-06	8.04E-02	7.18E-07	6.74E-06	4.63E-01	4.14E-06	3.88E-05	4.06E-01	3.63E-06	3.41E-05
Road 41	41	1000-1100	9.47E-02	8.47E-07	7.94E-06	8.47E-02	7.57E-07	7.10E-06	4.79E-01	4.28E-06	4.02E-05	4.28E-01	3.83E-06	3.59E-05
Road 41	41	1100-1200	1.05E-01	8.28E-07	7.77E-06	8.80E-02	6.97E-07	6.54E-06	5.29E-01	4.19E-06	3.93E-05	4.43E-01	3.51E-06	3.29E-05
Road 41	41	1200-1300	1.04E-01	7.46E-07	7.00E-06	9.01E-02	6.47E-07	6.06E-06	5.26E-01	3.77E-06	3.54E-05	4.56E-01	3.27E-06	3.07E-05
Road 41	41	1300-1400	1.04E-01	7.44E-07	6.98E-06	9.01E-02	6.45E-07	6.05E-06	5.26E-01	3.76E-06	3.53E-05	4.56E-01	3.26E-06	3.06E-05
Road 41	41	1400-1500	1.03E-01	7.91E-07	7.42E-06	8.67E-02	6.66E-07	6.25E-06	5.22E-01	4.01E-06	3.76E-05	4.38E-01	3.37E-06	3.16E-05
Road 41	41	1500-1600	1.03E-01	7.91E-07	7.42E-06	8.67E-02	6.66E-07	6.25E-06	5.22E-01	4.01E-06	3.76E-05	4.38E-01	3.37E-06	3.16E-05
Road 41	41	1600-1700	9.90E-02	7.91E-07	7.42E-06	8.27E-02	6.61E-07	6.20E-06	5.03E-01	4.02E-06	3.77E-05	4.18E-01	3.34E-06	3.14E-05
Road 41	41	1700-1800	9.21E-02	6.93E-07	6.50E-06	7.96E-02	5.82E-07	5.46E-06	4.29E-01	3.22E-06	3.43E-05	3.59E-01	3.01E-06	2.82E-05
Road 41	41	1800-1900	6.72E-02	5.69E-07	5.34E-06	5.89E-02	4.99E-07	4.68E-06	3.59E-01	3.04E-06	2.85E-05	3.14E-01	2.66E-06	2.49E-05
Road 41	41	1900-2000	4.39E-02	2.46E-07	2.30E-06	3.78E-02	2.11E-07	1.98E-06	2.38E-01	1.33E-06	1.25E-05	2.02E-01	1.13E-06	1.06E-05
Road 41	41	2000-2100	4.58E-02	2.02E-07	1.89E-06	3.96E-02	1.74E-07	1.63E-06	2.50E-01	1.10E-06	1.03E-05	2.12E-01	9.32E-07	8.74E-06
Road 41	41	2100-2200	4.57E-02	2.05E-07	1.92E-06	3.96E-02	1.78E-07	1.67E-06	2.54E-01	1.14E-06	1.07E-05	2.18E-01	9.78E-07	9.17E-06
Road 41	41	2200-2300	5.22E-02	1.76E-07	1.66E-06	4.55E-02	1.54E-07	1.44E-06	2.88E-01	9.72E-07	9.12E-06	2.49E-01	8.39E-07	7.88E-06
Road 41	41	2300-0000	8.40E-02	1.81E-07	4.58E-06	7.50E-02	1.61E-07	4.09E-06	4.47E-01	9.62E-07	2.44E-05	3.97E-01	8.54E-07	2.17E-05
Road 42	42	0000-0100	8.40E-02	1.81E-07	4.58E-06	7.50E-02	1.61E-07	4.09E-06	4.47E-01	9.62E-07	2.44E-05	3.97E-01	8.54E-07	2.17E-05
Road 42	42	0100-0200	1.16E-01	1.54E-07	3.91E-06	1.07E-01	1.42E-07	3.59E-06	6.08E-01	8.07E-07	2.05E-05	5.59E-01	7.41E-07	1.88E-05
Road 42	42	0200-0300	1.16E-01	1.54E-07	3.91E-06	1.07E-01	1.42E-07	3.59E-06	6.08E-01	8.07E-07	2.05E-05	5.59E-01	7.41E-07	1.88E-05
Road 42	42	0300-0400	1.26E-01	1.55E-07	3.94E-06	1.15E-01	1.41E-07	3.58E-06	6.56E-01	8.10E-07	2.05E-05	5.96E-01	7.35E-07	1.86E-05
Road 42	42	0400-0500	1.26E-01	1.55E-07	3.94E-06	1.15E-01	1.41E-07	3.58E-06	6.56E-01	8.10E-07	2.05E-05	5.96E-01	7.35E-07	1.86E-05
Road 42	42	0500-0600	1.01E-01	1.75E-07	4.43E-06	9.45E-02	1.64E-07	4.16E-06	5.23E-01	9.09E-07	2.30E-05	4.90E-01	8.50E-07	2.16E-05
Road 42	42	0600-0700	2.32E-01	1.87E-07	4.74E-06	2.17E-01	1.75E-07	4.43E-06	1.21E-00	9.72E-07	2.46E-05	1.13E-00	9.09E-07	2.30E-05
Road 42	42	0700-0800	1.22E-01	8.92E-07	2.26E-05	1.11E-01	8.15E-07	2.07E-05	6.15E-01	4.50E-06	1.14E-04	5.60E-01	4.10E-06	1.04E-04
Road 42	42	0800-0900	1.35E-01	9.34E-07	2.37E-05	1.23E-01	8.53E-07	2.16E-05	6.81E-01	4.71E-06	1.19E-04	6.20E-01	4.27E-06	1.08E-04
Road 42	42	0900-1000	1.35E-01	9.88E-07	2.51E-05	1.18E-01	8.68E-07	2.20E-05	6.72E-01	4.93E-06	1.25E-04	5.89E-01	4.32E-06	1.09E-04
Road 42	42	1000-1100	1.48E-01	1.04E-06	2.64E-05	1.29E-01	9.07E-07	2.30E-05	7.37E-01	5.17E-06	1.31E-04	6.43E-01	4.51E-06	1.14E-04
Road 42	42	1100-1200	1.52E-01	8.86E-07	2.50E-05	1.28E-01	8.28E-07	2.33E-05	7.56E-01	4.92E-06	1.25E-04	6.35E-01	4.12E-06	1.04E-04
Road 42	42	1200-1300	1.68E-01	1.21E-06	3.07E-05	1.45E-01	1.04E-06	2.64E-05	8.35E-01	5.98E-06	1.52E-04	7.20E-01	5.17E-06	1.31E-04
Road 42	42	1300-1400	1.31E-01	1.29E-06	3.27E-05	1.13E-01	1.11E-06	2.82E-05	6.51E-01	6.38E-06	1.62E-04	5.61E-01	5.51E-06	1.40E-04
Road 42	42	1400-1500	1.69E-01	1.30E-06	3.30E-05	1.43E-01	1.10E-06	2.78E-05	8.41E-01	6.29E-06	1.60E-04	6.87E-01	5.28E-06	1.34E-04
Road 42	42	1500-1600	1.68E-01	1.28E-06	3.25E-05	1.42E-01	1.08E-06	2.74E-05	8.36E-01	6.36E-06	1.61E-04	6.83E-01	5.19E-06	1.32E-04
Road 42	42	1600-1700	1.64E-01	1.30E-06	3.30E-05	1.37E-01	1.08E-06	2.75E-05	7.92E-01	6.29E-06	1.60E-04	6.59E-01	5.23E-06	1.33E-04
Road 42	42	1700-1800	1.39E-01	1.15E-06	2.92E-05	1.16E-01	9.68E-07	2.45E-05	6.87E-01	5.71E-06	1.45E-04	5.75E-01	4.78E-06	1.21E-04
Road 42	42	1800-1900	1.04E-01	8.27E-07	2.10E-05	8.74E-02	6.94E-07	1.76E-05	5.04E-01	4.01E-06	1.02E-04	4.23E-01	3.36E-06	1.05E-04
Road 42	42	1900-2000	8.72E-02	3.51E-07	8.90E-06	5.79E-02	3.02E-07	7.66E-06	3.48E-01	1.82E-06	4.60E-05	2.97E-01	1.55E-06	3.93E-05
Road 42	42	2000-2100	8.97E-02	2.55E-07	2.45E-06	6.04E-02	2.55E-07	6.46E-06	3.69E-01	1.56E-06	3.94E-05	3.17E-01	1.34E-06	3.39E-05
Road 42	42	2100-2200	9.94E-02	2.90E-07	2.74E-06	6.06E-02	2.62E-07	6.22E-06	3.83E-01	1.54E-06	3.89E-05	3.19E-01	1.29E-06	3.26E-05
Road 42	42	2200-2300	1.13E-01	2.47E-07	2.33E-06	7.58E-02	2.16E-07	5.31E-06	4.36E-01	1.32E-06	3.31E-05	4.00E-01	1.14E-06	2.89E-05
Road 43	43	0000-0100	6.40E-02	6.01E-08	6.15E-07	5.73E-02	5.38E-08	5.51E-07	3.15E-01	2.96E-07	3.03E-06	2.82E-01	2.63E-07	2.70E-06
Road 43	43	0100-0200	6.40E-02	6.01E-08	6.15E-07	5.73E-02	5.38E-08	5.51E-07	3.15E-01	2.96E-07	3.03E-06	2.82E-01	2.63E-07	2.70E-06
Road 43	43	0200-0300	7.38E-02	5.69E-08	5.78E-07	6.81E-02	5.31E-08	5.49E-07	3.63E-01	2.80E-07	2.84E-06	3.35E-01	2.61E-07	2.70E-06
Road 43	43	0300-0400	8.04E-02	3.75E-08	3.84E-07	7.32E-02	3.42E-08	3.50E-07	3.91E-01	1.83E-07	1.87E-06	3.56E-01	1.66E-07	1.70E-06
Road 43	43	0400-0500	8.04E-02	3.75E-08	3.84E-07	7.32E-02	3.42E-08	3.50E-07	3.91E-01	1.83E-07	1.87E-06	3.56E-01	1.66E-07	1.70E-06
Road 43	43	0500-0600	7.70E-02	6.17E-08	6.32E-07	7.23E-02	5.80E-08	5.94E-07	3.68E-01	2.95E-07	3.02E-06	3.46E-01	2.77E-07	2.83E-06
Road 43	43	0600-0700	1.47E-01	1.46E-07	2.16E-06	1.42E-01	1.24E-07	1.82E-06	7.03E-01	6.98E-07	1.03E-05	6.77E-01	5.94E-07	8.69E-06
Road 43	43	0700-0800	1.85E-01	3.06E-07	3.13E-06	7.65E-02	2.81E-07	2.87E-06	8.96E-01	1.45E-06	1.49E-05	3.61E-01	1.33E-06	1.36E-05
Road 43	43	0800-0900	1.85E-01	3.21E-07	3.28E-06	1.17E-01	2.03E-07	2.08E-06	8.96E-01	1.52E-06	1.56E-05	5.51E-01	9.58E-07	9.81E-06
Road 43	43	0900-1000	9.44E-02	4.01E-07	4.11E-06	8.32E-02	3.54E-07	3.62E-06	4.42E-01	1.88E-06	1.92E-05	3.89E-01	1.65E-06	1.69E-05
Road 43	43	1000-1100	1.08E-01	4.34E-07	4.44E-06	9.20E-02	3.69E-07	3.77E-06	5.01E-01	2.01E-06	2.06E-05	4.25E-01	1.70E-06	1.74E-05
Road 43	43	1100-1200	1.07E-01	4.11E-07	4.20E-06	9.14E-02	3.49E-07	3.58E-06	4.96E-01	1.90E-06	1.95E-05	4.21E-01	1.61E-06	1.65E-05
Road 43	43	1200-1300	7.31E-02	1.48E-07	1.52E-06	6.32E-02	1.28E-07	1.31E-06	3.39E-01	6.87E-07	7.04E-06	2.93E-01	5.94E-07	6.08E-06
Road 43	43	1300-1400	7.31E-02	1.48E-07	1.52E-06	6.32E-02	1.28E-07	1.31E-06	3.39E-01	6.87E-07	7.04E-06	2.93E-01	5.94E-07	6.08E-06
Road 43	43	1400-1500	7.33E-02	1.61E-07	1.65E-06	6.17E-02	1.36E-07	1.39E-06	3.63E-01	8.00E-07	8.19E-06	3.04E-01	6.70E-07	6.86E-06
Road 43	43	1500-1600	7.01E-02	1.58E-07	1.62E-06	5.95E-02	1.34E-07	1.37E-06	3.51E-01	7.92E-07	8.10E-06	2.98E-01	6.69E-07	6.84E-06
Road 43	43	1600-1700	6.30E-02	1.36E-07	1.39E-06	4.46E-02	1.14E-07	1.17E-06	2.75E-01	5.96E-07	6.09E-06	2.98E-01	6.44E-07	6.59E-06
Road 43	43	1700-1800	6.30E-02	1.36E-07	1.39E-06	4.46E-02	1.14E-07	1.17E-06	2.75E-01	5.96E-07	6.09E-06	2.98E-01	6.44E-07	6.59E-06
Road 43	43	1800-1900	3.78E-02	1.31E-07	1.34E-06	2.68E-02	1.11E-07	1.13E-06	1.65E-01	5.74E-07	5.87E-06	1.79E-01	6.20E-07	6.34E-06
Road 43	43	1900-2000	2.66E-02	1.41E-07	8.72E-07	2.37E-02	1.26E-07	7.79E-07	2.33E-01	1.24E-06	7.63E-06	2.08E-01	1.09E-06	6.74E-06
Road 43	43	2000-2100	2.90E-02	1.01E-07	6.23E-07	2.66E-02	9.24E-08	5.71E-07	2.54E-01	8.84E-07	5.47E-06	2.33E-01	8.10E-07	5.01E-06
Road 43	43	2100-2200	3.12E-02	8.00E-08	4.94E-07	2.87E-02	7.37E-08	4.55E-07	2.73E-01	7.00E-07	4.33E-06	2.51E-01	6.46E-07	3.99E-06
Road 43	43	2200-2300	3.39E-02	6.92E-08	4.27E-07	3.08E-02	6.29E-08	3.89E-07	2.60E-01	5.31E-07	3.28E-06	2.36E-01	4.79E-07	2.96E-06
Road 43	43	2300-0000	3.58E-02	1.01E-07	1.49E-07	3.29E-02	9.28E-08	1.37E-07	2.74E-01	7.73E-07	1.14E-06	2.52E-01	7.10E-07	1.05E-06
Road 43	43	0000-0100	3.58E-02	1.39E-07	8.60E-07	3.36E-02	1.31E-07	8.06E-07	2.88E-01	1.12E-06	6.92E-06	2.70E-01	1.05E-06	6.47E-06
Road 43	43	0100-0200	3.74E-02	1.22E-07	7.52E-07	3.50E-02	1.14E-07	7.04E-07	2.98E-01	9.72E-07	6.00E-06	2.79E-01	9.09E-07	5.61E-06
Road 43	43	0200-0300	4.09E-02	6.95E-07	4.29E-06	3.73E-02	6.35E-07	3.92E-06	2.85E-01	4.85E-06	2.99E-05	2.59E-01	4.40E-06	2.72E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 44	44	0800-0900	4.56E-02	8.79E-07	3.06E-06	3.65E-02	7.03E-07	2.45E-06	3.58E-01	6.91E-07	2.40E-06	2.87E-01	5.51E-07	1.92E-06
Road 44	44	0900-1000	4.98E-02	8.34E-07	5.15E-06	4.38E-02	7.34E-07	4.53E-06	3.15E-01	5.29E-06	3.27E-05	2.76E-01	4.62E-06	2.85E-05
Road 44	44	1000-1100	5.93E-02	8.75E-07	5.40E-06	5.04E-02	7.43E-07	4.59E-06	3.60E-01	5.31E-06	3.28E-05	3.03E-01	4.48E-06	2.76E-05
Road 44	44	1100-1200	7.31E-02	8.00E-07	4.94E-06	6.42E-02	6.74E-07	4.16E-06	3.54E-01	3.91E-06	3.06E-05	3.06E-01	3.38E-06	2.09E-05
Road 44	44	1200-1300	5.23E-02	9.20E-07	5.68E-06	4.52E-02	7.95E-07	4.91E-06	3.42E-01	6.02E-06	3.72E-05	2.93E-01	5.16E-06	3.19E-05
Road 44	44	1300-1400	5.23E-02	9.59E-07	5.92E-06	4.52E-02	8.29E-07	5.12E-06	3.42E-01	6.27E-06	3.87E-05	2.93E-01	5.38E-06	3.32E-05
Road 44	44	1400-1500	5.32E-02	1.02E-06	6.30E-06	4.49E-02	8.60E-07	5.31E-06	3.48E-01	6.57E-06	4.06E-05	2.87E-01	5.49E-06	3.39E-05
Road 44	44	1500-1600	5.11E-02	1.00E-06	6.18E-06	4.33E-02	8.49E-07	5.24E-06	3.33E-01	6.53E-06	4.03E-05	2.80E-01	5.50E-06	3.39E-05
Road 44	44	1600-1700	5.16E-02	1.08E-06	6.67E-06	4.16E-02	8.69E-07	5.36E-06	3.36E-01	8.99E-07	5.55E-06	3.41E-01	5.12E-06	3.16E-05
Road 44	44	1700-1800	3.77E-02	8.89E-07	5.49E-06	3.17E-02	7.47E-07	4.61E-06	2.85E-01	6.66E-06	4.11E-05	2.35E-01	5.53E-06	3.42E-05
Road 44	44	1800-1900	2.37E-02	4.85E-07	3.00E-06	2.04E-02	4.16E-07	2.57E-06	2.31E-01	4.72E-06	2.92E-05	1.97E-01	4.01E-06	2.48E-05
Road 44	44	1900-2000	2.37E-02	4.85E-07	3.00E-06	2.04E-02	4.16E-07	2.57E-06	2.31E-01	4.72E-06	2.92E-05	1.97E-01	4.01E-06	2.48E-05
Road 44	44	2000-2100	2.27E-02	3.61E-07	2.23E-06	2.00E-02	3.15E-07	1.97E-06	2.32E-01	3.70E-06	2.28E-05	2.04E-01	3.23E-06	2.00E-05
Road 44	44	2100-2200	2.13E-02	3.37E-07	2.08E-06	1.85E-02	2.90E-07	1.79E-06	2.29E-01	3.64E-06	2.25E-05	1.99E-01	3.14E-06	1.94E-05
Road 44	44	2200-2300	2.13E-02	3.28E-07	2.02E-06	1.79E-02	2.76E-07	1.71E-06	2.32E-01	3.57E-06	2.21E-05	1.93E-01	2.97E-06	1.83E-05
Road 44	44	2300-0000	2.13E-02	3.24E-07	2.00E-06	1.79E-02	2.73E-07	1.68E-06	2.32E-01	3.53E-06	2.18E-05	1.93E-01	2.94E-06	1.81E-05
Road 44	44	0000-0100	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0100-0200	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0200-0300	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0300-0400	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0400-0500	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0500-0600	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0600-0700	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0700-0800	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0800-0900	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	0900-1000	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1000-1100	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1100-1200	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1200-1300	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1300-1400	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1400-1500	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1500-1600	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1600-1700	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1700-1800	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1800-1900	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	1900-2000	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	2000-2100	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	2100-2200	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	2200-2300	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 44	44	2300-0000	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 45	45	0000-0100	2.03E-02	2.87E-07	1.08E-06	1.81E-02	2.56E-07	9.62E-07	2.19E-01	3.10E-06	1.17E-05	1.95E-01	2.76E-06	1.04E-05
Road 45	45	0100-0200	2.32E-02	4.74E-08	5.84E-07	2.13E-02	4.36E-08	5.37E-07	2.28E-01	4.67E-07	5.74E-06	2.08E-01	4.25E-07	5.24E-06
Road 45	45	0200-0300	2.32E-02	4.74E-08	5.84E-07	2.13E-02	4.36E-08	5.37E-07	2.28E-01	4.67E-07	5.74E-06	2.08E-01	4.25E-07	5.24E-06
Road 45	45	0300-0400	2.49E-02	4.03E-08	4.96E-07	2.26E-02	3.66E-08	4.50E-07	2.35E-01	3.80E-07	4.68E-06	2.12E-01	3.43E-07	4.22E-06
Road 45	45	0400-0500	2.66E-02	4.71E-08	5.80E-07	2.41E-02	4.28E-08	5.27E-07	2.41E-01	4.28E-07	5.27E-06	2.17E-01	3.86E-07	4.75E-06
Road 45	45	0500-0600	2.75E-02	8.45E-08	1.04E-06	2.58E-02	7.92E-08	9.75E-07	2.41E-01	7.40E-07	9.11E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 1	1	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 1	1	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 1	1	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 1	1	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 1	1	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 1	1	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 1	1	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 1	1	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 1	1	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 1	1	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 1	1	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 1	1	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 1	1	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 2	2	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 2	2	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 2	2	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 2	2	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 2	2	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 2	2	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 2	2	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 2	2	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 2	2	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 2	2	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 2	2	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 2	2	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 2	2	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 2	2	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 3	3	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 3	3	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 3	3	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 3	3	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 3	3	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 3	3	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 3	3	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 3	3	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 3	3	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 3	3	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 3	3	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 3	3	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 3	3	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 3	3	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 4	4	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 4	4	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 4	4	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 4	4	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 4	4	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 4	4	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 4	4	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 4	4	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 4	4	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 4	4	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 4	4	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 4	4	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 4	4	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 4	4	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 5	5	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 5	5	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 5	5	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 5	5	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 5	5	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 5	5	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 5	5	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 5	5	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 5	5	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 5	5	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 5	5	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 5	5	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 5	5	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 5	5	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 6	6	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 6	6	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 6	6	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 6	6	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 6	6	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 6	6	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 6	6	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 6	6	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 6	6	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 6	6	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 6	6	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 6	6	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 6	6	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 6	6	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 7	7	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 7	7	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 7	7	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 7	7	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 7	7	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 7	7	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 7	7	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 7	7	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 7	7	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 7	7	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 7	7	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 7	7	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 7	7	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 7	7	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 8	8	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 8	8	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 8	8	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 8	8	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 8	8	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 8	8	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 8	8	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 8	8	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 8	8	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 8	8	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 8	8	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 8	8	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 8	8	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 8	8	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 9	9	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 9	9	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 9	9	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 9	9	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 9	9	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 9	9	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 9	9	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 9	9	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 9	9	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 9	9	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 9	9	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 9	9	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 9	9	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 9	9	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 10	10	1600-1700	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05
Road 10	10	1700-1800	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 10	10	1800-1900	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 10	10	1900-2000	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 10	10	2000-2100	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 10	10	2100-2200	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 10	10	2200-2300	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 10	10	2300-0000	2.53E-02	1.94E-03	2.27E-06	2.08E-02	1.59E-03	1.87E-06	3.07E-03	2.35E-04	2.75E-07
Road 10	10	0000-0100	2.58E-02	2.50E-03	2.97E-06	2.12E-02	2.05E-03	2.44E-06	3.13E-03	3.03E-04	3.60E-07
Road 10	10	0100-0200	2.67E-02	2.83E-03	3.31E-06	2.20E-02	2.32E-03	2.72E-06	3.24E-03	3.42E-04	4.01E-07
Road 10	10	0200-0300	2.69E-02	4.27E-03	4.28E-06	2.21E-02	3.03E-03	3.52E-06	3.20E-03	4.39E-04	5.11E-07
Road 10	10	0300-0400	3.05E-02	5.18E-03	6.08E-06	2.52E-02	4.29E-03	5.03E-06	1.04E-02	1.77E-03	2.08E-06
Road 10	10	0400-0500	4.02E-02	6.16E-03	7.22E-06	3.28E-02	5.03E-03	5.90E-06	1.52E-02	2.33E-03	2.73E-06
Road 10	10	0500-0600	1.29E-02	1.99E-03	8.32E-06	4.42E-02	6.94E-03	4.03E-05	1.43E-02	2.24E-03	1.30E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	4.02E-02	2.24E-02	3.17E-05	1.76E-01	9.78E-02	1.38E-04	5.44E-02	3.02E-02	4.28E-05
Road 11	11	0100-0200	6.91E-02	1.97E-02	7.54E-05	6.06E-02	1.72E-02	6.62E-05	5.45E-02	1.55E-02	5.95E-05
Road 11	11	0200-0300	7.88E-02	1.70E-02	6.53E-05	6.87E-02	1.48E-02	5.69E-05	5.86E-02	1.26E-02	4.85E-05
Road 11	11	0300-0400	8.33E-02	1.56E-02	5.98E-05	7.31E-02	1.37E-02	5.25E-05	6.07E-02	1.14E-02	4.36E-05
Road 11	11	0400-0500	8.92E-02	1.71E-02	6.54E-05	7.68E-02	1.47E-02	5.64E-05	6.29E-02	1.20E-02	4.62E-05
Road 11	11	0500-0600	1.23E-02	2.57E-03	9.85E-06	1.07E-02	2.23E-03	8.57E-06	8.89E-03	1.85E-03	7.12E-06
Road 11	11	0600-0700	7.88E-02	1.70E-02	6.53E-05	6.87E-02	1.48E-02	5.69E-05	5.86E-02	1.26E-02	4.85E-05
Road 11	11	0700-0800	9.93E-02	1.34E-02	5.13E-05	8.64E-02	1.16E-02	4.47E-05	6.90E-02	9.29E-03	3.57E-05
Road 11	11	0800-0900	9.78E-02	1.51E-02	5.78E-05	8.52E-02	1.31E-02	5.06E-05	6.81E-02	1.05E-02	4.04E-05
Road 11	11	0900-1000	1.13E-01	1.48E-02	5.69E-05	9.91E-02	1.29E-02	4.98E-05	7.92E-02	1.03E-02	3.98E-05
Road 11	11	1000-1100	1.13E-01	1.48E-02	5.69E-05	9.91E-02	1.29E-02	4.98E-05	7.92E-02	1.03E-02	3.98E-05
Road 11	11	1100-1200	1.22E-01	1.34E-02	5.16E-05	1.07E-01	1.18E-02	4.52E-05	7.26E-02	7.98E-03	3.06E-05
Road 11	11	1200-1300	1.28E-01	1.58E-02	6.06E-05	1.12

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 37	37	1600-1700	1.04E-03	2.13E-08	4.88E-06	1.11E-01	1.87E-03	4.29E-08	9.08E-02	1.64E-08
Road 37	37	1700-1800	1.04E-03	2.13E-08	4.88E-06	1.11E-01	1.87E-03	4.29E-08	9.08E-02	1.64E-08
Road 37	37	1800-1900	7.19E-04	1.47E-08	3.37E-06	7.68E-02	1.29E-03	2.97E-08	6.34E-02	1.14E-08
Road 37	37	1900-2000	6.14E-04	1.25E-08	2.87E-06	6.55E-02	1.10E-03	2.53E-08	5.42E-02	9.75E-09
Road 37	37	2000-2100	6.16E-04	1.26E-08	2.88E-06	6.57E-02	1.10E-03	2.53E-08	5.42E-02	9.75E-09
Road 37	37	2100-2200	6.54E-04	1.34E-08	3.06E-06	6.98E-02	1.17E-03	2.69E-08	5.76E-02	1.03E-08
Road 37	37	2200-2300	5.56E-04	1.14E-08	2.60E-06	5.93E-02	9.97E-04	2.29E-08	4.90E-02	8.80E-09
Road 37	37	2300-0000	6.12E-04	1.25E-08	2.86E-06	6.53E-02	1.10E-03	2.53E-08	5.39E-02	9.69E-09
Road 38	38	0000-0100	1.16E-03	1.96E-08	5.43E-06	1.24E-01	2.08E-03	3.95E-08	1.01E-01	1.82E-08
Road 38	38	0100-0200	1.34E-03	2.26E-08	6.27E-06	1.43E-01	2.40E-03	4.56E-08	1.17E-01	2.10E-08
Road 38	38	0200-0300	1.61E-03	2.72E-08	7.53E-06	1.72E-01	2.88E-03	5.47E-08	1.40E-01	2.52E-08
Road 38	38	0300-0400	1.45E-03	2.45E-08	6.78E-06	1.55E-01	2.60E-03	4.93E-08	1.26E-01	2.27E-08
Road 38	38	0400-0500	1.66E-03	2.80E-08	7.75E-06	1.77E-01	2.97E-03	5.64E-08	1.44E-01	2.60E-08
Road 38	38	0500-0600	1.46E-03	2.47E-08	6.83E-06	1.56E-01	2.62E-03	4.97E-08	1.27E-01	2.29E-08
Road 38	38	0600-0700	1.28E-03	2.16E-08	5.98E-06	1.37E-01	2.29E-03	4.35E-08	1.11E-01	2.00E-08
Road 38	38	0700-0800	1.58E-03	2.67E-08	7.39E-06	1.70E-01	2.84E-03	5.39E-08	1.38E-01	2.49E-08
Road 38	38	0800-0900	1.58E-03	2.67E-08	7.39E-06	1.70E-01	2.84E-03	5.39E-08	1.38E-01	2.49E-08
Road 38	38	0900-1000	1.46E-03	2.47E-08	6.83E-06	1.56E-01	2.62E-03	4.97E-08	1.27E-01	2.29E-08
Road 38	38	1000-1100	1.29E-03	2.18E-08	6.03E-06	1.38E-01	2.31E-03	4.39E-08	1.12E-01	2.02E-08
Road 38	38	1100-1200	1.29E-03	2.18E-08	6.03E-06	1.38E-01	2.31E-03	4.39E-08	1.12E-01	2.02E-08
Road 38	38	1200-1300	1.29E-03	2.18E-08	6.03E-06	1.38E-01	2.31E-03	4.39E-08	1.12E-01	2.02E-08
Road 38	38	1300-1400	1.29E-03	2.18E-08	6.03E-06	1.38E-01	2.31E-03	4.39E-08	1.12E-01	2.02E-08
Road 38	38	1400-1500	1.29E-03	2.18E-08	6.03E-06	1.38E-01	2.31E-03	4.39E-08	1.12E-01	2.02E-08
Road 38	38	1500-1600	2.05E-03	3.46E-08	9.58E-06	2.19E-01	3.66E-03	6.96E-08	1.78E-01	3.21E-08
Road 38	38	1600-1700	2.02E-03	3.41E-08	9.44E-06	2.16E-01	3.61E-03	6.86E-08	1.75E-01	3.16E-08
Road 38	38	1700-1800	1.85E-03	3.12E-08	8.64E-06	1.98E-01	3.30E-03	6.28E-08	1.60E-01	2.89E-08
Road 38	38	1800-1900	1.85E-03	3.12E-08	8.64E-06	1.98E-01	3.30E-03	6.28E-08	1.60E-01	2.89E-08
Road 38	38	1900-2000	1.85E-03	3.12E-08	8.64E-06	1.98E-01	3.30E-03	6.28E-08	1.60E-01	2.89E-08
Road 38	38	2000-2100	1.85E-03	3.12E-08	8.64E-06	1.98E-01	3.30E-03	6.28E-08	1.60E-01	2.89E-08
Road 38	38	2100-2200	1.85E-03	3.12E-08	8.64E-06	1.98E-01	3.30E-03	6.28E-08	1.60E-01	2.89E-08
Road 38	38	2200-2300	1.85E-03	3.12E-08	8.64E-06	1.98E-01	3.30E-03	6.28E-08	1.60E-01	2.89E-08
Road 38	38	2300-0000	1.85E-03	3.12E-08	8.64E-06	1.98E-01	3.30E-03	6.28E-08	1.60E-01	2.89E-08
Road 51	51	0000-0100	1.52E-03	2.85E-08	1.69E-06	6.25E-02	1.51E-03	2.83E-08	1.68E-06	6.21E-02
Road 51	51	0100-0200	1.51E-03	2.25E-07	4.20E-06	4.37E-02	1.93E-07	3.59E-06	3.37E-01	3.49E-02
Road 51	51	0200-0300	1.44E-02	2.78E-07	3.46E-05	3.59E-01	1.47E-02	2.84E-07	3.53E-05	3.56E-01
Road 51	51	0300-0400	1.38E-02	2.56E-07	3.31E-05	3.43E-01	1.41E-02	2.62E-07	3.38E-05	3.41E-01
Road 51	51	0400-0500	6.11E-02	1.80E-07	1.47E-04	1.52E-01	6.25E-02	1.84E-07	1.50E-04	1.51E-01
Road 51	51	0500-0600	6.54E-02	5.76E-09	1.57E-04	1.63E-01	6.69E-02	5.89E-09	1.61E-04	1.62E-01
Road 51	51	0600-0700	6.64E-02	7.55E-07	1.41E-05	5.65E-02	6.42E-07	2.10E-05	3.91E-01	4.44E-06
Road 51	51	0700-0800	6.97E-02	1.63E-06	1.38E-06	2.57E-05	4.04E-01	9.44E-06	1.76E-04	3.38E-03
Road 51	51	0800-0900	6.90E-02	1.88E-06	1.65E-06	3.06E-05	3.87E-01	1.07E-05	9.36E-05	1.74E-03
Road 51	51	0900-1000	8.12E-02	2.04E-06	3.98E-06	7.39E-05	3.25E-01	4.37E-01	9.16E-06	2.05E-06
Road 51	51	1000-1100	8.88E-02	1.92E-06	3.58E-05	7.58E-02	1.64E-06	3.55E-05	4.67E-01	1.01E-05
Road 51	51	1100-1200	8.88E-02	1.92E-06	3.58E-05	7.58E-02	1.64E-06	3.55E-05	4.67E-01	1.01E-05
Road 51	51	1200-1300	7.22E-02	2.33E-06	4.34E-05	6.17E-02	1.99E-06	3.71E-05	4.81E-01	1.56E-05
Road 51	51	1300-1400	7.28E-02	2.46E-06	4.37E-05	6.20E-02	2.11E-06	3.93E-05	4.81E-01	1.65E-05
Road 51	51	1400-1500	7.27E-02	2.56E-06	4.77E-05	6.20E-02	2.18E-06	4.07E-05	4.78E-01	1.68E-05
Road 51	51	1500-1600	7.27E-02	2.56E-06	4.77E-05	6.20E-02	2.18E-06	4.07E-05	4.78E-01	1.68E-05
Road 51	51	1600-1700	7.02E-02	2.85E-06	4.93E-05	5.87E-02	2.21E-06	4.12E-05	4.82E-01	1.82E-05
Road 51	51	1700-1800	1.91E-02	1.75E-06	3.25E-05	3.34E-02	1.45E-06	2.70E-05	3.70E-01	1.60E-05
Road 51	51	1800-1900	4.03E-02	1.75E-06	3.25E-05	3.34E-02	1.45E-06	2.70E-05	3.70E-01	1.60E-05
Road 51	51	1900-2000	3.66E-02	1.25E-06	2.33E-05	3.04E-02	1.04E-06	1.94E-05	3.82E-01	1.30E-05
Road 51	51	2000-2100	3.42E-02	9.00E-07	1.68E-05	2.83E-02	7.48E-07	1.40E-05	3.64E-01	9.63E-06
Road 51	51	2100-2200	3.42E-02	9.00E-07	1.68E-05	2.83E-02	7.48E-07	1.40E-05	3.64E-01	9.63E-06
Road 51	51	2200-2300	3.59E-02	6.94E-07	1.29E-05	2.98E-02	5.75E-07	1.07E-05	3.82E-01	7.38E-06
Road 51	51	2300-0000	3.59E-02	6.94E-07	1.29E-05	2.98E-02	5.75E-07	1.07E-05	3.82E-01	7.38E-06
Road 52	52	0000-0100	1.64E-01	4.84E-08	2.48E-07	1.39E-01	4.13E-08	2.11E-07	7.32E-01	2.17E-07
Road 52	52	0100-0200	1.64E-01	4.84E-08	2.48E-07	1.39E-01	4.13E-08	2.11E-07	7.32E-01	2.17E-07
Road 52	52	0200-0300	1.66E-01	2.74E-08	1.40E-07	1.41E-01	2.33E-08	1.19E-07	7.41E-01	1.22E-07
Road 52	52	0300-0400	1.66E-01	2.74E-08	1.40E-07	1.41E-01	2.33E-08	1.19E-07	7.41E-01	1.22E-07
Road 52	52	0400-0500	1.69E-01	2.78E-08	1.43E-07	1.43E-01	2.35E-08	1.21E-07	7.54E-01	1.24E-07
Road 52	52	0500-0600	1.72E-01	5.26E-08	2.70E-07	1.46E-01	4.44E-08	2.28E-07	7.69E-01	2.35E-07
Road 52	52	0600-0700	1.79E-01	1.32E-07	2.70E-07	1.52E-01	1.12E-07	2.28E-07	1.95E-01	1.44E-07
Road 52	52	0700-0800	1.79E-01	2.66E-07	1.36E-06	1.52E-01	2.27E-07	1.16E-06	7.96E-01	1.19E-06
Road 52	52	0800-0900	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	0900-1000	1.78E-01	3.58E-07	1.84E-06	1.52E-01	3.07E-07	1.57E-06	7.98E-01	1.61E-06
Road 52	52	1000-1100	1.85E-01	3.45E-07	1.77E-06	1.60E-01	2.98E-07	1.53E-06	8.09E-01	8.52E-08
Road 52	52	1100-1200	1.79E-01	1.35E-07	1.82E-06	1.57E-01	1.18E-07	1.59E-06	7.94E-01	5.97E-07
Road 52	52	1200-1300	1.79E-01	1.35E-07	1.82E-06	1.57E-01	1.18E-07	1.59E-06	7.94E-01	5.97E-07
Road 52	52	1300-1400	1.81E-01	1.39E-07	1.88E-06	1.57E-01	1.20E-07	1.62E-06	7.94E-01	6.07E-07
Road 52	52	1400-1500	1.81E-01	1.39E-07	1.88E-06	1.57E-01	1.20E-07	1.62E-06	7.94E-01	6.07E-07
Road 52	52	1500-1600	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	1600-1700	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	1700-1800	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	1800-1900	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	1900-2000	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	2000-2100	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	2100-2200	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	2200-2300	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 52	52	2300-0000	1.79E-01	1.77E-07	3.13E-07	1.52E-01	1.50E-07	2.66E-07	7.96E-01	1.41E-06
Road 53	53	0000-0100	1.48E-01	7.11E-08	1.65E-06	1.23E-01	5.92E-08	1.38E-06	7.30E-01	3.50E-07
Road 53	53	0100-0200	1.48E-01	7.11E-08	1.65E-06	1.23E-01	5.92E-08	1.38E-06	7.30E-01	3.50E-07
Road 53	53	0200-0300	1.51E-01	3.82E-08	8.87E-07	1.32E-01	3.25E-08	7.55E-07	7.54E-01	1.85E-07
Road 53	53	0300-0400	1.51E-01	3.82E-08	8.87E-07	1.32E-01	3.25E-08	7.55E-07	7.54E-01	1.85E-07
Road 53	53	0400-0500	1.67E-01	3.83E-08	8.91E-07	1.40E-01	3.22E-08	7.47E-07	8.04E-01	1.84E-07
Road 53	53	0500-0600	1.77E-01	7.26E-08	1.69E-06	1.49E-01	6.11E-08	1.42E-06	8.44E-01	3.47E-07
Road 53	53	0600-0700	1.91E-01	1.78E-07	3.64E-07	1.61E-01	1.50E-07	3.07E-07	9.09E-01	1.86E-06
Road 53	53	0700-0800	2.10E-01	4.08E-07	2.08E-06	1.77E-01	3.43E-07	1.75E-06	9.89E-01	1.89E-06
Road 53	53	0800-0900	2.10E-01	2.72E-07	1.39E-06	1.77E-01	2.29E-07	1.17E-06	9.89E-01	1.26E-06
Road 53	53	0900-1000	2.31E-01	5.12E-07	1.19E-06	1.97E-01	4.37E-07	1.01E-06	1.08E+00	2.40E-06
Road 53	53	1000-1100	2.09E-01	5.39E-07	1.23E-06	1.78E-01	4.77E-07	1.11E-06	9.58E-01	2.56E-06
Road 53	53	1100-1200	2.09E-01	5.39E-07	1.23E-06	1.78E-01	4.77E-07	1.11E-06	9.58E-01	2.56E-06
Road 53	53	1200-1300	2.09E-01	5.39E-07	1.23E-06	1.78E-01	4.77E-07	1.11E-06	9.58E-01	2.56E-06
Road 53	53	1300-1400	2.09E-01	5.39E-07	1.23E-06	1.78E-01	4.77E-07	1.11E-06	9.58E-01	2.56E-06
Road 53	53	1400-1500	2.09E-01	5.39E-07	1.23E-06	1.78E-01	4.77E-07	1.11E-06	9.58E-01	2.56E-06
Road 53	53	1500-1600	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	1600-1700	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	1700-1800	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	1800-1900	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	1900-2000	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	2000-2100	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	2100-2200	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	2200-2300	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 53	53	2300-0000	1.98E-01	7.66E-07	1.75E-06	1.68E-01	6.42E-07	1.49E-06	9.06E-01	3.66E-06
Road 54	54	0000-0100	1.52E-01	3.25E-07	5.97E-06	4.01E-02	3.21E-07	5.97E-06	4.08E-01	2.57E-06
Road 54	54	0100-0200	1.51E-01	3.23E-07	5.93E-06	3.98E-02	3.19E-07	5.93E-06	4.05E-01	2.55E-06
Road 54	54	0200-0300	1.44E-01	3.08E-07	5.66E-06	3.79E-02	3.04E-07	5.66E-06	3.86E-01	2.43E-06
Road 54	54	0300-0400	1.38E-01	2.95E-07	5.42E-06	3.63E-02	2.91E-07	5.42E-06	3.70E-01	2.33E-06
Road 54	54	0400-0500	6.11E-01	1.30E-06	2.39E-05	1.61E-01	6.03E-07	1.12E-05	1.53E+00	9.64E-06
Road 54	54	0500-0600	6.54E-01	1.39E-06	2.56E-05	1.72E-01	6.45E-07	1.20E-05	1.64E+00	1.03E-05
Road 54	54	0600-0700	6.64E-01	1.41E-06	2.60E-05	1.75E-01	6.55E-07	1.22E-05	1.66E+00	1.05E-05
Road 54	54	0700-0800	6.97E-01	1.48E-06	2.73E-05	1.84E-01	6.88E-07	1.28E-05	1.75E+00	1.10E-05
Road 54	54	0800-0900	6.90E-01	1.47E-06	2.70E-05	1.82E-01	6.81E-07	1.27E-05	1.73E+00	1.09E-05
Road 54	54	0900-1000	8.12E-01	1.72E-06	3.18E-05	2.14E-01	8.02E-07	1.49E-05	2.04E+00	1.28E-05
Road 54	54	1000-1100	8.88E-01	1.89E-06	3.48E-05	2.34E-01	8.76E-07	1.63E-05	2.23E+00	1.40E-05
Road 54	54	1100-1200	8.88E-01	1.89E-06	3.48E-05	2.34E-01	8.76E-07	1.63E-05	2.23E+00	1.40E-05
Road 54	54	1200-1300	7.22E-01	1.54E-06	2.83E-05	1.90E-01	7.12E-07	1.33E-05	1.81E+00	1.14E-05
Road 54	54	1300-1400	7.28E-01	1.55E-06	2.85E-05	1.92E-01	7.18E-07	1.34E-05	1.83E+00	1.15E-05
Road 54	54	1400-1500	7.27E-01	1.55E-06	2.85E-05	1.92E-01	7.17E-07	1.34E-05	1.83E+00	1.15E-05
Road 54	54	1500-1600	7.27E-01	1.55E-06	2.85E-05	1.92E-01	7.17E-07	1.34E-05	1.83E+00	1.15E-05
Road 54	54	1600-1700	7.02E-01	1.50E-06	2.75E-05	1.85E-01	6.92E-07	1.29E-05	1.77E+00	1.11E-05
Road 54	54	1700-1800	1.91E-01	4.08E-07	7.49E-06	5.04E-02	1.88E-07	3.51E-06	4.81E-01	3.02E-06
Road 54	54	1800-1900	4.03E-01	8.60E-07	1.58E-05	1.06E-01	3.97E-07	7.40E-06	1.01E+00	6.37E-06
Road 54	54	1900-2000	3.66E-01	7.81E-07	1.43E-05	9.65E-02	3.60E-07	6.72E-06	9.21E-01	5.78E-06
Road 54	54	2000-2100	3.42E-01	7.30E-07	1.34E-05	9.02E-02	3.37E-07	6.28E-06	8.61E-01	5.40E-06
Road 54	54	2100-2200	3.42E-01	7.30E-07	1.34E-05	9.02E-02	3.37E-07	6.28E-06	8.61E-01	5.40E-06
Road 54	54	2200-2300	3.59E-01	7.66E-07	1.41E-05	9.47E-02	3.53E-07	6.59E-06	9.03E-01	5.67E-06
Road 54	54	2300-0000	3.59E-01	7.66E-07	1.41E-05	9.47E-02	3.53E-07	6.59E-06	9.03E-01	5.67E-06

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.1 Emission Factor in 2028.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 41	41	0000-0100	1.52E-03	1.80E-07	1.69E-06	6.25E-02	1.51E-03	1.78E-07	1.68E-06	6.21E-02
Road 41	41	0100-0200	8.91E-02	1.55E-07	1.46E-06	7.61E-02	1.33E-07	1.24E-06	4.83E-01	8.42E-07
Road 41	41	0200-0300	1.01E-01	1.44E-07	1.35E-06	8.61E-02	1.22E-07	1.14E-06	5.48E-01	7.76E-07
Road 41	41	0300-0400	1.12E-01	1.38E-07	1.29E-06	9.41E-02	1.16E-07	1.09E-06	6.05E-01	7.44E-07
Road 41	41	0400-0500	1.10E-01	1.46E-07	1.37E-06	9.25E-02	1.22E-07	1.14E-06	5.93E-01	7.81E-07
Road 41	41	0500-0600	1.46E-02	1.66E-07	1.74E-06	1.23E-02	1.22E-07	1.40E-06	4.99E-01	9.80E-07
Road 41	41	0600-0700	7.99E-02	2.97E-07	2.79E-06	6.79E-02	2.53E-07	2.37E-06	4.11E-01	1.53E-06
Road 41	41	0700-0800	9.54E-02	8.10E-07	7.60E-06	8.05E-02	6.83E-07	6.41E-06	4.96E-01	4.21E-06
Road 41	41	0800-0900	1.46E-02	1.86E-07	1.74E-06	1.23E-02	1.57E-07	1.47E-06	3.71E-01	4.72E-06
Road 41	41	0900-1000	1.04E-01	1.28E-07	8.71E-07	8.82E-02	1.08E-07	7.35E-07	5.27E-01	6.49E-07
Road 41	41	1000-1100	1.13E-01	8.98E-07	8.42E-06	9.66E-02	7.65E-07	7.18E-06	5.74E-01	4.54E-06
Road 41	41	1100-1200	1.13E-01	8.98E-07	8.42E-06	9.66E-02	7.65E-07	7.18E-06	5.74E-01	4.54E-06
Road 41	41	1200-1300	1.13E-01	8.43E-07	7.91E-06	9.67E-02	7.20E-07	6.75E-06	5.75E-01	4.26E-06
Road 41	41	1300-1400	1.11E-01	8.53E-07	8.01E-06	9.46E-02	7.28E-07	6.83E-06	5.64E-01	4.31E-06
Road 41	41	1400-1500	1.11E-01	8.53E-07	8.01E-06	9.46E-02	7.28E-07	6.83E-06	5.64E-01	4.31E-06
Road 41	41	1500-1600	1.08E-01	8.61E-07	8.08E-06	9.20E-02	7.35E-07	6.89E-06	5.49E-01	4.35E-06
Road 41	41	1600-1700	1.08E-01	8.61E-07	8.08E-06	9.20E-02	7.35E-07	6.89E-06	5.49E-01	4.35E-06
Road 41	41	1700-1800	1.08E-01	8.61E-07	8.08E-06	9.20E-02	7.35E-07	6.89E-06	5.49E-01	4.35E-06
Road 41	41	1800-1900	7.73E-02	6.55E-07	6.14E-06	6.41E-02	5.43E-07	5.09E-06	4.16E-01	3.52E-06
Road 41	41	1900-2000	5.59E-02	2.80E-07	2.63E-06	4.16E-02	2.09E-07	1.96E-06	2.73E-01	1.53E-06
Road 41	41	2000-2100	5.59E-02	2.80E-07	2.63E-06	4.16E-02	2.09E-07	1.96E-06	2.73E-01	1.53E-06
Road 41	41	2100-2200	5.19E-02	2.33E-07	2.18E-06	4.32E-02	1.93E-07	1.82E-06	2.92E-01	1.31E-06
Road 41	41	2200-2300	5.52E-02	2.48E-07	2.32E-06	4.59E-02	2.05E-07	1.93E-06	3.11E-01	1.39E-06
Road 41	41	2300-0000	5.96E-02	2.01E-07	1.89E-06	4.94E-02	1.67E-07	1.57E-06	3.31E-01	1.12E-06
Road 42	42	0000-0100	9.82E-02	2.11E-07	1.36E-06	8.15E-02	1.75E-07	4.45E-06	5.27E-01	1.13E-06
Road 42	42	0100-0200	9.18E-02	1.98E-07	1.27E-06	7.62E-02	1.64E-07	4.16E-06	4.93E-01	1.06E-06
Road 42	42	0200-0300	1.37E-01	1.81E-07	4.60E-06	1.16E-01	1.54E-07	3.91E-06	7.39E-01	9.77E-07
Road 42	42	0300-0400	1.49E-01	1.97E-07	4.99E-06	1.26E-01	1.67E-07	4.24E-06	8.02E-01	1.06E-06
Road 42	42	0400-0500	1.49E-01	1.84E-07	1.24E-01	1.54E-07	3.90E-06	7.79E-01	9.61E-07	2.24E-05
Road 42	42	0500-0600	1.22E-01	2.31E-07	5.36E-06	1.02E-01	1.77E-07	4.50E-06	6.36E-01	1.10E-06
Road 42	42	0600-0700	1.42E-01	1.04E-06	2.64E-05	1.20E-01	8.79E-07	2.23E-05	7.22E-01	5.29E-06
Road 42	42	0700-0800	1.42E-01	1.04E-06	2.64E-05	1.20E-01	8.79E-07	2.23E-05	7.22E-01	5.29E-06
Road 42	42	0800-0900	1.53E-01	1.12E-06	2.85E-05	1.31E-01	9.57E-07	2.43E-05	7.67E-01	5.62E-06
Road 42	42	0900-1000	1.53E-01	1.12E-06	2.85E-05	1.31E-01	9.57E-07	2.43E-05	7.67E-01	5.62E-06
Road 42	42	1000-1100	1.65E-01	1.07E-06	2.71E-05	1.40E-01	9.10E-07	2.31E-05	8.24E-01	5.34E-06
Road 42	42	1100-1200	1.83E-01	1.31E-06	3.33E-05	1.56E-01	1.12E-06	2.84E-05	8.86E-01	6.37E-06
Road 42	42	1200-1300	1.83E-01	1.31E-06	3.33E-05	1.56E-01	1.12E-06	2.84E-05	8.86E-01	6.37E-06
Road 42	42	1300-1400	1.83E-01	1.41E-06	3.57E-05	1.56E-01	1.20E-06	3.04E-05	8.84E-01	6.80E-06
Road 42	42	1400-1500	1.83E-01	1.41E-06	3.57E-05	1.56E-01	1.20E-06	3.04E-05	8.84E-01	6.80E-06
Road 42	42	1500-1600	1.78E-01	1.42E-06	3.59E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 1	1	0000-0100	2.26E-02	2.44E-03	1.34E-05	3.97E-03	2.51E-02	1.81E-03	1.44E-04	2.08E-03
Road 1	1	0100-0200	2.39E-02	1.68E-07	9.22E-06	2.54E-02	1.50E-06	9.33E-05	2.14E-03	1.50E-06
Road 1	1	0200-0300	2.59E-02	1.33E-07	7.30E-06	2.33E-02	1.19E-07	6.57E-06	2.69E-04	1.28E-06
Road 1	1	0300-0400	2.78E-02	1.31E-07	7.20E-06	2.51E-02	1.02E-07	5.59E-06	2.72E-04	1.28E-06
Road 1	1	0400-0500	2.95E-02	1.31E-07	7.20E-06	2.66E-02	1.18E-07	6.50E-06	2.63E-03	1.17E-06
Road 1	1	0500-0600	3.15E-02	1.33E-07	7.32E-06	2.84E-02	1.26E-07	6.93E-06	2.74E-03	1.16E-06
Road 1	1	0600-0700	3.35E-02	5.49E-07	3.02E-05	2.98E-02	2.68E-05	2.84E-03	2.56E-04	2.50E-05
Road 1	1	0700-0800	3.58E-02	1.19E-06	6.53E-05	3.17E-02	1.05E-06	5.77E-05	2.93E-03	9.71E-06
Road 1	1	0800-0900	3.77E-02	1.25E-06	6.87E-05	3.35E-02	1.11E-06	6.09E-05	3.01E-03	9.40E-06
Road 1	1	0900-1000	4.09E-02	1.28E-06	7.03E-05	3.69E-02	2.51E-06	1.38E-04	6.66E-03	2.08E-05
Road 1	1	1000-1100	4.37E-02	1.45E-06	7.97E-05	3.96E-02	2.68E-06	1.47E-04	7.31E-03	2.42E-05
Road 1	1	1100-1200	4.37E-02	1.12E-06	6.14E-05	3.96E-02	2.68E-06	1.47E-04	7.31E-03	1.87E-05
Road 1	1	1200-1300	4.49E-02	1.22E-06	6.72E-05	4.07E-02	2.75E-06	1.51E-04	7.51E-03	2.04E-05
Road 1	1	1300-1400	4.56E-02	1.22E-06	6.72E-05	4.13E-02	2.79E-06	1.53E-04	7.62E-03	2.04E-05
Road 1	1	1400-1500	4.49E-02	2.21E-06	1.22E-04	4.07E-02	2.75E-06	1.51E-04	7.51E-03	3.69E-05
Road 1	1	1500-1600	4.49E-02	2.21E-06	1.22E-04	4.07E-02	2.75E-06	1.51E-04	7.51E-03	3.69E-05
Road 1	1	1600-1700	4.26E-02	2.31E-06	1.27E-04	3.87E-02	2.61E-06	1.44E-04	7.13E-03	3.85E-05
Road 1	1	1700-1800	4.04E-02	2.31E-06	1.27E-04	3.67E-02	2.47E-06	1.36E-04	6.76E-03	3.85E-05
Road 1	1	1800-1900	2.83E-02	1.54E-06	8.47E-05	2.61E-02	1.33E-06	7.32E-05	2.24E-03	1.22E-05
Road 1	1	1900-2000	2.50E-02	1.08E-06	5.94E-05	2.28E-02	9.85E-07	5.42E-05	2.46E-03	1.06E-05
Road 1	1	2000-2100	2.26E-02	3.27E-07	4.35E-06	2.06E-02	2.56E-06	3.41E-05	4.39E-04	6.35E-06
Road 1	1	2100-2200	2.22E-02	7.43E-07	4.09E-05	2.03E-02	6.80E-07	3.74E-05	2.33E-03	7.80E-06
Road 1	1	2200-2300	2.22E-02	3.99E-07	2.19E-05	2.03E-02	6.80E-07	3.74E-05	2.33E-03	4.19E-06
Road 1	1	2300-0000	2.49E-02	6.06E-07	3.33E-05	2.29E-02	9.85E-07	5.42E-05	2.46E-03	1.04E-06
Road 2	2	0000-0100	2.46E-02	3.62E-07	1.83E-05	2.14E-02	2.31E-06	3.43E-05	1.74E-04	2.00E-01
Road 2	2	0100-0200	2.49E-02	2.49E-07	1.26E-05	2.17E-02	2.07E-06	1.98E-06	1.00E-04	1.72E-01
Road 2	2	0200-0300	2.81E-02	1.97E-07	1.00E-05	2.54E-02	1.78E-07	9.01E-06	2.42E-01	1.70E-06
Road 2	2	0300-0400	3.12E-02	1.97E-07	1.00E-05	2.54E-02	1.53E-07	7.76E-06	3.50E-01	1.47E-06
Road 2	2	0400-0500	3.22E-02	1.96E-07	9.93E-06	2.90E-02	1.57E-06	7.95E-05	2.31E-01	1.41E-06
Road 2	2	0500-0600	3.45E-02	3.65E-07	1.85E-05	3.10E-02	2.37E-06	1.20E-04	2.95E-01	3.12E-06
Road 2	2	0600-0700	3.94E-02	1.80E-06	9.14E-05	3.48E-02	1.59E-06	8.07E-05	2.91E-01	1.66E-05
Road 2	2	0700-0800	3.94E-02	1.80E-06	9.14E-05	3.48E-02	1.59E-06	8.07E-05	2.54E-01	1.16E-05
Road 2	2	0800-0900	4.56E-02	2.01E-06	1.02E-04	4.13E-02	1.82E-06	9.21E-05	3.04E-01	1.34E-05
Road 2	2	0900-1000	4.56E-02	2.01E-06	1.02E-04	4.13E-02	1.82E-06	9.21E-05	3.04E-01	1.34E-05
Road 2	2	1000-1100	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 2	2	1100-1200	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 2	2	1200-1300	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 2	2	1300-1400	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 2	2	1400-1500	4.31E-02	1.89E-06	9.56E-05	3.93E-02	1.38E-06	6.98E-05	2.57E-01	1.13E-05
Road 2	2	1500-1600	4.31E-02	1.89E-06	9.56E-05	3.93E-02	1.38E-06	6.98E-05	2.57E-01	1.13E-05
Road 2	2	1600-1700	3.97E-02	1.93E-06	9.76E-05	3.47E-02	1.76E-06	8.89E-05	3.08E-01	1.50E-05
Road 2	2	1700-1800	4.50E-02	1.62E-06	8.20E-05	4.10E-02	1.47E-06	7.44E-05	3.73E-01	1.34E-05
Road 2	2	1800-1900	3.46E-02	1.89E-06	9.56E-05	3.15E-02	1.26E-06	6.38E-05	2.74E-01	1.50E-05
Road 2	2	1900-2000	2.64E-02	1.26E-06	6.38E-05	2.40E-02	9.61E-07	4.86E-05	2.09E-01	1.00E-05
Road 2	2	2000-2100	2.46E-02	3.62E-07	1.83E-05	2.24E-02	2.31E-06	3.43E-05	1.74E-04	2.00E-01
Road 2	2	2100-2200	2.46E-02	2.49E-07	1.26E-05	2.24E-02	2.07E-06	1.98E-06	1.00E-04	1.72E-01
Road 2	2	2200-2300	2.81E-02	1.97E-07	1.00E-05	2.56E-02	1.78E-07	9.01E-06	2.42E-01	1.70E-06
Road 2	2	2300-0000	2.81E-02	1.97E-07	1.00E-05	2.56E-02	1.53E-07	7.76E-06	3.50E-01	1.47E-06
Road 3	3	0000-0100	2.49E-02	3.62E-07	1.83E-05	2.17E-02	2.31E-06	3.43E-05	1.74E-04	2.00E-01
Road 3	3	0100-0200	2.49E-02	2.49E-07	1.26E-05	2.17E-02	2.07E-06	1.98E-06	1.00E-04	1.72E-01
Road 3	3	0200-0300	2.81E-02	1.97E-07	1.00E-05	2.54E-02	1.78E-07	9.01E-06	2.42E-01	1.70E-06
Road 3	3	0300-0400	3.12E-02	1.97E-07	1.00E-05	2.54E-02	1.53E-07	7.76E-06	3.50E-01	1.47E-06
Road 3	3	0400-0500	3.22E-02	1.96E-07	9.93E-06	2.90E-02	1.57E-06	7.95E-05	2.31E-01	1.41E-06
Road 3	3	0500-0600	3.45E-02	3.65E-07	1.85E-05	3.10E-02	2.37E-06	1.20E-04	2.95E-01	3.12E-06
Road 3	3	0600-0700	3.94E-02	1.80E-06	9.14E-05	3.48E-02	1.59E-06	8.07E-05	2.91E-01	1.66E-05
Road 3	3	0700-0800	3.94E-02	1.80E-06	9.14E-05	3.48E-02	1.59E-06	8.07E-05	2.54E-01	1.16E-05
Road 3	3	0800-0900	4.56E-02	2.01E-06	1.02E-04	4.13E-02	1.82E-06	9.21E-05	3.04E-01	1.34E-05
Road 3	3	0900-1000	4.56E-02	2.01E-06	1.02E-04	4.13E-02	1.82E-06	9.21E-05	3.04E-01	1.34E-05
Road 3	3	1000-1100	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 3	3	1100-1200	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 3	3	1200-1300	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 3	3	1300-1400	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 3	3	1400-1500	4.31E-02	1.89E-06	9.56E-05	3.93E-02	1.38E-06	6.98E-05	2.57E-01	1.13E-05
Road 3	3	1500-1600	4.31E-02	1.89E-06	9.56E-05	3.93E-02	1.38E-06	6.98E-05	2.57E-01	1.13E-05
Road 3	3	1600-1700	3.97E-02	1.93E-06	9.76E-05	3.47E-02	1.76E-06	8.89E-05	3.08E-01	1.50E-05
Road 3	3	1700-1800	4.50E-02	1.62E-06	8.20E-05	4.10E-02	1.47E-06	7.44E-05	3.73E-01	1.34E-05
Road 3	3	1800-1900	3.46E-02	1.89E-06	9.56E-05	3.15E-02	1.26E-06	6.38E-05	2.74E-01	1.50E-05
Road 3	3	1900-2000	2.99E-02	1.43E-06	7.24E-05	2.72E-02	1.09E-06	5.51E-05	2.37E-01	1.14E-05
Road 3	3	2000-2100	2.70E-02	2.74E-07	1.68E-06	2.47E-02	2.45E-06	2.51E-05	1.48E-04	2.84E-05
Road 3	3	2100-2200	2.70E-02	2.74E-07	1.68E-06	2.47E-02	2.45E-06	2.51E-05	1.48E-04	2.84E-05
Road 3	3	2200-2300	2.75E-02	2.73E-07	1.67E-06	2.51E-02	2.44E-06	2.50E-05	1.47E-04	2.83E-05
Road 3	3	2300-0000	2.75E-02	2.73E-07	1.67E-06	2.51E-02	2.44E-06	2.50E-05	1.47E-04	2.83E-05
Road 4	4	0000-0100	2.26E-02	2.44E-03	1.34E-05	3.97E-03	2.51E-02	1.81E-03	1.44E-04	2.08E-03
Road 4	4	0100-0200	2.39E-02	1.68E-07	9.22E-06	2.54E-02	1.50E-06	9.33E-05	2.14E-03	1.50E-06
Road 4	4	0200-0300	2.59E-02	1.33E-07	7.30E-06	2.33E-02	1.19E-07	6.57E-06	2.69E-04	1.28E-06
Road 4	4	0300-0400	2.78E-02	1.31E-07	7.20E-06	2.51E-02	1.02E-07	5.59E-06	2.72E-04	1.28E-06
Road 4	4	0400-0500	2.95E-02	1.31E-07	7.20E-06	2.66E-02	1.18E-07	6.50E-06	2.63E-03	1.17E-06
Road 4	4	0500-0600	3.15E-02	1.33E-07	7.32E-06	2.84E-02	1.26E-07	6.93E-06	2.74E-03	1.16E-06
Road 4	4	0600-0700	3.35E-02	5.49E-07	3.02E-05	2.98E-02	2.68E-05	2.84E-03	2.56E-04	2.50E-05
Road 4	4	0700-0800	3.58E-02	1.19E-06	6.53E-05	3.17E-02	1.05E-06	5.77E-05	2.93E-03	9.71E-06
Road 4	4	0800-0900	3.77E-02	1.25E-06	6.87E-05	3.35E-02	1.11E-06	6.09E-05	3.01E-03	9.40E-06
Road 4	4	0900-1000	4.09E-02	1.28E-06	7.03E-05	3.69E-02	2.51E-06	1.38E-04	6.66E-03	2.08E-05
Road 4	4	1000-1100	4.37E-02	1.45E-06	7.97E-05	3.96E-02	2.68E-06	1.47E-04	7.31E-03	2.42E-05
Road 4	4	1100-1200	4.37E-02	1.12E-06	6.14E-05	3.96E-02	2.68E-06	1.47E-04	7.31E-03	1.87E-05
Road 4	4	1200-1300	4.49E-02	1.22E-06	6.72E-05	4.07E-02	2.75E-06	1.51E-04	7.51E-03	2.04E-05
Road 4	4	1300-1400	4.56E-02	1.22E-06	6.72E-05	4.13E-02	2.79E-06	1.53E-04	7.62E-03	2.04E-05
Road 4	4	1400-1500	4.49E-02	2.21E-06	1.22E-04	4.07E-02	2.75E-06	1.51E-04	7.51E-03	3.69E-05
Road 4	4	1500-1600	4.49E-02	2.21E-06	1.22E-04	4.07E-02	2.75E-06	1.51E-04	7.51E-03	3.69E-05
Road 4	4	1600-1700	4.26E-02	2.31E-06	1.27E-04	3.87E-02	2.61E-06	1.44E-04	7.13E-03	3.85E-05
Road 4	4	1700-1800	4.04E-02	2.31E-06	1.27E-04	3.67E-02	2.47E-06	1.36E-04	6.76E-03	3.85E-05
Road 4	4	1800-1900	2.83E-02	1.54E-06	8.47E-05	2.61E-02	1.33E-06	7.32E-05	2.24E-03	1.22E-05
Road 4	4	1900-2000	2.50E-02	1.08E-06	5.94E-05	2.28E-02	9.85E-07	5.42E-05	2.46E-03	1.06E-05
Road 4	4	2000-2100	2.26E-02	3.27E-07	4.35E-06	2.06E-02	2.56E-06	3.41E-05	4.39E-04	6.35E-06
Road 4	4	2100-2200	2.22E-02	7.43E-07	4.09E-05	2.03E-02	6.80E-07	3.74E-05	2.33E-03	7.80E-06
Road 4	4	2200-2300	2.22E-02	3.99E-07	2.19E-05	2.03E-02	6.80E-07	3.74E-05	2.33E-03	4.19E-06
Road 4	4	2300-0000	2.49E-02	6.06E-07	3.33E-05	2.29E-02	9.85E-07	5.42E-05	2.46E-03	1.04E-06
Road 5	5	0000-0100	2.81E-02	2.44E-03	1.34E-05	3.97E-03	2.51E-02	1.81E-03	1.44E-04	2.08E-03
Road 5	5	0100-0200	2.39E-02	1.68E-07	9.22E-06	2.54E-02	1.50E-06	9.33E-05	2.14E-03	1.50E-06
Road 5	5	0200-0300	2.59E-02	1.33E-07	7.30E-06	2.33E-02	1.19E-07	6.57E-06	2.69E-04	1.28E-06
Road 5	5	0300-0400	2.78E-02	1.31E-07	7.20E-06	2.51E-02	1.02E-07	5.59E-06	2.72E-04	1.28E-06
Road 5	5	0400-0500	2.95E-02	1.31E-07	7.20E-06	2.66E-02	1.18E-07	6.50E-06	2.63E-03	1.17E-06
Road 5	5	0500-0600	3.15E-02	1.33E-07	7.32E-06	2.84E-02	1.26E-07	6.93E-06	2.74E-03	1.16E-06
Road 5	5	0600-0700	3.35E-02	5.49E-07	3.02E-05	2.98E-02	2.68E-05	2.84E-03	2.56E-04	2.50E-05
Road 5	5	0700-0800	3.58E-02	1.19E-06	6.53E-05	3.17E-02	1.05E-06	5.77E-05	2.93E-03	9.71E-06
Road 5	5	0800-0900	3.77E-02	1.25E-06	6.87E-05	3.35E-02	1.11E-06	6.09E-05	3.01E-03	9.40E-06
Road 5	5	0900-1000	4.09E-02	1.28E-06	7.03E-05	3.69E-02	2.51E-06	1.38E-04	6.66E-03	2.08E-05
Road 5	5	1000-1100	4.37E-02	1.45E-06	7.97E-05	3.96E-02	2.68E-06	1.47E-04	7.31E-03	2.42E-05
Road 5	5	1100-1200	4.37E-02	1.12E-06	6.14E-05	3.96E-02	2.68E-06	1.47E-04	7.31E-03	1.87E-05
Road 5	5	1200-1300	4.49E-02	1.22E-06	6.72E-05	4.07E-02	2.75E-06	1.51E-04	7.51E-03	2.04E-05
Road 5	5	1300-1400	4.56E-02	1.22E-06	6.72E-05	4.13E-02	2.79E-06	1.53E-04	7.62E-03	2.04E-05
Road 5	5	1400-1500	4.49E-02	2.21E-06	1.22E-04	4.07E-02	2.75E-06	1.51E-04	7.51E-03	3.69E-05
Road 5	5	1500-1600	4.49E-02	2.21E-06	1.22E-04	4.07E-02	2.75E-06	1.51E-04	7.51E-03	3.69E-05
Road 5	5	1600-1700	4.26E-02	2.31E-06	1.27E-04	3.87E-02	2.61E-06	1.44E-04	7.13E-03	3.85E-05
Road 5	5	1700-1800	4.04E-02	2.31E-06	1.27E-04	3.67E-02	2.47E-06	1.36E-04	6.76E-03	3.85E-05
Road 5	5	1800-1900	2.83E-02	1.54E-06	8.47E-05	2.61E-02	1.33E-06	7.32E-05	2.24E-03	1.22E-05
Road 5	5	1900-2000	2.50E-02	1.08E-06	5.94E-05	2.28E-02	9.85E-07	5.42E-05	2.46E-03	1.06E-05
Road 5	5	2000-2100	2.26E-02	3.27E-07	4.35E-06	2.06E-02	2.56E-06	3.41E-05	4.39E-04	6.35E-06
Road 5	5	2100-2200	2.22E-02	7.43E-07	4.09E-05	2.03E-02	6.80E-07	3.74E-05	2.33E-03	7.80E-06
Road 5	5	2200-2300	2.22E-02	3.99E-07	2.19E-05	2.03E-02	6.80E-07	3.74E-05	2.33E-03	4.19E-06
Road 5	5	2300-0000	2.49E-02	6.06E-07	3.33E-05	2.29E-02	9.85E-07	5.42E-05	2.46E-03	1.04E-06
Road 6	6	0000-0100	2.46E-02	3.62E-07	1.83E-05	2.14E-02	2.31E-06	3.43E-05	1.74E-04	2.00E-01
Road 6	6	0100-0200	2.49E-02	2.49E-07	1.26E-05	2.17E-02	2.07E-06	1.98E-06	1.00E-04	1.72E-01
Road 6	6	0200-0300	2.81E-02	1.97E-07	1.00E-05	2.54E-02	1.78E-07	9.01E-06	2.42E-01	1.70E-06
Road 6	6	0300-0400	3.12E-02	1.97E-07	1.00E-05	2.54E-02	1.53E-07	7.76E-06	3.50E-01	1.47E-06
Road 6	6	0400-0500	3.22E-02	1.96E-07	9.93E-06	2.90E-02	1.57E-06	7.95E-05	2.31E-01	1.41E-06
Road 6	6	0500-0600	3.45E-02	3.65E-07	1.85E-05	3.10E-02	2.37E-06	1.20E-04	2.95E-01	3.12E-06
Road 6	6	0600-0700	3.94E-02	1.80E-06	9.14E-05	3.48E-02	1.59E-06	8.07E-05	2.91E-01	1.66E-05
Road 6	6	0700-0800	3.94E-02	1.80E-06	9.14E-05	3.48E-02	1.59E-06	8.07E-05	2.54E-01	1.16E-05
Road 6	6	0800-0900	4.56E-02	2.01E-06	1.02E-04	4.13E-02	1.82E-06	9.21E-05	3.04E-01	1.34E-05
Road 6	6	0900-1000	4.56E-02	2.01E-06	1.02E-04	4.13E-02	1.82E-06	9.21E-05	3.04E-01	1.34E-05
Road 6	6	1000-1100	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 6	6	1100-1200	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 6	6	1200-1300	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 6	6	1300-1400	4.92E-02	1.78E-06	9.03E-05	4.50E-02	1.63E-06	8.26E-05	3.04E-01	1.10E-05
Road 6	6	1400-1500	4.31E-02	1.89E-06	9.56E-05	3.93E-02	1.38E-06	6.98E-05	2.57E-01	1.13E-05
Road 6	6	1500-1600	4.31E-02	1.89E-06	9.56E-05	3.93E-02	1.38E-06	6.98E-05	2.57E-01	1.13E-05
Road 6	6	1600-1700	3.97E-02	1.93E-06	9.76E-05	3.47E-02	1.76E-06	8.89E-05	3.08E-01	1.50E-05
Road 6	6	1700-1800	4.50E-02	1.62E-06	8.20E-05	4.10E-02	1.47E-06	7.44E-05	3.73E-01	1.34E-05
Road 6	6	1800-1900	3.46E-02	1.89E-06	9.56E-05	3.15E-02	1.26E-06	6.38E-05	2.74E-01	1.50E-05
Road 6	6	1900-2000	2.99E-02	1.43E-06	7.24E-05	2.72E-02	1.09E-06	5.51E-05	2.37E-01	1.14E-05
Road 6	6	2000-2100	2.70E-02	2.74E-07	1.68E-06	2.47E-02	2.45E-06	2.51E-05	1.48E-04	2.84E-05
Road 6	6	2100-2200	2.70E-02	2.74E-07	1.68E-06	2.47E-02	2.45E-06	2.51E-05	1.48E-04	2.84E-05
Road 6	6	2200-2300	2.75E-02	2.73E-07	1.67E-06	2.51E-02	2.44E-06	2.50E-05	1.47E-04	2.83E-05
Road 6	6	2300-0000	2.75E-02	2.73E-07	1.67E-06	2.51E-02	2.44E-06	2.50E-05	1.47E-04	2.83E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 7	7	1600-1700	3.79E-02	5.82E-07	6.82E-06	3.49E-02	5.04E-02	6.76E-02	7.93E-04	5.50E-05
Road 7	7	1700-1800	3.79E-02	5.82E-07	6.82E-06	3.49E-02	5.35E-02	6.28E-06	3.31E-03	5.07E-06
Road 7	7	1800-1900	2.85E-02	4.85E-07	5.69E-06	2.63E-02	4.46E-02	5.23E-06	2.83E-03	4.82E-06
Road 7	7	1900-2000	2.52E-02	3.42E-07	4.01E-06	2.29E-02	3.11E-07	3.65E-06	2.89E-04	3.92E-06
Road 7	7	2000-2100	2.49E-02	2.64E-07	3.09E-06	2.30E-02	2.43E-07	2.85E-06	3.00E-03	3.17E-06
Road 7	7	2100-2200	2.22E-02	2.53E-07	2.73E-06	2.13E-02	2.50E-06	2.72E-05	2.85E-04	3.04E-05
Road 7	7	2200-2300	2.25E-02	2.31E-07	2.71E-06	1.99E-02	2.04E-07	2.39E-06	2.91E-03	2.98E-06
Road 7	7	2300-0000	2.49E-02	1.91E-07	2.24E-06	2.20E-02	1.93E-07	2.26E-06	2.68E-03	2.09E-06
Road 8	8	0000-0100	4.68E-02	1.06E-08	2.34E-07	4.23E-02	9.56E-09	1.93E-07	6.73E-01	2.62E-07
Road 8	8	0100-0200	4.37E-02	1.70E-08	3.44E-07	4.23E-02	1.53E-08	3.09E-07	6.73E-01	2.62E-07
Road 8	8	0200-0300	4.37E-02	1.70E-08	3.44E-07	4.23E-02	1.53E-08	3.09E-07	6.73E-01	2.62E-07
Road 8	8	0300-0400	4.68E-02	1.06E-08	2.34E-07	4.23E-02	9.56E-09	1.93E-07	6.73E-01	2.62E-07
Road 8	8	0400-0500	4.68E-02	1.06E-08	2.34E-07	4.23E-02	9.56E-09	1.93E-07	6.73E-01	2.62E-07
Road 8	8	0500-0600	5.38E-02	4.99E-08	1.01E-06	4.82E-02	4.47E-08	9.03E-07	7.10E-01	6.58E-07
Road 8	8	0600-0700	5.38E-02	4.99E-08	1.01E-06	4.82E-02	4.47E-08	9.03E-07	7.10E-01	6.58E-07
Road 8	8	0700-0800	5.38E-02	4.99E-08	1.01E-06	4.82E-02	4.47E-08	9.03E-07	7.10E-01	6.58E-07
Road 8	8	0800-0900	3.99E-02	1.15E-07	2.32E-06	4.83E-02	1.03E-07	2.08E-06	6.58E-01	1.40E-06
Road 8	8	0900-1000	3.99E-02	1.15E-07	2.32E-06	4.83E-02	1.03E-07	2.08E-06	6.58E-01	1.40E-06
Road 8	8	1000-1100	3.68E-02	1.05E-07	2.13E-06	6.02E-02	9.50E-08	1.92E-06	7.06E-01	1.11E-06
Road 8	8	1100-1200	6.52E-02	9.78E-08	1.98E-06	5.93E-02	8.39E-08	1.70E-06	7.06E-01	1.06E-06
Road 8	8	1200-1300	6.52E-02	9.78E-08	1.98E-06	5.93E-02	8.39E-08	1.70E-06	7.06E-01	1.06E-06
Road 8	8	1300-1400	8.39E-02	3.54E-07	7.16E-06	7.66E-02	3.23E-07	6.53E-06	6.18E-01	2.61E-06
Road 8	8	1400-1500	8.39E-02	3.54E-07	7.16E-06	7.66E-02	3.23E-07	6.53E-06	6.18E-01	2.61E-06
Road 8	8	1500-1600

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	3.10E-01	2.47E-06	2.47E-04	3.44E-02	2.28E-06	1.30E-04	3.58E-01	2.56E-06	1.02E-05
Road 27	27	1700-1800	2.78E-01	6.48E-07	2.00E-06	2.52E-01	5.88E-07	9.17E-06	1.16E+00	2.70E-06	8.32E-06
Road 27	27	1800-1900	2.50E-01	4.01E-07	1.23E-06	2.33E-01	3.68E-07	1.13E-06	1.16E+00	1.85E-06	5.71E-06
Road 27	27	1900-2000	2.36E-01	2.46E-07	7.57E-07	2.15E-01	2.25E-07	6.91E-07	1.18E+00	1.23E-06	3.77E-06
Road 27	27	2000-2100	2.31E-01	1.92E-07	5.92E-07	2.13E-01	1.77E-07	5.45E-07	1.07E+00	8.91E-07	2.74E-06
Road 27	27	2100-2200	2.31E-01	1.58E-07	4.87E-07	2.13E-01	1.46E-07	4.49E-07	1.07E+00	7.34E-07	2.26E-06
Road 27	27	2200-2300	2.51E-01	1.87E-07	5.75E-07	2.24E-01	1.67E-07	5.13E-07	1.12E+00	8.36E-07	2.57E-06
Road 27	27	2300-0000	2.59E-01	1.58E-07	4.87E-07	2.30E-01	1.41E-07	4.33E-07	1.16E+00	7.09E-07	2.18E-06
Road 28	28	0000-0100	3.16E-01	2.47E-06	2.47E-04	3.50E-02	2.28E-06	1.30E-04	3.64E-01	2.56E-06	1.02E-05
Road 28	28	0100-0200	3.84E-01	4.69E-07	2.66E-05	4.26E-02	4.34E-07	2.47E-05	3.84E-01	4.69E-07	2.66E-05
Road 28	28	0200-0300	4.68E-01	3.44E-07	1.95E-05	5.19E-02	3.18E-07	1.81E-05	3.84E-01	3.44E-07	1.95E-05
Road 28	28	0300-0400	4.68E-01	3.24E-07	1.84E-05	4.03E-02	2.91E-07	1.65E-05	3.29E-01	2.38E-06	1.35E-04
Road 28	28	0400-0500	3.76E-01	2.71E-07	1.54E-05	4.17E-02	2.51E-07	1.42E-05	3.29E-01	2.38E-06	1.35E-04
Road 28	28	0500-0600	4.90E-02	3.54E-08	2.01E-06	5.43E-03	3.27E-08	1.86E-06	3.29E-01	2.38E-06	1.35E-04
Road 28	28	0600-0700	5.14E-02	1.53E-06	8.68E-05	4.53E-02	1.35E-06	7.66E-05	5.99E-02	3.10E-01	9.22E-06
Road 28	28	0700-0800	3.75E-02	2.71E-08	1.54E-06	3.34E-02	2.41E-08	1.37E-06	3.29E-01	2.38E-06	1.35E-04
Road 28	28	0800-0900	7.08E-02	4.99E-06	2.83E-04	6.32E-02	4.46E-06	2.53E-04	3.29E-01	2.38E-06	1.35E-04
Road 28	28	0900-1000	7.16E-02	3.91E-06	2.22E-04	6.49E-02	3.54E-06	2.01E-04	4.20E-01	2.29E-05	1.30E-03
Road 28	28	1000-1100	6.96E-02	3.60E-06	2.04E-04	6.37E-02	3.29E-06	1.87E-04	3.79E-01	2.07E-05	1.18E-03
Road 28	28	1100-1200	6.96E-02	3.60E-06	2.04E-04	6.37E-02	3.29E-06	1.87E-04	3.79E-01	2.07E-05	1.18E-03
Road 28	28	1200-1300	7.31E-02	3.91E-06	2.22E-04	6.49E-02	3.54E-06	2.01E-04	4.20E-01	2.29E-05	1.30E-03
Road 28	28	1300-1400	7.23E-02	2.22E-06	1.26E-04	6.63E-02	2.04E-06	1.16E-04	4.09E-01	1.26E-05	7.13E-04
Road 28	28	1400-1500	7.23E-02	2.22E-06	1.31E-04	6.63E-02	2.04E-06	1.21E-04	4.09E-01	1.26E-05	7.44E-04
Road 28	28	1500-1600	6.73E-02	2.23E-06	1.27E-04	6.20E-02	2.06E-06	1.17E-04	3.84E-01	1.27E-05	7.26E-04
Road 28	28	1600-1700	6.69E-02	2.31E-06	1.31E-04	6.19E-02	2.14E-06	1.21E-04	3.84E-01	1.32E-05	7.48E-04
Road 28	28	1700-1800	6.69E-02	2.31E-06	1.31E-04	6.19E-02	2.14E-06	1.21E-04	3.84E-01	1.32E-05	7.48E-04
Road 28	28	1800-1900	3.74E-02	8.88E-08	3.42E-06	3.35E-02	7.96E-08	3.06E-06	3.84E-01	9.11E-06	3.51E-04
Road 28	28	1900-2000	3.94E-02	6.84E-08	2.63E-06	3.52E-02	6.11E-08	2.35E-06	3.84E-01	6.67E-06	2.56E-04
Road 28	28	2000-2100	3.14E-02	7.54E-07	4.28E-05	2.89E-02	6.93E-07	3.94E-05	2.67E-01	6.40E-06	3.64E-04
Road 28	28	2100-2200	2.96E-02	7.08E-07	4.02E-05	2.69E-02	6.45E-07	3.66E-05	2.49E-01	5.96E-06	3.39E-04
Road 28	28	2200-2300	2.96E-02	6.84E-07	3.88E-05	2.69E-02	6.23E-07	3.54E-05	2.49E-01	5.75E-06	3.27E-04
Road 28	28	2300-0000	3.31E-02	5.77E-07	3.27E-05	2.93E-02	5.11E-07	2.90E-05	2.77E-01	4.83E-06	2.74E-04
Road 29	29	0000-0100	3.40E-02	2.66E-06	2.66E-04	3.77E-02	2.45E-06	1.40E-04	3.85E-01	2.62E-06	1.04E-05
Road 29	29	0100-0200	5.40E-02	2.67E-07	1.84E-05	4.89E-02	2.41E-07	1.67E-05	3.81E-01	1.88E-06	1.29E-04
Road 29	29	0200-0300	4.68E-02	2.31E-07	1.59E-05	4.24E-02	2.09E-07	1.44E-05	3.81E-01	1.88E-06	1.29E-04
Road 29	29	0300-0400	4.27E-02	2.89E-07	1.99E-05	3.84E-02	2.60E-07	1.79E-05	3.81E-01	2.58E-06	1.77E-04
Road 29	29	0400-0500	4.27E-02	2.11E-07	1.45E-05	3.84E-02	1.90E-07	1.31E-05	3.81E-01	1.88E-06	1.29E-04
Road 29	29	0500-0600	5.20E-02	2.09E-07	1.44E-05	4.68E-02	1.88E-07	1.29E-05	3.81E-01	1.88E-06	1.29E-04
Road 29	29	0600-0700	4.81E-02	2.66E-07	1.83E-05	4.33E-02	2.39E-07	1.65E-05	3.81E-01	2.11E-06	1.45E-04
Road 29	29	0700-0800	1.43E-01	1.05E-06	2.65E-05	1.27E-01	9.31E-07	2.36E-05	7.24E-01	5.30E-06	1.34E-04
Road 29	29	0800-0900	1.43E-01	1.05E-06	2.65E-05	1.27E-01	9.31E-07	2.36E-05	7.24E-01	5.30E-06	1.34E-04
Road 29	29	0900-1000	1.52E-01	1.11E-06	2.82E-05	1.36E-01	1.00E-06	2.54E-05	7.73E-01	5.67E-06	1.43E-04
Road 29	29	1000-1100	1.39E-01	1.02E-06	2.58E-05	1.24E-01	9.14E-07	2.31E-05	7.05E-01	5.17E-06	1.31E-04
Road 29	29	1100-1200	1.62E-01	1.05E-06	2.66E-05	1.47E-01	9.54E-07	2.42E-05	8.09E-01	5.24E-06	1.33E-04
Road 29	29	1200-1300	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 29	29	1300-1400	1.78E-01	1.37E-06	3.47E-05	1.63E-01	1.25E-06	3.17E-05	8.58E-01	6.60E-06	1.67E-04
Road 29	29	1400-1500	1.78E-01	1.33E-06	3.42E-05	1.63E-01	1.22E-06	3.13E-05	8.58E-01	6.44E-06	1.65E-04
Road 29	29	1500-1600	1.78E-01	1.33E-06	3.42E-05	1.63E-01	1.22E-06	3.13E-05	8.58E-01	6.44E-06	1.65E-04
Road 29	29	1600-1700	1.77E-01	1.35E-06	3.42E-05	1.62E-01	1.24E-06	3.14E-05	8.58E-01	6.55E-06	1.66E-04
Road 29	29	1700-1800	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 29	29	1800-1900	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 29	29	1900-2000	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 29	29	2000-2100	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 29	29	2100-2200	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 29	29	2200-2300	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 29	29	2300-0000	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 30	30	0000-0100	3.47E-02	2.71E-06	2.71E-04	3.85E-02	2.50E-06	1.43E-04	3.93E-01	2.68E-06	1.06E-05
Road 30	30	0100-0200	4.56E-02	2.25E-07	1.55E-05	4.13E-02	2.04E-07	1.41E-05	3.22E-01	1.59E-06	1.09E-04
Road 30	30	0200-0300	3.96E-02	1.95E-07	1.35E-05	3.59E-02	1.77E-07	1.22E-05	3.22E-01	1.59E-06	1.09E-04
Road 30	30	0300-0400	3.61E-02	2.44E-07	1.68E-05	3.25E-02	2.20E-07	1.52E-05	3.22E-01	2.18E-06	1.50E-04
Road 30	30	0400-0500	3.61E-02	1.78E-07	1.23E-05	3.25E-02	1.61E-07	1.11E-05	3.22E-01	1.59E-06	1.09E-04
Road 30	30	0500-0600	4.41E-02	1.77E-07	1.22E-05	3.97E-02	1.60E-07	1.10E-05	3.22E-01	1.59E-06	1.09E-04
Road 30	30	0600-0700	4.07E-02	2.25E-07	1.55E-05	3.67E-02	2.03E-07	1.40E-05	3.22E-01	1.78E-06	1.23E-04
Road 30	30	0700-0800	1.21E-01	8.88E-07	2.24E-05	1.07E-01	7.85E-07	1.98E-05	6.12E-01	4.48E-06	1.13E-04
Road 30	30	0800-0900	1.21E-01	8.88E-07	2.24E-05	1.07E-01	7.85E-07	1.98E-05	6.12E-01	4.48E-06	1.13E-04
Road 30	30	0900-1000	1.28E-01	9.37E-07	2.38E-05	1.15E-01	8.44E-07	2.14E-05	6.53E-01	4.79E-06	1.21E-04
Road 30	30	1000-1100	1.17E-01	8.63E-07	2.18E-05	1.05E-01	7.73E-07	1.95E-05	5.96E-01	4.37E-06	1.11E-04
Road 30	30	1100-1200	1.37E-01	8.88E-07	2.24E-05	1.24E-01	8.07E-07	2.04E-05	6.87E-01	4.48E-06	1.13E-04
Road 30	30	1200-1300	1.50E-01	1.08E-06	2.74E-05	1.36E-01	9.81E-07	2.48E-05	7.08E-01	5.09E-06	1.29E-04
Road 30	30	1300-1400	1.50E-01	1.16E-06	2.93E-05	1.36E-01	1.05E-06	2.66E-05	7.24E-01	5.57E-06	1.41E-04
Road 30	30	1400-1500	1.50E-01	1.12E-06	2.89E-05	1.36E-01	1.02E-06	2.62E-05	7.24E-01	5.44E-06	1.40E-04
Road 30	30	1500-1600	1.50E-01	1.12E-06	2.89E-05	1.36E-01	1.02E-06	2.62E-05	7.24E-01	5.44E-06	1.40E-04
Road 30	30	1600-1700	1.49E-01	1.14E-06	2.89E-05	1.35E-01	1.04E-06	2.63E-05	7.24E-01	5.53E-06	1.40E-04
Road 30	30	1700-1800	1.50E-01	1.08E-06	2.74E-05	1.36E-01	9.81E-07	2.48E-05	7.08E-01	5.09E-06	1.29E-04
Road 30	30	1800-1900	1.50E-01	1.08E-06	2.74E-05	1.36E-01	9.81E-07	2.48E-05	7.08E-01	5.09E-06	1.29E-04
Road 30	30	1900-2000	4.11E-02	5.88E-07	3.76E-05	5.25E-02	3.26E-07	4.66E-06	4.56E-01	2.96E-06	4.23E-04
Road 30	30	2000-2100	4.49E-02	4.47E-07	4.57E-06	3.85E-02	3.83E-07	3.92E-06	4.56E-01	4.53E-06	4.63E-04
Road 30	30	2100-2200	4.00E-02	4.49E-07	4.60E-06	3.58E-02	3.57E-07	3.65E-06	4.56E-01	5.11E-06	5.23E-04
Road 30	30	2200-2300	4.09E-02	4.41E-07	4.52E-06	3.91E-02	3.42E-07	3.50E-06	4.56E-01	4.92E-06	5.04E-04
Road 30	30	2300-0000	4.62E-02	3.82E-07	3.74E-06	4.09E-02	3.38E-07	3.31E-06	4.62E-01	3.82E-06	3.74E-04
Road 44	44	0000-0100	3.10E-01	2.47E-06	2.47E-04	3.44E-02	2.28E-06	1.30E-04	3.58E-01	2.56E-06	1.02E-05
Road 44	44	0100-0200	3.84E-01	4.69E-07	2.66E-05	4.26E-02	4.34E-07	2.47E-05	3.84E-01	4.69E-07	2.66E-05
Road 44	44	0200-0300	4.68E-01	3.44E-07	1.95E-05	5.19E-02	3.18E-07	1.81E-05	3.84E-01	3.44E-07	1.95E-05
Road 44	44	0300-0400	4.68E-01	3.24E-07	1.84E-05	4.03E-02	2.91E-07	1.65E-05	3.29E-01	2.38E-06	1.35E-04
Road 44	44	0400-0500	3.76E-01	2.71E-07	1.54E-05	4.17E-02	2.51E-07	1.42E-05	3.29E-01	2.38E-06	1.35E-04
Road 44	44	0500-0600	4.90E-02	3.54E-08	2.01E-06	5.43E-03	3.27E-08	1.86E-06	3.29E-01	2.38E-06	1.35E-04
Road 44	44	0600-0700	5.14E-02	1.53E-06	8.68E-05	4.53E-02	1.35E-06	7.66E-05	5.99E-02	3.10E-01	9.22E-06
Road 44	44	0700-0800	3.75E-02	2.71E-08	1.54E-06	3.34E-02	2.41E-08	1.37E-06	3.29E-01	2.38E-06	1.35E-04
Road 44	44	0800-0900	7.08E-02	4.99E-06	2.83E-04	6.32E-02	4.46E-06	2.53E-04	3.29E-01	2.38E-06	1.35E-04
Road 44	44	0900-1000	7.16E-02	3.91E-06	2.22E-04	6.49E-02	3.54E-06	2.01E-04	4.20E-01	2.29E-05	1.30E-03
Road 44	44	1000-1100	6.96E-02	3.60E-06	2.04E-04	6.37E-02	3.29E-06	1.87E-04	3.79E-01	2.07E-05	1.18E-03
Road 44	44	1100-1200	6.96E-02	3.60E-06	2.04E-04	6.37E-02	3.29E-06	1.87E-04	3.79E-01	2.07E-05	1.18E-03
Road 44	44	1200-1300	7.31E-02	3.91E-06	2.22E-04	6.49E-02	3.54E-06	2.01E-04	4.20E-01	2.29E-05	1.30E-03
Road 44	44	1300-1400	7.23E-02	2.22E-06	1.26E-04	6.63E-02	2.04E-06	1.16E-04	4.09E-01	1.26E-05	7.13E-04
Road 44	44	1400-1500	7.23E-02	2.22E-06	1.31E-04	6.63E-02	2.04E-06	1.21E-04	4.09E-01	1.26E-05	7.44E-04
Road 44	44	1500-1600	6.73E-02	2.23E-06	1.27E-04	6.20E-02	2.06E-06	1.17E-04	3.84E-01	1.27E-05	7.26E-04
Road 44	44	1600-1700	6.69E-02	2.31E-06	1.31E-04	6.19E-02	2.14E-06	1.21E-04	3.84E-01	1.32E-05	7.48E-04
Road 44	44	1700-1800	6.69E-02	2.31E-06	1.31E-04	6.19E-02	2.14E-06	1.21E-04	3.84E-01	1.32E-05	7.48E-04
Road 44	44	1800-1900	3.74E-02	8.88E-08	3.42E-06	3.35E-02	7.96E-08	3.06E-06	3.84E-01	9.11E-06	3.51E-04
Road 44	44	1900-2000	3.94E-02	6.84E-08	2.63E-06	3.52E-02	6.11E-08	2.35E-06	3.84E-01	6.67E-06	2.56E-04
Road 44	44	2000-2100	3.14E-02	7.54E-07	4.28E-05	2.89E-02	6.93E-07	3.94E-05	2.67E-01	6.40E-06	3.64E-04
Road 44	44	2100-2200	2.96E-02	7.08E-07	4.02E-05	2.69E-02	6.45E-07	3.66E-05	2.49E-01	5.96E-06	3.39E-04
Road 44	44	2200-2300	2.96E-02	6.84E-07	3.88E-05	2.69E-02	6.23E-07	3.54E-05	2.49E-01	5.75E-06	3.27E-04
Road 44	44	2300-0000	3.31E-02	5.77E-07	3.27E-05	2.93E-02	5.11E-07	2.90E-05	2.77E-01	4.83E-06	2.74E-04
Road 45	45	0000-0100	3.40E-02	2.66E-06	2.66E-04	3.77E-02	2.45E-06	1.40E-04	3.85E-01	2.62E-06	1.04E-05
Road 45	45	0100-0200	5.40E-02	2.67E-07	1.84E-05	4.89E-02	2.41E-07	1.67E-05	3.81E-01	1.88E-06	1.29E-04
Road 45	45	0200-0300	4.68E-02	2.31E-07	1.59E-05	4.24E-02	2.09E-07	1.44E-05	3.81E-01	1.88E-06	1.29E-04
Road 45	45	0300-0400	4.27E-02	2.89E-07	1.99E-05	3.84E-02	2.60E-07	1.79E-05	3.81E-01	2.58E-06	1.77E-04
Road 45	45	0400-0500	4.27E-02	2.11E-07	1.45E-05	3.84E-02	1.90E-07	1.31E-05	3.81E-01	1.88E-06	1.29E-04
Road 45	45	0500-0600	5.20E-02	2.09E-07	1.44E-05	4.68E-02	1.88E-07	1.29E-05	3.81E-01	1.88E-06	1.29E-04
Road 45	45	0600-0700	4.81E-02	2.66E-07	1.83E-05	4.33E-02	2.39E-07	1.65E-05	3.81E-01	2.11E-06	1.45E-04
Road 45	45	0700-0800	1.43E-01	1.05E-06	2.65E-05	1.27E-01	9.31E-07	2.36E-05	7.24E-01	5.30E-06	1.34E-04
Road 45	45	0800-0900	1.43E-01	1.05E-06	2.65E-05	1.27E-01	9.31E-07	2.36E-05	7.24E-01	5.30E-06	1.34E-04
Road 45	45	0900-1000	1.52E-01	1.11E-06	2.82E-05	1.36E-01	1.00E-06	2.54E-05	7.73E-01	5.67E-06	1.43E-04
Road 45	45	1000-1100	1.39E-01	1.02E-06	2.58E-05	1.24E-01	9.14E-07	2.31E-05	7.05E-01	5.17E-06	1.31E-04
Road 45	45	1100-1200	1.62E-01	1.05E-06	2.66E-05	1.47E-01	9.54E-07	2.42E-05	8.09E-01	5.24E-06	1.33E-04
Road 45	45	1200-1300	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 45	45	1300-1400	1.78E-01	1.37E-06	3.47E-05	1.63E-01	1.25E-06	3.17E-05	8.58E-01	6.60E-06	1.67E-04
Road 45	45	1400-1500	1.78E-01	1.33E-06	3.42E-05	1.63E-01	1.22E-06	3.13E-05	8.58E-01	6.44E-06	1.65E-04
Road 45	45	1500-1600	1.78E-01	1.33E-06	3.42E-05	1.63E-01	1.22E-06	3.13E-05	8.58E-01	6.44E-06	1.65E-04
Road 45	45	1600-1700	1.77E-01	1.35E-06	3.42E-05	1.62E-01	1.24E-06	3.14E-05	8.58E-01	6.55E-06	1.66E-04
Road 45	45	1700-1800	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 45	45	1800-1900	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 45	45	1900-2000	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 45	45	2000-2100	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 45	45	2100-2200	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 45	45	2200-2300	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 45	45	2300-0000	1.78E-01	1.28E-06	3.25E-05	1.62E-01	1.16E-06	2.95E-05	8.38E-01	6.03E-06	1.53E-04
Road 46	46	0000-0100	3.47E-02	2.71E-06	2.71E-04	3.85E-02	2.50E-06	1.43E-04	3.93E-01	2.68E-06	1.06E-05
Road 46	46	0100-0200	4.56E-02	2.25E-07	1.55E-05	4.13E-02	2.04E-07	1.41E-05	3.22E-01	1.59E-06	1.09E-04
Road 46	46	0200-0300	3.96E-02	1.95E-07	1.35E-05	3.59E-02	1.77E-07	1.22E-05	3.22E-01	1.59E-06	1.09E-04
Road 46	46	0300-0400	3.61E-02	2.44E-07	1.68E-05	3.25E-02	2.20E-07	1.52E-05	3.22E-01	2.18E-06	1.50E-04
Road 46	46	0400-0500	3.61E-02	1.78E-07	1.23E-05	3.25E-02	1.61E-07	1.11E-05	3.22E-01	1.59E-06	1.09E-04
Road 46	46	0500-0600	4.41E-02	1.77E-07	1.22E-05	3.97E-02	1.60E-07	1.10E-05	3.22E-01	1.59E-06	1.09E-04
Road 46	46	0600-0700	4.07E-02	2.25E-07	1.55E-05	3.67E-02	2.03E-07	1.40E-05	3.22E-01	1.78E-06	1.23E-04
Road 46	46	0700-0800	1.21E-01	8.88E-07	2.24E-05	1.07E-01	7.85E-07	1.98E-05	6.12E-01	4.48E-06	1.13E-04
Road 46	46	0800-0900	1.21E-01	8.88E-07	2.24E-05	1.07E-01	7.85E-07	1.98E-05	6.12E-01	4.48E-06	1.13E-04
Road 46	46	0900-1000	1.28E-01	9.37E-07	2.38E-05	1.15E-01	8.44E-07	2.14E-05	6.53E-01	4.79E-06	1.21E-04
Road 46	46	1000-1100	1.17E-01	8.63E-07	2.18E-05	1.05E-01	7.73E-07	1.95E-05	5.96E-01	4.37E-06	1.11E-04
Road 46	46	1100-1200	1.37E-01	8.88E-07	2.24E-05	1.24E-01	8.07E-07	2.04E-05	6.87E-01	4.48E-06	1.13E-04
Road 46	46	1200-1300	1.50E-01	1.08E-06	2.74E-05	1.36E-01	9.81E-07	2.48E-05	7.08E-01	5.09E-06	1.29E-04
Road 46	46	1300-1400	1.50E-01	1.16E-06	2.93E-05	1.36E-01	1.05E-06	2.66E-05	7.24E-01	5.57E-06	1.41E-04
Road 46	46	1400-1500	1.50E-01	1.12E-06	2.89E-05	1.36E-01	1.02E-06	2.62E-05	7.24E-01	5.44E-06	1.40E-04
Road 46	46	1500-1600	1.50E-01	1.12E-06	2.89E-05	1.36E-01	1.02E-06	2.62E-05	7.24E-01	5.44E-06	1.40E-04
Road 46	46	1600-1700	1.49E-01	1.14E-06	2.89E-05	1.35E-01	1.04E-06	2.63E-05	7.24E-01	5.53E-06	1.40E-04
Road 46	46	1700-1800	1.50E-01	1.08E-06	2.74E-05	1.36E-01	9.81E-07	2.48E-05	7.08E-01	5.09E-06	1.29E-04
Road 46	46	1800-1900	1.50E-01	1.08E-06	2.74E-05	1.36E-01	9.81E-07	2.48E-05	7.08E-01	5.09E-06	1.29E-04
Road 46	46	1900-2000	4.11E-02	5.88E-07	3.76E-05	5.25E-02	3.26E-07	4.66E-06	4.56E-01	2.96E-06	4.23E-04
Road 46	46	2000-2100	4.49E-02	4.47E-07	4.57E-06	3.85E-02	3.83E-07	3.92E-06	4.56E-01	4.53E-06	4.63E-04
Road 46	46	2100-2200	4.00E-02	4.49E-07	4.60E-06	3.58E-02	3.57E-07	3.65E-06	4.56E-01	5.11E-06	5.23E-04
Road 46	46	2200-2300	4.09E-02	4.41E-07	4.52E-06	3.91E-02	3.42E-07	3.50E-06	4.56E-01	4.92E-06	5.04E-04
Road 46	46	2300-0000	4.62E-02	3.82E-07	3.74E-06	4.09E-02	3.38E-07	3.31E-06	4.62E-01	3.82E-06	3.74E-04
Road 47	47	0000-0100	3.40E-02	2.66E-06	2.66E-04	3.77E-02	2.45E-06	1.40E-04	3.85E-01	2.62E-06	1.04E-05
Road 47	47	0100-0200	5.40E-02	2.67E-07	1.84E-05	4.89E-02	2.41E-07	1.67E-05	3.81E-01	1.88E-06	1.29E-04
Road 47	47	0200-0300	4.68E-02	2.31E-07	1.59E-05	4.24E-02	2.09E-07	1.44E-05	3.81E-01	1.88E-06	1.29E-04
Road 47	47	0300-0400	4.27E-02	2.89E-07	1.99E-05	3.84E-02	2.60E-07	1.79E-05	3.81E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.69E-01	6.27E-07	1.43E-05	1.52E-01	5.63E-07	1.28E-05	8.01E-01	2.98E-06	6.80E-05	7.21E-01	2.66E-06	6.06E-05
Road 54	54	0900-1000	1.93E-01	6.87E-07	1.57E-05	1.74E-01	6.18E-07	1.41E-05	9.14E-01	3.24E-06	7.40E-05	8.17E-01	2.90E-06	6.62E-05
Road 54	54	1000-1100	2.13E-01	6.96E-07	1.59E-05	1.92E-01	6.28E-07	1.43E-05	9.86E-01	3.22E-06	7.34E-05	8.85E-01	2.89E-06	6.59E-05
Road 54	54	1100-1200	2.09E-01	6.45E-07	1.47E-05	1.90E-01	5.87E-07	1.34E-05	9.71E-01	3.00E-06	6.84E-05	8.80E-01	2.72E-06	6.19E-05
Road 54	54	1200-1300	2.73E-01	6.17E-07	1.41E-05	2.48E-01	5.61E-07	1.28E-05	1.22E+00	2.75E-06	6.28E-05	1.10E+00	2.50E-06	5.69E-05
Road 54	54	1300-1400	2.68E-01	6.45E-07	1.47E-05	2.45E-01	5.87E-07	1.34E-05	1.20E+00	2.88E-06	6.57E-05	1.08E+00	2.62E-06	5.97E-05
Road 54	54	1400-1500	2.69E-01	6.73E-07	1.54E-05	2.46E-01	6.17E-07	1.41E-05	1.21E+00	3.02E-06	6.88E-05	1.10E+00	2.76E-06	6.29E-05
Road 54	54	1500-1600	2.51E-01	6.51E-07	1.48E-05	2.28E-01	5.91E-07	1.35E-05	1.16E+00	3.00E-06	6.84E-05	1.05E+00	2.72E-06	6.20E-05
Road 54	54	1600-1700	2.56E-01	6.84E-07	1.56E-05	2.33E-01	6.22E-07	1.42E-05	1.18E+00	3.15E-06	7.18E-05	1.07E+00	2.86E-06	6.52E-05
Road 54	54	1700-1800	2.16E-01	5.18E-07	1.18E-05	2.00E-01	4.77E-07	1.09E-05	1.02E+00	2.43E-06	5.55E-05	9.31E-01	2.24E-06	5.10E-05
Road 54	54	1800-1900	1.58E-01	3.79E-07	8.64E-06	1.46E-01	3.49E-07	7.96E-06	7.44E-01	1.78E-06	4.06E-05	6.79E-01	1.63E-06	3.72E-05
Road 54	54	1900-2000	1.58E-01	2.22E-07	5.07E-06	1.45E-01	2.03E-07	4.66E-06	7.64E-01	1.07E-06	2.44E-05	6.93E-01	9.72E-07	2.22E-05
Road 54	54	2000-2100	1.56E-01	1.68E-07	3.82E-06	1.43E-01	1.54E-07	3.54E-06	7.54E-01	8.22E-07	1.87E-05	6.78E-01	7.37E-07	1.73E-05
Road 54	54	2100-2200	1.52E-01	1.37E-07	3.13E-06	1.39E-01	1.25E-07	2.87E-06	7.41E-01	6.68E-07	1.52E-05	6.67E-01	6.01E-07	1.41E-05
Road 54	54	2200-2300	1.62E-01	1.65E-07	3.76E-06	1.43E-01	1.46E-07	3.34E-06	7.70E-01	7.85E-07	1.79E-05	6.78E-01	6.91E-07	1.58E-05
Road 54	54	2300-2400	1.56E-01	1.42E-07	3.24E-06	1.39E-01	1.27E-07	2.89E-06	7.41E-01	6.75E-07	1.54E-05	6.67E-01	6.08E-07	1.38E-05
Road 101	101	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2028

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0000-0100	0.00E+

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	3.54E-02	1.54E-07	2.07E-06	1.04E-02	1.44E-07	1.30E-06	3.67E-05	3.82E-01	2.15E-06	1.50E-05
Road 21	21	0100-0200	3.66E-02	1.14E-07	1.51E-06	3.41E-02	1.06E-07	1.40E-06	2.79E-01	8.69E-07	1.15E-06	3.66E-02
Road 21	21	0200-0300	4.03E-02	9.28E-08	1.23E-06	3.73E-02	8.60E-08	1.14E-06	2.95E-01	6.81E-07	8.99E-06	2.70E-01
Road 21	21	0300-0400	4.38E-02	9.27E-08	1.23E-06	4.05E-02	7.45E-08	9.84E-07	3.20E-01	5.88E-07	7.76E-06	2.53E-01
Road 21	21	0400-0500	4.59E-02	9.29E-08	1.23E-06	4.29E-02	8.69E-08	1.15E-06	3.17E-01	6.43E-07	8.53E-06	2.34E-01
Road 21	21	0500-0600	4.70E-02	1.64E-07	2.17E-06	4.37E-02	1.53E-07	2.02E-06	3.21E-01	1.12E-06	1.48E-05	2.36E-01
Road 21	21	0600-0700	4.84E-02	3.62E-07	4.78E-06	4.50E-02	3.37E-07	4.45E-06	3.25E-01	2.43E-06	2.95E-05	2.34E-01
Road 21	21	0700-0800	5.24E-02	8.01E-07	1.06E-05	4.83E-02	7.39E-07	9.77E-06	3.42E-01	5.24E-06	6.92E-05	2.42E-01
Road 21	21	0800-0900	5.07E-02	6.15E-07	8.13E-06	4.71E-02	5.72E-07	7.56E-06	3.21E-01	3.89E-06	5.14E-05	2.18E-01
Road 21	21	0900-1000	6.15E-02	9.37E-07	1.24E-05	5.71E-02	8.69E-07	1.15E-05	3.67E-01	5.59E-06	7.38E-05	2.35E-01
Road 21	21	1000-1100	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.66E-01	4.66E-06	6.16E-05	2.14E-01
Road 21	21	1100-1200	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.89E-01	4.95E-06	6.54E-05	2.27E-01
Road 21	21	1200-1300	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 21	21	1300-1400	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 21	21	1400-1500	9.41E-02	8.82E-07	1.17E-05	8.78E-02	8.23E-07	1.09E-05	4.98E-01	4.67E-06	6.17E-05	2.82E-01
Road 21	21	1500-1600	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 21	21	1600-1700	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 21	21	1700-1800	8.86E-02	8.92E-07	1.18E-05	8.23E-02	8.29E-07	1.10E-05	5.16E-01	5.19E-06	6.86E-05	3.21E-01
Road 21	21	1800-1900	7.71E-02	7.57E-07	1.00E-05	9.58E-02	9.41E-07	1.24E-05	4.84E-01	4.75E-06	6.28E-05	3.01E-01
Road 21	21	1900-2000	4.69E-02	3.73E-07	4.94E-06	4.25E-02	3.39E-07	4.47E-06	3.87E-01	3.08E-06	4.07E-05	3.51E-01
Road 21	21	2000-2100	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 21	21	2100-2200	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 21	21	2200-0000	4.82E-02	2.19E-07	2.89E-06	4.42E-02	2.01E-07	2.65E-06	3.95E-01	1.80E-06	2.36E-05	3.47E-01
Road 22	22	0000-0100	2.25E-01	2.12E-07	3.79E-06	2.05E-01	1.94E-07	3.46E-06	1.02E+00	9.66E-07	1.72E-05	9.32E-01
Road 22	22	0100-0200	2.29E-01	1.46E-07	2.61E-06	2.08E-01	1.33E-07	2.38E-06	1.04E+00	6.63E-07	1.18E-05	9.47E-01
Road 22	22	0200-0300	2.29E-01	1.17E-07	2.08E-06	2.13E-01	1.08E-07	1.93E-06	1.04E+00	5.29E-07	9.43E-06	9.63E-01
Road 22	22	0300-0400	2.29E-01	1.17E-07	2.08E-06	2.13E-01	1.08E-07	1.93E-06	1.04E+00	5.29E-07	9.43E-06	9.63E-01
Road 22	22	0400-0500	2.39E-01	1.18E-07	2.11E-06	2.24E-01	1.11E-07	1.97E-06	1.08E+00	5.34E-07	9.52E-06	1.01E+00
Road 22	22	0500-0600	2.52E-01	2.28E-07	4.07E-06	2.35E-01	2.13E-07	3.79E-06	1.14E+00	1.03E-06	1.84E-05	1.06E+00
Road 22	22	0600-0700	2.88E-01	1.29E-06	2.30E-05	2.75E-01	1.19E-06	2.13E-05	1.33E+00	5.77E-06	1.03E-04	1.29E+00
Road 22	22	0700-0800	2.88E-01	1.29E-06	2.30E-05	2.75E-01	1.19E-06	2.13E-05	1.33E+00	5.77E-06	1.03E-04	1.29E+00
Road 22	22	0800-0900	3.14E-01	1.75E-06	3.12E-05	2.91E-01	1.62E-06	2.90E-05	1.42E+00	7.90E-06	1.41E-04	1.31E+00
Road 22	22	0900-1000	3.14E-01	1.75E-06	3.12E-05	2.91E-01	1.62E-06	2.90E-05	1.42E+00	7.90E-06	1.41E-04	1.31E+00
Road 22	22	1000-1100	3.18E-01	1.62E-06	2.89E-05	2.95E-01	1.50E-06	2.68E-05	1.44E+00	7.32E-06	1.31E-04	1.33E+00
Road 22	22	1100-1200	3.18E-01	1.62E-06	2.88E-05	2.95E-01	1.42E+00	7.19E-06	1.28E+00	6.72E-06	1.20E-04	1.33E+00
Road 22	22	1200-1300	3.21E-01	1.69E-06	3.01E-05	2.98E-01	1.54E+00	7.47E-06	1.33E+00	6.94E-06	1.24E-04	1.35E+00
Road 22	22	1300-1400	3.28E-01	1.92E-06	3.43E-05	3.07E-01	1.80E+00	3.21E-05	1.45E+00	8.49E-06	1.51E-04	1.35E+00
Road 22	22	1400-1500	3.28E-01	1.92E-06	3.43E-05	3.07E-01	1.80E+00	3.21E-05	1.45E+00	8.49E-06	1.51E-04	1.35E+00
Road 22	22	1500-1600	3.31E-01	2.00E-06	3.57E-05	3.10E-01	1.87E+00	3.34E-05	1.48E+00	8.84E-06	1.58E-04	1.38E+00
Road 22	22	1600-1700	3.14E-01	1.81E-06	3.23E-05	2.91E-01	1.68E+00	3.00E-05	1.40E+00	8.07E-06	1.44E-04	1.35E+00
Road 22	22	1700-1800	2.62E-01	1.42E-06	2.53E-05	2.41E-01	1.30E+00	2.32E-05	1.21E+00	6.57E-06	1.17E-04	1.11E+00
Road 22	22	1800-1900	2.01E-01	1.09E-06	1.94E-05	1.85E-01	1.00E+00	1.78E-05	9.26E-01	5.04E-06	8.98E-05	8.52E-01
Road 22	22	1900-2000	2.08E-01	5.94E-07	1.06E-05	1.93E-01	5.50E-07	9.85E-06	8.80E-01	2.51E-06	4.48E-05	8.02E-01
Road 22	22	2000-2100	2.08E-01	4.58E-07	8.17E-06	1.93E-01	4.25E-07	7.58E-06	8.82E-01	1.94E-06	3.46E-05	8.04E-01
Road 22	22	2100-2200	2.08E-01	4.58E-07	8.17E-06	1.93E-01	4.25E-07	7.58E-06	8.82E-01	1.94E-06	3.46E-05	8.04E-01
Road 22	22	2200-0000	2.23E-01	3.58E-07	6.38E-06	2.07E-01	3.32E-07	5.92E-06	9.47E-01	1.52E-06	2.71E-05	8.63E-01
Road 23	23	0000-0100	3.66E-02	1.14E-07	1.51E-06	3.39E-02	1.06E-07	1.67E-06	2.79E-01	8.69E-07	1.15E-06	3.66E-02
Road 23	23	0100-0200	3.66E-02	1.14E-07	1.51E-06	3.39E-02	1.06E-07	1.40E-06	2.79E-01	8.69E-07	1.15E-06	3.66E-02
Road 23	23	0200-0300	4.03E-02	9.28E-08	1.23E-06	3.73E-02	8.60E-08	1.14E-06	2.95E-01	6.81E-07	8.99E-06	2.70E-01
Road 23	23	0300-0400	4.38E-02	9.27E-08	1.23E-06	4.05E-02	7.45E-08	9.84E-07	3.20E-01	5.88E-07	7.76E-06	2.53E-01
Road 23	23	0400-0500	4.59E-02	9.29E-08	1.23E-06	4.29E-02	8.69E-08	1.15E-06	3.17E-01	6.43E-07	8.53E-06	2.34E-01
Road 23	23	0500-0600	4.70E-02	1.64E-07	2.17E-06	4.37E-02	1.53E-07	2.02E-06	3.21E-01	1.12E-06	1.48E-05	2.36E-01
Road 23	23	0600-0700	4.84E-02	3.62E-07	4.78E-06	4.50E-02	3.37E-07	4.45E-06	3.25E-01	2.43E-06	2.95E-05	2.34E-01
Road 23	23	0700-0800	5.24E-02	8.01E-07	1.06E-05	4.83E-02	7.39E-07	9.77E-06	3.42E-01	5.24E-06	6.92E-05	2.42E-01
Road 23	23	0800-0900	5.07E-02	6.15E-07	8.13E-06	4.71E-02	5.72E-07	7.56E-06	3.21E-01	3.89E-06	5.14E-05	2.18E-01
Road 23	23	0900-1000	6.15E-02	9.37E-07	1.24E-05	5.71E-02	8.69E-07	1.15E-05	3.67E-01	5.59E-06	7.38E-05	2.35E-01
Road 23	23	1000-1100	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.66E-01	4.66E-06	6.16E-05	2.14E-01
Road 23	23	1100-1200	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.89E-01	4.95E-06	6.54E-05	2.27E-01
Road 23	23	1200-1300	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 23	23	1300-1400	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 23	23	1400-1500	9.41E-02	8.82E-07	1.17E-05	8.78E-02	8.23E-07	1.09E-05	4.98E-01	4.67E-06	6.17E-05	2.82E-01
Road 23	23	1500-1600	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 23	23	1600-1700	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 23	23	1700-1800	8.86E-02	8.92E-07	1.18E-05	8.23E-02	8.29E-07	1.10E-05	5.16E-01	5.19E-06	6.86E-05	3.21E-01
Road 23	23	1800-1900	7.71E-02	7.57E-07	1.00E-05	9.58E-02	9.41E-07	1.24E-05	4.84E-01	4.75E-06	6.28E-05	3.01E-01
Road 23	23	1900-2000	4.69E-02	3.73E-07	4.94E-06	4.25E-02	3.39E-07	4.47E-06	3.87E-01	3.08E-06	4.07E-05	3.51E-01
Road 23	23	2000-2100	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 23	23	2100-2200	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 23	23	2200-0000	4.82E-02	2.19E-07	2.89E-06	4.42E-02	2.01E-07	2.65E-06	3.95E-01	1.80E-06	2.36E-05	3.47E-01
Road 24	24	0000-0100	3.54E-02	1.54E-07	2.07E-06	1.04E-02	1.44E-07	1.30E-06	3.67E-05	3.82E-01	2.15E-06	1.50E-05
Road 24	24	0100-0200	3.66E-02	1.14E-07	1.51E-06	3.41E-02	1.06E-07	1.40E-06	2.79E-01	8.69E-07	1.15E-06	3.66E-02
Road 24	24	0200-0300	4.03E-02	9.28E-08	1.23E-06	3.73E-02	8.60E-08	1.14E-06	2.95E-01	6.81E-07	8.99E-06	2.70E-01
Road 24	24	0300-0400	4.38E-02	9.27E-08	1.23E-06	4.05E-02	7.45E-08	9.84E-07	3.20E-01	5.88E-07	7.76E-06	2.53E-01
Road 24	24	0400-0500	4.59E-02	9.29E-08	1.23E-06	4.29E-02	8.69E-08	1.15E-06	3.17E-01	6.43E-07	8.53E-06	2.34E-01
Road 24	24	0500-0600	4.70E-02	1.64E-07	2.17E-06	4.37E-02	1.53E-07	2.02E-06	3.21E-01	1.12E-06	1.48E-05	2.36E-01
Road 24	24	0600-0700	4.84E-02	3.62E-07	4.78E-06	4.50E-02	3.37E-07	4.45E-06	3.25E-01	2.43E-06	2.95E-05	2.34E-01
Road 24	24	0700-0800	5.24E-02	8.01E-07	1.06E-05	4.83E-02	7.39E-07	9.77E-06	3.42E-01	5.24E-06	6.92E-05	2.42E-01
Road 24	24	0800-0900	5.07E-02	6.15E-07	8.13E-06	4.71E-02	5.72E-07	7.56E-06	3.21E-01	3.89E-06	5.14E-05	2.18E-01
Road 24	24	0900-1000	6.15E-02	9.37E-07	1.24E-05	5.71E-02	8.69E-07	1.15E-05	3.67E-01	5.59E-06	7.38E-05	2.35E-01
Road 24	24	1000-1100	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.66E-01	4.66E-06	6.16E-05	2.14E-01
Road 24	24	1100-1200	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.89E-01	4.95E-06	6.54E-05	2.27E-01
Road 24	24	1200-1300	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 24	24	1300-1400	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 24	24	1400-1500	9.41E-02	8.82E-07	1.17E-05	8.78E-02	8.23E-07	1.09E-05	4.98E-01	4.67E-06	6.17E-05	2.82E-01
Road 24	24	1500-1600	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 24	24	1600-1700	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 24	24	1700-1800	8.86E-02	8.92E-07	1.18E-05	8.23E-02	8.29E-07	1.10E-05	5.16E-01	5.19E-06	6.86E-05	3.21E-01
Road 24	24	1800-1900	7.71E-02	7.57E-07	1.00E-05	9.58E-02	9.41E-07	1.24E-05	4.84E-01	4.75E-06	6.28E-05	3.01E-01
Road 24	24	1900-2000	4.69E-02	3.73E-07	4.94E-06	4.25E-02	3.39E-07	4.47E-06	3.87E-01	3.08E-06	4.07E-05	3.51E-01
Road 24	24	2000-2100	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 24	24	2100-2200	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 24	24	2200-0000	4.82E-02	2.19E-07	2.89E-06	4.42E-02	2.01E-07	2.65E-06	3.95E-01	1.80E-06	2.36E-05	3.47E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 24	24	0800-0900	5.07E-02	6.15E-07	8.13E-06	4.71E-02	5.72E-07	7.56E-06	3.21E-01	3.89E-06	5.14E-05	2.18E-01
Road 24	24	0900-1000	6.15E-02	9.37E-07	1.24E-05	5.71E-02	8.69E-07	1.15E-05	3.67E-01	5.59E-06	7.38E-05	2.35E-01
Road 24	24	1000-1100	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.66E-01	4.66E-06	6.16E-05	2.14E-01
Road 24	24	1100-1200	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.89E-01	4.95E-06	6.54E-05	2.27E-01
Road 24	24	1200-1300	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 24	24	1300-1400	6.70E-02	8.53E-07	1.13E-05	6.25E-02	7.96E-07	1.05E-05	3.62E-01	4.61E-06	6.09E-05	2.11E-01
Road 24	24	1400-1500	9.41E-02	8.82E-07	1.17E-05	8.78E-02	8.23E-07	1.09E-05	4.98E-01	4.67E-06	6.17E-05	2.82E-01
Road 24	24	1500-1600	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 24	24	1600-1700	9.41E-02	9.06E-07	1.20E-05	8.81E-02	8.49E-07	1.12E-05	5.30E-01	5.10E-06	6.74E-05	3.19E-01
Road 24	24	1700-1800	8.86E-02	8.92E-07	1.18E-05	8.23E-02	8.29E-07	1.10E-05	5.16E-01	5.19E-06	6.86E-05	3.21E-01
Road 24	24	1800-1900	7.71E-02	7.57E-07	1.00E-05	9.58E-02	9.41E-07	1.24E-05	4.84E-01	4.75E-06	6.28E-05	3.01E-01
Road 24	24	1900-2000	4.69E-02	3.73E-07	4.94E-06	4.25E-02	3.39E-07	4.47E-06	3.87E-01	3.08E-06	4.07E-05	3.51E-01
Road 24	24	2000-2100	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 24	24	2100-2200	4.50E-02	2.80E-07	3.70E-06	4.12E-02	2.56E-07	3.39E-06	3.73E-01	2.32E-06	3.07E-05	3.38E-01
Road 24	24	2200-0000	4.82E-02	2.19E-07	2.89E-06	4.42E-02	2.01E-07	2.65E-06	3.95E-01	1.80E-06	2.36E-05	3.47E-01
Road 25	25	0000-0100	2.00E-01	1.88E-07	3.36E-06	1.82E-01	1.72E-07	3.07E-06	9.08E-01	8.56E-07	1.53E-05	8.27E-01
Road 25	25	0100-0200	2.11E-01	1.71E-07	3.47E-06	1.96E-01	1.59E-07	4.06E-06	9.58E-01	7.79E-07	1.99E-05	8.89E-01
Road 25	25	0200-0300	2.11E-01	1.71E-07	3.47E-06	1.96E-01	1.59E-07	4.06E-06	9.58E-01	7.79E-07	1.99E-05	8.89E-01
Road 25	25	0300-0400	2.16E-01	1.71E-07	3.47E-06	2.00E-01	1.58E-07	4.06E-06	9.83E-01	7.78E-07	1.99E-05	9.12E-01
Road 25	25	0400-0500	2.26E-01	1.72E-07	3.48E-06	2.09E-01	1.59E-07	4.07E-06	1.03E+00	7.84E-07	2.00E-05	9.55E-01
Road 25	25	0500-0600	2.26E-01	3.25E-07	8.28E-06	2.11E-01	3.03E-07	7.73E-06	1.02E+00	1.47E-06	3.75E-05	9.55E-01
Road 25	25	0600-0700	2.49E-01	7.65E-07	1.95E-05	2.31E-01	7.09E-07	1.81E-05	1.12E+00	3.46E-06	8.82E-05	1.03E+00
Road 25	25	0700-0800	2.49E-01	2.15E-06	5.47E-05	2.31E-01	1.99E-06	5.07E-05	1.12E+00	9.71E-06	2.47E-04	1.03E+00
Road 25	25	0800-0900	2.49E-01	2.04E-07	5.19E-06	2.31E-01	1.89E-07	4.82E-06	1.13E+00	9.24E-07	2.36E-05	1.04E+00
Road 25	25	0900-1000	2.49E-01	2.04E-07	5.19E-06	2.31E-01	1.89E-07	4.82E-06	1.13E+00	9.24E-07	2.36E-05	1.04E+00
Road 25	25	1000-1100	2.79E-01	2.37E-07	6.05E-06	2.60E-01	2.21E-07	5.63E-06	1.25E+00	1.06E-06	2.70E-05	1.16E+00
Road 25	25	1100-1200	2.79E-01	2.37E-07	6.05E-06	2.60E-01	2.21E-07	5.63E-06	1.25E+00	1.06E-06	2.70E-05	1.16E+00
Road 25	25	1200-1300	2.90E-01	2.29E-07	5.84E-06	2.71E-01	2.14E-07	5.46E-06	1.28E+00	1.01E-06	2.58E-05	1.19E+00
Road 25	25	1300-1400	2.81E-01	2.48E-07	6.33E-06	2.63E-01	2.32E-07	5.93E-06	1.24E+00	1.11E-06	2.83E-05	1.16E+00
Road 25	25	1400-1500	2.81E-01	2.48E-07	6.33E-06	2.63E-01	2.32E-07	5.93E-06	1.24E+00	1.11E-06	2.83E-05	1.16E+00
Road 25	25	1500-1600	2.63E-01	2.42E-07	6.16E-06	2.46E-01	2.25E-07	5.75E-06	1.20E+00	1.10E-06	2.80E-05	1.12E+00
Road 25	25	1600-1700	2.49E-01	2.29E-07	5.84E-06	2.33E-01	2.14E-07	5.46E-06	1.14E+00	1.05E-06	2.68E-05	1.06E+00
Road 25	25	1700-1800	2.49E-01	2.04E-07	5.19E-06	2.31E-01	1.89E-07	4.82E-06	1.13E+00	9.24E-07	2.36E-05	1.04E+00
Road 25	25	1800-1900	1.95E-01	7.83E-08	2.00E-06	1.77E-01	7.11E-08	1.81E-06	9.08E-01	3.65E-07	9.30E-06	8.22E-01
Road 25	25	1900-2000	1.95E-01	7.83E-08	2.00E-06	1.77E-01	7.11E-08	1.81E-06	9.08E-01	3.65E-07	9.30E-06	8.22E-01
Road 25	25	2000-2100	1.92E-01	6.11E-08	1.56E-06	1.74E-01	5.53E-08	1.41E-06	9.02E-01	2.88E-07	7.35E-06	8.17E-01
Road 25	25	2100-2200	1.92E-01	6.11E-08	1.56E-06	1.74E-01	5.53E-08	1.41E-06	9.02E-01	2.88E-07	7.35E-06	8.17E-01
Road 25	25	2200-2300	2.02E-01	5.88E-08	1.50E-06	1.86E-01	5.40E-08	1.38E-06	9.25E-01	2.69E-07	6.85E-06	8.47E-01
Road 25	25	2300-0000	2.02E-01	5.88E-08	1.50E-06	1.86E-01	5.40E-08	1.38E-06	9.25E-01	2.69E-07	6.85E-06	8.47E-01
Road 26	26	0000-0100	2.66E-01	7.59E-08	2.85E-07	2.48E-01	7.07E-08	2.65E-07	1.19E+00	3.39E-07	1.27E-06	1.11E+00
Road 26	26	0100-0200	2.66E-01	7.59E-08	2.85E-07	2.48E-01	7.07E-08	2.65E-07	1.19E+00	3.39E-07	1.27E-06	1.11E+00
Road 26	26	0200-0300	2.71E-01	5.19E-08	1.95E-07	2.52E-01	4.81E-08	1.81E-07	1.21E+00	2.32E-07	8.71E-07	1.13E+00
Road 26	26	0300-0400	2.71E-01	5.19E-08	1.95E-07	2.52E-01	4.81E-08	1.81E-07	1.21E+00	2.32E-07	8.71E-07	1.13E+00
Road 26	26	0400-0500	2.76E-01	5.29E-08	1.98E-07	2.57E-01	4.91E-08	1.84E-07	1.23E+00	2.36E-07	8.86E-07	1.15E+00
Road 26	26	0500-0600	2.76E-01	1.15E-07	4.31E-07	2.57E-01	1.07E-07	4.02E-07	1.23E+00	5.12E-07	1.92E-06	1.15E+00
Road 26	26	0600-0700	2.93E-01	2.76E-07	1.04E-06	2.73E-01	2.60E-07	9.77E-07	1.31E+00	1.24E-06	4.65E-06	1.22E+00
Road 26	26	0700-0800	2.93E-01	7.75E-07	2.91E-06	2.73E-01	7.30E-07	2.74E-06	1.31E+00	3.49E-06	1.31E-05	1.22E+00
Road 26	26	0800-0900	3.16E-01	7.71E-07	2.89E-06	2.94E-01	7.16E-07	2.69E-06	1.42E+00	3.46E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November) — **Year 2028**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	4.63E-02	7.99E-07	2.83E-05	4.63E-02	8.37E-07	2.81E-05	3.31E-01	4.32E-06	1.41E-04	3.05E-01	2.16E-06	1.30E-04
Road 47	47	1700-1800	4.72E-02	7.39E-07	2.31E-05	4.30E-02	6.74E-07	2.10E-05	2.57E-01	4.02E-06	1.26E-04	2.31E-01	3.62E-06	1.13E-04
Road 47	47	1800-1900	3.39E-02	5.92E-07	1.85E-05	3.07E-02	5.36E-07	1.67E-05	1.91E-01	3.36E-06	1.05E-04	1.72E-01	3.00E-06	9.37E-05
Road 47	47	1900-2000	2.80E-02	4.88E-07	1.21E-05	2.52E-02	3.50E-07	1.09E-05	1.74E-01	2.42E-06	7.55E-05	1.54E-01	2.13E-06	6.66E-05
Road 47	47	2000-2100	2.60E-02	2.80E-07	8.74E-06	2.33E-02	2.51E-07	7.84E-06	1.75E-01	1.88E-06	5.88E-05	1.53E-01	1.64E-06	5.13E-05
Road 47	47	2100-2200	2.36E-02	1.43E-07	7.02E-06	2.21E-02	6.89E-06	1.60E-01	1.78E-06	5.59E-05	1.61E-01	1.52E-06	4.76E-05	
Road 47	47	2200-2300	2.14E-02	2.24E-07	6.99E-06	1.94E-02	2.03E-07	6.35E-06	1.57E-01	1.64E-06	5.13E-05	1.38E-01	1.45E-06	4.53E-05
Road 47	47	2300-0000	2.33E-02	1.82E-07	5.69E-06	2.11E-02	1.65E-07	5.14E-06	1.64E-01	1.28E-06	4.01E-05	1.44E-01	1.12E-06	3.51E-05
Road 48	48	0000-0100	2.06E-02	1.61E-07	5.03E-06	1.87E-02	1.46E-07	4.54E-06	1.45E-01	1.13E-06	3.54E-05	1.27E-01	9.91E-07	3.10E-05
Road 48	48	0100-0200	1.99E-02	2.51E-07	3.79E-06	5.01E-02	2.33E-07	3.52E-06	1.53E-01	1.64E-06	2.48E-05	3.25E-01	1.51E-06	2.28E-05
Road 48	48	0200-0300	1.92E-02	1.50E-07	3.47E-06	1.74E-02	1.36E-07	3.14E-06	1.47E-01	1.15E-06	2.65E-05	1.33E-01	1.04E-06	2.41E-05
Road 48	48	0300-0400	6.10E-02	1.70E-07	2.57E-06	5.62E-02	2.37E-06	1.80E-03	1.06E-06	1.60E-05	3.47E-01	9.68E-07	1.46E-05	
Road 48	48	0400-0500	2.09E-02	3.02E-07	5.97E-06	1.87E-02	2.82E-07	5.93E-06	1.52E-01	2.22E-06	4.14E-05	4.92E-01	1.59E-06	2.96E-05
Road 48	48	0500-0600	6.75E-02	3.73E-07	3.47E-06	6.29E-02	3.47E-07	3.24E-06	4.61E-01	2.23E-06	3.15E-05	4.29E-01	2.37E-06	2.96E-05
Road 48	48	0600-0700	7.08E-02	8.53E-07	1.29E-05	6.57E-02	7.92E-07	1.20E-05	4.16E-01	5.01E-06	7.56E-05	3.82E-01	4.61E-06	6.95E-05
Road 48	48	0700-0800	7.70E-02	1.29E-06	1.70E-05	4.27E-02	7.15E-07	9.43E-06	4.52E-01	7.56E-06	9.97E-05	2.50E-01	4.19E-06	5.53E-05
Road 48	48	0800-0900	7.31E-02	2.12E-06	3.19E-05	6.73E-02	1.95E-06	2.94E-05	4.10E-01	1.19E-05	1.79E-04	3.75E-01	1.09E-05	1.64E-04
Road 48	48	0900-1000	7.15E-02	2.28E-06	3.44E-05	7.88E-02	2.51E-06	3.79E-05	4.31E-01	1.37E-05	2.07E-04	4.75E-01	1.51E-05	2.28E-04
Road 48	48	1000-1100	9.43E-02	2.31E-06	3.48E-05	8.75E-02	2.14E-06	3.23E-05	4.88E-01	1.20E-05	1.81E-04	4.52E-01	1.11E-05	1.67E-04
Road 48	48	1100-1200	9.21E-02	2.13E-06	3.21E-05	8.57E-02	1.98E-06	2.99E-05	4.81E-01	1.11E-05	1.68E-04	4.47E-01	1.03E-05	1.56E-04
Road 48	48	1200-1300	9.21E-02	2.31E-06	3.48E-05	8.49E-02	2.13E-06	3.21E-05	4.91E-01	1.23E-05	1.85E-04	4.54E-01	1.14E-05	1.72E-04
Road 48	48	1300-1400	7.48E-02	2.60E-06	1.92E-05	7.00E-02	2.43E-06	3.67E-05	4.87E-01	1.69E-05	2.55E-04	4.55E-01	1.58E-05	2.39E-04
Road 48	48	1400-1500	7.43E-02	2.72E-06	4.10E-05	6.89E-02	2.52E-06	3.80E-05	4.88E-01	1.79E-05	2.69E-04	4.52E-01	1.65E-05	2.49E-04
Road 48	48	1500-1600	7.04E-02	2.84E-06	3.98E-05	6.52E-02	2.44E-06	3.68E-05	4.69E-01	1.76E-05	2.66E-04	4.33E-01	1.62E-05	2.45E-04
Road 48	48	1600-1700	7.02E-02	2.75E-06	4.15E-05	6.50E-02	2.54E-06	3.84E-05	4.81E-01	1.88E-05	2.84E-04	4.44E-01	1.74E-05	2.62E-04
Road 48	48	1700-1800	7.02E-02	2.36E-06	3.56E-05	6.50E-02	2.18E-06	3.30E-05	4.81E-01	1.62E-05	2.44E-04	4.44E-01	1.49E-05	2.25E-04
Road 48	48	1800-1900	6.06E-02	1.83E-06	2.76E-05	3.69E-02	1.66E-06	2.50E-05	3.73E-01	1.68E-05	2.53E-04	3.36E-01	1.51E-05	2.28E-04
Road 48	48	1900-2000	3.73E-02	1.13E-06	1.70E-05	2.27E-02	1.02E-06	1.54E-05	2.89E-01	1.30E-05	1.96E-04	2.63E-01	1.18E-05	1.78E-04
Road 48	48	2000-2100	3.71E-02	1.03E-06	1.55E-05	3.34E-02	9.28E-07	1.40E-05	4.04E-01	1.12E-05	1.69E-04	3.61E-01	1.00E-05	1.51E-04
Road 48	48	2100-2200	3.45E-02	9.49E-07	1.43E-05	3.14E-02	8.64E-07	1.30E-05	3.93E-01	1.08E-05	1.63E-04	3.57E-01	9.82E-06	1.48E-04
Road 48	48	2200-2300	3.41E-02	9.39E-07	1.41E-05	3.10E-02	8.53E-07	1.28E-05	3.89E-01	1.07E-05	1.61E-04	3.53E-01	9.71E-06	1.46E-04
Road 48	48	2300-0000	1.68E-02	7.38E-07	1.11E-05	3.34E-02	6.70E-07	1.01E-05	3.92E-01	7.87E-06	1.19E-04	3.53E-01	7.08E-06	1.07E-04
Road 49	49	0000-0100	1.55E-02	7.27E-07	1.09E-05	3.66E-02	6.89E-07	1.04E-05	3.99E-01	7.51E-06	1.13E-04	3.75E-01	7.06E-06	1.06E-04
Road 49	49	0100-0200	1.56E-02	2.90E-06	3.30E-05	3.07E-02	2.69E-06	3.58E-05	3.16E-01	1.66E-05	2.92E-05	3.28E-01	1.06E-05	2.68E-05
Road 49	49	0200-0300	1.56E-02	2.90E-06	3.30E-05	3.07E-02	2.69E-06	3.58E-05	3.16E-01	1.66E-05	2.92E-05	3.28E-01	1.06E-05	2.68E-05
Road 49	49	0300-0400	3.97E-02	7.40E-08	1.87E-06	3.64E-02	6.80E-08	1.72E-06	3.69E-01	6.88E-07	1.74E-05	3.35E-01	6.24E-07	1.57E-05
Road 49	49	0400-0500	4.28E-02	8.74E-08	2.21E-06	3.99E-02	8.16E-08	2.06E-06	3.83E-01	7.85E-07	1.98E-05	3.53E-01	7.23E-07	1.82E-05
Road 49	49	0500-0600	4.39E-02	1.29E-07	3.26E-06	3.98E-02	1.17E-07	2.96E-06	3.96E-01	1.16E-06	2.94E-05	3.59E-01	1.06E-06	2.68E-05
Road 49	49	0600-0700	5.52E-02	4.20E-07	1.06E-05	5.11E-02	3.89E-07	9.81E-06	4.61E-01	3.51E-06	8.86E-05	4.22E-01	3.21E-06	8.10E-05
Road 49	49	0700-0800	4.85E-02	1.03E-06	1.56E-05	3.47E-02	7.38E-07	1.12E-05	4.09E-01	8.71E-06	1.32E-04	2.92E-01	6.22E-06	9.43E-05
Road 49	49	0800-0900	4.85E-02	1.22E-06	3.07E-05	6.30E-02	1.12E-06	2.82E-05	5.26E-01	9.34E-06	2.36E-04	4.78E-01	8.50E-06	2.14E-04
Road 49	49	0900-1000	7.71E-02	1.13E-06	2.86E-05	7.14E-02	1.05E-06	2.65E-05	5.58E-01	8.20E-06	2.07E-04	5.13E-01	7.54E-06	1.90E-04
Road 49	49	1000-1100	3.96E-02	1.70E-06	3.79E-05	2.47E-02	1.06E-06	2.37E-05	2.77E-01	1.19E-05	2.65E-04	1.73E-01	7.42E-06	1.66E-04
Road 49	49	1100-1200	7.92E-02	9.56E-07	2.41E-05	7.36E-02	8.88E-07	2.24E-05	5.58E-01	6.73E-06	1.70E-04	5.16E-01	6.23E-06	1.57E-04
Road 49	49	1200-1300	7.92E-02	1.29E-06	3.26E-05	7.36E-02	1.20E-06	3.03E-05	5.58E-01	9.08E-06	2.29E-04	5.16E-01	8.41E-06	2.12E-04
Road 49	49	1300-1400	9.69E-02	7.06E-07	1.78E-05	9.07E-02	6.60E-07	1.67E-05	7.04E-01	5.13E-06	1.29E-04	6.58E-01	4.79E-06	1.21E-04
Road 49	49	1400-1500	9.69E-02	7.45E-07	1.88E-05	8.95E-02	6.90E-07	1.74E-05	7.03E-01	5.43E-06	1.37E-04	6.51E-01	5.02E-06	1.27E-04
Road 49	49	1500-1600	9.17E-02	7.25E-07	1.83E-05	8.48E-02	6.70E-07	1.69E-05	6.61E-01	5.23E-06	1.32E-04	6.12E-01	4.84E-06	1.22E-04
Road 49	49	1600-1700	9.19E-02	7.70E-07	1.94E-05	8.50E-02	7.12E-07	1.80E-05	7.00E-01	5.87E-06	1.48E-04	6.45E-01	5.41E-06	1.37E-04
Road 49	49	1700-1800	9.19E-02	7.70E-07	1.94E-05	8.50E-02	7.12E-07	1.80E-05	7.00E-01	5.87E-06	1.48E-04	6.45E-01	5.41E-06	1.37E-04
Road 49	49	1800-1900	5.53E-02	5.58E-07	1.41E-05	5.02E-02	5.06E-07	1.28E-05	5.69E-01	5.74E-06	1.45E-04	5.14E-01	5.19E-06	1.31E-04
Road 49	49	1900-2000	3.82E-02	3.04E-07	7.68E-06	4.34E-02	2.74E-07	6.91E-06	5.87E-01	3.70E-06	9.34E-05	5.25E-01	3.31E-06	8.35E-05
Road 49	49	2000-2100	4.82E-02	3.04E-07	7.68E-06	4.34E-02	2.74E-07	6.91E-06	5.87E-01	3.70E-06	9.34E-05	5.25E-01	3.31E-06	8.35E-05
Road 49	49	2100-2200	4.32E-02	2.69E-07	6.78E-06	3.93E-02	2.45E-07	6.17E-06	5.23E-01	3.25E-06	8.21E-05	4.73E-01	2.94E-06	7.42E-05
Road 49	49	2200-2300	4.32E-02	2.69E-07	6.78E-06	3.93E-02	2.45E-07	6.17E-06	5.23E-01	3.25E-06	8.21E-05	4.73E-01	2.94E-06	7.42E-05
Road 49	49	2300-0000	4.43E-02	2.02E-07	5.09E-06	4.02E-02	1.83E-07	4.62E-06	5.35E-01	2.43E-06	6.14E-05	4.82E-01	2.19E-06	5.53E-05
Road 50	50	0000-0100	2.23E-02	1.56E-07	3.93E-06	1.07E-02	7.48E-08	1.88E-06	1.63E-01	1.14E-06	2.87E-05	7.84E-02	5.48E-07	1.38E-05
Road 50	50	0100-0200	1.23E-01	4.16E-08	5.93E-07	1.15E-01	3.87E-08	5.51E-07	8.98E-01	3.03E-07	4.32E-06	8.39E-01	2.83E-07	4.03E-06
Road 50	50	0200-0300	1.32E-01	3.52E-08	5.02E-07	1.23E-01	3.26E-08	4.65E-07	6.39E-01	1.70E-07	2.43E-06	5.96E-01	1.58E-07	2.26E-06
Road 50	50	0300-0400	1.32E-01	3.52E-08	5.02E-07	1.23E-01	3.26E-08	4.65E-07	6.39E-01	1.70E-07	2.43E-06	5.96E-01	1.58E-07	2.26E-06
Road 50	50	0400-0500	1.41E-01	3.56E-08	5.07E-07	1.32E-01	3.32E-08	4.74E-07	6.75E-01	1.71E-07	2.43E-06	6.29E-01	1.59E-07	2.27E-06
Road 50	50	0500-0600	1.35E-01	1.23E-07	1.75E-06	1.26E-01	1.14E-07	1.62E-06	6.30E-01	5.71E-07	8.14E-06	5.83E-01	5.28E-07	7.53E-06
Road 50	50	0600-0700	1.48E-01	2.92E-07	4.16E-06	1.37E-01	2.70E-07	3.86E-06	6.92E-01	1.36E-06	1.94E-05	6.40E-01	1.26E-06	1.79E-05
Road 50	50	0700-0800	1.30E-01	4.34E-07	6.19E-06	1.20E-01	4.02E-07	5.74E-06	6.09E-01	2.03E-06	2.89E-05	5.63E-01	1.87E-06	2.67E-05
Road 50	50	0800-0900	1.58E-01	3.74E-07	5.33E-06	1.47E-01	4.95E-07	7.34E-06	7.41E-01	1.73E-06	2.47E-05	6.80E-01	1.60E-06	2.29E-05
Road 50	50	0900-1000	1.58E-01	3.55E-07	5.07E-06	1.47E-01	4.77E-07	6.81E-06	7.41E-01	1.66E-06	2.37E-05	6.80E-01	1.54E-06	2.20E-05
Road 50	50	1000-1100	1.65E-01	5.51E-07	5.04E-06	1.52E-01	5.07E-07	4.65E-06	7.70E-01	2.57E-06	2.35E-05	7.07E-01	2.36E-06	2.16E-05
Road 50	50	1100-1200	1.65E-01	5.51E-07	5.04E-06	1.52E-01	5.07E-07	4.65E-06	7.70E-01	2.57E-06	2.35E-05	7.07E-01	2.36E-06	2.16E-05
Road 50	50	1200-1300	1.65E-01	5.51E-07	5.04E-06	1.52E-01	5.07E-07	4.65E-06	7.70E-01	2.57E-06	2.35E-05	7.07E-01	2.36E-06	2.16E-05
Road 50	50	1300-1400	1.90E-01	2.05E-07	2.92E-06	1.78E-01	1.91E-07	2.73E-06	8.47E-01	9.42E-07	1.34E-05	8.18E-01	8.81E-07	1.26E-05
Road 50	50	1400-1500	1.94E-01	2.07E-07	2.96E-06	1.79E-01	1.92E-07	2.74E-06	8.67E-01	9.27E-07	1.32E-05	8.37E-01	8.96E-07	1.28E-05
Road 50	50	1500-1600	1.87E-01	1.86E-07	2.65E-06	1.74E-01	1.73E-07	2.47E-06	8.42E-01	8.37E-07	1.19E-05	8.13E-01	7.97E-07	1.14E-05
Road 50	50	1600-1700	1.88E-01	1.97E-07	2.80E-06	1.74E-01	1.82E-07	2.59E-06	8.67E-01	9.06E-07	1.29E-05	8.02E-01	8.38E-07	1.20E-05
Road 50	50	1700-1800	1.88E-01	1.97E-07	2.80E-06	1.74E-01	1.82E-07	2.59E-06	8.67E-01	9.06E-07	1.29E-05	8.02E-01	8.38E-07	1.20E-05
Road 50	50	1800-1900	1.63E-01	1.20E-07	1.72E-06	1.48E-01	1.10E-07	1.56E-06	7.82E-01	5.79E-07	8.26E-06	7.11E-01	5.26E-07	7.51E-06
Road 50	50	1900-2000	1.47E-01	6.46E-08	9.22E-07	1.34E-01	5.86E-08	8.37E-07	6.91E-01	3.04E-07	4.33E-06	6.28E-01	2.75E-07	3.93E-06
Road 50	50	2000-2100	1.26E-01	7.02E-07	1.34E-05	1.14E-01	6.37E-07	1.21E-05	5.93E-01	3.30E-06	6.28E-05	5.39E-01	2.89E-06	5.49E-05
Road 50	50	2100-2200	1.48E-01	5.39E-08	7.69E-07	1.36E-01	4.93E-08	7.03E-07	6.96E-01	2.54E-07	3.62E-06	6.42E-01	2.33E-07	3.31E-06
Road 50	50	2200-2300	1.56E-01	5.68E-08	7.25E-07	1.43E-01	4.65E-08	6.64E-07	7.30E-01	2.67E-07	3.41E-06	6.73E-01	2.45E-07	3.13E-06
Road 50	50	2300-0000	1.60E-01	4.34E-08	6.20E-07	1.46E-01	3.96E-08	5.65E-07	7.53E-01	2.04E-07	2.91E-06	6.86E-01	1.86E-07	2.65E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2028

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	4.55E-02	3.30E-07	1.15E-05	4.51E-02	3.50E-07	1.14E-05	3.40E-01	2.31E-06	7.61E-05	3.52E-01	2.56E-06	7.96E-05
Road 51	51	0100-0200	5.26E-02	2.32E-07	4.33E-06	4.89E-02	2.16E-07	4.02E-06	3.49E-01	1.54E-06	2.87E-05	3.22E-01	1.42E-06	2.64E-05
Road 51	51	0200-0300	5.61E-02	1.84E-07	3.43E-06	5.19E-02	1.70E-07	3.18E-06	3.63E-01	1.19E-06	2.22E-05	3.32E-01	1.09E-06	2.03E-05
Road 51	51	0300-0400	5.61E-02	1.57E-07	2.93E-06	5.49E-02	1.45E-07	2.70E-06	3.76E-01	1.05E-06	1.96E-05	3.67E-01	9.72E-07	1.81E-05
Road 51	51	0400-0500	6.26E-02	1.85E-07	3.44E-06	5.85E-02	1.73E-07	3.22E-06	3.86E-01	1.14E-06	2.12E-05	3.57E-01	1.05E-06	1.96E-05
Road 51	51	0500-0600	5.61E-02	3.44E-07	6.44E-06	6.15E-02	3.26E-07	5.97E-06	3.97E-01	2.08E-06	3.87E-05	3.68E-01	1.92E-06	3.58E-05
Road 51	51	0600-0700	6.93E-02	7.88E-07	1.47E-05	6.44E-02	7.31E-07	1.36E-05	4.11E-01	4.67E-06	8.71E-05	3.78E-01	4.30E-06	8.01E-05
Road 51	51	0700-0800	7.25E-02	1.69E-06	3.16E-05	6.71E-02	1.57E-06	2.93E-05	4.22E-01	9.87E-06	1.84E-04	3.88E-01	9.07E-06	1.69E-04
Road 51	51	0800-0900	7.16E-02	1.95E-06	3.63E-05	6.59E-02	1.80E-06	3.35E-05	4.05E-01	1.11E-05	2.06E-04	3.73E-01	1.01E-05	1.88E-04
Road 51	51	0900-1000	8.34E-02	2.10E-06	3.91E-05	7.74E-02	1.94E-06	3.62E-05	4.50E-01	1.13E-05	2.11E-04	4.16E-01	1.04E-05	1.95E-04
Road 51	51	1000-1100	9.27E-02	2.31E-06	3.85E-05	8.62E-02	2.15E-06	3.58E-05	4.96E-01	1.24E-05	2.06E-04	4.59E-01	1.14E-05	1.91E-04
Road 51	51	1100-1200	9.05E-02	1.96E-06	3.65E-05	8.42E-02	1.82E-06	3.39E-05	4.76E-01	1.03E-05	1.92E-04	4.42E-01	9.56E-06	1.78E-04
Road 51	51	1200-1300	7.35E-02	2.37E-06	4.40E-05	6.99E-02	2.22E-06	4.14E-05	4.91E-01	1.59E-05	2.96E-04	4.67E-01	1.51E-05	2.81E-04
Road 51	51	1300-1400	7.47E-02	2.52E-06	4.68E-05	7.09E-02	2.39E-06	4.44E-05	4.98E-01	1.68E-05	3.12E-04	4.73E-01	1.60E-05	2.96E-04
Road 51	51	1400-1500	7.43E-02	2.62E-06	4.86E-05	7.06E-02	2.49E-06	4.62E-05	4.88E-01	1.72E-05	3.19E-04	4.64E-01	1.63E-05	3.03E-04
Road 51	51	1500-1600	7.43E-02	2.62E-06	4.86E-05	7.06E-02	2.49E-06	4.62E-05	4.88E-01	1.72E-05	3.19E-04	4.64E-01	1.63E-05	3.03E-04
Road 51	51	1600-1700	7.43E-02	2.62E-06	4.86E-05	7.06E-02	2.49E-06	4.62E-05	4.88E-01	1.72E-05	3.19E-04	4.64E-01	1.63E-05	3.03E-04
Road 51	51	1700-1800	7.43E-02	2.62E-06	4.86E-05	7.06E-02	2.49E-06	4.62E-05	4.88E-01	1.72E-05	3.19E-04	4.64E-01	1.63E-05	3.03E-04
Road 51	51	1800-1900	4.06E-02	1.78E-06	3.30E-05	4.43E-02	1.94E-06	3.60E-05	4.38E-01	1.92E-05	3.56E-04	4.78E-01	2.09E-05	3.88E-04
Road 51	51	1900-2000	3.74E-02	1.28E-06	2.38E-05	3.38E-02	1.15E-06	2.15E-05	3.90E-01	1.33E-05	2.48E-04	3.45E-01	1.18E-05	2.19E-04
Road 51	51	2000-2100	3.71E-02	1.92E-07	3.85E-06	4.04E-02	2.09E-07	4.19E-06	4.38E-01	2.27E-06	4.55E-05	4.77E-01	2.47E-06	4.95E-05
Road 51	51	2100-2200	3.45E-02	1.96E-07	3.92E-06	3.77E-02	2.14E-07	4.28E-06	4.07E-01	2.31E-06	4.63E-05	4.45E-01	2.52E-06	5.04E-05
Road 51	51	2200-2300	3.41E-02	1.94E-07	3.88E-06	3.72E-02	2.12E-07	4.23E-06	4.03E-01	2.29E-06	4.57E-05	4.40E-01	2.49E-06	4.98E-05
Road 51	51	2300-0000	1.68E-02	1.04E-07	2.08E-06	3.34E-02	2.07E-07	4.14E-06	3.92E-01	2.43E-06	4.86E-05	4.28E-01	2.65E-06	5.30E-05
Road 52	52	0000-0100	1.68E-01	4.98E-08	2.55E-07	1.54E-01	4.55E-08	2.33E-07	7.53E-01	2.23E-07	1.14E-06	6.88E-01	2.03E-07	1.04E-06
Road 52	52	0100-0200	1.68E-01	4.54E-08	2.32E-07	1.54E-01	4.15E-08	2.12E-07	7.54E-01	2.03E-07	1.04E-06	6.89E-01	1.85E-07	9.48E-07
Road 52	52	0200-0300	1.70E-01	2.82E-08	1.44E-07	1.59E-01	2.62E-08	1.34E-07	7.62E-01	1.26E-07	6.45E-07	7.08E-01	1.17E-07	5.99E-07
Road 52	52	0300-0400	1.70E-01	2.47E-08	1.26E-07	1.59E-01	2.31E-08	1.18E-07	7.62E-01	1.11E-07	5.68E-07	7.08E-01	1.03E-07	5.28E-07
Road 52	52	0400-0500	1.73E-01	2.85E-08	1.46E-07	1.62E-01	2.67E-08	1.37E-07	7.71E-01	1.27E-07	6.52E-07	7.23E-01	1.19E-07	6.11E-07
Road 52	52	0500-0600	1.78E-01	5.42E-08	2.78E-07	1.66E-01	5.06E-08	2.59E-07	7.93E-01	2.42E-07	1.24E-06	7.40E-01	2.26E-07	1.16E-06
Road 52	52	0600-0700	1.78E-01	1.24E-07	6.36E-07	1.66E-01	1.16E-07	5.94E-07	7.94E-01	5.54E-07	2.84E-06	7.41E-01	5.17E-07	2.65E-06
Road 52	52	0700-0800	1.86E-01	2.78E-07	1.42E-06	1.72E-01	2.57E-07	1.32E-06	8.31E-01	1.24E-06	6.35E-06	7.69E-01	1.15E-06	5.87E-06
Road 52	52	0800-0900	1.86E-01	3.23E-07	1.65E-06	1.72E-01	2.99E-07	1.53E-06	8.31E-01	1.44E-06	7.37E-06	7.69E-01	1.33E-06	6.81E-06
Road 52	52	0900-1000	1.82E-01	3.68E-07	1.88E-06	1.70E-01	3.41E-07	1.75E-06	8.19E-01	1.65E-06	8.46E-06	7.61E-01	1.53E-06	7.86E-06
Road 52	52	1000-1100	1.86E-01	3.51E-07	1.80E-06	1.77E-01	3.34E-07	1.71E-06	8.31E-01	1.57E-06	8.08E-06	7.91E-01	1.49E-06	7.68E-06
Road 52	52	1100-1200	1.89E-01	3.51E-07	1.80E-06	1.77E-01	3.28E-07	1.68E-06	8.41E-01	1.56E-06	8.01E-06	7.85E-01	1.46E-06	7.48E-06
Road 52	52	1200-1300	1.85E-01	3.66E-07	1.88E-06	1.73E-01	3.42E-07	1.75E-06	8.20E-01	1.62E-06	8.31E-06	7.66E-01	1.51E-06	7.76E-06
Road 52	52	1300-1400	1.85E-01	3.83E-07	1.96E-06	1.73E-01	3.58E-07	1.83E-06	8.20E-01	1.70E-06	8.69E-06	7.66E-01	1.59E-06	8.12E-06
Road 52	52	1400-1500	1.86E-01	4.09E-07	2.10E-06	1.74E-01	3.84E-07	1.97E-06	8.25E-01	1.82E-06	9.32E-06	7.73E-01	1.70E-06	8.73E-06
Road 52	52	1500-1600	1.87E-01	4.31E-07	2.20E-06	1.74E-01	4.05E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	3.44E-01	2.47E-03	2.74E-06	3.11E-01	8.06E-07	2.48E-06	1.58E-01	1.13E-03	1.25E-06	1.43E-01	3.70E-07	1.14E-06
Road 27	27	1700-1800	3.09E-01	7.21E-07	2.22E-06	2.79E-01	6.51E-07	2.00E-06	1.42E+00	3.31E-06	1.02E-05	1.28E+00	2.99E-06	9.20E-06
Road 27	27	1800-1900	2.80E-01	4.48E-07	1.38E-06	2.54E-01	4.07E-07	1.25E-06	1.30E+00	2.08E-06	6.41E-06	1.18E+00	1.88E-06	5.82E-06
Road 27	27	1900-2000	2.67E-01	2.79E-07	8.57E-07	2.41E-01	2.52E-07	7.75E-07	1.23E+00	1.29E-06	3.94E-06	1.11E+00	1.16E-06	3.56E-06
Road 27	27	2000-2100	2.62E-01	2.18E-07	6.70E-07	2.37E-01	1.98E-07	6.08E-07	1.21E+00	1.01E-06	3.11E-06	1.10E+00	9.17E-07	2.82E-06
Road 27	27	2100-2200	2.65E-01	2.27E-07	6.97E-07	2.39E-01	2.05E-07	6.31E-07	1.22E+00	1.04E-06	3.21E-06	1.10E+00	9.46E-07	2.91E-06
Road 27	27	2200-2300	2.78E-01	2.07E-07	6.37E-07	2.52E-01	1.88E-07	5.78E-07	1.25E+00	9.28E-07	2.86E-06	1.13E+00	8.43E-07	2.59E-06
Road 27	27	2300-0000	2.81E-01	1.72E-07	5.29E-07	2.55E-01	1.56E-07	4.80E-07	1.26E+00	7.70E-07	2.37E-06	1.14E+00	6.98E-07	2.15E-06
Road 27	27	0000-0100	2.96E-01	1.34E-07	4.13E-07	2.69E-01	1.22E-07	3.74E-07	1.33E+00	6.00E-07	1.85E-06	1.21E+00	5.44E-07	1.68E-06
Road 28	28	0100-0200	4.29E-02	5.24E-07	2.97E-05	2.68E-05	3.47E-07	1.42E-04	6.24E-03	7.25E-06	5.02E-04	3.90E-03	4.70E-06	3.25E-04
Road 28	28	0200-0300	4.29E-02	3.49E-07	1.98E-05	2.68E-05	2.31E-07	9.46E-05	6.24E-03	4.83E-06	3.35E-04	3.90E-03	3.13E-06	2.17E-04
Road 28	28	0300-0400	5.02E-02	3.63E-07	2.06E-05	4.57E-05	3.30E-07	1.87E-04	7.30E-03	5.27E-06	3.00E-04	6.64E-03	4.80E-06	2.73E-04
Road 28	28	0400-0500	5.23E-02	4.38E-07	2.98E-05	4.76E-05	3.98E-07	2.71E-04	7.61E-03	6.36E-06	4.33E-04	6.92E-03	5.78E-06	3.94E-04
Road 28	28	0500-0600	5.37E-02	5.37E-07	3.66E-05	4.88E-05	4.88E-07	3.33E-04	7.81E-03	7.80E-06	5.32E-04	7.10E-03	7.09E-06	4.84E-04
Road 28	28	0600-0700	5.46E-02	6.53E-07	4.45E-05	4.96E-05	5.94E-07	4.05E-04	7.94E-03	9.49E-06	6.47E-04	7.22E-03	8.63E-06	5.88E-04
Road 28	28	0700-0800	5.42E-02	7.50E-07	5.11E-05	4.93E-05	6.82E-07	4.65E-04	7.88E-03	1.09E-05	7.43E-04	7.16E-03	9.91E-06	6.75E-04
Road 28	28	0800-0900	5.42E-02	7.50E-07	5.11E-05	4.93E-05	6.82E-07	4.65E-04	7.88E-03	1.09E-05	7.43E-04	7.16E-03	9.91E-06	6.75E-04
Road 28	28	0900-1000	5.37E-02	6.53E-07	4.45E-05	4.88E-05	5.94E-07	4.05E-04	7.81E-03	9.49E-06	6.47E-04	7.10E-03	8.63E-06	5.88E-04
Road 28	28	1000-1100	5.23E-02	5.37E-07	3.66E-05	4.76E-05	4.88E-07	3.33E-04	7.61E-03	7.80E-06	5.32E-04	6.92E-03	7.09E-06	4.84E-04
Road 28	28	1100-1200	5.02E-02	4.38E-07	2.98E-05	4.57E-05	3.98E-07	2.71E-04	7.30E-03	6.36E-06	4.33E-04	6.64E-03	5.78E-06	3.94E-04
Road 28	28	1200-1300	4.29E-02	3.49E-07	1.98E-05	3.90E-05	3.17E-07	1.83E-04	6.24E-03	5.07E-06	3.00E-04	5.67E-03	4.61E-06	2.73E-04
Road 28	28	1300-1400	4.29E-02	3.63E-07	2.06E-05	3.90E-05	3.30E-07	1.87E-04	6.24E-03	5.27E-06	3.00E-04	5.67E-03	4.80E-06	2.73E-04
Road 28	28	1400-1500	4.29E-02	4.38E-07	2.98E-05	3.90E-05	3.98E-07	2.71E-04	6.24E-03	6.36E-06	4.33E-04	5.67E-03	5.78E-06	3.94E-04
Road 28	28	1500-1600	4.29E-02	5.24E-07	2.97E-05	3.90E-05	4.76E-07	2.70E-04	6.24E-03	7.61E-06	5.18E-04	5.67E-03	6.92E-06	3.93E-04
Road 28	28	1600-1700	4.29E-02	5.24E-07	2.97E-05	3.90E-05	4.76E-07	2.70E-04	6.24E-03	7.61E-06	5.18E-04	5.67E-03	6.92E-06	3.93E-04
Road 28	28	1700-1800	4.29E-02	5.24E-07	2.97E-05	3.90E-05	4.76E-07	2.70E-04	6.24E-03	7.61E-06	5.18E-04	5.67E-03	6.92E-06	3.93E-04
Road 28	28	1800-1900	4.29E-02	4.38E-07	2.98E-05	3.90E-05	3.98E-07	2.71E-04	6.24E-03	6.36E-06	4.33E-04	5.67E-03	5.78E-06	3.94E-04
Road 28	28	1900-2000	4.29E-02	3.49E-07	1.98E-05	3.90E-05	3.17E-07	1.83E-04	6.24E-03	5.07E-06	3.00E-04	5.67E-03	4.61E-06	2.73E-04
Road 28	28	2000-2100	4.29E-02	3.63E-07	2.06E-05	3.90E-05	3.30E-07	1.87E-04	6.24E-03	5.27E-06	3.00E-04	5.67E-03	4.80E-06	2.73E-04
Road 28	28	2100-2200	4.29E-02	4.38E-07	2.98E-05	3.90E-05	3.98E-07	2.71E-04	6.24E-03	6.36E-06	4.33E-04	5.67E-03	5.78E-06	3.94E-04
Road 28	28	2200-2300	4.29E-02	5.24E-07	2.97E-05	3.90E-05	4.76E-07	2.70E-04	6.24E-03	7.61E-06	5.18E-04	5.67E-03	6.92E-06	3.93E-04
Road 28	28	2300-0000	4.29E-02	5.24E-07	2.97E-05	3.90E-05	4.76E-07	2.70E-04	6.24E-03	7.61E-06	5.18E-04	5.67E-03	6.92E-06	3.93E-04
Road 29	29	0000-0100	4.29E-02	3.49E-07	1.98E-05	3.90E-05	3.17E-07	1.83E-04	6.24E-03	5.07E-06	3.00E-04	5.67E-03	4.61E-06	2.73E-04
Road 29	29	0100-0200	4.29E-02	3.63E-07	2.06E-05	3.90E-05	3.30E-07	1.87E-04	6.24E-03	5.27E-06	3.00E-04	5.67E-03	4.80E-06	2.73E-04
Road 29	29	0200-0300	4.29E-02	4.38E-07	2.98E-05	3.90E-05	3.98E-07	2.71E-04	6.24E-03	6.36E-06	4.33E-04	5.67E-03	5.78E-06	3.94E-04
Road 29	29	0300-0400	4.29E-02	5.24E-07	2.97E-05	3.90E-05	4.76E-07	2.70E-04	6.24E-03	7.61E-06	5.18E-04	5.67E-03	6.92E-06	3.93E-04
Road 29	29	0400-0500	4.29E-02	5.24E-07	2.97E-05	3.90E-05	4.76E-07	2.70E-04	6.24E-03	7.61E-06	5.18E-04	5.67E-03	6.92E-06	3.93E-04
Road 29	29	0500-0600	4.44E-02	5.37E-07	3.03E-05	4.01E-05	4.85E-07	3.29E-04	6.45E-03	7.80E-06	5.32E-04	5.83E-03	7.05E-06	4.80E-04
Road 29	29	0600-0700	4.85E-02	6.53E-07	3.66E-05	4.37E-05	5.89E-07	3.30E-04	7.04E-03	9.49E-06	5.32E-04	6.35E-03	8.56E-06	4.80E-04
Road 29	29	0700-0800	4.85E-02	7.50E-07	4.20E-05	4.37E-05	6.76E-07	3.78E-04	7.04E-03	1.09E-05	6.09E-04	6.35E-03	9.82E-06	5.49E-04
Road 29	29	0800-0900	4.85E-02	7.50E-07	4.20E-05	4.37E-05	6.76E-07	3.78E-04	7.04E-03	1.09E-05	6.09E-04	6.35E-03	9.82E-06	5.49E-04
Road 29	29	0900-1000	4.85E-02	6.53E-07	3.66E-05	4.37E-05	5.89E-07	3.30E-04	7.04E-03	9.49E-06	5.32E-04	6.35E-03	8.56E-06	4.80E-04
Road 29	29	1000-1100	4.85E-02	5.37E-07	3.03E-05	4.37E-05	4.85E-07	3.29E-04	7.04E-03	7.80E-06	5.32E-04	6.35E-03	7.05E-06	4.80E-04
Road 29	29	1100-1200	4.85E-02	4.38E-07	2.98E-05	4.37E-05	3.98E-07	2.71E-04	7.04E-03	6.36E-06	4.33E-04	6.35E-03	5.78E-06	3.94E-04
Road 29	29	1200-1300	4.85E-02	3.49E-07	1.98E-05	4.37E-05	3.17E-07	1.83E-04	7.04E-03	5.07E-06	3.00E-04	6.35E-03	4.61E-06	2.73E-04
Road 29	29	1300-1400	4.85E-02	3.63E-07	2.06E-05	4.37E-05	3.30E-07	1.87E-04	7.04E-03	5.27E-06	3.00E-04	6.35E-03	4.80E-06	2.73E-04
Road 29	29	1400-1500	4.85E-02	4.38E-07	2.98E-05	4.37E-05	3.98E-07	2.71E-04	7.04E-03	6.36E-06	4.33E-04	6.35E-03	5.78E-06	3.94E-04
Road 29	29	1500-1600	4.85E-02	5.24E-07	2.97E-05	4.37E-05	4.76E-07	2.70E-04	7.04E-03	7.61E-06	5.18E-04	6.35E-03	6.92E-06	3.93E-04
Road 29	29	1600-1700	4.85E-02	5.24E-07	2.97E-05	4.37E-05	4.76E-07	2.70E-04	7.04E-03	7.61E-06	5.18E-04	6.35E-03	6.92E-06	3.93E-04
Road 29	29	1700-1800	4.85E-02	5.24E-07	2.97E-05	4.37E-05	4.76E-07	2.70E-04	7.04E-03	7.61E-06	5.18E-04	6.35E-03	6.92E-06	3.93E-04
Road 29	29	1800-1900	4.85E-02	4.38E-07	2.98E-05	4.37E-05	3.98E-07	2.71E-04	7.04E-03	6.36E-06	4.33E-04	6.35E-03	5.78E-06	3.94E-04
Road 29	29	1900-2000	4.85E-02	3.49E-07	1.98E-05	4.37E-05	3.17E-07	1.83E-04	7.04E-03	5.07E-06	3.00E-04	6.35E-03	4.61E-06	2.73E-04
Road 29	29	2000-2100	4.85E-02	3.63E-07	2.06E-05	4.37E-05	3.30E-07	1.87E-04	7.04E-03	5.27E-06	3.00E-04	6.35E-03	4.80E-06	2.73E-04
Road 29	29	2100-2200	4.85E-02	4.38E-07	2.98E-05	4.37E-05	3.98E-07	2.71E-04	7.04E-03	6.36E-06	4.33E-04	6.35E-03	5.78E-06	3.94E-04
Road 29	29	2200-2300	4.85E-02	5.24E-07	2.97E-05	4.37E-05	4.76E-07	2.70E-04	7.04E-03	7.61E-06	5.18E-04	6.35E-03	6.92E-06	3.93E-04
Road 29	29	2300-0000	4.85E-02	5.24E-07	2.97E-05	4.37E-05	4.76E-07	2.70E-04	7.04E-03	7.61E-06	5.18E-04	6.35E-03	6.92E-06	3.93E-04
Road 30	30	0000-0100	4.85E-02	3.49E-07	1.98E-05	4.37E-05	3.17E-07	1.83E-04	7.04E-03	5.07E-06	3.00E-04	6.35E-03	4.61E-06	2.73E-04
Road 30	30	0100-0200	4.85E-02	3.63E-07	2.06E-05	4.37E-05	3.30E-07	1.87E-04	7.04E-03	5.27E-06	3.00E-04	6.35E-03	4.80E-06	2.73E-04
Road 30	30	0200-0300	5.14E-02	3.88E-07	2.84E-05	4.61E-05	3.68E-07	2.69E-04	7.30E-03	5.61E-06	4.11E-04	6.64E-03	5.12E-06	3.75E-04
Road 30	30	0300-0400	5.14E-02	3.63E-07	2.66E-05	4.61E-05	3.44E-07	2.52E-04	7.30E-03	5.27E-06	3.85E-04	6.64E-03	4.80E-06	3.51E-04
Road 30	30	0400-0500	5.81E-02	3.87E-07	2.84E-05	5.29E-05	3.52E-07	2.58E-04	8.25E-03	5.61E-06	4.11E-04	7.52E-03	5.12E-06	3.75E-04
Road 30	30	0500-0600	6.27E-02	4.11E-07	3.02E-05	5.72E-05	3.74E-07	2.74E-04	8.91E-03	5.95E-06	4.37E-04	8.13E-03	5.44E-06	3.98E-04
Road 30	30	0600-0700	6.27E-02	5.37E-07	3.66E-05	5.72E-05	4.88E-07	3.33E-04	8.91E-03	7.80E-06	5.32E-04	8.13E-03	7.09E-06	4.84E-04
Road 30	30	0700-0800	6.27E-02	6.53E-07	4.45E-05	5.72E-05	5.94E-07	4.05E-04	8.91E-03	9.49E-06	6.47E-04	8.13E-03	8.63E-06	5.88E-04
Road 30	30	0800-0900	6.27E-02	6.53E-07	4.45E-05	5.72E-05	5.94E-07	4.05E-04	8.91E-03	9.49E-06	6.47E-04	8.13E-03	8.63E-06	5.88E-04
Road 30	30	0900-1000	6.24E-02	5.37E-07	3.66E-05	5.68E-05	4.88E-07	3.33E-04	8.87E-03	7.80E-06	5.32E-04	8.09E-03	7.09E-06	4.84E-04
Road 30	30	1000-1100	6.24E-02	5.37E-07	3.66E-05	5.68E-05	4.88E-07	3.33E-04	8.87E-03	7.80E-06	5.32E-04	8.09E-03	7.09E-06	4.84E-04
Road 30	30	1100-1200	6.24E-02	4.38E-07	2.98E-05	5.68E-05	3.98E-07	2.71E-04	8.87E-03	6.36E-06	4.33E-04	8.09E-03	5.78E-06	3.94E-04
Road 30	30	1200-1300	5.18E-02	3.50E-07	2.39E-05	4.72E-05	3.19E-07	2.29E-04	7.39E-03	5.07E-06	3.41E-04	6.73E-03	4.61E-06	3.17E-04
Road 30	30	1300-1400	5.18E-02	3.63E-07	2.66E-05	4.72E-05	3.30E-07	2.42E-04	7.39E-03	5.27E-06	3.85E-04	6.73E-03	4.80E-06	3.51E-04
Road 30	30	1400-1500	5.18E-02	4.38E-07	2.98E-05	4.72E-05	3.98E-07	2.71E-04	7.39E-03	6.36E-06	4.33E-04	6.73E-03	5.78E-06	3.94E-04
Road 30	30	1500-1600	5.18E-02	5.24E-07	2.97E-05	4.72E-05	4.76E-07	2.70E-04	7.39E-03	7.61E-06	5.18E-04	6.73E-03	6.92E-06	3.93E-04
Road 30	30	1600-1700	5.18E-02	5.24E-07	2.97E-05	4.72E-05	4.76E-07	2.70E-04	7.39E-03	7.61E-06	5.18E-04	6.73E-03	6.92E-06	3.93E-04
Road 30	30	1700-1800	5.18E-02	5.24E-07	2.97E-05	4.72E-05	4.76E-07	2.70E-04	7.39E-03	7.61E-06	5.18E-04	6.73E-03	6.92E-06	3.93E-04
Road 30	30	1800-1900	5.18E-02	4.38E-07	2.98E-05	4.72E-05	3.98E-07	2.71E-04	7.39E-03	6.36E-06	4.33E-04	6.73E-03	5.78E-06	3.94E-04
Road 30	30	1900-2000	5.18E-02	3.50E-07	2.39E-05	4.72E-05	3.19E-07	2.29E-04	7.39E-03	5.07E-06	3.41E-04	6.73E-03	4.61E-06	3.17E-04
Road 30	30	2000-2100	5.18E-02	3.63E-07	2.66E-05	4.72E-05	3.30E-07	2.42E-04	7.39E-03	5.27E-06	3.85E-04	6.73E-03	4.80E-06	3.51E-04
Road 30	30	2100-2200	5.18E-02	4.38E-07	2.98E-05	4.72E-05	3.98E-07	2.71E-04	7.39E-03	6.36E-06	4.33E-04	6.73E-03	5.78E-06	3.94E-04
Road 30	30	2200-2300	5.18E-02	5.24E-07	2.97E-05	4.72E-05	4.76E-07	2.70E-04	7.39E-03	7.61E-06	5.18E-04	6.73E-03	6.92E-06	3.93E-04
Road 30	30	2300-0000	5.05E-02	4.16E-07	4.08E-06	4.56E-02	3.76E-07	3.68E-06	4.00E-01	3.31E-06	3.24E-05	3.57E-01	2.95E-06	2.89E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2028**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	6.51E-02	4.21E-02	9.32E-07	7.23E-07	2.11E-05	4.61E-03	5.69E-06	1.68E-04	4.12E-01	5.08E-06	1.49E-04	3.67E-01
Road 17	17	1700-1800	6.51E-02	8.02E-07	2.93E-05	5.86E-02	7.23E-07	2.11E-05	4.61E-03	5.69E-06	1.68E-04	4.12E-01	5.08E-06	1.49E-04
Road 17	17	1800-1900	4.87E-02	6.18E-07	1.81E-05	4.41E-02	5.45E-07	1.64E-05	3.57E-03	4.15E-06	1.38E-04	3.52E-01	3.45E-06	1.03E-04
Road 17	17	1900-2000	4.19E-02	4.11E-07	1.20E-05	3.77E-02	3.70E-07	1.08E-05	3.91E-03	3.87E-06	7.13E-06	3.52E-01	3.45E-06	1.01E-04
Road 17	17	2000-2100	4.20E-02	3.23E-07	9.43E-06	3.80E-02	2.92E-07	8.53E-06	4.11E-03	3.16E-06	9.23E-05	3.68E-01	2.82E-06	8.25E-05
Road 17	17	2100-2200	4.35E-02	3.03E-07	8.87E-06	3.97E-02	2.74E-07	7.97E-06	3.82E-03	2.91E-06	8.52E-05	3.45E-01	2.59E-06	7.56E-05
Road 17	17	2200-2300	3.94E-02	2.90E-07	8.48E-06	3.55E-02	2.62E-07	7.66E-06	3.96E-03	2.92E-06	8.53E-05	3.52E-01	2.60E-06	7.59E-05
Road 17	17	2300-0000	4.27E-02	2.38E-07	6.96E-06	3.85E-02	2.15E-07	6.28E-06	4.06E-03	2.26E-06	6.61E-05	3.62E-01	2.02E-06	5.90E-05
Road 18	18	0000-0100	3.21E-02	1.30E-07	5.07E-06	2.89E-02	1.17E-07	4.56E-06	3.26E-03	1.32E-06	5.16E-05	2.89E-01	1.16E-06	4.55E-05
Road 18	18	0100-0200	3.59E-02	9.54E-08	3.73E-06	3.23E-02	8.59E-08	3.36E-06	3.42E-03	9.08E-07	3.55E-05	3.02E-01	8.03E-07	3.14E-05
Road 18	18	0200-0300	3.59E-02	7.25E-08	2.83E-06	3.23E-02	6.53E-08	2.55E-06	3.42E-03	6.90E-07	2.70E-05	3.02E-01	6.10E-07	2.39E-05
Road 18	18	0300-0400	4.38E-02	6.86E-08	2.68E-06	3.95E-02	6.19E-08	2.42E-06	3.77E-03	5.90E-07	2.30E-05	3.34E-01	5.23E-07	2.04E-05
Road 18	18	0400-0500	4.52E-02	7.25E-08	3.03E-06	4.11E-02	6.59E-08	2.75E-06	3.81E-03	6.12E-07	2.55E-05	3.47E-01	5.56E-07	2.32E-05
Road 18	18	0500-0600	4.44E-02	1.45E-07	5.47E-06	4.03E-02	1.32E-07	4.96E-06	3.75E-03	1.22E-06	4.62E-05	3.42E-01	1.12E-06	4.21E-05
Road 18	18	0600-0700	4.44E-02	2.75E-07	1.08E-05	4.03E-02	2.49E-07	9.74E-06	3.73E-03	2.31E-06	9.03E-05	3.32E-01	2.06E-06	8.03E-05
Road 18	18	0700-0800	4.54E-02	2.75E-07	1.08E-05	4.12E-02	2.49E-07	9.74E-06	3.81E-03	2.31E-06	9.03E-05	3.32E-01	2.06E-06	8.03E-05
Road 18	18	0800-0900	4.66E-02	6.80E-07	2.66E-05	4.23E-02	6.17E-07	2.41E-05	3.91E-03	5.70E-06	2.04E-04	3.19E-01	4.66E-06	1.82E-04
Road 18	18	0900-1000	5.51E-02	6.75E-07	2.63E-05	5.01E-02	6.13E-07	2.39E-05	3.96E-03	4.85E-06	1.89E-04	3.60E-01	4.40E-06	1.72E-04
Road 18	18	1000-1100	6.21E-02	6.58E-07	2.57E-05	5.64E-02	5.99E-07	2.34E-05	4.24E-03	4.50E-06	1.76E-04	3.82E-01	4.05E-06	1.58E-04
Road 18	18	1100-1200	6.03E-02	4.24E-07	1.66E-05	5.48E-02	3.85E-07	1.51E-05	4.24E-03	2.66E-06	1.04E-04	3.77E-01	3.80E-06	1.48E-04
Road 18	18	1200-1300	5.50E-02	3.05E-07	1.19E-05	5.00E-02	2.77E-07	1.08E-05	4.31E-03	2.39E-06	9.34E-05	4.31E-01	3.76E-06	1.47E-04
Road 18	18	1300-1400	5.27E-02	5.06E-07	1.98E-05	4.76E-02	4.57E-07	1.78E-05	4.35E-03	4.18E-06	1.63E-04	3.88E-01	3.73E-06	1.46E-04
Road 18	18	1400-1500	5.16E-02	5.06E-07	1.98E-05	4.66E-02	4.57E-07	1.78E-05	4.26E-03	4.18E-06	1.63E-04	3.80E-01	3.73E-06	1.46E-04
Road 18	18	1500-1600	5.05E-02	5.31E-07	2.08E-05	4.60E-02	4.84E-07	1.89E-05	4.42E-03	4.24E-06	1.73E-04	3.79E-01	3.26E-06	1.33E-04
Road 18	18	1600-1700	5.16E-02	5.89E-07	2.30E-05	4.66E-02	5.33E-07	2.08E-05	4.32E-03	4.94E-06	1.93E-04	3.87E-01	4.42E-06	1.73E-04
Road 18	18	1700-1800	5.16E-02	5.05E-07	1.97E-05	4.66E-02	4.56E-07	1.78E-05	4.32E-03	4.23E-06	1.65E-04	3.87E-01	3.79E-06	1.48E-04
Road 18	18	1800-1900	3.16E-02	2.85E-07	1.85E-05	2.85E-02	2.42E-07	1.66E-05	3.39E-03	5.08E-06	1.98E-04	3.03E-01	4.53E-06	1.77E-04
Road 18	18	1900-2000	2.72E-02	1.13E-07	7.35E-06	2.45E-02	1.02E-07	6.61E-06	3.39E-03	1.41E-06	9.17E-05	3.03E-01	1.26E-06	8.20E-05
Road 18	18	2000-2100	2.72E-02	2.54E-07	9.92E-06	2.45E-02	2.28E-07	8.93E-06	3.63E-03	3.38E-06	1.32E-04	3.23E-01	3.01E-06	1.18E-04
Road 18	18	2100-2200	2.39E-02	2.20E-07	8.61E-06	2.16E-02	1.98E-07	7.69E-06	3.28E-03	3.01E-06	1.18E-04	2.99E-01	2.75E-06	1.07E-04
Road 18	18	2200-2300	2.58E-02	1.74E-07	6.80E-06	2.31E-02	1.56E-07	6.11E-06	3.49E-03	2.36E-06	9.22E-05	3.10E-01	2.09E-06	8.18E-05
Road 18	18	2300-0000	2.58E-02	1.74E-07	6.80E-06	2.31E-02	1.56E-07	6.11E-06	3.49E-03	2.36E-06	9.22E-05	3.10E-01	2.09E-06	8.18E-05
Road 19	19	0000-0100	3.33E-02	1.31E-07	3.78E-06	3.00E-02	1.18E-07	3.40E-06	2.86E-03	1.13E-06	3.25E-05	2.52E-01	9.92E-07	2.86E-05
Road 19	19	0100-0200	3.33E-02	1.31E-07	3.78E-06	3.00E-02	1.18E-07	3.40E-06	2.86E-03	1.13E-06	3.25E-05	2.52E-01	9.92E-07	2.86E-05
Road 19	19	0200-0300	4.04E-02	9.33E-08	2.69E-06	3.65E-02	8.43E-08	2.43E-06	3.18E-03	7.34E-07	2.11E-05	2.81E-01	6.49E-07	1.87E-05
Road 19	19	0400-0500	4.22E-02	1.07E-07	3.07E-06	3.83E-02	9.70E-08	2.79E-06	3.29E-03	8.20E-07	2.36E-05	2.89E-01	7.31E-07	2.10E-05
Road 19	19	0500-0600	4.34E-02	1.16E-07	3.33E-06	3.94E-02	1.05E-07	3.02E-06	3.38E-03	8.88E-07	2.55E-05	2.97E-01	7.80E-07	2.24E-05
Road 19	19	0600-0700	4.34E-02	4.02E-07	1.16E-05	3.93E-02	3.65E-07	1.05E-05	3.25E-03	3.01E-06	8.68E-05	2.89E-01	2.67E-06	7.69E-05
Road 19	19	0700-0800	4.34E-02	4.02E-07	1.16E-05	3.93E-02	3.65E-07	1.05E-05	3.25E-03	3.01E-06	8.68E-05	2.89E-01	2.67E-06	7.69E-05
Road 19	19	0800-0900	4.54E-02	4.02E-07	1.16E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2028**

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	8.15E-02	1.95E-02	1.81E-06	1.36E-02	3.76E-07	1.65E-06	4.41E-01	1.03E-01	9.60E-06	4.21E-01	9.59E-02	9.00E-06
Road 41	41	0100-0200	9.72E-02	1.89E-02	1.59E-06	8.78E-02	1.53E-02	7.44E-06	5.32E-01	9.26E-02	8.69E-06	4.76E-01	8.30E-02	7.78E-06
Road 41	41	0200-0300	1.11E-01	1.57E-02	1.47E-06	1.00E-01	1.42E-02	1.33E-06	6.05E-01	8.57E-02	8.04E-06	5.41E-01	7.66E-02	7.19E-06
Road 41	41	0300-0400	1.22E-01	1.50E-02	1.41E-06	1.37E-01	1.28E-02	6.63E-06	6.61E-01	8.15E-02	7.65E-06	6.00E-01	7.38E-02	6.92E-06
Road 41	41	0400-0500	1.20E-01	1.58E-02	1.48E-06	1.09E-01	1.44E-02	1.35E-06	6.47E-01	8.53E-02	8.01E-06	5.87E-01	7.74E-02	7.26E-06
Road 41	41	0500-0600	1.03E-01	2.02E-02	1.90E-06	1.38E-02	1.84E-06	1.73E-06	5.57E-01	1.09E-01	1.02E-05	7.48E-02	9.92E-03	9.33E-06
Road 41	41	0600-0700	8.77E-02	3.26E-02	3.06E-06	7.97E-02	2.96E-02	2.78E-06	4.59E-01	1.71E-01	1.60E-05	4.11E-01	1.53E-01	1.44E-05
Road 41	41	0700-0800	1.04E-01	8.80E-02	8.26E-06	9.43E-02	8.01E-02	7.51E-06	5.45E-01	4.63E-01	4.34E-05	4.91E-01	4.17E-01	3.91E-05
Road 41	41	0800-0900	1.16E-01	1.35E-01	1.27E-05	1.05E-01	1.22E-01	1.14E-05	6.07E-01	7.08E-01	6.64E-05	5.47E-01	6.37E-01	5.98E-05
Road 41	41	0900-1000	1.11E-01	9.94E-02	9.33E-06	1.01E-01	9.05E-02	8.49E-06	5.68E-01	5.08E-01	4.77E-05	5.14E-01	4.60E-01	4.31E-05
Road 41	41	1000-1100	1.14E-01	1.03E-01	9.68E-06	1.13E-01	1.02E-01	9.57E-06	5.82E-01	5.26E-01	4.94E-05	5.77E-01	5.21E-01	4.89E-05
Road 41	41	1100-1200	1.21E-01	9.60E-02	9.01E-06	8.75E-02	6.92E-02	6.49E-06	6.21E-01	4.88E-01	4.58E-05	5.59E-01	4.43E-01	4.16E-05
Road 41	41	1200-1300	1.20E-01	1.03E-01	9.68E-06	1.21E-01	1.04E-01	9.79E-06	6.15E-01	5.26E-01	4.94E-05	6.20E-01	5.30E-01	4.98E-05
Road 41	41	1300-1400	1.14E-01	1.03E-01	9.68E-06	1.14E-01	1.03E-01	9.68E-06	5.82E-01	5.26E-01	4.94E-05	5.82E-01	5.26E-01	4.94E-05
Road 41	41	1400-1500	1.29E-01	1.03E-01	9.68E-06	1.13E-01	9.03E-02	8.48E-06	6.61E-01	5.26E-01	4.94E-05	5.77E-01	4.61E-01	4.33E-05
Road 41	41	1500-1600	1.27E-01	1.03E-01	9.68E-06	1.27E-01	1.03E-01	9.68E-06	6.47E-01	5.26E-01	4.94E-05	6.47E-01	5.26E-01	4.94E-05
Road 41	41	1600-1700	1.38E-01	1.03E-01	9.68E-06	1.27E-01	9.49E-02	8.91E-06	7.04E-01	5.26E-01	4.94E-05	6.47E-01	4.84E-01	4.55E-05
Road 41	41	1700-1800	1.41E-01	1.03E-01	9.68E-06	1.38E-01	1.01E-01	9.47E-06	7.18E-01	5.26E-01	4.94E-05	7.04E-01	5.15E-01	4.84E-05
Road 41	41	1800-1900	1.41E-01	1.03E-01	9.68E-06	1.41E-01	1.03E-01	9.68E-06	7.18E-01	5.26E-01	4.94E-05	7.18E-01	5.26E-01	4.94E-05
Road 41	41	1900-2000	1.33E-01	1.03E-01	9.68E-06	1.41E-01	1.09E-01	1.02E-05	6.78E-01	5.26E-01	4.94E-05	7.18E-01	5.57E-01	5.23E-05
Road 41	41	2000-2100	1.55E-01	2.49E-02	2.33E-06	4.98E-02	2.23E-02	2.09E-06	1.16E-01	1.42E-01	1.33E-05	2.79E-01	1.25E-01	1.17E-05
Road 41	41	2100-2200	1.54E-01	2.49E-02	2.33E-06	2.15E-02	3.47E-03	3.25E-07	1.16E-01	1.42E-01	1.33E-05	1.20E-01	1.94E-02	1.82E-06
Road 41	41	2200-2300	1.46E-01	2.49E-02	2.33E-06	2.09E-02	3.56E-03	3.34E-07	1.09E-01	1.42E-01	1.33E-05	1.17E-01	1.99E-02	1.87E-06
Road 41	41	2300-2400	1.46E-01	2.49E-02	2.33E-06	1.46E-02	2.49E-03	2.33E-07	1.09E-01	1.42E-01	1.33E-05	8.17E-02	1.39E-02	1.30E-06
Road 42	42	0000-0100	1.06E-01	2.29E-02	5.80E-06	9.60E-02	2.07E-02	5.24E-06	5.78E-01	1.24E-01	3.15E-05	5.16E-01	1.11E-01	2.81E-05
Road 42	42	0100-0200	2.06E-01	2.24E-02	5.67E-06	1.75E-01	1.90E-02	4.81E-06	6.18E-01	9.91E-02	2.51E-05	5.90E-01	9.47E-02	2.40E-05
Road 42	42	0200-0300	1.50E-01	1.98E-02	5.03E-06	1.39E-01	1.79E-02	4.54E-06	7.94E-01	1.05E-01	2.66E-05	7.50E-01	9.43E-02	2.39E-05
Road 42	42	0300-0400	1.41E-01	1.98E-02	5.03E-06	1.34E-01	1.88E-02	4.77E-06	7.47E-01	1.05E-01	2.66E-05	7.10E-01	9.96E-02	2.52E-05
Road 42	42	0400-0500	1.61E-01	1.99E-02	5.05E-06	1.47E-01	1.82E-02	4.61E-06	8.50E-01	1.05E-01	2.66E-05	7.71E-01	9.52E-02	2.41E-05
Road 42	42	0500-0600	1.33E-01	2.30E-02	5.83E-06	2.09E-02	3.51E-03	7.00E-01	1.21E-06	6.32E-01	1.60E-04	1.10E-01	5.23E-06	1.33E-06
Road 42	42	0600-0700	1.39E-01	2.99E-02	7.58E-06	1.33E-01	2.86E-02	7.25E-06	7.33E-01	1.58E-01	4.00E-05	7.04E-01	1.51E-01	3.83E-05
Road 42	42	0700-0800	1.55E-01	1.13E-06	2.88E-05	1.41E-01	1.03E-06	2.61E-05	7.93E-01	5.81E-06	1.47E-04	7.15E-01	5.23E-06	1.33E-04
Road 42	42	0800-0900	1.60E-01	1.70E-06	4.31E-05	1.46E-01	1.55E-06	3.93E-05	8.19E-01	8.70E-06	2.21E-04	7.39E-01	7.85E-06	1.99E-04
Road 42	42	0900-1000	1.64E-01	1.20E-06	3.06E-05	1.50E-01	1.10E-06	2.78E-05	8.27E-01	6.06E-06	1.54E-04	7.48E-01	5.48E-06	1.39E-04
Road 42	42	1000-1100	1.68E-01	1.20E-06	3.06E-05	1.54E-01	1.10E-06	2.78E-05	8.48E-01	6.06E-06	1.54E-04	7.68E-01	5.48E-06	1.39E-04
Road 42	42	1100-1200	1.77E-01	1.14E-06	2.90E-05	1.61E-01	1.04E-06	2.64E-05	8.86E-01	5.74E-06	1.46E-04	8.03E-01	5.20E-06	1.32E-04
Road 42	42	1200-1300	1.96E-01	1.41E-06	3.57E-05	1.78E-01	1.28E-06	3.24E-05	9.52E-01	6.84E-06	1.73E-04	8.60E-01	6.18E-06	1.57E-04
Road 42	42	1300-1400	1.96E-01	1.41E-06	3.57E-05	1.96E-01	1.41E-06	3.57E-05	9.52E-01	6.84E-06	1.73E-04	9.52E-01	6.84E-06	1.73E-04
Road 42	42	1400-1500	1.96E-01	1.41E-06	3.57E-05	1.96E-01	1.35E-06	3.42E-05	9.52E-01	6.84E-06	1.73E-04	9.52E-01	6.55E-06	1.66E-04
Road 42	42	1500-1600	1.96E-01	1.41E-06	3.57E-05	1.96E-01	1.41E-06	3.57E-05	9.52E-01	6.84E-06	1.73E-04	9.52E-01	6.84E-06	1.73E-04
Road 42	42	1600-1700	1.88E-01	1.49E-06	3.79E-05	1.95E-01	1.54E-06	3.92E-05	9.13E-01	7.25E-06	1.84E-04	9.48E-01	7.49E-06	1.90E-04
Road 42	42	1700-1800	1.64E-01	1.36E-06	3.45E-05	1.48E-01	1.23E-06	3.11E-05	8.15E-01	6.77E-06	1.72E-04	7.31E-01	6.08E-06	1.54E-04
Road 42	42	1800-1900	1.60E-01	1.36E-06	3.45E-05	1.60E-01	1.36E-06	3.45E-05	8.48E-01	6.38E-06	1.62E-04	8.48E-01	6.38E-06	1.62E-04
Road 42	42	1900-2000	1.37E-01	4.26E-07	1.08E-05	7.34E-02	3.83E-07	9.71E-06	4.29E-01	2.24E-06	5.69E-05	3.81E-01	1.99E-06	5.05E-05
Road 42	42	2000-2100	1.26E-01	4.26E-07	1.08E-05	1.26E-02	2.13E-06	5.40E-08	4.63E-01	1.56E-06	3.96E-05	1.73E-01	5.83E-07	1.48E-05
Road 42	42	2100-2200	8.46E-02	3.56E-07	9.04E-06	7.59E-02	3.22E-07	8.11E-06	4.56E-01	1.92E-06	4.88E-05	4.04E-01	1.70E-06	4.32E-05
Road 42	42	2200-2300	8.49E-02	3.64E-07	8.71E-06	7.86E-02	3.11E-07	7.46E-06	4.56E-01	1.96E-06	4.70E-05	4.09E-01	1.65E-06	4.20E-05
Road 42	42	2300-2400	8.49E-02	3.64E-07	8.71E-06	3.79E-02	7.08E-07	1.70E-06	4.56E-01	1.96E-06	4.70E-05	2.04E-01	3.81E-06	9.14E-05
Road 43	43	0000-0100	8.06E-02	7.58E-08	7.76E-07	7.29E-02	6.85E-08	7.02E-07	4.05E-01	3.81E-07	3.90E-06	3.62E-01	3.40E-07	3.48E-06
Road 43	43	0100-0200	9.48E-02	7.58E-08	7.76E-07	8.56E-02	6.85E-08	7.02E-07	4.76E-01	3.81E-07	3.90E-06	4.29E-01	3.44E-07	3.52E-06
Road 43	43	0200-0300	9.48E-02	4.74E-08	4.85E-07	8.55E-02	4.28E-08	4.38E-07	4.74E-01	2.37E-07	2.43E-06	4.27E-01	2.14E-07	2.19E-06
Road 43	43	0300-0400	9.48E-02	4.74E-08	4.85E-07	8.55E-02	4.28E-08	4.38E-07	4.74E-01	2.37E-07	2.43E-06	4.27E-01	2.14E-07	2.19E-06
Road 43	43	0400-0500	1.03E-01	4.79E-08	4.90E-07	9.37E-02	4.37E-08	4.48E-07	5.07E-01	2.37E-07	2.42E-06	4.60E-01	2.15E-07	2.20E-06
Road 43	43	0500-0600	1.01E-01	8.07E-08	8.26E-07	9.18E-02	7.36E-08	7.54E-07	4.90E-01	3.91E-07	4.00E-06	4.43E-01	3.55E-07	3.63E-06
Road 43	43	0600-0700	1.01E-01	1.61E-06	1.65E-05	9.17E-02	1.46E-06	1.49E-05	4.90E-01	7.76E-06	7.94E-05	4.43E-01	7.04E-06	7.20E-05
Road 43	43	0700-0800	1.06E-01	3.87E-07	3.96E-06	9.62E-02	3.53E-07	3.61E-06	5.07E-01	1.86E-06	1.90E-05	4.58E-01	1.68E-06	1.72E-05
Road 43	43	0800-0900	1.06E-01	1.70E-06	1.74E-05	9.62E-02	1.55E-06	1.58E-05	5.07E-01	8.16E-06	8.35E-05	4.58E-01	7.37E-06	7.54E-05
Road 43	43	0900-1000	1.15E-01	4.87E-07	4.99E-06	1.04E-01	4.44E-07	4.55E-06	5.40E-01	2.30E-06	2.35E-05	4.90E-01	2.08E-06	2.13E-05
Road 43	43	1000-1100	1.24E-01	4.98E-07	5.10E-06	1.13E-01	4.54E-07	4.65E-06	5.78E-01	2.32E-06	2.37E-05	5.25E-01	2.11E-06	2.16E-05
Road 43	43	1100-1200	1.24E-01	4.87E-07	4.99E-06	1.13E-01	4.44E-07	4.55E-06	5.78E-01	2.27E-06	2.32E-05	5.25E-01	2.06E-06	2.11E-05
Road 43	43	1200-1300	8.51E-02	1.72E-07	1.76E-06	7.71E-02	1.56E-07	1.60E-06	4.26E-01	8.63E-07	8.84E-06	3.86E-01	7.75E-07	7.94E-06
Road 43	43	1300-1400	8.45E-02	1.86E-07	1.91E-06	7.71E-02	1.70E-06	1.74E-06	4.23E-01	9.31E-07	9.53E-06	3.82E-01	8.42E-07	8.62E-06
Road 43	43	1400-1500	8.51E-02	1.83E-07	1.87E-06	7.36E-02	1.58E-06	1.62E-06	4.26E-01	9.16E-07	9.38E-06	3.68E-01	7.92E-07	8.11E-06
Road 43	43	1500-1600	8.10E-02	1.83E-07	1.87E-06	7.36E-02	1.66E-06	1.70E-06	4.05E-01	9.16E-07	9.38E-06	3.68E-01	8.33E-07	8.53E-06
Road 43	43	1600-1700	8.25E-02	1.60E-07	1.64E-06	6.63E-02	1.44E-07	1.48E-06	4.30E-01	8.01E-07	8.20E-06	3.31E-01	7.20E-07	7.37E-06
Road 43	43	1700-1800	8.25E-02	1.60E-07	1.64E-06	6.63E-02	1.44E-07	1.48E-06	4.30E-01	8.01E-07	8.20E-06	3.31E-01	7.20E-07	7.37E-06
Road 43	43	1800-1900	9.48E-02	6.95E-08	7.12E-07	8.23E-02	6.03E-08	6.18E-07	4.74E-01	3.47E-07	3.56E-06	4.11E-01	3.01E-07	3.09E-06
Road 43	43	1900-2000	9.48E-02	6.95E-08	7.12E-07	9.23E-02	6.77E-08	6.93E-07	4.74E-01	3.47E-07	3.56E-06	4.61E-01	3.38E-07	3.47E-06
Road 43	43	2000-2100	1.36E-01	5.26E-08	5.39E-07	3.00E-02	4.71E-08	4.82E-07	2.07E-01	3.24E-07	3.32E-06	1.80E-01	2.82E-07	2.88E-06
Road 43	43	2100-2200	1.36E-01	5.26E-08	5.39E-07	3.00E-02	4.45E-08	4.56E-07	2.07E-01	3.24E-07	3.32E-06	1.80E-01	2.67E-07	2.73E-06
Road 43	43	2200-2300	1.28E-01	4.96E-08	5.07E-07	2.95E-02	4.56E-08	4.66E-07	2.06E-01	3.11E-07	3.18E-06	1.77E-01	2.74E-07	2.80E-06
Road 43	43	2300-2400	1.28E-01	4.96E-08	5.07E-07	1.28E-02	2.82E-08	2.88E-07	2.06E-01	3.11E-07	3.18E-06	7.68E-02	1.69E-07	1.73E-06
Road 44	44	0000-0100	8.15E-02	1.95E-02	1.81E-06	1.36E-02	3.76E-07	1.65E-06	4.41E-01	1.03E-01	9.60E-06	4.21E-01	9.59E-02	9.00E-06
Road 44	44	0100-0200	9.72E-02	1.89E-02	1.59E-06	8.78E-02	1.53E-02	7.44E-06	5.32E-01	9.26E-02	8.69E-06	4.76E-01	8.30E-02	7.78E-06
Road 44	44	0200-0300	1.11E-01	1.57E-02	1.47E-06	1.00E-01	1.42E-02	1.33E-06	6.05E-01	8.57E-02	8.04E-06	5.41E-01	7.66E-02	7.19E-06
Road 44	44	0300-0400	1.22E-01	1.50E-02	1.41E-06	1.37E-01	1.28E-02	6.63E-06	6.61E-01	8.15E-02	7.65E-06	6.00E-01	7.38E-02	6.92E-06
Road 44	44	0400-0500	1.20E-01	1.58E-02	1.48E-06	1.09E-01	1.44E-02	1.35E-06	6.47E-01	8.53E-02	8.01E-06	5.87E-01	7.74E-02	7.26E-06
Road 44	44	0500-0600	1.03E-01	2.02E-02	1.90E-06	1.38E-02	1.84E-06	1.73E-06	5.57E-01	1.09E-01	1.02E-05	7.48E-02	9.92E-03	9.33E-06
Road 44	44	0600-0700	8.77E-02	3.26E-02	3.06E-06	7.97E-02	2.96E-02	2.78E-06	4.59E-01	1.71E-01	1.60E-05	4.11E-01	1.53E-01	1.44E-05
Road 44	44	0700-0800	1.04E-01	8.80E-02	8.26E-06	9.43E-02	8.01E-02	7.51E-06	5.45E-01	4.63E-01	4.34E-05	4.91E-01	4.17E-01	3.91E-05
Road 44	44	0800-0900	1.16E-01	1.35E-01	1.27E-05	1.05E-01	1.22E-01	1.14E-05	6.07E-01	7.08E-01	6.64E-05	5.47E-01	6.37E-01	5.98E-05
Road 44	44	0900-1000	1.11E-01	9.94E-02	9.33E-06	1.01E-01	9.05E-02	8.49E-06	5.68E-01	5.08E-01	4.77E-05	5.14E-01	4.60E-01	4.31E-05
Road 44	44	1000-1100	1.14E-01	1.03E-01	9.68E-06	1.13E-01	1.02E-01	9.57E-06	5.82E-01	5.26E-01	4.94E-05	5.77E-01	5.21E-01	4.89E-05
Road 44	44	1100-1200	1.21E-01	9.60E-02	9.01E-06	8.75E-02	6.92E-02	6.49E-06	6.21E-01	4.88E-01	4.58E-05	5.59E-01	4.43E-01	4.16E-05
Road 44	44	1200-1300	1.20E-01	1.03E-01	9.68E-06	1.21E-01	1.04E-01	9.79E-06	6.15E-01	5.26E-01	4.94E-05	6.20E-01	5.30E-01	4.98E-05
Road 44	44	1300-1400	1.14E-01	1.03E-01	9.68E-06	1.14E-01	1.03E-01	9.68E-06	5.82E-01	5.26E-01	4.94E-05	5.82E-01	5.26E-01	4.94E-05
Road 44	44	1400-1500	1.29E-01	1.03E-01	9.68E-06	1.13E-01	9.03E-02	8.48E-06	6.61E-01	5.26E-01	4.94E-05	5.77E-01	4.61E-01	4.33E-05
Road 44	44	1500-1600	1.27E-01	1.03E-01	9.68E-06	1.27E-01	1.03E-01	9.68E-06	6.47E-01	5.26E-01	4.94E-05	6.47E-01	5.26E-01	4.94E-05
Road 44	44	1600-1700	1.38E-01	1.03E-01	9.68E-06	1.27E-01	9.49E-02	8.91E-06	7.04E-01	5.26E-01	4.94E-05	6.47E-01	4.84E-01	4.55E-05
Road 44	44	1700-1800	1.41E-01	1.03E-01	9.68E-06	1.38E-01	1.01E-01	9.47E-06	7.18E-01	5.26E-01	4.94E-05	7.04E-01	5.15E-01	4.84E-05
Road 44	44	1800-1900	1.41E-01	1.03E-01	9.68E-06	1.41E-01	1.03E-01	9.68E-06	7.18E-01	5.26E-01	4.94E-05	7.18E-01	5.26E-01	4.94E-05
Road 44	44	1900-2000	1.33E-01	1.03E-01	9.68E-06	1.41E-01	1.09E-01	1.02E-05	6.78E-01	5.26E-01	4.94E-05	7.18E-01	5.57E-01	5.23E-05
Road 44	44	2000-2100	1.55E-01	2.49E-02	2.33E-06	4.98E-02	2.23E-02	2.09E-06	1.16E-01	1.42E-01	1.33E-05	2.79E-01	1.25E-01	1.17E-05
Road 44	44	2100-2200	1.54E-01	2.49E-02	2.33E-06	2.15E-02	3.47E-03	3.25E-07	1.16E-01	1.42E-01	1.33E-05	1.20E-01	1.94E-02	1.82E-06
Road 44	44	2200-2300	1.46E-01	2.49E-02	2.33E-06	2.09E-02	3.56E-03	3.34E-07	1.09E-01	1.42E-01	1.33E-05	1.17E-01	1.99E-02	1.87E-06
Road 44	44	2300-2400	1.46E-01	2.49E-02	2.33E-06	1.46E-02	2.49E-03	2.33E-07	1.09E-01	1.42E-01	1.33E-05	8.17E-02	1.39E-02	1.30E-06
Road 44	44	0000-0100	1.06E-01	2.29E-02	5.80E-06	9.60E-02	2.07E-02	5.24E-06	5.78E-01	1.24E-01	3.15E-05	5.16E-01	1.11E-01	2.81E-05
Road 44	44	0100-0200	2.06E-01	2.24E-02	5.67E-06	1.75E-01	1.90E-02	4.81E-06	6.18E-01	9.91E-02	2.51E-05	5.90E-01	9.47E-02	2.40E-05
Road 44	44	0200-0300	1.50E-01	1.98E-02	5.03E-06	1.39E-01	1.79E-02	4.54E-06	7.94E-01	1.05E-01	2.66E-05	7.50E-01	9.43E-02	2.39E-05
Road 44	44	0300-0400	1.41E-01	1.98E-02	5.03E-06	1.34E-01	1.88E-02	4.77E-06	7.47E-01	1.05E-01	2.66E-05	7.10E-01	9.96E-02	2.52E-05
Road 44	44	0400-0500	1.61E-01	1.99E-02	5.05E-06	1.47E-01	1.82E-02	4.61E-06	8.50E-01	1.05E-01	2.66E-05	7.71E-01	9.52E-02	2.41E-05
Road 44	44	0500-0600	1.33E-01	2.30E-02	5.83E-06	2.09E-02	3.51E-03	7.00E-01	1.21E-06	6.32E-01	1.60E-04	1.10E-01	5.23E-06	1.33E-06
Road 44	44	0600-0700	1.39E-01	2.99E-02	7.58E-06	1.33E-01	2.86E-02	7.25E-06	7.33E-01	1.58E-01	4.00E-05	7.04E-01	1.51E-01	3.83E-05
Road 44	44	0700-0800	1.55E-01	1.13E-06	2.88E-05	1.41E-01	1.03E-06	2.61E-05	7.93E-01	5.81E-06	1.47E-04	7.15E-01	5.23E-06	1.33E-04
Road 44	44	0800-0900	1.60E-01	1.70E-06	4.31E-05	1.46E-01	1.55E-06	3.93E-05	8.19E-01	8.70E-06	2.21E-04	7.39E-01	7.85E-06	1.99E-04
Road 44	44	0900-1000	1.64E-01	1.20E-06	3.06E-05	1.50E-01	1.10E-06	2.78E-05	8.27E-01	6.06E-06	1.54E-04	7.48E-01	5.48E-06	1.39E-04
Road 44	44	1000-1100	1.68E-01	1.20E-06	3.06E-05	1.54E-01	1.10E-06	2.78E-05	8.48E-01	6.06E-06	1.54E-04	7.68E-01	5.48E-06	1.39E-04
Road 44	44	1100-1200	1.77E-01	1.14E-06	2.90E-05	1.61E-01	1.04E-06	2.64E-05	8.86E-01	5.74E-06	1.46E-04	8.03E-01	5.20E-06	1.32E-04
Road 44	44	1200-1300	1.96E-01	1.41E-06	3.57E-05	1.78E-01	1.28E-06	3.24E-05	9.52E-01	6.84E-06	1.73E-04	8.60E-01	6.18E-06	1.57E-04
Road 44	44	1300-1400	1.96E-01	1.41E-06	3.57E-05	1.96E-01	1.41E-06	3.57E-05	9.52E-01	6.84E-06	1.73E-04	9.52E-01	6.84E-06	1.73E-04
Road 44	44	1400-1500	1.96E-01	1.41E-06	3.57E-05	1.96E-01	1.35E-06	3.42E-05	9.52E-01	6.84E-06	1.73E-04	9.52E-01	6.55E-06	1.66E-04
Road 44	44	1500-1600	1.96E-01	1.41E-06	3.57E-05	1.96E-01	1.41E-06	3.57E-05	9.52E-01	6.84E-06	1.73E-04	9.52E-01	6.84E-06	1.73E-04
Road 44	44	1600-1700	1.88E-01	1.49E-06	3.79E-05	1.95E-01	1.54E-06	3.92E-05	9.13E-01	7.25E-06	1.84E-04	9.48E-01	7.49E-06	1.90E-04
Road 44	44	1700-1800	1.64E-01	1.36E-06	3.45E-05	1.48E-01	1.23E-06	3.11E-05	8.15E-01	6.77E-06	1.72E-04	7.31E-01	6.08E-06	1.54E-04
Road 44	44	1800-1900	1.60E-01	1.36E-06	3.45E-05	1.60E-01	1.36E-06	3.45E-05	8.48E-01	6.38E-06	1.62E-04	8.48E-01	6.38E-06	1.62E-04
Road 44	44	1900-2000	1.37E-01	4.26E-07	1.08E-05	7.34E-02	3.83E-07	9.71E-06	4.29E-01	2.24E-06	5.69E-05	3.81E-01	1.99E-06	5.05E-05
Road 44	44	2000-2100	1.26E-01	4.26E-07	1.08E-05	1.26E-02	2.13E-06	5.40E-08	4.63E-01	1.56E-06	3.96E-05	1.73E-01	5.83E-07	1.48E-05
Road 44	44	2100-2200	8.46E-02	3.56E-07	9.04E-06	7.59E-02	3.22E-07	8.11E-06	4.56E-01	1.92E-06	4.88E-05	4.04E-01	1.70E-06	4.32E-05
Road 44	44	2200-2300	8.49E-02	3.64E-07	8.71E-06	7.86E-02	3.11E-07	7.46E-06	4.56E-01	1.96E-06	4.70E-05	4.09E-01	1.65E-06	4.20E-05
Road 44	44	2300-2400	8.49E-02	3.64E-07	8.71E-06	3.79E-02	7.08E-07	1.70E-06	4.56E-01	1.96E-06	4.70E-05	2.04E-01	3.81E-06	9.14E-05
Road 44	44	0000-0100	8.06E-02	7.58E-08	7.76E-07	7.29E-02	6.85E-08	7.02E-07	4.05E-01	3.81E-07	3.90E-06	3.62E-01	3.40E-07	3.48E-06
Road 44	44	0100-0200	9.48E-02	7.58E-08	7.76E-07	8.56E-02	6.85E-08	7.02E-07	4.76E-01	3.81E-07	3.90E-06	4.29E-01	3.44E-07	3.52E-06
Road 44	44	0200-0300	9.48E-02	4.74E-08	4.85E-07	8.55E-02	4.28E-08	4.38E-07	4.74E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2030**

Road Name	Road ID	Hour	NO_x Emission AnnualHourMin g/km/veh	NO_x Emission AnnualHourMin g/s/m	NO_x Emission AnnualHourMin tonne/year	NO Emission AnnualHourMin g/km/veh	NO Emission AnnualHourMin g/s/m	NO Emission AnnualHourMin tonne/year	PM_{10} Emission AnnualHourMin g/km/veh	PM_{10} Emission AnnualHourMin g/s/m	PM_{10} Emission AnnualHourMin tonne/year	$PM_{2.5}$ Emission AnnualHourMin g/km/veh	$PM_{2.5}$ Emission AnnualHourMin g/s/m	$PM_{2.5}$ Emission AnnualHourMin tonne/year
Road 6	6	1600-1700	7.95E-02	1.49E-02	1.53E-02	4.88E-01	9.15E-02	9.40E-02	1.06E-02	1.98E-03	2.04E-03	4.89E-03	9.17E-04	9.43E-04
Road 6	6	1700-1800	6.08E-02	1.26E-02	1.29E-02	4.33E-01	8.95E-02	9.20E-02	1.80E-02	3.71E-03	3.82E-03	1.95E-02	4.04E-03	4.15E-03
Road 6	6	1800-1900	4.67E-02	1.02E-02	1.04E-02	3.82E-01	8.31E-02	8.54E-02	1.64E-02	3.57E-03	3.67E-03	1.79E-02	3.88E-03	3.99E-03
Road 6	6	1900-2000	3.96E-02	6.76E-03	6.95E-03	3.75E-01	6.40E-02	6.58E-02	1.64E-02	2.80E-03	2.88E-03	1.78E-02	3.05E-03	3.13E-03
Road 6	6	2000-2100	3.76E-02	5.02E-03	5.16E-03	3.78E-01	5.04E-02	5.18E-02	1.63E-02	2.18E-03	2.24E-03	1.77E-02	2.37E-03	2.43E-03
Road 6	6	2100-2200	3.49E-02	4.63E-03	4.76E-03	3.51E-01	4.65E-02	4.78E-02	1.47E-02	1.95E-03	2.01E-03	1.60E-02	2.12E-03	2.18E-03
Road 6	6	2200-2300	3.24E-02	4.30E-03	4.57E-03	3.26E-01	4.32E-02	4.59E-02	1.52E-02	2.01E-03	2.14E-03	1.66E-02	2.20E-03	2.34E-03
Road 6	6	2300-0000	3.51E-02	3.39E-03	3.49E-03	3.49E-01	3.38E-02	3.47E-02	1.51E-02	1.46E-03	1.50E-03	1.65E-02	1.59E-03	1.64E-03
Road 6	7	0000-0100	1.54E-02	7.45E-03	3.19E-04	2.16E-01	1.05E-02	4.47E-03	9.41E-03	4.56E-03	1.95E-04	1.02E-02	4.96E-03	2.12E-04
Road 7	7	0100-0200	1.29E-02	6.25E-03	2.67E-04	2.17E-01	1.05E-02	4.47E-03	9.75E-03	3.07E-03	1.31E-04	1.06E-02	3.34E-03	1.43E-04
Road 7	7	0200-0300	1.85E-02	4.27E-03	1.83E-04	2.28E-01	5.25E-02	2.25E-03	1.01E-02	2.32E-03	9.98E-05	1.10E-02	2.52E-03	1.08E-04
Road 7	7	0300-0400	2.01E-02	3.65E-03	1.56E-04	2.34E-01	4.25E-02	1.82E-03	1.04E-02	1.90E-03	8.11E-05	1.14E-02	2.06E-03	8.81E-05
Road 7	7	0400-0500	2.02E-02	4.14E-03	1.77E-04	2.37E-01	4.68E-02	2.00E-03	1.05E-02	2.09E-03	8.96E-05	1.15E-02	2.28E-03	9.74E-05
Road 7	7	0500-0600	2.10E-02	7.11E-03	3.04E-04	2.37E-01	8.03E-02	3.57E-03	1.53E-02	5.19E-03	2.22E-04	1.62E-02	5.48E-03	2.34E-04
Road 7	7	0600-0700	2.14E-02	1.54E-02	6.58E-04	2.39E-01	1.71E-02	7.34E-03	1.06E-02	7.58E-03	3.24E-04	1.15E-02	8.24E-03	3.53E-04
Road 7	7	0700-0800	2.31E-02	1.43E-02	2.43E-03	2.52E-01	1.56E-02	2.65E-03	1.10E-02	1.59E-02	1.97E-03	1.27E-02	1.72E-02	2.78E-03
Road 7	7	0800-0900	2.18E-02	3.61E-02	1.54E-03	2.51E-01	4.16E-02	1.77E-02	1.10E-02	1.83E-02	7.78E-03	1.26E-02	2.09E-02	8.91E-03
Road 7	7	0900-1000	2.44E-02	3.23E-02	1.38E-03	2.36E-01	3.13E-02	1.34E-02	1.11E-02	1.47E-02	6.27E-03	1.20E-02	1.59E-02	6.81E-03
Road 7	7	1000-1100	2.68E-02	3.02E-02	2.15E-03	2.97E-01	3.94E-02	1.69E-02	1.48E-02	1.96E-02	8.37E-03	1.61E-02	2.13E-02	9.10E-03
Road 7	7	1100-1200	3.79E-02	5.02E-02	2.15E-03	2.97E-01	3.94E-02	1.69E-02	1.48E-02	1.96E-02	8.37E-03	1.61E-02	2.13E-02	9.10E-03
Road 7	7	1200-1300	3.85E-02	5.18E-02	2.22E-03	2.97E-01	3.99E-02	1.71E-02	1.46E-02	1.96E-02	8.41E-03	1.59E-02	2.13E-02	9.14E-03
Road 7	7	1300-1400	3.72E-02	5.01E-02	2.15E-03	2.97E-01	3.99E-02	1.71E-02	1.46E-02	1.96E-02	8.41E-03	1.59E-02	2.13E-02	9.14E-03
Road 7	7	1500-1600	3.67E-02	5.40E-02	2.31E-03	2.88E-01	4.23E-02	1.81E-02	1.40E-02	2.06E-02	8.82E-03	1.52E-02	2.24E-02	9.58E-03
Road 7	7	1600-1700	3.76E-02	5.93E-02	2.54E-03	2.95E-01	4.65E-02	1.99E-02	1.48E-02	2.34E-02	1.00E-02	1.61E-02	2.54E-02	1.09E-02
Road 7	7	1700-1800	2.87E-02	5.18E-02	2.22E-03	2.95E-01	5.32E-02	2.28E-02	1.48E-02	2.68E-02	1.15E-02	1.61E-02	2.91E-02	1.25E-02
Road 7	7	1800-1900	2.23E-02	4.66E-02	1.91E-03	2.34E-01	4.69E-02	2.00E-02	1.17E-02	2.34E-02	1.00E-02	1.27E-02	2.54E-02	1.09E-02
Road 7	7	1900-2000	2.01E-02	3.20E-02	1.37E-03	2.45E-01	3.91E-02	1.68E-02	1.22E-02	1.99E-02	8.52E-03	1.32E-02	2.16E-02	9.26E-03
Road 7	7	2000-2100	1.79E-02	2.20E-02	9.43E-04	2.39E-01	2.95E-02	1.26E-02	1.10E-02	1.35E-02	5.80E-03	1.19E-02	1.46E-02	6.30E-03
Road 7	7	2200-2300	1.78E-02	2.14E-02	9.16E-04	2.49E-01	3.00E-02	1.28E-02	1.15E-02	1.38E-02	5.91E-03	1.24E-02	1.49E-02	6.43E-03
Road 7	7	2300-0000	1.91E-02	1.72E-02	7.37E-04	2.53E-01	2.28E-02	9.75E-03	1.17E-02	1.06E-02	4.52E-03	1.27E-02	1.15E-02	4.91E-03
Road 8	8	0000-0100	1.44E-02	1.29E-02	5.54E-04	2.26E-01	1.97E-02	8.45E-03	9.66E-03	8.84E-03	3.80E-03	1.04E-02	9.52E-03	4.09E-03
Road 8	8	0100-0200	1.24E-02	1.27E-02	4.99E-04	2.65E-01	2.96E-02	1.16E-02	1.08E-02	1.21E-02	4.75E-03	1.16E-02	1.30E-02	5.11E-03
Road 8	8	0200-0300	3.39E-02	1.32E-02	9.73E-05	5.05E-01	1.96E-02	1.45E-03	2.69E-02	1.05E-02	7.72E-05	2.92E-02	1.14E-02	8.39E-05
Road 8	8	0300-0400	1.50E-02	1.22E-02	5.38E-05	2.34E-01	1.90E-02	8.37E-04	1.01E-02	7.87E-03	3.47E-04	1.08E-02	8.47E-03	6.66E-05
Road 8	8	0400-0500	3.65E-02	1.24E-02	9.13E-05	5.09E-01	1.72E-02	1.27E-03	2.91E-02	9.96E-03	7.35E-05	3.16E-02	1.08E-02	7.98E-05
Road 8	8	0500-0600	3.78E-02	2.23E-02	1.64E-04	5.11E-01	3.00E-02	2.22E-03	2.72E-02	1.60E-02	1.18E-04	2.95E-02	1.74E-02	1.28E-04
Road 8	8	0600-0700	3.61E-02	3.61E-02	2.66E-04	5.16E-01	5.16E-02	3.81E-03	2.60E-02	2.60E-02	1.91E-04	2.82E-02	2.82E-02	2.07E-04
Road 8	8	0700-0800	4.05E-02	1.04E-02	7.64E-04	5.14E-01	1.31E-02	9.70E-03	2.91E-02	7.49E-03	5.52E-03	3.16E-02	8.12E-03	5.98E-03
Road 8	8	0800-0900	3.88E-02	1.13E-02	8.37E-04	4.69E-01	1.37E-02	1.01E-02	2.52E-02	7.37E-03	5.44E-04	2.74E-02	8.01E-03	5.91E-04
Road 8	8	0900-1000	3.68E-02	1.08E-02	7.77E-04	3.92E-01	1.21E-02	8.59E-03	2.67E-02	7.98E-03	5.73E-04	2.90E-02	8.68E-03	6.23E-04
Road 8	8	1000-1100	4.77E-02	1.03E-02	7.59E-04	4.99E-01	1.08E-02	7.94E-03	2.70E-02	5.81E-03	4.29E-04	2.93E-02	6.31E-03	4.66E-04
Road 8	8	1100-1200	4.68E-02	9.57E-03	7.06E-04	5.06E-01	1.03E-02	7.63E-03	2.71E-02	5.54E-03	4.09E-04	2.95E-02	6.03E-03	4.45E-04
Road 8	8	1200-1300	4.68E-02	1.07E-02	7.91E-04	4.98E-01	1.14E-02	8.42E-03	2.71E-02	6.21E-03	4.59E-04	2.95E-02	6.76E-03	4.99E-04
Road 8	8	1300-1400	5.08E-02	3.05E-02	2.25E-03	3.95E-01	2.37E-02	1.75E-02	2.04E-02	1.22E-02	9.03E-04	2.22E-02	1.33E-02	9.82E-04
Road 8	8	1400-1500	5.01E-02	3.18E-02	2.34E-03	3.91E-01	2.48E-02	1.83E-02	2.04E-02	1.29E-02	9.54E-04	2.22E-02	1.40E-02	1.04E-03
Road 8	8	1500-1600	4.78E-02	3.82E-02	2.82E-03	3.98E-01	3.19E-02	2.35E-02	2.04E-02	1.63E-02	1.20E-03	2.22E-02	1.77E-02	1.30E-03
Road 8	8	1600-1700	4.84E-02	3.31E-02	2.71E-03	4.00E-01	2.73E-02	2.24E-03	2.09E-02	1.43E-02	1.17E-03	2.27E-02	1.55E-02	1.27E-03
Road 8	8	1700-1800	3.82E-02	2.89E-02	2.14E-03	3.68E-01	2.79E-02	2.06E-02	1.90E-02	1.44E-02	1.06E-03	2.06E-02	1.56E-02	1.15E-03
Road 8	8	1800-1900	2.97E-02	2.39E-02	1.76E-03	3.39E-01	2.72E-02	2.01E-02	1.79E-02	1.43E-02	1.06E-03	1.94E-02	1.56E-02	1.15E-03
Road 8	8	1900-2000	2.82E-02	1.40E-02	1.04E-03	3.82E-01	1.90E-02	1.41E-02	1.97E-02	9.82E-03	7.25E-04	2.14E-02	1.07E-02	7.88E-04
Road 8	8	2000-2100	2.60E-02	1.28E-02	9.77E-04	3.51E-01	1.73E-02	1.32E-02	1.77E-02	8.77E-03	6.71E-04	1.94E-02	9.62E-03	7.36E-04
Road 8	8	2100-2200	2.58E-02	1.29E-02	9.84E-04	3.51E-01	1.75E-02	1.34E-02	1.77E-02	8.96E-03	6.85E-04	1.94E-02	9.83E-03	7.51E-04
Road 8	8	2200-2300	2.77E-02	9.95E-03	7.34E-04	3.70E-01	1.33E-02	9.83E-03	1.89E-02	6.79E-03	5.01E-04	2.05E-02	7.38E-03	5.45E-04
Road 8	8	2300-0000	2.77E-02	8.21E-03	2.20E-04	2.59E-01	7.65E-03	2.05E-03	1.04E-02	4.06E-03	1.10E-04	1.13E-02	4.42E-03	1.20E-04
Road 9	9	0000-0100	2.07E-02	8.12E-03	2.20E-04	2.59E-01	1.01E-02	2.75E-03	1.04E-02	4.06E-03	1.10E-04	1.13E-02	4.42E-03	1.20E-04
Road 9	9	0100-0200	2.20E-02	6.25E-03	2.67E-04	2.59E-01	7.36E-02	3.14E-03	1.04E-02	2.95E-03	1.26E-04	1.13E-02	3.21E-03	1.37E-04
Road 9	9	0200-0300	2.39E-02	4.44E-03	1.20E-04	2.63E-01	4.88E-02	1.32E-03	1.07E-02	2.12E-03	5.74E-05	1.16E-02	2.30E-03	6.22E-05
Road 9	9	0300-0400	2.56E-02	3.75E-03	1.01E-04	2.66E-01	3.89E-02	1.05E-03	1.10E-02	1.61E-03	4.37E-05	1.19E-02	1.75E-03	4.74E-05
Road 9	9	0400-0500	2.60E-02	3.78E-03	1.02E-04	2.66E-01	3.86E-02	1.04E-03	1.10E-02	1.61E-03	4.34E-05	1.19E-02	1.75E-03	4.71E-05
Road 9	9	0500-0600	2.77E-02	7.56E-03	2.05E-04	2.78E-01	7.60E-02	2.06E-03	1.14E-02	3.11E-03	8.43E-05	1.24E-02	3.39E-03	9.17E-05
Road 9	9	0600-0700	3.07E-02	1.78E-02	4.82E-04	3.02E-01	1.95E-02	5.29E-03	1.29E-02	7.12E-03	1.89E-04	1.31E-02	1.92E-02	5.12E-04
Road 9	9	0700-0800	3.86E-02	4.51E-02	1.22E-03	3.48E-01	4.08E-02	1.10E-02	1.36E-02	1.59E-02	4.32E-04	1.48E-02	1.73E-02	4.70E-04
Road 9	9	0800-0900	3.76E-02	5.06E-02	1.37E-03	3.22E-01	4.34E-02	1.18E-02	1.29E-02	1.73E-02	4.69E-04	1.40E-02	1.88E-02	5.09E-04
Road 9	9	0900-1000	4.03E-02	4.31E-02	1.17E-03	3.37E-01	3.61E-02	9.77E-03	1.36E-02	1.45E-02	3.94E-04	1.48E-02	1.58E-02	4.28E-04
Road 9	9	1000-1100	4.34E-02	3.95E-02	1.07E-03	3.45E-01	3.14E-02	8.50E-03	1.41E-02	1.28E-02	3.48E-04	1.53E-02	1.39E-02	3.78E-04
Road 9	9	1100-1200	4.12E-02	3.56E-02	9.64E-04	3.44E-01	2.97E-02	8.06E-03	1.39E-02	1.20E-02	3.26E-04	1.51E-02	1.30E-02	3.53E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2030**

Road Name	Road ID	Hour	NO_x Emission AnnualHourMin g/km/veh	NO_x Emission AnnualHourMin g/s/m	NO_x Emission AnnualHourMin tonne/year	NO Emission AnnualHourMin g/km/veh	NO Emission AnnualHourMin g/s/m	NO Emission AnnualHourMin tonne/year	PM_{10} Emission AnnualHourMin g/km/veh	PM_{10} Emission AnnualHourMin g/s/m	PM_{10} Emission AnnualHourMin tonne/year	$PM_{2.5}$ Emission AnnualHourMin g/km/veh	$PM_{2.5}$ Emission AnnualHourMin g/s/m	$PM_{2.5}$ Emission AnnualHourMin tonne/year
Road 9	9	1200-1300	6.56E-02	7.02E-02	1.90E-03	4.45E-01	4.76E-02	1.30E-02	1.84E-02	1.97E-02	5.36E-03	1.73E-02	1.85E-02	5.03E-03
Road 9	9	1300-1400	6.68E-02	7.25E-02	1.97E-03	4.50E-01	4.89E-02	1.32E-02	1.82E-02	1.98E-02	5.37E-03	1.98E-02	2.15E-02	5.83E-03
Road 9	9	1400-1500	6.81E-02	7.91E-02	2.14E-03	4.54E-01	5.27E-02	1.43E-02	1.85E-02	2.14E-02	5.81E-03	2.01E-02	2.33E-02	6.31E-03
Road 9	9	1500-1600	6.52E-02	7.74E-02	2.10E-03	4.47E-01	5.30E-02	1.44E-02	1.78E-02	2.11E-02	5.73E-03	1.94E-02	2.30E-02	6.22E-03
Road 9	9	1600-1700	6.86E-02	8.73E-02	2.37E-03	4.65E-01	5.92E-02	1.60E-02	2.08E-02	2.65E-02	7.20E-03	2.02E-02	2.67E-02	7.17E-03
Road 9	9	1700-1800	5.28E-02	7.69E-02	2.08E-03	4.19E-01	6.11E-02	1.65E-02	1.69E-02	2.46E-02	6.67E-03	1.84E-02	2.67E-02	7.24E-03
Road 9	9	1800-1900	4.18E-02	6.75E-02	1.83E-03	3.72E-01	6.00E-02	1.63E-02	1.55E-02	2.51E-02	6.79E-03	1.69E-02	2.73E-02	7.39E-03
Road 9	9	1900-2000	3.39E-02	4.36E-02	1.18E-03	3.56E-01	4.58E-02	1.24E-02	1.59E-02	2.09E-02	5.66E-03	1.44E-02	2.22E-02	6.02E-03
Road 9	9	2000-2100	3.20E-02	3.21E-02	8.69E-04	3.61E-01	3.62E-02	9.80E-03	1.50E-02	1.51E-02	4.08E-03	1.63E-02	1.64E-02	4.43E-03
Road 9	9	2100-2200	2.77E-02	2.77E-02	7.49E-04	3.44E-01	3.22E-02	8.74E-03	1.41E-02	1.31E-02	3.55E-03	1.54E-02	1.42E-02	3.86E-03
Road 9	9	2200-2300	2.74E-02	2.67E-02	7.22E-04	3.36E-01	3.26E-02	8.85E-03	1.37E-02	1.33E-02	3.61E-03	1.49E-02	1.45E-02	3.92E-03
Road 9	9	2300-0000	2.84E-02	2.06E-02	5.59E-04	3.29E-01	2.39E-02	6.47E-03	1.36E-02	9.89E-03	2.68E-03	1.48E-02	1.08E-02	2.91E-03
Road 10	10	0000-0100	2.84E-02	1.65E-02	4.05E-04	4.96E-01	1.68E-02	2.12E-03	2.07E-02	3.61E-03	8.84E-05	2.23E-02	3.94E-03	9.64E-05
Road 10	10	0100-0200	1.10E-01	1.42E-02	3.47E-04	5.49E-01	7.06E-02	1.73E-03	2.40E-02	3.09E-03	7.55E-05	2.62E-02	3.37E-03	8.23E-05
Road 10	10	0200-0300	1.21E-01	1.28E-02	3.12E-04	5.88E-01	6.20E-02	1.52E-03	2.64E-02	2.79E-03	6.82E-05	2.89E-02	3.05E-03	7.45E-05
Road 10	10	0300-0400	1.31E-01	1.21E-02	2.96E-04	6.23E-01	5.74E-02	1.40E-03	2.88E-02	2.64E-03	6.45E-05	3.15E-02	2.88E-03	7.05E-05
Road 10	10	0400-0500	1.30E-01	1.26E-02	3.13E-04	6.18E-01	6.08E-02	1.49E-03	2.85E-02	2.76E-03	6.76E-05	3.07E-02	3.02E-03	7.39E-05
Road 10	10	0500-0600	1.19E-01	1.71E-02	4.18E-04	5.78E-01	8.31E-02	2.03E-03	2.47E-02	3.56E-03	8.70E-05	2.70E-02	3.88E-03	9.51E-05
Road 10	10	0600-0700	1.07E-01	2.88E-02	7.04E-04	5.41E-01	1.45E-01	3.54E-03	2.34E-02	6.26E-03	1.53E-04	2.55E-02	6.83E-03	1.67E-04
Road 10	10	0700-0800	1.27E-01	3.46E-02	8.47E-04	5.71E-01	1.56E-01	3.81E-03	2.71E-02	7.34E-03	1.79E-04	2.96E-02	8.01E-03	1.96E-04
Road 10	10	0800-0900	1.35E-01	9.41E-02	2.30E-03	6.12E-01	4.27E-01	1.05E-02	2.45E-02	1.71E-02	4.18E-04	2.67E-02	1.87E-02	4.57E-04
Road 10	10	0900-1000	1.48E-01	9.57E-02	2.34E-03	6.44E-01	4.16E-01	1.02E-02	2.57E-02	1.66E-02	3.96E-04	2.73E-02	1.76E-02	4.32E-04
Road 10	10	1000-1100	1.59E-01	9.13E-02	2.23E-03	6.77E-01	3.89E-01	9.51E-03	2.65E-02	1.52E-02	3.72E-04	2.88E-02	1.65E-02	4.05E-04
Road 10	10	1100-1200	1.62E-01	8.61E-02	2.11E-03	6.79E-01	3.62E-01	8.85E-03	2.76E-02	1.47E-02	3.60E-04	3.01E-02	1.60E-02	3.92E-04
Road 10	10	1200-1300	1.68E-01	9.32E-02	2.28E-03	6.99E-01	3.89E-01	9.51E-03	2.75E-02	1.53E-02	3.75E-04	3.00E-02	1.67E-02	4.08E-04
Road 10	10	1300-1400	1.64E-01	9.34E-02	2.29E-03	6.86E-01	3.92E-01	9.59E-03	2.75E-02	1.57E-02	3.84E-04	2.99E-02	1.71E-02	4.18E-04
Road 10	10	1500-1600	1.62E-01	9.49E-02	2.32E-03	6.84E-01	4.00E-01	9.78E-03	2.64E-02	1.54E-02	3.78E-04	2.88E-02	1.68E-02	4.11E-04
Road 10	10	1600-1700	1.58E-01	9.33E-02	2.28E-03	6.71E-01	3.96E-01	9.67E-03	2.71E-02	1.59E-02	3.90E-04	2.92E-02	1.72E-02	4.20E-04
Road 10	10	1700-1800	1.41E-01	8.67E-02	2.12E-03	6.33E-01	3.88E-01	9.50E-03	2.60E-02	1.59E-02	3.90E-04	2.84E-02	1.74E-02	4.26E-04
Road 10	10	1800-1900	1.16E-01	7.00E-02	1.71E-03	5.38E-01	3.24E-01	7.94E-03	2.36E-02	1.42E-02	3.47E-04	2.57E-02	1.55E-02	3.79E-04
Road 10	10	1900-2000	7.68E-02	2.96E-02	7.24E-04	4.06E-01	1.57E-01	3.83E-03	1.62E-02	6.22E-03	1.52E-04	1.77E-02	6.81E-03	1.67E-04
Road 10	10	2000-2100	8.14E-02	2.67E-02	6.52E-04	4.27E-01	1.40E-01	3.42E-03	1.70E-02	5.60E-03	1.37E-04	1.86E-02	6.14E-03	1.50E-04
Road 10	10	2100-2200	7.94E-02	2.46E-02	6.03E-04	4.35E-01	1.35E-01	3.31E-03	1.67E-02	5.17E-03	1.27E-04	1.82E-02	5.67E-03	1.39E-04
Road 10	10	2200-2300	7.64E-02	2.27E-02	5.56E-04	4.31E-01	1.28E-01	3.14E-03	1.65E-02	4.91E-03	1.20E-04	1.81E-02	5.37E-03	1.32E-04
Road 10	10	2300-0000	7.71E-02	2.14E-02	1.03E-03	2.62E-01	2.07E-02	9.98E-03	1.21E-02	9.57E-03	4.62E-04	1.38E-02	1.04E-02	5.02E-04
Road 11	11	0000-0100	7.44E-02	2.01E-02	4.93E-04	3.93E-01	2.07E-02	5.08E-03	1.76E-02	9.27E-03	2.27E-04	1.49E-02	7.86E-03	1.93E-04
Road 11	11	0100-0200	1.93E-01	1.52E-02	9.86E-04	8.09E-01	6.35E-02	4.14E-03	2.62E-02	2.06E-02	1.34E-04	2.85E-02	2.24E-02	1.46E-04
Road 11	11	0200-0300	1.97E-01	1.21E-02	7.87E-04	8.25E-01	5.06E-02	3.29E-03	2.67E-02	1.64E-02	1.07E-04	2.91E-02	1.78E-02	1.16E-04
Road 11	11	0300-0400	2.01E-01	1.04E-02	6.75E-04	8.41E-01	4.33E-02	2.82E-03	2.72E-02	1.40E-02	9.12E-05	2.96E-02	1.52E-02	9.91E-05
Road 11	11	0400-0500	2.04E-01	1.14E-02	7.38E-04	8.54E-01	4.77E-02	3.10E-03	2.76E-02	1.54E-02	9.98E-05	3.00E-02	1.67E-02	1.08E-04
Road 11	11	0500-0600	2.23E-01	2.46E-02	1.60E-03	9.25E-01	1.02E-01	6.62E-03	2.98E-02	3.38E-02	2.20E-04	3.25E-02	3.68E-02	2.39E-04
Road 11	11	0600-0700	5.96E-02	4.40E-02	1.61E-04	4.99E-01	3.69E-01	5.16E-02	1.60E-02	1.21E-02	4.39E-04	1.74E-02	1.31E-02	4.76E-04
Road 11	11	0700-0800	7.48E-02	1.15E-02	1.61E-03	5.58E-01	8.59E-02	1.20E-02	2.36E-02	3.63E-02	5.09E-04	2.60E-02	4.00E-02	5.61E-04
Road 11	11	0800-0900	1.35E-01	1.25E-02	1.75E-03	1.01E+00	9.32E-02	1.31E-02	2.52E-02	2.32E-02	3.24E-04	2.78E-02	2.56E-02	3.58E-04
Road 11	11	0900-1000	8.23E-02	1.20E-02	1.68E-03	5.28E-01	7.71E-02	1.08E-02	2.02E-02	3.07E-02	4.30E-04	2.30E-02	3.36E-02	4.70E-04
Road 11	11	1000-1100	9.06E-02	1.61E-02	5.45E-01	6.93E-01	9.71E-02	2.16E-02	2.75E-02	3.85E-02	2.36E-02	3.00E-02	4.20E-02	2.58E-02
Road 11	11	1100-1200	8.87E-02	1.57E-02	5.34E-01	6.58E-01	9.21E-02	2.11E-02	2.55E-02	3.58E-02	2.20E-02	2.79E-02	3.90E-02	2.40E-02
Road 11	11	1200-1300	1.05E-01	1.45E-02	2.03E-03	5.99E-01	8.32E-02	2.16E-02	2.30E-02	3.20E-02	4.60E-04	2.59E-02	3.60E-02	5.09E-04
Road 11	11	1300-1400	1.08E-01	1.54E-02	2.15E-03	6.07E-01	8.60E-02	1.21E-02	2.35E-02	3.34E-02	4.67E-04	2.56E-02	3.64E-02	5.09E-04
Road 11	11	1400-1500	1.06E-01	1.54E-02	2.15E-03	6.07E-01	8.60E-02	1.21E-02	2.35E-02	3.34E-02	4.67E-04	2.56E-02	3.64E-02	5.09E-04
Road 11	11	1500-1600	1.04E-01	1.69E-02	2.37E-03	6.06E-01	9.84E-02	1.38E-02	2.46E-02	4.00E-02	5.60E-04	2.69E-02	4.36E-02	6.11E-04
Road 11	11	1600-1700	8.71E-02	1.58E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2030

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 29	29	0800-0900	1.88E-02	1.58E-06	1.97E-02	2.4E-01	9.93E-06	2.50E-01	1.27E-02	1.78E-07	4.84E-04	1.23E-02	1.85E-07	1.30E-02
Road 29	29	0900-1000	4.57E-02	1.62E-06	4.09E-02	2.70E-01	9.59E-06	2.42E-01	1.31E-02	4.65E-07	1.17E-03	1.27E-02	4.50E-07	1.27E-02
Road 29	29	1000-1100	5.13E-02	1.63E-06	4.10E-02	2.88E-01	9.12E-06	2.30E-01	1.43E-02	4.52E-07	1.14E-03	1.55E-02	4.91E-07	1.24E-02
Road 29	29	1100-1200	5.02E-02	1.51E-06	3.79E-02	2.87E-01	8.61E-06	2.17E-01	1.41E-02	4.21E-07	1.06E-02	1.53E-02	4.58E-07	1.15E-02
Road 29	29	1200-1300	5.00E-02	2.03E-06	5.10E-02	3.54E-01	1.44E-05	3.62E-01	1.82E-02	7.39E-07	1.86E-02	1.98E-02	8.04E-07	2.02E-02
Road 29	29	1300-1400	5.07E-02	2.12E-06	5.35E-02	3.52E-01	1.47E-05	3.71E-01	1.79E-02	7.50E-07	1.89E-02	1.95E-02	8.15E-07	2.05E-02
Road 29	29	1400-1500	5.01E-02	1.91E-06	4.57E-02	3.48E-01	1.33E-05	3.18E-01	1.77E-02	6.75E-07	1.61E-02	1.92E-02	7.33E-07	1.75E-02
Road 29	29	1500-1600	4.76E-02	2.16E-06	5.43E-02	3.39E-01	1.54E-05	3.87E-01	1.71E-02	7.75E-07	1.95E-02	1.86E-02	8.42E-07	2.12E-02
Road 29	29	1600-1700	4.82E-02	2.29E-06	5.77E-02	3.50E-01	1.66E-05	4.19E-01	1.81E-02	8.60E-07	2.17E-02	1.97E-02	9.34E-07	2.35E-02
Road 29	29	1700-1800	2.67E-02	1.58E-06	3.98E-02	1.99E-01	1.18E-05	2.98E-01	1.02E-02	8.43E-07	2.12E-02	1.74E-02	9.16E-07	2.31E-02
Road 29	29	1800-1900	2.91E-02	1.61E-06	4.07E-02	2.87E-01	1.59E-05	4.01E-01	1.47E-02	8.19E-07	2.06E-02	1.60E-02	8.89E-07	2.24E-02
Road 29	29	1900-2000	2.61E-02	1.14E-06	2.88E-02	3.00E-01	1.31E-05	3.29E-01	1.53E-02	6.68E-07	1.68E-02	1.66E-02	7.27E-07	1.83E-02
Road 29	29	2000-2100	2.61E-02	1.14E-06	2.88E-02	3.00E-01	1.31E-05	3.29E-01	1.53E-02	6.68E-07	1.68E-02	1.66E-02	7.27E-07	1.83E-02
Road 29	29	2100-2200	2.42E-02	1.06E-06	2.67E-02	2.80E-01	1.22E-05	3.07E-01	1.42E-02	6.20E-07	1.56E-02	1.54E-02	6.75E-07	1.70E-02
Road 29	29	2200-2300	2.43E-02	7.97E-07	2.01E-02	3.04E-01	9.98E-06	2.51E-01	1.49E-02	4.89E-07	1.23E-02	1.62E-02	5.32E-07	1.34E-02
Road 29	29	2300-0000	2.60E-02	6.42E-07	1.62E-02	3.07E-01	7.59E-06	1.91E-01	1.52E-02	3.75E-07	9.44E-03	1.65E-02	4.07E-07	1.03E-02
Road 30	30	0000-0100	2.28E-02	6.11E-07	1.54E-02	2.69E-01	7.21E-06	1.82E-01	1.34E-02	3.56E-07	8.98E-03	1.45E-02	3.87E-07	9.77E-03
Road 30	30	0100-0200	2.66E-02	1.67E-07	5.96E-04	2.11E-01	1.32E-06	4.73E-03	9.41E-03	5.89E-08	2.11E-04	1.02E-02	6.41E-08	2.29E-04
Road 30	30	0200-0300	3.07E-02	1.44E-07	5.11E-04	2.28E-01	1.07E-06	3.81E-03	1.04E-02	4.87E-08	1.74E-04	1.13E-02	5.29E-08	1.89E-04
Road 30	30	0300-0400	3.49E-02	1.43E-07	5.11E-04	2.43E-01	9.95E-07	3.56E-03	1.13E-02	4.65E-08	1.66E-04	1.23E-02	5.06E-08	1.81E-04
Road 30	30	0400-0500	3.49E-02	1.43E-07	5.11E-04	2.43E-01	9.95E-07	3.56E-03	1.13E-02	4.65E-08	1.66E-04	1.23E-02	5.06E-08	1.81E-04
Road 30	30	0500-0600	3.18E-02	2.19E-07	7.82E-04	2.30E-01	1.58E-06	5.63E-03	1.03E-02	7.09E-08	2.53E-04	1.12E-02	7.71E-08	2.75E-04
Road 30	30	0600-0700	3.41E-02	2.91E-07	1.04E-03	2.47E-01	2.11E-06	7.52E-03	1.12E-02	9.61E-08	3.42E-04	1.22E-02	1.04E-07	3.72E-04
Road 30	30	0700-0800	3.40E-02	1.01E-06	3.61E-03	2.36E-01	7.00E-06	2.50E-02	1.07E-02	3.17E-07	1.13E-03	1.16E-02	3.45E-07	1.23E-03
Road 30	30	0800-0900	3.24E-02	1.11E-06	3.96E-03	2.36E-01	8.07E-06	2.63E-02	1.00E-02	3.42E-07	1.22E-03	1.09E-02	3.72E-07	1.32E-03
Road 30	30	0900-1000	4.29E-02	1.07E-06	3.83E-03	2.57E-01	6.42E-06	2.29E-02	1.25E-02	3.12E-07	1.11E-03	1.36E-02	3.39E-07	1.21E-03
Road 30	30	1000-1100	4.20E-02	1.06E-06	3.79E-03	2.51E-01	6.29E-06	2.25E-02	1.22E-02	3.09E-07	1.10E-03	1.33E-02	3.36E-07	1.20E-03
Road 30	30	1100-1200	4.20E-02	1.06E-06	3.79E-03	2.51E-01	6.29E-06	2.25E-02	1.22E-02	3.09E-07	1.10E-03	1.33E-02	3.36E-07	1.20E-03
Road 30	30	1200-1300	4.07E-02	1.67E-06	5.96E-03	2.43E-01	9.98E-06	3.56E-02	1.18E-02	4.84E-07	1.73E-03	1.29E-02	5.30E-07	1.89E-03
Road 30	30	1300-1400	4.07E-02	1.67E-06	5.96E-03	2.43E-01	9.98E-06	3.56E-02	1.18E-02	4.84E-07	1.73E-03	1.29E-02	5.30E-07	1.89E-03
Road 30	30	1400-1500	4.01E-02	1.64E-06	5.87E-03	2.39E-01	9.82E-06	3.51E-02	1.16E-02	4.77E-07	1.71E-03	1.27E-02	5.22E-07	1.86E-03
Road 30	30	1500-1600	4.27E-02	1.45E-06	3.51E-02	2.54E-01	8.63E-06	2.09E-01	1.20E-02	4.08E-07	9.90E-03	1.31E-02	4.44E-07	1.08E-02
Road 30	30	1600-1700	4.30E-02	1.54E-06	3.72E-02	2.57E-01	9.16E-06	2.22E-01	1.25E-02	4.46E-07	1.08E-02	1.36E-02	4.84E-07	1.17E-02
Road 30	30	1700-1800	3.24E-02	1.28E-06	3.11E-02	2.22E-01	8.78E-06	2.13E-01	1.03E-02	4.06E-07	9.83E-03	1.03E-02	4.06E-07	9.83E-03
Road 30	30	1800-1900	2.36E-02	9.95E-07	2.41E-02	1.85E-01	7.78E-06	1.89E-01	8.63E-03	3.63E-07	8.80E-03	9.40E-03	3.95E-07	9.58E-03
Road 30	30	1900-2000	2.13E-02	7.05E-07	1.71E-02	1.90E-01	6.29E-06	1.52E-01	8.61E-03	2.85E-07	6.92E-03	9.37E-03	3.11E-07	7.53E-03
Road 30	30	2000-2100	2.11E-02	5.64E-07	1.36E-02	1.90E-01	5.08E-06	1.22E-01	8.70E-03	2.25E-07	5.44E-03	9.10E-03	2.97E-07	6.68E-03
Road 30	30	2100-2200	1.94E-02	4.99E-07	1.21E-02	1.88E-01	4.84E-06	1.17E-01	7.84E-03	2.02E-07	4.90E-03	8.53E-03	2.20E-07	5.33E-03
Road 32	32	2200-2300	1.91E-02	4.76E-07	1.15E-02	1.94E-01	4.83E-06	1.17E-01	8.09E-03	2.02E-07	4.88E-03	8.80E-03	2.19E-07	5.32E-03
Road 32	32	2300-0000	1.88E-02	4.69E-07	1.13E-02	1.92E-01	4.76E-06	1.15E-01	8.01E-03	1.99E-07	4.82E-03	8.71E-03	2.16E-07	5.26E-03
Road 33	33	0000-0100	2.61E-02	2.73E-07	1.50E-03	2.20E-01	2.30E-06	9.26E-02	9.84E-03	1.03E-07	5.65E-04	1.07E-02	1.12E-07	6.14E-04
Road 33	33	0100-0200	3.04E-02	2.12E-07	1.16E-03	2.51E-01	1.64E-06	9.01E-03	1.09E-02	7.60E-08	4.18E-04	1.19E-02	8.26E-08	4.54E-04
Road 33	33	0200-0300	3.39E-02	2.07E-07	1.14E-03	2.80E-01	1.71E-06	9.41E-03	1.22E-02	7.46E-08	4.10E-04	1.33E-02	8.11E-08	4.46E-04
Road 33	33	0300-0400	3.88E-02	1.64E-07	9.02E-04	2.68E-01	1.13E-06	6.22E-03	1.30E-02	5.49E-08	3.01E-04	1.41E-02	5.97E-08	3.28E-04
Road 33	33	0400-0500	3.92E-02	1.81E-07	9.94E-04	2.68E-01	1.24E-06	6.80E-03	1.29E-02	5.97E-08	3.28E-04	1.40E-02	6.49E-08	3.56E-04
Road 33	33	0500-0600	3.59E-02	2.84E-07	1.56E-03	2.46E-01	1.94E-06	1.06E-02	1.18E-02	9.31E-08	5.12E-04	1.29E-02	1.01E-07	5.56E-04
Road 33	33	0600-0700	3.40E-02	5.48E-07	3.01E-03	2.46E-01	3.97E-06	2.18E-02	1.11E-02	1.78E-07	9.79E-04	1.20E-02	1.94E-07	1.06E-03
Road 33	33	0700-0800	3.82E-02	1.08E-06	7.04E-03	2.60E-01	8.72E-06	4.79E-02	1.22E-02	4.08E-07	2.24E-03	1.32E-02	4.44E-07	2.44E-03
Road 33	33	0800-0900	3.65E-02	1.41E-06	7.75E-03	2.39E-01	9.24E-06	5.07E-02	1.14E-02	4.41E-07	2.42E-03	1.24E-02	4.79E-07	2.63E-03
Road 33	33	0900-1000	4.29E-02	1.41E-06	7.74E-03	2.66E-01	8.74E-06	4.80E-02	1.29E-02	4.23E-07	2.32E-03	1.40E-02	4.60E-07	2.53E-03
Road 33	33	1000-1100	4.81E-02	1.40E-06	7.66E-03	2.83E-01	8.21E-06	4.51E-02	1.40E-02	4.07E-07	2.24E-03	1.53E-02	4.43E-07	2.43E-03
Road 33	33	1100-1200	4.73E-02	1.30E-06	7.15E-03	2.84E-01	7.81E-06	4.29E-02	1.39E-02	3.83E-07	2.10E-03	1.51E-02	4.16E-07	2.29E-03
Road 33	33	1200-1300	5.00E-02	1.66E-06	9.13E-03	2.98E-01	9.88E-06	5.41E-02	1.48E-02	4.91E-07	2.69E-03	1.59E-02	5.26E-07	2.89E-03
Road 33	33	1300-1400	6.00E-02	1.21E-06	6.64E-03	3.48E-01	7.02E-06	3.86E-02	1.80E-02	3.63E-07	2.00E-03	1.96E-02	3.95E-07	2.17E-03
Road 33	33	1400-1500	5.89E-02	1.24E-06	6.83E-03	3.43E-01	7.25E-06	3.98E-02	1.79E-02	3.78E-07	2.08E-03	1.94E-02	4.11E-07	2.26E-03
Road 33	33	1500-1600	5.62E-02	1.27E-06	6.98E-03	3.27E-01	7.37E-06	4.05E-02	1.71E-02	3.85E-07	2.12E-03	1.85E-02	4.17E-07	2.30E-03
Road 33	33	1600-1700	5.63E-02	1.26E-06	6.95E-03	3.39E-01	7.60E-06	4.17E-02	1.77E-02	3.97E-07	2.18E-03	1.92E-02	4.31E-07	2.37E-03
Road 33	33	1700-1800	4.52E-02	1.11E-06	6.07E-03	3.04E-01	7.43E-06	4.08E-02	1.54E-02	3.76E-07	2.07E-03	1.67E-02	4.09E-07	2.25E-03
Road 33	33	1800-1900	3.51E-02	8.75E-07	4.79E-03	2.56E-01	6.38E-06	3.50E-02	1.41E-02	3.51E-07	1.92E-03	1.54E-02	3.85E-07	2.12E-03
Road 33	33	1900-2000	2.80E-02	5.43E-07	2.98E-03	2.33E-01	3.96E-06	2.17E-02	1.28E-02	2.18E-07	1.19E-03	1.39E-02	2.39E-07	1.31E-03
Road 33	33	2000-2100	2.87E-02	4.30E-07	2.36E-03	2.72E-01	4.07E-06	2.23E-02	1.31E-02	1.96E-07	1.08E-03	1.42E-02	2.13E-07	1.17E-03
Road 33	33	2100-2200	2.70E-02	3.90E-07	2.14E-03	2.64E-01	3.80E-06	2.09E-02	1.25E-02	1.80E-07	9.88E-04	1.36E-02	1.94E-07	1.07E-03
Road 33	33	2200-2300	2.70E-02	3.90E-07	2.14E-03	2.64E-01	3.80E-06	2.09E-02	1.25E-02	1.80E-07	9.88E-04	1.36E-02	1.95E-07	1.07E-03
Road 33	33	2300-0000	3.00E-02	2.39E-07	1.81E-03	2.72E-01	2.98E-06	1.64E-02	1.31E-02	1.44E-07	7.88E-04	1.42E-02	1.56E-07	8.57E-04
Road 34	34	0000-0100	2.96E-02	1.68E-07	1.61E-03	2.17E-01	1.23E-06	1.18E-02	9.60E-03	5.46E-08	5.21E-04	1.04E-02	5.94E-08	5.67E-04
Road 34	34	0200-0300	3.26E-02	1.38E-07	1.31E-03	2.28E-01	9.65E-07	9.22E-03	1.02E-02	4.32E-08	4.13E-04	1.11E-02	4.70E-08	4.49E-04
Road 34	34	0300-0400	3.26E-02	1.38E-07	1.31E-03	2.28E-01	9.65E-07	9.22E-03	1.02E-02	4.32E-08	4.13E-04	1.11E-02	4.70E-08	4.49E-04
Road 34	34	0400-0500	3.67E-02	1.17E-07	1.31E-03	2.42E-01	9.05E-07	8.07E-03	1.08E-02	3.67E-08	3.51E-04	1.18E-02	3.99E-08	3.82E-04
Road 34	34	0500-0600	3.69E-02	2.38E-07	2.28E-03	2.41E-01	1.56E-06	1.49E-02	1.09E-02	7.04E-08	6.73E-04	1.19E-02	7.66E-08	7.32E-04
Road 34	34	0600-0700	3.76E-02	5.20E-07	4.97E-03	2.43E-01	3.36E-06	3.21E-02	1.09E-02	1.51E-07	1.44E-03	1.18E-02	1.64E-07	1.57E-03
Road 34	34	0700-0800	3.89E-02	1.29E-06	1.24E-02	2.50E-01	8.30E-06	7.96E-02	1.12E-02	3.72E-07	3.56E-03	1.19E-02	4.04E-07	3.86E-03
Road 34	34	0800-0900	3.89E-02	1.29E-06	1.23E-02	2.33E-01	7.71E-06	7.36E-02	1.09E-02	3.62E-07	3.45E-03	1.19E-02	3.94E-07	3.76E-03
Road 34	34	0900-1000	4.59E-02	1.33E-06	1.27E-02	2.59E-01	7.51E-06	7.18E-02	1.24E-02	3.60E-07	3.44E-03	1.35E-02	3.91E-07	3.74E-03
Road 34	34	1000-1100	5.04E-02	1.33E-06	1.27E-02	2.76E-01	7.29E-06	6.97E-02	1.34E-02	3.53E-07	3.38E-03	1.45E-02	3.84E-07	3.67E-03
Road 34	34	1100-1200	5.04E-02	1.33E-06	1.27E-02	2.76E-01	7.29E-06	6.97E-02	1.34E-02	3.53E-07	3.38E-03	1.45E-02	3.84E-07	3.67E-03
Road 34	34	1200-1300	4.98E-02	1.66E-06	1.49E-02	2.98E-01	9.95E-06	8.94E-02	1.43E-02	4.77E-07	4.29E-03	1.54E-02	5.13E-07	4.61E-03
Road 34	34	1300-1400	4.98E-02	1.66E-06	1.49E-02	2.98E-01	9.95E-06	8.94E-02	1.43E-02	4.77E-07	4.29E-03	1.54E-02	5.13E-07	4.61E-03
Road 34	34	1400-1500	4.99E-02	1.70E-06	1.62E-02	3.42E-01	1.17E-05	1.11E-01	1.76E-02	5.99E-07	5.73E-03	1.91E-02	6.52E-07	6.23E-03
Road 34	34	1500-1600	4.75E-02	1.66E-06	1.58E-02	3.33E-01	1.16E-05	1.11E-01	1.68E-02	5.87E-07	5.61E-03	1.83E-02	6.38E-07	6.10E-03
Road 34	34	1600-1700	4.76E-02	1.52E-06	1.45E-02	3.32E-01	1.06E-05	1.01E-01	1.68E-02	5.37E-07	5.13E-03	1.83E-02	5.83E-07	5.57E-03
Road 34	34	1700-1800	3.76E-02	1.20E-06	1.14E-02	2.63E-01	8.37E-06	7.99E-02	1.32E-02	4.23E-07	4.04E-03	1.45E-02	4.60E-07	4.39E-03
Road 34	34	1800-1900	2.69E-02	1.02E-06	2.54E-02	1.90E-01	7.21E-06	1.79E-01	9.80E-03	3.71E-07	9.24E-03	1.06E-02	4.02E-07	1.00E-02
Road 34	34	1900-2000	2.39E-02	7.11E-07	2.97E-02	2.10E-01	6.26E-06	2.63E-02	1.58E-02	4.70E-07	1.97E-02	1.74E-02	5.19E-07	2.17E-02
Road 34	34	2000-2100	2.39E-02	6.39E-07	1.61E-02	2.10E-01	5.62E-06	1.41E-02	1.58E-02	4.23E-07	1.06E-02	1.74E-02	4.67E-07	1.17E-02
Road 34	34	2100-2200	3.02E-02	1.67E-07	5.44E-04	2.59E-01	1.46E-06	2.63E-04	1.58E-02	8.77E-08	2.86E-04	1.98E-02	7.35E-08	2.38E-04
Road 34	34	2200-2300	3.03E-02	1.62E-07	5.30E-04	3.06E-01	1.64E-06	5.34E-03	1.53E-02	8.17E-08	2.66E-04	1.66E-02	8.88E-08	2.90E-04
Road 34	34	2300-0000	3.36E-02	1.37E-07	4.48E-04	3.41E-01	1.39E-06	4.53E-03	1.70E-02	6.91E-08	2.25E-04	1.84E-02	7.51E-08	2.45E-04
Road 35	35	0000-0100	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0100-0200	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0200-0300	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0300-0400	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0400-0500	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0500-0600	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0600-0700	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0700-0800	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0800-0900	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	0900-1000	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1000-1100	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1100-1200	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1200-1300	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1300-1400	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1400-1500	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1500-1600	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1600-1700	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1700-1800	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1800-1900	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	1900-2000	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	2000-2100	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	2100-2200	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	2200-2300	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 35	35	2300-0000	4.01E-02	1.73E-07	6.31E-04	3.23E-01	1.39E-06	5.08E-03	1.99E-02	8.59E-08	3.13E-04	2.16E-02	9.32E-08	3.40E-04
Road 46	46	0000-0100	9.97E-02	8.01E-08	1.11E-03	4.52E-01	3.63E-06	1.40E-02	1.56E-02	1.25E-07	4.84E-04	2.16E-02	1.74E-07	1.09E-03
Road 46	46	0100-0200	1.17E-01	7.22E-08	6.41E-05	5.19E-01	3.21E-06	2.85E-04	2.51E-02	1.55E-08	1.38E-05	2.91E-02	1.80E-08	1.60E-05
Road 46	46	0200-0300	1.30E-01	6.86E-08	6.09E-05	5.74E-01	3.02E-06	2.68E-04	2.81E-02	1.48E-08	1.31E-05	3.06E-02	1.61E-08	1.43E-05
Road 46	46	0300-0400	1.40E-01	6.64E-08	5.90E-05	6.13E-01	2.90E-06	2.58E-04	3.04E-02	1.44E-08	1.28E-05	3.31E-02	1.57E-08	1.39E-05
Road 46	46	0400-0500	1.37E-01	6.88E-08	6.11E-05	6.01E-01	3.01E-06	2.67E-04	2.96E-02	1.48E-08	1.31E-05	3.22E-02	1.61E-08	1.43E-05
Road 46	46	0500-0600	1.18E-01	8.23E-08	7.30E-05	5.23E-01	3.64E-06	3.23E-04	2.47E-02	1.72E-08	1.53E-05	2.69E-02	1.87E-08	1.66E-05
Road 46	46	0600-0700	1.08E-01	1.25E-07	1.11E-04	4.88E-01	5.65E-06	5.02E-04	2.32E-02	2.68E-08	2.38E-05	2.53E-02	2.92E-08	2.59E-05
Road 46	46	0700-0800	1.25E-01	3.73E-07	3.31E-04	5.44E-01	1.63E-06	1.44E-03	2.49E-02	7.45E-08	6.61E-05	2.71E-02	8.09E-08	7.18E-05
Road 46	46	0800-0900	1.21E-01	4.06E-07	3.60E-04	5.27E-01	1.76E-06	1.56E-03	2.38E-02	7.94E-08	7.05E-05	2.59E-02	8.64E-08	7.67E-05
Road 46	46	0900-1000	1.31E-01	4.22E-07	3.75E-04	5.66E-01	1.82E-06	1.62E-03	2.55E-02	8.21E-08	7.29E-05	2.78E-02	8.93E-08	7.93E-05
Road 46	46	1000-1100	1.40E-01	4.26E-07	3.78E-04	5.95E-01	1.81E-06	1.61E-03	2.72E-02	8.30E-08	7.37E-05	2.96E-02	9.03E-08	8.01E-05
Road 46	46	1100-1200	1.38E-01	4.03E-07	3.57E-04	5.90E-01	1.72E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) **Year 2030**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourAverage		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour
Road 52	52	0000-0100	1.26E-01	5.46E-08	1.02E-04	5.27E-01	2.29E-07	4.28E-04	2.21E-02	9.60E-09	1.80E-05	2.40E-02	1.04E-08	1.95E-05
Road 52	52	0100-0200	1.26E-01	3.89E-08	7.27E-05	5.29E-01	1.63E-07	3.04E-04	2.22E-02	6.84E-09	1.28E-05	2.42E-02	7.43E-09	1.39E-05
Road 52	52	0200-0300	1.25E-01	3.04E-08	5.68E-05	5.23E-01	1.27E-07	2.38E-04	2.21E-02	5.38E-09	1.01E-05	2.40E-02	5.84E-09	1.09E-05
Road 52	52	0300-0400	1.26E-01	2.61E-08	4.87E-05	5.27E-01	1.09E-07	2.04E-04	2.22E-02	4.60E-09	8.60E-06	2.41E-02	4.99E-09	9.34E-06
Road 52	52	0400-0500	1.26E-01	3.08E-08	5.76E-05	5.28E-01	1.29E-07	2.41E-04	2.23E-02	5.43E-09	1.02E-05	2.42E-02	5.90E-09	1.10E-05
Road 52	52	0500-0600	1.29E-01	5.84E-08	1.09E-04	5.40E-01	2.44E-07	4.57E-04	2.26E-02	1.02E-08	1.91E-05	2.45E-02	1.11E-08	2.07E-05
Road 52	52	0600-0700	1.36E-01	8.56E-08	1.60E-04	5.68E-01	3.57E-07	6.69E-04	2.38E-02	1.50E-08	2.80E-05	2.58E-02	1.62E-08	3.04E-05
Road 52	52	0700-0800	1.38E-01	3.06E-07	5.73E-04	5.75E-01	1.27E-06	2.38E-03	2.41E-02	5.34E-08	9.75E-05	2.56E-02	5.67E-08	1.06E-04
Road 52	52	0800-0900	1.37E-01	3.61E-07	6.79E-04	5.76E-01	1.53E-06	2.86E-03	2.30E-02	6.11E-08	1.14E-04	2.50E-02	6.65E-08	1.24E-04
Road 52	52	0900-1000	1.36E-01	4.11E-07	7.68E-04	5.76E-01	1.74E-06	3.25E-03	2.30E-02	6.94E-08	1.30E-04	2.50E-02	7.54E-08	1.41E-04
Road 52	52	1000-1100	1.43E-01	4.27E-07	7.98E-04	5.94E-01	1.77E-06	3.30E-03	2.43E-02	7.22E-08	1.35E-04	2.64E-02	7.85E-08	1.47E-04
Road 52	52	1100-1200	1.43E-01	3.99E-07	7.46E-04	5.94E-01	1.66E-06	3.10E-03	2.41E-02	6.73E-08	1.26E-04	2.62E-02	7.31E-08	1.37E-04
Road 52	52	1200-1300	1.44E-01	4.18E-07	7.83E-04	5.98E-01	1.71E-06	3.20E-03	2.43E-02	7.07E-08	1.32E-04	2.65E-02	7.68E-08	1.44E-04
Road 52	52	1300-1400	1.42E-01	4.66E-07	8.71E-04	5.93E-01	1.94E-06	3.63E-03	2.37E-02	7.76E-08	1.45E-04	2.58E-02	8.44E-08	1.58E-04
Road 52	52	1400-1500	1.45E-01	4.70E-07	8.79E-04	5.97E-01	1.93E-06	3.62E-03	2.43E-02	7.88E-08	1.47E-04	2.64E-02	8.56E-08	1.60E-04
Road 52	52	1500-1600	1.33E-01	4.50E-07	8.41E-04	5.68E-01	1.92E-06	3.60E-03	2.22E-02	7.51E-08	1.41E-04	2.41E-02	8.16E-08	1.53E-04
Road 52	52	1600-1700	1.37E-01	4.30E-07	8.04E-04	5.70E-01	1.79E-06	3.35E-03	2.32E-02	7.28E-08	1.36E-04	2.52E-02	7.92E-08	1.48E-04
Road 52	52	1700-1800	1.22E-01	3.48E-07	6.52E-04	5.32E-01	1.52E-06	2.84E-03	2.04E-02	5.84E-08	1.09E-04	2.22E-02	6.35E-08	1.19E-04
Road 52	52	1800-1900	1.07E-01	2.15E-07	4.03E-04	4.75E-01	9.54E-07	1.78E-03	1.83E-02	3.67E-08	6.87E-05	1.99E-02	3.99E-08	7.47E-05
Road 52	52	1900-2000	1.05E-01	1.39E-07	2.61E-04	4.68E-01	6.11E-07	1.14E-03	1.82E-02	2.41E-08	4.50E-05	1.96E-02	2.62E-08	4.90E-05
Road 52	52	2000-2100	1.03E-01	1.09E-07	2.03E-04	4.57E-01	4.84E-07	9.05E-04	1.78E-02	1.88E-08	3.51E-05	1.93E-02	2.04E-08	3.81E-05
Road 52	52	2100-2200	1.04E-01	1.13E-07	2.11E-04	4.61E-01	5.00E-07	9.36E-04	1.80E-02	1.96E-08	3.66E-05	1.95E-02	2.12E-08	3.97E-05
Road 52	52	2200-2300	1.12E-01	1.06E-07	1.99E-04	4.96E-01	4.54E-07	8.50E-04	1.95E-02	1.86E-08	3.47E-05	2.10E-02	1.99E-08	3.77E-05
Road 52	52	2300-0000	1.11E-01	8.66E-08	1.62E-04	4.74E-01	3.69E-07	6.90E-04	1.97E-02	1.53E-08	2.86E-05	2.14E-02	1.66E-08	3.11E-05
Road 53	53	0000-0100	1.27E-01	5.98E-08	5.07E-04	6.01E-01	2.83E-07	2.40E-03	1.90E-02	8.92E-09	7.57E-05	2.06E-02	9.70E-09	8.22E-05
Road 53	53	0100-0200	1.28E-01	4.06E-08	3.45E-04	6.08E-01	1.91E-07	1.62E-03	1.92E-02	6.09E-09	5.17E-05	2.08E-02	6.61E-09	5.61E-05
Road 53	53	0200-0300	1.33E-01	3.21E-08	2.72E-04	6.21E-01	1.50E-07	1.27E-03	1.98E-02	4.76E-09	4.04E-05	2.15E-02	5.17E-09	4.38E-05
Road 53	53	0300-0400	1.38E-01	2.72E-08	2.30E-04	6.37E-01	1.26E-07	1.07E-03	2.03E-02	4.01E-09	3.40E-05	2.21E-02	4.35E-09	3.69E-05
Road 53	53	0400-0500	1.42E-01	3.18E-08	2.70E-04	6.51E-01	1.46E-07	1.24E-03	2.09E-02	4.68E-09	3.96E-05	2.26E-02	5.07E-09	4.30E-05
Road 53	53	0500-0600	1.51E-01	6.07E-08	5.15E-04	6.86E-01	2.76E-07	2.34E-03	2.18E-02	8.78E-09	7.44E-05	2.37E-02	9.54E-09	8.09E-05
Road 53	53	0600-0700	1.67E-01	1.48E-07	1.26E-03	7.48E-01	6.66E-07	5.65E-03	2.34E-02	2.08E-08	1.77E-04	2.54E-02	2.27E-08	1.92E-04
Road 53	53	0700-0800	1.83E-01	3.41E-07	2.90E-03	8.11E-01	1.51E-06	1.28E-02	2.51E-02	4.67E-08	3.96E-04	2.73E-02	5.08E-08	4.31E-04
Road 53	53	0800-0900	1.82E-01	3.84E-07	3.26E-03	8.06E-01	1.70E-06	1.44E-02	2.47E-02	5.20E-08	4.41E-04	2.68E-02	5.65E-08	4.79E-04
Road 53	53	0900-1000	1.97E-01	4.26E-07	3.61E-03	8.66E-01	1.87E-06	1.59E-02	2.65E-02	5.73E-08	4.86E-04	2.88E-02	6.22E-08	5.28E-04
Road 53	53	1000-1100	2.13E-01	4.34E-07	3.68E-03	9.08E-01	1.85E-06	1.57E-02	2.86E-02	5.81E-08	4.93E-04	3.10E-02	6.31E-08	5.35E-04
Road 53	53	1100-1200	2.11E-01	4.07E-07	3.45E-03	9.05E-01	1.74E-06	1.48E-02	2.82E-02	5.43E-08	4.60E-04	3.07E-02	5.90E-08	5.00E-04
Road 53	53	1200-1300	1.82E-01	4.23E-07	3.59E-03	7.63E-01	1.78E-06	1.51E-02	2.40E-02	5.59E-08	4.74E-04	2.60E-02	6.07E-08	5.15E-04
Road 53	53	1300-1400	1.82E-01	4.52E-07	3.83E-03	7.80E-01	1.93E-06	1.64E-02	2.40E-02	5.94E-08	5.04E-04	2.60E-02	6.45E-08	5.47E-04
Road 53	53	1400-1500	1.61E-01	4.63E-07	3.93E-03	6.91E-01	1.96E-06	1.66E-02	2.39E-02	6.13E-08	5.20E-04	2.66E-02	6.66E-08	5.65E-04
Road 53	53	1500-1600	1.69E-01	4.44E-07	3.77E-03	7.46E-01	1.96E-06	1.67E-02	2.23E-02	5.86E-08	4.97E-04	2.42E-02	6.37E-08	5.40E-04
Road 53	53	1600-1700	1.71E-01	4.49E-07	3.80E-03	7.27E-01	1.91E-06	1.62E-02	2.27E-02	5.95E-08	5.05E-04	2.46E-02	6.47E-08	5.49E-04
Road 53	53	1700-1800	1.34E-01	3.67E-07	3.10E-03	5.98E-01	1.64E-06	1.44E-02	2.47E-02	6.76E-08	5.71E-04	2.68E-02	7.35E-08	6.21E-04
Road 53	53	1800-1900	9.96E-02	2.58E-07	2.18E-03	4.76E-01	1.23E-06	1.04E-02	1.40E-02	3.62E-08	3.07E-04	1.52E-02	3.93E-08	3.34E-04
Road 53	53	1900-2000	8.64E-02	1.71E-07	1.45E-03	4.36E-01	8.43E-07	7.15E-03	1.25E-02	2.48E-08	2.10E-04	1.36E-02	2.69E-08	2.28E-04
Road 53	53	2000-2100	8.54E-02	1.33E-07	1.13E-03	4.38E-01	6.62E-07	5.79E-03	1.23E-02	1.92E-08	1.62E-04	1.34E-02	2.08E-08	1.77E-04
Road 53	53	2100-2200	8.40E-02	1.31E-07	1.11E-03	4.35E-01	6.78E-07	5.75E-03	1.21E-02	1.89E-08	1.60E-04	1.32E-02	2.05E-08	1.74E-04
Road 53	53	2200-2300	8.39E-02	1.23E-07	1.04E-03	4.25E-01	6.22E-07	5.27E-03	1.21E-02	1.77E-08	1.50E-04	1.31E-02	1.92E-08	1.63E-04
Road 53	53	2300-0000	8.71E-02	9.75E-08	8.27E-04	4.34E-01	4.85E-07	4.12E-03	1.26E-02	1.41E-08	1.19E-04	1.37E-02	1.53E-08	1.30E-04
Road 54	54	0000-0100	9.35E-02	8.21E-08	6.83E-04	4.65E-01	4.08E-07	3.40E-03	1.39E-02	1.22E-08	1.01E-04	1.51E-02	1.32E-08	1.10E-04
Road 54	54	0100-0200	9.56E-02	5.59E-08	4.65E-04	4.70E-01	2.75E-07	2.29E-03	1.42E-02	8.32E-09	6.93E-05	1.55E-02	9.05E-09	7.53E-05
Road 54	54	0200-0300	1.01E-01	4.43E-08	3.69E-04	4.92E-01	2.15E-07	1.79E-03	1.49E-02	6.52E-09	5.43E-05	1.62E-02	7.09E-09	5.90E-05
Road 54	54	0300-0400	1.03E-01	3.48E-08	3.02E-04	5.02E-01	1.75E-07	1.46E-03	1.52E-02	5.38E-09	4.48E-05	1.65E-02	5.84E-09	4.86E-05
Road 54	54	0400-0500	1.08E-01	4.26E-08	3.55E-04	5.12E-01	2.03E-07	1.69E-03	1.58E-02	6.28E-09	5.23E-05	1.72E-02	6.82E-09	5.67E-05
Road 54	54	0500-0600	1.20E-01	8.44E-08	7.02E-04	5.61E-01	3.94E-07	3.28E-03	1.72E-02	1.21E-08	1.01E-04	1.87E-02	1.31E-08	1.09E-04
Road 54	54	0600-0700	1.35E-01	1.73E-07	1.44E-03	7.93E-01	1.87E-06	1.56E-02	2.13E-02	2.88E-08	2.40E-04	2.31E-02	3.13E-08	2.61E-04
Road 54	54	0700-0800	1.45E-01	4.60E-07	3.83E-03	6.55E-01	2.08E-06	1.73E-02	1.98E-02	6.31E-08	5.25E-04	2.16E-02	6.86E-08	5.71E-04
Road 54	54	0800-0900	1.48E-01	5.40E-07	4.49E-03	6.65E-01	2.42E-06	2.01E-02	2.00E-02	7.25E-08	6.04E-04	2.17E-02	7.89E-08	6.56E-04
Road 54	54	0900-1000	1.69E-01	5.88E-07	4.90E-03	7.52E-01	2.62E-06	2.18E-02	2.25E-02	7.83E-08	6.52E-04	2.44E-02	8.51E-08	7.08E-04
Road 54	54	1000-1100	1.87E-01	5.98E-07	4.98E-03	8.03E-01	2.57E-06	2.14E-02	2.47E-02	7.90E-08	6.58E-04	2.69E-02	8.59E-08	7.15E-04
Road 54	54	1100-1200	1.84E-01	5.58E-07	4.64E-03	7.98E-01	2.41E-06	2.01E-02	2.43E-02	7.35E-08	6.11E-04	2.64E-02	7.99E-08	6.65E-04
Road 54	54	1200-1300	1.39E-01	5.32E-07	4.43E-03	9.76E-01	2.17E-06	1.81E-02	3.11E-02	6.92E-08	5.76E-04	3.38E-02	7.52E-08	6.26E-04
Road 54	54	1300-1400	2.35E-01	5.73E-07	4.77E-03	9.78E-01	2.38E-06	1.98E-02	3.04E-02	7.42E-08	6.17E-04	3.31E-02	8.06E-08	6.71E-04
Road 54	54	1400-1500	2.36E-01	5.81E-07	4.83E-03	9.70E-01	2.39E-06	1.99E-02	3.08E-02	7.58E-08	6.31E-04	3.35E-02	8.24E-08	6.86E-04
Road 54	54	1500-1600	2.18E-01	5.56E-07	4.63E-03	9.42E-01	2.40E-06	1.99E-02	2.84E-02	7.23E-08	6.02E-04	3.08E-02	7.85E-08	6.53E-04
Road 54	54	1600-1700	2.27E-01	5.51E-07	4.58E-03	9.42E-01	2.29E-06	1.91E-02	2.96E-02	7.18E-08	5.98E-04	3.21E-02	7.80E-08	6.50E-04
Road 54	54	1700-1800	1.91E-01	4.49E-07	3.74E-03	8.49E-01	2.00E-06	1.66E-02	2.51E-02	5.90E-08	4.91E-04	2.72E-02	6.41E-08	5.34E-04
Road 54	54	1800-1900	1.58E-01	3.01E-07	2.51E-03	7.22E-01	1.38E-06	1.15E-02	2.12E-02	4.05E-08	3.37E-04	2.30E-02	4.40E-08	3.67E-04
Road 54	54	1900-2000	1.43E-01	1.98E-07	1.65E-03	6.58E-01	9.11E-07	7.59E-03	1.98E-02	2.72E-08	2.26E-04	2.16E-02	2.99E-08	2.48E-04

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.2 Emission Factor in 2030.xlsx

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (January) **Year 2030**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			MonthlyHourMin			MonthlyHourMin			MonthlyHourAverage			MonthlyHourAverage		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour
Road 1	1	0000-0100	1.44E-02	2.04E-07	1.11E-05	1.76E-02	9.85E-08	1.35E-05	1.56E-03	2.21E-08	1.20E-06	1.70E-03	2.40E-08	1.19E-06
Road 1	1	0100-0200	1.57E-02	1.44E-07	7.94E-06	1.38E-02	1.27E-07	7.00E-06	1.85E-03	1.70E-08	9.36E-07	1.58E-03	1.45E-08	8.01E-07
Road 1	1	0200-0300	1.69E-02	1.13E-07	6.23E-06	1.50E-02	1.01E-07	5.54E-06	1.88E-03	1.26E-08	6.96E-07	1.63E-03	1.09E-08	6.01E-07
Road 1	1	0300-0400	1.82E-02	9.62E-08	5.30E-06	1.61E-02	8.54E-08	4.70E-06	1.94E-03	1.02E-08	5.63E-07	1.67E-03	8.81E-09	4.85E-07
Road 1	1	0400-0500	1.93E-02	1.11E-07	6.13E-06	1.71E-02	9.89E-08	5.45E-06	1.97E-03	1.14E-08	6.27E-07	1.70E-03	9.81E-09	5.40E-07
Road 1	1	0500-0600	2.01E-02	1.30E-07	1.15E-05	1.78E-02	1.15E-07	1.02E-05	2.05E-03	1.32E-08	1.17E-06	1.77E-03	1.14E-08	1.01E-06
Road 1	1	0600-0700	2.11E-02	4.48E-07	2.47E-05	2.21E-02	4.30E-06	2.37E-04	1.76E-03	3.73E-08	2.05E-06	2.45E-02	5.90E-09	1.10E-05
Road 1	1	0700-0800	2.22E-02	9.52E-07	5.24E-05	2.02E-02	8.64E-06	4.75E-04	2.04E-03	8.73E-08	4.81E-06	1.80E-03	7.72E-08	4.25E-06
Road 1	1	0800-0900	2.25E-02	1.51E-06	8.32E-05	2.04E-02	1.37E-05	7.53E-04	2.07E-03	1.39E-07	7.64E-06	1.82E-03	1.22E-07	6.73E-06
Road 1	1	0900-1000	2.43E-02	1.64E-06	9.04E-05	2.21E-02	1.49E-05	8.18E-04	2.24E-03	1.51E-07	8.30E-06	1.97E-03	1.33E-07	7.31E-06
Road 1	1	1000-1100	2.58E-02	8.30E-07	4.57E-05	2.34E-02	7.53E-06	4.14E-04	2.29E-03	7.36E-08	4.06E-06	2.03E-03	6.52E-08	3.59E-06
Road 1	1	1100-1200	2.63E-02	8.37E-07	4.61E-05	2.39E-02	7.59E-06	4.18E-04	2.34E-03	7.42E-08	4.09E-06	2.07E-03	6.57E-08	3.62E-06
Road 1	1	1200-1300	2.68E-02	1.00E-06	5.52E-05	2.43E-02	9.06E-06	4.99E-04	2.38E-03	8.93E-08	4.92E-06	2.11E-03	7.91E-08	4.35E-06
Road 1	1	1300-1400	3.47E-02	1.82E-06	1.00E-04	3.12E-02	1.64E-05	9.00E-04	3.11E-03	1.62E-07	8.93E-06	2.75E-03	1.43E-07	7.89E-06
Road 1	1	1400-1500	3.47E-02	1.82E-06	1.00E-04	3.12E-02	1.64E-05	9.00E-04	3.11E-03	1.62E-07	8.93E-06	2.75E-03	1.43E-07	7.89E-06
Road 1	1	1500-1600	3.46E-02	1.81E-06	9.96E-05	3.11E-02	1.63E-05	8.96E-04	3.10E-03	1.62E-07	8.89E-06	2.74E-03	1.43E-07	7.86E-06
Road 1	1	1600-1700	3.41E-02	1.96E-06	1.08E-04	3.07E-02	1.76E-05	9.67E-04	3.06E-03	1.75E-07	9.62E-06	2.71E-03	1.55E-07	8.51E-06
Road 1	1	1700-1800	3.47E-02	1.82E-06	1.00E-04	3.12E-02	1.64E-05	9.00E-04	3.11E-03	1.62E-07	8.93E-06	2.75E-03	1.43E-07	7.89E-06
Road 1	1	1800-1900	1.91E-02	1.40E-06	7.69E-05	1.70E-02	1.24E-05	6.84E-04	1.69E-03	1.23E-07	6.79E-06	1.50E-03	1.09E-07	6.01E-06
Road 1	1	1900-2000	1.71E-02	9.95E-07	5.48E-05	1.82E-02	1.06E-05	5.84E-04	1.60E-03	9.32E-08	5.13E-06	1.42E-03	8.27E-08	4.55E-06
Road 1	1	2000-2100	1.46E-02	4.32E-07	2.38E-05	1.55E-02	4.58E-06	2.52E-04	1.36E-03	4.03E-08	2.22E-06	1.21E-03	3.58E-08	1.97E-06
Road 1	1	2100-2200	1.46E-02	6.60E-07	3.64E-05	1.55E-02	7.00E-06	3.85E-04	1.36E-03	6.16E-08	3.39E-06	1.21E-03	5.47E-08	3.01E-06
Road 1	1	2200-2300	1.59E-02	4.55E-07	2.50E-05	1.69E-02	4.82E-06	2.65E-04	1.48E-03	4.24E-08	2.33E-06	1.32E-03	3.77E-08	2.07E-06
Road 1	1	2300-0000	1.44E-02	2.04E-07	1.11E-05	1.76E-02	9.85E-08	1.35E-05	1.56E-03	2.21E-08	1.20E-06	1.70E-03	2.40E-08	1.19E-06
Road 2	2	0000-0100	1.44E-02	2.04E-07	1.11E-05	1.76E-02	9.85E-08	1.35E-05	1.56E-03	2.21E-08	1.20E-06	1.70E-03	2.40E-08	1.19E-06
Road 2	2	0100-0200	1.57E-02	1.44E-07	7.94E-06	1.38E-02	1.27E-07	7.00E-06	1.85E-03	1.70E-08	9.36E-07	1.58E-03	1.45E-08	8.01E-07
Road 2	2	0200-0300	1.69E-02	1.13E-07	6.23E-06	1.50E-02	1.01E-07	5.54E-06	1.88E-03	1.26E-08	6.96E-07	1.63E-03	1.09E-08	6.01E-07
Road 2	2	0300-0400	1.82E-02	9.62E-08	5.30E-06	1.61E-02	8.54E-08	4.70E-06	1.94E-03	1.02E-08	5.63E-07	1.67E-03	8.81E-09	4.85E-07
Road 2	2	0400-0500	1.93E-02	1.11E-07	6.13E-06	1.71E-02	9.89E-08	5.45E-06	1.97E-03	1.14E-08	6.27E-07	1.70E-03	9.81E-09	5.40E-07
Road 2	2	0500-0600	2.01E-02	1.30E-07	1.15E-05	1.78E-02	1.15E-07	1.02E-05	2.05E-03	1.32E-08	1.17E-06	1.77E-03	1.14E-08	1.01E-06
Road 2	2	0600-0700	2.11E-02	4.48E-07	2.47E-05	2.21E-02	4.30E-06	2.37E-04	1.76E-03	3.73E-08	2.05E-06	2.45E-02	5.90E-09	1.10E-05
Road 2	2	0700-0800	2.22E-02	9.52E-07	5.24E-05	2.02E-02	8.64E-06	4.75E-04	2.04E-03	8.73E-08	4.81E-06	1.80E-03	7.72E-08	4.25E-06
Road 2	2	0800-0900	2.25E-02	1.51E-06	8.32E-05	2.04E-02	1.37E-05	7.53E-04	2.07E-03	1.39E-07	7.64E-06	1.82E-03	1.22E-07	6.73E-06
Road 2	2	0900-1000	2.43E-02	1.64E-06	9.04E-05	2.21E-02	1.49E-05	8.18E-04	2.24E-03	1.51E-07	8.30E-06	1.97E-03	1.33E-07	7.31E-06
Road 2	2	1000-1100	2.58E-02	8.30E-07	4.57E-05	2.34E-02	7.53E-06	4.14E-04	2.29E-03	7.36E-08	4.06E-06	2.03E-03	6.52E-08	3.59E-06
Road 2	2	1100-1200	2.63E-02	8.37E-07	4.61E-05	2.39E-02	7.59E-06	4.18E-04	2.34E-03	7.42E-08	4.09E-06	2.07E-03	6.57E-08	3.62E-06
Road 2	2	1200-1300	2.68E-02	1.00E-06	5.52E-05	2.43E-02	9.06E-06	4.99E-04	2.38E-03	8.93E-08	4.92E-06	2.11E-03	7.91E-08	4.35E-06
Road 2	2	1300-1400	3.47E-02	1.82E-06	1.00E-04	3.12E-02	1.64E-05	9.00E-04	3.11E-03	1.62E-07	8.93E-06	2.75E-03	1.43E-07	7.89E-06
Road 2	2	1400-1500	3.47E-02	1.82E-06	1.00E-04	3.12E-02	1.64E-05	9.00E-04	3.11E-03	1.62E-07	8.93E-06	2.75E-03	1.43E-07	7.89E-06
Road 2	2	1500-1600	3.46E-02	1.81E-06	9.96E-05	3.11E-02	1.63E-05	8.96E-04	3.10E-03	1.62E-07	8.89E-06	2.74E-03	1.43E-07	7.86E-06
Road 2	2	1600-1700	3.41E-02	1.96E-06	1.08E-04	3.07E-02	1.76E-05	9.67E-04	3.06E-03	1.75E-07	9.62E-06	2.71E-03	1.55E-07	8.51E-06
Road 2	2	1700-1800	3.47E-02	1.82E-06	1.00E-04	3.12E-02	1.64E-05	9.00E-04	3.11E-03	1.62E-07	8.93E-06	2.75E-03	1.43E-07	7.89E-06
Road 2	2	1800-1900	1.91E-02	1.40E-06	7.69E-05	1.70E-02	1.24E-05	6.84E-04	1.69E-03	1.23E-07	6.79E-06	1.50E-03	1.09E-07	6.01E-06
Road 2	2	1900-2000	1.71E-02	9.95E-07	5.48E-05	1.82E-02	1.06E-05	5.84E-04	1.60E-03	9.32E-08	5.13E-06	1.42E-03	8.27E-08	4.55E-06
Road 2	2	2000-2100	1.46E-02	4.32E-07	2.38E-05	1.55E-02	4.58E-06	2.52E-04	1.36E-03	4.03E-08	2.22E-06	1.21E-03	3.58E-08	1.97E-06
Road 2	2	2100-2200	1.46E-02	6.60E-07	3.64E-05	1.55E-02	7.00E-06	3.85E-04	1.36E-03	6.16E-08	3.39E-06	1.21E-03	5.47E-08	3.01E-06
Road 2	2	2200-2300	1.59E-02	4.55E-07	2.50E-05	1.69E-02	4.82E-06	2.65E-04	1.48E-03	4.24E-08	2.33E-06	1.32E-03	3.77E-08	2.07E-06
Road 2	2	2300-0000	1.44E-02	2.04E-07	1.11E-05	1.76E-02	9.85E-08	1.35E-05	1.56E-03	2.21E-08	1.20E-06	1.70E-03	2.40E-08	1.19E-06
Road 3	3	0000-0100	1.73E-02	7.30E-08	4.48E-07	1.52E-02	6.40E-08	3.93E-07	2.51E-03	1.06E-08	6.49E-06	2.16E-03	9.09E-09	5.58E-06
Road 3	3	0100-0200	1.90E-02	4.58E-08	2.81E-07	1.67E-02	4.02E-08	2.47E-07	2.76E-03	6.66E-09	4.09E-06	2.38E-03	5.72E-09	3.51E-06
Road 3	3	0200-0300	2.02E-02	4.05E-08	2.48E-07	1.80E-02	3.61E-08	2.21E-07	2.93E-03	5.87E-09	3.60E-06	2.53E-03	5.07E-09	3.11E-06
Road 3	3	0300-0400	2.15E-02	3.96E-08	2.43E-07	1.91E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 14	14	0800-0900	5.15E-02	3.97E-07	1.59E-05	8.54E-02	1.46E-05	3.58E-04	3.24E-01	3.31E-06	9.05E-05
Road 14	14	0900-1000	6.14E-02	8.86E-07	1.51E-05	5.81E-02	8.99E-07	1.91E-05	3.86E-01	4.84E-06	8.25E-05
Road 14	14	1000-1100	6.74E-02	8.46E-07	1.44E-05	6.13E-02	7.71E-07	1.31E-05	3.91E-01	4.91E-06	7.53E-05
Road 14	14	1100-1200	6.63E-02	7.93E-07	1.37E-05	5.98E-02	7.15E-07	1.22E-05	3.97E-01	4.75E-06	7.12E-05
Road 14	14	1200-1300	8.05E-02	1.09E-06	1.86E-05	7.29E-02	9.90E-07	1.69E-05	4.57E-01	6.20E-06	1.06E-04
Road 14	14	1300-1400	8.14E-02	1.13E-06	1.93E-05	7.40E-02	1.03E-06	1.75E-05	4.57E-01	6.37E-06	1.08E-04
Road 14	14	1400-1500	8.27E-02	1.22E-06	2.07E-05	7.47E-02	1.10E-06	1.87E-05	4.66E-01	6.84E-06	1.16E-04
Road 14	14	1500-1600	7.93E-02	1.19E-06	2.03E-05	7.14E-02	1.07E-06	1.83E-05	4.57E-01	6.86E-06	1.17E-04
Road 14	14	1600-1700	8.56E-02	1.36E-06	2.31E-05	7.75E-02	1.23E-06	2.09E-05	4.57E-01	7.26E-06	1.23E-04
Road 14	14	1700-1800	9.67E-02	1.13E-06	1.91E-05	9.72E-02	1.02E-06	1.73E-05	4.11E-01	4.79E-06	8.12E-05
Road 14	14	1800-1900	1.01E-01	1.18E-06	1.99E-05	1.01E-01	1.06E-06	1.80E-05	4.11E-01	4.79E-06	8.12E-05
Road 14	14	1900-2000	1.60E-02	5.28E-07	9.01E-06	3.24E-02	4.76E-07	8.13E-06	1.95E-01	2.88E-06	4.92E-05
Road 14	14	2000-2200	1.31E-02	4.87E-07	1.66E-05	2.65E-02	4.39E-07	1.49E-05	1.60E-01	2.65E-06	9.04E-05
Road 14	14	2200-2300	3.15E-02	3.51E-07	5.99E-06	3.24E-02	2.97E-07	5.07E-06	1.95E-01	1.80E-06	3.07E-05
Road 14	14	2300-2400	2.82E-02	3.14E-07	5.36E-06	2.90E-02	2.66E-07	4.54E-06	1.74E-01	1.61E-06	2.75E-05
Road 15	15	0000-0100	4.70E-02	9.20E-08	8.52E-07	5.97E-02	2.81E-06	1.67E-05	1.70E-01	3.33E-06	1.98E-05
Road 15	15	0100-0200	9.48E-02	7.70E-08	7.13E-07	8.57E-02	6.45E-07	4.56E-05	4.08E-01	3.31E-07	3.07E-06
Road 15	15	0200-0400	1.06E-01	7.50E-08	6.95E-07	6.75E-02	4.99E-01	3.52E-07	3.26E-06	4.45E-01	3.14E-07	2.91E-06
Road 15	15	0400-0600	1.06E-01	7.77E-08	7.20E-07	6.75E-02	4.90E-01	3.58E-07	3.32E-06	3.25E-01	2.37E-07	3.01E-06
Road 15	15	0500-0600	8.60E-02	9.35E-08	8.66E-07	7.74E-02	8.42E-08	7.79E-07	4.21E-01	4.58E-07	4.24E-06	3.74E-01
Road 15	15	0600-0700	2.36E-02	1.21E-07	1.12E-06	1.63E-02	4.51E-01	2.32E-06	2.14E-05	1.59E-01	8.19E-07	7.58E-06
Road 15	15	0700-0800	9.48E-02	4.37E-07	4.05E-06	8.70E-02	4.02E-07	3.72E-06	4.51E-01	2.08E-06	1.93E-05	4.15E-01
Road 15	15	0800-0900	8.86E-02	4.60E-07	4.26E-06	8.14E-02	4.22E-07	3.91E-06	4.18E-01	2.17E-06	2.01E-05	3.81E-01
Road 15	15	0900-1000	1.09E-01	4.56E-07	4.22E-06	9.93E-02	4.16E-07	3.84E-06	4.18E-01	1.75E-06	1.62E-05	3.81E-01
Road 15	15	1000-1100	1.09E-01	4.56E-07	4.22E-06	9.93E-02	4.16E-07	3.84E-06	4.18E-01	1.75E-06	1.62E-05	3.81E-01
Road 15	15	1100-1200	1.28E-01	6.03E-07	7.44E-06	1.17E-01	5.50E-07	6.79E-06	5.02E-01	2.37E-06	2.92E-05	4.61E-01
Road 15	15	1200-1300	1.28E-01	6.03E-07	7.44E-06	1.17E-01	5.50E-07	6.79E-06	5.02E-01	2.37E-06	2.92E-05	4.61E-01
Road 15	15	1300-1400	1.28E-01	8.42E-07	7.80E-06	1.16E-01	7.67E-07	7.10E-06	5.04E-01	3.32E-06	3.07E-05	4.61E-01
Road 15	15	1400-1500	1.21E-01	8.39E-07	7.77E-06	1.09E-01	7.56E-07	7.00E-06	4.82E-01	3.35E-06	3.10E-05	4.30E-01
Road 15	15	1500-1600	1.21E-01	8.39E-07	7.77E-06	1.09E-01	7.56E-07	7.00E-06	4.82E-01	3.35E-06	3.10E-05	4.30E-01
Road 15	15	1600-1700	1.29E-01	8.46E-07	7.83E-06	1.17E-01	7.67E-07	7.10E-06	5.04E-01	3.32E-06	3.07E-05	4.61E-01
Road 15	15	1700-1800	1.03E-01	7.44E-07	6.89E-06	9.21E-02	6.69E-07	6.19E-06	4.72E-01	3.43E-06	3.17E-05	4.21E-01
Road 15	15	1800-1900	1.03E-01	7.44E-07	6.89E-06	9.21E-02	6.69E-07	6.19E-06	4.72E-01	3.43E-06	3.17E-05	4.21E-01
Road 15	15	1900-2000	5.41E-02	2.59E-07	4.89E-06	2.33E-02	2.16E-06	1.27E-05	2.57E-01	1.23E-06	1.13E-05	1.10E-01
Road 15	15	2000-2200	5.53E-02	2.10E-07	1.94E-06	4.96E-02	1.88E-07	1.74E-06	1.02E-01	1.34E-06	2.67E-06	2.01E-01
Road 15	15	2200-2300	1.32E-02	1.75E-07	1.62E-06	1.20E-02	1.59E-07	1.47E-06	2.31E-01	3.06E-06	2.83E-05	2.09E-01
Road 15	15	2300-2400	1.36E-02	1.95E-07	1.80E-06	4.83E-02	1.76E-07	1.63E-06	1.04E-01	1.49E-06	2.96E-06	2.09E-01
Road 16	16	0000-0100	1.77E-02	8.94E-08	2.74E-06	1.56E-02	7.87E-08	2.41E-06	1.07E-01	5.42E-07	2.05E-06	1.46E-01
Road 16	16	0100-0200	1.98E-02	6.54E-08	2.00E-06	1.76E-02	5.81E-08	1.78E-06	2.21E-01	7.30E-07	2.76E-06	1.97E-01
Road 16	16	0200-0400	2.41E-02	4.64E-08	1.42E-06	2.15E-02	4.13E-08	1.27E-06	2.34E-01	4.51E-07	1.71E-06	1.22E-01
Road 16	16	0400-0500	2.42E-02	8.66E-08	2.65E-06	2.16E-02	7.73E-08	2.37E-06	2.36E-01	8.43E-07	2.58E-06	2.05E-01
Road 16	16	0500-0600	2.42E-02	8.66E-08	2.65E-06	2.16E-02	7.73E-08	2.37E-06	2.36E-01	8.43E-07	2.58E-06	2.05E-01
Road 16	16	0600-0700	2.41E-02	1.82E-07	5.57E-06	2.15E-02	1.62E-07	4.97E-06	2.07E-01	1.55E-06	4.74E-06	1.41E-01
Road 16	16	0700-0800	2.52E-02	1.24E-07	3.81E-06	2.25E-02	1.11E-07	3.40E-06	2.17E-01	1.07E-06	3.28E-06	1.36E-01
Road 16	16	0800-0900	2.52E-02	4.45E-07	1.36E-05	2.30E-02	4.07E-07	1.25E-05	2.16E-01	3.83E-06	1.17E-04	1.94E-01
Road 16	16	0900-1000	3.21E-02	3.79E-07	1.16E-05	2.93E-02	3.46E-07	1.06E-05	2.75E-01	3.25E-06	9.94E-05	2.47E-01
Road 16	16	1000-1100	3.21E-02	5.94E-07	1.21E-05	2.93E-02	5.42E-07	1.11E-05	2.75E-01	5.09E-06	1.04E-04	2.47E-01
Road 16	16	1100-1200	3.40E-02	3.96E-07	1.21E-05	3.09E-02	3.60E-07	1.10E-05	2.91E-01	3.38E-06	1.03E-04	2.61E-01
Road 16	16	1200-1300	3.40E-02	3.96E-07	1.21E-05	3.09E-02	3.60E-07	1.10E-05	2.91E-01	3.38E-06	1.03E-04	2.61E-01
Road 16	16	1300-1400	3.45E-02	4.04E-07	1.24E-05	3.14E-02	3.68E-07	1.13E-05	2.95E-01	3.45E-06	1.06E-04	2.65E-01
Road 16	16	1400-1500	3.45E-02	4.04E-07	1.24E-05	3.14E-02	3.68E-07	1.13E-05	2.95E-01	3.45E-06	1.06E-04	2.65E-01
Road 16	16	1500-1600	3.35E-02	3.92E-07	1.20E-05	3.05E-02	3.57E-07	1.09E-05	2.87E-01	3.35E-06	1.03E-04	2.57E-01
Road 16	16	1600-1700	3.77E-02	3.45E-07	1.05E-05	3.43E-02	3.14E-07	9.56E-06	2.57E-01	2.35E-06	7.16E-05	2.21E-01
Road 16	16	1700-1800	2.68E-02	3.14E-07	9.61E-06	2.44E-02	2.86E-07	8.74E-06	2.29E-01	2.68E-06	8.20E-05	2.06E-01
Road 16	16	1800-1900	2.68E-02	3.14E-07	9.61E-06	2.44E-02	2.86E-07	8.74E-06	2.29E-01	2.68E-06	8.20E-05	2.06E-01
Road 16	16	1900-2000	1.64E-02	1.80E-07	5.51E-06	1.49E-02	1.64E-07	5.01E-06	1.84E-01	2.48E-06	7.59E-05	1.66E-01
Road 16	16	2000-2200	1.77E-02	1.45E-07	4.45E-06	1.58E-02	1.29E-07	3.97E-06	2.08E-01	1.70E-06	5.23E-05	1.87E-01
Road 16	16	2200-2300	3.15E-02	3.64E-07	1.11E-05	2.87E-02	3.32E-07	1.01E-05	2.54E-01	2.93E-06	8.93E-05	2.29E-01
Road 16	16	2300-2400	2.76E-02	3.19E-07	9.75E-06	2.51E-02	2.90E-07	8.87E-06	2.23E-01	2.57E-06	7.85E-05	2.01E-01
Road 17	17	0000-0100	2.01E-02	1.07E-07	3.12E-06	1.79E-02	9.50E-08	2.78E-06	1.86E-01	9.84E-07	2.88E-05	1.60E-01
Road 17	17	0100-0200	2.41E-02	1.02E-07	2.98E-06	2.14E-02	9.07E-08	2.65E-06	2.21E-01	9.37E-07	2.74E-05	1.91E-01
Road 17	17	0200-0400	2.41E-02	7.45E-08	2.18E-06	2.15E-02	6.62E-08	1.94E-06	2.34E-01	7.23E-07	2.11E-05	1.91E-01
Road 17	17	0400-0500	2.42E-02	1.39E-07	4.06E-06	2.16E-02	1.24E-07	3.62E-06	2.36E-01	1.35E-06	3.95E-05	2.05E-01
Road 17	17	0500-0600	2.42E-02	1.39E-07	4.06E-06	2.16E-02	1.24E-07	3.62E-06	2.36E-01	1.35E-06	3.95E-05	2.05E-01
Road 17	17	0600-0700	2.41E-02	2.92E-07	8.55E-06	2.15E-02	2.60E-07	7.62E-06	2.07E-01	2.48E-06	7.26E-05	1.41E-01
Road 17	17	0700-0800	2.52E-02	1.99E-07	5.84E-06	2.25E-02	1.78E-07	5.21E-06	2.17E-01	1.72E-06	5.03E-05	1.36E-01
Road 17	17	0800-0900	2.52E-02	7.13E-07	2.09E-05	2.30E-02	6.51E-07	1.91E-05	2.16E-01	6.12E-06	1.79E-04	1.94E-01
Road 17	17	0900-1000	3.21E-02	6.07E-07	1.78E-05	2.93E-02	5.54E-07	1.62E-05	2.75E-01	5.20E-06	1.52E-04	2.47E-01
Road 17	17	1000-1100	3.21E-02	9.51E-07	1.86E-05	2.93E-02	8.67E-07	1.70E-05	2.75E-01	8.14E-06	1.59E-04	2.47E-01
Road 17	17	1100-1200	3.40E-02	6.34E-07	1.86E-05	3.09E-02	5.76E-07	1.69E-05	2.91E-01	5.41E-06	1.59E-04	2.61E-01
Road 17	17	1200-1300	3.40E-02	6.34E-07	1.86E-05	3.09E-02	5.76E-07	1.69E-05	2.91E-01	5.41E-06	1.59E-04	2.61E-01
Road 17	17	1300-1400	3.45E-02	6.47E-07	1.90E-05	3.14E-02	5.89E-07	1.73E-05	2.95E-01	5.52E-06	1.62E-04	2.65E-01
Road 17	17	1400-1500	3.45E-02	6.47E-07	1.90E-05	3.14E-02	5.89E-07	1.73E-05	2.95E-01	5.52E-06	1.62E-04	2.65E-01
Road 17	17	1500-1600	3.35E-02	6.28E-07	1.84E-05	3.05E-02	5.72E-07	1.68E-05	2.87E-01	5.38E-06	1.58E-04	2.57E-01
Road 17	17	1600-1700	3.77E-02	5.52E-07	1.62E-05	3.43E-02	5.03E-07	1.47E-05	2.57E-01	3.77E-06	1.10E-04	2.21E-01
Road 17	17	1700-1800	2.68E-02	5.03E-07	1.48E-05	2.44E-02	4.58E-07	1.35E-05	2.29E-01	4.30E-06	1.26E-04	2.06E-01
Road 17	17	1800-1900	2.68E-02	5.03E-07	1.48E-05	2.44E-02	4.58E-07	1.35E-05	2.29E-01	4.30E-06	1.26E-04	2.06E-01
Road 17	17	1900-2000	1.64E-02	2.88E-07	8.48E-06	1.49E-02	2.62E-07	7.72E-06	1.84E-01	3.97E-06	1.17E-04	1.66E-01
Road 17	17	2000-2200	1.77E-02	2.32E-07	6.85E-06	1.58E-02	2.07E-07	6.11E-06	2.08E-01	2.72E-06	8.04E-05	1.87E-01
Road 17	17	2200-2300	3.15E-02	5.83E-07	1.71E-05	2.87E-02	5.31E-07	1.56E-05	2.54E-01	4.69E-06	1.38E-04	2.29E-01
Road 17	17	2300-2400	2.76E-02	5.11E-07	1.50E-05	2.51E-02	4.65E-07	1.37E-05	2.23E-01	4.13E-06	1.21E-04	2.01E-01
Road 18	18	0000-0100	1.98E-02	1.05E-07	3.07E-06	1.76E-02	9.35E-08	2.74E-06	1.83E-01	9.68E-07	2.83E-05	1.58E-01
Road 18	18	0100-0200	2.37E-02	1.00E-07	2.93E-06	2.11E-02	8.92E-08	2.61E-06	2.18E-01	9.22E-07	2.70E-05	1.88E-01
Road 18	18	0200-0400	2.41E-02	4.58E-08	1.79E-06	2.15E-02	4.08E-08	1.59E-06	2.37E-01	4.49E-07	1.75E-05	2.05E-01
Road 18	18	0400-0500	2.41E-02	4.58E-08	1.79E-06	2.15E-02	4.08E-08	1.59E-06	2.37E-01	4.49E-07	1.75E-05	2.05E-01
Road 18	18	0500-0600	2.41E-02	4.58E-08	1.79E-06	2.15E-02	4.08E-08	1.59E-06	2.37E-01	4.49E-07	1.75E-05	2.05E-01
Road 18	18	0600-0700	2.39E-02	1.78E-07	6.96E-06	2.15E-02	1.61E-07	6.27E-06	2.32E-01	1.73E-06	6.77E-05	2.04E-01
Road 18	18	0700-0800	2.49E-02	1.22E-07	4.76E-06	2.24E-02	1.10E-07	4.28E-06	2.41E-01	1.18E-06	4.61E-05	2.12E-01
Road 18	18	0800-0900	2.49E-02	4.37E-07	1.68E-05	2.26E-02	3.94E-07	1.52E-05	2.38E-01	4.15E-06	1.60E-04	2.10E-01
Road 18	18	0900-1000	3.16E-02	3.73E-07	1.43E-05	2.89E-02	3.41E-07	1.31E-05	2.71E-01	3.20E-06	1.23E-04	2.43E-01
Road 18	18	1000-1100	3.16E-02	5.85E-07	1.49E-05	2.89E-02	5.34E-07	1.36E-05	2.71E-01	5.01E-06	1.28E-04	2.43E-01
Road 18	18	1100-1200	3.34E-02	3.89E-07	1.49E-05	3.04E-02	3.54E-07	1.35E-05	2.87E-01	3.33E-06	1.27E-04	2.57E-01
Road 18	18	1200-1300	3.34E-02	3.89E-07	1.49E-05	3.04E-02	3.54E-07	1.35E-05	2.87E-01	3.33E-06	1.27E-04	2.57E-01
Road 18	18	1300-1400	3.39E-02	3.97E-07	1.52E-05	3.09E-02	3.62E-07	1.38E-05	2.91E-01	3.40E-06	1.30E-04	2.61E-01
Road 18	18	1400-1500	3.39E-02	3.97E-07	1.52E-05	3.09E-02	3.62E-07	1.38E-05	2.91E-01	3.40E-06	1.30E-04	2.61E-01
Road 18	18	1500-1600	3.29E-02	3.85E-07	1.47E-05	3.00E-02	3.51E-07	1.34E-05	2.83E-01	3.30E-06	1.26E-04	2.53E-01
Road 18	18	1600-1700	3.71E-02	3.39E-07	1.29E-05	3.38E-02	3.09E-07	1.18E-05	2.53E-01	2.31E-06	8.82E-05	2.18E-01
Road 18	18	1700-1800	2.64E-02	3.09E-07	1.18E-05	2.40E-02	2.82E-07	1.08E-05	2.26E-01	2.64E-06	1.01E-04	2.03E-01
Road 18	18	1800-1900	2.64E-02	3.09E-07	1.18E-05	2.40E-02	2.82E-07	1.08E-05	2.26E-01	2.64E-06	1.01E-04	2.03E-01
Road 18	18	1900-2000	1.61E-02	1.77E-07	6.77E-06	1.47E-02	1.61E-07	6.16E-06	1.81E-01	2.44E-06	9.32E-05	1.63E-01
Road 18	18	2000-2200	1.74E-02	1.42E-07	5.47E-06	1.56E-02	1.27E-07	4.88E-06	2.05E-01	1.67E-06	6.43E-05	1.84E-01
Road 18	18	2200-2300	3.10E-02	3.58E-07	1.37E-05	2.82E-02	3.26E-07	1.25E-05	2.50E-01	2.88E-06	1.10E-04	2.25E-01
Road 18	18	2300-2400	2.72E-02	3.14E-07	1.20E-05	2.47E-02	2.85E-07	1.09E-05	2.19E-01	2.53E-06	9.66E-05	1.98E-01
Road 19	19	0000-0100	1.98E-02	1.05E-07	3.07E-06	1.76E-02	9.35E-08	2.74E-06	1.83E-01	9.68E-07	2.83E-05	1.58E-01
Road 19	19	0100-0200	2.37E-02	1.00E-07	2.93E-06	2.11E-02	8.92E-08	2.61E-06	2.18E-01	9.22E-07	2.70E-05	1.88E-01
Road 19	19	0200-0400	2.41E-02	4.58E-08	1.79E-06	2.15E-02	4.08E-08	1.59E-06	2.37E-01	4.49E-07	1.75E-05	2.05E-01
Road 19	19	0400-0500	2.42E-02	1.39E-07	4.06E-06	2.16E-02	1.24E-07	3.62E-06	2.36E-01	1.35E-06	3.95E-05	2.05E-01
Road 19	19	0500-0600	2.42E-02	1.39E-07	4.06E-06	2.16E-02	1.24E-07	3.62E-06	2.36E-01	1.35E-06	3.95E-05	2.05E-01
Road 19	19	0600-0700	2.39E-02	1.78E-07	6.96E-06	2.15E-02	1.61E-07	6.27E-06	2.32E-01	1.73E-06	6.77E-05	2.04E-01
Road 19	19	0700-0800	2.49E-02	1.22E-07	4.76E-06	2.24E-02	1.10E-07	4.28E-06	2.41E-01	1.18E-06	4.61E-05	2.12E-01
Road 19	19	0800-0900	2.49E-02	4.37E-07	1.68E-05	2.26E-02	3.94E-07	1.52E-05	2.38E-01	4.15E-06	1.60E-04	2.10E-01
Road 19	19	0900-1000	3.16E-02	3.73E-07	1.43E-05	2.89E-02	3.41E-07	1.31E-05	2.71E-01	3.20E-06	1.23E-04	2.43E-01
Road 19	19	1000-1100	3.16E-02	5.85E-07	1.49E-05	2.89E-02	5.34E-07	1.36E-05	2.71E-01	5.01E-06	1.28E-04	2.43E-01
Road 19	19	1100-1200	3.34E-02	3.89E-07	1.49E-05	3.04E-02	3.54E-07	1.35E-05	2.87E-01	3.33E-06	1.27E-04	2.57E-01
Road 19	19	1200-1300	3.34E-02	3.89E-07	1.49E-05	3.04E-02	3.54E-07	1.35E-05	2.87E-01	3.33E-06	1.27E-04	2.57E-01
Road 19	19	1300-1400	3.39E-02	3.97E-07	1.52E-05	3.09E-02	3.62E-07	1.38E-05	2.91E-01	3.40E-06	1.30E-04	2.61E-01
Road 19	19	1400-1500	3.39E-02	3.97E-07	1.52E-05	3.09E-02	3.62E-07	1.38E-05	2.91E-01	3.40E-06	1.30E-04	2.61E-01
Road 19	19	1500-1600	3.29E-02	3.85E-07	1.47E-05	3.00E-02	3.51E-07	1.34E-05	2.83E-01	3.30E-06	1.26E-04	2.53E-01
Road 19	19	1600-1700	3.71E-02	3.39E-07	1.29E-05	3.38E-02	3.09E-07	1.18E-05	2.53E-01	2.31E-06	8.82E-05	2.18E-01
Road 19	19	1700-1800	2.64E-02	3.09E-07	1.18E-05	2.40E-02	2.82E-07	1.08E-05	2.26E-01	2.64E-06	1.01E-04	2.03E-01
Road 19	19	1800-1900	2.64E-02	3.09E-07	1.18E-05	2.40E-02	2.82E-07	1.08E-05	2.26E-01	2.64E-06	1.01E-04	2.03E-01
Road 19	19	1900-2000	1.61E-02	1.77E-07	6.77E-06	1.47E-02	1.61E-07	6.16E-06	1.81E-01	2.44E-06	9.32E-05	1.63E-01
Road 19	19	2000-2200	1.74E-02	1.42E-07	5.47E-06	1.56E-02	1.27E-07	4.88E-06	2.05E-01	1.67E-06	6.43E-05	1.84E-01
Road 19	19	2200-2300	3.10E-02	3.58E-07	1.37E-05	2.82E-02	3.26E-07	1.25E-05	2.50E-01	2.88E-06	1.10E-04	2.25E-01
Road 19	19	2300-2400	2.72E-02	3.14E-07	1.20E-05	2.47E-02	2.85E-07	1.09E-05	2.19E-01	2.53E-06	9.66E-05	1.98E-01
Road 20	20	0000-0100	1.98E-02	1.05E-07	3.07E-06	1.76E-02	9.35E-08	2.74E-06	1.83E-01	9.68E-07	2.83E-05	1.58E-01
Road 20	20	0100-0200	2.37E-02	1.00E-07	2.93E-06	2.11E-02	8.92E-08	2.61E-06	2.18E-01	9.22E-07	2.70E-05	1.88E-01
Road 20	20	0200-0400	2.41E-02	4.58E-08	1.79E-06	2.15E-02	4.08E-08	1.59E-06	2.37E-01	4.49E-07	1.75E-05	2.05E-01
Road 20	20	0400-0500	9.84E-02	4.36E-08	8.03E-07	8.85E-02	3.92E-08	7.23E-07	4.26E-01	1.89E-07	3.48E-06	3.68E-01
Road 20	20	0500-0600	9.26E-02	4.27E-08	7.87E-07	8.42E-02	3.88E-08	7.16E-07	4.04E-01	1.86E-07	3.44E-06	3.65E-01
Road 20	20	0600-0700	1.03E-01	1.87E-07	3.45E-06	9.41E-02	1.70E-07	3.14E-06	4.43E-01	8.03E-07	1.48E-05	4.02E-01
Road 20	20	0700-0800	1.11E-01	4.27E-07	7.87E-06	1.02E-01	3.91E-07	7.21E-06	4.75E-01	1.82E-06	3.36E-05	4.37E-01
Road 20	20	0800-0900	1.11E-01	4.27E-07	7.87E-06	1.02E-01	3.91E-07	7.21E-06	4.75E-01	1.82E-06	3.36E-05	4.37E-01
Road 20	20	0900-1000	1.18E-01	5.09E-07	1.05E-05	1.08E-01	5.24E-07	9.67E-06	5.04E-01	2.44E-06	4.49E-05	4.63E-01
Road 20	20	1000-1100	1.18E-01	5.01E-07	6.17E-07	1.08E-01	5.14E-07	5.01E-07	5.04E-01	2.40E-06	2.32E-06	4.27E-01
Road 20	20	1100-1200	1.26E-01	5.51E-07	6.17E-07	1.16E-01	5.51E-07	9.24E-06	5.28E-01	2.32E-06	4.27E-05	4.85E-01
Road 20	20	1200-1300	1.26E-01	5.51E-07	6.17E-07	1.16E-01	5.51E-07	9.24E-06	5.28E-01	2.32E-06	4.27E-05	4.85E-01
Road 20	20	1300-1400	1.37E-01	6.14E-07	1.13E-05	1.26E-01	5.56E-07	4.71E-06	5.56E-01	2.46E-06	4.56E-05	5.11E-01
Road 20	20	1400-1500	1.40E-01	6.22E-07	1.15E-05	1.26E-01	5.61E-07	1.03E-05	5.72E-01	2.56E-06	4.72E-05	5.26E-01
Road 20	20	1500-1600	1.36E-01	5.84E-07	1.08E-05	1.23E-01	5.28E-07	9.73E-06	5.66E-01	2.43E-06	4.48E-05	5.11E-01
Road 20	20	1600-1700	1.36E-01	1.22E-07	2.25E-06	1.23E-01	1.10E-07	2.01E-06	5.66E-01	5.11E-07	9.38E-06	5.11E-01
Road 20	20	1700-1800	1.06E-01	1.01E-07	1.85E-06	9.46E-02	9.09E-08	1.66E-06	4.43E-01	4.26E-07	7.78E-06	3.96E-01
Road 20	20	1800-1900	1.06E-01	1.01E-07	1.85E-06	9.46E-02	9.09E-08	1.66E-06	4.43E-01	4.26E-07	7.78E-06	3.96E-01
Road 20	20	1900-2000	1.01E-01	1.85E-07	3.40E-06	9.15E-02	1.67E-07	3.08E-06	4.43E-01	8.09E-07	1.49E-05	4.00E-01
Road 20	20	2000-2200	9.52E-02	1.44E-07	2.66E-06	8.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	4.07E-02	1.29E-07	1.21E-06	3.14E-02	1.00E-07	9.33E-07	2.21E-01	7.02E-07	6.59E-06	1.71E-01	5.44E-07	5.08E-06
Road 41	41	0100-0200	5.01E-02	1.32E-07	1.05E-06	4.50E-02	1.01E-07	9.48E-07	2.61E-01	5.86E-07	5.50E-06	2.31E-01	5.17E-07	4.85E-06
Road 41	41	0200-0300	5.85E-02	1.04E-07	9.76E-07	5.27E-02	9.36E-08	8.78E-07	2.97E-01	5.28E-07	4.96E-06	2.61E-01	4.68E-07	4.39E-06
Road 41	41	0300-0400	6.60E-02	9.77E-08	9.17E-07	5.92E-02	8.94E-08	8.39E-07	3.29E-01	4.87E-07	4.57E-06	2.95E-01	4.46E-07	4.19E-06
Road 41	41	0400-0500	6.46E-02	1.05E-07	9.83E-07	5.80E-02	9.39E-08	8.81E-07	3.22E-01	5.22E-07	4.90E-06	2.85E-01	4.62E-07	4.33E-06
Road 41	41	0500-0600	5.34E-02	1.32E-07	1.24E-06	4.81E-02	1.19E-07	1.12E-06	2.71E-01	6.73E-07	6.32E-06	2.46E-01	6.09E-07	5.72E-06
Road 41	41	0600-0700	4.38E-02	2.11E-07	1.98E-06	3.95E-02	1.90E-07	1.78E-06	2.28E-01	1.10E-06	1.03E-05	2.00E-01	9.62E-07	9.03E-06
Road 41	41	0700-0800	5.33E-02	5.68E-07	5.31E-06	4.89E-02	5.21E-07	4.89E-06	2.67E-01	2.84E-06	2.67E-05	2.41E-01	2.57E-06	2.41E-05
Road 41	41	0800-0900	5.68E-02	3.31E-07	3.10E-06	5.22E-02	3.04E-07	2.85E-06	2.87E-01	1.67E-06	1.56E-05	2.58E-01	1.50E-06	1.40E-05
Road 41	41	0900-1000	5.82E-02	6.25E-07	5.86E-06	5.12E-02	5.51E-07	5.16E-06	2.81E-01	3.02E-06	2.83E-05	2.47E-01	2.73E-06	2.56E-05
Road 41	41	1000-1100	6.16E-02	5.99E-07	5.62E-06	5.42E-02	5.27E-07	4.94E-06	2.98E-01	2.89E-06	2.71E-05	2.62E-01	2.55E-06	2.39E-05
Road 41	41	1100-1200	6.45E-02	5.99E-07	5.62E-06	5.81E-02	5.40E-07	5.07E-06	3.08E-01	2.86E-06	2.69E-05	2.75E-01	2.56E-06	2.40E-05
Road 41	41	1200-1300	4.79E-02	5.14E-07	4.79E-06	4.96E-02	5.31E-07	4.95E-06	2.51E-01	2.69E-06	2.51E-05	2.60E-01	2.78E-06	2.59E-05
Road 41	41	1300-1400	7.79E-02	5.67E-07	5.31E-06	6.98E-02	5.08E-07	4.76E-06	3.26E-01	2.37E-06	2.22E-05	2.92E-01	2.13E-06	1.99E-05
Road 41	41	1400-1500	7.72E-02	5.80E-07	5.44E-06	6.97E-02	5.23E-07	4.91E-06	3.17E-01	2.68E-06	2.52E-05	3.21E-01	2.41E-06	2.26E-05
Road 41	41	1500-1600	7.37E-02	5.76E-07	5.40E-06	6.61E-02	5.16E-07	4.84E-06	3.42E-01	2.67E-06	2.50E-05	3.04E-01	2.38E-06	2.23E-05
Road 41	41	1600-1700	7.37E-02	5.76E-07	5.40E-06	6.61E-02	5.16E-07	4.84E-06	3.42E-01	2.67E-06	2.50E-05	3.04E-01	2.38E-06	2.23E-05
Road 41	41	1700-1800	5.29E-02	5.19E-07	4.87E-06	4.56E-02	4.38E-07	4.03E-06	2.52E-01	2.54E-06	2.39E-05	2.70E-01	2.72E-06	2.56E-05
Road 41	41	1800-1900	5.40E-02	4.47E-07	4.20E-06	4.82E-02	4.00E-07	3.75E-06	2.64E-01	2.19E-06	2.05E-05	2.34E-01	1.94E-06	1.82E-05
Road 41	41	1900-2000	3.44E-02	1.87E-07	1.76E-06	3.10E-02	1.69E-07	1.59E-06	1.85E-01	9.88E-07	9.27E-06	1.70E-01	9.08E-07	8.52E-06
Road 41	41	2000-2100	2.54E-02	1.55E-07	1.45E-06	2.29E-02	1.40E-07	1.31E-06	1.36E-01	8.21E-07	7.70E-06	1.25E-01	7.54E-07	7.07E-06
Road 41	41	2100-2200	2.54E-02	1.55E-07	1.45E-06	3.20E-02	1.40E-07	1.31E-06	1.93E-01	8.45E-07	7.93E-06	1.71E-01	7.48E-07	7.02E-06
Road 41	41	2200-2300	2.42E-02	1.47E-07	1.38E-06	3.05E-02	1.33E-07	1.25E-06	1.84E-01	8.04E-07	7.54E-06	1.63E-01	7.12E-07	6.68E-06
Road 41	41	2300-0000	4.20E-02	1.39E-07	1.30E-06	3.77E-02	1.24E-07	1.17E-06	2.23E-01	7.35E-07	6.90E-06	2.00E-01	6.47E-07	6.07E-06
Road 42	42	0000-0100	7.72E-02	1.67E-07	4.22E-06	6.85E-02	1.48E-07	3.75E-06	3.65E-01	7.89E-07	2.00E-05	3.18E-01	6.87E-07	1.74E-05
Road 42	42	0100-0200	7.09E-02	1.51E-07	3.82E-06	6.29E-02	1.34E-07	3.39E-06	3.35E-01	7.14E-07	1.81E-05	2.92E-01	6.22E-07	1.57E-05
Road 42	42	0200-0300	1.08E-01	1.44E-07	3.64E-06	9.74E-02	1.29E-07	3.26E-06	4.86E-01	6.47E-07	1.64E-05	4.34E-01	5.77E-07	1.46E-05
Road 42	42	0300-0400	1.29E-01	5.19E-07	1.31E-05	1.16E-01	4.67E-07	1.18E-05	5.79E-01	2.33E-06	5.90E-05	5.17E-01	2.08E-06	5.26E-05
Road 42	42	0400-0500	1.17E-01	1.44E-07	3.66E-06	1.05E-01	1.30E-07	3.29E-06	5.20E-01	6.43E-07	1.63E-05	4.63E-01	5.72E-07	1.45E-05
Road 42	42	0500-0600	9.46E-02	1.44E-07	4.17E-06	8.54E-02	1.30E-07	3.76E-06	4.31E-01	6.55E-07	1.90E-05	3.89E-01	5.91E-07	1.71E-05
Road 42	42	0600-0700	2.31E-01	1.44E-07	4.17E-06	2.08E-01	1.30E-07	3.76E-06	1.05E-00	6.55E-07	1.90E-05	9.44E-01	5.91E-07	1.71E-05
Road 42	42	0700-0800	1.13E-01	8.31E-07	2.11E-05	1.04E-01	7.63E-07	1.93E-05	4.94E-01	3.63E-06	9.19E-05	4.50E-01	3.30E-06	8.36E-05
Road 42	42	0800-0900	1.08E-01	1.44E-07	3.64E-06	9.74E-02	1.29E-07	3.26E-06	4.86E-01	6.47E-07	1.64E-05	4.34E-01	5.77E-07	1.46E-05
Road 42	42	0900-1000	1.20E-01	8.80E-07	2.23E-05	1.10E-01	8.05E-07	2.04E-05	5.17E-01	3.79E-06	9.62E-05	4.70E-01	3.44E-06	8.73E-05
Road 42	42	1000-1100	1.29E-01	1.44E-07	3.66E-06	1.16E-01	1.30E-07	3.29E-06	5.20E-01	6.43E-07	1.63E-05	4.63E-01	5.72E-07	1.45E-05
Road 42	42	1100-1200	1.29E-01	2.34E-07	2.12E-05	1.16E-01	7.53E-07	1.91E-05	5.52E-01	3.57E-06	9.06E-05	4.95E-01	3.20E-06	8.13E-05
Road 42	42	1200-1300	1.44E-01	1.00E-06	2.54E-05	1.30E-01	9.08E-07	2.30E-05	6.00E-01	4.18E-06	1.06E-04	5.42E-01	3.77E-06	9.57E-05
Road 42	42	1300-1400	1.44E-01	1.00E-06	2.54E-05	1.30E-01	9.08E-07	2.30E-05	6.00E-01	4.18E-06	1.06E-04	5.42E-01	3.77E-06	9.57E-05
Road 42	42	1400-1500	1.45E-01	1.08E-06	2.74E-05	1.31E-01	9.78E-07	2.48E-05	6.07E-01	4.51E-06	1.15E-04	5.46E-01	4.06E-06	1.03E-04
Road 42	42	1500-1600	1.45E-01	1.08E-06	2.74E-05	1.31E-01	9.78E-07	2.48E-05	6.07E-01	4.51E-06	1.15E-04	5.46E-01	4.06E-06	1.03E-04
Road 42	42	1600-1700	1.39E-01	1.07E-06	2.72E-05	1.25E-01	9.61E-07	2.44E-05	5.82E-01	4.48E-06	1.14E-04	5.20E-01	4.00E-06	1.01E-04
Road 42	42	1700-1800	1.22E-01	8.79E-07	2.48E-05	1.09E-01	7.80E-07	2.23E-05	5.24E-01	3.77E-06	9.56E-05	4.68E-01	3.77E-06	9.55E-05
Road 42	42	1800-1900	1.30E-01	1.00E-06	2.54E-05	1.16E-01	9.08E-07	2.30E-05	5.53E-01	4.18E-06	1.06E-04	4.95E-01	3.77E-06	9.57E-05
Road 42	42	1900-2000	2.84E-02	2.93E-07	7.44E-06	2.53E-02	2.61E-07	6.62E-06	1.21E-01	1.25E-06	3.17E-05	1.08E-01	1.11E-06	2.82E-05
Road 42	42	2000-2100	2.84E-02	2.93E-07	7.44E-06	2.53E-02	2.61E-07	6.62E-06	1.21E-01	1.25E-06	3.17E-05	1.08E-01	1.11E-06	2.82E-05
Road 42	42	2100-2200	2.84E-02	2.93E-07	7.44E-06	2.53E-02	2.61E-07	6.62E-06	1.21E-01	1.25E-06	3.17E-05	1.08E-01	1.11E-06	2.82E-05
Road 42	42	2200-2300	2.84E-02	2.93E-07	7.44E-06	2.53E-02	2.61E-07	6.62E-06	1.21E-01	1.25E-06	3.17E-05	1.08E-01	1.11E-06	2.82E-05
Road 42	42	2300-0000	2.84E-02	2.93E-07	7.44E-06	2.53E-02	2.61E-07	6.62E-06	1.21E-01	1.25E-06	3.17E-05	1.08E-01	1.11E-06	2.82E-05
Road 43	43	0000-0100	2.84E-02	6.20E-08	3.89E-06	2.66E-02	5.80E-08	3.64E-06	1.21E-01	2.64E-07	1.66E-05	1.13E-01	2.47E-07	1.55E-05
Road 43	43	0100-0200	2.86E-02	6.02E-08	3.72E-06	2.61E-02	5.49E-08	3.39E-06	2.12E-01	4.45E-06	2.75E-05	1.89E-01	3.98E-06	2.46E-05
Road 43	43	0200-0300	1.57E-02	1.05E-07	5.80E-06	1.40E-02	9.41E-08	5.18E-06	1.71E-01	1.15E-06	6.33E-05	1.50E-01	1.01E-06	5.54E-05
Road 43	43	0300-0400	1.97E-02	4.49E-07	1.40E-05	1.76E-02	4.01E-07	1.25E-05	2.15E-01	4.90E-06	1.53E-04	1.91E-01	4.34E-06	1.36E-04
Road 43	43	0400-0500	2.00E-02	2.11E-07	6.58E-06	1.78E-02	1.88E-07	5.86E-06	2.18E-01	2.30E-06	7.17E-05	1.93E-01	2.04E-06	6.36E-05
Road 43	43	0500-0600	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	0600-0700	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	0700-0800	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	0800-0900	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	0900-1000	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1000-1100	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1100-1200	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1200-1300	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1300-1400	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1400-1500	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1500-1600	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1600-1700	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1700-1800	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1800-1900	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	1900-2000	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	2000-2100	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	2100-2200	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	2200-2300	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 43	43	2300-0000	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	0000-0100	2.86E-02	6.20E-07	3.89E-06	2.65E-02	5.75E-07	3.55E-06	3.51E-01	4.93E-06	3.04E-05	1.31E-01	4.61E-06	2.84E-05
Road 44	44	0100-0200	2.86E-02	6.02E-07	3.72E-06	2.61E-02	5.49E-07	3.39E-06	2.12E-01	4.45E-06	2.75E-05	1.89E-01	3.98E-06	2.46E-05
Road 44	44	0200-0300	1.57E-02	1.05E-07	5.80E-06	1.40E-02	9.41E-08	5.18E-06	1.71E-01	1.15E-06	6.33E-05	1.50E-01	1.01E-06	5.54E-05
Road 44	44	0300-0400	1.97E-02	4.49E-07	1.40E-05	1.76E-02	4.01E-07	1.25E-05	2.15E-01	4.90E-06	1.53E-04	1.91E-01	4.34E-06	1.36E-04
Road 44	44	0400-0500	2.00E-02	2.11E-07	6.58E-06	1.78E-02	1.88E-07	5.86E-06	2.18E-01	2.30E-06	7.17E-05	1.93E-01	2.04E-06	6.36E-05
Road 44	44	0500-0600	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	0600-0700	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	0700-0800	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	0800-0900	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	0900-1000	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1000-1100	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1100-1200	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1200-1300	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1300-1400	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1400-1500	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1500-1600	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1600-1700	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1700-1800	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1800-1900	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	1900-2000	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	2000-2100	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	2100-2200	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	2200-2300	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 44	44	2300-0000	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 47	47	0000-0100	1.64E-02	3.35E-07	2.10E-06	1.38E-02	2.81E-07	1.77E-06	1.82E-01	3.72E-06	2.33E-05	1.53E-01	3.13E-06	1.96E-05
Road 47	47	0100-0200	1.45E-02	3.34E-07	7.36E-06	1.30E-02	1.19E-07	6.57E-06	1.67E-01	3.84E-06	8.48E-05	1.47E-01	1.35E-06	7.43E-05
Road 47	47	0200-0300	1.57E-02	1.05E-07	5.80E-06	1.40E-02	9.41E-08	5.18E-06	1.71E-01	1.15E-06	6.33E-05	1.50E-01	1.01E-06	5.54E-05
Road 47	47	0300-0400	1.97E-02	4.49E-07	1.40E-05	1.76E-02	4.01E-07	1.25E-05	2.15E-01	4.90E-06	1.53E-04	1.91E-01	4.34E-06	1.36E-04
Road 47	47	0400-0500	2.00E-02	2.11E-07	6.58E-06	1.78E-02	1.88E-07	5.86E-06	2.18E-01	2.30E-06	7.17E-05	1.93E-01	2.04E-06	6.36E-05
Road 47	47	0500-0600	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 47	47	0600-0700	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 47	47	0700-0800	2.84E-02	2.11E-07	6.58E-06	2.53E-02	1.88E-07	5.86E-06	3.10E-01	2.30E-06	7.17E-05	2.75E-01	2.04E-06	6.36E-05
Road 47	47	0800-0900	3.70E-02	1.02E-06	3.19E-05	3.37E-02	9.32E-07	2.91E-05	1.98E-01	5.48E-06	1.71E-04	1.75E-01	4.84E-06	1.51E-04
Road 47	47	0900-1000	4.39E-02	8.20E-07	2.50E-05	3.99E-02	7.45E-07	2.27E-05	2.35E-01	4.39E-06	1.34E-04	2.08E-01	3.88E-06	1.18E-04
Road 47	47	1000-1100	4.65E-02	8.95E-07	2.79E-05	4.22E-02	8.13E-07	2.54E-05	2.49E-01	4.79E-06	1.49E-04	2.20E-01	4.02E-06	1.25E-04
Road 47	47	1100-1200	4.39E-02	8.00E-07	2.50E-05	3.95E-02	7.20E-07	2.25E-05	2.30E-01	4.20E-06	1.31E-04	2.01E-01	3.66E-06	1.14E-04
Road 47	47	1200-1300	4.29E-02	7.72E-07	2.41E-05	3.88E-02	6.97E-07	2.18E-05	2.19E-01	3.93E-06	1.23E-04	1.97E-01	3.54E-06	1.10E-04
Road 47	47	1300-1400	4.51E-02	8.17E-07	2.55E-05	4.08E-02	7.41E-07	2.31E-05	2.31E-01	4.18E-06	1.31E-04	2.04E-01	3.70E-06	1.16E-04
Road 47	47	1400-1500	4.67E-02	8.46E-07	2.64E-05	4.22E-02	7.67E-07	2.39E-05	2.39E-01	4.33E-06	1.35E-04	2.11E-01	3.83E-06	1.19E-04
Road 47	47	1500-1600	4.38E-02	8.74E-07	2.73E-05	3.93E-02	7.85E-07	2.45E-05	2.29E-01	4.57E-06	1.43E-04	2.00E-01	4.00E-06	1.25E-04

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2030**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Max			Monthly Hour Min			Monthly Hour Max		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0100-0200	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0200-0300	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0300-0400	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0400-0500	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0500-0600	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0600-0700	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0700-0800	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0800-0900	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	0900-1000	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1000-1100	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1100-1200	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1200-1300	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1300-1400	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1400-1500	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1500-1600	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1600-1700	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1700-1800	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1800-1900	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	1900-2000	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	2000-2100	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	2100-2200	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	2200-2300	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 1	1	2300-2400	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 2	2	0000-0100	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0100-0200	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0200-0300	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0300-0400	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0400-0500	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0500-0600	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0600-0700	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0700-0800	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0800-0900	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	0900-1000	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1000-1100	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1100-1200	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1200-1300	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1300-1400	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1400-1500	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1500-1600	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1600-1700	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1700-1800	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1800-1900	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	1900-2000	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	2000-2100	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	2100-2200	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	2200-2300	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 2	2	2300-2400	1.86E-01	2.10E-02	1.74E-01	6.69E-01	2.51E-02	2.34E-01	5.54E-02	6.26E-02	5.21E-01	2.39E-01	2.70E-02	5.91E-01
Road 3	3	0000-0100	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0100-0200	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0200-0300	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0300-0400	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0400-0500	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0500-0600	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0600-0700	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0700-0800	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0800-0900	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	0900-1000	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1000-1100	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1100-1200	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1200-1300	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1300-1400	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1400-1500	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1500-1600	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1600-1700	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1700-1800	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1800-1900	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	1900-2000	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	2000-2100	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	2100-2200	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	2200-2300	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 3	3	2300-2400	2.27E-02	1.12E-02	2.84E-02	1.07E-01	1.34E-02	4.68E-02	6.89E-03	2.60E-03	4.98E-03	2.86E-02	1.12E-03	8.87E-02
Road 4	4	0000-0100	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0100-0200	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0200-0300	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0300-0400	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0400-0500	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0500-0600	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0600-0700	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0700-0800	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0800-0900	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	0900-1000	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1000-1100	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1100-1200	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1200-1300	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1300-1400	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1400-1500	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1500-1600	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1600-1700	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1700-1800	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1800-1900	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	1900-2000	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	2000-2100	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	2100-2200	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	2200-2300	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 4	4	2300-2400	2.24E-02	9.43E-03	1.25E-02	2.32E-02	1.15E-02	2.33E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0000-0100	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0100-0200	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0200-0300	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0300-0400	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0400-0500	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0500-0600	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0600-0700	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0700-0800	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0800-0900	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	0900-1000	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1000-1100	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1100-1200	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1200-1300	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1300-1400	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1400-1500	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1500-1600	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1600-1700	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1700-1800	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1800-1900	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	1900-2000	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	2000-2100	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	2100-2200	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	2200-2300	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 5	5	2300-2400	2.24E-02	1.51E-02	1.71E-02	4.92E-02	1.74E-02	6.44E-02	3.96E-03	1.41E-03	2.05E-03	4.10E-03	1.49E-03	4.13E-03
Road 6	6	0000-0100	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 6	6	0100-0200	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4.87E-03	2.49E-02	1.79E-02	2.10E-03	4.44E-01
Road 6	6	0200-0300	1.42E-02	3.95E-03	1.42E-02	4.92E-02	5.77E-03	2.63E-01	4.23E-03	4

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2030**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	1.46E-02	3.66E-06	7.78E-02	1.40E-02	3.22E-06	4.00E-01	7.21E-02	1.65E-05	3.79E-01	6.82E-02	1.56E-05	
Road 37	37	1700-1800	8.13E-02	1.46E-05	3.36E-01	7.78E-02	1.40E-05	3.22E-01	4.00E-01	7.21E-05	1.65E-03	3.79E-01	6.82E-05	1.57E-03
Road 37	37	1800-1900	5.60E-02	1.01E-05	2.31E-01	5.38E-02	1.14E-05	1.16E-01	2.08E-01	3.84E-05	5.47E-04	1.25E-01	2.78E-05	1.18E-03
Road 37	37	1900-2000	4.80E-02	6.65E-09	1.53E-04	4.56E-02	6.32E-09	1.45E-04	2.89E-01	4.00E-08	9.19E-04	2.71E-01	3.75E-08	8.60E-04
Road 37	37	2000-2100	4.86E-02	5.24E-09	1.20E-04	4.61E-02	4.97E-09	1.14E-04	3.09E-01	3.33E-08	7.64E-04	2.86E-01	3.08E-08	7.08E-04
Road 37	37	2100-2200	4.31E-02	5.11E-09	1.17E-04	4.09E-02	4.85E-09	1.11E-04	2.74E-01	3.25E-08	7.52E-04	2.53E-01	3.00E-08	7.08E-04
Road 37	37	2200-2300	4.28E-02	4.44E-09	1.02E-04	4.14E-02	4.29E-09	9.85E-05	2.91E-01	3.01E-08	6.92E-04	2.88E-01	2.98E-08	6.61E-04
Road 37	37	2300-0000	4.68E-02	3.68E-09	8.44E-05	4.54E-02	3.56E-09	8.18E-05	3.03E-01	2.38E-08	5.47E-04	2.91E-01	2.28E-08	5.24E-04
Road 38	38	0000-0100	8.49E-02	1.53E-05	3.51E-01	8.13E-02	1.46E-05	1.41E-01	4.44E-01	8.01E-05	1.84E-03	4.25E-01	7.67E-05	1.76E-03
Road 38	38	0100-0200	9.92E-02	1.31E-05	3.01E-01	1.07E-01	9.12E-02	1.21E-07	9.87E-01	6.51E-05	1.53E-06	4.50E-01	5.95E-05	4.87E-06
Road 38	38	0200-0300	1.03E-01	1.36E-05	3.13E-01	1.11E-01	9.47E-02	1.26E-07	1.02E+00	6.76E-05	1.59E-06	4.67E-01	6.18E-05	5.06E-06
Road 38	38	0300-0400	1.18E-01	1.11E-07	9.11E-07	1.08E-01	1.02E-07	8.32E-07	5.58E-01	5.25E-07	4.30E-06	5.07E-01	4.77E-07	3.91E-06
Road 38	38	0400-0500	1.19E-01	1.74E-05	3.98E-01	1.04E-01	9.20E-02	1.68E-07	5.58E-01	8.16E-05	1.87E-03	4.92E-01	4.35E-05	9.96E-04
Road 38	38	0500-0600	1.21E-01	3.96E-05	9.06E-01	1.09E-01	9.62E-02	2.25E-07	5.68E-01	1.86E-04	4.25E-03	5.11E-01	4.51E-05	1.03E-03
Road 38	38	0600-0700	9.74E-02	2.69E-07	2.20E-06	9.06E-02	2.50E-07	2.05E-06	4.86E-01	1.34E-06	1.10E-05	4.47E-01	1.23E-06	1.01E-05
Road 38	38	0700-0800	1.24E-01	7.83E-07	1.79E-05	1.09E-01	9.91E-02	6.25E-07	5.77E-01	3.66E-06	8.37E-05	5.09E-01	4.62E-06	3.79E-05
Road 38	38	0800-0900	1.21E-01	8.71E-07	7.13E-06	1.13E-01	8.09E-07	6.62E-06	5.49E-01	3.93E-06	3.22E-05	5.04E-01	3.61E-06	2.96E-05
Road 38	38	0900-1000	1.17E-01	9.06E-07	7.41E-06	1.08E-01	8.41E-07	6.93E-06	5.91E-01	4.59E-06	3.76E-05	5.46E-01	4.24E-06	3.48E-05
Road 38	38	1000-1100	1.45E-01	8.85E-07	7.25E-06	1.33E-01	8.15E-07	6.67E-06	6.13E-01	3.74E-06	3.07E-05	5.59E-01	3.41E-06	2.79E-05
Road 38	38	1100-1200	1.45E-01	8.47E-07	6.93E-06	1.34E-01	7.85E-07	6.42E-06	6.15E-01	3.59E-06	2.94E-05	5.64E-01	3.30E-06	2.70E-05
Road 38	38	1200-1300	1.56E-01	1.08E-06	8.84E-06	1.45E-01	7.33E-07	6.00E-06	6.43E-01	4.45E-06	3.64E-05	5.95E-01	3.01E-06	2.46E-05
Road 38	38	1300-1400	1.59E-01	8.39E-07	6.87E-06	1.48E-01	7.83E-07	6.41E-06	6.51E-01	3.44E-06	2.82E-05	6.03E-01	3.19E-06	2.61E-05
Road 38	38	1400-1500	1.64E-01	8.58E-07	7.03E-06	1.52E-01	7.94E-07	6.51E-06	6.74E-01	3.52E-06	2.89E-05	6.25E-01	3.27E-06	2.68E-05
Road 38	38	1500-1600	1.56E-01	8.67E-07	7.10E-06	1.47E-01	8.16E-07	6.68E-06	6.46E-01	3.58E-06	2.93E-05	6.10E-01	3.38E-06	2.77E-05
Road 38	38	1600-1700	1.53E-01	8.67E-07	7.10E-06	1.44E-01	8.16E-07	6.68E-06	6.33E-01	3.58E-06	2.93E-05	5.98E-01	3.38E-06	2.77E-05
Road 38	38	1700-1800	1.54E-01	8.67E-07	7.10E-06	1.45E-01	8.16E-07	6.68E-06	6.37E-01	3.58E-06	2.93E-05	6.02E-01	3.38E-06	2.77E-05
Road 38	38	1800-1900	1.54E-01	8.67E-07	7.10E-06	1.45E-01	8.16E-07	6.68E-06	6.37E-01	3.58E-06	2.93E-05	6.02E-01	3.38E-06	2.77E-05
Road 38	38	1900-2000	1.54E-01	8.67E-07	7.10E-06	1.45E-01	8.16E-07	6.68E-06	6.37E-01	3.58E-06	2.93E-05	6.02E-01	3.38E-06	2.77E-05
Road 38	38	2000-2100	1.54E-01	8.67E-07	7.10E-06	1.45E-01	8.16E-07	6.68E-06	6.37E-01	3.58E-06	2.93E-05	6.02E-01	3.38E-06	2.77E-05
Road 38	38	2100-2200	1.54E-01	8.67E-07	7.10E-06	1.45E-01	8.16E-07	6.68E-06	6.37E-01	3.58E-06	2.93E-05	6.02E-01	3.38E-06	2.77E-05
Road 38	38	2200-2300	1.54E-01	8.67E-07	7.10E-06	1.45E-01	8.16E-07	6.68E-06	6.37E-01	3.58E-06	2.93E-05	6.02E-01	3.38E-06	2.77E-05
Road 38	38	2300-0000	1.54E-01	8.67E-07	7.10E-06	1.45E-01	8.16E-07	6.68E-06	6.37E-01	3.58E-06	2.93E-05	6.02E-01	3.38E-06	2.77E-05
Road 39	39	0000-0100	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0100-0200	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0200-0300	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0300-0400	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0400-0500	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0500-0600	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0600-0700	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0700-0800	1.46E-01	1.36E-06	3.13E-06	1.48E-01	1.26E-06	2.90E-06	5.67E-01	5.27E-06	1.21E-05	5.76E-01	4.87E-06	1.12E-05
Road 39	39	0800-0900	1.59E-01	1.08E-06	2.48E-06	1.59E-01	1.08E-06	2.48E-06	6.21E-01	4.22E-06	9.67E-06	6.21E-01	4.22E-06	9.67E-06
Road 39	39	0900-1000	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.26E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	1000-1100	1.72E-01	2.20E-07	1.87E-06	1.62E-01	2.07E-07	1.76E-06	6.38E-01	8.17E-07	6.95E-06	5.95E-01	7.61E-07	6.48E-06
Road 39	39	1100-1200	1.72E-01	2.20E-07	1.87E-06	1.62E-01	2.07E-07	1.76E-06	6.38E-01	8.17E-07	6.95E-06	5.95E-01	7.61E-07	6.48E-06
Road 39	39	1200-1300	1.72E-01	2.20E-07	1.87E-06	1.62E-01	2.07E-07	1.76E-06	6.38E-01	8.17E-07	6.95E-06	5.95E-01	7.61E-07	6.48E-06
Road 39	39	1300-1400	1.72E-01	2.02E-07	1.72E-06	1.62E-01	1.90E-07	1.62E-06	6.38E-01	7.49E-07	6.38E-06	5.95E-01	6.98E-07	5.95E-06
Road 39	39	1400-1500	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	1500-1600	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	1600-1700	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	1700-1800	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	1800-1900	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	1900-2000	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	2000-2100	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	2100-2200	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	2200-2300	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 39	39	2300-0000	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 40	40	0000-0100	1.15E-01	1.95E-07	9.46E-07	1.05E-01	1.79E-07	8.68E-07	5.44E-01	9.24E-07	4.48E-06	4.97E-01	8.44E-07	4.10E-06
Road 40	40	0100-0200	1.24E-01	2.17E-07	1.05E-06	9.64E-02	1.99E-07	9.65E-07	5.79E-01	1.03E-06	4.98E-06	5.14E-01	9.38E-07	4.55E-06
Road 40	40	0200-0300	1.15E-01	1.95E-07	9.46E-07	1.05E-01	1.79E-07	8.68E-07	5.44E-01	9.24E-07	4.48E-06	4.97E-01	8.44E-07	4.10E-06
Road 40	40	0300-0400	1.24E-01	2.17E-07	1.05E-06	9.64E-02	1.99E-07	9.65E-07	5.79E-01	1.03E-06	4.98E-06	5.14E-01	9.38E-07	4.55E-06
Road 40	40	0400-0500	1.25E-01	2.17E-07	1.05E-06	9.64E-02	1.99E-07	9.65E-07	5.79E-01	1.03E-06	4.98E-06	5.14E-01	9.38E-07	4.55E-06
Road 40	40	0500-0600	1.24E-01	2.17E-07	1.05E-06	9.64E-02	1.99E-07	9.65E-07	5.79E-01	1.03E-06	4.98E-06	5.14E-01	9.38E-07	4.55E-06
Road 40	40	0600-0700	1.04E-01	4.66E-07	2.17E-06	9.67E-02	4.14E-07	2.01E-06	5.08E-01	2.28E-06	1.06E-05	4.67E-01	2.00E-06	9.74E-06
Road 40	40	0700-0800	1.40E-01	1.98E-06	4.60E-06	1.29E-01	1.76E-06	3.98E-06	6.52E-01	9.23E-06	2.08E-05	6.02E-01	8.13E-06	1.83E-05
Road 40	40	0800-0900	1.40E-01	1.98E-06	4.60E-06	1.29E-01	1.76E-06	3.98E-06	6.52E-01	9.23E-06	2.08E-05	6.02E-01	8.13E-06	1.83E-05
Road 40	40	0900-1000	1.51E-01	1.56E-06	7.06E-06	1.44E-01	1.48E-06	7.02E-06	6.86E-01	6.34E-06	3.08E-05	6.36E-01	5.88E-06	2.86E-05
Road 40	40	1000-1100	1.24E-01	1.85E-07	8.99E-07	1.04E-01	1.70E-07	8.23E-07	5.44E-01	8.76E-07	4.25E-06	4.97E-01	8.00E-07	3.89E-06
Road 40	40	1100-1200	1.24E-01	1.85E-07	8.99E-07	1.04E-01	1.70E-07	8.23E-07	5.44E-01	8.76E-07	4.25E-06	4.97E-01	8.00E-07	3.89E-06
Road 40	40	1200-1300	1.24E-01	1.85E-07	8.99E-07	1.04E-01	1.70E-07	8.23E-07	5.44E-01	8.76E-07	4.25E-06	4.97E-01	8.00E-07	3.89E-06
Road 40	40	1300-1400	1.24E-01	1.85E-07	8.99E-07	1.04E-01	1.70E-07	8.23E-07	5.44E-01	8.76E-07	4.25E-06	4.97E-01	8.00E-07	3.89E-06
Road 40	40	1400-1500	1.24E-01	1.85E-07	8.99E-07	1.04E-01	1.70E-07	8.23E-07	5.44E-01	8.76E-07	4.25E-06	4.97E-01	8.00E-07	3.89E-06
Road 40	40	1500-1600	1.24E-01	1.85E-07	8.99E-07	1.04E-01	1.70E-07	8.23E-07	5.44E-01	8.76E-07	4.25E-06	4.97E-01	8.00E-07	3.89E-06
Road 40	40	1600-1700	1.67E-01	2.36E-07	2.01E-06	1.59E-01	2.23E-07	1.90E-06	6.21E-01	8.81E-07	7.50E-06	5.87E-01	8.26E-07	7.04E-06
Road 40	40	1700-1800	1.24E-01	1.44E-06	5.56E-06	1.16E-01	1.07E-06	5.19E-06	5.49E-01	5.05E-06	2.46E-05	5.11E-01	4.71E-06	2.29E-05
Road 40	40	1800-1900	7.99E-02	4.61E-07	2.24E-06	7.53E-02	4.34E-07	2.11E-06	4.00E-01	2.31E-06	1.12E-05	3.73E-01	2.15E-06	1.05E-05
Road 40	40	1900-2000	8.29E-02	1.85E-07	1.87E-06	7.79E-02	3.61E-07	1.76E-06	4.07E-01	9.09E-07	9.19E-06	3.91E-01	1.83E-06	8.88E-06
Road 40	40	2000-2100	8.11E-02	2.73E-07	1.84E-06	7.69E-02	3.59E-07	1.75E-06	4.17E-01	1.95E-06	9.46E-06	3.91E-01	1.83E-06	8.89E-06
Road 40	40	2100-2200	7.92E-02	3.45E-07	1.68E-06	7.52E-02	3.26E-07	1.62E-06	4.07E-01	1.81E-06	8.80E-06	3.91E-01	1.83E-06	8.89E-06
Road 40	40	2200-2300	8.51E-02	3.02E-07	1.47E-06	8.19E-02	2.91E-07	1.42E-06	4.31E-01	1.53E-06	7.44E-06	4.12E-01	1.46E-06	7.13E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2030**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	1.78E-02	2.97E-07	1.13E-06	1.43E-02	2.72E-07	3.43E-02	1.09E-01	1.82E-06	6.92E-06	8.80E-02	1.66E-06	2.10E-05
Road 41	41	0100-0200	4.67E-02	1.05E-07	9.83E-07	4.23E-02	9.49E-08	8.90E-07	2.40E-01	5.38E-07	5.05E-06	2.15E-01	4.82E-07	4.52E-06
Road 41	41	0200-0300	5.46E-02	9.70E-08	9.10E-07	4.95E-02	8.79E-08	8.25E-07	2.74E-01	4.87E-07	4.57E-06	2.46E-01	4.37E-07	4.10E-06
Road 41	41	0300-0400	6.15E-02	9.29E-08	8.72E-07	5.54E-02	8.37E-08	7.86E-07	3.03E-01	4.58E-07	4.30E-06	2.72E-01	4.12E-07	3.85E-06
Road 41	41	0400-0500	6.09E-02	9.86E-08	9.25E-07	5.43E-02	8.80E-08	8.26E-07	3.01E-01	4.87E-07	4.57E-06	2.65E-01	4.30E-07	4.03E-06
Road 41	41	0500-0600	5.05E-02	1.25E-07	1.18E-06	4.51E-02	1.12E-07	1.04E-06	2.54E-01	6.27E-07	5.90E-06	2.27E-01	5.61E-07	5.27E-06
Road 41	41	0600-0700	4.14E-02	1.99E-07	1.86E-06	3.75E-02	1.80E-07	1.69E-06	2.11E-01	1.01E-06	9.52E-06	1.88E-01	9.05E-07	8.49E-06
Road 41	41	0700-0800	5.05E-02	5.38E-07	5.05E-06	4.59E-02	4.58E-07	4.30E-06	2.50E-01	2.66E-06	2.50E-05	2.24E-01	2.39E-06	2.24E-05
Road 41	41	0800-0900	5.05E-02	5.38E-07	5.05E-06	4.59E-02	4.58E-07	4.30E-06	2.50E-01	2.66E-06	2.50E-05	2.24E-01	2.39E-06	2.24E-05
Road 41	41	0900-1000	5.48E-02	5.88E-07	5.52E-06	5.03E-02	5.39E-07	5.06E-06	2.63E-01	2.82E-06	2.65E-05	2.40E-01	2.57E-06	2.41E-05
Road 41	41	1000-1100	6.10E-02	5.66E-07	5.31E-06	5.54E-02	5.15E-07	4.83E-06	2.88E-01	2.69E-06	2.52E-05	2.61E-01	2.43E-06	2.28E-05
Road 41	41	1100-1200	6.10E-02	5.66E-07	5.31E-06	5.54E-02	5.15E-07	4.83E-06	2.88E-01	2.69E-06	2.52E-05	2.61E-01	2.43E-06	2.28E-05
Road 41	41	1200-1300	6.37E-02	5.34E-07	5.01E-06	5.78E-02	4.85E-07	4.55E-06	3.01E-01	2.53E-06	2.37E-05	2.73E-01	2.29E-06	2.15E-05
Road 41	41	1300-1400	7.37E-02	5.34E-07	5.01E-06	6.69E-02	4.85E-07	4.55E-06	3.48E-01	2.53E-06	2.37E-05	3.16E-01	2.29E-06	2.15E-05
Road 41	41	1400-1500	7.22E-02	5.43E-07	5.09E-06	6.66E-02	5.00E-07	4.69E-06	3.33E-01	2.50E-06	2.35E-05	3.06E-01	2.30E-06	2.16E-05
Road 41	41	1500-1600	7.25E-02	5.36E-07	5.03E-06	6.69E-02	4.94E-07	4.63E-06	3.34E-01	2.47E-06	2.32E-05	3.08E-01	2.27E-06	2.13E-05
Road 41	41	1600-1700	6.87E-02	5.34E-07	5.01E-06	6.39E-02	4.97E-07	4.66E-06	3.17E-01	2.46E-06	2.31E-05	2.95E-01	2.29E-06	2.15E-05
Road 41	41	1700-1800	7.37E-02	5.34E-07	5.01E-06	6.85E-02	4.97E-07	4.66E-06	3.40E-01	2.46E-06	2.31E-05	3.16E-01	2.29E-06	2.15E-05
Road 41	41	1800-1900	4.97E-02	4.12E-07	3.87E-06	4.59E-02	3.80E-07	3.57E-06	2.44E-01	2.02E-06	1.89E-05	2.22E-01	1.84E-06	1.72E-05
Road 41	41	1900-2000	3.19E-02	2.74E-07	1.63E-06	2.94E-02	2.52E-07	1.50E-06	1.56E-01	1.34E-06	7.96E-06	1.44E-01	1.23E-06	7.32E-06
Road 41	41	2000-2100	3.37E-02	2.74E-07	1.63E-06	3.11E-02	2.52E-07	1.50E-06	1.65E-01	1.34E-06	7.96E-06	1.52E-01	1.23E-06	7.32E-06
Road 41	41	2100-2200	3.20E-02	2.74E-07	1.63E-06	2.95E-02	2.52E-07	1.50E-06	1.56E-01	1.34E-06	7.96E-06	1.44E-01	1.23E-06	7.32E-06
Road 41	41	2200-2300	3.20E-02	2.74E-07	1.63E-06	2.95E-02	2.52E-07	1.50E-06	1.56E-01	1.34E-06	7.96E-06	1.44E-01	1.23E-06	7.32E-06
Road 41	41	2300-0000	3.20E-02	2.74E-07	1.63E-06	2.95E-02	2.52E-07	1.50E-06	1.56E-01	1.34E-06	7.96E-06	1.44E-01	1.23E-06	7.32E-06
Road 42	42	0000-0100	7.19E-02	1.55E-07	3.91E-06	6.51E-02	1.41E-07	3.57E-06	3.38E-01	7.26E-07	1.84E-05	3.06E-01	6.59E-07	1.67E-05
Road 42	42	0100-0200	8.72E-02	1.55E-07	3.91E-06	7.89E-02	1.41E-07	3.57E-06	4.10E-01	7.26E-07	1.84E-05	3.71E-01	6.59E-07	1.67E-05
Road 42	42	0200-0300	1.01E-01	1.56E-07	3.93E-06	9.14E-02	1.42E-07	3.58E-06	4.75E-01	7.32E-07	1.85E-05	4.30E-01	6.65E-07	1.68E-05
Road 42	42	0300-0400	1.16E-01	1.56E-07	3.93E-06	1.05E-01	1.42E-07	3.58E-06	5.46E-01	7.32E-07	1.85E-05	4.94E-01	6.65E-07	1.68E-05
Road 42	42	0400-0500	1.10E-01	1.56E-07	3.93E-06	9.97E-02	1.42E-07	3.58E-06	5.17E-01	7.32E-07	1.85E-05	4.68E-01	6.65E-07	1.68E-05
Road 42	42	0500-0600	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	0600-0700	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	0700-0800	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	0800-0900	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	0900-1000	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1000-1100	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1100-1200	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1200-1300	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1300-1400	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1400-1500	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1500-1600	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1600-1700	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1.42E-07	3.58E-06	5.36E-01	7.32E-07	1.85E-05	4.85E-01	6.65E-07	1.68E-05
Road 42	42	1700-1800	1.14E-01	1.56E-07	3.93E-06	1.03E-01	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.30E-04	3.24E-07	1.01E-05	1.66E-07	5.34E-08	1.58E-06	1.24E-04	3.23E-07	9.68E-06	1.40E-07	3.99E-08	1.09E-06
Road 1	1	0100-0200	1.42E-02	1.31E-07	7.21E-06	1.28E-02	1.17E-07	6.46E-06	1.64E-03	1.51E-06	8.30E-05	1.44E-03	1.32E-06	7.29E-05
Road 1	1	0200-0300	1.55E-02	1.04E-07	7.72E-06	1.38E-02	9.24E-08	6.86E-06	1.69E-03	1.13E-06	8.42E-05	1.50E-03	1.00E-06	7.45E-05
Road 1	1	0300-0400	1.68E-02	9.90E-08	8.70E-06	1.51E-02	8.89E-08	7.97E-06	4.39E-04	2.59E-07	2.27E-05	3.95E-04	2.33E-07	2.04E-05
Road 1	1	0400-0500	1.81E-02	1.05E-07	5.76E-06	1.60E-02	9.25E-08	5.09E-06	1.81E-03	1.05E-06	5.77E-05	1.57E-03	9.06E-07	4.99E-05
Road 1	1	0500-0600	1.91E-02	1.90E-07	1.05E-05	1.68E-02	1.67E-07	9.21E-06	1.91E-03	1.90E-06	1.05E-04	1.68E-03	1.67E-06	9.21E-05
Road 1	1	0600-0700	2.04E-02	4.33E-07	2.38E-05	1.77E-02	3.76E-07	2.07E-05	1.92E-03	4.08E-06	2.24E-04	1.63E-03	3.46E-06	1.90E-04
Road 1	1	0700-0800	2.18E-02	9.35E-07	5.15E-05	1.88E-02	8.04E-07	4.42E-05	1.97E-03	8.46E-06	4.66E-04	1.65E-03	7.09E-06	3.90E-04
Road 1	1	0800-0900	2.18E-02	1.38E-06	7.60E-05	1.88E-02	1.19E-06	6.54E-05	1.97E-03	1.24E-05	6.85E-04	1.65E-03	1.04E-05	5.74E-04
Road 1	1	0900-1000	2.37E-02	9.43E-07	5.19E-05	2.07E-02	8.23E-07	4.53E-05	1.93E-03	7.67E-06	4.22E-04	1.68E-03	6.69E-06	3.68E-04
Road 1	1	1000-1100	2.49E-02	1.32E-06	7.25E-05	2.17E-02	1.15E-06	6.32E-05	2.00E-03	1.06E-05	5.82E-04	1.74E-03	9.25E-06	5.09E-04
Road 1	1	1100-1200	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 1	1	1200-1300	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 1	1	1300-1400	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 1	1	1400-1500	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 1	1	1500-1600	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 1	1	1600-1700	3.05E-02	1.38E-06	7.60E-05	2.65E-02	1.19E-06	6.54E-05	2.45E-03	1.10E-05	6.05E-04	2.13E-03	9.62E-06	5.29E-04
Road 1	1	1700-1800	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 1	1	1800-1900	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 1	1	1900-2000	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 1	1	2000-2100	2.91E-02	3.24E-07	5.53E-06	2.63E-02	2.93E-07	5.00E-06	2.80E-03	3.11E-06	5.31E-05	2.49E-03	2.78E-06	4.73E-05
Road 1	1	2100-2200	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 1	1	2200-2300	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 1	1	2300-2400	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 2	2	0000-0100	1.46E-02	2.84E-07	1.44E-05	1.32E-02	2.57E-07	1.30E-05	1.52E-03	2.96E-06	1.50E-04	1.36E-03	2.63E-06	1.33E-04
Road 2	2	0100-0200	2.03E-02	1.82E-07	1.03E-05	1.84E-02	1.65E-07	9.32E-06	2.12E-03	1.90E-06	1.07E-04	1.92E-03	1.72E-06	9.71E-05
Road 2	2	0200-0300	1.74E-02	1.61E-07	8.15E-06	1.55E-02	1.43E-07	7.27E-06	1.64E-03	1.52E-06	7.68E-05	1.43E-03	1.32E-06	6.70E-05
Road 2	2	0300-0400	1.74E-02	1.61E-07	8.15E-06	1.55E-02	1.43E-07	7.27E-06	1.64E-03	1.52E-06	7.68E-05	1.43E-03	1.32E-06	6.70E-05
Road 2	2	0400-0500	2.05E-02	1.64E-07	8.28E-06	1.81E-02	1.45E-07	7.34E-06	1.78E-03	1.42E-06	7.21E-05	1.54E-03	1.23E-06	6.23E-05
Road 2	2	0500-0600	2.17E-02	3.00E-07	1.52E-05	1.91E-02	2.64E-07	1.34E-05	1.83E-03	2.53E-06	1.28E-04	1.58E-03	2.17E-06	1.10E-04
Road 2	2	0600-0700	2.30E-02	7.04E-07	3.55E-05	2.02E-02	6.20E-07	3.13E-05	1.93E-03	5.91E-06	2.98E-04	1.67E-03	5.11E-06	2.58E-04
Road 2	2	0700-0800	2.49E-02	1.49E-06	7.55E-05	2.15E-02	1.28E-06	6.50E-05	1.96E-03	1.17E-05	5.95E-04	1.65E-03	9.87E-06	5.00E-04
Road 2	2	0800-0900	2.49E-02	1.49E-06	7.55E-05	2.15E-02	1.28E-06	6.50E-05	1.96E-03	1.17E-05	5.95E-04	1.65E-03	9.87E-06	5.00E-04
Road 2	2	0900-1000	2.80E-02	1.59E-06	8.07E-05	2.45E-02	1.39E-06	7.04E-05	1.97E-03	1.12E-05	5.67E-04	1.70E-03	9.63E-06	4.88E-04
Road 2	2	1000-1100	2.80E-02	1.59E-06	8.07E-05	2.45E-02	1.39E-06	7.04E-05	1.97E-03	1.12E-05	5.67E-04	1.70E-03	9.63E-06	4.88E-04
Road 2	2	1100-1200	2.97E-02	1.38E-06	7.00E-05	2.65E-02	1.23E-06	6.25E-05	2.04E-03	9.49E-06	4.80E-04	1.82E-03	8.47E-06	4.28E-04
Road 2	2	1200-1300	3.16E-02	1.27E-06	6.41E-05	2.99E-02	1.13E-06	5.70E-05	2.29E-03	8.65E-06	4.37E-04	2.16E-03	8.17E-06	4.13E-04
Road 2	2	1300-1400	3.24E-02	1.41E-06	7.13E-05	3.06E-02	1.33E-06	6.73E-05	2.35E-03	1.02E-05	5.16E-04	2.22E-03	9.65E-06	4.88E-04
Road 2	2	1400-1500	3.42E-02	1.40E-06	7.03E-05	3.04E-02	1.24E-06	6.30E-05	2.29E-03	9.38E-06	4.75E-04	2.00E-03	8.21E-06	4.16E-04
Road 2	2	1500-1600	3.42E-02	1.51E-06	7.65E-05	3.04E-02	1.34E-06	6.84E-05	2.29E-03	1.01E-05	5.12E-04	2.00E-03	8.84E-06	4.48E-04
Road 2	2	1600-1700	3.31E-02	1.48E-06	7.52E-05	2.96E-02	1.32E-06	6.71E-05	2.22E-03	9.96E-06	5.04E-04	1.94E-03	8.70E-06	4.40E-04
Road 2	2	1700-1800	2.44E-02	1.25E-06	6.32E-05	2.17E-02	1.11E-06	5.62E-05	1.94E-03	9.90E-06	5.01E-04	1.70E-03	8.69E-06	4.40E-04
Road 2	2	1800-1900	2.44E-02	1.25E-06	6.32E-05	2.17E-02	1.11E-06	5.62E-05	1.94E-03	9.90E-06	5.01E-04	1.70E-03	8.69E-06	4.40E-04
Road 2	2	1900-2000	1.83E-02	7.36E-07	3.73E-05	1.46E-02	5.87E-07	2.97E-05	1.46E-03	5.87E-06	2.97E-04	1.28E-03	5.14E-06	2.60E-04
Road 2	2	2000-2100	1.41E-02	4.91E-07	2.49E-05	1.28E-02	4.46E-07	2.26E-05	1.62E-03	5.67E-06	2.87E-04	1.45E-03	5.07E-06	2.57E-04
Road 2	2	2100-2200	1.47E-02	4.73E-07	2.39E-05	1.34E-02	4.30E-07	2.18E-05	1.68E-03	5.46E-06	2.76E-04	1.51E-03	4.88E-06	2.47E-04
Road 2	2	2200-2300	1.56E-02	4.32E-07	2.18E-05	1.42E-02	3.93E-07	1.99E-05	1.78E-03	4.99E-06	2.52E-04	1.60E-03	4.46E-06	2.26E-04
Road 2	2	2300-2400	1.56E-02	4.32E-07	2.18E-05	1.42E-02	3.93E-07	1.99E-05	1.78E-03	4.99E-06	2.52E-04	1.60E-03	4.46E-06	2.26E-04
Road 3	3	0000-0100	1.56E-02	6.58E-08	4.04E-07	1.42E-02	5.96E-08	3.66E-07	2.23E-03	9.39E-07	5.76E-06	2.00E-03	8.41E-07	5.16E-06
Road 3	3	0100-0200	1.56E-02	6.58E-08	4.04E-07	1.42E-02	5.96E-08	3.66E-07	2.23E-03	9.39E-07	5.76E-06	2.00E-03	8.41E-07	5.16E-06
Road 3	3	0200-0300	1.87E-02	7.87E-08	4.84E-07	1.70E-02	7.14E-08	4.39E-07	2.67E-03	1.12E-06	6.89E-06	2.39E-03	1.01E-06	6.17E-06
Road 3	3	0300-0400	1.87E-02	7.87E-08	4.84E-07	1.70E-02	7.14E-08	4.39E-07	2.67E-03	1.12E-06	6.89E-06	2.39E-03	1.01E-06	6.17E-06
Road 3	3	0400-0500	2.13E-02	3.87E-08	2.25E-07	1.89E-02	3.25E-08	2.00E-07	2.50E-03	4.30E-07	2.64E-06	2.18E-03	3.76E-07	2.31E-06
Road 3	3	0500-0600	2.17E-02	6.41E-08	3.91E-07	1.91E-02	5.65E-08	3.47E-07	2.52E-03	7.45E-07	4.57E-06	2.19E-03	6.47E-07	3.97E-06
Road 3	3	0600-0700	2.30E-02	1.23E-07	7.50E-07	2.02E-02	1.08E-07	6.60E-07	2.68E-03	1.43E-06	8.73E-06	2.36E-03	1.26E-06	7.68E-06
Road 3	3	0700-0800	2.44E-02	3.09E-07	1.90E-06	2.09E-02	2.65E-07	1.63E-06	2.66E-03	3.38E-06	2.07E-05	2.25E-03	2.85E-06	1.75E-05
Road 3	3	0800-0900	2.59E-02	4.61E-07	2.83E-06	2.22E-02	3.95E-07	2.43E-06	2.82E-03	5.03E-06	3.08E-05	2.39E-03	4.24E-06	2.60E-05
Road 3	3	0900-1000	2.59E-02	3.02E-07	1.86E-06	2.26E-02	2.64E-07	1.62E-06	2.82E-03	3.29E-06	2.02E-05	2.46E-03	2.87E-06	1.76E-05
Road 3	3	1000-1100	2.86E-02	2.86E-07	1.75E-06	2.51E-02	2.51E-07	1.54E-06	2.69E-03	2.68E-06	1.64E-05	2.35E-03	2.34E-06	1.43E-05
Road 3	3	1100-1200	3.75E-02	4.00E-07	2.46E-06	3.29E-02	3.51E-07	2.16E-06	3.57E-03	3.81E-06	2.34E-05	3.13E-03	3.34E-06	2.05E-05
Road 3	3	1200-1300	3.52E-02	3.86E-07	2.37E-06	3.09E-02	3.38E-07	2.08E-06	3.35E-03	3.67E-06	2.26E-05	2.94E-03	3.22E-06	1.98E-05
Road 3	3	1300-1400	3.45E-02	3.78E-07	2.32E-06	3.03E-02	3.32E-07	2.04E-06	3.28E-03	3.60E-06	2.21E-05	2.88E-03	3.16E-06	1.94E-05
Road 3	3	1400-1500	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	1500-1600	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	1600-1700	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	1700-1800	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	1800-1900	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	1900-2000	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	2000-2100	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	2100-2200	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	2200-2300	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 3	3	2300-2400	3.60E-02	3.94E-07	2.42E-06	3.16E-02	3.46E-07	2.13E-06	3.42E-03	3.75E-06	2.30E-05	3.00E-03	3.29E-06	2.02E-05
Road 4	4	0000-0100	1.30E-02	2.84E-07	1.44E-05	1.32E-02	2.57E-07	1.30E-05	1.52E-03	2.96E-06	1.50E-04	1.36E-03	2.63E-06	1.33E-04
Road 4	4	0100-0200	1.42E-02	1.31E-07	7.21E-06	1.28E-02	1.17E-07	6.46E-06	1.64E-03	1.51E-06	8.30E-05	1.44E-03	1.32E-06	7.29E-05
Road 4	4	0200-0300	1.55E-02	1.04E-07	7.72E-06	1.38E-02	9.24E-08	6.86E-06	1.69E-03	1.13E-06	8.42E-05	1.50E-03	1.00E-06	7.45E-05
Road 4	4	0300-0400	1.68E-02	9.90E-08	8.70E-06	1.51E-02	8.89E-08	7.97E-06	4.39E-04	2.59E-07	2.27E-05	3.95E-04	2.33E-07	2.04E-05
Road 4	4	0400-0500	1.81E-02	1.05E-07	5.76E-06	1.60E-02	9.25E-08	5.09E-06	1.81E-03	1.05E-06	5.77E-05	1.57E-03	9.06E-07	4.99E-05
Road 4	4	0500-0600	1.91E-02	1.90E-07	1.05E-05	1.68E-02	1.67E-07	9.21E-06	1.91E-03	1.90E-06	1.05E-04	1.68E-03	1.67E-06	9.21E-05
Road 4	4	0600-0700	2.04E-02	4.33E-07	2.38E-05	1.77E-02	3.76E-07	2.07E-05	1.92E-03	4.08E-06	2.24E-04	1.63E-03	3.46E-06	1.90E-04
Road 4	4	0700-0800	2.18E-02	9.35E-07	5.15E-05	1.88E-02	8.04E-07	4.42E-05	1.97E-03	8.46E-06	4.66E-04	1.65E-03	7.09E-06	3.90E-04
Road 4	4	0800-0900	2.18E-02	1.38E-06	7.60E-05	1.88E-02	1.19E-06	6.54E-05	1.97E-03	1.24E-05	6.85E-04	1.65E-03	1.04E-05	5.74E-04
Road 4	4	0900-1000	2.37E-02	9.43E-07	5.19E-05	2.07E-02	8.23E-07	4.53E-05	1.93E-03	7.67E-06	4.22E-04	1.68E-03	6.69E-06	3.68E-04
Road 4	4	1000-1100	2.49E-02	1.32E-06	7.25E-05	2.17E-02	1.15E-06	6.32E-05	2.00E-03	1.06E-05	5.82E-04	1.74E-03	9.25E-06	5.09E-04
Road 4	4	1100-1200	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 4	4	1200-1300	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 4	4	1300-1400	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 4	4	1400-1500	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 4	4	1500-1600	3.05E-02	1.38E-06	7.60E-05	2.65E-02	1.19E-06	6.54E-05	2.45E-03	1.10E-05	6.05E-04	2.13E-03	9.62E-06	5.29E-04
Road 4	4	1600-1700	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 4	4	1700-1800	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 4	4	1800-1900	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 4	4	1900-2000	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 4	4	2000-2100	2.91E-02	3.24E-07	5.53E-06	2.63E-02	2.93E-07	5.00E-06	2.80E-03	3.11E-06	5.31E-05	2.49E-03	2.78E-06	4.73E-05
Road 4	4	2100-2200	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 4	4	2200-2300	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 4	4	2300-2400	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 5	5	0000-0100	1.30E-02	2.84E-07	1.44E-05	1.32E-02	2.57E-07	1.30E-05	1.52E-03	2.96E-06	1.50E-04	1.36E-03	2.63E-06	1.33E-04
Road 5	5	0100-0200	1.42E-02	1.31E-07	7.21E-06	1.28E-02	1.17E-07	6.46E-06	1.64E-03	1.51E-06	8.30E-05	1.44E-03	1.32E-06	7.29E-05
Road 5	5	0200-0300	1.55E-02	1.04E-07	7.72E-06	1.38E-02	9.24E-08	6.86E-06	1.69E-03	1.13E-06	8.42E-05	1.50E-03	1.00E-06	7.45E-05
Road 5	5	0300-0400	1.68E-02	9.90E-08	8.70E-06	1.51E-02	8.89E-08	7.97E-06	4.39E-04	2.59E-07	2.27E-05	3.95E-04	2.33E-07	2.04E-05
Road 5	5	0400-0500	1.81E-02	1.05E-07	5.76E-06	1.60E-02	9.25E-08	5.09E-06	1.81E-03	1.05E-06	5.77E-05	1.57E-03	9.06E-07	4.99E-05
Road 5	5	0500-0600	1.91E-02	1.90E-07	1.05E-05	1.68E-02	1.67E-07	9.21E-06	1.91E-03	1.90E-06	1.05E-04	1.68E-03	1.67E-06	9.21E-05
Road 5	5	0600-0700	2.04E-02	4.33E-07	2.38E-05	1.77E-02	3.76E-07	2.07E-05	1.92E-03	4.08E-06	2.24E-04	1.63E-03	3.46E-06	1.90E-04
Road 5	5	0700-0800	2.18E-02	9.35E-07	5.15E-05	1.88E-02	8.04E-07	4.42E-05	1.97E-03	8.46E-06	4.66E-04	1.65E-03	7.09E-06	3.90E-04
Road 5	5	0800-0900	2.18E-02	1.38E-06	7.60E-05	1.88E-02	1.19E-06	6.54E-05	1.97E-03	1.24E-05	6.85E-04	1.65E-03	1.04E-05	5.74E-04
Road 5	5	0900-1000	2.37E-02	9.43E-07	5.19E-05	2.07E-02	8.23E-07	4.53E-05	1.93E-03	7.67E-06	4.22E-04	1.68E-03	6.69E-06	3.68E-04
Road 5	5	1000-1100	2.49E-02	1.32E-06	7.25E-05	2.17E-02	1.15E-06	6.32E-05	2.00E-03	1.06E-05	5.82E-04	1.74E-03	9.25E-06	5.09E-04
Road 5	5	1100-1200	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 5	5	1200-1300	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 5	5	1300-1400	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 5	5	1400-1500	2.49E-02	4.23E-07	2.32E-05	2.17E-02	3.68E-07	2.02E-05	2.00E-03	3.40E-06	1.86E-04	1.74E-03	2.96E-06	1.63E-04
Road 5	5	1500-1600	3.05E-02	1.38E-06	7.60E-05	2.65E-02	1.19E-06	6.54E-05	2.45E-03	1.10E-05	6.05E-04	2.13E-03	9.62E-06	5.29E-04
Road 5	5	1600-1700	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 5	5	1700-1800	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 5	5	1800-1900	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 5	5	1900-2000	6.03E-02	1.07E-06	1.83E-05	5.40E-02	9.59E-07	1.63E-05	4.84E-03	8.60E-06	1.47E-04	4.34E-03	7.71E-06	1.31E-04
Road 5	5	2000-2100	2.91E-02	3.24E-07	5.53E-06	2.63E-02	2.93E-07	5.00E-06	2.80E-03	3.11E-06	5.31E-05	2.49E-03	2.78E-06	4.73E-05
Road 5	5	2100-2200	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 5	5	2200-2300	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 5	5	2300-2400	2.99E-02	3.42E-07	5.84E-06	2.70E-02	3.09E-07	5.27E-06	2.87E-03	3.28E-06	5.60E-05	2.56E-03	2.93E-06	4.99E-05
Road 6	6	0000-0100	1.46E-02	2.84E-07	1.44E-05	1.32E-02	2.57E-07	1.30E-05	1.52E-03	2.96E-06	1.50E-04	1.36E-03	2.63E-06	1.33E-04
Road 6	6	0100-0200	2.03E-02	1.82E-07	1.03E-05	1.84E-02	1.65E-07	9.32E-06	2.12E-03	1.90E-06	1.07E-04	1.92E-03	1.72E-06	9.71E-05
Road 6	6	0200-0300	1.74E-02	1.61E-07	8.15E-06	1.55E-02	1.43E-07	7.27E-06	1.64E-03	1.52E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	2.54E-01	5.52E-07	1.01E-06	1.26E-01	3.78E-07	1.38E-06	1.25E-01	8.55E-06	3.12E-05	1.25E-01	8.55E-06	7.23E-06
Road 27	27	1700-1800	2.24E-01	5.18E-07	1.59E-06	2.02E-01	4.66E-07	1.44E-06	9.66E-01	2.23E-06	6.88E-06	8.69E-01	2.01E-06	6.19E-06
Road 27	27	1800-1900	2.01E-01	3.19E-07	9.81E-07	1.82E-01	2.88E-07	8.87E-07	8.83E-01	1.40E-06	4.31E-06	7.98E-01	1.27E-06	3.90E-06
Road 27	27	1900-2000	1.88E-01	3.95E-07	6.00E-07	1.70E-01	3.76E-07	5.43E-07	8.31E-01	1.74E-06	2.65E-06	7.51E-01	1.66E-06	2.54E-06
Road 27	27	2000-2100	1.83E-01	1.51E-07	4.65E-07	1.66E-01	1.37E-07	4.20E-07	8.03E-01	6.63E-07	2.04E-06	7.26E-01	5.99E-07	1.84E-06
Road 27	27	2100-2200	1.84E-01	1.56E-07	4.82E-07	1.66E-01	1.40E-07	4.34E-07	8.03E-01	6.81E-07	2.11E-06	7.26E-01	6.15E-07	1.91E-06
Road 27	27	2200-2300	1.93E-01	1.42E-07	4.39E-07	1.77E-01	1.30E-07	4.01E-07	7.98E-01	5.88E-07	1.81E-06	7.29E-01	5.38E-07	1.66E-06
Road 27	27	2300-0000	1.95E-01	1.18E-07	3.64E-07	1.78E-01	1.08E-07	3.31E-07	8.04E-01	4.88E-07	1.50E-06	7.36E-01	4.46E-07	1.37E-06
Road 28	28	0000-0100	2.45E-01	1.48E-07	4.57E-07	2.26E-01	1.36E-07	4.21E-07	1.01E-00	6.11E-07	1.89E-06	9.32E-01	5.62E-07	1.73E-06
Road 28	28	0100-0200	2.50E-02	3.20E-07	1.82E-06	2.06E-02	2.64E-07	1.66E-06	2.20E-01	2.82E-06	1.60E-05	1.90E-01	2.43E-06	1.43E-05
Road 28	28	0200-0300	2.26E-02	2.90E-07	1.65E-06	1.87E-02	2.39E-07	1.51E-06	1.99E-01	2.55E-06	1.45E-05	1.72E-01	2.20E-06	1.29E-05
Road 28	28	0300-0400	1.96E-02	2.44E-07	1.27E-06	1.63E-02	2.03E-07	1.31E-06	1.73E-01	2.15E-06	1.12E-05	1.49E-01	1.85E-06	1.20E-05
Road 28	28	0400-0500	1.96E-02	2.44E-07	1.27E-06	1.63E-02	2.03E-07	1.31E-06	1.73E-01	2.15E-06	1.12E-05	1.49E-01	1.85E-06	1.20E-05
Road 28	28	0500-0600	2.23E-02	2.67E-07	1.44E-06	1.85E-02	2.21E-07	1.19E-06	1.97E-01	2.35E-06	1.27E-05	1.70E-01	2.03E-06	1.10E-05
Road 28	28	0600-0700	3.23E-02	4.67E-07	2.43E-06	2.68E-02	3.88E-07	2.02E-06	2.85E-01	4.12E-06	2.14E-05	2.46E-01	3.56E-06	1.85E-05
Road 28	28	0700-0800	3.38E-02	1.05E-06	5.96E-06	2.95E-02	9.16E-07	5.20E-06	2.55E-01	7.91E-06	4.49E-05	2.19E-01	6.79E-06	3.85E-05
Road 28	28	0800-0900	3.83E-02	4.28E-06	2.43E-05	3.34E-02	3.73E-06	2.12E-05	2.68E-01	2.99E-05	1.70E-04	2.34E-01	2.61E-05	1.48E-04
Road 28	28	0900-1000	4.66E-02	2.83E-06	1.49E-05	4.11E-02	2.31E-06	1.31E-05	2.87E-01	1.74E-05	9.16E-05	2.50E-01	1.41E-05	8.00E-05
Road 28	28	1100-1200	4.50E-02	2.40E-06	1.36E-05	3.94E-02	2.10E-06	1.19E-05	2.83E-01	1.51E-05	8.55E-05	2.47E-01	1.32E-05	7.46E-05
Road 28	28	1200-1300	4.54E-02	3.51E-06	1.98E-05	3.97E-02	3.07E-06	1.73E-05	2.84E-01	2.20E-05	1.24E-04	2.48E-01	1.92E-05	1.08E-04
Road 28	28	1300-1400	4.56E-02	1.58E-06	8.98E-06	4.01E-02	1.39E-06	7.90E-06	2.64E-01	9.16E-06	5.20E-05	2.30E-01	7.98E-06	4.53E-05
Road 28	28	1400-1500	4.46E-02	1.44E-06	9.36E-06	3.91E-02	1.26E-06	8.21E-06	2.58E-01	8.32E-06	5.42E-05	2.25E-01	7.25E-06	4.72E-05
Road 28	28	1500-1600	4.24E-02	1.59E-06	9.04E-06	3.78E-02	1.42E-06	8.05E-06	2.52E-01	9.45E-06	5.36E-05	2.22E-01	8.34E-06	4.73E-05
Road 28	28	1600-1700	4.26E-02	1.67E-06	9.50E-06	3.78E-02	1.49E-06	8.44E-06	2.54E-01	9.96E-06	5.65E-05	2.23E-01	8.76E-06	4.97E-05
Road 28	28	1700-1800	4.26E-02	1.40E-06	9.36E-06	3.78E-02	1.24E-06	8.29E-06	2.54E-01	8.36E-06	5.59E-05	2.23E-01	7.33E-06	4.90E-05
Road 28	28	1800-1900	3.39E-02	1.10E-06	6.24E-05	2.15E-02	9.91E-07	5.62E-05	1.84E-01	8.47E-06	4.81E-04	1.64E-01	7.54E-06	4.28E-04
Road 28	28	1900-2000	3.13E-02	1.03E-06	5.76E-05	1.98E-02	9.16E-07	5.19E-05	1.70E-01	7.82E-06	4.44E-04	1.51E-01	6.97E-06	3.95E-04
Road 28	28	2000-2100	2.04E-02	5.72E-07	3.25E-05	1.84E-02	5.15E-07	2.92E-05	1.92E-01	5.40E-06	3.06E-04	1.70E-01	4.78E-06	2.71E-04
Road 28	28	2100-2200	1.87E-02	5.22E-07	2.96E-05	1.71E-02	4.78E-07	2.71E-05	1.77E-01	4.95E-06	2.81E-04	1.58E-01	4.42E-06	2.51E-04
Road 28	28	2200-2300	1.86E-02	5.20E-07	2.96E-05	1.70E-02	4.76E-07	2.71E-05	1.76E-01	4.93E-06	2.81E-04	1.57E-01	4.40E-06	2.51E-04
Road 28	28	2300-0000	2.01E-02	4.09E-07	2.32E-05	1.83E-02	3.73E-07	2.11E-05	1.86E-01	3.80E-06	2.15E-04	1.67E-01	3.40E-06	1.93E-04
Road 29	29	0000-0100	2.67E-02	1.87E-07	1.29E-05	2.42E-02	1.69E-07	1.17E-05	2.03E-01	1.42E-06	9.83E-05	1.85E-01	1.27E-06	8.76E-05
Road 29	29	0100-0200	2.67E-02	1.87E-07	1.29E-05	2.42E-02	1.69E-07	1.17E-05	2.03E-01	1.42E-06	9.83E-05	1.85E-01	1.27E-06	8.76E-05
Road 29	29	0200-0300	2.61E-02	1.82E-07	1.26E-05	2.37E-02	1.65E-07	1.14E-05	1.98E-01	1.38E-06	9.57E-05	1.81E-01	1.24E-06	8.53E-05
Road 29	29	0300-0400	2.22E-02	1.34E-07	9.26E-06	2.87E-02	1.20E-07	8.25E-06	2.25E-01	9.37E-07	6.47E-05	1.97E-01	8.21E-07	5.67E-05
Road 29	29	0400-0500	3.39E-02	1.56E-07	1.08E-05	3.02E-02	1.39E-07	9.59E-06	2.32E-01	1.07E-06	7.37E-05	2.03E-01	9.33E-07	6.44E-05
Road 29	29	0500-0600	3.41E-02	2.73E-07	1.60E-05	3.04E-02	2.41E-07	1.42E-05	2.32E-01	1.86E-06	1.09E-04	2.03E-01	1.62E-06	9.54E-05
Road 29	29	0600-0700	3.55E-02	6.05E-07	4.17E-05	3.10E-02	5.28E-07	3.64E-05	2.38E-01	4.04E-06	2.79E-04	2.04E-01	3.47E-06	2.39E-04
Road 29	29	0700-0800	3.74E-02	1.53E-06	1.06E-04	3.26E-02	1.34E-06	9.24E-05	2.39E-01	9.79E-06	6.75E-04	2.05E-01	8.39E-06	5.78E-04
Road 29	29	0800-0900	3.71E-02	1.51E-06	1.04E-04	3.21E-02	1.30E-06	9.00E-05	2.30E-01	9.35E-06	6.46E-04	1.96E-01	7.97E-06	5.50E-04
Road 29	29	0900-1000	4.33E-02	1.54E-06	1.06E-04	3.80E-02	1.35E-06	9.32E-05	2.52E-01	8.96E-06	6.19E-04	2.20E-01	7.80E-06	5.38E-04
Road 29	29	1000-1100	4.70E-02	1.67E-06	9.40E-06	4.27E-02	1.52E-06	8.54E-06	2.71E-01	9.63E-06	5.41E-05	2.46E-01	8.74E-06	4.91E-05
Road 29	29	1100-1200	4.74E-02	1.42E-06	9.81E-06	4.16E-02	1.25E-06	8.61E-06	2.68E-01	8.04E-06	5.55E-04	2.35E-01	7.05E-06	4.87E-04
Road 29	29	1200-1300	4.77E-02	2.04E-06	1.41E-05	4.17E-02	1.78E-06	1.23E-05	2.69E-01	1.15E-05	7.97E-05	2.35E-01	1.01E-05	6.97E-05
Road 29	29	1300-1400	4.77E-02	2.00E-06	1.38E-05	4.20E-02	1.76E-06	1.21E-05	2.69E-01	1.13E-05	7.80E-05	2.37E-01	9.95E-06	6.87E-05
Road 29	29	1400-1500	4.64E-02	2.08E-06	1.44E-05	4.08E-02	1.83E-06	1.26E-05	2.62E-01	1.17E-05	8.13E-05	2.30E-01	1.03E-05	7.12E-05
Road 29	29	1500-1600	4.45E-02	2.08E-06	1.44E-05	3.91E-02	1.83E-06	1.26E-05	2.51E-01	1.17E-05	8.13E-05	2.21E-01	1.03E-05	7.12E-05
Road 29	29	1600-1700	4.49E-02	2.13E-06	1.47E-04	3.99E-02	1.91E-06	1.31E-04	2.54E-01	1.21E-05	8.31E-04	2.24E-01	1.08E-05	7.41E-04
Road 29	29	1700-1800	4.26E-02	2.13E-06	1.47E-04	3.99E-02	1.91E-06	1.31E-04	2.54E-01	1.21E-05	8.31E-04	2.24E-01	1.08E-05	7.41E-04
Road 29	29	1800-1900	2.66E-02	1.48E-06	1.02E-04	2.36E-02	1.31E-06	9.03E-05	2.03E-01	1.13E-05	7.77E-04	1.80E-01	9.96E-06	6.87E-04
Road 29	29	1900-2000	2.37E-02	8.09E-07	5.58E-05	2.14E-02	7.31E-07	5.04E-05	2.82E-01	9.65E-06	6.65E-04	2.53E-01	8.62E-06	5.95E-04
Road 29	29	2000-2100	2.17E-02	8.09E-07	5.58E-05	2.14E-02	7.31E-07	5.04E-05	2.82E-01	9.65E-06	6.65E-04	2.53E-01	8.62E-06	5.95E-04
Road 29	29	2100-2200	2.17E-02	7.35E-07	1.07E-02	6.72E-07	4.64E-05	2.57E-01	8.69E-06	6.00E-04	2.33E-01	7.88E-06	5.44E-04	2.47E-01
Road 29	29	2200-2300	2.17E-02	7.35E-07	1.07E-02	6.72E-07	4.64E-05	2.57E-01	8.69E-06	6.00E-04	2.33E-01	7.88E-06	5.44E-04	2.47E-01
Road 29	29	2300-0000	2.32E-02	5.73E-07	3.96E-05	2.11E-02	5.22E-07	3.61E-05	2.70E-01	6.68E-06	4.61E-04	2.44E-01	6.03E-06	4.16E-04
Road 30	30	0000-0100	2.99E-02	2.38E-07	1.64E-05	2.72E-02	2.16E-07	1.49E-05	2.84E-01	2.26E-06	1.56E-04	2.58E-01	2.05E-06	1.42E-04
Road 30	30	0100-0200	2.99E-02	2.38E-07	1.64E-05	2.72E-02	2.16E-07	1.49E-05	2.84E-01	2.26E-06	1.56E-04	2.58E-01	2.05E-06	1.42E-04
Road 30	30	0200-0300	2.77E-02	1.29E-07	1.27E-05	2.52E-02	1.17E-07	1.15E-05	2.63E-01	1.22E-06	1.21E-04	2.39E-01	1.11E-06	1.10E-04
Road 30	30	0300-0400	2.77E-02	1.29E-07	1.27E-05	2.52E-02	1.17E-07	1.15E-05	2.63E-01	1.22E-06	1.21E-04	2.39E-01	1.11E-06	1.10E-04
Road 30	30	0400-0500	2.81E-02	1.30E-07	1.29E-05	2.55E-02	1.18E-07	1.17E-05	2.66E-01	1.23E-06	1.22E-04	2.42E-01	1.12E-06	1.11E-04
Road 30	30	0500-0600	3.23E-02	2.67E-07	1.44E-05	2.93E-02	2.42E-07	1.31E-05	2.70E-01	2.23E-06	1.21E-04	2.45E-01	2.02E-06	1.09E-04
Road 30	30	0600-0700	2.81E-02	6.03E-07	3.95E-05	2.45E-02	5.25E-07	3.44E-05	2.59E-01	5.56E-06	3.64E-04	2.26E-01	4.84E-06	3.17E-04
Road 30	30	0700-0800	3.23E-02	9.60E-07	9.40E-06	2.78E-02	8.27E-07	8.09E-06	2.81E-01	8.35E-06	8.16E-05	2.42E-01	7.19E-06	7.02E-05
Road 30	30	0800-0900	3.23E-02	5.31E-07	3.79E-05	2.78E-02	4.57E-07	3.26E-05	2.81E-01	4.62E-06	3.30E-04	2.42E-01	3.98E-06	2.84E-04
Road 30	30	0900-1000	3.60E-02	1.03E-06	1.01E-05	3.14E-02	8.98E-07	8.79E-06	2.23E-01	6.37E-06	6.23E-05	1.92E-01	5.50E-06	5.39E-05
Road 30	30	1000-1100	3.98E-02	1.03E-06	1.01E-05	3.47E-02	8.98E-07	8.79E-06	2.47E-01	6.37E-06	6.23E-05	2.13E-01	5.50E-06	5.39E-05
Road 30	30	1100-1200	3.98E-02	9.44E-07	9.24E-06	3.49E-02	8.29E-07	8.12E-06	2.41E-01	5.71E-06	5.59E-05	2.09E-01	4.96E-06	4.85E-05
Road 30	30	1200-1300	3.98E-02	1.03E-06	1.01E-05	3.47E-02	8.98E-07	8.79E-06	2.41E-01	6.24E-06	6.11E-05	2.09E-01	5.39E-06	5.28E-05
Road 30	30	1300-1400	3.47E-02	1.00E-06	9.80E-06	4.80E-02	8.78E-07	8.60E-06	1.12E-01	5.70E-06	5.58E-05	2.72E-01	4.97E-06	4.87E-05
Road 30	30	1400-1500	5.40E-02	1.04E-06	1.01E-05	4.76E-02	9.13E-07	8.94E-06	3.09E-01	5.94E-06	5.81E-05	3.08E-01	5.28E-06	5.16E-05
Road 30	30	1500-1600	5.40E-02	1.04E-06	1.01E-05	4.76E-02	9.13E-07	8.94E-06	3.09E-01	5.94E-06	5.81E-05	3.08E-01	5.28E-06	5.16E-05
Road 30	30	1600-1700	5.08E-02	1.04E-06	1.02E-05	4.55E-02	9.30E-07	9.11E-06	2.98E-01	6.05E-06	5.97E-05	2.66E-01	5.43E-06	5.31E-05
Road 30	30	1700-1800	3.99E-02	9.91E-07	8.72E-06	3.57E-02	7.97E-07	7.81E-06	2.61E-01	6.62E-06	5.82E-05	2.34E-01	5.32E-06	4.67E-05
Road 30	30	1800-1900	3.12E-02	7.24E-07	7.09E-06	2.81E-02	6.54E-07	6.40E-06	2.07E-01	5.21E-06	5.10E-05	1.86E-01	4.31E-06	4.22E-05
Road 30	30	1900-2000	2.44E-02	4.28E-07	4.19E-06	2.19E-02	3.84E-07	3.76E-06	2.15E-01	3.77E-06	3.69E-05	1.91E-01	3.34E-06	3.27E-05
Road 30	30	2000-2100	2.47E-02	3.40E-07	3.33E-06	2.22E-02	3.12E-07	3.06E-06	2.04E-01	2.80E-06	2.75E-05	1.83E-01	2.52E-06	2.47E-05
Road 30	30	2100-2200	2.31E-02	3.16E-07	3.10E-06	2.08E-02	2.90E-07	2.84E-06	2.04E-01	2.80E-06	2.75E-05	1.83E-01	2.52E-06	2.47E-05
Road 30	30	2200-2300	2.31E-02	3.16E-07	3.10E-06	2.08E-02	2.90E-07	2.84E-06	2.04E-01	2.80E-06	2.75E-05	1.83E-01	2.52E-06	2.47E-05
Road 30	30	2300-0000	2.54E-02	2.56E-07	2.51E-06	2.31E-02	2.33E-07	2.28E-06	2.23E-01	2.24E-06	2.20E-05	2.00E-01	2.02E-06	1.98E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.02E-02	1.23E-07	1.10E-06	2.71E-02	1.12E-07	9.99E-07	2.37E-01	9.66E-07	8.63E-06	2.13E-01	8.69E-07	7.76E-06
Road 31	31	0100-0200	3.49E-02	9.57E-08	8.55E-07	3.15E-02	8.65E-08	7.73E-07	2.55E-01	7.00E-07	6.26E-06	2.27E-01	6.24E-07	5.57E-06
Road 31	31	0200-0300	3.96E-02	8.23E-08	7.36E-07	3.54E-02	7.36E-08	6.58E-07	2.73E-01	5.68E-07	5.07E-06	2.41E-01	5.01E-07	4.48E-06
Road 31	31	0300-0400	4.02E-02	7.49E-08	6.70E-07	3.56E-02	6.74E-08	6.03E-07	2.90E-01	4.91E-07	4.41E-06	2.58E-01	4.39E-07	3.92E-06
Road 31	31	0400-0500	4.47E-02	8.33E-08	7.44E-07	3.99E-02	7.44E-08	6.64E-07	2.92E-01	5.44E-07	4.86E-06	2.58E-01	4.80E-07	4.29E-06
Road 31	31	0500-0600	4.55E-02	1.29E-07	1.15E-06	3.96E-02	1.12E-07	1.00E-06	2.98E-01	8.47E-07	7.59E-06	2.59E-01	7.38E-07	6.78E-06
Road 31	31	0600-0700	4.00E-02	2.59E-07	2.31E-06	3.50E-02	2.26E-07	2.02E-06	2.74E-01	1.77E-06	1.58E-05	2.36E-01	1.53E-06	1.37E-05
Road 31	31	0700-0800	4.50E-02	6.12E-07	5.47E-06	3.88E-02	5.29E-07	4.72E-06	2.93E-01	3.98E-06	3.56E-05	2.49E-01	3.39E-06	3.03E-05
Road 31	31	0800-0900	4.30E-02	8.75E-07	6.97E-06	3.72E-02	7.58E-07	6.03E-06	3.14E-01	6.39E-06	5.09E-05	2.71E-01	5.53E-06	4.40E-05
Road 31	31	0900-1000	4.95E-02	6.15E-07	4.44E-06	4.31E-02	5.36E-07	3.86E-06	3.00E-01	3.73E-06	2.69E-05	2.61E-01	3.24E-06	2.34E-05
Road 31	31	1000-1100	5.46E-02	6.47E-07	5.78E-06	4.81E-02	5.69E-07	5.08E-06	3.14E-01	3.71E-06	3.32E-05	2.74E-01	3.24E-06	2.90E-05
Road 31	31	1100-1200	6.04E-02	4.51E-07	4.19E-06	5.26E-02	3.92E-07	3.65E-06	3.16E-01	2.70E-06	2.45E-05	2.75E-01	2.35E-06	2.08E-05
Road 31	31	1200-1300	6.20E-02	4.65E-07	4.16E-06	5.39E-02	4.04E-07	3.61E-06	3.25E-01	2.73E-06	2.44E-05	2.82E-01	2.37E-06	2.12E-05
Road 31	31	1300-1400	6.26E-02	4.80E-07	4.29E-06	5.45E-02	4.17E-07	3.75E-06	3.28E-01	2.81E-06	2.52E-05	2.85E-01	2.44E-06	2.19E-05
Road 31	31	1400-1500	5.94E-02	4.80E-07	4.29E-06	5.23E-02	4.23E-07	3.78E-06	3.53E-01	2.86E-06	2.55E-05	3.09E-01	2.50E-06	2.23E-05
Road 31	31	1500-1600	6.04E-02	4.65E-07	4.16E-06	5.39E-02	4.15E-07	3.71E-06	3.68E-01	2.83E-06	2.53E-05	3.22E-01	2.48E-06	2.21E-05
Road 31	31	1600-1700	5.60E-02	4.80E-07	4.29E-06	5.04E-02	4.32E-07	3.86E-06	3.58E-01	2.94E-06	2.62E-05	3.13E-01	2.57E-06	2.30E-05
Road 31	31	1700-1800	3.66E-02	3.49E-07	3.12E-06	3.31E-02	3.16E-07	2.82E-06	2.80E-01	2.67E-06	2.39E-05	2.51E-01	2.40E-06	2.14E-05
Road 31	31	1800-1900	2.29E-02	2.82E-07	1.99E-06	2.13E-02	2.76E-07	1.60E-06	2.09E-01	1.90E-06	1.69E-05	1.97E-01	1.86E-06	1.51E-05
Road 31	31	1900-2000	2.21E-02	2.78E-07	1.96E-06	2.02E-02	2.67E-07	1.57E-06	2.01E-01	1.87E-06	1.66E-05	1.89E-01	1.83E-06	1.48E-05
Road 31	31	2000-2100	2.71E-02	1.50E-07	1.34E-06	2.46E-02	1.37E-07	1.22E-06	2.46E-01	1.36E-06	1.21E-05	2.32E-01	1.32E-06	1.16E-05
Road 31	31	2100-2200	2.71E-02	1.50E-07	1.34E-06	2.46E-02	1.37E-07	1.22E-06	2.46E-01	1.36E-06	1.21E-05	2.32E-01	1.32E-06	1.16E-05
Road 31	31	2200-2300	3.01E-02	1.21E-07	1.09E-06	2.74E-02	1.11E-07	1.00E-06	2.55E-01	1.02E-06	9.14E-06	2.41E-01	9.33E-07	8.36E-06
Road 31	31	2300-0000	3.01E-02	1.21E-07	1.09E-06	2.74E-02	1.11E-07	1.00E-06	2.55E-01	1.02E-06	9.14E-06	2.41E-01	9.33E-07	8.36E-06
Road 32	32	0000-0100	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	0100-0200	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	0200-0300	2.51E-02	2.13E-07	2.46E-05	2.27E-02	4.04E-07	2.24E-05	2.41E-01	4.28E-06	2.37E-04	2.16E-01	3.83E-06	2.13E-04
Road 32	32	0300-0400	2.51E-02	2.13E-07	2.46E-05	2.27E-02	4.04E-07	2.24E-05	2.41E-01	4.28E-06	2.37E-04	2.16E-01	3.83E-06	2.13E-04
Road 32	32	0400-0500	2.87E-02	2.16E-07	2.49E-05	2.58E-02	4.09E-07	2.27E-05	2.56E-01	4.33E-06	2.40E-04	2.30E-01	3.88E-06	2.16E-04
Road 32	32	0500-0600	2.87E-02	2.16E-07	2.49E-05	2.58E-02	4.09E-07	2.27E-05	2.56E-01	4.33E-06	2.40E-04	2.30E-01	3.88E-06	2.16E-04
Road 32	32	0600-0700	2.16E-02	1.58E-07	1.76E-05	1.94E-02	2.99E-07	1.66E-05	2.15E-01	3.17E-06	1.76E-04	1.93E-01	2.84E-06	1.58E-04
Road 32	32	0700-0800	1.44E-02	1.58E-07	1.76E-05	1.29E-02	2.99E-07	1.66E-05	1.43E-01	3.17E-06	1.76E-04	1.29E-01	2.84E-06	1.58E-04
Road 32	32	0800-0900	1.44E-02	1.58E-07	1.76E-05	1.29E-02	2.99E-07	1.66E-05	1.43E-01	3.17E-06	1.76E-04	1.29E-01	2.84E-06	1.58E-04
Road 32	32	0900-1000	1.88E-02	1.58E-07	1.76E-05	1.69E-02	2.99E-07	1.66E-05	1.87E-01	3.17E-06	1.76E-04	1.68E-01	2.84E-06	1.58E-04
Road 32	32	1000-1100	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	1100-1200	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	1200-1300	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	1300-1400	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	1400-1500	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	1500-1600	2.16E-02	1.84E-07	2.55E-05	1.96E-02	3.49E-07	2.32E-05	2.08E-01	3.69E-06	2.45E-04	1.86E-01	3.31E-06	2.20E-04
Road 32	32	1600-1700	2.16E-02	1.84E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.41E-01	3.14E-07	1.17E-05	4.41E-02	1.01E-05	3.67E-04	2.28E-01	5.20E-07	1.94E-05	7.13E-02	1.67E-05	6.07E-04
Road 54	54	0900-1000	1.60E-01	5.57E-07	1.27E-05	1.40E-01	4.88E-06	1.11E-05	7.04E-01	2.45E-06	5.58E-05	6.10E-01	2.12E-06	4.84E-05
Road 54	54	1000-1100	1.78E-01	5.69E-07	1.30E-05	1.56E-01	5.01E-07	1.14E-05	7.58E-01	2.42E-06	5.53E-05	6.61E-01	2.11E-06	4.82E-05
Road 54	54	1100-1200	1.75E-01	5.29E-07	1.21E-05	1.54E-01	4.66E-07	1.06E-05	7.52E-01	2.28E-06	5.19E-05	6.55E-01	1.98E-06	4.52E-05
Road 54	54	1200-1300	2.27E-01	5.06E-07	1.15E-05	1.98E-01	4.40E-07	1.00E-05	9.25E-01	2.06E-06	4.69E-05	8.01E-01	1.78E-06	4.06E-05
Road 54	54	1300-1400	2.21E-01	5.39E-07	1.23E-05	1.94E-01	4.74E-07	1.08E-05	9.19E-01	2.24E-06	5.11E-05	7.94E-01	1.94E-06	4.43E-05
Road 54	54	1400-1500	2.24E-01	5.50E-07	1.25E-05	1.97E-01	4.85E-07	1.11E-05	9.16E-01	2.26E-06	5.14E-05	8.05E-01	1.98E-06	4.51E-05
Road 54	54	1500-1600	2.04E-01	5.19E-07	1.18E-05	1.81E-01	4.62E-07	1.05E-05	8.76E-01	2.23E-06	5.08E-05	7.77E-01	1.98E-06	4.51E-05
Road 54	54	1600-1700	1.76E-01	4.14E-07	9.44E-06	1.58E-01	3.72E-06	8.48E-05	8.76E-01	2.13E-06	4.86E-05	7.90E-01	1.86E-06	4.24E-05
Road 54	54	1700-1800	1.76E-01	4.14E-07	9.44E-06	1.58E-01	3.71E-07	8.46E-06	7.79E-01	1.83E-06	4.18E-05	6.94E-01	1.63E-06	3.73E-05
Road 54	54	1800-1900	1.26E-01	2.96E-07	6.75E-06	1.12E-01	2.64E-06	6.02E-05	6.57E-01	1.54E-06	3.52E-05	5.85E-01	1.38E-06	3.14E-05
Road 54	54	1900-2000	1.31E-01	1.81E-07	4.13E-06	1.63E-02	3.72E-06	5.96E-01	8.25E-07	1.88E-05	5.30E-01	7.34E-07	1.67E-05	
Road 54	54	2000-2100	1.29E-01	1.39E-07	3.19E-06	1.24E-02	2.85E-06	5.77E-01	6.35E-07	1.46E-05	5.22E-01	5.64E-07	1.31E-05	
Road 54	54	2100-2200	1.24E-01	1.37E-07	3.13E-06	1.19E-02	2.72E-06	5.54E-01	6.08E-07	1.39E-05	5.01E-01	5.40E-07	1.24E-05	
Road 54	54	2200-2300	1.29E-01	1.29E-07	2.95E-06	1.17E-02	2.68E-06	5.73E-01	5.77E-07	1.31E-05	5.14E-01	5.17E-07	1.18E-05	
Road 54	54	2300-2400	1.29E-01	1.29E-07	2.95E-06	1.17E-02	2.68E-06	5.73E-01	5.77E-07	1.31E-05	5.14E-01	5.17E-07	1.18E-05	
Road 101	101	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.2 Emission Factor in 2030.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0100-0200	0.00E+00	0.00E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.52E-02	1.27E-04	1.61E-06	1.09E-07	1.44E-06	1.53E-07	1.71E-04	1.32E-03	1.68E-05
Road 21	21	0100-0200	2.11E-02	8.89E-08	1.17E-06	1.36E-02	7.82E-08	1.05E-06	1.34E-05	1.57E-01	1.91E-03
Road 21	21	0200-0300	2.31E-02	7.17E-08	9.48E-07	2.07E-02	6.44E-08	8.51E-07	1.72E-01	5.32E-07	7.03E-06
Road 21	21	0300-0400	2.47E-02	6.11E-08	8.07E-07	2.24E-02	5.54E-08	7.32E-07	1.74E-01	4.31E-07	5.71E-06
Road 21	21	0400-0500	2.60E-02	7.07E-08	9.35E-07	2.35E-02	6.40E-08	8.46E-07	1.80E-01	4.90E-07	6.47E-06
Road 21	21	0500-0600	2.70E-02	1.27E-07	1.68E-06	2.45E-02	1.15E-07	1.52E-06	1.85E-01	8.69E-07	1.15E-05
Road 21	21	0600-0700	2.78E-02	2.81E-07	3.71E-06	2.49E-02	2.48E-07	3.27E-06	1.64E-01	1.66E-06	2.19E-05
Road 21	21	0700-0800	3.06E-02	6.31E-07	8.34E-06	2.72E-02	5.60E-07	7.41E-06	1.98E-01	4.09E-06	5.40E-05
Road 21	21	0800-0900	3.13E-02	5.00E-07	6.61E-06	2.78E-02	4.44E-07	5.87E-06	2.03E-01	3.24E-06	4.28E-05
Road 21	21	0900-1000	3.64E-02	7.44E-07	9.83E-06	3.17E-02	6.46E-07	8.54E-06	2.15E-01	4.39E-06	5.80E-05
Road 21	21	1000-1100	3.71E-02	8.46E-07	1.12E-05	3.29E-02	7.50E-07	9.92E-06	2.29E-01	5.22E-06	6.90E-05
Road 21	21	1100-1200	3.92E-02	6.68E-07	8.83E-06	3.48E-02	5.93E-07	7.84E-06	2.42E-01	4.13E-06	5.45E-05
Road 21	21	1200-1300	4.14E-02	6.99E-07	9.24E-06	3.67E-02	6.20E-07	8.20E-06	2.55E-01	4.31E-06	5.70E-05
Road 21	21	1300-1400	4.14E-02	6.99E-07	9.24E-06	3.67E-02	6.20E-07	8.20E-06	2.55E-01	4.31E-06	5.70E-05
Road 21	21	1400-1500	4.45E-02	3.79E-07	5.01E-06	3.95E-02	3.36E-07	4.44E-06	2.74E-01	2.33E-06	3.08E-05
Road 21	21	1500-1600	4.45E-02	1.26E-07	1.67E-06	3.95E-02	1.12E-07	1.48E-06	2.74E-01	7.78E-07	1.03E-05
Road 21	21	1600-1700	4.66E-02	8.12E-08	1.07E-06	4.13E-02	7.20E-08	9.52E-07	2.87E-01	5.00E-07	6.61E-06
Road 21	21	1700-1800	4.66E-02	1.26E-07	1.67E-06	4.13E-02	1.12E-07	1.48E-06	2.87E-01	7.78E-07	1.03E-05
Road 21	21	1800-1900	2.90E-02	3.97E-07	5.24E-06	2.53E-02	3.46E-07	4.57E-06	2.22E-01	3.04E-06	4.01E-05
Road 21	21	1900-2000	2.49E-02	2.62E-07	3.46E-06	2.17E-02	2.29E-07	3.02E-06	1.90E-01	2.01E-06	2.66E-05
Road 21	21	2000-2100	2.49E-02	1.05E-07	1.39E-06	2.17E-02	9.19E-08	1.21E-06	1.90E-01	8.05E-07	1.06E-05
Road 21	21	2100-2200	2.33E-02	1.92E-07	2.53E-06	2.09E-02	1.71E-07	2.29E-06	1.87E-01	1.54E-06	2.03E-05
Road 21	21	2200-2300	2.31E-02	1.63E-07	2.15E-06	2.07E-02	1.45E-07	1.91E-06	1.85E-01	1.30E-06	1.72E-05
Road 21	21	2300-2400	2.56E-02	1.53E-07	2.02E-06	2.24E-02	1.34E-07	1.77E-06	1.96E-01	1.17E-06	1.55E-05
Road 22	22	0000-0100	1.76E-01	1.98E-07	3.54E-06	1.56E-01	1.75E-07	3.14E-06	2.32E-01	2.61E-07	4.68E-06
Road 22	22	0100-0200	2.44E-01	1.31E-07	2.34E-06	2.16E-01	1.16E-07	2.08E-06	3.21E-01	1.73E-07	3.09E-06
Road 22	22	0200-0300	1.71E-01	1.05E-07	1.87E-06	1.54E-01	9.44E-08	1.68E-06	2.11E-01	1.29E-07	2.31E-06
Road 22	22	0300-0400	1.74E-01	1.05E-07	1.87E-06	1.54E-01	9.44E-08	1.68E-06	2.11E-01	1.29E-07	2.31E-06
Road 22	22	0400-0500	1.74E-01	1.05E-07	1.86E-06	1.58E-01	9.50E-08	1.69E-06	2.74E-01	1.65E-07	2.93E-06
Road 22	22	0500-0600	1.93E-01	2.13E-07	3.79E-06	1.72E-01	1.90E-07	3.38E-06	2.98E-01	3.29E-07	5.85E-06
Road 22	22	0600-0700	2.52E-01	1.19E-06	2.13E-05	2.00E-01	1.06E-06	1.89E-05	3.18E-01	1.68E-06	2.99E-05
Road 22	22	0700-0800	2.52E-01	1.19E-06	2.13E-05	2.00E-01	1.06E-06	1.89E-05	3.18E-01	1.50E-06	2.67E-05
Road 22	22	0800-0900	1.52E-01	1.74E-06	3.10E-05	1.51E-01	1.72E-06	3.07E-05	2.68E-01	3.06E-06	5.45E-05
Road 22	22	0900-1000	1.52E-01	1.74E-06	3.10E-05	1.51E-01	1.72E-06	3.07E-05	2.68E-01	3.06E-06	5.45E-05
Road 22	22	1000-1100	2.53E-01	1.60E-06	2.85E-05	2.22E-01	1.41E-06	2.51E-05	3.92E-01	2.48E-06	4.42E-05
Road 22	22	1100-1200	2.53E-01	1.60E-06	2.85E-05	2.22E-01	1.41E-06	2.51E-05	3.92E-01	2.48E-06	4.42E-05
Road 22	22	1200-1300	2.53E-01	1.60E-06	2.85E-05	2.22E-01	1.41E-06	2.51E-05	3.92E-01	2.48E-06	4.42E-05
Road 22	22	1300-1400	2.53E-01	1.60E-06	2.85E-05	2.22E-01	1.41E-06	2.51E-05	3.92E-01	2.48E-06	4.42E-05
Road 22	22	1400-1500	2.68E-01	1.95E-06	3.47E-05	2.34E-01	1.70E-06	3.03E-05	4.07E-01	2.96E-06	5.27E-05
Road 22	22	1500-1600	2.68E-01	1.86E-06	3.31E-05	2.34E-01	1.62E-06	2.89E-05	4.07E-01	2.82E-06	5.02E-05
Road 22	22	1600-1700	2.54E-01	1.80E-06	3.21E-05	2.25E-01	1.60E-06	2.85E-05	3.92E-01	2.79E-06	4.96E-05
Road 22	22	1700-1800	2.13E-01	1.40E-06	2.50E-05	1.83E-01	1.20E-06	2.14E-05	4.57E-01	3.00E-06	5.35E-05
Road 22	22	1800-1900	1.59E-01	1.05E-06	1.87E-05	1.38E-01	9.08E-07	1.62E-05	3.42E-01	2.26E-06	4.03E-05
Road 22	22	1900-2000	1.61E-01	5.38E-07	9.60E-06	1.43E-01	4.76E-07	8.48E-06	2.06E-01	6.88E-07	1.23E-05
Road 22	22	2000-2100	1.59E-01	4.30E-07	7.66E-06	1.43E-01	3.86E-07	6.89E-06	2.06E-01	5.57E-07	9.93E-06
Road 22	22	2100-2200	1.59E-01	1.43E-07	3.86E-07	6.89E-06	7.01E-06	2.11E-06	3.85E-01	2.05E-06	6.17E-06
Road 22	22	2200-2300	1.61E-01	3.90E-07	6.95E-06	1.43E-01	3.50E-07	6.25E-06	2.06E-01	5.04E-07	8.99E-06
Road 22	22	2300-2400	1.61E-01	1.30E-07	2.31E-06	1.43E-01	1.16E-07	2.08E-06	2.06E-01	1.68E-07	2.99E-06
Road 23	23	0000-0100	1.77E-01	4.92E-08	9.08E-07	1.58E-01	4.37E-08	8.08E-07	2.35E-01	2.04E-07	1.76E-06
Road 23	23	0100-0200	1.82E-01	2.98E-08	5.16E-07	1.62E-01	2.65E-08	4.58E-07	2.44E-01	1.23E-07	1.06E-06
Road 23	23	0200-0300	1.82E-01	2.98E-08	5.16E-07	1.62E-01	2.65E-08	4.58E-07	2.44E-01	1.23E-07	1.06E-06
Road 23	23	0300-0400	1.82E-01	2.98E-08	5.16E-07	1.62E-01	2.65E-08	4.58E-07	2.44E-01	1.23E-07	1.06E-06
Road 23	23	0400-0500	1.83E-01	2.79E-08	5.16E-07	1.66E-01	2.54E-08	4.69E-07	2.75E-01	1.99E-07	1.84E-06
Road 23	23	0500-0600	1.87E-01	5.27E-08	9.74E-07	1.67E-01	4.70E-08	8.68E-07	2.77E-01	3.08E-07	2.84E-06
Road 23	23	0600-0700	2.07E-01	1.24E-07	2.30E-06	1.85E-01	1.11E-07	2.05E-06	3.07E-01	1.84E-07	3.40E-06
Road 23	23	0700-0800	2.22E-01	3.04E-07	5.61E-06	1.98E-01	2.71E-07	5.00E-06	3.07E-01	4.20E-07	7.76E-06
Road 23	23	0800-0900	1.80E-01	3.11E-07	5.74E-06	1.61E-01	2.77E-07	5.12E-06	2.49E-01	4.30E-07	7.94E-06
Road 23	23	0900-1000	2.23E-01	4.08E-07	7.54E-06	1.99E-01	3.55E-07	6.59E-06	3.08E-01	5.51E-07	1.02E-05
Road 23	23	1000-1100	1.77E-01	4.22E-07	7.80E-06	1.57E-01	3.67E-07	6.79E-06	2.43E-01	5.70E-07	1.05E-05
Road 23	23	1100-1200	1.92E-01	2.24E-07	4.14E-06	1.71E-01	1.95E-07	3.60E-06	2.64E-01	3.08E-07	5.69E-06
Road 23	23	1200-1300	2.04E-01	5.16E-07	9.54E-06	1.82E-01	4.49E-07	8.30E-06	2.81E-01	7.09E-07	1.31E-05
Road 23	23	1300-1400	2.04E-01	5.16E-07	9.54E-06	1.82E-01	4.49E-07	8.30E-06	2.81E-01	7.09E-07	1.31E-05
Road 23	23	1400-1500	2.19E-01	4.95E-07	9.15E-06	1.95E-01	4.31E-07	7.96E-06	3.02E-01	6.81E-07	1.26E-05
Road 23	23	1500-1600	2.19E-01	1.95E-07	3.60E-06	1.95E-01	1.69E-07	3.12E-06	3.02E-01	2.68E-07	4.95E-06
Road 23	23	1600-1700	2.29E-01	1.26E-07	2.33E-06	2.04E-01	1.10E-07	2.03E-06	3.16E-01	1.74E-07	3.21E-06
Road 23	23	1700-1800	2.05E-01	3.42E-07	6.32E-06	1.76E-01	2.98E-07	5.51E-06	2.84E-01	4.74E-07	8.76E-06
Road 23	23	1800-1900	1.95E-01	1.68E-07	3.10E-06	1.68E-01	1.46E-07	2.70E-06	2.71E-01	2.34E-07	4.32E-06
Road 23	23	1900-2000	1.66E-01	1.27E-07	2.34E-06	1.47E-01	1.12E-07	2.07E-06	2.31E-01	1.77E-07	3.26E-06
Road 23	23	2000-2100	1.66E-01	1.27E-07	2.34E-06	1.47E-01	1.12E-07	2.07E-06	2.31E-01	1.77E-07	3.26E-06
Road 23	23	2100-2200	1.63E-01	1.02E-07	1.88E-06	1.47E-01	9.17E-08	1.69E-06	2.74E-01	1.71E-07	3.16E-06
Road 23	23	2200-2300	1.76E-01	9.63E-08	1.78E-06	1.58E-01	8.66E-08	1.60E-06	2.95E-01	1.62E-07	2.99E-06
Road 23	23	2300-2400	1.84E-01	4.29E-08	1.08E-07	7.61E-01	1.78E-07	4.47E-07	1.58E-07	3.96E-07	
Road 24	24	0000-0100	1.91E-01	2.01E-07	3.71E-06	1.72E-01	1.81E-07	3.34E-06	2.51E-01	2.64E-07	4.87E-06
Road 24	24	0100-0200	2.11E-02	8.89E-08	1.17E-06	1.36E-02	7.82E-08	1.05E-06	1.34E-05	1.57E-01	1.91E-03
Road 24	24	0200-0300	2.31E-02	7.17E-08	9.48E-07	2.07E-02	6.44E-08	8.51E-07	1.72E-01	5.32E-07	7.03E-06
Road 24	24	0300-0400	2.47E-02	6.11E-08	8.07E-07	2.24E-02	5.54E-08	7.32E-07	1.74E-01	4.31E-07	5.71E-06
Road 24	24	0400-0500	2.60E-02	7.07E-08	9.35E-07	2.35E-02	6.40E-08	8.46E-07	1.80E-01	4.90E-07	6.47E-06
Road 24	24	0500-0600	2.70E-02	1.27E-07	1.68E-06	2.45E-02	1.15E-07	1.52E-06	1.85E-01	8.69E-07	1.15E-05
Road 24	24	0600-0700	2.78E-02	2.81E-07	3.71E-06	2.49E-02	2.48E-07	3.27E-06	1.64E-01	1.66E-06	2.19E-05
Road 24	24	0700-0800	3.06E-02	6.31E-07	8.34E-06	2.72E-02	5.60E-07	7.41E-06	1.98E-01	4.09E-06	5.40E-05
Road 24	24	0800-0900	3.13E-02	5.00E-07	6.61E-06	2.78E-02	4.44E-07	5.87E-06	2.03E-01	3.24E-06	4.28E-05
Road 24	24	0900-1000	3.64E-02	7.44E-07	9.83E-06	3.17E-02	6.46E-07	8.54E-06	2.15E-01	4.39E-06	5.80E-05
Road 24	24	1000-1100	3.71E-02	8.46E-07	1.12E-05	3.29E-02	7.50E-07	9.92E-06	2.29E-01	5.22E-06	6.90E-05
Road 24	24	1100-1200	3.92E-02	6.68E-07	8.83E-06	3.48E-02	5.93E-07	7.84E-06	2.42E-01	4.13E-06	5.45E-05
Road 24	24	1200-1300	4.14E-02	6.99E-07	9.24E-06	3.67E-02	6.20E-07	8.20E-06	2.55E-01	4.31E-06	5.70E-05
Road 24	24	1300-1400	4.14E-02	6.99E-07	9.24E-06	3.67E-02	6.20E-07	8.20E-06	2.55E-01	4.31E-06	5.70E-05
Road 24	24	1400-1500	4.45E-02	3.79E-07	5.01E-06	3.95E-02	3.36E-07	4.44E-06	2.74E-01	2.33E-06	3.08E-05
Road 24	24	1500-1600	4.45E-02	1.26E-07	1.67E-06	3.95E-02	1.12E-07	1.48E-06	2.74E-01	7.78E-07	1.03E-05
Road 24	24	1600-1700	4.66E-02	8.12E-08	1.07E-06	4.13E-02	7.20E-08	9.52E-07	2.87E-01	5.00E-07	6.61E-06
Road 24	24	1700-1800	4.66E-02	1.26E-07	1.67E-06	4.13E-02	1.12E-07	1.48E-06	2.87E-01	7.78E-07	1.03E-05
Road 24	24	1800-1900	2.90E-02	3.97E-07	5.24E-06	2.53E-02	3.46E-07	4.57E-06	2.22E-01	3.04E-06	4.01E-05
Road 24	24	1900-2000	2.49E-02	2.62E-07	3.46E-06	2.17E-02	2.29E-07	3.02E-06	1.90E-01	2.01E-06	2.66E-05
Road 24	24	2000-2100	2.49E-02	1.05E-07	1.39E-06	2.17E-02	9.19E-08	1.21E-06	1.90E-01	8.05E-07	1.06E-05
Road 24	24	2100-2200	2.33E-02	1.92E-07	2.53E-06	2.09E-02	1.71E-07	2.29E-06	1.87E-01	1.54E-06	2.03E-05
Road 24	24	2200-2300	2.31E-02	1.63E-07	2.15E-06	2.07E-02	1.45E-07	1.91E-06	1.85E-01	1.30E-06	1.72E-05
Road 24	24	2300-2400	2.56E-02	1.53E-07	2.02E-06	2.24E-02	1.34E-07	1.77E-06	1.96E-01	1.17E-06	1.55E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	2.41E-01	4.18E-07	7.09E-06	1.93E-01	3.34E-07	5.67E-06	3.47E-01	6.00E-07	1.02E-05
Road 27	27	1700-1800	2.18E-01	5.04E-07	1.55E-06	1.87E-01	4.33E-07	1.33E-06	9.40E-01	2.17E-06	6.69E-06
Road 27	27	1800-1900	1.94E-01	3.08E-07	9.49E-07	1.69E-01	2.68E-07	8.25E-07	8.55E-01	1.36E-06	4.17E-06
Road 27	27	1900-2000	1.80E-01	2.86E-07	5.72E-07	1.59E-01	1.64E-07	5.06E-07	7.75E-01	8.01E-07	2.47E-06
Road 27	27	2000-2100	1.76E-01	1.45E-07	4.47E-07	1.54E-01	1.27E-07	3.91E-07	7.72E-01	6.37E-07	1.96E-06
Road 27	27	2100-2200	1.77E-01	1.45E-07	4.47E-07	1.55E-01	1.27E-07	3.91E-07	7.71E-01	6.34E-07	1.95E-06
Road 27	27	2200-2300	1.85E-01	1.36E-07	4.20E-07	1.66E-01	1.22E-07	3.77E-07	7.63E-01	5.63E-07	1.73E-06
Road 27	27	2300-0000	1.90E-01	1.16E-07	3.56E-07	1.67E-01	1.01E-07	3.12E-07	7.86E-01	4.77E-07	1.47E-06
Road 28	28	0000-0100	2.39E-01	2.66E-07	1.74E-05	2.11E-01	2.35E-07	1.54E-05	2.03E-01	2.26E-07	1.48E-05
Road 28	28	0100-0200	2.39E-01	3.06E-07	1.74E-05	2.11E-01	2.70E-07	1.53E-05	2.09E-01	2.67E-07	1.52E-05
Road 28	28	0200-0300	2.39E-01	3.06E-07	1.74E-05	2.11E-01	2.70E-07	1.53E-05	2.09E-01	2.67E-07	1.52E-05
Road 28	28	0300-0400	2.74E-02	2.07E-07	1.38E-05	2.49E-02	1.88E-07	1.25E-05	2.65E-01	2.00E-07	1.33E-05
Road 28	28	0400-0500	2.74E-02	2.07E-07	1.38E-05	2.49E-02	1.88E-07	1.25E-05	2.65E-01	2.00E-07	1.33E-05
Road 28	28	0500-0600	2.99E-02	4.32E-07	2.45E-05	2.72E-02	3.93E-07	2.23E-05	2.88E-01	4.16E-07	2.36E-05
Road 28	28	0600-0700	3.10E-02	9.61E-07	5.45E-05	2.75E-02	8.53E-07	4.84E-05	2.30E-01	7.15E-06	4.06E-04
Road 28	28	0700-0800	3.10E-02	9.61E-07	5.45E-05	2.75E-02	8.53E-07	4.84E-05	2.30E-01	7.15E-06	4.06E-04
Road 28	28	0800-0900	3.53E-02	3.92E-06	2.22E-04	3.70E-02	4.10E-06	2.32E-04	3.77E-01	4.18E-05	2.37E-03
Road 28	28	0900-1000	3.53E-02	4.27E-06	2.41E-04	3.70E-02	4.47E-06	2.53E-04	3.77E-01	4.56E-05	2.57E-03
Road 28	28	1000-1100	4.37E-02	2.86E-06	1.40E-04	3.84E-02	2.16E-06	1.23E-04	2.68E-01	1.51E-05	8.55E-04
Road 28	28	1100-1200	4.23E-02	2.25E-06	1.28E-04	3.72E-02	1.70E-06	9.64E-05	2.59E-01	1.17E-05	6.66E-04
Road 28	28	1200-1300	4.23E-02	2.25E-06	1.28E-04	3.72E-02	1.70E-06	9.64E-05	2.59E-01	1.17E-05	6.66E-04
Road 28	28	1300-1400	4.23E-02	2.25E-06	1.28E-04	3.72E-02	1.70E-06	9.64E-05	2.59E-01	1.17E-05	6.66E-04
Road 28	28	1400-1500	4.07E-02	2.71E-06	1.54E-04	3.57E-02	2.05E-06	1.16E-04	2.49E-01	1.41E-05	8.01E-04
Road 28	28	1500-1600	4.07E-02	2.71E-06	1.54E-04	3.57E-02	2.05E-06	1.16E-04	2.49E-01	1.41E-05	8.01E-04
Road 28	28	1600-1700	4.07E-02	4.48E-06	2.54E-04	3.57E-02	3.38E-06	1.92E-04	2.49E-01	2.32E-05	1.32E-03
Road 28	28	1700-1800	4.07E-02	4.48E-06	2.54E-04	3.57E-02	3.38E-06	1.92E-04	2.49E-01	2.32E-05	1.32E-03
Road 28	28	1800-1900	2.21E-02	1.98E-06	1.85E-04	2.05E-02	1.70E-06	1.59E-04	2.05E-01	1.76E-05	1.64E-03
Road 28	28	1900-2000	3.06E-02	1.67E-06	1.57E-04	2.70E-02	1.29E-06	1.22E-04	3.77E-01	1.80E-05	1.70E-03
Road 28	28	2000-2100	3.06E-02	1.67E-06	1.57E-04	2.70E-02	1.29E-06	1.22E-04	3.77E-01	1.80E-05	1.70E-03
Road 28	28	2100-2200	3.16E-02	1.38E-06	1.30E-04	2.84E-02	1.24E-06	1.17E-04	3.69E-01	1.61E-05	1.52E-03
Road 28	28	2200-2300	3.32E-02	1.21E-06	1.14E-04	2.99E-02	1.09E-06	1.03E-04	3.88E-01	1.41E-05	1.33E-03
Road 28	28	2300-0000	3.47E-02	1.26E-06	1.19E-04	3.12E-02	1.13E-06	1.07E-04	4.05E-01	1.47E-05	1.39E-03
Road 42	42	0000-0100	6.75E-02	1.46E-07	3.69E-06	5.97E-02	1.29E-07	3.27E-06	3.27E-01	7.09E-07	1.79E-05
Road 42	42	0100-0200	6.75E-02	1.46E-07	3.69E-06	5.97E-02	1.29E-07	3.27E-06	3.13E-01	6.76E-07	1.71E-05
Road 42	42	0200-0300	6.48E-02	1.26E-07	3.20E-06	8.57E-02	1.14E-07	2.89E-06	4.21E-01	5.60E-07	1.42E-05
Road 42	42	0300-0400	6.48E-02	1.26E-07	3.20E-06	8.57E-02	1.14E-07	2.89E-06	4.21E-01	5.60E-07	1.42E-05
Road 42	42	0400-0500	1.02E-01	1.26E-07	3.19E-06	9.21E-02	1.14E-07	2.89E-06	4.49E-01	5.54E-07	1.41E-05
Road 42	42	0500-0600	6.64E-02	2.16E-07	5.47E-06	8.76E-02	2.85E-07	7.22E-06	4.31E-01	1.40E-06	3.55E-05
Road 42	42	0600-0700	1.03E-01	7.54E-07	1.91E-05	9.07E-02	6.65E-07	1.69E-05	4.43E-01	3.25E-06	8.25E-05
Road 42	42	0700-0800	1.03E-01	7.54E-07	1.91E-05	9.07E-02	6.65E-07	1.69E-05	4.43E-01	3.25E-06	8.25E-05
Road 42	42	0800-0900	1.10E-01	8.05E-07	2.04E-05	9.54E-02	6.97E-07	1.77E-05	4.60E-01	3.36E-06	8.53E-05
Road 42	42	0900-1000	1.10E-01	8.05E-07	2.04E-05	9.54E-02	6.97E-07	1.77E-05	4.60E-01	3.36E-06	8.53E-05
Road 42	42	1000-1100	1.18E-01	7.62E-07	1.93E-05	1.04E-01	6.73E-07	1.71E-05	5.01E-01	3.24E-06	8.23E-05
Road 42	42	1100-1200	1.32E-01	9.19E-07	2.33E-05	1.16E-01	8.05E-07	2.04E-05	5.64E-01	3.92E-06	9.95E-05
Road 42	42	1200-1300	1.32E-01	9.19E-07	2.33E-05	1.16E-01	8.05E-07	2.04E-05	5.48E-01	3.82E-06	9.68E-05
Road 42	42	1300-1400	1.32E-01	9.19E-07	2.33E-05	1.16E-01	8.05E-07	2.04E-05	5.48E-01	3.82E-06	9.68E-05
Road 42	42	1400-1500	1.33E-01	9.89E-07	2.51E-05	1.17E-01	8.70E-07	2.21E-05	5.52E-01	4.11E-06	1.04E-04
Road 42	42	1500-1600	1.33E-01	9.89E-07	2.51E-05	1.17E-01	8.70E-07	2.21E-05	5.52E-01	4.11E-06	1.04E-04
Road 42	42	1600-1700	1.26E-01	9.70E-07	2.46E-05	1.11E-01	8.52E-07	2.16E-05	5.25E-01	4.03E-06	1.02E-04
Road 42	42	1700-1800	1.12E-01	9.00E-07	2.28E-05	9.74E-02	7.83E-07	1.99E-05	4.79E-01	3.85E-06	9.77E-05
Road 42	42	1800-1900	1.12E-01	9.00E-07	2.28E-05	9.74E-02	7.83E-07	1.99E-05	4.79E-01	3.85E-06	9.77E-05
Road 42	42	1900-2000	2.10E-02	2.62E-07	6.63E-06	4.60E-02	5.74E-07	1.45E-05	2.06E-01	2.57E-06	6.51E-05
Road 42	42	2000-2100	2.10E-02	2.62E-07	6.63E-06	4.60E-02	5.74E-07	1.45E-05	2.06E-01	2.57E-06	6.51E-05
Road 42	42	2100-2200	2.14E-02	4.23E-07	2.81E-05	1.47E-02	3.79E-07	2.52E-05	1.55E-01	3.95E-06	2.62E-04
Road 42	42	2200-2300	1.61E-02	4.02E-07	2.67E-05	1.44E-02	3.59E-07	2.38E-05	1.52E-01	3.93E-06	2.61E-04
Road 42	42	2300-0000	1.68E-02	3.84E-07	2.55E-05	1.50E-02	3.43E-07	2.28E-05	1.58E-01	3.61E-06	2.40E-04
Road 43	43

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	4.26E-02	1.07E-07	2.83E-05	3.68E-02	7.95E-07	2.48E-05	2.01E-01	4.31E-06	1.36E-04
Road 47	47	1700-1800	1.04E-02	7.84E-07	2.38E-05	2.83E-02	6.62E-07	2.07E-05	1.65E-01	4.16E-06	1.30E-04
Road 47	47	1800-1900	2.26E-02	6.44E-07	2.01E-05	1.95E-02	5.54E-07	1.73E-05	1.26E-01	3.59E-06	1.12E-04
Road 47	47	1900-2000	1.73E-02	1.95E-07	1.23E-05	1.47E-02	1.08E-05	1.29E-05	9.34E-02	2.13E-06	7.35E-05
Road 47	47	2000-2100	1.62E-02	2.87E-07	8.95E-06	1.45E-02	2.55E-07	7.97E-06	1.15E-01	2.03E-06	6.34E-05
Road 47	47	2100-2200	1.35E-02	1.38E-07	7.42E-06	1.25E-02	1.27E-07	6.87E-06	1.05E-01	1.07E-06	5.76E-05
Road 47	47	2200-2300	1.25E-02	2.15E-07	6.72E-06	1.11E-02	1.91E-07	5.95E-06	8.74E-02	1.50E-06	4.70E-05
Road 47	47	2300-0000	1.37E-02	1.76E-07	5.50E-06	1.19E-02	1.53E-07	4.76E-06	1.06E-01	1.36E-06	4.26E-05
Road 48	48	0000-0100	1.42E-02	1.97E-07	2.37E-06	1.26E-02	1.75E-07	2.10E-06	1.11E-01	1.54E-06	1.85E-05
Road 48	48	0100-0200	2.33E-02	1.58E-07	2.39E-06	2.05E-02	1.39E-07	2.10E-06	1.71E-01	1.16E-06	1.75E-05
Road 48	48	0200-0300	1.01E-02	2.19E-07	1.51E-06	8.94E-03	1.94E-07	1.34E-06	7.47E-02	1.62E-06	1.12E-05
Road 48	48	0300-0400	2.63E-02	1.05E-07	1.59E-06	2.38E-02	9.52E-08	1.44E-06	1.80E-01	7.18E-07	1.08E-05
Road 48	48	0400-0500	1.26E-02	2.67E-07	1.29E-06	7.08E-03	1.50E-07	7.25E-07	2.14E-01	4.52E-06	2.18E-05
Road 48	48	0500-0600	3.01E-02	2.19E-07	3.51E-06	2.60E-02	1.89E-07	3.03E-06	2.17E-01	1.58E-06	2.53E-05
Road 48	48	0600-0700	3.14E-02	5.27E-07	7.96E-06	2.82E-02	4.72E-07	7.13E-06	1.97E-01	3.31E-06	4.99E-05
Road 48	48	0700-0800	3.85E-02	1.01E-06	1.53E-05	3.38E-02	8.90E-07	1.34E-05	2.05E-01	5.39E-06	8.14E-05
Road 48	48	0800-0900	3.26E-02	1.30E-06	1.96E-05	2.88E-02	1.15E-06	1.73E-05	1.93E-01	7.68E-06	1.16E-04
Road 48	48	0900-1000	3.72E-02	1.37E-06	2.07E-05	3.41E-02	1.25E-06	1.91E-05	2.19E-01	8.05E-06	1.23E-04
Road 48	48	1000-1100	4.42E-02	1.38E-06	2.08E-05	3.88E-02	1.21E-06	1.82E-05	2.36E-01	7.35E-06	1.11E-04
Road 48	48	1100-1200	4.31E-02	1.27E-06	1.91E-05	3.81E-02	1.12E-06	1.68E-05	2.34E-01	6.89E-06	1.04E-04
Road 48	48	1200-1300	4.31E-02	1.27E-06	1.91E-05	3.81E-02	1.12E-06	1.68E-05	2.34E-01	6.89E-06	1.04E-04
Road 48	48	1300-1400	4.34E-02	1.68E-06	2.53E-05	3.80E-02	1.47E-06	2.22E-05	2.99E-01	1.16E-05	1.75E-04
Road 48	48	1400-1500	4.40E-02	1.55E-06	2.33E-05	3.86E-02	1.36E-06	2.05E-05	2.99E-01	1.05E-05	1.58E-04
Road 48	48	1500-1600	4.09E-02	1.72E-06	2.59E-05	3.60E-02	1.51E-06	2.28E-05	2.91E-01	1.22E-05	1.84E-04
Road 48	48	1600-1700	4.09E-02	1.80E-06	2.72E-05	3.60E-02	1.58E-06	2.39E-05	2.96E-01	1.30E-05	1.96E-04
Road 48	48	1700-1800	3.57E-02	1.37E-06	2.06E-05	3.13E-02	1.20E-06	1.81E-05	2.72E-01	1.04E-05	1.57E-04
Road 48	48	1800-1900	2.43E-02	1.25E-06	1.89E-05	2.10E-02	1.08E-06	1.63E-05	2.42E-01	1.25E-05	1.88E-04
Road 48	48	1900-2000	2.43E-02	1.25E-06	1.89E-05	2.10E-02	1.08E-06	1.63E-05	2.42E-01	1.25E-05	1.88E-04
Road 48	48	2000-2100	2.19E-02	6.98E-07	1.05E-05	1.95E-02	6.23E-07	9.40E-06	2.61E-01	8.33E-06	1.26E-04
Road 48	48	2100-2200	1.99E-02	6.30E-07	9.51E-06	1.79E-02	5.65E-07	8.53E-06	2.37E-01	7.49E-06	1.13E-04
Road 48	48	2200-2300	1.99E-02	6.30E-07	9.51E-06	1.79E-02	5.65E-07	8.53E-06	2.37E-01	7.49E-06	1.13E-04
Road 48	48	2300-0000	2.17E-02	5.01E-07	7.55E-06	1.89E-02	4.37E-07	6.60E-06	2.56E-01	5.89E-06	8.89E-05
Road 49	49	0000-0100	1.94E-02	7.13E-08	1.80E-06	1.70E-02	6.26E-08	1.58E-06	2.29E-01	8.46E-07	2.13E-05
Road 49	49	0100-0200	1.94E-02	7.13E-08	1.80E-06	1.70E-02	6.26E-08	1.58E-06	2.29E-01	8.46E-07	2.13E-05
Road 49	49	0200-0300	2.10E-02	4.43E-08	1.12E-06	1.89E-02	4.00E-08	1.01E-06	2.28E-01	4.85E-07	1.22E-05
Road 49	49	0300-0400	2.10E-02	4.43E-08	1.12E-06	1.89E-02	4.00E-08	1.01E-06	2.28E-01	4.85E-07	1.22E-05
Road 49	49	0400-0500	2.23E-02	5.16E-08	1.30E-06	2.01E-02	4.64E-08	1.17E-06	2.31E-01	5.37E-07	1.35E-05
Road 49	49	0500-0600	2.23E-02	5.16E-08	1.30E-06	2.01E-02	4.64E-08	1.17E-06	2.31E-01	5.37E-07	1.35E-05
Road 49	49	0600-0700	2.94E-02	2.50E-07	6.32E-06	2.63E-02	2.24E-07	5.65E-06	2.78E-01	2.36E-06	5.96E-05
Road 49	49	0700-0800	2.94E-02	2.50E-07	6.32E-06	2.63E-02	2.24E-07	5.65E-06	2.78E-01	2.36E-06	5.96E-05
Road 49	49	0800-0900	3.75E-02	7.41E-07	1.87E-05	3.30E-02	6.52E-07	1.64E-05	2.75E-01	5.44E-06	1.37E-04
Road 49	49	0900-1000	4.11E-02	6.51E-07	1.64E-05	3.56E-02	5.64E-07	1.42E-05	3.35E-01	5.31E-06	1.34E-04
Road 49	49	1000-1100	4.11E-02	5.27E-07	1.33E-05	3.62E-02	4.64E-07	1.17E-05	3.35E-01	4.30E-06	1.09E-04
Road 49	49	1100-1200	4.11E-02	5.27E-07	1.33E-05	3.62E-02	4.64E-07	1.17E-05	3.35E-01	4.30E-06	1.09E-04
Road 49	49	1200-1300	4.08E-02	1.94E-07	4.88E-06	3.61E-02	1.72E-07	4.32E-06	3.35E-01	1.59E-06	4.01E-05
Road 49	49	1300-1400	4.23E-02	4.60E-07	1.16E-05	4.03E-02	1.02E-05	2.88E-05	3.33E-01	3.24E-06	8.17E-05
Road 49	49	1400-1500	4.09E-02	1.28E-06	4.38E-05	3.61E-02	3.99E-06	1.01E-05	3.32E-01	3.48E-06	8.78E-05
Road 49	49	1500-1600	4.70E-02	5.32E-07	1.37E-05	4.42E-02	5.01E-07	1.29E-05	3.83E-01	4.33E-06	1.11E-04
Road 49	49	1600-1700	4.83E-02	5.61E-07	1.42E-05	4.23E-02	4.92E-07	1.24E-05	3.88E-01	4.51E-06	1.14E-04
Road 49	49	1700-1800	4.10E-02	1.09E-07	2.91E-06	4.41E-02	1.17E-06	3.12E-05	3.66E-01	9.73E-06	2.60E-04
Road 49	49	1800-1900	3.04E-02	4.64E-07	1.17E-05	2.62E-02	4.00E-07	1.01E-05	3.24E-01	4.95E-06	1.25E-04
Road 49	49	1900-2000	3.04E-02	4.64E-07	1.17E-05	2.62E-02	4.00E-07	1.01E-05	3.24E-01	4.95E-06	1.25E-04
Road 49	49	2000-2100	2.47E-02	2.37E-07	5.99E-06	2.21E-02	2.12E-07	5.34E-06	3.23E-01	3.10E-06	7.82E-05
Road 49	49	2100-2200	2.12E-02	2.01E-07	5.07E-06	1.90E-02	1.80E-07	4.54E-06	2.89E-01	2.75E-06	6.93E-05
Road 49	49	2200-2300	2.12E-02	2.01E-07	5.07E-06	1.90E-02	1.80E-07	4.54E-06	2.89E-01	2.75E-06	6.93E-05
Road 49	49	2300-0000	2.20E-02	1.53E-07	3.85E-06	1.92E-02	1.33E-07	3.35E-06	3.00E-01	2.08E-06	5.24E-05
Road 50	50	0000-0100	2.36E-02	3.17E-07	1.47E-06	2.06E-02	2.76E-07	1.28E-06	3.21E-01	4.31E-06	2.00E-05
Road 50	50	0100-0200	7.85E-02	2.62E-08	3.73E-07	6.94E-02	2.31E-08	3.30E-07	1.47E-01	4.88E-07	6.97E-06
Road 50	50	0200-0300	8.39E-02	2.21E-08	3.16E-07	7.60E-02	2.00E-08	2.86E-07	1.68E-01	9.70E-08	1.38E-06
Road 50	50	0300-0400	3.98E-02	3.82E-07	8.01E-07	3.79E-02	3.64E-07	7.63E-07	1.79E-01	1.72E-06	3.61E-06
Road 50	50	0400-0500	8.87E-02	2.22E-08	1.17E-07	8.02E-02	2.01E-08	2.87E-07	1.86E-01	9.67E-08	1.38E-06
Road 50	50	0500-0600	8.28E-02	2.07E-08	1.09E-07	7.77E-02	1.94E-08	2.77E-07	1.82E-01	9.03E-08	1.29E-06
Road 50	50	0600-0700	8.40E-02	7.53E-08	1.07E-06	9.64E-02	8.64E-08	1.23E-06	1.64E-01	1.47E-07	2.09E-06
Road 50	50	0700-0800	9.45E-02	1.84E-07	2.63E-06	8.35E-02	1.63E-07	2.32E-06	1.58E-01	3.08E-07	4.39E-06
Road 50	50	0800-0900	1.02E-01	2.37E-07	3.39E-06	8.85E-02	2.07E-07	2.95E-06	4.37E-01	1.02E-06	1.46E-05
Road 50	50	0900-1000	1.02E-01	2.37E-07	3.39E-06	8.85E-02	2.07E-07	2.95E-06	4.37E-01	1.02E-06	1.46E-05
Road 50	50	1000-1100	1.07E-01	2.10E-07	2.99E-06	9.41E-02	1.85E-07	2.63E-06	4.51E-01	8.87E-07	1.26E-05
Road 50	50	1100-1200	1.07E-01	2.24E-07	3.20E-06	9.41E-02	1.98E-07	2.83E-06	4.51E-01	9.48E-07	1.35E-05
Road 50	50	1200-1300	1.07E-01	2.24E-07	3.20E-06	9.41E-02	1.98E-07	2.83E-06	4.51E-01	9.48E-07	1.35E-05
Road 50	50	1300-1400	1.24E-01	1.33E-07	1.89E-06	1.09E-01	1.16E-07	1.66E-06	5.20E-01	5.56E-07	7.93E-06
Road 50	50	1400-1500	1.26E-01	1.34E-07	1.91E-06	1.11E-01	1.18E-07	1.68E-06	5.24E-01	5.57E-07	7.95E-06
Road 50	50	1500-1600	1.22E-01	1.26E-07	1.80E-06	1.07E-01	1.11E-07	1.58E-06	5.11E-01	5.28E-07	7.54E-06
Road 50	50	1600-1700	1.22E-01	1.26E-07	1.80E-06	1.07E-01	1.11E-07	1.58E-06	5.11E-01	5.28E-07	7.54E-06
Road 50	50	1700-1800	1.13E-01	1.09E-07	1.56E-06	9.96E-02	9.55E-08	1.36E-06	4.91E-01	4.73E-07	6.75E-06
Road 50	50	1800-1900	1.06E-01	7.80E-08	1.11E-06	9.20E-02	6.76E-08	9.64E-07	4.64E-01	3.41E-07	4.87E-06
Road 50	50	1900-2000	9.17E-02	3.98E-08	5.68E-07	8.11E-02	3.52E-08	5.03E-07	4.01E-01	1.74E-07	2.48E-06
Road 50	50	2000-2100	9.26E-02	4.65E-08	6.28E-07	8.28E-02	4.17E-08	5.63E-07	4.09E-01	2.06E-07	2.78E-06
Road 50	50	2100-2200	9.23E-02	4.74E-08	7.85E-07	8.31E-02	4.27E-08	7.07E-07	4.07E-01	2.09E-07	3.46E-06
Road 50	50	2200-2300	9.80E-02	1.56E-08	4.52E-07	8.84E-02	4.05E-08	4.19E-07	4.33E-01	6.87E-08	1.99E-06
Road 50	50	2300-0000	1.02E-01	2.74E-08	3.91E-07	8.94E-02	2.40E-08	3.43E-07	4.36E-01	1.17E-07	1.67E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	1.34E-02	2.27E-07	3.86E-06	1.85E-02	3.83E-07	5.41E-06	1.64E-01	3.62E-06	3.01E-05
Road 51	51	0100-0200	2.27E-02	1.47E-07	2.74E-06	2.00E-02	1.29E-07	2.41E-06	1.69E-01	1.10E-06	2.05E-05
Road 51	51	0200-0300	2.42E-02	1.16E-07	2.15E-06	2.19E-02	1.04E-07	1.95E-06	1.74E-01	8.31E-07	1.55E-05
Road 51	51	0300-0400	1.50E-02	9.75E-08	1.82E-06	1.32E-02	8.59E-08	1.61E-06	1.78E-01	9.77E-07	1.26E-05
Road 51	51	0400-0500	2.73E-02	1.15E-07	2.14E-06	2.47E-02	1.04E-07	1.94E-06	1.84E-01	7.73E-07	1.44E-05
Road 51	51	0500-0600	2.59E-02	2.16E-07	4.08E-06	2.32E-02	1.94E-07	3.51E-06	1.74E-01	1.45E-06	2.63E-05
Road 51	51	0600-0700	3.07E-02	4.89E-07	9.11E-06	2.75E-02	4.38E-07	8.16E-06	1.95E-01	3.11E-06	5.80E-05
Road 51	51	0700-0800	3.27E-02	1.06E-06	1.98E-05	2.89E-02	9.38E-07	1.75E-05	2.03E-01	6.61E-06	1.23E-04
Road 51	51	0800-0900	3.19E-02	1.20E-06	2.25E-05	2.81E-02	1.06E-06	1.98E-05	1.90E-01	7.15E-06	1.33E-04
Road 51	51	0900-1000	3.84E-02	1.26E-06	2.36E-05	3.34E-02	1.09E-06	2.05E-05	2.17E-01	7.14E-06	1.33E-04
Road 51	51	1000-1100	4.21E-02	1.17E-06	2.18E-05	3.72E-02	1.03E-06	1.92E-05	2.32E-01	6.42E-06	1.20E-04
Road 51	51	1100-1200	4.21E-02	1.17E-06	2.18E-05	3.72E-02	1.03E-06	1.92E-05	2.32E-01	6.42E-06	1.20E-04
Road 51	51	1200-1300	4.26E-02	1.54E-06	2.87E-05	3.73E-02	1.35E-06	2.51E-05	2.32E-01	8.39E-06	1.56E-04
Road 51	51	1300-1400	4.33E-02	1.42E-06	2.64E-05	3.81E-02	1.25E-06	2.32E-05	2.71E-01	8.91E-06	1.66E-04
Road 51	51	1400-1500	4.31E-02	1.70E-06	3.16E-05	3.79E-02	1.49E-06	2.78E-05	2.99E-01	1.18E-05	2.20E-04
Road 51	51	1500-1600	4.31E-02	1.70E-06	3.16E-05	3.79E-02	1.49E-06	2.78E-05	2.99E-01	1.18E-05	2.20E-04
Road 51	51	1600-1700	4.09E-02	1.73E-06	3.23E-05	3.59E-02	1.52E-06	2.84E-05	2.96E-01	1.26E-05	2.34E-04
Road 51	51	1700-1800	3.22E-02	1.51E-06	2.82E-05	2.75E-02	1.29E-06	2.41E-05	2.78E-01	1.30E-05	2.43E-04
Road 51	51	1800-1900	2.43E-02	1.21E-06	2.25E-05	2.10E-02	1.04E-06	1.94E-05	2.42E-01	1.20E-05	2.25E-04
Road 51	51	1900-2000	2.19E-02	8.62E-07	1.61E-05	1.93E-02	7.61E-07	1.42E-05	2.49E-01	9.80E-06	1.83E-04
Road 51	51	2000-2100	2.13E-02	1.39E-06	2.58E-05	1.87E-02	1.22E-06	2.27E-05	2.37E-01	1.54E-05	2.87E-04
Road 51	51	2100-2200	1.99E-02	6.08E-07	1.13E-05	1.79E-02	5.45E-07	1.02E-05	2.37E-01	7.24E-06	1.35E-04
Road 51	51	2200-2300	1.99E-02	6.08E-07	1.13E-05	1.79E-02	5.45E-07	1.02E-05	2.37E-01	7.24E-06	1.35E-04
Road 51	51	2300-0000	2.17E-02	4.83E-07	8.99E-06	1.90E-02	4.21E-07	7.85E-06	2.56E-01	5.69E-06	9.16E-05
Road 52	52	0000-0100	1.09E-01	4.73E-08	2.42E-07	9.70E-02	4.21E-08	2.16E-07	4.56E-01	1.98E-07	1.01E-06
Road 52	52	0100-0200	1.09E-01	4.73E-08	2.42E-07	9.70E-02	4.21E-08	2.16E-07	4.56E-01	1.98E-07	1.01E-06
Road 52	52	0200-0300	1.08E-01	2.63E-08	1.35E-07	9.80E-02	2.39E-08	1.23E-07	4.51E-01	1.10E-07	5.63E-07
Road 52	52	0300-0400	1.08E-01	2.63E-08	1.35E-07	9.80E-02	2.39E-08	1.23E-07	4.51E-01	1.10E-07	5.63E-07
Road 52	52	0400-0500	1.08E-01	2.63E-08	1.35E-07	9.80E-02	2.39E-08	1.23E-07	4.51E-01	1.10E-07	5.63E-07
Road 52	52	0500-0600	1.12E-01	5.07E-08	2.60E-07	9.99E-02	4.52E-08	2.31E-07	4.68E-01	2.11E-07	1.08E-06
Road 52	52	0600-0700	1.18E-01	1.03E-07	5.29E-07	1.06E-01	9.20E-08	4.72E-07	4.90E-01	4.26E-07	2.19E-06
Road 52	52	0700-0800	1.21E-01	2.68E-07	1.37E-06	1.08E-01	2.39E-07	1.23E-06	5.03E-01	1.12E-06	5.72E-06
Road 52	52	0800-0900	1.20E-01	3.18E-07	1.63E-06	1.07E-01	2.83E-07	1.45E-06	5.05E-01	1.34E-06	6.86E-06
Road 52	52	0900-1000	1.23E-01	3.70E-07	1.89E-06	1.07E-01	3.22E-07	1.65E-06	5.18E-01	1.56E-06	8.00E-06
Road 52	52	1000-1100	1.27E-01	3.54E-07	1.82E-06	1.12E-01	3.12E-07	1.60E-06	5.28E-01	1.47E-06	7.54E-06
Road 52	52	1100-1200	1.27E-01	3.54E-07	1.82E-06	1.12E-01	3.12E-07	1.60E-06	5.28E-01	1.47E-06	7.54E-06
Road 52	52	1200-1300	1.29E-01	1.74E-07	9.01E-07	1.12E-01	1.51E-07	7.84E-07	5.26E-01	7.10E-07	3.68E-06
Road 52	52	1300-1400	1.30E-01	4.22E-07	2.16E-06	1.13E-01	3.68E-07	1.89E-06	5.35E-01	1.73E-06	8.89E-06
Road 52	52	1400-1500	1.30E-01	4.22E-07	2.16E-06	1.13E-01	3.68E-07	1.89E-06	5.35E-01	1.73E-06	8.89E-06
Road 52	52	1500-1600	1.27E-01	1.24E-07	6.38E-07	1.10E-01	1.08E-07	5.56E-07	5.24E-01	5.11E-07	2.63E-06
Road 52	52	1600-1700	1.21E-01	3.80E-07	1.95E-06	1.08E-01	3.38E-07	1.73E-06	5.04E-01	1.58E-06	8.10E-06
Road 52	52	1700-1800	1.06E-01	1.09E-01	1.22E-06	1.07E-01	1.09E-01	1.22E-06	4.76E-01	4.83E-07	5.41E-06
Road 52	52	1800-1900	1.06E-01	1.09E-01	1.22E-06	1.07E-01	1.09E-01	1.22E-06	4.76E-01	4.83E-07	5.41E-06
Road 52	52	1900-2000	2.33E-02	8.69E-07	7.26E-06	1.89E-02	7.36E-07	6.15E-06	2.01E-01	7.50E-06	6.27E-05
Road 52	52	2000-2100	2.09E-02	5.97E-07	4.99E-06	1.79E-02	5.18E-07	4.33E-06	1.96E-01	5.68E-06	4.75E-05
Road 52	52	2100-2200	1.91E-02	2.16E-07	1.81E-06	1.67E-02	1.89E-07	1.58E-06	1.79E-01	2.03E-06	1.70E-05
Road 52	52	2200-2300	1.67E-02	4.70E-07	3.93E-06	1.45E-02	4.08E-07	3.41E-06	1.79E-01	5.04E-06	4.21E-05
Road 52	52	2300-0000	1.67E-02	4.70E-07	3.93E-06	1.45E-02	4.08E-07	3.41E-06	1.79E-01	5.04E-06	4.21E-05
Road 53	53	0000-0100	1.09E-01	5.14E-08	1.20E-06	9.68E-02	4.56E-08	1.06E-06	5.00E-01	2.35E-07	5.46E-06
Road 53	53	0100-0200	1.09E-01	5.14E-08	1.20E-06	9.68E-02	4.56E-08	1.06E-06	5.00E-01	2.35E-07	5.46E-06
Road 53	53	0200-0300	1.14E-01	2.75E-08	6.38E-07	1.03E-01	2.49E-08	5.78E-07	5.15E-01	1.24E-07	2.88E-06
Road 53	53	0300-0400	1.14E-01	2.75E-08	6.38E-07	1.03E-01	2.49E-08	5.78E-07	5.15E-01	1.24E-07	2.88E-06
Road 53	53	0400-0500	1.21E-01	2.71E-08	6.30E-07	1.09E-01	2.45E-08	5.70E-07	5.40E-01	1.21E-07	2.81E-06
Road 53	53	0500-0600	1.31E-01	5.26E-08	1.22E-06	1.16E-01	4.66E-08	1.08E-06	5.80E-01	2.33E-07	5.41E-06
Road 53	53	0600-0700	1.43E-01	1.37E-07	3.20E-06	1.27E-01	1.22E-07	2.84E-06	6.34E-01	6.07E-07	1.41E-05
Road 53	53	0700-0800	1.60E-01	2.98E-07	6.93E-06	1.42E-01	2.64E-07	6.12E-06	6.94E-01	1.29E-06	3.00E-05
Road 53	53	0800-0900	1.60E-01	3.46E-07	8.05E-06	1.42E-01	3.07E-07	7.14E-06	6.94E-01	1.50E-06	3.49E-05
Road 53	53	0900-1000	1.74E-01	3.77E-07	8.76E-06	1.52E-01	3.28E-07	7.61E-06	7.56E-01	1.63E-06	3.80E-05
Road 53	53	1000-1100	1.89E-01	3.85E-07	8.94E-06	1.66E-01	3.38E-07	7.85E-06	7.97E-01	1.62E-06	3.77E-05
Road 53	53	1100-1200	1.87E-01	3.60E-07	8.36E-06	1.64E-01	3.16E-07	7.34E-06	7.92E-01	1.52E-06	3.54E-05
Road 53	53	1200-1300	1.61E-01	3.76E-07	8.73E-06	1.41E-01	3.29E-07	7.65E-06	6.70E-01	1.56E-06	3.63E-05
Road 53	53	1300-1400	1.61E-01	4.13E-07	9.61E-06	1.42E-01	3.64E-07	8.46E-06	6.76E-01	1.73E-06	4.02E-05
Road 53	53	1400-1500	1.61E-01	4.13E-07	9.61E-06	1.42E-01	3.64E-07	8.46E-06	6.76E-01	1.73E-06	4.02E-05
Road 53	53	1500-1600	1.50E-01	3.96E-07	9.21E-06	1.33E-01	3.49E-07	8.11E-06	6.60E-01	1.74E-06	4.04E-05
Road 53	53	1600-1700	1.43E-01	3.95E-07	9.19E-06	1.27E-01	3.48E-07	8.09E-06	6.47E-01	1.78E-06	4.14E-05
Road 53	53	1700-1800	1.20E-01	3.28E-07	7.62E-06	1.04E-01	2.85E-07	6.63E-06	5.45E-01	1.49E-06	3.47E-05
Road 53	53	1800-1900	1.20E-01	3.28E-07	7.62E-06	1.04E-01	2.85E-07	6.63E-06	5.45E-01	1.49E-06	3.47E-05
Road 53	53	1900-2000	7.47E-02	1.48E-07	3.43E-06	6.60E-02	1.30E-07	3.03E-06	3.58E-01	7.08E-07	1.64E-05
Road 53	53	2000-2100	7.18E-02	1.12E-07	2.60E-06	6.44E-02	1.01E-07	2.34E-06	3.59E-01	5.60E-07	1.30E-05
Road 53	53	2100-2200	7.18E-02	1.12E-07	2.60E-06	6.44E-02	1.01E-07	2.34E-06	3.59E-01	5.60E-07	1.30E-05
Road 53	53	2200-2300	7.17E-02	1.05E-07	2.44E-06	6.42E-02	9.39E-08	2.18E-06	3.49E-01	5.10E-07	1.19E-05
Road 53	53	2300-0000	8.02E-02	8.50E-08	1.98E-06	7.27E-02	7.70E-08	1.79E-06	3.91E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	1.91E-02	1.23E-07	1.62E-06	1.46E-02	1.06E-07	1.37E-06	5.57E-03	1.13E-07	1.47E-06
Road 21	21	0100-0200	2.10E-02	8.84E-08	1.17E-06	1.83E-02	7.68E-08	1.01E-06	1.63E-02	6.87E-07	9.09E-06
Road 21	21	0200-0300	2.31E-02	7.17E-08	9.48E-07	2.01E-02	6.23E-08	8.25E-07	2.44E-02	6.33E-06	8.36E-05
Road 21	21	0300-0400	2.54E-02	6.23E-08	8.23E-07	2.19E-02	5.42E-08	7.16E-07	2.79E-02	5.86E-06	7.74E-05
Road 21	21	0400-0500	2.67E-02	7.26E-08	9.60E-07	2.31E-02	6.29E-08	8.32E-07	1.85E-02	5.04E-07	6.66E-06
Road 21	21	0500-0600	2.79E-02	1.31E-07	1.73E-06	2.42E-02	1.13E-07	1.49E-06	1.91E-02	8.98E-07	1.19E-05
Road 21	21	0600-0700	2.87E-02	2.89E-07	3.82E-06	2.42E-02	2.44E-07	3.23E-06	1.93E-02	1.94E-06	2.57E-05
Road 21	21	0700-0800	3.14E-02	6.46E-07	8.54E-06	2.61E-02	5.39E-07	7.12E-06	2.04E-02	4.20E-06	5.55E-05
Road 21	21	0800-0900	3.29E-02	1.31E-07	1.73E-06	2.74E-02	1.09E-07	1.44E-06	2.14E-02	8.51E-07	1.13E-05
Road 21	21	0900-1000	3.61E-02	7.37E-07	9.74E-06	3.01E-02	6.14E-07	8.13E-06	2.35E-02	4.79E-06	6.34E-05
Road 21	21	1000-1100	3.57E-02	7.37E-07	9.74E-06	2.97E-02	6.14E-07	8.13E-06	2.32E-02	4.79E-06	6.34E-05
Road 21	21	1100-1200	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1200-1300	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1300-1400	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1400-1500	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1500-1600	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1600-1700	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1700-1800	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1800-1900	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	1900-2000	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	2000-2100	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	2100-2200	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	2200-2300	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 21	21	2300-2400	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 22	22	0000-0100	1.75E-01	1.98E-07	3.52E-06	1.53E-01	1.73E-07	3.08E-06	7.29E-02	8.22E-07	1.47E-05
Road 22	22	0100-0200	1.71E-01	1.05E-07	1.87E-06	1.51E-01	9.24E-08	1.64E-06	7.27E-02	4.37E-07	7.77E-06
Road 22	22	0200-0300	1.71E-01	1.05E-07	1.87E-06	1.51E-01	9.24E-08	1.64E-06	7.27E-02	4.37E-07	7.77E-06
Road 22	22	0300-0400	1.71E-01	1.05E-07	1.87E-06	1.51E-01	9.24E-08	1.64E-06	7.27E-02	4.37E-07	7.77E-06
Road 22	22	0400-0500	1.79E-01	1.07E-07	1.91E-06	1.58E-01	9.34E-08	1.66E-06	7.43E-02	4.45E-07	7.94E-06
Road 22	22	0500-0600	1.99E-01	2.19E-07	3.90E-06	1.75E-01	1.92E-07	3.42E-06	8.25E-02	9.04E-07	1.61E-05
Road 22	22	0600-0700	2.30E-01	4.68E-07	8.34E-06	2.02E-01	4.12E-07	7.34E-06	9.52E-02	1.94E-06	3.46E-05
Road 22	22	0700-0800	2.30E-01	1.22E-06	2.18E-05	1.95E-01	1.03E-06	1.83E-05	9.40E-02	4.98E-06	8.88E-05
Road 22	22	0800-0900	2.50E-01	1.09E-07	1.94E-06	2.20E-01	9.59E-08	1.71E-06	1.03E-01	4.50E-07	8.02E-06
Road 22	22	0900-1000	2.49E-01	1.72E-06	3.07E-05	2.19E-01	1.51E-06	2.69E-05	1.03E-01	7.09E-06	1.26E-04
Road 22	22	1000-1100	2.56E-01	1.62E-06	2.88E-05	2.25E-01	1.42E-06	2.53E-05	1.06E-01	6.69E-06	1.19E-04
Road 22	22	1100-1200	2.56E-01	1.62E-06	2.88E-05	2.25E-01	1.42E-06	2.53E-05	1.06E-01	6.69E-06	1.19E-04
Road 22	22	1200-1300	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	1300-1400	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	1400-1500	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	1500-1600	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	1600-1700	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	1700-1800	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	1800-1900	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	1900-2000	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	2000-2100	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	2100-2200	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	2200-2300	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 22	22	2300-2400	2.72E-01	1.97E-06	3.51E-05	2.39E-01	1.73E-06	3.08E-05	1.12E-01	8.13E-06	1.45E-04
Road 23	23	0000-0100	1.91E-02	1.23E-07	1.62E-06	1.46E-02	1.06E-07	1.37E-06	5.57E-03	1.13E-07	1.47E-06
Road 23	23	0100-0200	2.10E-02	8.84E-08	1.17E-06	1.83E-02	7.68E-08	1.01E-06	1.63E-02	6.87E-07	9.09E-06
Road 23	23	0200-0300	2.31E-02	7.17E-08	9.48E-07	2.01E-02	6.23E-08	8.25E-07	2.44E-02	6.33E-06	8.36E-05
Road 23	23	0300-0400	2.54E-02	6.23E-08	8.23E-07	2.19E-02	5.42E-08	7.16E-07	2.79E-02	5.86E-06	7.74E-05
Road 23	23	0400-0500	2.67E-02	7.26E-08	9.60E-07	2.31E-02	6.29E-08	8.32E-07	1.85E-02	5.04E-07	6.66E-06
Road 23	23	0500-0600	2.79E-02	1.31E-07	1.73E-06	2.42E-02	1.13E-07	1.49E-06	1.91E-02	8.98E-07	1.19E-05
Road 23	23	0600-0700	2.87E-02	2.89E-07	3.82E-06	2.42E-02	2.44E-07	3.23E-06	1.93E-02	1.94E-06	2.57E-05
Road 23	23	0700-0800	3.14E-02	6.46E-07	8.54E-06	2.61E-02	5.39E-07	7.12E-06	2.04E-02	4.20E-06	5.55E-05
Road 23	23	0800-0900	3.29E-02	1.31E-07	1.73E-06	2.74E-02	1.09E-07	1.44E-06	2.14E-02	8.51E-07	1.13E-05
Road 23	23	0900-1000	3.61E-02	7.37E-07	9.74E-06	3.01E-02	6.14E-07	8.13E-06	2.35E-02	4.79E-06	6.34E-05
Road 23	23	1000-1100	3.57E-02	7.37E-07	9.74E-06	2.97E-02	6.14E-07	8.13E-06	2.32E-02	4.79E-06	6.34E-05
Road 23	23	1100-1200	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1200-1300	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1300-1400	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1400-1500	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1500-1600	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1600-1700	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1700-1800	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1800-1900	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	1900-2000	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	2000-2100	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	2100-2200	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	2200-2300	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05
Road 23	23	2300-2400	3.97E-02	7.26E-07	9.60E-06	3.31E-02	6.05E-07	8.01E-06	2.58E-02	4.72E-06	6.24E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.2 Emission Factor in 2030.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 34	34	0800-0900	3.48E-02	1.35E-06	3.01E-05	2.94E-02	1.15E-06	2.56E-05	1.38E-02	5.38E-06	1.47E-04
Road 34	34	0900-1000	4.08E-02	1.18E-06	3.09E-05	3.46E-02	1.00E-06	2.63E-05	2.26E-02	6.55E-06	1.71E-04
Road 34	34	1000-1100	4.61E-02	1.19E-06	3.12E-05	3.90E-02	1.01E-06	2.65E-05	2.68E-02	6.93E-06	1.81E-04
Road 34	34	1100-1200	4.53E-02	1.11E-06	2.90E-05	3.79E-02	9.29E-07	2.43E-05	2.44E-02	5.98E-06	1.56E-04
Road 34	34	1200-1300	4.51E-02	1.41E-06	3.69E-05	3.77E-02	1.18E-06	3.08E-05	3.12E-02	9.74E-06	2.55E-04
Road 34	34	1300-1400	4.58E-02	1.48E-06	3.87E-05	3.82E-02	1.23E-06	3.22E-05	3.10E-02	1.00E-05	2.62E-04
Road 34	34	1400-1500	4.56E-02	1.55E-06	4.07E-05	3.79E-02	1.29E-06	3.37E-05	3.10E-02	1.06E-05	2.77E-04
Road 34	34	1500-1600	4.35E-02	1.52E-06	3.97E-05	3.58E-02	1.25E-06	3.27E-05	3.02E-02	1.06E-05	2.76E-04
Road 34	34	1600-1700	4.35E-02	1.48E-06	3.87E-05	3.58E-02	1.23E-06	3.22E-05	3.02E-02	1.03E-05	2.68E-04
Road 34	34	1700-1800	3.35E-02	1.26E-06	3.30E-05	2.80E-02	1.05E-06	2.75E-05	2.38E-02	8.94E-06	2.34E-04
Road 34	34	1800-1900	3.51E-02	1.23E-06	3.21E-05	2.94E-02	1.03E-06	2.68E-05	2.49E-02	8.72E-06	2.27E-04
Road 34	34	1900-2000	2.26E-02	7.59E-07	1.99E-05	1.92E-02	6.45E-07	1.69E-05	2.51E-02	8.44E-06	2.21E-04
Road 34	34	2000-2100	2.24E-02	5.88E-07	1.54E-05	1.91E-02	5.00E-07	1.31E-05	2.49E-02	6.54E-06	1.71E-04
Road 34	34	2100-2200	2.57E-02	5.28E-07	1.38E-05	2.18E-02	4.49E-07	1.17E-05	2.85E-02	5.87E-06	1.54E-04
Road 34	34	2200-2300	2.03E-02	5.13E-07	1.34E-05	1.77E-02	4.48E-07	1.17E-05	2.45E-02	6.20E-06	1.62E-04
Road 34	34	2300-2400	2.00E-02	4.18E-07	1.09E-05	1.77E-02	3.70E-07	9.65E-06	2.45E-02	5.12E-06	1.34E-04
Road 35	35	0000-0100	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0100-0200	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0200-0300	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0300-0400	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0400-0500	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0500-0600	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0600-0700	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0700-0800	8.58E-02	6.90E-08	1.68E-06	7.55E-02	6.07E-08	1.48E-06	3.54E-02	2.85E-07	6.93E-06
Road 35	35	0800-0900	1.09E-01	3.64E-07	8.86E-06	9.23E-02	3.08E-07	7.50E-06	4.69E-02	1.57E-06	3.81E-05
Road 35	35	0900-1000	1.22E-01	3.07E-07	7.47E-06	1.02E-01	2.56E-07	6.24E-06	5.19E-02	1.31E-06	3.18E-05
Road 35	35	1000-1100	1.21E-01	3.01E-07	7.29E-06	1.00E-01	2.50E-07	6.06E-06	5.12E-02	1.27E-06	3.09E-05
Road 35	35	1100-1200	1.21E-01	3.01E-07	7.29E-06	1.00E-01	2.50E-07	6.06E-06	5.12E-02	1.27E-06	3.09E-05
Road 35	35	1200-1300	1.22E-01	3.07E-07	7.47E-06	1.02E-01	2.56E-07	6.24E-06	5.19E-02	1.31E-06	3.18E-05
Road 35	35	1300-1400	1.21E-01	3.15E-07	7.66E-06	9.99E-02	2.60E-07	6.32E-06	5.18E-02	1.35E-06	3.28E-05
Road 35	35	1400-1500	1.16E-01	3.17E-07	7.70E-06	9.54E-02	2.60E-07	6.33E-06	5.03E-02	1.37E-06	3.33E-05
Road 35	35	1500-1600	1.16E-01	3.17E-07	7.70E-06	9.54E-02	2.60E-07	6.33E-06	5.03E-02	1.37E-06	3.33E-05
Road 35	35	1600-1700	1.16E-01	3.17E-07	7.70E-06	9.54E-02	2.60E-07	6.33E-06	5.03E-02	1.37E-06	3.33E-05
Road 35	35	1700-1800	1.00E-01	2.90E-07	7.06E-06	8.37E-02	2.43E-07	5.91E-06	4.38E-02	1.27E-06	3.09E-05
Road 35	35	1800-1900	1.01E-01	2.82E-07	6.87E-06	8.46E-02	2.36E-07	5.75E-06	4.43E-02	1.24E-06	3.01E-05
Road 35	35	1900-2000	1.07E-02	2.94E-07	7.16E-06	1.03E-02	2.83E-07	6.89E-06	5.42E-03	1.49E-07	3.63E-06
Road 35	35	2000-2100	1.07E-02	2.94E-07	7.16E-06	1.03E-02	2.83E-07	6.89E-06	5.42E-03	1.49E-07	3.63E-06
Road 35	35	2100-2200	1.07E-02	2.94E-07	7.16E-06	1.03E-02	2.83E-07	6.89E-06	5.42E-03	1.49E-07	3.63E-06
Road 35	35	2200-2300	1.07E-02	2.94E-07	7.16E-06	1.03E-02	2.83E-07	6.89E-06	5.42E-03	1.49E-07	3.63E-06
Road 35	35	2300-2400	1.07E-02	2.94E-07	7.16E-06	1.03E-02	2.83E-07	6.89E-06	5.42E-03	1.49E-07	3.63E-06
Road 36	36	0000-0100	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0100-0200	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0200-0300	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0300-0400	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0400-0500	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0500-0600	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0600-0700	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0700-0800	1.00E-01	8.35E-08	2.10E-07	8.89E-02	7.40E-08	1.86E-07	4.81E-02	4.00E-07	1.01E-06
Road 36	36	0800-0900	1.09E-01	5.39E-07	1.36E-06	1.05E-01	4.74E-07	1.19E-06	5.28E-02	2.39E-06	6.01E-06
Road 36	36	0900-1000	1.41E-01	5.56E-07	1.40E-06	1.29E-01	4.84E-07	1.22E-06	6.84E-02	2.57E-06	6.48E-06
Road 36	36	1000-1100	1.41E-01	5.56E-07	1.40E-06	1.29E-01	4.84E-07	1.22E-06	6.84E-02	2.57E-06	6.48E-06
Road 36	36	1100-1200	1.41E-01	5.56E-07	1.40E-06	1.29E-01	4.84E-07	1.22E-06	6.84E-02	2.57E-06	6.48E-06
Road 36	36	1200-1300	1.49E-01	5.58E-07	1.41E-06	1.36E-01	4.86E-07	1.22E-06	7.20E-02	2.58E-06	6.50E-06
Road 36	36	1300-1400	1.51E-01	5.95E-07	1.50E-06	1.38E-01	5.18E-07	1.30E-06	6.20E-02	2.44E-06	6.15E-06
Road 36	36	1400-1500	1.49E-01	5.97E-07	1.51E-06	1.36E-01	5.20E-07	1.31E-06	6.12E-02	2.45E-06	6.18E-06
Road 36	36	1500-1600	1.48E-01	6.12E-07	1.54E-06	1.35E-01	5.32E-07	1.34E-06	6.07E-02	2.51E-06	6.33E-06
Road 36	36	1600-1700	1.48E-01	6.12E-07	1.54E-06	1.35E-01	5.32E-07	1.34E-06	6.07E-02	2.51E-06	6.33E-06
Road 36	36	1700-1800	1.28E-01	5.44E-07	1.37E-06	1.12E-01	4.76E-07	1.20E-06	5.04E-02	2.38E-06	5.99E-06
Road 36	36	1800-1900	1.06E-01	4.34E-07	1.09E-06	9.38E-02	3.84E-07	9.67E-07	4.79E-02	1.96E-06	4.93E-06
Road 36	36	1900-2000	7.45E-02	1.92E-07	4.85E-07	6.53E-02	1.68E-07	4.25E-07	3.34E-02	8.62E-07	2.17E-06
Road 36	36	2000-2100	7.19E-02	1.43E-07	3.61E-07	6.53E-02	1.29E-07	3.26E-07	3.29E-02	6.52E-07	1.64E-06
Road 36	36	2100-2200	7.19E-02	1.43E-07	3.61E-07	6.53E-02	1.29E-07	3.26E-07	3.29E-02	6.52E-07	1.64E-06
Road 36	36	2200-2300	7.19E-02	1.43E-07	3.61E-07	6.53E-02	1.29E-07	3.26E-07	3.29E-02	6.52E-07	1.64E-06
Road 36	36	2300-2400	7.19E-02	1.43E-07	3.61E-07	6.53E-02	1.29E-07	3.26E-07	3.29E-02	6.52E-07	1.64E-06
Road 37	37	0000-0100	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0100-0200	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0200-0300	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0300-0400	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0400-0500	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0500-0600	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0600-0700	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0700-0800	1.57E-02	1.62E-08	3.72E-07	5.10E-02	1.49E-08	3.41E-07	2.56E-02	2.37E-07	5.43E-06
Road 37	37	0800-0900	2.00E-02	1.03E-07	2.53E-06	6.53E-02	2.96E-07	7.29E-06	3.29E-02	1.51E-06	3.72E-05
Road 37	37	0900-1000	2.58E-02	1.09E-07	2.68E-06	8.46E-02	3.34E-07	8.21E-06	4.26E-02	1.68E-06	4.14E-05
Road 37	37	1000-1100	2.58E-02	1.09E-07	2.68E-06	8.46E-02	3.34E-07	8.21E-06	4.26E-02	1.68E-06	4.14E-05
Road 37	37	1100-1200	2.58E-02	1.09E-07	2.68E-06	8.46E-02	3.34E-07	8.21E-06	4.26E-02	1.68E-06	4.14E-05
Road 37	37	1200-1300	2.61E-02	1.09E-07	2.68E-06	8.57E-02	3.34E-07	8.21E-06	4.31E-02	1.68E-06	4.14E-05
Road 37	37	1300-1400	2.58E-02	1.12E-07	2.76E-06	8.47E-02	3.44E-07	8.46E-06	4.26E-02	1.73E-06	4.27E-05
Road 37	37	1400-1500	2.58E-02	1.12E-07	2.76E-06	8.47E-02	3.44E-07	8.46E-06	4.26E-02	1.73E-06	4.27E-05
Road 37	37	1500-1600	2.58E-02	1.12E-07	2.76E-06	8.47E-02	3.44E-07	8.46E-06	4.26E-02	1.73E-06	4.27E-05
Road 37	37	1600-1700	2.58E-02	1.12E-07	2.76E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	3.55E-02	1.97E-06	1.06E-06	3.38E-02	9.77E-08	5.26E-07	1.88E-01	7.35E-07	3.95E-06	1.79E-01	3.64E-08	1.96E-07
Road 41	41	0100-0200	4.38E-02	9.82E-08	9.21E-07	3.79E-02	8.49E-08	7.97E-07	2.23E-01	5.00E-07	4.69E-06	1.90E-01	4.27E-07	4.01E-06
Road 41	41	0200-0300	5.16E-02	9.16E-08	8.60E-07	4.53E-02	8.06E-08	7.56E-07	2.57E-01	4.56E-07	4.28E-06	2.24E-01	3.98E-07	3.73E-06
Road 41	41	0300-0400	5.81E-02	8.23E-08	7.72E-07	5.08E-02	7.19E-08	6.75E-07	2.85E-01	4.03E-07	3.78E-06	2.47E-01	3.49E-07	3.28E-06
Road 41	41	0400-0500	5.80E-02	9.40E-08	8.82E-07	4.99E-02	8.09E-08	7.59E-07	2.85E-01	4.61E-07	4.33E-06	2.43E-01	3.93E-07	3.69E-06
Road 41	41	0500-0600	5.87E-02	1.13E-07	1.06E-06	4.64E-02	1.03E-07	9.62E-07	2.87E-01	5.54E-07	5.20E-06	2.26E-01	5.04E-07	4.73E-06
Road 41	41	0600-0700	3.97E-02	1.91E-07	1.79E-06	3.35E-02	1.61E-07	1.51E-06	2.00E-01	9.63E-07	9.03E-06	1.66E-01	7.99E-07	7.50E-06
Road 41	41	0700-0800	4.93E-02	5.25E-07	4.93E-06	4.46E-02	4.58E-07	4.29E-06	2.41E-01	2.59E-06	2.43E-05	2.01E-01	2.17E-06	2.03E-05
Road 41	41	0800-0900	5.76E-02	5.76E-07	5.41E-06	5.20E-02	5.03E-07	4.72E-06	2.76E-01	2.84E-06	2.66E-05	2.30E-01	2.38E-06	2.23E-05
Road 41	41	0900-1000	3.36E-02	5.75E-07	5.40E-06	4.55E-02	7.56E-07	7.10E-06	2.56E-01	2.75E-06	2.58E-05	2.31E-01	2.17E-06	2.03E-05
Road 41	41	1000-1100	2.58E-02	5.62E-07	5.28E-06	4.66E-02	9.97E-07	9.36E-06	2.37E-01	2.58E-06	2.42E-05	2.14E-01	2.04E-06	1.91E-05
Road 41	41	1100-1200	1.98E-02	5.56E-07	5.22E-06	4.66E-02	4.37E-06	4.28E-05	2.63E-01	2.47E-06	2.36E-05	2.39E-01	2.39E-06	2.05E-05
Road 41	41	1200-1300	2.17E-02	4.83E-07	1.10E-05	1.81E-01	2.96E-06	4.47E-05	7.33E-01	1.63E-06	3.72E-05	7.33E-01	1.63E-06	3.72E-05
Road 41	41	1300-1400	2.13E-02	1.19E-06	1.76E-01	1.43E-01	4.30E-07	9.80E-06	8.84E-01	2.15E-06	4.95E-05	7.29E-01	1.77E-06	4.05E-05
Road 41	41	1400-1500	2.16E-02	5.32E-07	1.21E-05	1.79E-01	4.41E-07	1.00E-05	8.84E-01	2.18E-06	4.96E-05	7.29E-01	1.79E-06	4.09E-05
Road 41	41	1500-1600	2.00E-02	5.09E-07	1.16E-05	1.65E-01	4.19E-07	9.56E-06	8.59E-01	2.19E-06	4.99E-05	7.04E-01	1.79E-06	4.08E-05
Road 41	41	1600-1700	1.76E-02	4.47E-07	1.02E-05	1.76E-01	4.47E-07	1.02E-05	8.56E-01	2.18E-06	4.96E-05	7.28E-01	1.85E-06	4.21E-05
Road 41	41	1700-1800	1.71E-02	4.02E-07	9.16E-06	1.43E-01	3.36E-07	7.67E-06	7.54E-01	1.77E-06	4.05E-05	6.27E-01	1.48E-06	3.37E-05
Road 41	41	1800-1900	1.58E-02	3.71E-07	8.46E-06	1.32E-01	3.09E-07	7.05E-06	6.96E-01	1.63E-06	3.72E-05	5.79E-01	1.36E-06	3.10E-05
Road 41	41	1900-2000	1.26E-02	1.74E-07	3.96E-06	1.07E-01	1.48E-07	3.38E-06	5.69E-01	7.88E-07	1.80E-05	4.77E-01	6.63E-07	1.51E-05
Road 41	41	2000-2100	1.21E-02	1.67E-07	3.80E-06	1.03E-01	1.42E-07	3.24E-06	5.47E-01	7.57E-07	1.73E-05	4.59E-01	6.35E-07	1.45E-05
Road 41	41	2100-2200	1.17E-02	1.61E-07	3.68E-06	9.94E-02	1.37E-07	3.13E-06	5.30E-01	7.31E-07	1.67E-05	4.44E-01	6.13E-07	1.40E-05
Road 41	41	2200-2300	1.21E-02	1.22E-07	2.79E-06	1.06E-01	1.07E-07	2.44E-06	5.37E-01	5.40E-07	1.23E-05	4.65E-01	4.67E-07	1.07E-05
Road 41	41	2300-2400	1.13E-02	1.13E-07	2.59E-06	9.76E-02	9.74E-08	2.23E-06	5.22E-01	5.02E-07	1.15E-05	4.51E-01	4.34E-07	9.95E-06
Road 42	42	0000-0100	3.55E-02	1.97E-06	1.06E-06	3.38E-02	9.77E-08	5.26E-07	1.88E-01	7.35E-07	3.95E-06	1.79E-01	3.64E-08	1.96E-07
Road 42	42	0100-0200	4.38E-02	9.82E-08	9.21E-07	3.79E-02	8.49E-08	7.97E-07	2.23E-01	5.00E-07	4.69E-06	1.90E-01	4.27E-07	4.01E-06
Road 42	42	0200-0300	5.16E-02	9.16E-08	8.60E-07	4.53E-02	8.06E-08	7.56E-07	2.57E-01	4.56E-07	4.28E-06	2.24E-01	3.98E-07	3.73E-06
Road 42	42	0300-0400	5.81E-02	8.23E-08	7.72E-07	5.08E-02	7.19E-08	6.75E-07	2.85E-01	4.03E-07	3.78E-06	2.47E-01	3.49E-07	3.28E-06
Road 42	42	0400-0500	1.05E-01	1.30E-07	3.29E-06	9.04E-02	1.12E-07	2.83E-06	4.63E-01	5.73E-07	1.45E-05	3.96E-01	4.90E-07	1.24E-05
Road 42	42	0500-0600	8.64E-02	1.50E-07	3.81E-06	7.35E-02	1.28E-07	3.24E-06	3.89E-01	6.76E-07	1.71E-05	3.28E-01	5.70E-07	1.45E-05
Road 42	42	0600-0700	1.05E-01	2.41E-07	6.09E-06	8.91E-02	2.04E-07	5.15E-06	4.72E-01	1.08E-06	2.73E-05	4.00E-01	9.17E-07	2.32E-05
Road 42	42	0700-0800	1.05E-01	7.70E-07	1.95E-05	8.91E-02	6.54E-07	1.66E-05	4.53E-01	3.32E-06	8.43E-05	3.82E-01	2.80E-06	7.10E-05
Road 42	42	0800-0900	1.11E-01	8.11E-07	2.06E-05	9.42E-02	6.89E-07	1.75E-05	4.78E-01	3.49E-06	8.87E-05	4.03E-01	2.95E-06	7.47E-05
Road 42	42	0900-1000	1.11E-01	8.11E-07	2.06E-05	9.38E-02	6.88E-07	1.74E-05	4.73E-01	3.47E-06	8.80E-05	3.99E-01	2.93E-06	7.42E-05
Road 42	42	1000-1100	1.08E-01	7.89E-07	2.00E-05	9.13E-02	6.69E-07	1.70E-05	4.61E-01	3.38E-06	8.57E-05	3.89E-01	2.85E-06	7.23E-05
Road 42	42	1100-1200	1.19E-01	7.74E-07	1.96E-05	1.00E-01	6.48E-07	1.64E-05	5.09E-01	3.30E-06	8.36E-05	4.24E-01	2.75E-06	6.97E-05
Road 42	42	1200-1300	1.35E-01	9.39E-07	2.38E-05	1.13E-01	7.84E-07	1.99E-05	5.61E-01	3.90E-06	9.90E-05	4.66E-01	3.25E-06	8.24E-05
Road 42	42	1300-1400	1.29E-01	1.40E-06	2.12E-01	1.08E-01	1.17E-06	1.77E-01	5.47E-01	5.92E-06	8.96E-02	4.56E-01	4.94E-06	7.46E-02
Road 42	42	1400-1500	1.36E-01	1.01E-06	2.57E-05	1.13E-01	8.39E-07	2.13E-05	5.66E-01	4.21E-06	1.07E-04	4.67E-01	3.48E-06	8.82E-05
Road 42	42	1500-1600	1.26E-01	1.21E-06	3.07E-05	1.05E-01	1.01E-06	2.56E-05	5.30E-01	5.09E-06	1.29E-04	4.37E-01	4.19E-06	1.06E-04
Road 42	42	1600-1700	1.31E-01	1.26E-06	3.19E-05	1.09E-01	1.05E-06	2.66E-05	5.51E-01	5.30E-06	1.34E-04	4.54E-01	4.37E-06	1.10E-04
Road 42	42	1700-1800	2.22E-02	5.59E-07	6.89E-06	1.85E-02	4.65E-07	5.74E-06	9.32E-02	2.34E-06	2.89E-05	7.74E-02	1.94E-06	2.41E-05
Road 42	42	1800-1900	2.86E-02	7.19E-07	8.87E-06	2.38E-02	5.98E-07	7.38E-06	1.20E-01	3.01E-06	3.72E-05	9.96E-02	2.50E-06	3.09E-05
Road 42	42	1900-2000	2.10E-02	2.90E-07	6.60E-06	1.75E-02	2.42E-07	5.50E-06	8.82E-02	1.22E-06	2.77E-05	7.34E-02	1.01E-06	2.31E-05
Road 42	42	2000-2100	2.01E-02	2.78E-07	6.32E-06	1.68E-02	2.32E-07	5.27E-06	8.45E-02	1.17E-06	2.66E-05	7.03E-02	9.72E-07	2.21E-05
Road 42	42	2100-2200	1.94E-02	2.68E-07	6.09E-06	1.62E-02	2.23E-07	5.07E-06	8.14E-02	1.12E-06	2.56E-05	6.77E-02	9.36E-07	2.13E-05
Road 42	42	2200-2300	1.87E-02	2.58E-07	5.87E-06	1.56E-02	2.15E-07	4.89E-06	7.85E-02	1.08E-06	2.47E-05	6.53E-02	9.03E-07	2.05E-05
Road 42	42	2300-2400	1.80E-02	2.49E-07	5.66E-06	1.50E-02	2.07E-07	4.71E-06	7.57E-02	1.04E-06	2.38E-05	6.30E-02	8.71E-07	1.98E-05
Road 43	43	0000-0100	3.55E-02	1.97E-06	1.06E-06	3.38E-02	9.77E-08	5.26E-07	1.88E-01	7.35E-07	3.95E-06	1.79E-01	3.64E-08	1.96E-07
Road 43	43	0100-0200	4.38E-02	9.82E-08	9.21E-07	3.79E-02	8.49E-08	7.97E-07	2.23E-01	5.00E-07	4.69E-06	1.90E-01	4.27E-07	4.01E-06
Road 43	43	0200-0300	5.16E-02	9.16E-08	8.60E-07	4.53E-02	8.06E-08	7.56E-07	2.57E-01	4.56E-07	4.28E-06	2.24E-01	3.98E-07	3.73E-06
Road 43	43	0300-0400	5.81E-02	8.23E-08	7.72E-07	5.08E-02	7.19E-08	6.75E-07	2.85E-01	4.03E-07	3.78E-06	2.47E-01	3.49E-07	3.28E-06
Road 43	43	0400-0500	5.80E-02	9.40E-08	8.82E-07	4.99E-02	8.09E-08	7.59E-07	2.85E-01	4.61E-07	4.33E-06	2.43E-01	3.93E-07	3.69E-06
Road 43	43	0500-0600	5.87E-02	1.13E-07	1.06E-06	4.64E-02	1.03E-07	9.62E-07	2.87E-01	5.54E-07	5.20E-06	2.26E-01	5.04E-07	4.73E-06
Road 43	43	0600-0700	3.97E-02	1.91E-07	1.79E-06	3.35E-02	1.61E-07	1.51E-06	2.00E-01	9.63E-07	9.03E-06	1.66E-01	7.99E-07	7.50E-06
Road 43	43	0700-0800	4.93E-02	5.25E-07	4.93E-06	4.46E-02	4.58E-07	4.29E-06	2.41E-01	2.59E-06	2.43E-05	2.01E-01	2.17E-06	2.03E-05
Road 43	43	0800-0900	5.76E-02	5.76E-07	5.41E-06	5.20E-02	5.03E-07	4.72E-06	2.76E-01	2.84E-06	2.66E-05	2.30E-01	2.38E-06	2.23E-05
Road 43	43	0900-1000	3.36E-02	5.75E-07	5.40E-06	4.55E-02	7.56E-07	7.10E-06	2.56E-01	2.75E-06	2.58E-05	2.31E-01	2.17E-06	2.03E-05
Road 43	43	1000-1100	2.58E-02	5.62E-07	5.28E-06	4.66E-02	9.97E-07	9.36E-06	2.37E-01	2.58E-06	2.42E-05	2.14E-01	2.04E-06	1.91E-05
Road 43	43	1100-1200	1.98E-02	5.56E-07	5.22E-06	4.66E-02	4.37E-06	4.28E-05	2.63E-01	2.47E-06	2.36E-05	2.39E-01	2.39E-06	2.05E-05
Road 43	43	1200-1300	2.17E-02	4.83E-07	1.10E-05	1.81E-01	2.96E-06	4.47E-05	7.33E-01	1.63E-06	3.72E-05	7.33E-01	1.63E-06	3.72E-05
Road 43	43	1300-1400	2.13E-02	1.19E-06	1.76E-01	1.43E-01	4.30E-07	9.80E-06	8.84E-01	2.15E-06	4.95E-05	7.29E-01	1.77E-06	4.05E-05
Road 43	43	1400-1500	2.16E-02	5.32E-07	1.21E-05	1.79E-01	4.41E-07	1.00E-05	8.84E-01	2.18E-06	4.96E-05	7.29E-01	1.79E-06	4.09E-05
Road 43	43	1500-1600	2.00E-02	5.09E-07	1.16E-05	1.65E-01	4.19E-07	9.56E-06	8.59E-01	2.19E-06	4.99E-05	7.04E-01	1.79E-06	4.08E-05
Road 43	43	1600-1700	1.76E-02	4.47E-07	1.02E-05	1.76E-01	4.47E-07	1.02E-05	8.56E-01	2.18E-06	4.96E-05	7.28E-01	1.85E-06	4.21E-05
Road 43	43	1700-1800	1.71E-02	4.02E-07	9.16E-06	1.43E-01	3.36E-07	7.67E-06	7.54E-01	1.77E-06	4.05E-05	6.27E-01	1.48E-06	3.37E-05
Road 43	43	1800-1900	1.58E-02	3.71E-07	8.46E-06	1.32E-01	3.09E-07	7.05E-06	6.96E-01	1.63E-06	3.72E-05	5.79E-01	1.36E-06	3.10E-05
Road 43	43	1900-2000	1.26E-02	1.74E-07	3.96E-06	1.07E-01	1.48E-07	3.38E-06	5.69E-01	7.88E-07	1.80E-05	4.77E-01	6.63E-07	1.51E-05
Road 43	43	2000-2100	1.21E-02	1.67E-07	3.80E-06	1.03E-01	1.42E-07	3.24E-06	5.47E-01	7.57E-07	1.73E-05	4.59E-01	6.35E-07	1.45E-05
Road 43	43	2100-2200	1.17E-02	1.61E-07	3.68E-06	9.94E-02	1.37E-07	3.13E-06	5.30E-01	7.31E-07	1.67E-05	4.44E-01	6.13E-07	1.40E-05
Road 43	43	2200-2300	1.21E-02	1.22E-07	2.79E-06	1.06E-01	1.07E-07	2.44E-06	5.37E-01	5.40E-07	1.23E-05	4.65E-01	4.67E-07	1.07E-05
Road 43	43	2300-2400	1.13E-02	1.13E-07	2.59E-06	9.76E-02	9.74E-08	2.23E-06	5.22E-01	5.02E-07	1.15E-05	4.51E-01	4.34E-07	9.95E-06
Road 44	44	0000-0100	3.55E-02	1.97E-06	1.06E-06	3.38E-02	9.77E-08	5.26E-07	1.88E-01	7.35E-07	3.95E-06	1.79E-01	3.64E-08	1.96E-07
Road 44	44	0100-0200	4.38E-02	9.82E-08	9.21E-07	3.79E-02	8.49E-08	7.97E-07	2.23E-01	5.00E-07	4.69E-06	1.90E-01	4.27E-07	4.01E-06
Road 44	44	0200-0300	5.16E-02	9.16E-08	8.60E-07	4.53E-02	8.06E-08	7.56E-07	2.57E-01	4.56E-07	4.28E-06	2.24E-01	3.98E-07	3.73E-06
Road 44	44	0300-0400	5.81E-02	8.23E-08	7.72E-07	5.08E-02	7.19E-08	6.75E-07	2.85E-01	4.03E-07	3.78E-06	2.47E-01	3.49E-07	3.28E-06
Road 44	44	0400-0500	5.80E-02	9.40E-08	8.82E-07	4.99E-02	8.09E-08	7.59E-07	2.85E-01	4.61E-07	4.33E-06	2.43E-01	3.93E-07	3.69E-06
Road 44	44	0500-0600	5.87E-02	1.13E-07	1.06E-06	4.64E-02	1.03E-07	9.62E-07	2.87E-01	5.54E-07	5.20E-06	2.26E-01	5.04E-07	4.73E-06
Road 44	44	0600-0700	3.97E-02	1.91E-07	1.79E-06	3.35E-02	1.61E-07	1.51E-06	2.00E-01	9.63E-07	9.03E-06	1.66E-01	7.99E-07	7.50E-06
Road 44	44	0700-0800	4.93E-02	5.25E-07	4.93E-06	4.46E-02	4.58E-07	4.29E-06	2.41E-01	2.59E-06	2.43E-05	2.01E-01	2.17E-06	2.03E-05
Road 44	44	0800-0900	5.76E-02	5.76E-07	5.41E-06	5.20E-02	5.03E-07	4.72E-06	2.76E-01	2.84E-06	2.66E-05	2.30E-01	2.38E-06	2.23E-05
Road 44	44	0900-1000	3.36E-02	5.75E-07	5.40E-06	4.55E-02	7.56E-07	7.10E-06	2.56E-01	2.75E-06	2.58E-05	2.31E-01	2.17E-06	2.03E-05
Road 44	44	1000-1100	2.58E-02	5.62E-07	5.28E-06	4.66E-02	9.97E-07	9.36E-06	2.37E-01	2.58E-06	2.42E-05	2.14E-01	2.04E-06	1.91E-05
Road 44	44	1100-1200	1.98E-02	5.56E-07	5.22E-06	4.66E-02	4.37E-06	4.28E-05	2.63E-01	2.47E-06	2.36E-05	2.39E-01	2.39E-06	2.05E-05
Road 44	44	1200-1300	2.17E-02	4.83E-07	1.10E-05	1.81E-01	2.96E-06	4.47E-05	7.33E-01	1.63E-06	3.72E-05	7.33E-01	1.63E-06	3.72E-05
Road 44	44	1300-1400	2.13E-02	1.19E-06	1.76E-01	1.43E-01	4.30E-07	9.80E-06	8.84E-01	2.15E-06	4.95E-05	7.29E-01	1.77E-06	4.05E-05
Road 44	44	1400-1500	2.16E-02	5.32E-07	1.21E-05	1.79E-01	4.41E-07	1.00E-05	8.84E-01	2.18E-06	4.96E-05	7.29E-01	1.79E-06	4.09E-05
Road 44	44	1500-1600	2.00E-02	5.09E-07	1.16E-05	1.65E-01	4.19E-07	9.56E-06	8.59E-01	2.19E-06	4.99E-05	7.04E-01	1.79E-06	4.08E-05
Road 44	44	1600-1700	1.76E-02	4.47E-07	1.02E-05	1.76E-01	4.47E-07	1.02E-05	8.56E-01	2.18E-06	4.96E-05	7.28E-01	1.85E-06	4.21E-05
Road 44	44	1700-1800	1.71E-02	4.02E-07	9.16E-06	1.43E-01	3.36E-07	7.67E-06	7.54E-01	1.77E-06	4.05E-05	6.27E-01	1.48E-06	3.37E-05
Road 44	44	1800-1900	1.58E-02	3.71E-07	8.46E-06	1.32E-01	3.09E-07	7.05E-06	6.96E-01	1.63E-06	3.72E-05	5.79E-01	1.36E-06	3.10E-05
Road 44	44	1900-2000	1.26E-02	1.74E-07	3.96E-06	1.07E-01	1.48E-07	3.38E-06	5.69E-01	7.88E-07	1.80E-05	4.77E-01	6.63E-07	1.51E-05
Road 44	44	2000-2100	1.21E-02	1.67E-07	3.80E-06	1.03E-01	1.42E-07	3.24E-06	5.47E-01	7.57E-07	1.73E-05	4.59E-01	6.35E-07	1.45E-05
Road 44	44	2100-2200	1.17E-02	1.61E-07	3.68E-06	9.94E-02	1.37E-07	3.13E-06	5.30E-01	7.31E-07	1.67E-05	4.44E-01	6.13E-07	1.40E-05
Road 44	44	2200-2300	1.21E-02	1.22E-07	2.79E-06	1.06E-01	1.07E-07	2.44E-06	5.37E-01	5.40E-07	1.23E-05	4.65E-01	4.67E-07	1.07E-05
Road 44	44	2300-2400	1.13E-02	1.13E-07	2.59E-06	9.76E-02	9.74E-08	2.23E-06	5.22E-01	5.02E-07	1.15E-05	4.51E-01	4.34E-07	9.95E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh/h	g/s/m²	tonne/hour	g/km/veh/h	g/s/m²	tonne/hour	g/km/veh/h	g/s/m²	tonne/hour
Road 1	1	1600-1700	1.14E-02	4.95E-02	5.81E-06	3.58E-02	4.23E-07	4.96E-06	2.25E-01	2.66E-06	3.12E-05
Road 2	2	1700-1800	2.39E-02	4.30E-07	5.04E-06	2.01E-02	3.63E-07	4.25E-06	2.16E-01	3.90E-06	4.58E-05
Road 3	3	1800-1900	1.81E-02	3.61E-07	4.24E-06	1.57E-02	3.15E-07	3.69E-06	1.86E-01	3.73E-06	4.37E-05
Road 4	4	1900-2000	1.62E-02	3.08E-07	3.61E-06	1.41E-02	2.69E-07	3.15E-06	1.68E-01	3.19E-06	3.74E-05
Road 5	5	2000-2100	1.60E-02	2.94E-07	3.44E-06	1.39E-02	2.56E-07	3.00E-06	1.66E-01	3.04E-06	3.57E-05
Road 6	6	2100-2200	1.43E-02	2.76E-07	3.23E-06	1.24E-02	2.40E-07	2.82E-06	1.48E-01	2.86E-06	3.35E-05
Road 7	7	2200-2300	1.47E-02	1.32E-07	1.55E-06	1.33E-02	1.20E-07	1.40E-06	1.69E-01	1.52E-06	1.78E-05
Road 8	8	2300-0000	1.09E-02	1.03E-07	1.21E-06	9.86E-03	9.32E-08	1.09E-06	1.25E-01	1.18E-06	1.39E-05
Road 8	8	0000-0100	2.55E-02	2.74E-07	2.24E-06	2.32E-02	2.49E-07	2.04E-06	2.93E-01	3.14E-06	2.57E-05
Road 8	8	0100-0200	2.46E-02	2.64E-07	2.16E-06	2.23E-02	2.40E-07	1.96E-06	2.82E-01	3.03E-06	2.48E-05
Road 8	8	0200-0300	2.46E-02	2.64E-07	2.16E-06	2.23E-02	2.40E-07	1.96E-06	2.82E-01	3.03E-06	2.48E-05
Road 8	8	0300-0400	2.74E-02	2.42E-07	2.45E-06	2.49E-02	2.20E-07	2.23E-06	3.14E-01	2.77E-06	2.81E-05
Road 8	8	0400-0500	2.74E-02	8.43E-08	1.70E-07	2.49E-02	7.66E-08	1.54E-07	3.14E-01	9.67E-07	1.95E-06
Road 8	8	0500-0600	2.74E-02	8.43E-08	1.70E-07	2.49E-02	7.66E-08	1.54E-07	3.14E-01	9.67E-07	1.95E-06
Road 8	8	0600-0700	1.11E-02	3.92E-08	7.91E-07	1.01E-02	3.56E-08	7.19E-07	1.27E-01	4.49E-07	9.06E-06
Road 8	8	0700-0800	1.18E-02	4.18E-08	8.44E-07	1.07E-02	3.79E-08	7.67E-07	1.35E-01	4.78E-07	9.66E-06
Road 8	8	0800-0900	1.18E-02	9.31E-08	1.88E-06	1.07E-02	8.44E-08	1.70E-06	1.35E-01	1.06E-06	2.14E-05
Road 8	8	0900-1000	1.07E-02	8.47E-08	1.71E-06	9.68E-03	7.66E-08	1.55E-06	1.22E-01	9.67E-07	1.95E-05
Road 8	8	1000-1100	1.07E-02	8.47E-08	1.71E-06	9.68E-03	7.66E-08	1.55E-06	1.22E-01	9.67E-07	1.95E-05
Road 8	8	1100-1200	1.43E-02	1.13E-07	2.29E-06	1.30E-02	1.03E-07	2.08E-06	1.64E-01	1.30E-06	2.63E-05
Road 8	8	1200-1300	1.43E-02	1.13E-07	2.29E-06	1.30E-02	1.03E-07	2.08E-06	1.64E-01	1.30E-06	2.63E-05
Road 8	8	1300-1400	1.46E-02	4.23E-08	8.53E-07	1.32E-02	3.84E-08	7.75E-07	1.66E-01	4.82E-07	9.73E-06
Road 8	8	1400-1500	1.46E-02	4.23E-08	8.53E-07	1.32E-02	3.84E-08	7.75E-07	1.66E-01	4.82E-07	9.73E-06
Road 8	8	1500-1600	1.46E-02	4.23E-08	8.53E-07	1.32E-02	3.84E-08	7.75E-07	1.66E-01	4.82E-07	9.73E-06
Road 8	8	1600-1700	1.37E-02	3.96E-08	8.01E-07	1.24E-02	3.60E-08	7.28E-07	1.56E-01	4.53E-07	9.15E-06
Road 8	8	1700-1800	1.37E-02	3.96E-08	8.01E-07	1.24E-02	3.60E-08	7.28E-07	1.56E-01	4.53E-07	9.15E-06
Road 8	8	1800-1900	2.42E-02	2.14E-07	4.32E-06	2.19E-02	1.94E-07	3.92E-06	2.96E-01	2.62E-06	5.29E-05
Road 8	8	1900-2000	2.34E-02	2.06E-07	4.16E-06	2.12E-02	1.87E-07	3.77E-06	2.86E-01	2.52E-06	5.09E-05
Road 8	8	2000-2100	2.16E-02	1.78E-07	2.35E-06	1.95E-02	1.60E-07	2.12E-06	2.64E-01	2.17E-06	2.87E-05
Road 8	8	2100-2200	2.16E-02	1.78E-07	2.35E-06	1.95E-02	1.60E-07	2.12E-06	2.64E-01	2.17E-06	2.87E-05
Road 8	8	2200-2300	2.16E-02	1.78E-07	2.35E-06	1.95E-02	1.60E-07	2.12E-06	2.64E-01	2.17E-06	2.87E-05
Road 8	8	2300-0000	2.29E-02	1.37E-07	1.81E-06	2.02E-02	1.21E-07	1.59E-06	2.76E-01	1.65E-06	2.18E-05
Road 8	8	0000-0100	1.62E-01	1.82E-07	1.25E-06	1.44E-01	1.62E-07	1.11E-06	1.96E-01	2.20E-07	1.51E-06
Road 8	8	0100-0200	1.62E-01	1.82E-07	1.25E-06	1.44E-01	1.62E-07	1.11E-06	1.96E-01	2.20E-07	1.51E-06
Road 8	8	0200-0300	1.56E-01	9.56E-08	1.70E-06	1.39E-01	8.50E-08	1.51E-06	1.89E-01	1.16E-07	2.06E-06
Road 8	8	0300-0400	1.56E-01	9.56E-08	1.70E-06	1.39E-01	8.50E-08	1.51E-06	1.89E-01	1.16E-07	2.06E-06
Road 8	8	0400-0500	1.61E-01	9.66E-08	1.72E-06	1.43E-01	8.58E-08	1.53E-06	1.95E-01	1.17E-07	2.08E-06
Road 8	8	0500-0600	1.37E-01	1.95E-07	3.47E-06	1.22E-01	1.73E-07	3.08E-06	1.67E-01	2.37E-07	4.22E-06
Road 8	8	0600-0700	1.12E-01	2.00E-05	1.80E-01	9.56E-07	1.71E-01	8.64E-01	4.58E-06	8.16E-05	7.35E-01
Road 8	8	0700-0800	1.12E-01	2.00E-05	1.80E-01	9.56E-07	1.71E-01	8.64E-01	4.58E-06	8.16E-05	7.35E-01
Road 8	8	0800-0900	2.40E-01	1.66E-06	2.95E-05	2.00E-01	1.38E-06	2.47E-05	3.93E-01	2.71E-06	4.85E-05
Road 8	8	0900-1000	2.40E-01	1.66E-06	2.95E-05	2.00E-01	1.38E-06	2.47E-05	3.93E-01	2.71E-06	4.85E-05
Road 8	8	1000-1100	2.41E-01	1.52E-06	2.03E-05	1.29E-06	2.29E-05	1.30E-06	9.66E-06	1.93E-01	1.12E-06
Road 8	8	1100-1200	2.47E-01	1.61E-06	2.86E-05	2.09E-01	1.36E-06	2.42E-05	3.76E-01	2.45E-06	4.35E-05
Road 8	8	1200-1300	2.47E-01	1.61E-06	2.86E-05	2.09E-01	1.36E-06	2.42E-05	3.76E-01	2.45E-06	4.35E-05
Road 8	8	1300-1400	2.61E-01	1.89E-06	3.38E-05	2.17E-01	1.57E-06	2.80E-05	3.91E-01	2.83E-06	5.04E-05
Road 8	8	1400-1500	2.61E-01	1.89E-06	3.38E-05	2.17E-01	1.57E-06	2.80E-05	3.91E-01	2.83E-06	5.04E-05
Road 8	8	1500-1600	2.61E-01	1.89E-06	3.38E-05	2.17E-01	1.57E-06	2.80E-05	3.91E-01	2.83E-06	5.04E-05
Road 8	8	1600-1700	1.73E-01	2.00E-06	3.57E-05	1.44E-01	1.66E-06	2.97E-05	2.59E-01	2.99E-06	5.35E-05
Road 8	8	1700-1800	1.73E-01	2.00E-06	3.57E-05	1.44E-01	1.66E-06	2.97E-05	2.59E-01	2.99E-06	5.35E-05
Road 8	8	1800-1900	2.42E-01	1.94E-07	3.93E-06	2.11E-02	1.68E-07	3.41E-06	2.91E-01	2.34E-06	4.74E-05
Road 8	8	1900-2000	2.34E-01	1.87E-07	3.79E-06	2.04E-02	1.64E-07	3.32E-06	2.81E-01	2.25E-06	4.56E-05
Road 8	8	2000-2100	2.16E-01	1.73E-07	2.14E-06	1.88E-02	1.51E-07	1.86E-06	2.59E-01	2.08E-06	2.57E-05
Road 8	8	2100-2200	2.16E-01	1.73E-07	2.14E-06	1.88E-02	1.51E-07	1.86E-06	2.59E-01	2.08E-06	2.57E-05
Road 8	8	2200-2300	2.16E-01	1.73E-07	2.14E-06	1.88E-02	1.51E-07	1.86E-06	2.59E-01	2.08E-06	2.57E-05
Road 8	8	2300-0000	2.29E-01	1.37E-07	1.81E-06	1.99E-02	1.19E-07	1.57E-06	2.76E-01	1.65E-06	2.18E-05
Road 9	9	0000-0100	1.62E-01	1.82E-07	1.25E-06	1.44E-01	1.62E-07	1.11E-06	1.96E-01	2.20E-07	1.51E-06
Road 9	9	0100-0200	1.62E-01	1.82E-07	1.25E-06	1.44E-01	1.62E-07	1.11E-06	1.96E-01	2.20E-07	1.51E-06
Road 9	9	0200-0300	1.56E-01	9.56E-08	1.70E-06	1.39E-01	8.50E-08	1.51E-06	1.89E-01	1.16E-07	2.06E-06
Road 9	9	0300-0400	1.56E-01	9.56E-08	1.70E-06	1.39E-01	8.50E-08	1.51E-06	1.89E-01	1.16E-07	2.06E-06
Road 9	9	0400-0500	1.61E-01	9.66E-08	1.72E-06	1.43E-01	8.58E-08	1.53E-06	1.95E-01	1.17E-07	2.08E-06
Road 9	9	0500-0600	1.37E-01	1.95E-07	3.47E-06	1.22E-01	1.73E-07	3.08E-06	1.67E-01	2.37E-07	4.22E-06
Road 9	9	0600-0700	1.12E-01	2.00E-05	1.80E-01	9.56E-07	1.71E-01	8.64E-01	4.58E-06	8.16E-05	7.35E-01
Road 9	9	0700-0800	1.12E-01	2.00E-05	1.80E-01	9.56E-07	1.71E-01	8.64E-01	4.58E-06	8.16E-05	7.35E-01
Road 9	9	0800-0900	2.40E-01	1.66E-06	2.95E-05	2.00E-01	1.38E-06	2.47E-05	3.93E-01	2.71E-06	4.85E-05
Road 9	9	0900-1000	2.40E-01	1.66E-06	2.95E-05	2.00E-01	1.38E-06	2.47E-05	3.93E-01	2.71E-06	4.85E-05
Road 9	9	1000-1100	2.41E-01	1.52E-06	2.03E-05	1.29E-06	2.29E-05	1.30E-06	9.66E-06	1.93E-01	1.12E-06
Road 9	9	1100-1200	2.47E-01	1.61E-06	2.86E-05	2.09E-01	1.36E-06	2.42E-05	3.76E-01	2.45E-06	4.35E-05
Road 9	9	1200-1300	2.47E-01	1.61E-06	2.86E-05	2.09E-01	1.36E-06	2.42E-05	3.76E-01	2.45E-06	4.35E-05
Road 9	9	1300-1400	2.61E-01	1.89E-06	3.38E-05	2.17E-01	1.57E-06	2.80E-05	3.91E-01	2.83E-06	5.04E-05
Road 9	9	1400-1500	2.61E-01	1.89E-06	3.38E-05	2.17E-01	1.57E-06	2.80E-05	3.91E-01	2.83E-06	5.04E-05
Road 9	9	1500-1600	2.61E-01	1.89E-06	3.38E-05	2.17E-01	1.57E-06	2.80E-05	3.91E-01	2.83E-06	5.04E-05
Road 9	9	1600-1700	1.73E-01	2.00E-06	3.57E-05	1.44E-01	1.66E-06	2.97E-05	2.59E-01	2.99E-06	5.35E-05
Road 9	9	1700-1800	1.73E-01	2.00E-06	3.57E-05	1.44E-01	1.66E-06	2.97E-05	2.59E-01	2.99E-06	5.35E-05
Road 9	9	1800-1900	2.42E-01	1.94E-07	3.93E-06	2.11E-02	1.68E-07	3.41E-06	2.91E-01	2.34E-06	4.74E-05
Road 9	9	1900-2000	2.34E-01	1.87E-07	3.79E-06	2.04E-02	1.64E-07	3.32E-06	2.81E-01	2.25E-06	4.56E-05
Road 9	9	2000-2100	2.16E-01	1.73E-07	2.14E-06	1.88E-02	1.51E-07	1.86E-06	2.59E-01	2.08E-06	2.57E-05
Road 9	9	2100-2200	2.16E-01	1.73E-07	2.14E-06	1.88E-02	1.51E-07	1.86E-06	2.59E-01	2.08E-06	2.57E-05
Road 9	9	2200-2300	2.16E-01	1.73E-07	2.14E-06	1.88E-02	1.51E-07	1.86E-06	2.59E-01	2.08E-06	2.57E-05
Road 9	9	2300-0000	2.29E-01	1.37E-07	1.81E-06	1.99E-02	1.19E-07	1.57E-06	2.76E-01	1.65E-06	2.18E-05
Road 10	10	0000-0100	9.01E-02	1.16E-07	7.77E-07	8.12E-02	1.04E-07	6.99E-07	1.09E-01	1.40E-07	9.38E-07
Road 10	10	0100-0200	9.90E-02	1.04E-07	6.99E-07	8.83E-02	9.31E-08	6.24E-07	4.69E-01	4.94E-07	3.31E-06
Road 10	10	0200-0300	9.01E-02	1.16E-07	7.77E-07	8.12E-02	1.04E-07	6.99E-07	4.29E-01	5.52E-07	3.70E-06
Road 10	10	0300-0400	8.49E-02	1.09E-07	7.32E-07	7.65E-02	9.84E-08	6.59E-07	4.04E-01	5.20E-07	3.49E-06
Road 10	10	0400-0500	8.98E-02	2.41E-07	1.61E-06	8.18E-02	2.19E-07	1.47E-06	4.34E-01	1.16E-06	7.79E-06
Road 10	10	0500-0600	1.17E-01	7.22E-07	4.84E-06	1.03E-01	6.39E-07	4.29E-06	5.31E-01	3.30E-06	2.21E-05
Road 10	10	0600-0700	1.30E-01	8.39E-07	5.63E-06	1.14E-01	7.38E-07	4.95E-06	5.52E-01	3.56E-06	2.39E-05
Road 10	10	0700-0800	1.30E-01	8.39E-07	5.63E-06	1.14E-01	7.38E-07	4.95E-06	5.52E-01	3.56E-06	2.39E-05
Road 10	10	0800-0900	1.11E-01	1.66E-06	3.11E-05	9.78E-02	1.46E-06	2.74E-05	5.04E-01	7.54E-06	1.41E-04
Road 10	10	0900-1000	1.30E-01	1.95E-06	3.65E-05	1.14E-01	1.71E-06	3.21E-05	5.52E-01	8.27E-06	1.55E-04
Road 10	10	1000-1100	1.38E-01	7.91E-07	5.30E-06	1.22E-01	6.98E-07	4.68E-06	5.85E-01	3.36E-06	2.25E-05
Road 10	10	1100-1200	1.38E-01	7.91E-07	5.30E-06	1.22E-01	6.98E-07	4.68E-06	5.85E-01	3.36E-06	2.25E-05
Road 10	10	1200-1300	1.46E-01	8.11E-07	5.44E-06	1.29E-01	7.17E-07	4.81E-06	5.98E-01	3.32E-06	2.23E-05
Road 10	10	1300-1400	1.46E-01	8.11E-07	5.44E-06	1.29E-01	7.17E-07	4.81E-06	5.98E-01	3.32E-06	2.23E-05
Road 10	10	1400-1500	1.42E-01	8.12E-07	5.45E-06	1.24E-01	7.09E-07	4.75E-06	5.89E-01	3.36E-06	2.25E-05
Road 10	10	1500-1600	1.42E-01	8.12E-07	5.45E-06	1.24E-01	7.09E-07	4.75E-06	5.89E-01	3.36E-06	2.25E-05
Road 10	10	1600-1700	1.37E-01	8.08E-07	5.41E-06	1.22E-01	7.16E-07	4.80E-06	5.72E-01	3.37E-06	2.26E-05
Road 10	10	1700-1800	1.22E-01	1.51E-07	5.04E-06	1.08E-01	1.33E-07	4.46E-06	5.09E-01	6.27E-07	2.11E-05
Road 10	10	1800-1900	9.81E-02	5.91E-07	1.96E-06	8.81E-02	5.31E-07	3.56E-06	4.08E-01	2.46E-06	8.16E-06
Road 10	10	1900-2000	6.57E-02	2.53E-07	1.70E-06	5.99E-02	2.31E-07	1.55E-06	3.38E-01	1.30E-06	8.72E-06
Road 10	10	2000-2100	2.09E-02	1.07E-06	1.42E-06	1.92E-02	9.85E-07	1.30E-06	1.08E-01	5.55E-06	7.36E-06
Road 10	10	2100-2200	6.76E-02	2.10E-07	1.41E-06	6.17E-02	1.92E-07	1.29E-06	3.48E-01	1.08E-06	7.26E-06
Road 10	10	2200-2300	6.30E-02	1.67E-07	1.12E-06	5.75E-02	1.52E-07	1.02E-06	3.24E-01	8.59E-07	5.77E-06
Road 10	10	2300-0000	7.06E-02	1.66E-07	1.11E-06	6.57E-02	1.55E-07	1.04E-06	3.67E-01	8.64E-07	5.80E-06

L:\Secure\Environment_Projects\607332\P1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.2 Emission Factor in 2030.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh/h	g/s/m²	tonne/hour	g/km/veh/h	g/s/m²	tonne/hour	g/km/veh/h	g/s/m²	tonne/hour
Road 11	11	0000-0100	1.54E-02	1.80E-07	6.91E-07	3.31E-02	3.86E-07	1.48E-06	6.35E-01	7.40E-06	2.84E-05
Road 11	11	0100-0200	4.20E-02	1.39E-07	5.34E-07	1.81E-02	1.26E-07	4.85E-07	3.51E-01	1.16E-06	4.46E-06
Road 11	11	0200-0300	4.74E-02	1.18E-07	4.53E-07	4.27E-02	1.06E-07	4.08E-07	3.68E-01	9.17E-07	3.52E-06
Road 11	11	0300-0400	1.54E-02	1.06E-07	4.06E-07	4.77E-02	9.63E-08	3.70E-07	3.81E-01	7.71E-07	2.96E-06
Road 11	11	0400-0500	5.38E-02	1.18E-07	4.52E-07	4.83E-02	1.06E-07	4.06E-07	3.91E-01	8.55E-07	3.28E-06
Road 11	11	0500-0600	6.38E-02	1.09E-07	4.19E-07	5.56E-02	4.32E-07	1.62E-07	4.23E-01	3.37E-06	1.27E-06
Road 11	11	0600-0700	4.94E-02	3.65E-07	1.40E-06	4.32E-02	3.32E-07	1.28E-06	3.91E-01	2.89E-06	1.11E-05
Road 11	11	0700-0800	6.36E-02	9.79E-07	3.76E-06	5.67E-02	8.73E-07	3.35E-06	4.54E-01	6.99E-06	2.68E-05
Road 11	11	0800-0900	6.38E-02	1.09E-06	4.19E-06	5.56E-02	4.32E-07	1.62E-07	4.23E-01	3.37E-06	1.27E-06
Road 11	11	0900-1000	7.19E-02	1.05E-06	4.03E-06	6.31E-02	9.27E-07	3.56E-06	4.63E-01	6.47E-06	2.48E-05
Road 11	11	1000-1100	7.46E-02	1.03E-06	3.94E-06	6.54E-02	9.03E-07	3.91E-06	4.80E-01	6.62E-06	2.54E-05
Road 11	11	1100-1200	7.70E-02	9.32E-07	3.58E-06	6.84E-02	8.28E-07	3.18E-06	4.56E-01	5.52E-06	2.12E-05
Road 11	11	1200-1300	9.06E-02	1.26E-06	4.83E-06	8.06E-02	1.12E-06	4.29E-06	5.06E-01	7.02E-06	2.69E-05
Road 11	11	1300-1400	9.47E-02	1.14E-06	4.37E-06	8.48E-02	1.02E-06	3.91E-06	5.16E-01	6.21E-06	2.38E-05
Road 11	11	1400-1500	9.38E-02	1.41E-06	5.41E-06	8.25E-02	1.24E-06	4.76E-06	5.19E-01	7.80E-06	2.99E-05
Road 11	11	1500-1600	9.37E-02	1.44E-06	5.52E-06	8.25E-02	1.27E-06	4.87E-06	5.18E-01	7.97E-06	3.05E-05
Road 11	11	1600-1700	9.04E-02	1.27E-06	4.87E-06	7.98E-02	1.12E-06	4.30E-06	5.03E-01	7.06E-06	2.71E-05
Road 11	11	1700-1800	7.58E-02	1.38E-06	5.29E-06	6.74E-02	1.23E-06	4.70E-06	4.90E-01	8.92E-06	3.42E-05
Road 11	11	1800-1900	5.52E-02	1.09E-06	4.17E-06	4.98E-02	9.82E-07	3.77E-06	4.01E-01	7.89E-06	3.03E-05
Road 11	11	1900-2000	4.12E-02	6.22E-07	2.39E-06	3.75E-02	5.66E-07	2.17E-06	3.70E-01	5.59E-06	2.14E-05
Road 11	11	2000-2100	4.07E-02	4.81E-07	1.85E-06	3.82E-02	4.51E-07	1.73E-06	3.41E-01	4.31E-06	1.65E-05
Road 11	11	2100-2200	3.88E-02	4.56E-07	1.75E-06	3.49E-02	4.11E-07	1.58E-06	3.68E-01	4.32E-06	1.66E-05
Road 11	11	2200-2300	3.58E-02	4.43E-07	1.70E-06	3.27E-02	4.04E-07	1.55E-06	3.40E-01	4.12E-06	1.58E-05
Road 11	11	2300-0000	3.84E-02	3.32E-07	1.27E-06	3.50E-02	3.03E-07	1.16E-06	3.66E-01	3.16E-06	1.21E-05
Road 12	12	0000-0100	3.09E-01	1.93E-07	4.77E-06	2.73E-01	1.70E-07	4.22E-06	1.96E+00	1.22E-06	3.03E-05
Road 12	12	0100-0200	3.21E-01	2.41E-07	5.65E-06	4.38E-01	3.29E-07	7.72E-06	1.91E+00	1.43E-06	3.36E-05
Road 12	12	0200-0300	3.21E-01	4.72E-08	2.83E-01	1.69E-07	4.16E-08	2.49E-07	1.91E+00	2.81E-07	1.68E-06
Road 12	12	0300-0400	3.21E-01	1.92E-07	4.73E-06	2.83E-01	1.69E-07	4.16E-06	1.21E+00	7.18E-07	1.77E-05
Road 12	12	0400-0500	3.21E-01	1.92E-07	4.73E-06	2.83E-01	1.68E-07	4.15E-06	1.21E+00	7.18E-07	1.77E-05
Road 12	12	0500-0600	3.16E-01	1.94E-07	4.78E-06	2.77E-01	1.70E-07	4.19E-06	1.19E+00	7.28E-07	1.79E-05
Road 12	12	0600-0700	3.16E-01	1.94E-07	4.78E-06	2.77E-01	1.70E-07	4.19E-06	1.19E+00	7.28E-07	1.79E-05
Road 12	12	0700-0800	3.90E-01	9.30E-07	2.29E-05	3.34E-01	8.05E-07	1.98E-05	1.44E+00	3.48E-06	8.58E-05
Road 12	12	0800-0900	3.90E-01	9.40E-07	2.32E-05	3.34E-01	8.13E-07	2.00E-05	1.44E+00	3.51E-06	8.65E-05
Road 12	12	0900-1000	4.03E-01	9.67E-07	2.38E-05	3.45E-01	8.37E-07	2.06E-05	1.48E+00	3.61E-06	8.90E-05
Road 12	12	1000-1100	4.04E-01	9.56E-07	2.36E-05	3.46E-01	8.27E-07	2.04E-05	1.48E+00	3.57E-06	8.81E-05
Road 12	12	1100-1200	4.04E-01	9.56E-07	2.36E-05	3.46E-01	8.27E-07	2.04E-05	1.48E+00	3.57E-06	8.81E-05
Road 12	12	1200-1300	4.02E-01	9.51E-07	2.34E-05	3.45E-01	8.23E-07	2.03E-05	1.48E+00	3.55E-06	8.76E-05
Road 12	12	1300-1400	4.02E-01	9.51E-07	2.34E-05	3.45E-01	8.23E-07	2.03E-05	1.48E+00	3.55E-06	8.76E-05
Road 12	12	1400-1500	4.07E-01	9.77E-07	2.41E-05	3.49E-01	8.45E-07	2.08E-05	1.49E+00	3.64E-06	8.99E-05
Road 12	12	1500-1600	4.07E-01	9.77E-07	2.41E-05	3.49E-01	8.45E-07	2.08E-05	1.49E+00	3.64E-06	8.99E-05
Road 12	12	1600-1700	3.98E-01	9.57E-07	2.36E-05	3.41E-01	8.28E-07	2.04E-05	1.46E+00	3.57E-06	8.81E-05
Road 12	12	1700-1800	3.94E-01	9.46E-07	2.33E-05	3.38E-01	8.18E-07	2.02E-05	1.45E+00	3.53E-06	8.71E-05
Road 12	12	1800-1900	3.94E-01	9.46E-07	2.33E-05	3.38E-01	8.18E-07	2.02E-05	1.45E+00	3.53E-06	8.71E-05
Road 12	12	1900-2000	3.94E-01	9.46E-07	2.33E-05	3.38E-01	8.18E-07	2.02E-05	1.45E+00	3.53E-06	8.71E-05
Road 12	12	2000-2100	3.94E-01	9.46E-07	2.33E-05	3.38E-01	8.18E-07	2.02E-05	1.45E+00	3.53E-06	8.71E-05
Road 12	12	2100-2200	3.94E-01	9.46E-07	2.33E-05	3.38E-01	8.18E-07	2.02E-05	1.45E+00	3.53E-06	8.71E-05
Road 12	12	2200-2300	3.94E-01	9.46E-07	2.33E-05	3.38E-01	8.18E-07	2.02E-05	1.45E+00	3.53E-06	8.71E-05
Road 12	12	2300-0000	3.94E-01	9.46E-07	2.33E-05	3.38E-01	8.18E-07	2.02E-05	1.45E+00	3.53E-06	8.71E-05
Road 13	13	0000-0100	3.09E-01	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	7.77E-02	1.40E-08	3.21E-08	7.10E-02	1.28E-08	2.94E-08	3.76E-01	6.78E-08	1.56E-07	3.43E-01	6.17E-08	1.42E-07
Road 37	37	1700-1800	7.77E-02	1.40E-08	3.21E-08	7.10E-02	1.28E-08	2.94E-08	3.76E-01	6.78E-08	1.56E-07	3.43E-01	6.17E-08	1.42E-07
Road 37	37	1800-1900	5.29E-02	9.53E-09	2.19E-08	4.91E-02	8.85E-09	2.03E-08	2.82E-01	5.08E-08	1.17E-07	2.61E-01	4.70E-08	1.08E-07
Road 37	37	1900-2000	4.50E-02	8.23E-09	1.43E-08	4.17E-02	7.78E-09	1.33E-08	2.64E-01	3.66E-08	8.39E-08	2.45E-01	3.39E-08	7.78E-08
Road 37	37	2000-2100	4.53E-02	4.89E-09	1.12E-08	4.20E-02	4.53E-09	1.04E-08	2.79E-01	3.01E-08	6.90E-08	2.57E-01	2.77E-08	6.36E-08
Road 37	37	2100-2200	4.85E-02	1.51E-08	4.21E-08	4.47E-02	1.39E-08	3.88E-08	3.01E-01	9.36E-08	2.61E-07	2.79E-01	8.68E-08	2.42E-07
Road 37	37	2200-2300	3.99E-02	4.13E-09	9.48E-09	3.71E-02	3.84E-09	8.81E-09	2.64E-01	2.73E-08	6.27E-08	2.45E-01	2.54E-08	5.83E-08
Road 37	37	2300-0000	4.36E-02	3.42E-09	7.85E-09	4.12E-02	3.24E-09	7.43E-09	2.75E-01	2.16E-08	4.96E-08	2.60E-01	2.04E-08	4.68E-08
Road 38	38	0000-0100	7.52E-02	1.36E-08	3.11E-08	6.88E-02	1.24E-08	2.85E-08	3.87E-01	7.00E-08	1.61E-07	3.57E-01	6.38E-08	1.47E-07
Road 38	38	0100-0200	8.77E-02	1.16E-08	9.49E-08	7.89E-02	1.04E-08	8.54E-08	4.31E-01	5.69E-08	4.66E-08	3.89E-01	5.14E-08	4.21E-08
Road 38	38	0200-0300	8.34E-02	1.08E-08	8.86E-08	7.50E-02	9.72E-09	7.97E-08	4.10E-01	5.31E-08	4.35E-08	3.70E-01	4.79E-08	3.93E-08
Road 38	38	0300-0400	1.05E-01	9.72E-08	7.96E-07	9.32E-02	8.77E-08	7.18E-07	4.84E-01	4.55E-07	3.73E-06	4.37E-01	4.11E-07	3.37E-06
Road 38	38	0400-0500	1.04E-01	1.06E-07	2.08E-07	9.29E-02	9.33E-08	1.84E-07	4.82E-01	4.91E-07	9.68E-07	4.35E-01	4.44E-07	8.74E-07
Road 38	38	0500-0600	9.50E-02	1.40E-08	2.21E-08	8.47E-02	1.24E-08	1.97E-08	4.61E-01	6.79E-08	1.07E-07	4.16E-01	6.13E-08	9.68E-08
Road 38	38	0600-0700	8.75E-02	2.42E-07	1.98E-06	7.96E-02	2.20E-07	1.80E-06	4.28E-01	1.18E-06	9.66E-06	3.89E-01	1.07E-06	8.78E-06
Road 38	38	0700-0800	1.34E-01	2.37E-07	5.41E-07	1.24E-01	2.19E-07	5.00E-07	5.25E-01	3.31E-06	7.57E-06	4.77E-01	3.00E-06	6.88E-06
Road 38	38	0800-0900	1.12E-01	8.05E-07	6.59E-06	9.98E-02	7.15E-07	5.86E-06	5.00E-01	3.58E-06	2.93E-05	4.43E-01	3.18E-06	2.61E-05
Road 38	38	0900-1000	1.36E-01	8.32E-07	6.81E-06	1.18E-01	7.22E-07	5.91E-06	5.71E-01	3.48E-06	2.85E-05	4.92E-01	3.01E-06	2.46E-05
Road 38	38	1000-1100	1.35E-01	7.90E-07	6.47E-06	1.19E-01	6.97E-07	5.70E-06	5.68E-01	3.32E-06	2.72E-05	4.98E-01	2.91E-06	2.38E-05
Road 38	38	1100-1200	1.34E-01	7.46E-07	6.11E-06	1.18E-01	6.47E-07	5.30E-06	5.65E-01	3.01E-06	2.46E-05	5.23E-01	2.84E-06	2.32E-05
Road 38	38	1200-1300	1.48E-01	7.85E-07	6.43E-06	1.31E-01	6.95E-07	5.69E-06	6.05E-01	3.20E-06	2.62E-05	5.32E-01	2.81E-06	2.30E-05
Road 38	38	1300-1400	1.48E-01	7.85E-07	6.43E-06	1.31E-01	6.95E-07	5.69E-06	6.05E-01	3.20E-06	2.62E-05	5.32E-01	2.81E-06	2.30E-05
Road 38	38	1400-1500	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	1500-1600	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	1600-1700	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	1700-1800	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	1800-1900	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	1900-2000	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	2000-2100	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	2100-2200	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	2200-2300	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 38	38	2300-0000	1.48E-01	8.08E-07	6.62E-06	1.31E-01	7.15E-07	5.85E-06	6.05E-01	3.29E-06	2.70E-05	5.32E-01	2.89E-06	2.37E-05
Road 39	39	0000-0100	1.32E-01	1.43E-08	1.28E-07	1.21E-01	1.23E-08	1.33E-08	1.14E-01	5.07E-01	5.51E-08	4.69E-07	4.67E-01	5.08E-08	4.33E-07
Road 39	39	0100-0200	1.36E-01	1.71E-08	4.46E-08	1.25E-01	1.58E-08	1.14E-07	5.07E-01	6.56E-08	5.59E-07	4.74E-01	5.98E-08	5.09E-07
Road 39	39	0200-0300	1.29E-01	1.26E-08	1.06E-07	1.19E-01	1.16E-08	9.80E-08	4.98E-01	4.85E-08	4.09E-07	4.65E-01	4.50E-08	3.80E-07
Road 39	39	0300-0400	1.32E-01	1.43E-08	1.22E-07	1.21E-01	1.33E-08	1.14E-07	5.07E-01	5.51E-08	4.69E-07	4.67E-01	5.08E-08	4.33E-07
Road 39	39	0400-0500	1.36E-01	1.71E-08	4.46E-08	1.25E-01	1.58E-08	1.14E-07	5.07E-01	6.56E-08	5.59E-07	4.74E-01	5.98E-08	5.09E-07
Road 39	39	0500-0600	1.29E-01	1.26E-08	1.06E-07	1.19E-01	1.16E-08	9.80E-08	4.98E-01	4.85E-08	4.09E-07	4.65E-01	4.50E-08	3.80E-07
Road 39	39	0600-0700	1.42E-01	1.08E-08	8.96E-08	1.31E-01	9.95E-09	8.25E-08	5.31E-01	4.07E-08	3.37E-07	4.96E-01	3.79E-08	3.14E-07
Road 39	39	0700-0800	1.42E-01	1.08E-08	8.96E-08	1.31E-01	9.95E-09	8.25E-08	5.31E-01	4.07E-08	3.37E-07	4.96E-01	3.79E-08	3.14E-07
Road 39	39	0800-0900	1.29E-01	1.26E-08	1.06E-07	1.19E-01	1.16E-08	9.80E-08	4.98E-01	4.85E-08	4.09E-07	4.65E-01	4.50E-08	3.80E-07
Road 39	39	0900-1000	1.60E-01	2.26E-07	1.92E-06	1.45E-01	2.05E-07	1.74E-06	5.94E-01	8.36E-07	7.12E-06	5.29E-01	7.45E-07	6.34E-06
Road 39	39	1000-1100	1.64E-01	2.26E-07	1.92E-06	1.48E-01	2.05E-07	1.74E-06	6.07E-01	8.36E-07	7.12E-06	5.40E-01	7.45E-07	6.34E-06
Road 39	39	1100-1200	1.61E-01	2.08E-07	1.77E-06	1.48E-01	1.89E-07	1.61E-06	5.98E-01	7.66E-07	6.52E-06	5.34E-01	6.84E-07	5.82E-06
Road 39	39	1200-1300	1.64E-01	2.26E-07	1.92E-06	1.48E-01	2.05E-07	1.74E-06	6.07E-01	8.36E-07	7.12E-06	5.40E-01	7.45E-07	6.34E-06
Road 39	39	1300-1400	9.50E-02	2.58E-08	2.20E-07	8.65E-02	2.35E-08	2.00E-07	4.10E-01	1.11E-07	9.49E-07	3.70E-01	1.01E-07	8.57E-07
Road 39	39	1400-1500	9.17E-02	2.61E-08	2.22E-07	8.26E-02	2.35E-08	2.00E-07	4.04E-01	1.15E-07	9.78E-07	3.62E-01	1.03E-07	8.77E-07
Road 39	39	1500-1600	9.17E-02	2.61E-08	2.22E-07	8.26E-02	2.35E-08	2.00E-07	4.04E-01	1.15E-07	9.78E-07	3.62E-01	1.03E-07	8.77E-07
Road 39	39	1600-1700	8.77E-02	2.63E-08	2.24E-07	8.00E-02	2.40E-08	2.05E-07	3.91E-01	1.18E-07	1.00E-06	3.55E-01	1.07E-07	9.09E-07
Road 39	39	1700-1800	8.77E-02	2.63E-08	2.24E-07	8.00E-02	2.40E-08	2.05E-07	3.91E-01	1.18E-07	1.00E-06	3.55E-01	1.07E-07	9.09E-07
Road 39	39	1800-1900	4.91E-02	1.62E-08	1.38E-07	4.56E-02	1.50E-08	1.28E-07	2.52E-01	8.30E-08	7.07E-07	2.34E-01	7.72E-08	6.57E-07
Road 39	39	1900-2000	4.20E-02	8.34E-09	7.10E-08	3.89E-02	7.72E-09	6.57E-08	2.70E-01	5.36E-08	4.56E-07	2.49E-01	4.94E-08	4.21E-07
Road 39	39	2000-2100	4.12E-02	8.21E-09	7.00E-08	3.80E-02	7.58E-09	6.45E-08	2.70E-01	5.39E-08	4.59E-07	2.48E-01	4.95E-08	4.21E-07
Road 39	39	2100-2200	4.12E-02	8.21E-09	7.00E-08	3.80E-02	7.58E-09	6.45E-08	2.70E-01	5.39E-08	4.59E-07	2.48E-01	4.95E-08	4.21E-07
Road 39	39	2200-2300	4.12E-02	8.21E-09	7.00E-08	3.80E-02	7.58E-09	6.45E-08	2.70E-01	5.39E-08	4.59E-07	2.48E-01	4.95E-08	4.21E-07
Road 39	39	2300-0000	4.12E-02	8.21E-09	7.00E-08	3.80E-02	7.58E-09	6.45E-08	2.70E-01	5.39E-08	4.59E-07	2.48E-01	4.95E-08	4.21E-07
Road 40	40	0000-0100	1.02E-01	1.73E-07	8.40E-07	9.07E-02	1.54E-07	7.48E-07	4.79E-01	8.13E-07	3.95E-06	4.28E-01	7.26E-07	3.53E-06
Road 40	40	0100-0200	1.08E-01	1.41E-07	1.14E-06	9.64E-02	1.25E-07	1.01E-06	5.11E-01	6.63E-07	5.36E-06	4.56E-01	5.92E-07	4.79E-06
Road 40	40	0200-0300	1.02E-01	1.41E-07	1.14E-06	9.07E-02	1.25E-07	1.01E-06	4.79E-01	6.63E-07	5.36E-06	4.28E-01	5.92E-07	4.79E-06
Road 40	40	0300-0400	1.05E-01	1.73E-07	8.40E-07	9.32E-02	1.54E-07	7.48E-07	4.96E-01	8.13E-07	3.95E-06	4.40E-01	7.26E-07	3.53E-06
Road 40	40	0400-0500	1.04E-01	1.73E-07	8.40E-07	9.29E-02	1.54E-07	7.48E-07	4.91E-01	8.13E-07	3.95E-06	4.35E-01	7.26E-07	3.53E-06
Road 40	40	0500-0600	9.35E-02	4.00E-07	1.95E-06	8.48E-02	3.63E-07	1.77E-06	4.47E-01	1.92E-06	9.32E-06	4.06E-01	1.74E-06	8.46E-06
Road 40	40	0600-0700	1.29E-01	1.28E-06	6.21E-06	1.14E-01	1.13E-06	5.48E-06	5.75E-01	5.71E-06	2.78E-05	5.08E-01	5.04E-06	2.45E-05
Road 40	40	0700-0800	1.29E-01	1.28E-06	6.21E-06	1.14E-01	1.13E-06	5.48E-06	5.75E-01	5.71E-06	2.78E-05	5.08E-01	5.04E-06	2.45E-05
Road 40	40	0800-0900	1.42E-01	1.48E-06	7.18E-06	1.25E-01	1.29E-06	6.29E-06	5.98E-01	6.20E-06	3.02E-05	5.21E-01	5.40E-06	2.63E-05
Road 40	40	0900-1000	1.42E-01	1.48E-06	7.18E-06	1.25E-01	1.29E-06	6.29E-06	5.98E-01	6.20E-06	3.02E-05	5.21E-01	5.40E-06	2.63E-05
Road 40	40	1000-1100	1.48E-01	1.56E-06	6.33E-06	1.30E-01	1.36E-06	5.53E-06	6.23E-01	6.53E-06	2.65E-05	5.36E-01	5.64E-06	2.29E-05
Road 40	40	1100-1200	1.48E-01	1.56E-06	6.33E-06	1.30E-01	1.36E-06	5.53E-06	6.23E-01	6.53E-06	2.65E-05	5.36E-01	5.64E-06	2.29E-05
Road 40	40	1200-1300	1.48E-01	1.56E-06	6.33E-06	1.30E-01	1.36E-06	5.53E-06	6.23E-01	6.53E-06	2.65E-05	5.36E-01	5.64E-06	2.29E-05
Road 40	40	1300-1400	1.48E-01	1.56E-06	6.33E-06	1.30E-01	1.36E-06	5.53E-06	6.23E-01	6.53E-06	2.65E-05	5.36E-01	5.64E-06	2.29E-05
Road 40	40	1400-1500	1.62E-01	1.61E-06	7.12E-06	1.41E-01	1.27E-06	6.20E-06	6.57E-01	5.92E-06	2.88E-05	5.69E-01	5.13E-06	2.50E-05
Road 40	40	1500-1600	1.62E-01	1.61E-06	7.12E-06	1.41E-01	1.27E-06	6.20E-06	6.57E-01	5.92E-06	2.88E-05	5.69E-01	5.13E-06	2.50E-05
Road 40	40	1600-1700	1.57E-01	1.45E-06	7.05E-06	1.39E-01	1.28E-06	6.23E-06	6.39E-01	5.91E-06	2.87E-05	5.62E-01	5.20E-06	2.53E-05
Road 40	40	1700-1800	1.57E-01	1.45E-06	7.05E-06	1.39E-01	1.28E-06	6.23E-06	6.39E-01	5.91E-06	2.87E-05	5.62E-01	5.20E-06	2.53E-05
Road 40	40	1800-1900	1.15E-01	1.06E-06	5.15E-06	1.03E-01	9.48E-07	4.61E-06	5.05E-01	4.65E-06	2.26E-05	4.53E-01	4.17E-06	2.03E-05
Road 40	40	1900-2000	7.40E-02	4.27E-07	2.08E-06	6.74E-02	3.89E-07	1.89E-06	3.65E-01	2.10E-06	1.02E-05	3.32E-01	1.92E-06	9.32E-06
Road 40	40	2000-2100	7.64E-02	3.55E-07	1.73E-06	6.72E-02	3.21E-07	1.56E-06	3.84E-01	1.78E-06	8.65E-06	3.37E-01	1.61E-06	7.84E-06
Road 40	40	2100-2200	7.62E-02	3.55E-07	1.73E-06	6.84E-02	3.19E-07	1.56E-06	3.84E-01	1.78E-06	8.65E-06	3.44E-01	1.60E-06	7.86E-06
Road 40	40	2200-2300	7.80E-02	3.38E-07	1.54E-06	6.98E-02	3.03E-07	1.38E-06	3.94E-01	1.71E-06	7.79E-06	3.53E-01	1.53E-06	6.97E-06
Road 40	40	2300-0000	7.80E-02	2.77E-07	1.35E-06	7.25E-02	2.57E-07	1.25E-06	3.90E-01	1.38E-06	6.73E-06	3.63E-01	1.29E-06	6.27E-06

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.2 Emission Factor in 2030.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	6.26E-02	1.04E-07	5.72E-07	5.69E-02	9.47E-08	2.34E-07	3.17E-01	5.27E-07	2.38E-06	2.89E-01	4.81E-07	1.98E-06
Road 41	41	0100-0200	4.04E-02	9.07E-08	8.51E-07	3.55E-02	7.97E-08	7.48E-07	2.04E-01	4.58E-07	4.30E-06	1.78E-01	3.99E-07	3.74E-06
Road 41	41	0200-0300	4.76E-02	8.46E-08	7.94E-07	4.16E-02	7.39E-08	6.93E-07	2.39E-01	4.25E-07	3.98E-06	2.09E-01	3.64E-07	3.40E-06
Road 41	41	0300-0400	5.26E-02	9.77E-08	7.48E-07	4.67E-02	8.68E-08	6.62E-07	2.57E-01	4.77E-07	3.89E-06	2.61E-01	4.42E-07	3.21E-06
Road 41	41	0400-0500	5.26E-02	8.53E-08	8.00E-07	4.58E-02	7.42E-08	6.96E-07	2.57E-01	4.16E-07	3.90E-06	2.21E-01	3.59E-07	3.37E-06
Road 41	41	0500-0600	3.87E-02	1.07E-07	2.60E-06	3.37E-02	9.36E-08	2.78E-06	1.89E-01	5.27E-07	1.45E-05	1.64E-01	4.56E-07	4.28E-06
Road 41	41	0600-0700	5.59E-02	1.72E-07	1.62E-06	4.87E-02	1.50E-07	2.54E-06	2.73E-01	8.44E-07	2.46E-05	2.37E-01	7.31E-07	6.91E-06
Road 41	41	0700-0800	1.08E-01	1.68E-07	1.54E-06	9.44E-02	1.46E-07	2.41E-06	5.29E-01	8.21E-07	2.34E-05	4.59E-01	7.12E-07	6.57E-06
Road 41	41	0800-0900	1.55E-01	1.68E-07	1.54E-06	1.35E-01	1.46E-07	2.41E-06	7.58E-01	8.21E-07	2.34E-05	6.58E-01	7.12E-07	6.57E-06
Road 41	41	0900-1000	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1000-1100	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1100-1200	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1200-1300	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1300-1400	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1400-1500	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1500-1600	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1600-1700	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1700-1800	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1800-1900	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	1900-2000	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	2000-2100	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	2100-2200	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	2200-2300	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 41	41	2300-0000	1.36E-01	1.55E-07	1.42E-06	1.18E-01	1.35E-07	2.23E-06	6.67E-01	7.58E-07	2.17E-05	5.79E-01	6.58E-07	6.07E-06
Road 42	42	0000-0100	6.21E-02	1.34E-07	1.40E-06	5.50E-02	1.19E-07	3.01E-06	2.86E-01	6.18E-07	1.57E-05	2.52E-01	5.43E-07	1.38E-05
Road 42	42	0100-0200	4.29E-02	1.10E-07	1.03E-06	3.79E-02	9.72E-08	2.66E-06	2.01E-01	5.17E-07	1.24E-05	1.77E-01	4.55E-07	1.09E-05
Road 42	42	0200-0300	8.81E-02	1.17E-07	2.97E-06	7.69E-02	1.02E-07	2.59E-06	3.91E-01	5.19E-07	1.32E-05	3.41E-01	4.51E-07	1.14E-05
Road 42	42	0300-0400	8.38E-02	1.11E-07	2.82E-06	7.33E-02	9.68E-08	2.46E-06	3.72E-01	4.93E-07	1.25E-05	3.25E-01	4.29E-07	1.09E-05
Road 42	42	0400-0500	9.53E-02	1.18E-07	2.99E-06	8.29E-02	1.02E-07	2.60E-06	4.19E-01	5.18E-07	1.31E-05	3.63E-01	4.48E-07	1.14E-05
Road 42	42	0500-0600	7.66E-02	1.33E-07	3.38E-06	6.67E-02	1.17E-07	2.96E-06	3.43E-01	5.96E-07	1.51E-05	2.98E-01	5.18E-07	1.31E-05
Road 42	42	0600-0700	9.64E-02	1.33E-07	3.38E-06	8.39E-02	1.17E-07	2.96E-06	4.24E-01	5.96E-07	1.51E-05	3.68E-01	5.18E-07	1.31E-05
Road 42	42	0700-0800	8.75E-02	7.15E-07	1.81E-05	8.36E-02	6.13E-07	1.55E-05	4.19E-01	3.07E-06	7.80E-05	3.57E-01	2.62E-06	6.64E-05
Road 42	42	0800-0900	8.09E-02	7.44E-07	1.89E-05	7.76E-02	6.37E-07	1.61E-05	3.90E-01	3.19E-06	8.11E-05	3.32E-01	2.72E-06	6.90E-05
Road 42	42	0900-1000	1.06E-01	7.74E-07	1.96E-05	9.52E-02	6.93E-07	1.76E-05	5.14E-01	3.73E-06	9.48E-05	4.54E-01	3.27E-06	8.30E-05
Road 42	42	1000-1100	1.24E-01	7.76E-07	1.97E-05	1.12E-01	6.98E-07	1.77E-05	6.00E-01	3.75E-06	9.52E-05	5.31E-01	3.29E-06	8.34E-05
Road 42	42	1100-1200	1.21E-01	7.23E-07	1.83E-05	9.49E-02	6.15E-07	1.56E-05	5.85E-01	3.49E-06	8.85E-05	4.51E-01	2.88E-06	7.30E-05
Road 42	42	1200-1300	1.24E-01	7.76E-07	1.97E-05	1.12E-01	6.98E-07	1.77E-05	6.00E-01	3.75E-06	9.52E-05	5.31E-01	3.29E-06	8.34E-05
Road 42	42	1300-1400	1.24E-01	7.76E-07	1.97E-05	1.12E-01	6.98E-07	1.77E-05	6.00E-01	3.75E-06	9.52E-05	5.31E-01	3.29E-06	8.34E-05
Road 42	42	1400-1500	1.24E-01	7.76E-07	1.97E-05	1.12E-01	6.98E-07	1.77E-05	6.00E-01	3.75E-06	9.52E-05	5.31E-01	3.29E-06	8.34E-05
Road 42	42	1500-1600	1.24E-01	7.76E-07	1.97E-05	1.12E-01	6.98E-07	1.77E-05	6.00E-01	3.75E-06	9.52E-05	5.31E-01	3.29E-06	8.34E-05
Road 42	42	1600-1700	1.24E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.11E-02	1.57E-07	5.67E-06	1.42E-02	7.84E-06	1.32E-03	1.03E-06	1.28E-01	6.68E-06
Road 1	1	0100-0200	1.17E-02	1.08E-07	5.95E-06	1.09E-02	9.99E-08	5.50E-06	1.31E-01	1.21E-06	6.66E-05
Road 1	1	0200-0300	1.24E-02	8.34E-08	4.59E-06	1.17E-02	7.83E-08	4.31E-06	1.31E-01	8.81E-07	4.85E-05
Road 1	1	0300-0400	1.22E-02	1.07E-07	5.26E-06	8.65E-08	3.86E-06	1.77E-01	7.58E-07	3.94E-05	1.62E-03
Road 1	1	0400-0500	1.44E-02	8.34E-08	4.59E-06	1.33E-02	7.71E-08	4.24E-06	1.40E-01	8.08E-07	4.45E-05
Road 1	1	0500-0600	1.55E-02	8.55E-08	4.45E-06	1.42E-02	7.82E-08	4.07E-06	1.33E-01	7.33E-07	3.82E-05
Road 1	1	0600-0700	1.66E-02	3.52E-07	1.94E-05	1.48E-02	3.15E-06	1.74E-04	1.52E-01	3.23E-06	1.78E-04
Road 1	1	0700-0800	1.82E-02	7.79E-07	4.29E-05	1.62E-02	6.92E-06	3.81E-04	1.66E-01	7.11E-06	3.91E-04
Road 1	1	0800-0900	1.56E-02	6.67E-07	3.67E-05	1.39E-02	5.92E-06	3.26E-04	1.42E-01	6.08E-06	3.35E-04
Road 1	1	0900-1000	1.07E-02	8.22E-07	4.52E-05	1.79E-02	7.32E-07	4.03E-05	1.66E-01	6.81E-06	3.75E-04
Road 1	1	1000-1100	1.07E-02	8.22E-07	4.52E-05	1.79E-02	7.32E-07	4.03E-05	1.66E-01	6.81E-06	3.75E-04
Road 1	1	1100-1200	2.20E-02	7.50E-07	3.91E-05	6.14E-02	3.38E-05	1.75E-03	5.65E-06	3.11E-04	1.62E-02
Road 1	1	1200-1300	2.21E-02	4.70E-07	2.59E-05	6.47E-02	1.39E-05	7.66E-04	5.96E-06	1.28E-04	7.05E-03
Road 1	1	1300-1400	2.45E-02	8.20E-07	4.51E-05	6.44E-02	2.01E-05	1.11E-03	5.93E-06	1.85E-04	1.02E-02
Road 1	1	1400-1500	3.03E-02	1.59E-06	8.74E-05	2.57E-02	1.34E-06	7.40E-05	2.04E-01	1.07E-05	5.89E-04
Road 1	1	1500-1600	3.31E-02	1.77E-06	9.74E-05	2.57E-02	1.37E-06	7.56E-05	2.04E-01	1.09E-05	5.99E-04
Road 1	1	1600-1700	3.93E-02	1.68E-06	9.25E-05	2.57E-02	1.10E-06	6.04E-05	2.04E-01	8.73E-06	4.80E-04
Road 1	1	1700-1800	4.23E-02	1.81E-06	9.96E-05	2.57E-02	1.10E-06	6.04E-05	2.04E-01	8.73E-06	4.80E-04
Road 1	1	1800-1900	1.62E-02	1.18E-06	6.49E-05	1.38E-02	1.01E-06	5.55E-05	1.46E-01	1.07E-05	5.88E-04
Road 1	1	1900-2000	1.40E-02	8.18E-07	4.50E-05	1.23E-02	7.15E-07	3.94E-05	1.46E-01	8.52E-06	4.69E-04
Road 1	1	2000-2100	1.41E-02	1.33E-07	7.38E-06	1.22E-02	1.15E-07	6.37E-06	1.46E-01	1.38E-06	7.66E-05
Road 1	1	2100-2200	1.20E-02	5.41E-07	2.98E-05	1.07E-02	4.81E-07	2.65E-05	1.39E-01	6.27E-06	3.45E-04
Road 1	1	2200-2300	1.24E-02	1.62E-07	8.91E-06	1.09E-02	1.42E-07	7.82E-06	1.39E-01	1.81E-06	9.96E-05
Road 1	1	2300-0000	1.27E-02	1.48E-07	8.15E-06	1.12E-02	1.31E-07	7.21E-06	1.39E-01	1.62E-06	8.91E-05
Road 2	2	0000-0100	1.25E-02	2.43E-07	1.23E-05	1.14E-02	2.21E-07	1.12E-05	1.24E-01	2.41E-06	1.22E-04
Road 2	2	0100-0200	1.31E-02	2.31E-07	1.17E-05	1.20E-02	2.12E-07	1.07E-05	1.24E-01	2.19E-06	1.11E-04
Road 2	2	0200-0300	1.40E-02	1.58E-07	8.01E-06	1.28E-02	1.45E-07	7.34E-06	1.24E-01	1.40E-06	7.09E-05
Road 2	2	0300-0400	1.37E-02	2.03E-07	1.03E-05	1.25E-02	1.86E-07	9.41E-06	1.24E-01	1.84E-06	9.32E-05
Road 2	2	0400-0500	1.63E-02	1.31E-07	6.61E-06	1.51E-02	1.21E-07	6.12E-06	1.45E-01	1.16E-06	5.90E-05
Road 2	2	0500-0600	1.73E-02	2.46E-07	1.24E-05	1.45E-02	2.06E-07	1.04E-05	1.33E-01	1.89E-06	9.56E-05
Road 2	2	0600-0700	1.85E-02	2.07E-07	1.05E-05	1.69E-02	1.89E-07	9.56E-06	1.55E-01	1.73E-06	8.77E-05
Road 2	2	0700-0800	2.07E-02	1.24E-06	6.27E-05	1.85E-02	1.11E-06	5.60E-05	1.59E-01	9.52E-06	4.82E-04
Road 2	2	0800-0900	1.78E-02	2.46E-07	1.24E-05	1.54E-02	2.13E-07	1.07E-05	1.33E-01	1.84E-06	9.32E-05
Road 2	2	0900-1000	2.43E-02	1.38E-06	7.00E-05	2.11E-02	1.20E-06	6.08E-05	1.69E-01	9.60E-06	4.86E-04
Road 2	2	1000-1100	2.43E-02	1.38E-06	7.00E-05	2.11E-02	1.20E-06	6.08E-05	1.69E-01	9.60E-06	4.86E-04
Road 2	2	1100-1200	2.63E-02	1.22E-06	6.18E-05	2.29E-02	1.06E-06	5.39E-05	1.78E-01	8.29E-06	4.20E-04
Road 2	2	1200-1300	2.97E-02	1.12E-06	5.65E-05	2.58E-02	9.72E-07	4.92E-05	1.99E-01	7.50E-06	3.80E-04
Road 2	2	1300-1400	2.97E-02	1.12E-06	5.65E-05	2.58E-02	9.72E-07	4.92E-05	1.99E-01	7.50E-06	3.80E-04
Road 2	2	1400-1500	3.09E-02	1.27E-06	6.42E-05	2.61E-02	1.07E-06	5.42E-05	2.05E-01	8.39E-06	4.25E-04
Road 2	2	1500-1600	3.24E-02	1.26E-06	6.37E-05	2.74E-02	1.06E-06	5.38E-05	2.15E-01	8.36E-06	4.23E-04
Road 2	2	1600-1700	2.98E-02	1.33E-06	6.76E-05	2.55E-02	1.14E-06	5.78E-05	2.00E-01	8.94E-06	4.54E-04
Road 2	2	1700-1800	3.27E-02	2.46E-07	1.24E-05	2.76E-02	2.07E-07	1.04E-05	2.16E-01	1.62E-06	8.19E-05
Road 2	2	1800-1900	2.20E-02	2.04E-07	1.03E-05	1.87E-02	1.73E-07	8.76E-06	1.46E-01	1.35E-06	6.85E-05
Road 2	2	1900-2000	1.40E-02	2.46E-07	1.24E-05	1.19E-02	2.09E-07	1.06E-05	9.31E-02	1.63E-06	8.28E-05
Road 2	2	2000-2100	1.41E-02	2.46E-07	1.24E-05	1.20E-02	2.09E-07	1.06E-05	9.31E-02	1.63E-06	8.28E-05
Road 2	2	2100-2200	1.20E-02	2.46E-07	1.24E-05	1.02E-02	2.09E-07	1.06E-05	7.94E-02	1.63E-06	8.28E-05
Road 2	2	2200-2300	1.24E-02	2.46E-07	1.24E-05	1.05E-02	2.09E-07	1.06E-05	8.19E-02	1.63E-06	8.28E-05
Road 2	2	2300-0000	1.27E-02	2.46E-07	1.24E-05	1.08E-02	2.09E-07	1.06E-05	8.44E-02	1.63E-06	8.28E-05
Road 3	3	0000-0100	1.35E-02	5.67E-08	3.44E-07	1.22E-02	5.13E-08	3.14E-07	1.90E-01	8.00E-07	4.91E-06
Road 3	3	0100-0200	1.41E-02	5.28E-08	3.20E-07	1.27E-02	4.77E-08	2.92E-07	1.90E-01	7.15E-07	4.39E-06
Road 3	3	0200-0300	1.50E-02	3.00E-08	1.84E-07	1.41E-02	2.82E-08	1.73E-07	1.90E-01	3.81E-07	2.34E-06
Road 3	3	0300-0400	1.47E-02	2.96E-08	1.81E-07	1.38E-02	2.78E-08	1.70E-07	1.90E-01	3.84E-07	2.35E-06
Road 3	3	0400-0500	1.71E-02	2.94E-08	1.80E-07	1.57E-02	2.69E-08	1.65E-07	1.90E-01	3.26E-07	2.00E-06
Road 3	3	0500-0600	1.77E-02	5.24E-08	3.21E-07	1.64E-02	4.86E-08	2.98E-07	1.90E-01	5.62E-07	3.45E-06
Road 3	3	0600-0700	1.85E-02	1.64E-07	1.00E-06	1.71E-02	1.52E-07	9.32E-07	1.90E-01	1.69E-06	1.03E-05
Road 3	3	0700-0800	2.05E-02	2.60E-07	1.59E-06	1.82E-02	2.30E-07	1.41E-06	2.20E-01	2.80E-06	1.71E-05
Road 3	3	0800-0900	1.94E-02	2.49E-07	1.52E-06	1.73E-02	2.22E-07	1.36E-06	1.99E-01	2.55E-06	1.56E-05
Road 3	3	0900-1000	2.28E-02	2.87E-07	1.64E-06	1.97E-02	2.48E-07	1.42E-06	2.52E-01	3.18E-06	1.81E-05
Road 3	3	1000-1100	2.55E-02	2.55E-07	1.56E-06	2.15E-02	2.15E-07	1.32E-06	2.38E-01	2.38E-06	1.46E-05
Road 3	3	1100-1200	2.45E-02	6.88E-07	4.19E-06	2.07E-02	5.81E-07	3.54E-06	2.29E-01	6.43E-06	3.92E-05
Road 3	3	1200-1300	2.52E-02	5.01E-07	3.07E-06	2.07E-02	4.22E-07	2.62E-06	2.32E-01	4.67E-06	2.91E-05
Road 3	3	1300-1400	2.52E-02	5.01E-07	3.07E-06	2.07E-02	4.22E-07	2.62E-06	2.32E-01	4.67E-06	2.91E-05
Road 3	3	1400-1500	2.65E-02	4.51E-07	2.76E-06	2.17E-02	3.80E-07	2.36E-06	2.44E-01	4.20E-06	2.62E-05
Road 3	3	1500-1600	2.77E-02	4.96E-07	3.04E-06	2.27E-02	4.18E-07	2.59E-06	2.55E-01	4.62E-06	2.88E-05
Road 3	3	1600-1700	2.56E-02	5.24E-07	3.21E-06	2.10E-02	4.42E-07	2.74E-06	2.36E-01	4.88E-06	3.04E-05
Road 3	3	1700-1800	2.26E-02	5.24E-07	3.21E-06	1.85E-02	4.42E-07	2.74E-06	2.08E-01	4.88E-06	3.04E-05
Road 3	3	1800-1900	1.89E-02	5.24E-07	3.21E-06	1.55E-02	4.42E-07	2.74E-06	1.74E-01	4.88E-06	3.04E-05
Road 3	3	1900-2000	1.40E-02	5.24E-07	3.21E-06	1.15E-02	4.42E-07	2.74E-06	1.29E-01	4.88E-06	3.04E-05
Road 3	3	2000-2100	1.41E-02	5.24E-07	3.21E-06	1.16E-02	4.42E-07	2.74E-06	1.30E-01	4.88E-06	3.04E-05
Road 3	3	2100-2200	1.20E-02	5.24E-07	3.21E-06	9.86E-03	4.42E-07	2.74E-06	1.11E-01	4.88E-06	3.04E-05
Road 3	3	2200-2300	1.24E-02	5.24E-07	3.21E-06	1.02E-02	4.42E-07	2.74E-06	1.14E-01	4.88E-06	3.04E-05
Road 3	3	2300-0000	1.27E-02	5.24E-07	3.21E-06	1.05E-02	4.42E-07	2.74E-06	1.17E-01	4.88E-06	3.04E-05
Road 4	4	0000-0100	1.11E-02	1.57E-07	5.67E-06	1.42E-02	7.84E-06	1.32E-03	1.03E-06	1.28E-01	6.68E-06
Road 4	4	0100-0200	1.17E-02	1.08E-07	5.95E-06	1.09E-02	9.99E-08	5.50E-06	1.31E-01	1.21E-06	6.66E-05
Road 4	4	0200-0300	1.24E-02	8.34E-08	4.59E-06	1.17E-02	7.83E-08	4.31E-06	1.31E-01	8.81E-07	4.85E-05
Road 4	4	0300-0400	1.22E-02	1.07E-07	5.26E-06	8.65E-08	3.86E-06	1.77E-01	7.58E-07	3.94E-05	1.62E-03
Road 4	4	0400-0500	1.44E-02	8.34E-08	4.59E-06	1.33E-02	7.71E-08	4.24E-06	1.40E-01	8.08E-07	4.45E-05
Road 4	4	0500-0600	1.55E-02	8.55E-08	4.45E-06	1.42E-02	7.82E-08	4.07E-06	1.33E-01	7.33E-07	3.82E-05
Road 4	4	0600-0700	1.66E-02	3.52E-07	1.94E-05	1.48E-02	3.15E-06	1.74E-04	1.52E-01	3.23E-06	1.78E-04
Road 4	4	0700-0800	1.82E-02	7.79E-07	4.29E-05	1.62E-02	6.92E-06	3.81E-04	1.66E-01	7.11E-06	3.91E-04
Road 4	4	0800-0900	1.56E-02	6.67E-07	3.67E-05	1.39E-02	5.92E-06	3.26E-04	1.42E-01	6.08E-06	3.35E-04
Road 4	4	0900-1000	1.07E-02	8.22E-07	4.52E-05	1.79E-02	7.32E-07	4.03E-05	1.66E-01	6.81E-06	3.75E-04
Road 4	4	1000-1100	1.07E-02	8.22E-07	4.52E-05	1.79E-02	7.32E-07	4.03E-05	1.66E-01	6.81E-06	3.75E-04
Road 4	4	1100-1200	2.20E-02	7.50E-07	3.91E-05	6.14E-02	3.38E-05	1.75E-03	5.65E-06	3.11E-04	1.62E-02
Road 4	4	1200-1300	2.21E-02	4.70E-07	2.59E-05	6.47E-02	1.39E-05	7.66E-04	5.96E-06	1.28E-04	7.05E-03
Road 4	4	1300-1400	2.45E-02	8.20E-07	4.51E-05	6.44E-02	2.01E-05	1.11E-03	5.93E-06	1.85E-04	1.02E-02
Road 4	4	1400-1500	3.03E-02	1.59E-06	8.74E-05	2.57E-02	1.34E-06	7.40E-05	2.04E-01	1.07E-05	5.89E-04
Road 4	4	1500-1600	3.31E-02	1.77E-06	9.74E-05	2.57E-02	1.37E-06	7.56E-05	2.04E-01	1.09E-05	5.99E-04
Road 4	4	1600-1700	3.93E-02	1.68E-06	9.25E-05	2.57E-02	1.10E-06	6.04E-05	2.04E-01	8.73E-06	4.80E-04
Road 4	4	1700-1800	4.23E-02	1.81E-06	9.96E-05	2.57E-02	1.10E-06	6.04E-05	2.04E-01	8.73E-06	4.80E-04
Road 4	4	1800-1900	1.62E-02	1.18E-06	6.49E-05	1.38E-02	1.01E-06	5.55E-05	1.46E-01	1.07E-05	5.88E-04
Road 4	4	1900-2000	1.40E-02	8.18E-07	4.50E-05	1.23E-02	7.15E-07	3.94E-05	1.46E-01	8.52E-06	4.69E-04
Road 4	4	2000-2100	1.41E-02	1.33E-07	7.38E-06	1.22E-02	1.15E-07	6.37E-06	1.46E-01	1.38E-06	7.66E-05
Road 4	4	2100-2200	1.20E-02	5.41E-07	2.98E-05	1.07E-02	4.81E-07	2.65E-05	1.39E-01	6.27E-06	3.45E-04
Road 4	4	2200-2300	1.24E-02	1.62E-07	8.91E-06	1.09E-02	1.42E-07	7.82E-06	1.39E-01	1.81E-06	9.96E-05
Road 4	4	2300-0000	1.27E-02	1.48E-07	8.15E-06	1.12E-02	1.31E-07	7.21E-06	1.39E-01	1.62E-06	8.91E-05
Road 5	5	0000-0100	1.25E-02	2.43E-07	1.23E-05	1.14E-02	2.21E-07	1.12E-05	1.24E-01	2.41E-06	1.22E-04
Road 5	5	0100-0200	1.31E-02	2.31E-07	1.17E-05	1.20E-02	2.12E-07	1.07E-05	1.24E-01	2.19E-06	1.11E-04
Road 5	5	0200-0300	1.40E-02	1.58E-07	8.01E-06	1.28E-02	1.45E-07	7.34E-06	1.24E-01	1.40E-06	7.09E-05
Road 5	5	0300-0400	1.37E-02	2.03E-07	1.03E-05	1.25E-02	1.86E-07	9.41E-06	1.24E-01	1.84E-06	9.32E-05
Road 5	5	0400-0500	1.63E-02	1.31E-07	6.61E-06	1.51E-02	1.21E-07	6.12E-06	1.45E-01	1.16E-06	5.90E-05
Road 5	5	0500-0600	1.73E-02	2.46E-07	1.24E-05	1.45E-02	2.06E-07	1.04E-05	1.33E-01	1.89E-06	9.56E-05
Road 5	5	0600-0700	1.85E-02	2.07E-07	1.05E-05	1.69E-02	1.89E-07	9.56E-06	1.55E-01	1.73E-06	8.77E-05
Road 5	5	0700-0800	2.07E-02	1.24E-06	6.27E-05	1.85E-02	1.11E-06	5.60E-05	1.59E-01	9.52E-06	4.82E-04
Road 5	5	0800-0900	1.78E-02	2.46E-07	1.24E-05	1.54E-02	2.13E-07	1.07E-05	1.33E-01	1.84E-06	9.32E-05
Road 5	5	0900-1000	2.43E-02	1.38E-06	7.00E-05	2.11E-02	1.20E-06	6.08E-05	1.69E-01	9.60E-06	4.86E-04
Road 5	5	1000-1100	2.43E-02	1.38E-06	7.00E-05	2.11E-02	1.20E-06	6.08E-05	1.69E-01	9.60E-06	4.86E-04
Road 5	5	1100-1200	2.63E-02	1.22E-06	6.18E-05	2.29E-02	1.06E-06	5.39E-05	1.78E-01	8.29E-06	4.20E-04
Road 5	5	1200-1300	2.97E-02	1.12E-06	5.65E-05	2.58E-02	9.72E-07	4.92E-05	1.99E-01	7.50E-06	3.80E-04
Road 5	5	1300-1400	2.97E-02	1.12E-06	5.65E-05	2.58E-02	9.72E-07	4.92E-05	1.99E-01	7.50E-06	3.80E-04
Road 5	5	1400-1500	3.09E-02	1.27E-06	6.42E-05	2.61E-02	1.07E-06	5.42E-05	2.05E-01	8.39E-06	4.25E-04
Road 5	5	1500-1600	3.24E-02	1.26E-06	6.37E-05	2.74E-02	1.06E-06	5.38E-05	2.15E-01	8.36E-06	4.23E-04
Road 5	5	1600-1700	2.98E-02	1.33E-06	6.76E-05	2.55E-02	1.14E-06	5.78E-05	2.00E-01	8.94E-06	4.54E-04
Road 5	5	1700-1800	3.27E-02	2.46E-07	1.24E-05	2.76E-02	2.07E-07	1.04E-05	2.16E-01	1.62E-06	8.19E-05
Road 5	5	1800-1900	2.20E-02	2.04E-07	1.03E-05	1.87E-02	1.73E-07	8.76E-06	1.46E-01	1.35E-06	6.85E-05
Road 5	5	1900-2000	1.40E-02	2.46E-07	1.24E-05	1.19E-02	2.09E-07	1.06E-05	9.31E-02	1.63E-06	8.28E-05
Road 5	5	2000-2100	1.41E-02	2.46E-07	1.24E-05	1.20E-02	2.09E-07	1.06E-05	9.31E-02	1.63E-06	8.28E-05
Road 5	5	2100-2200	1.20E-02	2.46E-07	1.24E-05	1.02E-02	2.09E-07	1.06E-05	7.94E-02	1.63E-06	8.28E-05
Road 5	5	2200-2300	1.24E-02	2.46E-07	1.24E-05	1.05E-02	2.09E-07	1.06E-05	8.19E-02	1.63E-06	8.28E-05
Road 5	5	2300-0000	1.27E-02	2.46E-07	1.24E-05	1.08E-02	2.09E-07	1.06E-05	8.44E-02	1.63E-06	8.28E-05
Road 6	6	0000-0100	1.35E-02	5.67E-08	3.44E-07	1.22E-02	5.13E-08	3.14E-07	1.90E-01	8.00E-07	4.91E-06
Road 6	6	0100-0200	1.41E-02	5.28E-08	3.20E-07	1.27E-02	4.77E-08	2.92E-07	1.90E-01	7.15E-07	4.39E-06
Road 6	6	0200-0300	1.50E-02	3.00E-08	1.84E-07	1.41E-02	2.82E-08	1.73E-07	1.90E-01	3.81E-07	2.34E-06
Road 6	6	0300-0400	1.47E-02	2.96E-08	1.81E-07	1.38E-02	2.78E-08	1.70E-07	1.90E-01	3.84E-07	2.35E-06
Road 6	6	0400-0500	1.71E-02	2.94E-08	1.80E-07	1.57E-02	2.69E-08	1.65E-07	1.90E-01	3.26E-07	2.00E-06
Road 6	6	0500-0600	1.77E-02	5.24E-08	3.21E-07	1.64E-02	4.86E-08	2.98E-07	1.90E-01	5.62E-07	3.45E-06
Road 6	6	0600-0700	1.85E-02	1.64E-07	1.00E-06	1.71E-02	1.52E-07	9.32E-07	1.90E-01	1.69E-06	1.03E-05
Road 6	6	0700-0800	2.05E-02	2.60E-07	1.59E-06	1.82E-02	2.30E-07	1.41E-06	2.20E-01	2.80E-06	1.71E-05
Road 6	6	0800-0900	1.94E-02	2.49E-07	1.52E-06	1.73E-02	2.22E-07	1.36E-06	1.99E-01	2.55E-06	1.56E-05
Road 6	6	0900-1000	2.28E-02	2.87E-07	1.64E-06	1.97E-02	2.48E-07	1.42E-06	2.52E-01	3.18E-06	1.81E-05
Road 6	6	1000-1100	2.55E-02	2.55E-07	1.56E-06	2.15E-02	2.15E-07	1.32E-06	2.38E-01	2.38E-06	1.46E-05
Road 6	6	1100-1200	2.45E-02	6.88E-07	4.19E-06	2.07E-02	5.81E-07	3.54E-06	2.29E-01	6.43E-06	3.92E-05
Road 6	6	1200-1300	2.52E-02	5.01E-07	3.07E-06	2.07E-02	4.22E-07	2.62E-06	2.32E-01	4.67E-06	2.91E-05
Road 6	6	1300-1400	2.52E-02	5.01E-07	3.07E-06	2.07E-02	4.22E-07	2.62E-06	2.32E-01	4.67E-06	2.91E-05
Road 6	6	1400-1500	2.65E-02	4.51E-07	2.76E-06	2.17E-02	3.80E-07	2.36E-06	2.44E-01	4.20E-06	2.62E-05
Road 6	6	1500-1600	2.77E-02	4.96E-07	3.04E-06	2.27E-02	4.18E-07	2.59E-06	2.55E-01	4.62E-06	2.88E-05
Road 6	6	1600-1700	2.56E-02	5.24E-07	3.21E-06	2.10E-02	4.42E-07	2.74E-06	2.36E-01	4.88E-06	3.04E-05
Road 6	6	1700-1800	2.26E-02	5.24E-07	3.21E-06	1.85E-02	4.42E-07	2.74E-06	2.08E-01	4.88E-06	3.04E-05
Road 6	6	1800-1900	1.89E-02	5.24E-07	3.21E-06	1.55E-02	4.42E-07	2.74E-06	1.74E-01	4.88E-06	3.04E-05
Road 6	6	1900-2000	1.40E-02	5.24E-07	3.21E-06	1.15E-02	4.42E-07	2.74E-06	1.29E-01	4.88E-06	3.04E-05
Road 6	6	2000-2100	1.41E-02	5.24E-07	3.21E-06	1.16E-02	4.42E-07	2.74E-06	1.30E-01	4.88E-06	3.04E-05
Road 6	6	2100-2200	1.20E-02	5.24E-07	3.21E-06	9.86E-03	4.42E-07	2.74E-06	1.11E-01	4.88E-06	3.04E-05
Road 6	6	2200-2300	1.24E-02	5.24E-07	3.21E-06	1.02E-02	4.42E-07	2.74E-06	1.14E-01	4.88E-06	3.04E-05
Road 6	6	2300-0000	1.27E-02	5.24E-07	3.21E-06	1.05E-02	4.42E-07	2.74E-06	1.17E-01	4.88E-06	3.04E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 7	7	1600-1700	3.17E-02	4.97E-07	5.83E-06	2.66E-02	4.20E-07	4.92E-06	2.24E-01	3.54E-06	4.15E-05
Road 7	7	1700-1800	2.40E-02	4.33E-07	5.07E-06	2.05E-02	3.70E-07	4.34E-06	2.18E-01	3.92E-06	4.60E-05
Road 7	7	1800-1900	1.83E-02	3.66E-07	4.29E-06	1.57E-02	3.14E-07	3.68E-06	1.89E-01	3.78E-06	4.44E-05
Road 7	7	1900-2000	2.13E-02	3.27E-07	3.83E-06	1.82E-02	2.79E-07	3.27E-06	2.14E-01	3.29E-06	3.85E-05
Road 7	7	2000-2100	1.58E-02	1.96E-07	2.30E-06	1.42E-02	1.76E-07	2.07E-06	1.99E-01	2.48E-06	2.91E-05
Road 7	7	2100-2200	1.41E-02	1.75E-07	2.05E-06	1.27E-02	1.58E-07	1.86E-06	1.83E-01	2.26E-06	2.65E-05
Road 7	7	2200-2300	1.42E-02	1.76E-07	2.06E-06	1.28E-02	1.58E-07	1.86E-06	1.84E-01	2.28E-06	2.68E-05
Road 7	7	2300-0000	1.49E-02	1.34E-07	1.57E-06	1.32E-02	1.19E-07	1.40E-06	1.91E-01	1.72E-06	2.01E-05
Road 8	8	0000-0100	1.39E-02	2.88E-07	1.46E-06	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	3.21E-02	1.19E-06	2.29E-05	3.21E-02	1.19E-06	2.29E-05	1.07E-04	3.97E-09	7.62E-08	1.07E-04	3.97E-09	7.62E-08
Road 34	34	0900-1000	3.83E-02	1.11E-06	2.91E-05	3.32E-02	9.63E-07	2.52E-05	2.12E-01	6.14E-06	1.61E-04	1.82E-01	5.27E-06	1.38E-04
Road 34	34	1000-1100	4.37E-02	1.13E-06	2.96E-05	3.65E-02	9.47E-07	2.48E-05	2.41E-01	6.25E-06	1.64E-04	2.01E-01	5.21E-06	1.36E-04
Road 34	34	1100-1200	4.19E-02	1.16E-06	3.43E-05	3.57E-02	1.12E-06	2.92E-05	2.89E-01	9.02E-06	2.36E-04	2.45E-01	7.65E-06	2.00E-04
Road 34	34	1200-1300	4.19E-02	1.31E-06	3.43E-05	3.57E-02	1.12E-06	2.92E-05	2.89E-01	9.02E-06	2.36E-04	2.45E-01	7.65E-06	2.00E-04
Road 34	34	1300-1400	4.27E-02	1.18E-06	3.51E-05	3.65E-02	1.01E-06	2.99E-05	2.95E-01	8.16E-06	2.41E-04	2.51E-01	6.96E-06	2.05E-04
Road 34	34	1400-1500	4.28E-02	1.46E-06	3.81E-05	3.65E-02	1.24E-06	3.25E-05	2.90E-01	9.88E-06	2.59E-04	2.48E-01	8.38E-06	2.19E-04
Road 34	34	1500-1600	4.10E-02	1.43E-06	3.71E-05	3.65E-02	1.27E-06	3.30E-05	2.78E-01	9.68E-06	2.52E-04	2.48E-01	8.60E-06	2.24E-04
Road 34	34	1600-1700	4.31E-02	1.50E-06	3.90E-05	3.84E-02	1.34E-06	3.47E-05	2.92E-01	1.02E-05	2.64E-04	2.60E-01	9.08E-06	2.35E-04
Road 34	34	1700-1800	4.31E-02	1.50E-06	3.90E-05	3.84E-02	1.34E-06	3.47E-05	2.92E-01	1.02E-05	2.64E-04	2.60E-01	9.08E-06	2.35E-04
Road 34	34	1800-1900	4.27E-02	1.49E-06	3.87E-05	3.81E-02	1.33E-06	3.45E-05	2.89E-01	1.01E-05	2.62E-04	2.58E-01	9.01E-06	2.33E-04
Road 34	34	1900-2000	4.07E-02	1.42E-06	3.68E-05	3.63E-02	1.27E-06	3.29E-05	2.75E-01	9.61E-06	2.49E-04	2.46E-01	8.58E-06	2.22E-04
Road 34	34	2000-2100	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	2100-2200	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	2200-2300	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	2300-0000	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0000-0100	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0100-0200	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0200-0300	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0300-0400	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0400-0500	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0500-0600	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0600-0700	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04
Road 34	34	0700-0800	3.83E-02	1.34E-06	3.46E-05	3.42E-02	1.19E-06	3.09E-05	2.59E-01	9.03E-06	2.34E-04	2.31E-01	8.06E-06	2.09E-04

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.86E-02	7.18E-07	2.24E-05	2.44E-02	6.12E-07	1.91E-05	1.54E-01	3.88E-06	1.21E-04	1.29E-01	3.23E-06	1.01E-04
Road 47	47	1700-1800	2.86E-02	7.18E-07	2.24E-05	2.44E-02	6.12E-07	1.91E-05	1.54E-01	3.88E-06	1.21E-04	1.29E-01	3.23E-06	1.01E-04
Road 47	47	1800-1900	2.11E-02	6.00E-07	1.87E-05	1.80E-02	5.13E-07	1.60E-05	1.14E-01	3.23E-06	1.01E-04	9.72E-02	2.77E-06	8.64E-05
Road 47	47	1900-2000	1.61E-02	3.67E-07	1.15E-05	1.41E-02	3.21E-07	1.00E-05	1.01E-01	2.29E-06	7.15E-05	8.55E-02	1.95E-06	6.08E-05
Road 47	47	2000-2100	1.48E-02	2.62E-07	8.19E-06	1.34E-02	2.36E-07	7.37E-06	1.03E-01	1.82E-06	5.69E-05	9.03E-02	1.59E-06	4.98E-05
Road 47	47	2100-2200	1.48E-02	2.61E-07	8.15E-06	1.34E-02	2.36E-07	7.37E-06	1.03E-01	1.81E-06	5.66E-05	9.03E-02	1.59E-06	4.98E-05
Road 47	47	2200-2300	1.18E-02	2.03E-07	6.34E-06	1.02E-02	1.76E-07	5.49E-06	8.25E-02	1.42E-06	4.44E-05	7.13E-02	1.23E-06	3.84E-05
Road 47	47	2300-0000	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0000-0100	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0100-0200	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0200-0300	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0300-0400	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0400-0500	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0500-0600	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0600-0700	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05
Road 47	47	0700-0800	1.24E-02	1.58E-07	4.95E-06	1.09E-02	1.40E-07	4.37E-06	8.55E-02	1.09E-06	3.41E-05	7.53E-02	9.68E-07	3.02E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	1.98E-02	1.28E-07	2.99E-06	1.84E-02	1.19E-07	2.22E-06	1.46E-01	9.47E-07	1.76E-05	1.34E-01	8.69E-07	1.62E-05
Road 51	51	0100-0200	2.08E-02	9.93E-08	1.85E-06	1.96E-02	9.35E-08	1.74E-06	1.47E-01	7.02E-07	1.31E-05	1.37E-01	6.54E-07	1.22E-05
Road 51	51	0200-0300	2.12E-02	8.49E-08	1.58E-06	2.09E-02	7.94E-08	1.48E-06	1.52E-01	6.80E-07	1.26E-05	1.50E-01	6.08E-07	1.13E-05
Road 51	51	0400-0500	2.39E-02	1.01E-07	1.88E-06	2.23E-02	9.33E-08	1.74E-06	1.59E-01	6.68E-07	1.25E-05	1.46E-01	6.14E-07	1.14E-05
Road 51	51	0500-0600	2.39E-02	1.91E-07	3.59E-06	2.23E-02	1.78E-07	3.34E-06	1.59E-01	1.27E-06	2.39E-05	1.46E-01	1.17E-06	2.19E-05
Road 51	51	0600-0700	2.78E-02	4.42E-07	8.25E-06	2.50E-02	3.98E-07	8.93E-06	2.68E-01	4.26E-06	7.96E-05	2.41E-01	3.84E-06	7.19E-05
Road 51	51	0700-0800	3.03E-02	9.85E-07	1.84E-05	2.69E-02	8.75E-07	1.63E-05	1.87E-01	6.08E-06	1.13E-04	1.64E-01	5.34E-06	9.96E-05
Road 51	51	0800-0900	3.03E-02	1.14E-06	2.13E-05	3.03E-02	1.14E-06	2.13E-05	1.87E-01	7.03E-06	1.31E-04	1.87E-01	7.03E-06	1.31E-04
Road 51	51	0900-1000	3.63E-02	1.21E-06	9.12E-07	7.93E-02	1.05E-07	1.96E-06	2.24E-01	7.48E-06	1.40E-04	1.47E-01	5.47E-06	1.48E-06
Road 51	51	1000-1100	4.01E-02	1.11E-06	2.07E-05	3.42E-02	9.50E-07	1.77E-05	2.48E-01	6.86E-06	1.28E-04	2.11E-01	5.86E-06	1.09E-04
Road 51	51	1100-1200	4.01E-02	1.11E-06	2.07E-05	3.42E-02	9.50E-07	1.77E-05	2.48E-01	6.86E-06	1.28E-04	2.11E-01	5.86E-06	1.09E-04
Road 51	51	1200-1300	4.04E-02	1.44E-06	2.73E-05	3.45E-02	1.23E-06	2.33E-05	2.50E-01	8.91E-06	1.69E-04	2.13E-01	7.60E-06	1.44E-04
Road 51	51	1300-1400	4.14E-02	1.63E-06	3.04E-05	3.53E-02	1.39E-06	2.59E-05	2.87E-01	1.13E-05	2.11E-04	2.43E-01	9.59E-06	1.79E-04
Road 51	51	1400-1500	4.14E-02	1.63E-06	3.04E-05	3.53E-02	1.39E-06	2.59E-05	2.87E-01	1.13E-05	2.11E-04	2.43E-01	9.59E-06	1.79E-04
Road 51	51	1500-1600	3.96E-02	1.60E-06	2.98E-05	3.33E-02	1.35E-06	2.51E-05	2.82E-01	1.14E-05	2.12E-04	2.37E-01	9.59E-06	1.79E-04
Road 51	51	1600-1700	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	1700-1800	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	1800-1900	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	1900-2000	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	2000-2100	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	2100-2200	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	2200-2300	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	2300-0000	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0000-0100	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0100-0200	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0200-0300	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0300-0400	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0400-0500	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0500-0600	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0600-0700	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04
Road 51	51	0700-0800	3.91E-02	1.72E-06	3.29E-05	3.29E-02	1.45E-06	2.77E-05	2.78E-01	1.22E-05	2.34E-04	2.34E-01	1.03E-05	1.97E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.23E-01	4.46E-07	1.02E-05	1.05E-01	3.83E-07	8.74E-06	3.37E-01	1.22E-06	2.80E-05	4.51E-01	1.64E-06	3.77E-05
Road 54	54	0900-1000	1.42E-01	4.93E-07	1.12E-05	1.23E-01	4.27E-07	9.73E-06	6.17E-01	2.15E-06	4.90E-05	5.30E-01	1.84E-06	4.20E-05
Road 54	54	1000-1100	1.59E-01	5.08E-07	1.16E-05	1.34E-01	4.29E-07	9.79E-06	6.72E-01	2.15E-06	4.90E-05	5.62E-01	1.80E-06	4.10E-05
Road 54	54	1100-1200	1.55E-01	4.99E-07	1.07E-05	1.32E-01	4.00E-07	9.13E-06	6.61E-01	2.00E-06	4.56E-05	5.59E-01	1.69E-06	3.86E-05
Road 54	54	1200-1300	2.02E-01	4.49E-07	1.02E-05	1.72E-01	3.83E-07	8.73E-06	8.17E-01	1.82E-06	4.14E-05	6.94E-01	1.54E-06	3.52E-05
Road 54	54	1300-1400	1.99E-01	4.85E-07	1.11E-05	1.71E-01	4.17E-07	9.52E-06	8.23E-01	2.01E-06	4.59E-05	7.06E-01	1.72E-06	3.93E-05
Road 54	54	1400-1500	2.03E-01	4.99E-07	1.14E-05	1.73E-01	4.26E-07	9.70E-06	8.28E-01	2.04E-06	4.65E-05	7.04E-01	1.73E-06	3.95E-05
Road 54	54	1500-1600	1.89E-01	4.81E-07	1.10E-05	1.59E-01	4.04E-07	9.22E-06	8.10E-01	2.06E-06	4.70E-05	6.79E-01	1.73E-06	3.94E-05
Road 54	54	1600-1700	1.94E-01	4.93E-07	1.13E-05	1.63E-01	4.14E-07	9.45E-06	7.88E-01	2.00E-06	4.57E-05	6.61E-01	1.68E-06	3.84E-05
Road 54	54	1700-1800	1.61E-01	3.78E-07	8.62E-06	1.38E-01	3.24E-07	7.39E-06	7.08E-01	1.67E-06	3.80E-05	6.04E-01	1.42E-06	3.24E-05
Road 54	54	1800-1900	1.38E-01	3.49E-07	7.96E-06	1.18E-01	2.99E-07	6.81E-06	6.37E-01	1.61E-06	3.67E-05	5.43E-01	1.37E-06	3.14E-05
Road 54	54	1900-2000	1.15E-01	1.66E-07	3.64E-06	1.01E-01	1.40E-07	3.20E-06	5.19E-01	7.18E-07	1.64E-05	4.52E-01	6.25E-07	1.43E-05
Road 54	54	2000-2100	1.13E-01	2.71E-07	6.17E-06	9.91E-02	2.38E-07	5.41E-06	5.47E-01	1.31E-06	2.98E-05	4.46E-01	1.07E-06	2.43E-05
Road 54	54	2100-2200	1.10E-01	1.23E-07	2.78E-06	9.81E-02	1.09E-07	2.48E-06	5.90E-01	6.61E-07	1.50E-05	4.46E-01	4.96E-07	1.13E-05
Road 54	54	2200-2300	1.16E-01	1.16E-07	2.65E-06	1.01E-01	1.02E-07	2.32E-06	5.09E-01	5.12E-07	1.17E-05	4.40E-01	4.43E-07	1.01E-05
Road 54	54	2300-2400	1.14E-01	1.01E-07	2.30E-06	9.96E-02	8.84E-08	2.01E-06	5.48E-01	4.86E-07	1.11E-05	4.42E-01	3.92E-07	8.94E-06
Road 101	101	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0700-0800	0.00E+00	0.00E+00	0.00E+00

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.75E-02	1.22E-03	1.48E-06	1.75E-02	1.22E-03	1.48E-06	2.41E-01	1.68E-02	2.04E-05	2.41E-01	1.68E-02	2.04E-05
Road 21	21	0100-0200	1.92E-02	8.06E-08	1.07E-06	1.76E-02	7.41E-08	9.80E-07	1.48E-01	6.21E-07	8.21E-06	1.34E-01	5.64E-07	7.46E-06
Road 21	21	0200-0300	2.07E-02	6.43E-08	8.50E-07	1.92E-02	5.94E-08	7.86E-07	1.52E-01	4.72E-07	6.24E-06	1.39E-01	4.32E-07	5.70E-06
Road 21	21	0300-0400	2.27E-02	5.62E-08	7.42E-07	2.06E-02	5.10E-08	6.74E-07	1.56E-01	3.86E-07	5.10E-06	1.44E-01	3.56E-07	4.70E-06
Road 21	21	0400-0500	2.37E-02	6.46E-08	8.54E-07	2.17E-02	5.90E-08	7.80E-07	1.63E-01	4.43E-07	5.86E-06	1.47E-01	4.01E-07	5.30E-06
Road 21	21	0500-0600	2.33E-02	1.23E-07	1.62E-06	2.15E-02	1.13E-07	1.49E-06	1.60E-01	8.47E-07	1.12E-05	1.48E-01	7.79E-07	1.03E-05
Road 21	21	0600-0700	2.49E-02	2.52E-07	3.33E-06	2.29E-02	3.02E-06	1.65E-01	1.67E-06	2.20E-05	1.49E-01	1.50E-06	1.98E-05	
Road 21	21	0700-0800	2.74E-02	5.65E-07	7.47E-06	2.53E-02	5.21E-07	6.89E-06	1.76E-01	3.63E-06	4.80E-05	1.61E-01	3.32E-06	4.39E-05
Road 21	21	0800-0900	2.72E-02	1.74E-07	2.30E-06	2.51E-02	1.61E-07	2.12E-06	1.74E-01	1.11E-06	1.47E-05	1.60E-01	1.03E-06	1.36E-05
Road 21	21	0900-1000	3.36E-02	6.87E-07	9.08E-06	2.98E-02	6.09E-07	8.05E-06	1.98E-01	4.05E-06	5.35E-05	1.74E-01	3.56E-06	4.71E-05
Road 21	21	1000-1100	3.54E-02	1.17E-06	1.55E-05	3.14E-02	1.04E-06	1.37E-05	2.08E-01	6.88E-06	9.09E-05	1.84E-01	6.05E-06	8.00E-05
Road 21	21	1100-1200	3.78E-02	6.44E-07	8.52E-06	3.35E-02	5.71E-07	7.55E-06	2.22E-01	3.79E-06	5.01E-05	1.97E-01	3.36E-06	4.44E-05
Road 21	21	1200-1300	4.27E-02	1.33E-06	3.49E-05	3.69E-02	1.15E-06	3.01E-05	2.95E-01	9.22E-06	2.41E-04	2.53E-01	7.91E-06	2.07E-04
Road 21	21	1300-1400	4.31E-02	1.39E-06	1.83E-05	3.72E-02	1.20E-06	1.58E-05	2.91E-01	9.40E-06	2.48E-04	2.50E-01	8.07E-06	2.11E-04
Road 21	21	1400-1500	4.32E-02	1.47E-06	3.85E-05	3.74E-02	1.27E-06	3.34E-05	2.93E-01	9.98E-06	2.61E-04	2.53E-01	8.61E-06	2.25E-04
Road 21	21	1500-1600	4.10E-02	1.43E-06	3.75E-05	3.47E-02	1.21E-06	3.17E-05	2.85E-01	9.91E-06	2.60E-04	2.39E-01	8.35E-06	2.18E-04
Road 21	21	1600-1700	4.72E-02	1.74E-06	4.56E-05	3.98E-02	1.46E-06	3.84E-05	3.25E-01	1.20E-05	3.15E-04	2.74E-01	1.01E-05	2.65E-04
Road 21	21	1700-1800	3.78E-02	6.98E-07	9.15E-06	3.35E-02	6.19E-07	8.11E-06	2.61E-01	4.82E-06	6.32E-05	2.31E-01	4.27E-06	5.60E-05
Road 21	21	1800-1900	2.65E-02	3.83E-07	4.79E-06	2.35E-02	3.21E-07	4.25E-06	2.02E-01	2.77E-06	3.66E-05	1.78E-01	2.43E-06	3.22E-05
Road 21	21	1900-2000	2.37E-02	2.50E-07	3.30E-06	2.03E-02	2.14E-07	2.83E-06	2.08E-01	2.19E-06	2.90E-05	1.82E-01	1.92E-06	2.54E-05
Road 21	21	2000-2100	2.23E-02	1.88E-07	2.48E-06	2.02E-02	1.66E-07	2.19E-06	2.09E-01	1.72E-06	2.27E-05	1.83E-01	1.51E-06	1.99E-05
Road 21	21	2100-2200	2.23E-02	1.83E-07	2.42E-06	1.94E-02	1.59E-07	2.10E-06	2.01E-01	1.65E-06	2.18E-05	1.75E-01	1.44E-06	1.90E-05
Road 21	21	2200-2300	2.38E-02	1.96E-07	2.59E-06	2.07E-02	1.70E-07	2.25E-06	2.14E-01	1.76E-06	2.33E-05	1.86E-01	1.53E-06	2.03E-05
Road 21	21	2300-2400	1.82E-02	1.50E-07	1.98E-06	1.58E-02	1.30E-07	1.72E-06	1.64E-01	1.35E-06	1.78E-05	1.42E-01	1.17E-06	1.55E-05
Road 22	22	0000-0100	1.61E-01	1.81E-07	1.24E-06	1.44E-01	1.62E-07	2.89E-06	6.69E-01	7.54E-07	1.14E-05	5.97E-01	6.73E-07	1.20E-05
Road 22	22	0100-0200	1.54E-01	2.27E-07	2.37E-06	1.38E-01	2.03E-07	3.62E-06	6.17E-01	9.08E-07	1.47E-05	5.51E-01	8.11E-07	1.55E-05
Road 22	22	0200-0300	1.54E-01	9.42E-08	1.68E-06	1.42E-01	8.72E-08	1.56E-06	6.39E-01	3.92E-07	6.97E-06	5.91E-01	3.62E-07	6.46E-06
Road 22	22	0300-0400	1.60E-01	7.42E-08	1.32E-06	1.47E-01	6.87E-08	1.22E-06	6.63E-01	3.08E-07	5.49E-06	6.13E-01	2.85E-07	5.08E-06
Road 22	22	0400-0500	1.60E-01	9.58E-08	1.71E-06	1.46E-01	8.77E-08	1.56E-06	6.62E-01	3.97E-07	7.08E-06	6.06E-01	3.63E-07	6.48E-06
Road 22	22	0500-0600	1.71E-01	1.88E-07	3.35E-06	1.57E-01	7.05E-07	1.38E-05	6.58E-01	7.23E-07	1.29E-05	6.03E-01	6.63E-07	1.18E-05
Road 22	22	0600-0700	1.88E-01	4.39E-07	7.83E-06	1.72E-01	1.61E-06	2.87E-05	7.23E-01	1.69E-06	3.01E-05	6.62E-01	1.51E-06	2.70E-05
Road 22	22	0700-0800	2.02E-01	1.07E-06	1.91E-05	1.87E-01	9.89E-07	1.76E-05	8.24E-01	4.36E-06	7.78E-05	7.61E-01	4.03E-06	7.19E-05
Road 22	22	0800-0900	2.06E-01	1.06E-06	1.89E-05	1.90E-01	9.79E-07	1.75E-05	8.46E-01	4.36E-06	7.78E-05	7.82E-01	4.03E-06	7.19E-05
Road 22	22	0900-1000	2.32E-01	1.61E-06	2.86E-05	2.06E-01	1.42E-06	2.54E-05	9.62E-01	6.64E-06	1.18E-04	8.53E-01	5.89E-06	1.05E-04
Road 22	22	1000-1100	2.49E-01	1.54E-06	2.75E-05	2.21E-01	1.37E-06	2.44E-05	1.03E+00	6.33E-06	1.13E-04	9.14E-01	5.62E-06	1.00E-04
Road 22	22	1100-1200	2.44E-01	1.54E-06	2.75E-05	2.16E-01	1.36E-06	2.43E-05	1.01E+00	6.33E-06	1.13E-04	8.95E-01	5.61E-06	9.66E-05
Road 22	22	1200-1300	2.53E-01	1.65E-06	2.94E-05	2.24E-01	1.46E-06	2.61E-05	1.04E+00	6.77E-06	1.21E-04	9.26E-01	6.01E-06	1.07E-04
Road 22	22	1300-1400	2.56E-01	1.66E-06	2.96E-05	2.27E-01	1.47E-06	2.63E-05	1.05E+00	6.81E-06	1.22E-04	9.38E-01	6.05E-06	1.08E-04
Road 22	22	1400-1500	2.61E-01	1.90E-06	3.38E-05	2.31E-01	1.61E-06	2.86E-05	1.04E+00	7.55E-06	1.35E-04	8.81E-01	6.39E-06	1.14E-04
Road 22	22	1500-1600	2.60E-01	1.88E-06	3.35E-05	2.30E-01	1.59E-06	2.84E-05	1.04E+00	7.47E-06	1.33E-04	8.91E-01	6.33E-06	1.13E-04
Road 22	22	1600-1700	2.49E-01	1.76E-06	3.15E-05	2.06E-01	1.46E-06	2.60E-05	1.00E+00	7.11E-06	1.27E-04	8.31E-01	5.88E-06	1.05E-04
Road 22	22	1700-1800	2.04E-01	1.34E-06	2.39E-05	1.71E-01	1.13E-06	2.01E-05	8.78E-01	5.78E-06	1.03E-04	7.36E-01	4.85E-06	8.65E-05
Road 22	22	1800-1900	1.89E-01	1.24E-06	2.21E-05	1.58E-01	1.04E-06	1.86E-05	8.14E-01	5.34E-06	9.54E-05	6.82E-01	4.48E-06	8.00E-05
Road 22	22	1900-2000	1.52E-01	1.14E-07	9.16E-07	1.32E-01	9.91E-08	1.79E-06	6.55E-01	4.91E-07	8.86E-06	5.69E-01	4.27E-07	7.71E-06
Road 22	22	2000-2100	1.52E-01	6.11E-07	2.33E-06	1.32E-01	5.31E-07	9.57E-06	6.56E-01	2.64E-06	4.77E-05	5.69E-01	2.29E-06	4.14E-05
Road 22	22	2100-2200	1.59E-01	3.83E-07	1.63E-06	1.38E-01	3.33E-07	5.82E-06	6.66E-01	1.61E-06	2.81E-05	5.78E-01	1.40E-06	2.44E-05
Road 22	22	2200-2300	1.61E-01	3.83E-07	1.63E-06	1.40E-01	3.33E-07	5.82E-06	6.73E-01	1.61E-06	2.81E-05	5.85E-01	1.40E-06	2.44E-05
Road 22	22	2300-2400	1.42E-01	1.88E-06	2.07E-06	1.24E-01	1.64E-06	2.10E-01	1.26E-06	1.66E-06	1.84E-01	1.10E-01	1.45E-06	1.82E-05
Road 23	23	0000-0100	1.61E-01	1.81E-07	1.24E-06	1.44E-01	1.62E-07	2.89E-06	6.69E-01	7.54E-07	1.14E-05	5.97E-01	6.73E-07	1.20E-05
Road 23	23	0100-0200	1.54E-01	2.27E-07	2.37E-06	1.38E-01	2.03E-07	3.62E-06	6.17E-01	9.08E-07	1.47E-05	5.51E-01	8.11E-07	1.55E-05
Road 23	23	0200-0300	1.54E-01	9.42E-08	1.68E-06	1.42E-01	8.72E-08	1.56E-06	6.39E-01	3.92E-07	6.97E-06	5.91E-01	3.62E-07	6.46E-06
Road 23	23	0300-0400	1.60E-01	7.42E-08	1.32E-06	1.47E-01	6.87E-08	1.22E-06	6.63E-01	3.08E-07	5.49E-06	6.13E-01	2.85E-07	5.08E-06
Road 23	23	0400-0500	1.60E-01	9.58E-08	1.71E-06	1.46E-01	8.77E-08	1.56E-06	6.62E-01	3.97E-07	7.08E-06	6.06E-01	3.63E-07	6.48E-06
Road 23	23	0500-0600	1.71E-01	1.88E-07	3.35E-06	1.57E-01	7.05E-07	1.38E-05	6.58E-01	7.23E-07	1.29E-05	6.03E-01	6.63E-07	1.18E-05
Road 23	23	0600-0700	1.88E-01	4.39E-07	7.83E-06	1.72E-01	1.61E-06	2.87E-05	7.23E-01	1.69E-06	3.01E-05	6.62E-01	1.51E-06	2.70E-05
Road 23	23	0700-0800	2.02E-01	1.07E-06	1.91E-05	1.87E-01	9.89E-07	1.76E-05	8.24E-01	4.36E-06	7.78E-05	7.61E-01	4.03E-06	7.19E-05
Road 23	23	0800-0900	2.06E-01	1.06E-06	1.89E-05	1.90E-01	9.79E-07	1.75E-05	8.46E-01	4.36E-06	7.78E-05	7.82E-01	4.03E-06	7.19E-05
Road 23	23	0900-1000	2.32E-01	1.61E-06	2.86E-05	2.06E-01	1.42E-06	2.54E-05	9.62E-01	6.64E-06	1.18E-04	8.53E-01	5.89E-06	1.05E-04
Road 23	23	1000-1100	2.49E-01	1.54E-06	2.75E-05	2.21E-01	1.37E-06	2.44E-05	1.03E+00	6.33E-06	1.13E-04	9.14E-01	5.62E-06	1.00E-04
Road 23	23	1100-1200	2.44E-01	1.54E-06	2.75E-05	2.16E-01	1.36E-06	2.43E-05	1.01E+00	6.33E-06	1.13E-04	8.95E-01	5.61E-06	9.66E-05
Road 23	23	1200-1300	2.53E-01	1.65E-06	2.94E-05	2.24E-01	1.46E-06	2.61E-05	1.04E+00	6.77E-06	1.21E-04	9.26E-01	6.01E-06	1.07E-04
Road 23	23	1300-1400	2.56E-01	1.66E-06	2.96E-05	2.27E-01	1.47E-06	2.63E-05	1.05E+00	6.81E-06	1.22E-04	9.38E-01	6.05E-06	1.08E-04
Road 23	23	1400-1500	2.61E-01	1.90E-06	3.38E-05	2.31E-01	1.61E-06	2.86E-05	1.04E+00	7.55E-06	1.35E-04	8.81E-01	6.39E-06	1.14E-04
Road 23	23	1500-1600	2.60E-01	1.88E-06	3.35E-05	2.30E-01	1.59E-06	2.84E-05	1.04E+00	7.47E-06	1.33E-04	8.91E-01	6.33E-06	1.13E-04
Road 23	23	1600-1700	2.49E-01	1.76E-06	3.15E-05	2.06E-01	1.46E-06	2.60E-05	1.00E+00	7.11E-06	1.27E-04	8.31E-01	5.88E-06	1.05E-04
Road 23	23	1700-1800	2.04E-01	1.34E-06	2.39E-05	1.71E-01	1.13E-06	2.01E-05	8.78E-01	5.78E-06	1.03E-04	7.36E-01	4.85E-06	8.65E-05
Road 23	23	1800-1900	1.89E-01	1.24E-06	2.21E-05	1.58E-01	1.04E-06	1.86E-05	8.14E-01	5.34E-06	9.54E-05	6.82E-01	4.48E-06	8.00E-05
Road 23	23	1900-2000	1.52E-01	1.14E-07	9.16E-07	1.32E-01	9.91E-08	1.79E-06	6.55E-01	4.91E-07	8.86E-06	5.69E-01	4.27E-07	7.71E-06
Road 23	23	2000-2100	1.52E-01	6.11E-07	2.33E-06	1.32E-01	5.31E-07	9.57E-06	6.56E-01	2.64E-06	4.77E-05	5.69E-01	2.29E-06	4.14E-05
Road 23	23	2100-2200	1.59E-01	3.83E-07	1.63E-06	1.38E-01	3.33E-07	5.82E-06	6.66E-01	1.61E-06	2.81E-05	5.78E-01	1.40E-06	2.44E-05
Road 23	23	2200-2300	1.61E-01	3.83E-07	1.63E-06	1.40E-01	3.33E-07	5.82E-06	6.73E-01	1.61E-06	2.81E-05	5.85E-01	1.40E-06	2.44E-05
Road 23	23	2300-2400	1.42E-01	1.88E-06	2.07E-06	1.24E-01	1.64E-06	2.10E-01	1.26E-06	1.66E-06	1.84E-01	1.10E-01	1.45E-06	1.82E-05
Road 24	24	0000-0100	1.58E-01	3.67E-08	9.19E-08	1.41E-01	3.28E-08	8.21E-08	6.55E-01	1.52E-07	3.81E-07	5.84E-01	1.36E-07	3.40E-07
Road 24	24	0100-0200	1.51E-01	2.01E-08	5.04E-08	1.35E-01	1.79E-08	4.50E-08	6.29E-01	8.36E-08	2.09E-07	5.61E-01	7.46E-08	1.87E-07
Road 24	24	0200-0300	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	0300-0400	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	0400-0500	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	0500-0600	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	0600-0700	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	0700-0800	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	0800-0900	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	0900-1000	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1000-1100	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1100-1200	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1200-1300	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1300-1400	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1400-1500	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1500-1600	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1600-1700	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1700-1800	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1800-1900	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	1900-2000	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	2000-2100	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	2100-2200	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	2200-2300	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 24	24	2300-2400	1.55E-01	1.98E-08	4.96E-08	1.38E-01	1.77E-08	4.43E-08	6.44E-01	8.23E-08	2.06E-07	5.74E-01	7.34E-08	1.84E-07
Road 25	25	0000-0100	1.62E-01	1.82E-07	1.25E-06	1.45E-01	1.63E-07	2.91E-06	6.73E-01	7.58E-07	1.15E-05	6.01E-01	6.77E-07	1.21E-05
Road 25	25	0100-0200	1.55E-01	2.28E-07	2.38E-06	1.39E-01	2.04E-07	3.64E-06	6.21E-01	9.13E-07	1.48E-05	5.54E-01	8.15E-07	1.56E-05
Road 25	25	0200-0300	1.55E-01	9.47E-08	1.69E-06	1.43E-01	8.77E-08	1.57E-06	6.43E-01	3.94E-07	7.01E-06	5.94E-01	3.64E-07	6.49E-06
Road 25	25	0300-0400	1.61E-01	7.46E-08	1.33E-06	1.48E-01	6.91E-08	1.23E-06	6.67E-01	3.10E-07	5.52E-06	6.17E-01	2.87E-07	5.11E-06
Road 25	25	0400-0500	1.61E-01	9.63E-08	1.72E-06	1.47E-01	8.82E-08	1.57E-06	6.66E-01	3.99E-07	7.12E-06	6.09E-01	3.65E-07	6.52E-06
Road 25	25	0500-0600	1.72E-01	1.89E-07	3.37E-06	1.58E-01	7.09E-07	1.39E-05	6.62E-01	7.27E-07	1.30E-05	6.07E-01	6.67E-07	1.19E-05
Road 25	25	0600-0700	1.89E-01	4.41E-07	7.88E-06	1.73E-01	1.62E-06	2.89E-05	7.27E-01	1.70E-06	3.03E-05	6.66E-01	1.52E-06	2.72E-05
Road 25	25	0700-0800	2.03E-01	1.08E-06	1.92E-05	1.88E-01	9.95E-07	1.77E-05	8.29E-01	4.39E-06	7.83E-05	7.66E-01	4.06E-06	7.24E-05
Road 25	25	0800-0900	2.07E-01	1.06E-06	1.90E-05	1.91E-01	9.85E-07	1.76E-05	8.51E-01	4.39E-06	7.83E-05	7.87E-01	4.06E-06	7.24E-05
Road 25	25	0900-1000	2.33E-01	1.62E-06	2.88E-05	2.07E-01	1.43E-06	2.56E-05	9.68E-01	6.68E-06	1.19E-04	8.58E-01	5.93E-06	1.06E-04
Road 25	25	1000-1100	2.50E-01	1.55E-06	2.77E-05	2.22E-01	1.38E-06	2.46E-05	1.04E+00	6.37E-06	1.14E-04	9.20E-01	5.66E-06	1.01E-04
Road 25	25	1100-1200	2.45E-01	1.55E-06	2.77E-05	2.17E-01	1.37E-06	2.45E-05	1.02E+00	6.37E-06	1.14E-04	9.01E-01	5.65E-06	1.01E-04
Road 25	25	1200-1300	2.54E-01	1.66E-06	2.96E-05	2.25E-01	1.47E-06	2.63E-05	1.05E+00	6.81E-06	1.22E-04	9.32E-01	6.05E-06	1.08E-04
Road 25	25	1300-1400	2.57E-01	1.67E-06	2.98E-05	2.28E-01	1.48E-06	2.65E-05	1.06E+00	6.85E-06	1.23E-04	9.44E-01	6.09E-06	1.09E-04
Road 25	25	1400-1500	2.62E-01	1.91E-06	3.40E-05	2.32E-01	1.62E-06	2.88E-05	1.05E+00	7.59E-06	1.35E-04	8.86E-01	6.43E-06	1.15E-04
Road 25	25	1500-1600	2.61E-01	1.89E-06	3.37E-05	2.31E-01	1.60E-06	2.86E-05	1.05E+00	7.51E-06	1.34E-04	8.96E-01	6.37E-06	1.14E-04
Road 25	25	1600-1700	2.50E-01	1.77E-06	3.17E-05	2.07E-01	1.47E-06	2.62E-05	1.01E+00	7.15E-06	1.28E-04	8.36E-01	5.92E-06	1.06E-04
Road 25	25	1700-1800	2.05E-01	1.35E-06	2.41E-05	1.72E-01	1.13E-06	2.02E-05	8.83E-01	5.81E-06	1.04E-04	7.40E-01	4.88E-06	8.70E-05
Road 25	25	1800-1900	1.90E-01	1.25E-06	2.22E-05	1.59E-01	1.05E-06	1.87E-05	8.18E-01	5.37E-06	9.59E-05	6.86E-01	4.51E-06	8.04E-05
Road 25	25	1900-2000	1.53E-01	1.15E-07	9.21E-07	1.33E-01	9.96E-08	1.80E-06	6.59E-01	4.94E-07	8.91E-06	5.72E-01	4.29E-07	7.75E-06
Road 25	25	2000-2100	1.56E-01	6.27E-07	2.39E-06	1.35E-01	5.44E-07	9.81E-06	6.73E-01	2.71E-06	4.89E-05	5.84E-01	2.35E-06	4.24E-05
Road 25	25	2100-2200	1.63E-01	3.93E-07	1.67E-06	1.41E-01	3.41E-07	5.97E-06	6.83E-01	1.65E-06	2.88E-05	5.93E-01	1.43E-06	2.50E-05
Road 25	25	2200-2300	1.65E-01	3.93E-07	1.67E-06	1.44E-01	3.41E-07	5.97E-06	6.90E-01	1.65E-06	2.88E-05	6.00E-01	1.43E-06	2.50E-05
Road 25	25	2300-2400	1.46E-01	1.93E-06	2.12E-06	1.27E-01	1.68E-06	2.15E-01	1.29E-06	1.70E-06	1.89E-01	1.13E-01	1.49E-06	1.87E-05
Road 26	26	0000-0100	1.70E-01	4.81E-08	1.81E-07	1.57E-01	4.44E-08	1.67E-07	7.02E-01	1.98E-07	7.44E-07	6.47E-01	1.83E-07	6.87E-07
Road 26	26	0100-0200	1.70E-01	2.64E-08	6.61E-08	1.57E-01	2.44E-08	6.10E-08	7.02E-01	1.09E-07	2.74E-07	6.47E-01	1.01E-07	2.53E-07
Road 26	26	0200-0300	1.70E-01	1.75E-08	4.39E-08	1.57E-01	1.62E-08	4.06E-08	7.02E-01	7.24E-08	1.82

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 47	47	1600-1700	4.11E-02	1.97E-07	2.80E-05	1.45E-02	2.33E-05	1.39E-11	1.33E-06	1.63E-01
Road 47	47	1700-1800	2.88E-02	7.24E-07	2.26E-05	2.40E-02	6.04E-07	1.89E-05	1.56E-01	3.92E-06
Road 47	47	1800-1900	2.08E-02	5.92E-07	1.85E-05	1.81E-02	5.16E-07	1.61E-05	1.33E-01	3.79E-06
Road 47	47	1900-2000	1.65E-02	3.76E-07	1.17E-05	1.41E-02	3.21E-07	1.00E-05	1.04E-01	2.36E-06
Road 47	47	2000-2100	1.49E-02	2.63E-07	8.20E-06	1.31E-02	2.31E-07	7.22E-06	1.04E-01	1.83E-06
Road 47	47	2100-2200	1.29E-02	2.29E-07	7.14E-06	1.15E-02	1.96E-07	6.11E-06	9.08E-02	1.61E-06
Road 47	47	2200-2300	1.23E-02	2.12E-07	6.61E-06	1.03E-02	1.77E-07	5.53E-06	7.98E-02	1.37E-06
Road 47	47	2300-0000	1.28E-02	1.64E-07	5.11E-06	1.41E-02	4.40E-06	9.74E-02	1.25E-06	3.90E-05
Road 48	48	0000-0100	1.28E-02	1.82E-07	5.67E-06	1.41E-02	2.75E-06	9.74E-02	1.39E-06	4.32E-05
Road 48	48	0100-0200	2.12E-02	1.44E-07	2.17E-06	1.94E-02	1.32E-07	1.99E-06	1.54E-01	1.05E-06
Road 48	48	0200-0300	2.44E-02	1.47E-07	2.21E-06	2.24E-02	1.35E-07	2.03E-06	1.78E-01	1.07E-06
Road 48	48	0300-0400	2.41E-02	9.64E-08	1.45E-06	2.19E-02	8.76E-08	1.32E-06	1.74E-01	6.97E-07
Road 48	48	0400-0500	2.64E-02	1.13E-07	1.71E-06	2.44E-02	1.04E-07	1.57E-06	1.94E-01	8.29E-07
Road 48	48	0500-0600	2.64E-02	2.44E-07	3.68E-06	2.47E-02	2.29E-07	3.45E-06	1.92E-01	1.78E-06
Road 48	48	0600-0700	2.81E-02	4.71E-07	7.10E-06	2.62E-02	4.39E-07	6.63E-06	1.74E-01	2.92E-06
Road 48	48	0700-0800	2.92E-02	7.44E-07	1.12E-05	2.73E-02	6.96E-07	1.05E-05	1.44E-01	3.67E-06
Road 48	48	0800-0900	3.07E-02	1.22E-06	1.85E-05	2.89E-02	1.14E-06	1.72E-05	1.57E-01	6.24E-06
Road 48	48	0900-1000	3.13E-02	1.27E-06	1.92E-05	2.95E-02	1.19E-06	1.80E-05	1.57E-01	6.37E-06
Road 48	48	1000-1100	4.33E-02	3.35E-06	2.04E-05	3.87E-02	1.14E-06	7.35E-06	1.79E-01	5.47E-06
Road 48	48	1100-1200	4.20E-02	1.24E-06	1.87E-05	3.53E-02	1.04E-06	1.57E-05	1.47E-01	8.44E-06
Road 48	48	1200-1300	4.20E-02	1.24E-06	1.87E-05	3.53E-02	1.04E-06	1.57E-05	1.47E-01	8.44E-06
Road 48	48	1300-1400	4.17E-02	1.61E-06	2.43E-05	3.60E-02	1.39E-06	2.10E-05	2.88E-01	1.11E-05
Road 48	48	1400-1500	4.14E-02	1.82E-07	2.75E-06	3.56E-02	1.56E-07	2.36E-06	2.86E-01	1.26E-06
Road 48	48	1500-1600	3.97E-02	1.96E-06	2.51E-05	3.36E-02	1.41E-06	2.25E-05	2.88E-01	1.49E-05
Road 48	48	1600-1700	4.05E-02	1.78E-06	2.69E-05	3.37E-02	1.48E-06	2.24E-05	2.91E-01	1.28E-05
Road 48	48	1700-1800	3.89E-02	1.49E-06	2.58E-05	3.25E-02	1.25E-06	2.15E-05	2.94E-01	1.13E-05
Road 48	48	1800-1900	2.24E-02	1.15E-06	1.74E-05	1.96E-02	1.01E-06	1.53E-05	1.66E-01	8.57E-06
Road 48	48	1900-2000	2.01E-02	6.40E-07	9.66E-06	1.77E-02	5.66E-07	1.15E-05	2.09E-01	6.67E-06
Road 48	48	2000-2100	1.92E-02	6.07E-07	9.16E-06	1.65E-02	5.23E-07	7.89E-06	2.27E-01	7.20E-06
Road 48	48	2100-2200	1.76E-02	6.48E-08	1.64E-06	1.61E-02	5.92E-08	1.49E-06	2.07E-01	7.63E-07
Road 48	48	2200-2300	1.76E-02	6.98E-08	1.64E-06	1.61E-02	6.37E-08	1.49E-06	2.07E-01	8.21E-07
Road 48	48	2300-0000	2.02E-02	4.67E-07	7.04E-06	1.76E-02	4.05E-07	8.26E-06	2.04E-01	4.71E-06
Road 49	49	0000-0100	1.78E-02	8.68E-08	1.29E-06	1.61E-02	7.85E-08	1.16E-06	2.07E-01	1.00E-06
Road 49	49	0100-0200	1.76E-02	6.48E-08	1.64E-06	1.61E-02	5.92E-08	1.49E-06	2.07E-01	7.63E-07
Road 49	49	0200-0300	1.76E-02	6.98E-08	1.64E-06	1.61E-02	6.37E-08	1.49E-06	2.07E-01	8.21E-07
Road 49	49	0300-0400	1.92E-02	4.05E-08	1.02E-06	1.74E-02	3.67E-08	9.26E-07	2.06E-01	4.36E-07
Road 49	49	0400-0500	2.04E-02	4.70E-08	1.19E-06	1.85E-02	4.26E-08	1.08E-06	2.20E-01	5.07E-07
Road 49	49	0500-0600	2.19E-02	8.37E-08	2.08E-06	1.97E-02	7.54E-08	1.87E-06	2.06E-01	7.87E-07
Road 49	49	0600-0700	2.62E-02	2.23E-07	5.63E-06	2.44E-02	2.08E-07	5.24E-06	2.45E-01	2.08E-06
Road 49	49	0700-0800	2.68E-02	3.53E-07	8.91E-06	2.50E-02	3.29E-07	8.31E-06	2.51E-01	3.30E-06
Road 49	49	0800-0900	3.53E-02	6.97E-07	1.76E-05	3.08E-02	6.08E-07	1.47E-05	2.55E-01	5.04E-06
Road 49	49	0900-1000	3.81E-02	6.03E-07	1.52E-05	3.34E-02	5.29E-07	1.33E-05	2.55E-01	4.91E-06
Road 49	49	1000-1100	3.95E-02	1.75E-07	4.42E-06	3.46E-02	1.53E-07	3.87E-06	2.64E-01	1.17E-06
Road 49	49	1100-1200	4.01E-02	5.14E-07	1.30E-05	3.28E-02	4.20E-06	1.06E-04	2.71E-01	3.48E-06
Road 49	49	1200-1300	4.01E-02	5.14E-07	1.30E-05	3.28E-02	4.20E-06	1.06E-04	2.71E-01	3.48E-06
Road 49	49	1300-1400	4.55E-02	4.42E-07	1.12E-05	3.92E-02	3.81E-07	9.64E-06	3.15E-01	3.07E-06
Road 49	49	1400-1500	4.60E-02	4.84E-07	1.22E-05	3.87E-02	4.07E-07	1.03E-05	3.87E-01	4.07E-06
Road 49	49	1500-1600	4.56E-02	4.87E-07	1.23E-05	3.85E-02	4.11E-07	1.04E-05	3.87E-01	4.13E-06
Road 49	49	1600-1700	4.77E-02	5.55E-07	1.40E-05	3.97E-02	4.61E-07	1.16E-05	3.84E-01	4.46E-06
Road 49	49	1700-1800	4.92E-02	4.03E-07	1.02E-05	4.11E-02	3.36E-07	8.54E-06	3.97E-01	3.25E-06
Road 49	49	1800-1900	2.80E-02	4.27E-07	1.08E-05	2.44E-02	3.73E-07	9.41E-06	2.97E-01	4.54E-06
Road 49	49	1900-2000	2.27E-02	2.18E-07	5.49E-06	2.00E-02	1.92E-07	4.84E-06	2.95E-01	2.83E-06
Road 49	49	2000-2100	2.27E-02	2.18E-07	5.49E-06	2.00E-02	1.92E-07	4.84E-06	2.95E-01	2.83E-06
Road 49	49	2100-2200	2.04E-02	1.93E-07	4.88E-06	1.76E-02	1.66E-07	4.20E-06	2.73E-01	2.58E-06
Road 49	49	2200-2300	2.04E-02	1.93E-07	4.88E-06	1.76E-02	1.66E-07	4.20E-06	2.73E-01	2.58E-06
Road 49	49	2300-0000	2.02E-02	1.42E-07	3.58E-06	1.77E-02	1.24E-07	3.13E-06	2.66E-01	1.87E-06
Road 50	50	0000-0100	2.02E-02	1.42E-07	3.58E-06	1.77E-02	1.24E-07	3.13E-06	2.66E-01	1.87E-06
Road 50	50	0100-0200	7.16E-02	2.39E-06	3.41E-07	6.58E-02	2.19E-06	3.13E-07	5.16E-01	1.72E-06
Road 50	50	0200-0300	7.61E-02	2.01E-06	2.86E-07	7.02E-02	1.85E-06	2.64E-07	5.33E-01	1.40E-06
Road 50	50	0300-0400	8.11E-02	2.59E-06	7.38E-07	6.66E-02	2.13E-06	6.06E-07	5.09E-01	1.63E-06
Road 50	50	0400-0500	8.12E-02	2.04E-06	2.90E-07	7.39E-02	1.85E-06	2.64E-07	5.32E-01	1.34E-06
Road 50	50	0500-0600	8.12E-02	3.05E-06	4.34E-07	7.39E-02	2.77E-06	3.94E-07	5.32E-01	2.00E-06
Road 50	50	0600-0700	7.52E-02	6.74E-06	9.61E-07	7.02E-02	6.30E-06	8.98E-07	5.25E-01	4.71E-06
Road 50	50	0700-0800	8.52E-02	1.66E-07	2.37E-06	7.79E-02	1.51E-07	2.17E-06	5.82E-01	1.13E-06
Road 50	50	0800-0900	8.52E-02	1.66E-07	2.37E-06	7.79E-02	1.51E-07	2.17E-06	5.82E-01	1.13E-06
Road 50	50	0900-1000	9.43E-02	2.20E-07	3.14E-06	8.29E-02	1.94E-07	2.76E-06	6.05E-01	1.41E-06
Road 50	50	1000-1100	1.03E-01	2.19E-07	3.12E-06	8.98E-02	1.91E-07	2.72E-06	6.43E-01	1.37E-06
Road 50	50	1100-1200	1.04E-01	2.19E-07	3.12E-06	8.72E-02	1.84E-07	2.62E-06	6.40E-01	1.35E-06
Road 50	50	1200-1300	1.04E-01	2.19E-07	3.12E-06	8.72E-02	1.84E-07	2.62E-06	6.40E-01	1.35E-06
Road 50	50	1300-1400	1.19E-01	1.27E-07	1.82E-06	1.03E-01	1.10E-07	1.57E-06	5.00E-01	5.34E-07
Road 50	50	1400-1500	1.22E-01	1.30E-07	1.85E-06	1.03E-01	1.09E-07	1.56E-06	5.08E-01	5.40E-07
Road 50	50	1500-1600	1.22E-01	1.30E-07	1.85E-06	1.03E-01	1.09E-07	1.56E-06	5.08E-01	5.40E-07
Road 50	50	1600-1700	1.20E-01	1.25E-07	1.78E-06	1.00E-01	1.04E-07	1.48E-06	5.04E-01	5.22E-07
Road 50	50	1700-1800	1.07E-01	1.44E-07	2.05E-06	8.69E-02	1.17E-07	1.66E-06	4.46E-01	6.02E-07
Road 50	50	1800-1900	9.78E-02	7.19E-08	1.03E-06	8.59E-02	6.31E-08	9.00E-07	4.28E-01	3.14E-07
Road 50	50	1900-2000	8.72E-02	3.79E-08	5.41E-07	7.52E-02	3.27E-08	4.66E-07	3.82E-01	1.66E-07
Road 50	50	2000-2100	8.99E-02	4.27E-07	7.53E-06	7.26E-02	3.45E-06	6.08E-05	3.76E-01	1.78E-05
Road 50	50	2100-2200	8.89E-02	3.20E-08	4.56E-07	7.71E-02	2.78E-08	3.96E-07	3.91E-01	1.41E-07
Road 50	50	2200-2300	9.65E-02	5.12E-08	4.81E-07	8.18E-02	2.64E-08	3.77E-07	4.13E-01	2.13E-07
Road 50	50	2300-0000	9.53E-02	2.56E-08	3.65E-07	8.31E-02	2.23E-08	3.19E-07	4.07E-01	1.09E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 1	1	0000-0100	1.13E-02	2.89E-07	1.04E-05	1.56E-02	8.57E-06	1.62E-01	2.89E-06	1.26E-04
Road 1	1	0100-0200	1.44E-02	1.32E-07	7.28E-06	1.21E-02	1.11E-07	6.13E-06	1.68E-01	1.54E-06
Road 1	1	0200-0300	1.55E-02	1.04E-07	5.74E-06	1.31E-02	8.81E-08	4.85E-06	1.68E-01	1.12E-06
Road 1	1	0300-0400	1.68E-02	8.99E-08	4.97E-06	1.41E-02	7.43E-08	4.09E-06	1.74E-01	9.31E-07
Road 1	1	0400-0500	1.80E-02	1.04E-07	5.71E-06	1.49E-02	8.62E-08	4.75E-06	1.78E-01	1.03E-06
Road 1	1	0500-0600	1.87E-02	1.87E-07	1.03E-05	1.56E-02	8.58E-06	1.42E-01	1.47E-06	8.09E-05
Road 1	1	0600-0700	1.96E-02	4.15E-07	2.29E-05	1.65E-02	3.51E-07	1.93E-05	1.78E-01	3.76E-06
Road 1	1	0700-0800	2.10E-02	8.98E-07	4.94E-05	1.77E-02	7.60E-07	4.19E-05	1.87E-01	7.99E-06
Road 1	1	0800-0900	2.29E-02	1.29E-06	7.10E-05	1.93E-02	1.09E-06	6.00E-05	2.04E-01	1.15E-05
Road 1	1	0900-1000	2.33E-02	9.25E-07	5.09E-05	1.89E-02	7.50E-06	4.13E-04	1.99E-01	7.91E-06
Road 1	1	1000-1100	2.47E-02	7.96E-07	4.38E-05	2.11E-02	6.79E-06	3.52E-04	1.67E-01	5.39E-06
Road 1	1	1100-1200	2.47E-02	7.96E-07	4.38E-05	2.11E-02	6.79E-06	3.52E-04	1.67E-01	5.39E-06
Road 1	1	1200-1300	2.52E-02	1.54E-06	8.47E-05	2.17E-02	1.33E-06	7.30E-05	1.51E-01	9.23E-06
Road 1	1	1300-1400	2.64E-02	2.44E-06	1.34E-04	2.26E-02	2.09E-06	1.15E-04	1.91E-01	1.76E-05
Road 1	1	1400-1500	3.31E-02	1.74E-06	9.55E-05	2.82E-02	1.48E-06	8.15E-05	2.25E-01	1.18E-05
Road 1	1	1500-1600	3.30E-02	1.44E-06	7.92E-05	2.82E-02	1.23E-06	6.77E-05	2.24E-01	9.77E-06
Road 1	1	1600-1700	3.30E-02	1.90E-06	1.04E-04	2.75E-02	1.58E-06	8.69E-05	2.13E-01	1.22E-05
Road 1	1	1700-1800	1.84E-02	3.34E-06	7.39E-05	1.62E-02	2.94E-06	6.50E-05	1.37E-01	2.48E-05
Road 1	1	1800-1900	1.84E-02	3.34E-06	7.39E-05	1.62E-02	2.94E-06	6.50E-05	1.37E-01	2.48E-05
Road 1	1	1900-2000	1.64E-02	9.56E-07	5.26E-05	1.35E-02	7.87E-07	4.34E-05	1.29E-01	7.50E-06
Road 1	1	2000-2100	1.50E-02	6.94E-07	2.72E-05	1.24E-02	5.74E-07	2.25E-05	1.24E-01	5.74E-06
Road 1	1	2100-2200	1.41E-02	6.38E-07	2.51E-05	1.16E-02	5.24E-07	2.06E-05	1.16E-01	5.24E-06
Road 1	1	2200-2300	1.36E-02	6.08E-07	2.39E-05	1.12E-02	5.00E-07	1.96E-05	1.12E-01	5.00E-06
Road 1	1	2300-0000	1.50E-02	6.94E-07	2.72E-05	1.24E-02	5.74E-07	2.25E-05	1.24E-01	5.74E-06
Road 2	2	0000-0100	1.49E-02	2.90E-07	1.47E-05	1.24E-02	2.41E-07	1.22E-05	1.56E-01	1.02E-06
Road 2	2	0100-0200	1.89E-02	2.04E-07	1.03E-05	1.56E-02	1.68E-07	8.52E-06	1.56E-01	1.68E-06
Road 2	2	0200-0300	1.75E-02	1.62E-07	8.18E-06	1.44E-02	1.33E-07	6.74E-06	1.44E-01	1.33E-06
Road 2	2	0300-0400	1.75E-02	1.15E-07	5.82E-06	1.44E-02	9.47E-08	4.79E-06	1.44E-01	9.47E-07
Road 2	2	0400-0500	1.80E-02	1.15E-07	5.82E-06	1.49E-02	9.47E-08	4.79E-06	1.49E-01	9.47E-07
Road 2	2	0500-0600	1.87E-02	1.87E-07	1.03E-05	1.56E-02	8.58E-06	1.42E-01	1.47E-06	8.09E-05
Road 2	2	0600-0700	1.96E-02	4.15E-07	2.29E-05	1.65E-02	3.51E-07	1.93E-05	1.78E-01	3.76E-06
Road 2	2	0700-0800	2.10E-02	8.98E-07	4.94E-05	1.77E-02	7.60E-07	4.19E-05	1.87E-01	7.99E-06
Road 2	2	0800-0900	2.29E-02	1.29E-06	7.10E-05	1.93E-02	1.09E-06	6.00E-05	2.04E-01	1.15E-05
Road 2	2	0900-1000	2.33E-02	9.25E-07	5.09E-05	1.89E-02	7.50E-06	4.13E-04	1.99E-01	7.91E-06
Road 2	2	1000-1100	2.47E-02	7.96E-07	4.38E-05	2.11E-02	6.79E-06	3.52E-04	1.67E-01	5.39E-06
Road 2	2	1100-1200	2.47E-02	7.96E-07	4.38E-05	2.11E-02	6.79E-06	3.52E-04	1.67E-01	5.39E-06
Road 2	2	1200-1300	2.52E-02	1.54E-06	8.47E-05	2.17E-02	1.33E-06	7.30E-05	1.51E-01	9.23E-06
Road 2	2	1300-1400	2.64E-02	2.44E-06	1.34E-04	2.26E-02	2.09E-06	1.15E-04	1.91E-01	1.76E-05
Road 2	2	1400-1500	3.31E-02	1.74E-06	9.55E-05	2.82E-02	1.48E-06	8.15E-05	2.25E-01	1.18E-05
Road 2	2	1500-1600	3.30E-02	1.44E-06	7.92E-05	2.82E-02	1.23E-06	6.77E-05	2.24E-01	9.77E-06
Road 2	2	1600-1700	3.30E-02	1.90E-06	1.04E-04	2.75E-02	1.58E-06	8.69E-05	2.13E-01	1.22E-05
Road 2	2	1700-1800	1.84E-02	3.34E-06	7.39E-05	1.62E-02	2.94E-06	6.50E-05	1.37E-01	2.48E-05
Road 2	2	1800-1900	1.84E-02	3.34E-06	7.39E-05	1.62E-02	2.94E-06	6.50E-05	1.37E-01	2.48E-05
Road 2	2	1900-2000	1.64E-02	9.56E-07	5.26E-05	1.35E-02	7.87E-07	4.34E-05	1.29E-01	7.50E-06
Road 2	2	2000-2100	1.50E-02	6.94E-07	2.72E-05	1.24E-02	5.74E-07	2.25E-05	1.24E-01	5.74E-06
Road 2	2	2100-2200	1.41E-02	6.38E-07	2.51E-05	1.16E-02	5.24E-07	2.06E-05	1.16E-01	5.24E-06
Road 2	2	2200-2300	1.36E-02	6.08E-07	2.39E-05	1.12E-02	5.00E-07	1.96E-05	1.12E-01	5.00E-06
Road 2	2	2300-0000	1.50E-02	6.94E-07	2.72E-05	1.24E-02	5.74E-07	2.25E-05	1.24E-01	5.74E-06
Road 3	3	0000-0100	1.49E-02	2.90E-07	1.47E-05	1.24E-02	2.41E-07	1.22E-05	1.56E-01	1.02E-06
Road 3	3	0100-0200	1.89E-02	2.04E-07	1.03E-05	1.56E-02	1.68E-07	8.52E-06	1.56E-01	1.68E-06
Road 3	3	0200-0300	1.88E-02	1.74E-07	8.82E-06	1.55E-02	1.44E-07	7.29E-06	1.55E-01	1.44E-06
Road 3	3	0300-0400	1.88E-02	1.24E-07	6.27E-06	1.55E-02	1.02E-07	5.16E-06	1.55E-01	1.02E-06
Road 3	3	0400-0500	1.93E-02	1.24E-07	6.27E-06	1.60E-02	1.02E-07	5.16E-06	1.60E-01	1.02E-06
Road 3	3	0500-0600	2.01E-02	2.01E-07	1.02E-05	1.67E-02	9.23E-06	1.53E-01	1.58E-06	8.70E-05
Road 3	3	0600-0700	2.10E-02	4.46E-07	2.46E-05	1.77E-02	3.77E-07	2.08E-05	1.91E-01	4.04E-06
Road 3	3	0700-0800	2.25E-02	9.64E-07	5.31E-05	1.90E-02	8.15E-07	4.49E-05	2.01E-01	8.58E-06
Road 3	3	0800-0900	2.46E-02	1.38E-06	7.62E-05	2.07E-02	1.17E-06	6.44E-05	2.19E-01	1.23E-05
Road 3	3	0900-1000	2.50E-02	9.93E-07	5.47E-05	2.03E-02	8.05E-06	4.43E-04	2.14E-01	8.49E-06
Road 3	3	1000-1100	2.65E-02	8.54E-07	4.70E-05	2.26E-02	7.29E-06	4.01E-04	1.79E-01	5.78E-06
Road 3	3	1100-1200	2.65E-02	8.54E-07	4.70E-05	2.26E-02	7.29E-06	4.01E-04	1.79E-01	5.78E-06
Road 3	3	1200-1300	2.70E-02	1.65E-06	9.08E-05	2.32E-02	1.42E-06	7.82E-05	1.62E-01	9.89E-06
Road 3	3	1300-1400	2.83E-02	2.61E-06	1.44E-04	2.42E-02	2.24E-06	1.23E-04	2.04E-01	1.88E-05
Road 3	3	1400-1500	3.54E-02	1.86E-06	1.02E-04	3.02E-02	1.59E-06	8.73E-05	2.41E-01	1.27E-05
Road 3	3	1500-1600	3.53E-02	1.54E-06	8.48E-05	3.02E-02	1.32E-06	7.25E-05	2.40E-01	1.04E-05
Road 3	3	1600-1700	3.53E-02	2.03E-06	1.12E-04	2.94E-02	1.69E-06	9.31E-05	2.28E-01	1.31E-05
Road 3	3	1700-1800	1.97E-02	3.57E-06	7.91E-05	1.73E-02	3.14E-06	6.96E-05	1.47E-01	2.65E-05
Road 3	3	1800-1900	1.97E-02	3.57E-06	7.91E-05	1.73E-02	3.14E-06	6.96E-05	1.47E-01	2.65E-05
Road 3	3	1900-2000	1.75E-02	1.02E-06	5.62E-05	1.44E-02	8.41E-07	4.64E-05	1.38E-01	8.02E-06
Road 3	3	2000-2100	1.60E-02	7.41E-07	2.90E-05	1.32E-02	6.13E-07	2.40E-05	1.32E-01	6.13E-06
Road 3	3	2100-2200	1.51E-02	6.81E-07	2.68E-05	1.24E-02	5.60E-07	2.20E-05	1.24E-01	5.60E-06
Road 3	3	2200-2300	1.45E-02	6.49E-07	2.55E-05	1.20E-02	5.34E-07	2.10E-05	1.20E-01	5.34E-06
Road 3	3	2300-0000	1.60E-02	7.41E-07	2.90E-05	1.32E-02	6.13E-07	2.40E-05	1.32E-01	6.13E-06
Road 4	4	0000-0100	1.23E-02	3.15E-07	1.13E-05	1.70E-02	9.35E-06	1.77E-01	3.15E-06	1.37E-04
Road 4	4	0100-0200	1.57E-02	1.44E-07	7.95E-06	1.32E-02	1.21E-07	6.69E-06	1.84E-01	1.69E-06
Road 4	4	0200-0300	1.69E-02	1.13E-07	6.26E-06	1.43E-02	9.61E-08	5.30E-06	1.84E-01	1.22E-06
Road 4	4	0300-0400	1.83E-02	9.81E-08	5.42E-06	1.54E-02	8.11E-08	4.48E-06	1.90E-01	1.02E-06
Road 4	4	0400-0500	1.96E-02	1.13E-07	6.23E-06	1.62E-02	9.40E-08	5.18E-06	1.94E-01	1.12E-06
Road 4	4	0500-0600	2.04E-02	2.04E-07	1.12E-05	1.82E-02	9.36E-06	1.55E-01	1.72E-06	8.83E-05
Road 4	4	0600-0700	2.29E-02	4.87E-07	2.68E-05	2.15E-02	4.11E-07	2.26E-05	2.08E-01	4.41E-06
Road 4	4	0700-0800	2.45E-02	1.05E-06	5.78E-05	2.07E-02	8.88E-07	4.89E-05	2.19E-01	9.35E-06
Road 4	4	0800-0900	2.68E-02	1.50E-06	8.30E-05	2.25E-02	1.27E-06	7.01E-05	2.38E-01	1.34E-05
Road 4	4	0900-1000	2.72E-02	1.08E-06	5.96E-05	2.21E-02	8.77E-06	4.83E-04	2.33E-01	9.25E-06
Road 4	4	1000-1100	2.89E-02	9.31E-07	5.12E-05	2.47E-02	7.95E-06	4.37E-04	1.95E-01	6.30E-06
Road 4	4	1100-1200	2.89E-02	9.31E-07	5.12E-05	2.47E-02	7.95E-06	4.37E-04	1.95E-01	6.30E-06
Road 4	4	1200-1300	2.94E-02	1.80E-06	9.90E-05	2.52E-02	1.55E-06	8.52E-05	1.76E-01	1.08E-05
Road 4	4	1300-1400	3.08E-02	2.84E-06	1.56E-04	2.63E-02	2.43E-06	1.34E-04	2.22E-01	2.05E-05
Road 4	4	1400-1500	3.85E-02	2.02E-06	1.11E-04	3.29E-02	1.73E-06	9.50E-05	2.62E-01	1.38E-

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 17	17	1600-1700	3.32E-02	5.94E-07	1.74E-05	3.32E-02	5.94E-07	1.74E-05	1.56E-02	2.81E-07	8.22E-06	1.56E-02	2.81E-07	8.22E-06
Road 17	17	1700-1800	3.33E-02	5.13E-07	1.50E-05	2.74E-02	4.22E-07	1.23E-05	2.60E-02	4.01E-06	1.17E-04	2.11E-02	3.26E-06	9.53E-05
Road 17	17	1800-1900	2.54E-02	4.21E-07	1.23E-05	2.11E-02	3.49E-07	1.02E-05	2.25E-02	3.74E-06	1.09E-04	2.00E-02	3.32E-06	8.96E-05
Road 17	17	1900-2000	2.15E-02	2.18E-07	6.39E-06	1.78E-02	1.81E-07	5.29E-06	2.39E-02	2.43E-06	7.10E-05	1.95E-02	1.98E-06	5.80E-05
Road 17	17	2000-2100	2.68E-02	2.09E-07	5.84E-06	1.94E-02	1.51E-07	4.23E-06	2.97E-02	2.31E-06	6.53E-05	1.86E-02	1.45E-06	5.34E-05
Road 17	17	2100-2200	3.94E-02	1.90E-07	5.57E-06	1.94E-02	9.35E-08	2.74E-06	4.37E-02	2.11E-06	6.23E-05	1.94E-02	9.35E-07	2.76E-05
Road 17	17	2200-2300	3.94E-02	1.90E-07	5.57E-06	1.94E-02	9.35E-08	2.74E-06	4.37E-02	2.11E-06	6.23E-05	1.94E-02	9.35E-07	2.76E-05
Road 17	17	2300-2400	3.94E-02	1.90E-07	5.57E-06	1.94E-02	9.35E-08	2.74E-06	4.37E-02	2.11E-06	6.23E-05	1.94E-02	9.35E-07	2.76E-05
Road 18	18	0000-0100	1.66E-02	8.20E-08	2.42E-06	1.66E-02	8.20E-08	2.42E-06	7.82E-03	3.86E-08	1.14E-06	7.82E-03	3.86E-08	1.14E-06
Road 18	18	0100-0200	1.83E-02	5.91E-08	2.33E-06	1.55E-02	5.00E-08	1.98E-06	1.99E-01	6.49E-07	2.53E-05	1.66E-01	5.41E-07	2.11E-05
Road 18	18	0200-0300	2.51E-02	4.26E-08	1.67E-06	1.88E-02	3.19E-08	1.25E-06	2.73E-01	4.63E-07	1.82E-05	2.04E-01	3.46E-07	1.36E-05
Road 18	18	0300-0400	2.25E-02	4.26E-08	1.67E-06	1.88E-02	3.56E-08	1.39E-06	2.15E-01	4.08E-07	1.59E-05	1.77E-01	3.36E-07	1.31E-05
Road 18	18	0400-0500	2.52E-02	4.80E-08	1.88E-06	1.94E-02	4.01E-08	1.57E-06	2.41E-01	4.59E-07	1.79E-05	1.86E-01	3.84E-07	1.50E-05
Road 18	18	0500-0600	2.56E-02	7.98E-08	3.12E-06	1.99E-02	6.48E-08	2.54E-06	2.45E-01	7.57E-07	2.96E-05	1.90E-01	6.18E-07	2.42E-05
Road 18	18	0600-0700	2.25E-02	1.68E-07	6.55E-06	1.90E-02	1.41E-07	5.52E-06	2.13E-01	1.59E-06	6.22E-05	1.77E-01	1.32E-06	5.15E-05
Road 18	18	0700-0800	2.23E-02	3.94E-07	1.54E-05	2.23E-02	3.94E-07	1.54E-05	2.13E-01	3.76E-06	1.47E-04	2.13E-01	3.76E-06	1.47E-04
Road 18	18	0800-0900	2.57E-02	4.54E-07	1.77E-05	2.57E-02	4.54E-07	1.77E-05	2.44E-01	4.31E-06	1.68E-04	2.44E-01	4.31E-06	1.68E-04
Road 18	18	0900-1000	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1000-1100	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1100-1200	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1200-1300	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1300-1400	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1400-1500	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1500-1600	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1600-1700	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1700-1800	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1800-1900	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	1900-2000	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	2000-2100	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	2100-2200	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	2200-2300	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 18	18	2300-2400	2.56E-02	4.52E-07	1.76E-05	2.56E-02	4.52E-07	1.76E-05	2.44E-01	4.30E-06	1.67E-04	2.44E-01	4.30E-06	1.67E-04
Road 19	19	0000-0100	2.06E-02	1.02E-07	3.01E-06	2.06E-02	1.02E-07	3.01E-06	9.72E-03	4.80E-08	1.42E-06	9.72E-03	4.80E-08	1.42E-06
Road 19	19	0100-0200	2.24E-02	9.43E-08	1.25E-06	1.91E-02	8.03E-08	1.06E-06	1.76E-01	7.40E-07	9.79E-06	1.47E-01	6.17E-07	8.16E-06
Road 19	19	0200-0300	2.46E-02	7.63E-08	1.01E-06	2.07E-02	6.43E-08	8.50E-07	1.84E-01	5.71E-07	7.55E-06	1.52E-01	4.72E-07	6.24E-06
Road 19	19	0300-0400	2.68E-02	6.63E-08	8.76E-07	2.24E-02	5.55E-08	7.34E-07	1.92E-01	4.76E-07	6.29E-06	1.58E-01	3.91E-07	5.17E-06
Road 19	19	0400-0500	2.81E-02	7.66E-08	1.01E-06	2.36E-02	6.42E-08	8.49E-07	1.97E-01	5.35E-07	7.08E-06	1.62E-01	4.40E-07	5.82E-06
Road 19	19	0500-0600	2.88E-02	1.36E-07	1.79E-06	2.39E-02	1.14E-07	1.50E-06	1.98E-01	9.33E-07	1.23E-05	1.64E-01	7.68E-07	1.01E-05
Road 19	19	0600-0700	2.98E-02	3.01E-07	3.98E-06	2.52E-02	2.54E-07	3.36E-06	2.03E-01	2.05E-06	2.68E-05	1.67E-01	1.68E-06	2.23E-05
Road 19	19	0700-0800	3.22E-02	6.63E-07	8.77E-06	2.73E-02	5.62E-07	7.43E-06	2.10E-01	4.32E-06	5.71E-05	1.75E-01	3.61E-06	4.77E-05
Road 19	19	0800-0900	3.88E-02	7.77E-07	1.03E-05	3.24E-02	6.48E-07	8.58E-06	2.53E-01	5.06E-06	6.70E-05	2.11E-01	4.22E-06	5.59E-05
Road 19	19	0900-1000	3.81E-02	7.77E-07	1.03E-05	3.24E-02	6.62E-07	8.75E-06	2.48E-01	5.06E-06	6.70E-05	2.11E-01	4.31E-06	5.70E-05
Road 19	19	1000-1100	4.13E-02	7.04E-07	9.30E-06	3.56E-02	6.06E-07	8.01E-06	2.40E-01	4.09E-06	5.40E-05	2.05E-01	3.49E-06	4.62E-05
Road 19	19	1100-1200	4.13E-02	7.04E-07	9.30E-06	3.56E-02	6.06E-07	8.01E-06	2.40E-01	4.09E-06	5.40E-05	2.05E-01	3.49E-06	4.62E-05
Road 19	19	1200-1300	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	1300-1400	5.96E-02	5.96E-07	7.89E-06	4.77E-02	4.77E-07	6.32E-06	3.46E-01	3.46E-06	4.58E-05	2.76E-01	2.76E-06	3.65E-05
Road 19	19	1400-1500	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	1500-1600	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	1600-1700	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	1700-1800	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	1800-1900	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	1900-2000	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	2000-2100	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	2100-2200	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	2200-2300	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 19	19	2300-2400	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 20	20	0000-0100	2.46E-02	1.22E-07	3.61E-06	2.46E-02	1.22E-07	3.61E-06	1.16E-02	5.74E-08	1.70E-06	1.16E-02	5.74E-08	1.70E-06
Road 20	20	0100-0200	2.42E-02	1.01E-07	1.34E-06	2.05E-02	8.61E-08	1.14E-06	1.89E-01	7.93E-07	1.05E-05	1.58E-01	6.61E-07	8.75E-06
Road 20	20	0200-0300	2.64E-02	8.07E-08	1.07E-06	2.22E-02	6.79E-08	8.98E-07	2.03E-01	6.20E-07	8.21E-06	1.70E-01	5.22E-07	6.91E-06
Road 20	20	0300-0400	2.82E-02	6.96E-08	9.20E-07	2.36E-02	5.83E-08	7.71E-07	2.17E-01	5.35E-07	7.08E-06	1.81E-01	4.48E-07	5.93E-06
Road 20	20	0400-0500	2.95E-02	8.04E-08	1.06E-06	2.48E-02	6.76E-08	8.94E-07	2.27E-01	6.18E-07	8.17E-06	1.90E-01	5.18E-07	6.85E-06
Road 20	20	0500-0600	3.00E-02	1.41E-07	1.86E-06	2.51E-02	1.18E-07	1.56E-06	2.31E-01	1.08E-06	1.43E-05	1.93E-01	8.91E-07	1.18E-05
Road 20	20	0600-0700	3.13E-02	3.14E-07	4.15E-06	2.63E-02	2.65E-07	3.50E-06	2.40E-01	2.41E-06	3.19E-05	2.01E-01	2.02E-06	2.67E-05
Road 20	20	0700-0800	3.36E-02	6.91E-07	9.14E-06	2.85E-02	5.86E-07	7.74E-06	2.58E-01	5.31E-06	7.02E-05	2.19E-01	4.51E-06	5.96E-05
Road 20	20	0800-0900	4.04E-02	8.09E-07	1.07E-05	3.38E-02	6.77E-07	8.95E-06	3.04E-01	6.09E-06	8.05E-05	2.54E-01	5.09E-06	6.73E-05
Road 20	20	0900-1000	3.97E-02	7.95E-07	1.05E-05	3.38E-02	6.91E-07	9.13E-06	2.98E-01	5.97E-06	7.89E-05	2.54E-01	5.19E-06	6.86E-05
Road 20	20	1000-1100	4.30E-02	7.33E-07	9.68E-06	3.71E-02	6.31E-07	8.34E-06	2.89E-01	4.93E-06	6.51E-05	2.47E-01	4.22E-06	5.58E-05
Road 20	20	1100-1200	4.30E-02	7.33E-07	9.68E-06	3.71E-02	6.31E-07	8.34E-06	2.89E-01	4.93E-06	6.51E-05	2.47E-01	4.22E-06	5.58E-05
Road 20	20	1200-1300	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	1300-1400	6.21E-02	6.21E-07	8.23E-06	4.97E-02	4.97E-07	6.59E-06	4.17E-01	4.17E-06	5.53E-05	3.34E-01	3.34E-06	4.42E-05
Road 20	20	1400-1500	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	1500-1600	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	1600-1700	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	1700-1800	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	1800-1900	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	1900-2000	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	2000-2100	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	2100-2200	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	2200-2300	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 20	20	2300-2400	6.05E-02	6.05E-07	8.02E-06	4.85E-02	4.85E-07	6.43E-06	4.06E-01	4.06E-06	5.38E-05	3.25E-01	3.25E-06	4.31E-05
Road 21	21	0000-0100	2.06E-02	1.02E-07	3.01E-06	2.06E-02	1.02E-07	3.01E-06	9.96E-03	4.92E-08	1.46E-06	9.96E-03	4.92E-08	1.46E-06
Road 21	21	0100-0200	2.24E-02	9.43E-08	1.25E-06	1.91E-02	8.03E-08	1.06E-06	1.76E-01	7.40E-07	9.79E-06	1.47E-01	6.17E-07	8.16E-06
Road 21	21	0200-0300	2.46E-02	7.63E-08	1.01E-06	2.07E-02	6.43E-08	8.50E-07	1.84E-01	5.71E-07	7.55E-06	1.52E-01	4.72E-07	6.24E-06
Road 21	21	0300-0400	2.68E-02	6.63E-08	8.76E-07	2.24E-02	5.55E-08	7.34E-07	1.92E-01	4.76E-07	6.29E-06	1.58E-01	3.91E-07	5.17E-06
Road 21	21	0400-0500	2.81E-02	7.66E-08	1.01E-06	2.36E-02	6.42E-08	8.49E-07	1.97E-01	5.35E-07	7.08E-06	1.62E-01	4.40E-07	5.82E-06
Road 21	21	0500-0600	2.88E-02	1.36E-07	1.79E-06	2.39E-02	1.14E-07	1.50E-06	1.98E-01	9.33E-07	1.23E-05	1.64E-01	7.68E-07	1.01E-05
Road 21	21	0600-0700	2.98E-02	3.01E-07	3.98E-06	2.52E-02	2.54E-07	3.36E-06	2.03E-01	2.05E-06	2.68E-05	1.67E-01	1.68E-06	2.23E-05
Road 21	21	0700-0800	3.22E-02	6.63E-07	8.77E-06	2.73E-02	5.62E-07	7.43E-06	2.10E-01	4.32E-06	5.71E-05	1.75E-01	3.61E-06	4.77E-05
Road 21	21	0800-0900	3.88E-02	7.77E-07	1.03E-05	3.24E-02	6.48E-07	8.58E-06	2.53E-01	5.06E-06	6.70E-05	2.11E-01	4.22E-06	5.59E-05
Road 21	21	0900-1000	3.81E-02	7.77E-07	1.03E-05	3.24E-02	6.62E-07	8.75E-06	2.48E-01	5.06E-06	6.70E-05	2.11E-01	4.31E-06	5.70E-05
Road 21	21	1000-1100	4.13E-02	7.04E-07	9.30E-06	3.56E-02	6.06E-07	8.01E-06	2.40E-01	4.09E-06	5.40E-05	2.05E-01	3.49E-06	4.62E-05
Road 21	21	1100-1200	4.13E-02	7.04E-07	9.30E-06	3.56E-02	6.06E-07	8.01E-06	2.40E-01	4.09E-06	5.40E-05	2.05E-01	3.49E-06	4.62E-05
Road 21	21	1200-1300	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	1300-1400	5.96E-02	5.96E-07	7.89E-06	4.77E-02	4.77E-07	6.32E-06	3.46E-01	3.46E-06	4.58E-05	2.76E-01	2.76E-06	3.65E-05
Road 21	21	1400-1500	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	1500-1600	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	1600-1700	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	1700-1800	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	1800-1900	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	1900-2000	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	2000-2100	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	2100-2200	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	2200-2300	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 21	21	2300-2400	5.81E-02	5.81E-07	7.70E-06	4.66E-02	4.66E-07	6.17E-06	3.37E-01	3.37E-06	4.47E-05	2.69E-01	2.69E-06	3.56E-05
Road 22	22	0000-0100	1.88E-02	2.12E-07	1.78E-06	1.59E-01	1.80E-07	1.51E-06	7.14E-03	8.07E-08	6.77E-07	6.04E-02	6.84E-08	5.74E-07
Road 22	22	0100-0200	1.81E-02	2.26E-07	2.04E-06	1.73E-01	2.16E-07	1.95E-06	6.87E-03	8.58E-08	7.74E-07	6.57E-02	8.20E-08	7.40E-07
Road 22	22	0200-0300	1.81E-02	2.11E-07	1.98E-06	1.54E-01	1.79E-07	1.68E-06	6.87E-03	8.02E-08	7.52E-07	5.83E-02	6.80E-08	6.38E-07
Road 22	22	0300-0400	1.88E-02	1.13E-07	2.01E-06	1.59E-01	9.51E-08	1.70E-06	7.83E-03	4.69E-08	8.37E-07	6.62E-02	3.96E-08	7.04E-07
Road 22	22	0400-0500	1.88E-02	1.13E-07	2.01E-06	1.59E-01	9.51E-08	1.70E-06	7.83E-03	4.69E-08	8.37E-07	6.62E-02	3.96E-08	7.04E-07
Road 22	22	0500-0600	2.06E-02	2.26E-07	4.04E-06	1.73E-01	1.91E-07	3.40E-06	8.56E-03	9.35E-08	1.67E-06	7.18E-02	7.91E-08	1.41E-06
Road 22	22	0600-0700	2.36E-02	1.25E-06	2.23E-05	2.01E-01	1.06E-06	1.90E-05	9.64E-03	5.11E-06	9.11E-05	8.19E-02	4.34E-06	7.74E-05
Road 22	22	0700-0800	2.36E-02	1.25E-06	2.23E-05	2.01E-01	1.06E-06	1.90E-05	9.64E-03	5.11E-06	9.11E-05	8.19E-02	4.34E-06	7.74E-05
Road 22	22	0800-0900	2.66E-02	1.41E-06	2.51E-05	2.26E-01	1.20E-06	2.14E-05	1.08E-02	5.74E-06	1.02E-04	9.19E-02	4.88E-06	8.69E-05
Road 22	22	0900-1000	2.63E-02	1.41E-06	2.51E-05	2.24E-01	1.20E-06	2.14E-05	1.07E-02	5.74E-06	1.02E-04	9.11E-02	4.88E-06	8.69E-05
Road 22	22	1000-1100	2.66E-01	1.68E-06	2.98E-05	2.26E-01	1.43E-06	2.54E-05	1.08E-02	6.83E-06	1.21E-04	9.23E-02	5.81E-06	1.03E-04
Road 22	22	1100-1200	2.66E-01	1.68E-06	2.98E-05	2.26E-01	1.43E-06	2.54E-05	1.08E-02	6.83E-06	1.21E-04	9.23E-02	5.81E-06	1.03E-04
Road 22	22	1200-1300	2.84E-01	1.42E-06	2.52E-05	2.41E-01	1.21E-06	2.15E-05	1.15E-02	5.79E-06	1.03E-04	9.84E-02	4.93E-06	8.76E-05
Road 22	22	1300-1400	2.76E-01	2.01E-06	3.58E-05	2.37E-01	1.72E-06	3.07E-05	1.10E-02	7.99E-06	1.42E-04	9.44E-02	6.85E-06	1.22E-04
Road 22	22	1400-1500	2.76E-01	2.01E-06	3.58E-05	2.37E-01	1.72E-06	3.07E-05	1.10E-02	7.99E-06	1.42E-04	9.44E-02	6.85E-06	1.22E-04
Road 22	22	1500-1600	2.76E-01	1.56E-06	2.77E-05	2.37E-01	1.33E-06	2.38E-05	1.10E-02	6.21E-06	1.11E-04	9.44E-02	5.32E-06	9.48E-05
Road 22	22	1600-1700	2.71E-01	1.92E-06	3.42E-05	2.33E-01	1.65E-06	2.93E-05	1.08E-02	7.65E-06	1.36E-04	9.27E-02	6.56E-06	1.17E-04
Road 22	22	1700-1800	2.24E-01	1.48E-06	2.63E-05	1.85E-01	1.22E-06	2.17E-05	8.93E-03	5.90E-06	1.05E-04	7.64E-02	5.04E-06	8.98E-05
Road 22	22	1800-1900	2.32E-01	1.42E-06	2.52E-05	1.92E-01	1.17E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	3.81E-02	1.25E-01	1.14E-06	3.00E-02	9.41E-07	2.03E-01	3.44E-07	8.05E-06	1.65E-01	2.34E-07	4.92E-06	
Road 41	41	0100-0200	4.68E-02	1.05E-07	9.84E-07	3.99E-02	8.95E-08	8.40E-07	2.40E-01	5.38E-07	5.04E-06	2.02E-01	4.52E-07	4.25E-06
Road 41	41	0200-0300	5.48E-02	9.73E-08	9.13E-07	4.66E-02	8.25E-08	7.74E-07	2.74E-01	4.87E-07	4.57E-06	2.32E-01	4.12E-07	3.86E-06
Road 41	41	0300-0400	6.29E-02	1.36E-08	8.78E-07	5.29E-02	7.85E-08	7.36E-07	3.05E-01	4.61E-07	4.32E-06	2.53E-01	3.83E-07	3.59E-06
Road 41	41	0400-0500	6.09E-02	9.86E-08	9.25E-07	5.09E-02	8.25E-08	7.74E-07	2.99E-01	4.85E-07	4.55E-06	2.48E-01	4.01E-07	3.77E-06
Road 41	41	0500-0600	5.04E-02	1.25E-07	1.17E-06	4.22E-02	1.05E-07	9.82E-07	2.51E-01	6.23E-07	5.84E-06	2.09E-01	5.19E-07	4.88E-06
Road 41	41	0600-0700	4.11E-02	1.97E-07	1.85E-06	3.48E-02	1.67E-07	1.57E-06	2.08E-01	1.00E-06	9.39E-06	1.74E-01	8.35E-07	7.83E-06
Road 41	41	0700-0800	5.09E-02	5.42E-07	5.09E-06	4.29E-02	4.57E-07	4.29E-06	2.51E-01	2.68E-06	2.51E-05	2.09E-01	2.23E-06	2.09E-05
Road 41	41	0800-0900	4.68E-02	4.98E-07	4.68E-06	3.95E-02	4.20E-07	3.94E-06	2.36E-01	2.51E-06	2.36E-05	1.96E-01	2.09E-06	1.96E-05
Road 41	41	0900-1000	5.61E-02	6.02E-07	5.65E-06	4.78E-02	5.12E-07	4.81E-06	2.69E-01	2.89E-06	2.71E-05	2.31E-01	2.48E-06	2.33E-05
Road 41	41	1000-1100	6.23E-02	5.78E-07	5.43E-06	5.30E-02	4.92E-07	4.62E-06	2.96E-01	2.75E-06	2.58E-05	2.50E-01	2.32E-06	2.18E-05
Road 41	41	1100-1200	7.27E-02	4.95E-07	4.65E-06	6.19E-02	4.21E-07	3.96E-06	3.25E-01	2.21E-06	2.08E-05	2.75E-01	1.87E-06	1.76E-05
Road 41	41	1200-1300	7.52E-02	5.47E-07	5.13E-06	6.41E-02	4.66E-07	4.37E-06	3.47E-01	2.52E-06	2.36E-05	2.93E-01	2.13E-06	2.00E-05
Road 41	41	1300-1400	7.53E-02	5.47E-07	5.13E-06	6.42E-02	4.66E-07	4.37E-06	3.47E-01	2.52E-06	2.36E-05	2.93E-01	2.13E-06	2.00E-05
Road 41	41	1400-1500	7.38E-02	5.54E-07	5.20E-06	6.28E-02	4.72E-07	4.43E-06	3.41E-01	2.56E-06	2.40E-05	2.89E-01	2.17E-06	2.04E-05
Road 41	41	1500-1600	7.53E-02	5.54E-07	5.20E-06	6.41E-02	4.72E-07	4.43E-06	3.47E-01	2.56E-06	2.40E-05	2.93E-01	2.17E-06	2.04E-05
Road 41	41	1600-1700	7.18E-02	5.60E-07	5.26E-06	5.99E-02	4.67E-07	4.39E-06	3.32E-01	2.59E-06	2.43E-05	2.75E-01	2.15E-06	2.02E-05
Road 41	41	1700-1800	6.51E-02	5.07E-07	4.76E-06	5.02E-02	3.91E-07	3.68E-06	3.14E-01	2.44E-06	2.29E-05	2.59E-01	2.01E-06	1.89E-05
Road 41	41	1800-1900	5.22E-02	4.33E-07	4.06E-06	4.32E-02	3.58E-07	3.36E-06	2.54E-01	2.11E-06	1.98E-05	2.09E-01	1.73E-06	1.62E-05
Road 41	41	1900-2000	3.32E-02	1.81E-07	1.70E-06	2.76E-02	1.50E-07	1.41E-06	1.73E-01	9.47E-07	8.88E-06	1.44E-01	7.72E-07	7.24E-06
Road 41	41	2000-2100	3.32E-02	1.45E-07	1.36E-06	2.76E-02	1.20E-07	1.13E-06	1.73E-01	7.57E-07	7.10E-06	1.44E-01	6.18E-07	5.80E-06
Road 41	41	2100-2200	3.46E-02	1.51E-07	1.42E-06	2.87E-02	1.26E-07	1.18E-06	1.87E-01	8.18E-07	7.67E-06	1.52E-01	6.66E-07	6.25E-06
Road 41	41	2200-2300	3.46E-02	1.44E-07	1.35E-06	2.87E-02	1.20E-07	1.12E-06	1.87E-01	7.78E-07	7.30E-06	1.52E-01	6.36E-07	5.97E-06
Road 41	41	2300-0000	4.01E-02	1.32E-07	1.24E-06	3.32E-02	1.09E-07	1.02E-06	2.10E-01	6.92E-07	6.49E-06	1.71E-01	5.63E-07	5.28E-06
Road 42	42	0000-0100	7.25E-02	1.56E-07	1.97E-06	6.02E-02	1.30E-07	3.29E-06	3.38E-01	7.30E-07	1.85E-05	2.77E-01	5.99E-07	1.52E-05
Road 42	42	0100-0200	7.25E-02	1.40E-07	1.77E-06	6.02E-02	1.16E-07	2.95E-06	3.38E-01	6.56E-07	1.66E-05	2.77E-01	5.39E-07	1.37E-05
Road 42	42	0200-0300	7.25E-02	1.01E-07	1.35E-06	6.02E-02	8.39E-08	2.13E-06	3.38E-01	4.73E-07	1.20E-05	2.77E-01	3.88E-07	9.87E-06
Road 42	42	0300-0400	8.06E-02	1.36E-07	1.51E-06	6.69E-02	1.13E-07	2.53E-06	3.76E-01	6.34E-07	1.42E-05	3.08E-01	5.21E-07	1.17E-05
Road 42	42	0400-0500	1.10E-01	1.36E-07	3.45E-06	9.21E-02	1.14E-07	2.89E-06	4.87E-01	6.01E-07	1.53E-05	4.05E-01	5.00E-07	1.27E-05
Road 42	42	0500-0600	9.93E-02	1.59E-07	3.99E-06	8.31E-02	1.33E-07	3.31E-06	4.03E-01	7.09E-07	1.78E-05	3.35E-01	5.82E-07	1.46E-05
Road 42	42	0600-0700	1.08E-01	2.74E-07	6.87E-06	9.07E-02	2.29E-07	5.74E-06	4.40E-01	1.11E-06	2.79E-05	3.66E-01	9.27E-07	2.32E-05
Road 42	42	0700-0800	1.08E-01	7.95E-07	2.02E-05	9.13E-02	6.69E-07	1.70E-05	4.69E-01	3.44E-06	8.73E-05	3.92E-01	2.87E-06	7.28E-05
Road 42	42	0800-0900	1.08E-01	6.44E-07	1.63E-05	9.13E-02	5.42E-07	1.37E-05	4.69E-01	2.79E-06	7.07E-05	3.92E-01	2.32E-06	5.90E-05
Road 42	42	0900-1000	1.16E-01	8.49E-07	2.15E-05	9.85E-02	7.22E-07	1.83E-05	4.97E-01	3.64E-06	9.23E-05	4.21E-01	3.08E-06	7.82E-05
Road 42	42	1000-1100	1.24E-01	8.05E-07	2.04E-05	1.06E-01	6.85E-07	1.74E-05	5.31E-01	3.44E-06	8.72E-05	4.50E-01	2.91E-06	7.39E-05
Road 42	42	1100-1200	1.24E-01	8.05E-07	2.04E-05	1.06E-01	6.85E-07	1.74E-05	5.31E-01	3.44E-06	8.72E-05	4.50E-01	2.91E-06	7.39E-05
Road 42	42	1200-1300	1.39E-01	9.66E-07	2.45E-05	1.18E-01	8.24E-07	2.09E-05	5.97E-01	4.02E-06	1.02E-04	5.06E-01	3.42E-06	8.67E-05
Road 42	42	1300-1400	1.39E-01	9.49E-07	2.41E-05	1.18E-01	8.09E-07	2.05E-05	5.97E-01	3.95E-06	1.00E-04	5.06E-01	3.36E-06	8.52E-05
Road 42	42	1400-1500	1.39E-01	1.04E-06	2.63E-05	1.18E-01	8.81E-07	2.23E-05	5.79E-01	4.31E-06	1.09E-04	4.92E-01	3.66E-06	9.28E-05
Road 42	42	1500-1600	1.39E-01	1.04E-06	2.63E-05	1.18E-01	8.81E-07	2.23E-05	5.79E-01	4.31E-06	1.09E-04	4.92E-01	3.66E-06	9.28E-05
Road 42	42	1600-1700	1.36E-01	1.04E-06	2.64E-05	1.15E-01	8.79E-07	2.23E-05	5.66E-01	4.31E-06	1.09E-04	4.81E-01	3.66E-06	9.27E-05
Road 42	42	1700-1800	1.19E-01	8.57E-07	2.43E-05	9.72E-02	7.82E-07	1.98E-05	5.11E-01	4.11E-06	1.04E-04	4.15E-01	3.34E-06	8.46E-05
Road 42	42	1800-1900	1.00E-01	7.20E-07	1.82E-05	8.16E-02	6.56E-07	1.66E-05	4.30E-01	3.45E-06	8.73E-05	3.49E-01	2.80E-06	7.10E-05
Road 42	42	1900-2000	5.64E-02	2.84E-07	7.20E-06	4.69E-02	2.36E-07	5.97E-06	2.84E-01	1.43E-06	3.61E-05	2.36E-01	1.19E-06	3.00E-05
Road 42	42	2000-2100	5.64E-02	2.84E-07	7.20E-06	4.69E-02	2.36E-07	5.97E-06	2.84E-01	1.43E-06	3.61E-05	2.36E-01	1.19E-06	3.00E-05
Road 42	42	2100-2200	5.84E-02	2.37E-07	6.02E-06	4.85E-02	1.97E-07	5.00E-06	2.84E-01	1.15E-06	2.92E-05	2.32E-01	9.43E-07	2.39E-05
Road 42	42	2200-2300	5.75E-02	2.22E-07	5.63E-06	4.76E-02	1.84E-07	4.68E-06	2.79E-01	1.08E-06	2.74E-05	2.28E-01	8.80E-07	2.23E-05
Road 42	42	2300-0000	4.66E-02	1.71E-07	4.34E-06	3.86E-02	1.41E-07	3.58E-06	2.26E-01	8.31E-07	2.11E-05	1.84E-01	6.75E-07	1.71E-05
Road 43	43	0000-0100	2.33E-02	4.59E-08	4.70E-07	1.92E-02	3.80E-08	3.89E-07	1.36E-01	2.69E-07	2.75E-06	1.09E-01	2.16E-07	2.21E-06
Road 43	43	0100-0200	2.33E-02	3.63E-08	4.70E-07	1.92E-02	3.00E-08	3.89E-07	1.36E-01	2.13E-07	2.75E-06	1.09E-01	1.71E-07	2.21E-06
Road 43	43	0200-0300	2.93E-02	2.86E-08	2.93E-07	2.48E-02	2.42E-08	2.48E-07	1.59E-01	1.56E-07	1.60E-06	1.34E-01	1.31E-07	1.29E-06
Road 43	43	0300-0400	3.36E-02	2.92E-08	2.99E-07	2.81E-02	2.44E-08	2.50E-07	1.77E-01	1.53E-07	1.57E-06	1.44E-01	1.25E-07	1.28E-06
Road 43	43	0400-0500	3.36E-02	2.92E-08	2.99E-07	2.81E-02	2.44E-08	2.50E-07	1.77E-01	1.53E-07	1.57E-06	1.44E-01	1.25E-07	1.28E-06
Road 43	43	0500-0600	3.29E-02	4.89E-08	5.00E-07	2.76E-02	4.10E-08	4.19E-07	1.72E-01	2.55E-07	2.61E-06	1.44E-01	2.14E-07	2.19E-06
Road 43	43	0600-0700	3.29E-02	4.89E-08	5.00E-07	2.76E-02	4.10E-08	4.19E-07	1.72E-01	2.55E-07	2.61E-06	1.44E-01	2.14E-07	2.19E-06
Road 43	43	0700-0800	3.59E-02	2.35E-07	2.40E-06	3.02E-02	1.98E-07	2.02E-06	1.82E-01	1.19E-06	1.22E-05	1.51E-01	9.86E-07	1.01E-05
Road 43	43	0800-0900	3.44E-02	2.26E-07	2.31E-06	2.88E-02	2.23E-07	2.27E-06	1.74E-01	1.14E-06	1.16E-05	1.44E-01	1.11E-06	1.13E-05
Road 43	43	0900-1000	4.22E-02	2.80E-07	2.87E-06	3.59E-02	2.39E-07	2.45E-06	2.04E-01	1.36E-06	1.39E-05	1.72E-01	1.14E-06	1.17E-05
Road 43	43	1000-1100	4.83E-02	2.87E-07	2.93E-06	4.10E-02	2.43E-07	2.49E-06	2.27E-01	1.35E-06	1.38E-05	1.92E-01	1.14E-06	1.16E-05
Road 43	43	1100-1200	5.42E-02	2.68E-07	2.74E-06	4.60E-02	2.28E-07	2.33E-06	2.51E-01	1.24E-06	1.27E-05	2.13E-01	1.05E-06	1.08E-05
Road 43	43	1200-1300	5.20E-02	2.70E-07	2.76E-06	4.42E-02	2.29E-07	2.35E-06	2.41E-01	1.25E-06	1.28E-05	2.05E-01	1.06E-06	1.09E-05
Road 43	43	1300-1400	5.20E-02	2.70E-07	2.76E-06	4.42E-02	2.29E-07	2.35E-06	2.41E-01	1.25E-06	1.28E-05	2.05E-01	1.06E-06	1.09E-05
Road 43	43	1400-1500	5.17E-02	1.55E-07	1.58E-06	4.40E-02	1.32E-07	1.34E-06	2.06E-01	6.55E-07	6.69E-06	2.04E-01	6.25E-07	6.38E-06
Road 43	43	1500-1600	4.99E-02	1.14E-07	1.17E-06	4.25E-02	9.49E-08	9.71E-07	2.00E-01	4.82E-07	4.93E-06	1.98E-01	4.60E-07	4.70E-06
Road 43	43	1600-1700	4.99E-02	1.14E-07	1.17E-06	4.25E-02	9.49E-08	9.71E-07	2.00E-01	4.82E-07	4.93E-06	1.98E-01	4.60E-07	4.70E-06
Road 43	43	1700-1800	3.90E-02	1.01E-07	1.03E-06	3.18E-02	8.23E-08	8.41E-07	1.56E-01	4.06E-07	4.15E-06	1.56E-01	4.04E-07	4.13E-06
Road 43	43	1800-1900	2.16E-02	1.26E-07	1.29E-06	1.76E-02	1.03E-07	1.05E-06	1.13E-01	6.61E-07	6.76E-06	1.13E-01	6.61E-07	6.76E-06
Road 43	43	1900-2000	2.16E-02	1.45E-07	1.48E-06	1.76E-02	1.18E-07	1.21E-06	1.13E-01	7.57E-07	7.74E-06	1.13E-01	7.57E-07	7.74E-06
Road 43	43	2000-2100	2.07E-02	2.28E-08	2.33E-07	1.68E-02	1.85E-08	1.89E-07	1.08E-01	1.19E-07	1.21E-06	1.08E-01	1.19E-07	1.21E-06
Road 43	43	2100-2200	2.07E-02	2.28E-08	2.33E-07	1.68E-02	1.85E-08	1.89E-07	1.08E-01	1.19E-07	1.21E-06	1.08E-01	1.19E-07	1.21E-06
Road 43	43	2200-2300	2.01E-02	3.06E-08	3.14E-07	1.66E-02	2.54E-08	2.60E-07	1.05E-01	1.61E-07	1.65E-06	1.05E-01	1.61E-07	1.65E-06
Road 43	43	2300-0000	1.94E-02	3.06E-08	3.14E-07	1.60E-02	2.54E-08	2.60E-07	1.01E-01	1.61E-07	1.65E-06	1.01E-01	1.61E-07	1.65E-06
Road 44	44	0000-0100	2.75E-02	5.79E-07	3.58E-06	2.34E-02	4.92E-07	3.04E-06	2.01E-01	4.23E-06	2.61E-05	1.69E-01	3.55E-06	2.19E-05
Road 44	44	0100-0200	2.75E-02	5.79E-07	3.58E-06	2.34E-02	4.92E-07	3.04E-06	2.01E-01	4.23E-06	2.61E-05	1.69E-01	3.55E-06	2.19E-05
Road 44	44	0200-0300	3.15E-02	5.69E-07	3.51E-06	2.66E-02	4.82E-07	2.98E-06	2.31E-01	4.17E-06	2.56E-05	1.92E-01	3.48E-06	2.15E-05
Road 44	44	0300-0400	3.57E-02	5.69E-07	3.51E-06	3.02E-02	4.82E-07	2.98E-06	2.61E-01	4.17E-06	2.56E-05	2.17E-01	3.48E-06	2.15E-05
Road 44	44	0400-0500	3.57E-02	5.69E-07	3.51E-06	3.02E-02	4.82E-07	2.98E-06	2.61E-01	4.17E-06	2.56E-05	2.17E-01	3.48E-06	2.15E-05
Road 44	44	0500-0600	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	0600-0700	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	0700-0800	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	0800-0900	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	0900-1000	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1000-1100	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1100-1200	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1200-1300	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1300-1400	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1400-1500	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1500-1600	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1600-1700	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1700-1800	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1800-1900	3.29E-02	5.79E-07	3.58E-06	2.79E-02	4.92E-07	3.04E-06	2.41E-01	4.23E-06	2.61E-05	2.02E-01	3.55E-06	2.19E-05
Road 44	44	1900-2000	2.75E-02	5.79E-07	3.58E-06	2.34E-02	4.92E-07	3.04E-06	2.01E-01	4.23E-06	2.61E-05	1.69E-01	3.55E-06	2.19E-05
Road 44	44	2000-2100	1.42E-02	2.68E-07	1.66E-06	1.21E-02	2.28E-07	1.41E-06	1.04E-01	1.96E-06	1.21E-05	8.74E-02	1.64E-06	1.02E-05
Road 44	44	2100-2200	1.40E-02	2.68E-07	1.66E-06	1.15E-02	2.21E-07	1.36E-06	1.78E-01	3.41E-06	2.11E-05	1.44E-01	2.76E-06	1.70E-05
Road 44	44	2200-2300	1.40E-02	2.68E-07	1.66E-06	1.15E-02	2.21E-07	1.36E-06	1.78E-01	3.41E-06	2.11E-05	1.44E-01	2.76E-06	1.70E-05
Road 44	44	2300-0000	1.42E-02	2.68E-07	1.66E-06	1.16E-02	2.21E-07	1.36E-06	1.80E-01	3.41E-06	2.11E-05	1.45E-01	2.76E-06	1.70E-05
Road 45	45	0000-0100	1.51E-02	3.82E-08	4.70E-07	1.27E-02	3.21E-08	3.95E-07	1.81E-01	4.58E-07	5.64E-06	1.50E-01	3.79E-07	4.66E-06
Road 45	45	0100-0200	1.51E-02	3.82E-08	4.70E-07	1.27E-02	3.21E-08	3.95E-07	1.81E-01	4.58E-07	5.64E-06	1.50E-01	3.79E-07	4.66E-06
Road 45	45	0200-0300	1.51E-02	3.82E-08	4.70E-07	1.27E-02	3.21E-08	3.95E-07	1.81E-01	4.58E-07	5.64E-06	1.50E-01	3.79E-07	4.66E-06
Road 45	45	0300-0400	1.62E-02	3.52E-08	4.33E-07	1.36E-02	2.96E-08	3.65E-07	1.94E-01	4.22E-06	5.20E-06	1.61E-01	3.50E-07	4.31E-06
Road 45	45	0400-0500	1.62E-02	3.52E-08	4.33E-07	1.36E-02	2.96E-08	3.65E-07	1.94E-01	4.22E-06	5.20E-06	1.61E-01	3.50E-07	4.31E-06
Road 45	45	0500-0600	1.54E-02	3.82E-08	4.70E-07	1.29E-02	3.21E-08	3.95E-07	1.84E-01	4.58E-07	5.64E-06	1.53E-01	3.79E-07	4.66E-06
Road 45	45	0600-0700	1.54E-02	3.82E-08	4.70E-07	1.29E-02	3.21E-08	3.95E-07	1.84E-01	4.58E-07	5.64E-06	1.53E-01	3.79E-07	4.66E-06
Road 45	45	0700-0800	2.05E-02	5.42E-08	6.67E-07	1.72E-02	4.57E-08	5.62E-07	2.45E-01	6.47E-07	7.96E-06	2.04E-01	5.39E-07	6.64E-06
Road 45	45	0800-0900	1.97E-02	5.42E-08	6.67E-07	1.65E-02	4.57E-08	5.62E-07	2.35E-01	6.47E-07	7.96E-06	1.96E-01	5.39E-07	6.64E-06
Road 45	45	0900-1000	2.39E-02	5.42E-08	6.67E-07	2.01E-02	4.57E-08	5.62E-07	2.85E-01	6.47E-07	7.96E-06	2.37E-01	5.39E-07	6.64E-06
Road 45	45	1000-1100	2.75E-02	5.42E-08	6.67E-07	2.31E-02	4.57E-08	5.62E-07	3.27E-01	6.47E-07	7.96E-06	2.72E-01	5.39E-07	6.64E-06
Road 45	45	1100-1200	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1200-1300	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1300-1400	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1400-1500	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1500-1600	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1600-1700	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1700-1800	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1800-1900	3.32E-02	5.42E-08	6.67E-07	2.79E-02	4.57E-08	5.62E-07	3.95E-01	6.47E-07	7.96E-06	3.29E-01	5.39E-07	6.64E-06
Road 45	45	1900-2000	2.75E-02	5.42E-08	6.67E-07	2.34E-02	4.57E-08	5.62E-07	3.27E-01	6.47E-07	7.96E-06	2.72E-01	5.39E-07	6.64E-06
Road 45	45	2000-2100	1.42E-02	2.68E-07	1.66E-06	1.21E-02	2.28E-07	1.41E-06	1.04E-01	1.96E-06	1.21E-05	8.74E-02	1.64E-06	1.02E-05
Road 45	45	2100-2200	1.40E-02	2.68E-07	1.66E-06	1.15E-02	2.21E-07	1.36E-06	1.78E-01	3.41E-06	2.11E-05	1.44E-01	2.76E-06	1.70E-05
Road 45	45	2200-2300	1.40E-02	2.68E-07	1.66E-06	1.15E-02	2.21E-07	1.36E-06	1.78E-01	3.41E-06	2.11E-05	1.44E-01	2.76E-06	1.70E-05
Road 45	45	2300-0000	1.42E-02	2.68E-07	1.66E-06	1.16E-02	2.21E-07	1.36E-06	1.80E-01	3.41E-06	2.11E-05	1.45E-01	2.76E-06	1.70E-05
Road 46	46	0000-0100	1.51E-02	3.82E-08	4.70E-07	1.27E-02	3.21E-08	3.95E-07	1.81E-01	4.58E-07	5.64E-06	1.50E-01	3.79E-07	4.66E-06
Road 46	46	0100-0200	1.51E-02	3.82E-08	4.70E-07	1.27E-02	3.21E-08	3.95E-07	1.81E-01	4.58E-07	5.64E-06	1.50E-01	3.79E-07	4.66E-06
Road 46	46	0200-0300	1.51E-02	3.82E-08	4.70E-07	1.27E-02	3.21E-08	3.95E-07	1.81E-01	4.58E-07	5.64E-06	1.50E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 1	1	1600-1700	3.19E-02	3.54E-05	4.25E-06	1.11E-02	3.53E-06	3.91E-09	4.70E-10	1.22E-06
Road 1	1	1700-1800	2.56E-02	6.82E-07	5.42E-06	2.35E-02	4.25E-06	1.13E-07	8.98E-07	2.47E-05
Road 1	1	1800-1900	1.95E-02	3.90E-07	4.58E-06	1.79E-02	3.55E-06	4.20E-06	2.02E-01	0.04E+00
Road 1	1	1900-2000	1.75E-02	2.79E-07	2.03E-06	5.59E-03	2.54E-06	2.97E-06	2.11E-01	0.04E+00
Road 1	1	2000-2100	1.74E-02	2.16E-07	2.53E-06	6.96E-03	2.54E-06	2.21E-01	2.75E-06	3.23E-05
Road 1	1	2100-2200	1.74E-02	1.90E-07	2.23E-06	6.12E-03	2.54E-06	2.01E-01	2.48E-06	2.91E-05
Road 1	1	2200-2300	1.58E-02	1.90E-07	2.23E-06	6.12E-03	2.31E-06	3.04E-05	1.89E-01	2.28E-06
Road 1	1	2300-0000	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0000-0100	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0100-0200	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0200-0300	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0300-0400	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0400-0500	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0500-0600	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0600-0700	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0700-0800	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0800-0900	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	0900-1000	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1000-1100	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1100-1200	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1200-1300	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1300-1400	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1400-1500	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1500-1600	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1600-1700	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1700-1800	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1800-1900	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	1900-2000	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	2000-2100	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	2100-2200	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	2200-2300	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05
Road 1	1	2300-0000	1.74E-02	1.56E-07	1.83E-06	5.02E-03	2.54E-06	2.27E-01	2.03E-06	2.38E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 11	11	0000-0100	4.65E-02	1.54E-07	5.91E-07	4.26E-02	1.41E-07	5.42E-07	3.89E-01	1.29E-06
Road 11	11	0100-0200	4.65E-02	1.54E-07	5.91E-07	4.26E-02	1.41E-07	5.42E-07	3.89E-01	1.29E-06
Road 11	11	0200-0300	5.21E-02	1.30E-07	4.98E-07	4.79E-02	1.19E-07	4.58E-07	4.05E-01	1.01E-06
Road 11	11	0300-0400	5.82E-02	1.18E-07	4.51E-07	5.35E-02	1.08E-07	4.15E-07	4.24E-01	8.66E-07
Road 11	11	0400-0500	5.88E-02	1.29E-07	4.94E-07	5.42E-02	1.19E-07	4.55E-07	4.27E-01	9.35E-07
Road 11	11	0500-0600	5.92E-02	1.39E-07	7.84E-07	5.45E-02	1.28E-07	7.20E-07	4.27E-01	1.00E-06
Road 11	11	0600-0700	5.49E-02	4.06E-07	1.56E-06	5.05E-02	3.73E-07	1.43E-06	4.38E-01	3.23E-06
Road 11	11	0700-0800	6.92E-02	1.07E-06	4.09E-06	6.32E-02	9.73E-07	3.74E-06	4.91E-01	7.63E-06
Road 11	11	0800-0900	6.73E-02	1.19E-06	4.56E-06	6.15E-02	1.09E-06	4.18E-06	4.50E-01	7.94E-06
Road 11	11	0900-1000	7.66E-02	1.12E-06	4.29E-06	7.06E-02	1.03E-06	3.96E-06	4.74E-01	6.91E-06
Road 11	11	1000-1100	8.24E-02	9.97E-07	3.83E-06	7.66E-02	9.27E-07	3.56E-06	4.90E-01	5.93E-06
Road 11	11	1100-1200	8.24E-02	9.97E-07	3.83E-06	7.66E-02	9.27E-07	3.56E-06	4.90E-01	5.93E-06
Road 11	11	1200-1300	9.67E-02	1.34E-06	5.13E-06	8.97E-02	1.24E-06	4.76E-06	5.42E-01	7.51E-06
Road 11	11	1300-1400	1.00E-01	1.42E-06	5.45E-06	9.34E-02	1.32E-06	5.08E-06	5.47E-01	7.76E-06
Road 11	11	1400-1500	9.92E-02	1.49E-06	5.72E-06	9.27E-02	1.39E-06	5.35E-06	5.51E-01	8.28E-06
Road 11	11	1500-1600	9.92E-02	1.52E-06	5.84E-06	9.27E-02	1.42E-06	5.46E-06	5.51E-01	8.47E-06
Road 11	11	1600-1700	9.57E-02	1.55E-06	8.97E-06	8.94E-02	1.46E-06	5.59E-06	5.45E-01	8.85E-06
Road 11	11	1700-1800	1.03E-01	1.55E-06	5.96E-06	9.63E-02	1.46E-06	5.61E-06	5.57E-01	8.39E-06
Road 11	11	1800-1900	5.85E-02	1.15E-06	4.42E-06	5.49E-02	1.08E-06	4.15E-06	4.25E-01	8.37E-06
Road 11	11	1900-2000	4.37E-02	6.59E-07	2.53E-06	4.07E-02	6.14E-07	2.36E-06	3.85E-01	5.81E-06
Road 11	11	2000-2100	4.09E-02	4.80E-07	1.84E-06	3.84E-02	4.52E-07	1.73E-06	3.89E-01	4.57E-06
Road 11	11	2100-2200	3.66E-02	4.54E-07	1.74E-06	3.44E-02	4.25E-07	1.63E-06	3.48E-01	4.32E-06
Road 11	11	2200-2300	3.58E-02	3.34E-07	1.28E-06	3.36E-02	3.11E-07	1.19E-06	3.40E-01	3.17E-06
Road 11	11	2300-0000	4.33E-02	3.74E-07	1.44E-06	3.95E-02	3.41E-07	1.31E-06	4.00E-01	3.46E-06
Road 12	12	0000-0100	3.58E-01	2.24E-07	5.33E-06	3.15E-01	1.97E-07	4.87E-06	3.35E+00	8.45E-07
Road 12	12	0100-0200	3.58E-01	2.24E-07	5.33E-06	3.15E-01	1.97E-07	4.87E-06	3.35E+00	8.45E-07
Road 12	12	0200-0300	3.62E-01	2.16E-07	5.33E-06	3.26E-01	1.95E-07	4.80E-06	3.09E+00	1.95E-06
Road 12	12	0300-0400	3.62E-01	2.16E-07	5.33E-06	3.26E-01	1.95E-07	4.80E-06	3.09E+00	1.95E-06
Road 12	12	0400-0500	3.66E-01	2.18E-07	5.36E-06	3.32E-01	1.97E-07	4.86E-06	3.17E+00	8.41E-07
Road 12	12	0500-0600	3.63E-01	2.22E-07	5.48E-06	3.28E-01	2.01E-07	4.95E-06	3.13E+00	8.56E-07
Road 12	12	0600-0700	3.63E-01	2.22E-07	5.48E-06	3.28E-01	2.01E-07	4.95E-06	3.13E+00	8.56E-07
Road 12	12	0700-0800	4.39E-01	2.55E-06	9.30E-07	3.90E-01	2.95E-06	1.60E+00	3.82E+06	9.42E-05
Road 12	12	0800-0900	4.39E-01	2.55E-06	9.30E-07	3.90E-01	2.95E-06	1.60E+00	3.82E+06	9.42E-05
Road 12	12	0900-1000	4.37E-01	2.55E-06	9.30E-07	3.87E-01	2.95E-06	1.60E+00	3.82E+06	9.42E-05
Road 12	12	1000-1100	4.40E-01	1.04E-06	2.57E-06	4.01E-01	1.49E-07	2.34E-05	1.60E+00	3.78E-06
Road 12	12	1100-1200	4.40E-01	1.04E-06	2.57E-06	4.01E-01	1.49E-07	2.34E-05	1.60E+00	3.78E-06
Road 12	12	1200-1300	4.35E-01	1.03E-06	2.54E-06	3.96E-01	1.47E-07	2.31E-05	1.58E+00	3.73E-06
Road 12	12	1300-1400	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	1400-1500	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	1500-1600	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	1600-1700	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	1700-1800	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	1800-1900	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	1900-2000	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	2000-2100	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	2100-2200	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	2200-2300	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06
Road 12	12	2300-0000	4.29E-01	1.03E-06	2.54E-06	3.94E-01	1.47E-07	2.31E-05	1.56E+00	3.73E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 14	14	0800-0900	5.13E-02	8.45E-07	1.53E-06	4.58E-02	1.39E-07	1.36E-05	4.09E-01	6.74E-07
Road 14	14	0900-1000	5.86E-02	8.45E-07	1.44E-05	5.26E-02	7.59E-07	1.29E-05	3.52E-01	5.07E-06
Road 14	14	1000-1100	6.40E-02	8.04E-07	1.37E-05	5.76E-02	7.24E-07	1.23E-05	3.68E-01	4.62E-06
Road 14	14	1100-1200	6.27E-02	7.50E-07	1.28E-05	5.70E-02	6.82E-07	1.16E-05	3.67E-01	4.40E-06
Road 14	14	1200-1300	7.56E-02	1.03E-06	1.75E-05	6.87E-02	9.32E-07	1.59E-05	4.27E-01	5.79E-06
Road 14	14	1300-1400	7.67E-02	1.06E-06	1.80E-05	6.97E-02	9.63E-07	1.64E-05	4.27E-01	5.91E-06
Road 14	14	1400-1500	7.68E-02	1.13E-06	1.92E-05	6.98E-02	1.03E-06	1.75E-05	4.30E-01	6.31E-06
Road 14	14	1500-1600	7.39E-02	1.11E-06	1.89E-05	6.71E-02	1.01E-06	1.72E-05	4.23E-01	6.36E-06
Road 14	14	1600-1700	7.87E-02	1.19E-06	2.03E-05	7.15E-02	1.07E-06	1.82E-05	4.20E-01	6.35E-06
Road 14	14	1700-1800	8.87E-02	1.04E-06	1.78E-05	8.05E-02	9.42E-07	1.61E-05	4.73E-01	5.56E-06
Road 14	14	1800-1900	5.25E-02	8.77E-07	1.49E-05	4.77E-02	7.96E-07	1.36E-05	3.08E-01	5.14E-06
Road 14	14	1900-2000	4.75E-02	7.78E-07	1.33E-05	4.31E-02	7.06E-07	1.20E-05	2.79E-01	4.57E-06
Road 14	14	2000-2100	4.25E-02	6.96E-07	1.19E-05	3.86E-02	6.32E-07	1.08E-05	2.49E-01	4.08E-06
Road 14	14	2100-2200	3.80E-02	6.22E-07	1.06E-05	3.45E-02	5.65E-07	9.66E-06	2.23E-01	3.65E-06
Road 14	14	2200-2300	3.71E-02	4.58E-07	7.83E-06	3.37E-02	4.16E-07	7.11E-06	2.18E-01	2.69E-06
Road 14	14	2300-0000	4.49E-02	5.13E-07	8.77E-06	4.08E-02	4.66E-07	7.96E-06	2.64E-01	3.02E-06
Road 15	15	0000-0100	8.70E-02	7.07E-08	6.54E-07	7.83E-02	6.36E-08	5.89E-07	4.13E-01	3.36E-07
Road 15	15	0100-0200	8.70E-02	7.07E-08	6.54E-07	7.83E-02	6.36E-08	5.89E-07	4.13E-01	3.36E-07
Road 15	15	0200-0300	8.70E-02	7.07E-08	6.54E-07	7.83E-02	6.36E-08	5.89E-07	4.13E-01	3.36E-07
Road 15	15	0300-0400	9.73E-02	6.87E-08	6.36E-07	8.74E-02	6.17E-08	5.71E-07	4.52E-01	3.19E-07
Road 15	15	0400-0500	9.73E-02	6.66E-08	7.16E-08	8.74E-02	5.98E-08	6.43E-08	4.52E-01	3.09E-07
Road 15	15	0500-0600	7.99E-02	8.69E-08	8.05E-07	7.22E-02	7.85E-08	7.27E-07	3.86E-01	4.20E-07
Road 15	15	0600-0700	7.99E-02	8.69E-08	8.05E-07	7.22E-02	7.85E-08	7.27E-07	3.86E-01	4.20E-07
Road 15	15	0700-0800	9.16E-02	4.23E-07	3.91E-06	8.09E-02	3.73E-07	3.45E-06	4.32E-01	1.99E-06
Road 15	15	0800-0900	8.53E-02	4.42E-07	4.10E-06	7.61E-02	3.95E-07	3.65E-06	4.00E-01	2.07E-06
Road 15	15	0900-1000	9.69E-02	4.23E-07	3.91E-06	8.65E-02	3.77E-07	3.49E-06	4.54E-01	1.98E-06
Road 15	15	1000-1100	1.01E-01	3.95E-07	8.20E-07	9.15E-02	3.58E-07	7.42E-07	4.63E-01	1.81E-06
Road 15	15	1100-1200	1.21E-01	7.56E-07	7.00E-06	1.09E-01	6.74E-07	6.24E-06	5.72E-01	3.54E-06
Road 15	15	1200-1300	1.21E-01	7.56E-07	7.00E-06	1.09E-01	6.74E-07	6.24E-06	5.72E-01	3.54E-06
Road 15	15	1300-1400	1.20E-01	7.87E-07	7.29E-06	1.09E-01	7.01E-07	6.49E-06	5.72E-01	3.68E-06
Road 15	15	1400-1500	1.20E-01	7.87E-07	7.29E-06	1.09E-01	7.01E-07	6.49E-06	5.72E-01	3.68E-06
Road 15	15	1500-1600	1.12E-01	7.77E-07	7.20E-06	1.03E-01	7.14E-07	6.61E-06	4.95E-01	3.44E-06
Road 15	15	1600-1700	1.12E-01	7.87E-07	7.29E-06	1.03E-01	7.23E-07	6.69E-06	4.95E-01	3.48E-06
Road 15	15	1700-1800	9.44E-02	6.85E-07	6.34E-06	8.59E-02	6.24E-07	5.77E-06	4.31E-01	3.13E-06
Road 15	15	1800-1900	1.00E-01	6.85E-07	6.34E-06	9.15E-02	6.24E-07	5.77E-06	4.31E-01	3.13E-06
Road 15	15	1900-2000	4.90E-02	2.34E-07	2.17E-06	4.46E-02	2.13E-07	1.97E-06	2.57E-01	1.23E-06
Road 15	15	2000-2100	5.01E-02	1.90E-07	1.76E-06	4.61E-02	1.72E-07	1.60E-06	2.70E-01	1.02E-06
Road 15	15	2100-2200	4.95E-02	1.88E-07	1.74E-06	4.56E-02	1.70E-07	1.58E-06	2.68E-01	1.01E-06
Road 15	15	2200-2300	4.95E-02	1.88E-07	1.74E-06	4.56E-02	1.70E-07	1.58E-06	2.68E-01	1.01E-06
Road 15	15	2300-0000	4.95E-02	1.88E-07	1.74E-06	4.56E-02	1.70E-07	1.58E-06	2.68E-01	1.01E-06
Road 16	16	0000-0100	1.56E-02	8.31E-08	2.55E-06	1.44E-02	7.27E-08	2.23E-06	1.94E-01	9.78E-07
Road 16	16	0100-0200	1.79E-02	5.91E-08	1.81E-06	1.61E-02	5.32E-08	1.63E-06	1.94E-01	6.41E-07
Road 16	16	0200-0300	1.79E-02	5.91E-08	1.81E-06	1.61E-02	5.32E-08	1.63E-06	1.94E-01	6.41E-07
Road 16	16	0300-0400	2.19E-02	4.20E-08	1.29E-06	1.96E-02	3.76E-08	1.15E-06	2.09E-01	4.01E-07
Road 16	16	0400-0500	2.19E-02	4.20E-08	1.29E-06	1.96E-02	3.76E-08	1.15E-06	2.09E-01	4.01E-07
Road 16	16	0500-0600	2.23E-02	7.98E-08	2.44E-06	2.01E-02	7.18E-08	2.20E-06	2.15E-01	7.56E-07
Road 16	16	0600-0700	2.23E-02	1.73E-07	5.25E-06	1.99E-02	1.54E-07	4.68E-06	2.04E-01	1.61E-06
Road 16	16	0700-0800	2.42E-02	4.27E-07	1.31E-05	2.15E-02	3.80E-07	1.17E-05	2.04E-01	3.61E-06
Road 16	16	0800-0900	2.42E-02	4.27E-07	1.31E-05	2.15E-02	3.80E-07	1.17E-05	2.04E-01	3.61E-06
Road 16	16	0900-1000	2.56E-02	4.06E-07	1.24E-05	2.27E-02	3.61E-07	1.11E-05	1.80E-01	3.19E-06
Road 16	16	1000-1100	2.56E-02	3.74E-07	1.15E-05	2.75E-02	3.34E-07	1.03E-05	2.59E-01	2.98E-06
Road 16	16	1100-1200	2.56E-02	3.74E-07	1.15E-05	2.75E-02	3.34E-07	1.03E-05	2.59E-01	2.98E-06
Road 16	16	1200-1300	3.19E-02	3.71E-07	1.14E-05	2.91E-02	3.38E-07	1.04E-05	2.71E-01	3.15E-06
Road 16	16	1300-1400	3.22E-02	3.77E-07	1.16E-05	2.95E-02	3.44E-07	1.06E-05	2.74E-01	3.20E-06
Road 16	16	1400-1500	3.22E-02	3.77E-07	1.16E-05	2.95E-02	3.44E-07	1.06E-05	2.74E-01	3.20E-06
Road 16	16	1500-1600	3.08E-02	3.96E-07	1.21E-05	2.84E-02	3.61E-07	1.11E-05	2.64E-01	3.36E-06
Road 16	16	1600-1700	3.08E-02	3.96E-07	1.21E-05	2.84E-02	3.61E-07	1.11E-05	2.64E-01	3.36E-06
Road 16	16	1700-1800	2.45E-02	3.95E-07	1.21E-05	2.25E-02	3.60E-07	1.11E-05	2.09E-01	3.35E-06
Road 16	16	1800-1900	1.96E-02	3.57E-07	1.09E-05	1.79E-02	3.26E-07	9.98E-06	2.21E-01	3.05E-06
Road 16	16	1900-2000	2.20E-02	2.45E-07	7.49E-06	1.95E-02	2.15E-07	6.58E-06	2.47E-01	2.75E-06
Road 16	16	2000-2100	2.16E-02	1.95E-07	5.84E-06	1.54E-02	1.74E-07	5.34E-06	2.60E-01	2.34E-06
Road 16	16	2100-2200	2.16E-02	1.95E-07	5.84E-06	1.54E-02	1.74E-07	5.34E-06	2.60E-01	2.34E-06
Road 16	16	2200-2300	2.50E-02	1.86E-07	5.70E-06	1.33E-02	1.66E-07	5.07E-06	2.70E-01	2.22E-06
Road 16	16	2300-0000	2.50E-02	1.86E-07	5.70E-06	1.33E-02	1.66E-07	5.07E-06	2.70E-01	2.22E-06
Road 17	17	0000-0100	1.82E-02	9.66E-08	2.82E-06	1.64E-02	8.69E-08	2.54E-06	1.62E-01	8.58E-07
Road 17	17	0100-0200	1.82E-02	9.66E-08	2.82E-06	1.64E-02	8.69E-08	2.54E-06	1.62E-01	8.58E-07
Road 17	17	0200-0300	2.19E-02	6.76E-08	1.98E-06	1.96E-02	6.08E-08	1.77E-06	1.75E-01	5.45E-07
Road 17	17	0300-0400	2.19E-02	6.76E-08	1.98E-06	1.96E-02	6.08E-08	1.77E-06	1.75E-01	5.45E-07
Road 17	17	0400-0500	2.36E-02	1.38E-07	4.03E-06	2.13E-02	1.24E-07	3.62E-06	1.82E-01	1.06E-06
Road 17	17	0500-0600	2.36E-02	1.38E-07	4.03E-06	2.13E-02	1.24E-07	3.62E-06	1.82E-01	1.06E-06
Road 17	17	0600-0700	2.48E-02	3.08E-07	9.00E-06	2.17E-02	2.70E-07	7.89E-06	1.88E-01	2.34E-06
Road 17	17	0700-0800	3.82E-02	1.12E-06	3.26E-05	3.41E-02	9.95E-07	2.91E-05	2.40E-01	7.00E-06
Road 17	17	0800-0900	3.82E-02	1.12E-06	3.26E-05	3.41E-02	9.95E-07	2.91E-05	2.40E-01	7.00E-06
Road 17	17	0900-1000	3.81E-02	1.12E-06	3.26E-05	3.41E-02	9.95E-07	2.91E-05	2.40E-01	7.00E-06
Road 17	17	1000-1100	3.64E-02	7.25E-07	2.12E-05	3.32E-02	6.61E-07	1.93E-05	2.27E-01	4.51E-06
Road 17	17	1100-1200	3.64E-02	7.25E-07	2.12E-05	3.32E-02	6.61E-07	1.93E-05	2.27E-01	4.51E-06
Road 17	17	1200-1300	4.31E-02	5.20E-07	1.52E-05	3.95E-02	4.76E-07	1.39E-05	2.70E-01	3.25E-06
Road 17	17	1300-1400	4.31E-02	5.20E-07	1.52E-05	3.95E-02	4.76E-07	1.39E-05	2.70E-01	3.25E-06
Road 17	17	1400-1500	4.08E-02	3.56E-07	1.04E-05	3.74E-02	4.91E-07	1.44E-05	2.73E-01	3.57E-06
Road 17	17	1500-1600	4.08E-02	3.56E-07	1.04E-05	3.74E-02	4.91E-07	1.44E-05	2.73E-01	3.57E-06
Road 17	17	1600-1700	4.08E-02	3.56E-07	1.04E-05	3.74E-02	4.91E-07	1.44E-05	2.73E-01	3.57E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 22	22	0000-0100	1.39E-01	3.34E-07	1.20E-06	1.25E-01	2.45E-07	8.81E-07	1.56E-01	3.76E-07
Road 22	22	0100-0200	1.39E-01	3.34E-07	1.20E-06	1.25E-01	2.45E-07	8.81E-07	1.56E-01	3.76E-07
Road 22	22	0200-0300	1.77E-01	3.08E-07	1.11E-06	1.59E-01	2.26E-07	8.13E-07	1.99E-01	3.47E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	3.75E-02	1.23E-06	3.21E-05	3.75E-02	1.23E-06	3.21E-05	1.63E-01	5.37E-06	1.40E-04	1.63E-01	5.37E-06	1.40E-04
Road 37	37	1700-1800	8.08E-02	1.46E-06	3.34E-05	7.71E-02	1.39E-06	3.19E-05	3.93E-01	7.08E-06	1.63E-04	3.74E-01	6.73E-06	1.54E-04
Road 37	37	1800-1900	5.53E-02	1.21E-07	2.29E-05	5.27E-02	9.48E-09	2.18E-05	5.27E-01	1.02E-07	2.10E-04	5.02E-01	9.03E-09	2.08E-04
Road 37	37	1900-2000	4.75E-02	5.12E-09	1.18E-05	4.53E-02	4.89E-09	1.12E-05	2.93E-01	3.16E-08	7.25E-05	2.79E-01	3.01E-08	6.90E-05
Road 37	37	2000-2100	4.75E-02	5.12E-09	1.18E-05	4.53E-02	4.89E-09	1.12E-05	2.93E-01	3.16E-08	7.25E-05	2.79E-01	3.01E-08	6.90E-05
Road 37	37	2100-2200	4.34E-02	4.99E-09	1.08E-05	4.14E-02	4.76E-09	1.03E-05	2.68E-01	3.08E-08	6.66E-05	2.55E-01	2.93E-08	6.33E-05
Road 37	37	2200-2300	4.33E-02	4.49E-09	1.03E-05	4.02E-02	4.16E-09	9.55E-06	2.88E-01	2.99E-08	6.86E-05	2.66E-01	2.76E-08	6.32E-05
Road 37	37	2300-0000	4.81E-02	3.78E-09	8.67E-06	4.46E-02	3.50E-09	8.04E-06	3.06E-01	2.40E-08	5.51E-05	2.82E-01	2.22E-08	5.08E-05
Road 38	38	0000-0100	8.54E-02	1.54E-07	3.28E-05	7.92E-02	1.43E-07	3.04E-05	4.39E-01	7.92E-07	1.68E-04	4.07E-01	7.34E-07	1.56E-04
Road 38	38	0100-0200	9.76E-02	1.29E-07	2.76E-05	9.05E-02	1.19E-07	2.55E-05	5.01E-01	6.61E-07	1.41E-04	4.65E-01	6.13E-07	1.31E-04
Road 38	38	0200-0300	1.16E-01	1.09E-07	2.32E-05	1.07E-01	1.01E-07	2.15E-05	5.96E-01	5.61E-07	1.19E-04	5.52E-01	5.20E-07	1.11E-04
Road 38	38	0300-0400	1.16E-01	1.09E-07	8.90E-07	1.06E-01	9.95E-08	8.15E-07	5.41E-01	5.09E-07	4.17E-06	4.95E-01	4.66E-07	3.81E-06
Road 38	38	0400-0500	1.15E-01	1.15E-07	9.44E-07	1.05E-01	1.06E-07	8.66E-07	5.40E-01	5.42E-07	4.42E-06	4.94E-01	4.96E-07	4.04E-06
Road 38	38	0500-0600	1.30E-01	4.29E-07	3.51E-06	1.19E-01	3.93E-07	3.21E-06	6.17E-01	2.03E-06	1.66E-05	5.65E-01	1.86E-06	1.52E-05
Road 38	38	0600-0700	9.74E-02	2.69E-07	2.20E-06	8.96E-02	2.47E-07	2.02E-06	4.79E-01	1.32E-06	1.08E-05	4.38E-01	1.21E-06	9.89E-06
Road 38	38	0700-0800	9.31E-02	2.20E-07	1.80E-06	8.56E-02	2.02E-07	1.65E-06	4.58E-01	1.08E-06	8.85E-06	4.19E-01	9.91E-07	8.10E-06
Road 38	38	0800-0900	1.23E-01	8.79E-07	7.20E-06	1.12E-01	8.01E-07	6.55E-06	5.47E-01	3.92E-06	3.21E-05	5.00E-01	3.58E-06	2.93E-05
Road 38	38	0900-1000	1.36E-01	9.15E-07	7.49E-06	1.27E-01	8.46E-07	6.91E-06	5.91E-01	3.97E-06	3.25E-05	5.51E-01	3.70E-06	3.02E-05
Road 38	38	1000-1100	1.45E-01	8.83E-07	7.23E-06	1.33E-01	8.12E-07	6.65E-06	6.07E-01	3.71E-06	3.04E-05	5.56E-01	3.40E-06	2.78E-05
Road 38	38	1100-1200	1.45E-01	8.84E-07	6.94E-06	1.34E-01	7.86E-07	6.43E-06	6.12E-01	3.58E-06	2.93E-05	5.65E-01	3.30E-06	2.70E-05
Road 38	38	1200-1300	1.54E-01	8.26E-07	6.74E-06	1.42E-01	7.62E-07	6.24E-06	6.24E-01	3.35E-06	2.64E-05	5.81E-01	3.12E-06	2.46E-05
Road 38	38	1300-1400	1.57E-01	8.33E-07	6.82E-06	1.46E-01	7.74E-07	6.33E-06	6.43E-01	3.40E-06	2.79E-05	5.95E-01	3.15E-06	2.58E-05
Road 38	38	1400-1500	1.62E-01	8.43E-07	6.90E-06	1.50E-01	7.80E-07	6.38E-06	6.62E-01	3.44E-06	2.82E-05	6.12E-01	3.18E-06	2.60E-05
Road 38	38	1500-1600	1.57E-01	8.70E-07	7.12E-06	1.45E-01	8.06E-07	6.59E-06	6.46E-01	3.58E-06	2.93E-05	5.96E-01	3.30E-06	2.70E-05
Road 38	38	1600-1700	1.52E-01	8.45E-07	6.92E-06	1.42E-01	7.89E-07	6.46E-06	6.29E-01	3.49E-06	2.86E-05	5.86E-01	3.25E-06	2.66E-05
Road 38	38	1700-1800	1.45E-01	8.01E-07	6.56E-06	1.36E-01	7.52E-07	6.16E-06	6.00E-01	3.31E-06	2.71E-05	5.59E-01	3.09E-06	2.53E-05
Road 38	38	1800-1900	1.11E-01	6.18E-07	5.06E-06	1.04E-01	5.78E-07	4.73E-06	4.99E-01	2.77E-06	2.27E-05	4.66E-01	2.59E-06	2.12E-05
Road 38	38	1900-2000	7.79E-02	2.18E-07	1.78E-06	7.36E-02	2.06E-07	1.68E-06	3.96E-01	1.11E-06	9.06E-06	3.73E-01	1.04E-06	8.54E-06
Road 38	38	2000-2100	7.79E-02	2.18E-07	1.78E-06	7.36E-02	2.06E-07	1.68E-06	3.96E-01	1.11E-06	9.06E-06	3.73E-01	1.04E-06	8.54E-06
Road 38	38	2100-2200	7.73E-02	2.17E-07	1.78E-06	7.26E-02	2.04E-07	1.67E-06	3.96E-01	1.11E-06	9.10E-06	3.72E-01	1.04E-06	8.55E-06
Road 38	38	2200-2300	7.58E-02	2.12E-07	1.74E-06	7.12E-02	2.00E-07	1.64E-06	3.96E-01	1.11E-06	9.10E-06	3.72E-01	1.04E-06	8.55E-06
Road 38	38	2300-0000	8.49E-02	1.82E-07	1.49E-06	7.73E-02	1.65E-07	1.35E-06	4.30E-01	9.20E-07	7.53E-06	3.91E-01	8.35E-07	6.84E-06
Road 39	39	0000-0100	1.42E-01	1.55E-08	3.32E-06	1.27E-01	1.39E-08	2.97E-06	5.46E-01	5.97E-08	1.28E-05	4.88E-01	5.34E-08	1.14E-05
Road 39	39	0100-0200	1.36E-01	2.09E-08	1.95E-06	1.27E-01	1.96E-08	1.83E-06	5.28E-01	8.13E-08	7.58E-06	4.98E-01	7.68E-08	7.15E-06
Road 39	39	0200-0300	1.34E-01	2.06E-08	1.92E-06	1.25E-01	1.93E-08	1.80E-06	5.21E-01	8.02E-08	7.47E-06	4.91E-01	7.57E-08	7.05E-06
Road 39	39	0300-0400	1.42E-01	1.55E-08	1.32E-07	1.34E-01	1.46E-08	1.24E-07	5.55E-01	6.03E-08	5.14E-07	5.16E-01	5.61E-08	4.78E-07
Road 39	39	0400-0500	1.45E-01	1.33E-08	1.26E-07	1.37E-01	1.26E-08	1.19E-07	5.68E-01	5.17E-08	4.91E-07	5.29E-01	4.82E-08	4.58E-07
Road 39	39	0500-0600	1.46E-01	1.33E-08	1.26E-07	1.38E-01	1.26E-08	1.19E-07	5.72E-01	5.17E-08	4.91E-07	5.32E-01	4.82E-08	4.58E-07
Road 39	39	0600-0700	1.56E-01	2.67E-08	2.54E-07	1.48E-01	2.53E-08	2.40E-07	6.11E-01	1.04E-07	9.89E-07	5.77E-01	9.87E-08	9.37E-07
Road 39	39	0700-0800	1.52E-01	2.67E-08	2.54E-07	1.44E-01	2.53E-08	2.40E-07	5.96E-01	1.04E-07	9.89E-07	5.63E-01	9.87E-08	9.37E-07
Road 39	39	0800-0900	1.56E-01	2.67E-08	2.54E-07	1.48E-01	2.53E-08	2.40E-07	6.11E-01	1.04E-07	9.89E-07	5.77E-01	9.87E-08	9.37E-07
Road 39	39	0900-1000	1.69E-01	2.38E-07	2.02E-06	1.58E-01	2.22E-07	1.89E-06	6.30E-01	8.87E-07	7.55E-06	5.84E-01	8.22E-07	7.00E-06
Road 39	39	1000-1100	1.73E-01	2.20E-07	1.88E-06	1.62E-01	2.07E-07	1.77E-06	6.38E-01	8.21E-07	7.00E-06	5.92E-01	7.62E-07	6.49E-06
Road 39	39	1100-1200	1.72E-01	2.20E-07	1.88E-06	1.62E-01	2.07E-07	1.77E-06	6.38E-01	8.17E-07	6.95E-06	5.92E-01	7.62E-07	6.49E-06
Road 39	39	1200-1300	1.72E-01	2.20E-07	1.88E-06	1.62E-01	2.07E-07	1.77E-06	6.38E-01	8.17E-07	6.95E-06	5.92E-01	7.62E-07	6.49E-06
Road 39	39	1300-1400	9.94E-02	2.70E-08	2.30E-07	9.23E-02	2.55E-08	2.17E-07	4.31E-01	1.17E-07	9.98E-07	4.05E-01	1.10E-07	9.38E-07
Road 39	39	1400-1500	9.61E-02	2.70E-08	2.30E-07	8.91E-02	2.55E-08	2.17E-07	4.25E-01	1.21E-07	1.03E-06	4.00E-01	1.14E-07	9.70E-07
Road 39	39	1500-1600	9.19E-02	2.76E-08	2.35E-07	8.71E-02	2.62E-08	2.23E-07	4.12E-01	1.24E-07	1.05E-06	3.89E-01	1.17E-07	9.95E-07
Road 39	39	1600-1700	8.80E-02	2.64E-08	2.24E-07	8.34E-02	2.50E-08	2.13E-07	3.98E-01	1.19E-07	1.01E-06	3.77E-01	1.13E-07	9.61E-07
Road 39	39	1700-1800	8.53E-02	2.56E-08	2.17E-07	8.08E-02	2.42E-08	2.06E-07	3.86E-01	1.16E-07	9.84E-07	3.66E-01	1.09E-07	9.32E-07
Road 39	39	1800-1900	5.13E-02	1.54E-08	1.31E-07	4.86E-02	1.46E-08	1.24E-07	2.95E-01	8.87E-08	7.55E-07	2.80E-01	8.41E-08	7.16E-07
Road 39	39	1900-2000	2.70E-02	8.09E-09	6.88E-08	2.56E-02	7.67E-09	6.52E-08	2.55E-01	7.64E-08	6.50E-07	2.42E-01	7.24E-08	6.16E-07
Road 39	39	2000-2100	2.70E-02	8.09E-09	6.88E-08	2.56E-02	7.67E-09	6.52E-08	2.55E-01	7.64E-08	6.50E-07	2.42E-01	7.24E-08	6.16E-07
Road 39	39	2100-2200	2.70E-02	8.09E-09	6.88E-08	2.56E-02	7.67E-09	6.52E-08	2.55E-01	7.64E-08	6.50E-07	2.42E-01	7.24E-08	6.16E-07
Road 39	39	2200-2300	2.70E-02	8.09E-09	6.88E-08	2.56E-02	7.67E-09	6.52E-08	2.55E-01	7.64E-08	6.50E-07	2.42E-01	7.24E-08	6.16E-07
Road 39	39	2300-0000	2.70E-02	8.09E-09	6.88E-08	2.56E-02	7.67E-09	6.52E-08	2.55E-01	7.64E-08	6.50E-07	2.42E-01	7.24E-08	6.16E-07
Road 40	40	0000-0100	1.38E-01	1.50E-08	3.22E-06	1.23E-01	1.34E-08	2.87E-06	5.30E-01	5.76E-08	1.24E-05	4.73E-01	5.15E-08	1.10E-05
Road 40	40	0100-0200	1.31E-01	2.02E-08	1.88E-06	1.23E-01	1.89E-08	1.77E-06	5.12E-01	7.88E-08	7.34E-06	4.83E-01	7.43E-08	6.92E-06
Road 40	40	0200-0300	1.30E-01	1.99E-08	1.85E-06	1.21E-01	1.87E-08	1.74E-06	5.05E-01	7.77E-08	7.24E-06	4.76E-01	7.33E-08	6.83E-06
Road 40	40	0300-0400	1.38E-01	1.50E-08	1.28E-07	1.30E-01	1.41E-08	1.20E-07	5.38E-01	5.84E-08	4.98E-07	5.00E-01	5.43E-08	4.63E-07
Road 40	40	0400-0500	1.41E-01	1.29E-08	1.22E-07	1.33E-01	1.22E-08	1.15E-07	5.51E-01	5.02E-08	4.76E-07	5.13E-01	4.68E-08	4.44E-07
Road 40	40	0500-0600	1.42E-01	1.29E-08	1.22E-07	1.34E-01	1.22E-08	1.15E-07	5.55E-01	5.02E-08	4.76E-07	5.16E-01	4.68E-08	4.44E-07
Road 40	40	0600-0700	1.52E-01	2.59E-08	2.46E-07	1.44E-01	2.45E-08	2.33E-07	5.93E-01	1.01E-07	9.59E-07	5.60E-01	9.57E-08	9.09E-07
Road 40	40	0700-0800	1.48E-01	2.59E-08	2.46E-07	1.40E-01	2.45E-08	2.33E-07	5.78E-01	1.01E-07	9.59E-07	5.46E-01	9.57E-08	9.09E-07
Road 40	40	0800-0900	1.52E-01	2.59E-08	2.46E-07	1.44E-01	2.45E-08	2.33E-07	5.93E-01	1.01E-07	9.59E-07	5.60E-01	9.57E-08	9.09E-07
Road 40	40	0900-1000	1.52E-01	2.14E-08	1.82E-06	1.44E-01	2.02E-08	1.72E-06	5.93E-01	8.34E-08	7.09E-06	5.60E-01	7.87E-08	6.69E-06
Road 40	40	1000-1100	1.58E-01	2.07E-08	1.76E-06	1.49E-01	1.95E-08	1.66E-06	6.16E-01	8.06E-08	6.85E-06	5.82E-01	7.61E-08	6.47E-06
Road 40	40	1100-1200	1.57E-01	2.07E-08	1.76E-06	1.48E-01	1.95E-08	1.66E-06	6.12E-01	8.06E-08	6.85E-06	5.78E-01	7.61E-08	6.47E-06
Road 40	40	1200-1300	1.57E-01	2.07E-08	1.76E-06	1.48E-01	1.95E-08	1.66E-06	6.12E-01	8.06E-08	6.85E-06	5.78E-01	7.61E-08	6.47E-06
Road 40	40	1300-1400	1.72E-01	1.52E-08	1.38E-06	1.61E-01	1.42E-08	1.29E-06	6.66E-01	5.88E-08	5.34E-06	6.26E-01	5.53E-08	5.02E-06
Road 40	40	1400-1500	1.73E-01	1.56E-08	1.42E-06	1.62E-01	1.46E-08	1.33E-06	6.70E-01	6.05E-08	5.49E-06	6.30E-01	5.69E-08	5.16E-06
Road 40	40	1500-1600	1.72E-01	1.52E-08	1.38E-06	1.61E-01	1.42E-08	1.29E-06	6.66E-01	5.88E-08	5.34E-06	6.26E-01	5.53E-08	5.02E-06
Road 40	40	1600-1700	1.67E-01	1.54E-08	1.40E-06	1.56E-01	1.44E-08	1.31E-06	6.46E-01	5.96E-08	5.41E-06	6.07E-01	5.61E-08	5.09E-06
Road 40	40	1700-1800	1.61E-01	1.48E-08	1.35E-06	1.51E-01	1.39E-08	1.26E-06	6.24E-01	5.76E-08	5.23E-06	5.86E-01	5.41E-08	4.92E-06
Road 40	40	1800-1900	1.22E-01	1.13E-08	1.03E-06	1.14E-01	1.06E-08	9.66E-07	4.73E-01	4.37E-08	3.97E-06	4.44E-01	4.11E-08	3.73E-06
Road 40	40	1900-2000	7.83E-02	4.51E-07	2.20E-06	7.31E-02	4.22E-07	2.05E-06	3.87E-01	2.23E-06	1.08E-05	3.60E-01	2.08E-06	1.01E-05
Road 40	40	2000-2100	8.10E-02	1.76E-07	1.83E-06	7.56E-02	1.64E-07	1.71E-06	4.08E-01	8.89E-07	9.26E-06	3.81E-01	8.29E-07	8.64E-06
Road 40	40	2100-2200	8.03E-02	3.76E-07	1.82E-06	7.54E-02	3.52E-07	1.71E-06	4.07E-01	1.90E-06	9.25E-06	3.82E-01	1.78E-06	8.67E-06
Road 40	40	2200-2300	7.90E-02	3.52E-07	1.71E-06	7.39E-02	3.29E-07	1.60E-06	4.00E-01	1.78E-06	8.66E-06	3.74E-01	1.66E-06	8.07E-06
Road 40	40	2300-0000	8.84E-02	3.14E-07	1.53E-06	8.04E-02	2.86E-07	1.39E-06	4.43E-01	1.57E-06	7.65E-06	4.02E-01	1.43E-06	6.94E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	1.82E-02	2.21E-07	5.14E-06	1.35E-02	1.64E-07	3.81E-06	7.17E-02	8.69E-07	2.02E-05	5.32E-02	6.45E-07	1.50E-05
Road 41	41	0100-0200	4.59E-02	1.03E-07	9.67E-07	4.12E-02	9.25E-08	8.68E-07	2.35E-01	5.27E-07	4.94E-06	2.09E-01	4.68E-07	4.40E-06
Road 41	41	0200-0300	5.36E-02	9.52E-08	8.93E-07	4.82E-02	8.57E-08	8.04E-07	2.67E-01	4.75E-07	4.46E-06	2.39E-01	4.25E-07	3.99E-06
Road 41	41	0300-0400	6.00E-02	1.06E-08	8.51E-07	5.42E-02	9.18E-09	7.68E-07	2.95E-01	4.91E-08	4.18E-06	2.65E-01	4.00E-07	3.75E-06
Road 41	41	0400-0500	5.88E-02	9.52E-08	8.94E-07	5.31E-02	8.60E-08	8.07E-07	2.88E-01	4.67E-07	4.38E-06	2.59E-01	4.20E-07	3.94E-06
Road 41	41	0500-0600	6.99E-02	1.25E-07	1.15E-06	6.29E-02	1.13E-07	1.04E-06	3.42E-01	6.13E-07	5.63E-06	3.08E-01	5.52E-07	5.07E-06
Road 41	41	0600-0700	8.44E-02	1.99E-07	1.87E-06	7.60E-02	1.79E-07	1.68E-06	4.13E-01	9.74E-07	9.16E-06	3.72E-01	8.77E-07	8.24E-06
Road 41	41	0700-0800	9.54E-02	2.46E-07	2.31E-06	8.59E-02	2.22E-07	2.08E-06	4.67E-01	1.20E-06	1.13E-05	4.20E-01	1.08E-06	1.02E-05
Road 41	41	0800-0900	1.06E-01	2.46E-07	2.31E-06	9.54E-02	2.22E-07	2.08E-06	5.18E-01	1.20E-06	1.13E-05	4.66E-01	1.08E-06	1.02E-05
Road 41	41	0900-1000	1.14E-01	2.38E-07	2.23E-06	1.03E-01	2.14E-07	2.01E-06	5.56E-01	1.16E-06	1.09E-05	5.01E-01	1.04E-06	9.77E-06
Road 41	41	1000-1100	1.22E-01	2.38E-07	2.23E-06	1.10E-01	2.14E-07	2.01E-06	5.94E-01	1.16E-06	1.09E-05	5.35E-01	1.04E-06	9.77E-06
Road 41	41	1100-1200	1.22E-01	2.38E-07	2.23E-06	1.10E-01	2.14E-07	2.01E-06	5.94E-01	1.16E-06	1.09E-05	5.35E-01	1.04E-06	9.77E-06
Road 41	41	1200-1300	1.30E-01	2.29E-07	2.15E-06	1.17E-01	2.06E-07	1.94E-06	6.29E-01	1.11E-06	1.04E-05	5.66E-01	9.98E-07	9.38E-06
Road 41	41	1300-1400	1.34E-01	2.38E-07	2.23E-06	1.21E-01	2.14E-07	2.01E-06	6.48E-01	1.16E-06	1.09E-05	5.83E-01	1.04E-06	9.77E-06
Road 41	41	1400-1500	1.37E-01	2.38E-07	2.23E-06	1.23E-01	2.14E-07	2.01E-06	6.62E-01	1.16E-06	1.09E-05	5.96E-01	1.04E-06	9.77E-06
Road 41	41	1500-1600	1.37E-01	2.38E-07	2.23E-06	1.23E-01	2.14E-07	2.01E-06	6.62E-01	1.16E-06	1.09E-05	5.96E-01	1.04E-06	9.77E-06
Road 41	41	1600-1700	1.34E-01	2.38E-07	2.23E-06	1.21E-01	2.14E-07	2.01E-06	6.48E-01	1.16E-06	1.09E-05	5.83E-01	1.04E-06	9.77E-06
Road 41	41	1700-1800	1.29E-01	2.29E-07	2.15E-06	1.17E-01	2.06E-07	1.94E-06	6.29E-01	1.11E-06	1.04E-05	5.66E-01	9.98E-07	9.38E-06
Road 41	41	1800-1900	1.11E-01	2.29E-07	2.15E-06	1.01E-01	2.06E-07	1.94E-06	5.41E-01	1.11E-06	1.04E-05	4.87E-01	9.98E-07	9.38E-06
Road 41	41	1900-2000	1.11E-01	2.29E-07	2.15E-06	1.01E-01	2.06E-07	1.94E-06	5.41E-01	1.11E-06	1.04E-05	4.87E-01	9.98E-07	9.38E-06
Road 41	41	2000-2100	1.11E-01	2.29E-07	2.15E-06	1.01E-01	2.06E-07	1.94E-06	5.41E-01	1.11E-06	1.04E-05	4.87E-01	9.98E-07	9.38E-06
Road 41	41	2100-2200	1.11E-01	2.29E-07	2.15E-06	1.01E-01	2.06E-07	1.94E-06	5.41E-01	1.11E-06	1.04E-05	4.87E-01	9.98E-07	9.38E-06
Road 41	41	2200-2300	1.11E-01	2.29E-07	2.15E-06	1.01E-01	2.06E-07	1.94E-06	5.41E-01	1.11E-06	1.04E-05	4.87E-01	9.98E-07	9.38E-06
Road 41	41	2300-0000	1.11E-01	2.29E-07	2.15E-06	1.01E-01	2.06E-07	1.94E-06	5.41E-01	1.11E-06	1.04E-05	4.87E-01	9.98E-07	9.38E-06
Road 42	42	0000-0100	1.44E-02	4.79E-07	4.49E-06	1.34E-02	4.47E-07	4.19E-06	5.66E-02	1.88E-06	1.76E-05	5.28E-02	1.76E-06	1.65E-05
Road 42	42	0100-0200	1.39E-02	4.79E-07	4.49E-06	1.29E-02	4.47E-07	4.19E-06	5.46E-02	1.88E-06	1.76E-05	5.09E-02	1.76E-06	1.65E-05
Road 42	42	0200-0300	9.90E-02	1.32E-07	3.34E-06	9.21E-02	1.23E-07	3.11E-06	3.89E-01	5.20E-07	1.31E-05	3.62E-01	4.84E-07	1.22E-05
Road 42	42	0300-0400	9.61E-02	1.32E-07	1.13E-06	8.94E-02	1.23E-07	1.05E-06	3.78E-01	5.20E-07	4.44E-06	3.51E-01	4.84E-07	4.13E-06
Road 42	42	0400-0500	1.06E-01	1.32E-07	1.13E-06	9.86E-02	1.23E-07	1.05E-06	4.17E-01	5.20E-07	4.44E-06	3.88E-01	4.84E-07	4.13E-06
Road 42	42	0500-0600	1.07E-01	1.32E-07	1.13E-06	9.97E-02	1.23E-07	1.05E-06	4.21E-01	5.20E-07	4.44E-06	3.92E-01	4.84E-07	4.13E-06
Road 42	42	0600-0700	1.32E-01	2.24E-07	1.91E-06	1.24E-01	2.10E-07	1.79E-06	5.20E-01	8.83E-07	7.54E-06	4.84E-01	8.22E-07	7.02E-06
Road 42	42	0700-0800	1.32E-01	2.24E-07	1.91E-06	1.24E-01	2.10E-07	1.79E-06	5.20E-01	8.83E-07	7.54E-06	4.84E-01	8.22E-07	7.02E-06
Road 42	42	0800-0900	1.32E-01	2.24E-07	1.91E-06	1.24E-01	2.10E-07	1.79E-06	5.20E-01	8.83E-07	7.54E-06	4.84E-01	8.22E-07	7.02E-06
Road 42	42	0900-1000	1.26E-01	2.24E-07	1.91E-06	1.18E-01	2.10E-07	1.79E-06	4.96E-01	8.83E-07	7.54E-06	4.62E-01	8.22E-07	7.02E-06
Road 42	42	1000-1100	1.20E-01	2.24E-07	1.91E-06	1.12E-01	2.10E-07	1.79E-06	4.72E-01	8.83E-07	7.54E-06	4.40E-01	8.22E-07	7.02E-06
Road 42	42	1100-1200	1.22E-01	2.24E-07	1.91E-06	1.14E-01	2.10E-07	1.79E-06	4.80E-01	8.83E-07	7.54E-06	4.47E-01	8.22E-07	7.02E-06
Road 42	42	1200-1300	1.22E-01	2.24E-07	1.91E-06	1.14E-01	2.10E-07	1.79E-06	4.80E-01	8.83E-07	7.54E-06	4.47E-01	8.22E-07	7.02E-06
Road 42	42	1300-1400	1.35E-01	2.24E-07	1.91E-06	1.26E-01	2.10E-07	1.79E-06	5.32E-01	8.83E-07	7.54E-06	4.96E-01	8.22E-07	7.02E-06
Road 42	42	1400-1500	1.35E-01	3.01E-07	2.55E-06	1.24E-01	2.76E-07	2.34E-06	5.32E-01	1.18E-06	1.01E-05	4.96E-01	1.09E-06	9.26E-06
Road 42	42	1500-1600	1.35E-01	2.24E-07	1.91E-06	1.24E-01	2.10E-07	1.79E-06	5.32E-01	8.83E-07	7.54E-06	4.96E-01	8.22E-07	7.02E-06
Road 42	42	1600

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	1.38E-02	1.95E-07	1.09E-05	1.27E-02	1.77E-07	9.93E-06	2.13E-02	3.32E-07	1.87E-05	1.97E-02	3.07E-07	1.73E-05
Road 1	1	0100-0200	1.49E-02	1.37E-07	7.54E-06	1.37E-02	1.26E-07	6.93E-06	2.15E-02	2.31E-07	1.27E-05	1.98E-02	2.13E-07	1.17E-05
Road 1	1	0200-0300	1.61E-02	1.08E-07	5.96E-06	1.48E-02	9.96E-08	5.49E-06	2.17E-02	1.82E-07	1.00E-05	1.99E-02	1.67E-07	9.23E-06
Road 1	1	0300-0400	1.75E-02	1.25E-07	1.09E-05	1.60E-02	1.15E-07	9.85E-06	2.19E-02	2.59E-07	1.57E-05	2.34E-02	3.04E-07	1.84E-05
Road 1	1	0400-0500	1.85E-02	1.07E-07	5.89E-06	1.71E-02	9.88E-08	5.44E-06	1.86E-02	1.07E-06	5.91E-05	1.69E-02	9.76E-07	5.38E-05
Road 1	1	0500-0600	1.95E-02	1.07E-07	1.80E-02	1.79E-02	9.86E-08	1.65E-02	1.93E-02	1.89E-06	3.19E-02	1.77E-02	1.74E-06	2.93E-02
Road 1	1	0600-0700	2.06E-02	4.37E-07	2.40E-05	1.94E-02	4.12E-07	2.27E-05	1.94E-02	4.12E-06	2.27E-04	1.75E-02	3.72E-06	2.05E-04
Road 1	1	0700-0800	2.20E-02	9.41E-07	5.18E-05	2.01E-02	8.63E-07	4.75E-05	1.99E-02	8.52E-06	4.69E-04	1.79E-02	7.69E-06	4.23E-04
Road 1	1	0800-0900	2.26E-02	1.55E-06	8.55E-05	2.07E-02	1.42E-06	7.81E-05	2.04E-02	1.40E-05	7.71E-04	1.84E-02	1.26E-05	6.95E-04
Road 1	1	0900-1000	2.40E-02	9.55E-07	5.26E-05	2.23E-02	8.88E-07	4.88E-05	1.96E-02	7.80E-06	4.30E-04	1.80E-02	7.15E-06	3.93E-04
Road 1	1	1000-1100	2.46E-02	1.19E-06	6.55E-05	2.29E-02	1.11E-06	6.09E-05	2.01E-02	9.73E-06	5.36E-04	1.84E-02	8.91E-06	4.91E-04
Road 1	1	1100-1200	2.53E-02	8.16E-07	4.49E-05	2.35E-02	7.57E-07	4.17E-05	2.04E-02	6.56E-06	3.61E-04	1.88E-02	6.04E-06	3.33E-04
Road 1	1	1200-1300	2.31E-02	8.62E-07	4.74E-05	2.15E-02	8.02E-07	4.41E-05	2.03E-02	7.57E-06	4.17E-04	1.88E-02	7.01E-06	3.86E-04
Road 1	1	1300-1400	3.37E-02	1.83E-06	1.01E-04	3.13E-02	1.70E-06	9.36E-05	2.03E-02	1.10E-05	6.06E-04	1.88E-02	1.02E-05	5.62E-04
Road 1	1	1400-1500	3.39E-02	1.77E-06	9.77E-05	3.15E-02	1.65E-06	9.08E-05	2.30E-02	1.20E-05	6.63E-04	2.13E-02	1.11E-05	6.15E-04
Road 1	1	1500-1600	3.31E-02	1.61E-06	8.84E-05	3.08E-02	1.50E-06	8.22E-05	2.66E-02	1.29E-05	7.12E-04	2.47E-02	1.20E-05	6.61E-04
Road 1	1	1600-1700	3.31E-02	1.90E-06	1.05E-04	3.06E-02	1.76E-06	9.66E-05	2.28E-02	1.31E-05	7.21E-04	2.12E-02	1.22E-05	6.70E-04
Road 1	1	1700-1800	1.86E-02	1.36E-06	7.48E-05	1.68E-02	1.23E-06	6.77E-05	1.71E-02	1.25E-05	6.86E-04	1.53E-02	1.12E-05	6.14E-04
Road 1	1	1800-1900	1.86E-02	1.36E-06	7.48E-05	1.68E-02	1.23E-06	6.77E-05	1.71E-02	1.25E-05	6.86E-04	1.53E-02	1.12E-05	6.14E-04
Road 1	1	1900-2000	1.68E-02	9.81E-07	5.40E-05	1.51E-02	8.78E-07	4.83E-05	1.78E-02	1.04E-05	5.72E-04	1.58E-02	9.20E-06	5.07E-04
Road 1	1	2000-2100	1.65E-02	1.48E-07	8.12E-06	1.47E-02	1.32E-07	7.20E-06	1.88E-02	1.68E-06	9.24E-05	1.67E-02	1.49E-06	8.21E-05
Road 1	1	2100-2200	1.45E-02	6.52E-07	3.59E-05	1.30E-02	5.88E-07	3.24E-05	1.71E-02	7.72E-06	4.25E-04	1.52E-02	6.86E-06	3.78E-04
Road 1	1	2200-2300	1.24E-02	6.25E-07	3.44E-05	1.11E-02	5.63E-07	3.10E-05	1.58E-02	7.97E-06	4.38E-04	1.58E-02	7.96E-06	4.38E-04
Road 1	1	2300-0000	1.55E-02	5.08E-07	2.80E-05	1.40E-02	4.61E-07	2.54E-05	1.81E-02	5.95E-06	2.92E-04	1.64E-02	5.38E-06	2.96E-04
Road 2	2	0000-0100	1.55E-02	3.01E-07	1.52E-05	1.41E-02	2.73E-07	1.38E-05	1.63E-02	3.17E-06	1.60E-04	1.45E-02	2.82E-06	1.43E-04
Road 2	2	0100-0200	1.38E-02	2.12E-07	1.07E-05	1.25E-02	1.92E-07	9.65E-06	1.55E-02	2.38E-06	1.20E-04	1.38E-02	2.12E-06	1.07E-04
Road 2	2	0200-0300	1.82E-02	1.68E-07	8.50E-06	1.68E-02	1.55E-07	7.84E-06	1.72E-02	1.59E-06	8.04E-05	1.59E-02	1.47E-06	7.43E-05
Road 2	2	0300-0400	2.47E-02	1.63E-06	8.91E-05	2.26E-02	1.48E-06	8.11E-05	1.72E-02	1.13E-05	6.19E-04	1.59E-02	1.04E-05	5.70E-04
Road 2	2	0400-0500	2.09E-02	1.67E-07	8.47E-06	1.93E-02	1.54E-07	7.82E-06	1.82E-02	1.46E-06	7.38E-05	1.66E-02	1.32E-06	6.70E-05
Road 2	2	0500-0600	2.22E-02	3.07E-07	1.55E-05	2.04E-02	2.82E-07	1.43E-05	1.87E-02	2.59E-06	1.31E-04	1.69E-02	2.34E-06	1.19E-04
Road 2	2	0600-0700	2.51E-02	1.32E-06	7.61E-05	2.31E-02	1.21E-06	6.97E-05	1.87E-02	9.85E-06	5.67E-04	1.69E-02	8.91E-06	5.13E-04
Road 2	2	0700-0800	2.51E-02	1.50E-06	7.61E-05	2.31E-02	1.38E-06	7.00E-05	1.98E-02	1.19E-05	6.01E-04	1.79E-02	1.07E-05	5.42E-04
Road 2	2	0800-0900	2.84E-02	1.61E-06	8.17E-05	2.61E-02	1.48E-06	7.50E-05	2.01E-02	1.14E-05	5.79E-04	1.81E-02	1.03E-05	5.21E-04
Road 2	2	0900-1000	2.84E-02	1.61E-06	8.17E-05	2.61E-02	1.48E-06	7.50E-05	1.99E-02	1.13E-05	5.76E-04	1.84E-02	1.04E-05	5.29E-04
Road 2	2	1000-1100	3.03E-02	1.41E-06	7.81E-05	2.78E-02	1.29E-06	7.17E-05	1.98E-02	9.19E-06	5.10E-04	1.82E-02	8.45E-06	4.69E-04
Road 2	2	1100-1200	3.31E-02	1.28E-06	6.51E-05	3.04E-02	1.17E-06	6.07E-05	2.23E-02	8.62E-06	4.37E-04	2.05E-02	7.92E-06	4.01E-04
Road 2	2	1200-1300	3.41E-02	1.28E-06	6.51E-05	3.13E-02	1.17E-06	6.07E-05	2.23E-02	8.62E-06	4.37E-04	2.05E-02	7.92E-06	4.01E-04
Road 2	2	1300-1400	3.55E-02	1.46E-06	8.29E-05	3.26E-02	1.34E-06	7.61E-05	2.23E-02	9.19E-06	5.21E-04	2.05E-02	8.45E-06	4.79E-04
Road 2	2	1400-1500	3.46E-02	1.42E-06	7.59E-05	3.22E-02	1.32E-06	6.68E-05	2.31E-02	9.45E-06	4.79E-04	2.14E-02	8.75E-06	4.43E-04
Road 2	2	1500-1600	3.38E-02	1.28E-06	6.48E-05	3.14E-02	1.19E-06	6.04E-05	2.27E-02	8.62E-06	4.37E-04	2.10E-02	7.96E-06	4.03E-04
Road 2	2	1600-1700	3.38E-02	1.51E-06	8.07E-05	3.14E-02	1.40E-06	7.48E-05	2.27E-02	1.01E-05	5.39E-04	2.10E-02	9.39E-06	4.75E-04
Road 2	2	1700-1800	1.90E-02	1.08E-06	5.76E-05	1.72E-02	9.78E-07	5.21E-05	1.75E-02	9.96E-06	5.31E-04	1.57E-02	8.93E-06	4.76E-04
Road 2	2	1800-1900	1.90E-02	1.08E-06	5.76E-05	1.72E-02	9.78E-07	5.21E-05	1.75E-02	9.96E-06	5.31E-04	1.57E-02	8.93E-06	4.76E-04
Road 2	2	1900-2000	1.72E-02	1.00E-06	5.34E-05	1.55E-02	9.02E-07	4.81E-05	1.82E-02	1.06E-05	5.66E-04	1.64E-02	9.54E-06	5.09E-04
Road 2	2	2000-2100	1.69E-02	1.52E-07	8.09E-06	1.51E-02	1.36E-07	7.24E-06	1.92E-02	1.72E-06	9.18E-05	1.72E-02	1.54E-06	8.21E-05
Road 2	2	2100-2200	1.49E-02	6.69E-07	3.56E-05	1.34E-02	6.03E-07	3.21E-05	1.75E-02	7.92E-06	4.22E-04	1.57E-02	7.04E-06	3.75E-04
Road 2	2	2200-2300	1.27E-02	6.41E-07	3.41E-05	1.14E-02	5.77E-07	3.07E-05	1.62E-02	8.18E-06	4.35E-04	1.62E-02	8.17E-06	4.35E-04
Road 2	2	2300-0000	1.59E-02	5.21E-07	2.77E-05	1.43E-02	4.73E-07	2.52E-05	1.86E-02	6.11E-06	3.25E-04	1.68E-02	5.52E-06	2.94E-04
Road 3	3	0000-0100	1.67E-02	7.01E-08	4.30E-07	1.50E-02	6.33E-08	3.88E-07	2.39E-02	1.01E-06	6.17E-06	2.13E-02	8.96E-07	5.50E-06
Road 3	3	0100-0200	1.51E-02	1.68E-07	1.03E-06	1.36E-02	1.52E-07	9.31E-07	2.39E-02	2.66E-06	1.63E-05	2.13E-02	2.37E-06	1.45E-05
Road 3	3	0200-0300	1.95E-02	3.89E-08	2.39E-07	1.79E-02	3.58E-08	2.20E-07	2.48E-02	4.95E-07	3.04E-06	2.27E-02	4.53E-07	2.78E-06
Road 3	3	0300-0400	2.61E-02	1.79E-07	1.10E-06	2.39E-02	1.64E-07	1.01E-06	2.48E-02	1.70E-06	1.04E-05	2.27E-02	1.56E-06	9.56E-06
Road 3	3	0400-0500	2.18E-02	2.30E-07	2.03E-06	3.49E-02	2.14E-07	2.56E-07	2.48E-02	4.41E-07	2.71E-06	2.35E-02	4.05E-07	2.48E-06
Road 3	3	0500-0600	2.22E-02	6.56E-08	4.03E-07	2.06E-02	6.07E-08	3.73E-07	2.59E-02	7.64E-07	4.69E-06	2.39E-02	6.96E-07	4.29E-06
Road 3	3	0600-0700	2.44E-02	3.15E-07	1.90E-06	2.25E-02	2.91E-07	1.75E-06	2.67E-02	3.44E-06	2.08E-05	2.47E-02	3.18E-06	1.92E-05
Road 3	3	0700-0800	2.44E-02	3.15E-07	1.90E-06	2.25E-02	2.91E-07	1.75E-06	2.67E-02	3.44E-06	2.08E-05	2.47E-02	3.18E-06	1.92E-05
Road 3	3	0800-0900	2.92E-02	3.15E-07	1.90E-06	2.69E-02	2.91E-07	1.75E-06	2.67E-02	3.44E-06	2.08E-05	2.47E-02	3.18E-06	1.92E-05
Road 3	3	0900-1000	2.92E-02	3.15E-07	1.90E-06	2.69E-02	2.91E-07	1.75E-06	2.67E-02	3.44E-06	2.08E-05	2.47E-02	3.18E-06	1.92E-05
Road 3	3	1000-1100	3.11E-02	3.15E-07	1.90E-06	2.87E-02	2.91E-07	1.75E-06	2.67E-02	3.44E-06	2.08E-05	2.47E-02	3.18E-06	1.92E-05
Road 3	3	1100-1200	3.33E-02	3.88E-07	2.34E-06	3.07E-02	3.58E-07	2.16E-06	2.67E-02	3.44E-06	2.08E-05	2.47E-02	3.18E-06	1.92E-05
Road 3	3	1200-1300	3.33E-02	1.19E-06	3.13E-02	3.64E-07	1.12E-05	2.83E-03	3.29E-06	1.01E-04	2.65E-02	3.08E-06	9.44E-05	
Road 3	3	1300-1400	3.38E-02	3.96E-07	1.21E-06	3.14E-02	3.68E-07	1.13E-06	2.82E-02	3.31E-06	1.01E-04	2.61E-02	3.06E-06	9.38E-05
Road 3	3	1400-1500	3.95E-02	3.01E-07	1.87E-06	3.67E-02	2.79E-07	1.73E-06	2.82E-02	3.31E-06	2.06E-05	2.61E-02	3.06E-06	1.90E-05
Road 3	3	1500-1600	3.25E-02	4.18E-07	1.28E-05	3.01E-02	3.87E-07	1.19E-05	3.74E-02	4.81E-06	1.48E-04	3.46E-02	4.45E-06	1.37E-04
Road 3	3	1600-1700	3.25E-02	4.18E-07	1.28E-05	3.01E-02	3.87E-07	1.19E-05	3.74E-02	4.81E-06	1.48E-04	3.46E-02	4.45E-06	1.37E-04
Road 3	3	1700-1800	2.61E-02	3.06E-07	1.88E-06	2.56E-02	3.01E-07	1.85E-06	2.99E-02	3.51E-06	2.16E-05	2.72E-02	3.19E-06	1.96E-05
Road 3	3	1800-1900	2.11E-02	3.83E-07	1.17E-05	1.90E-02	3.46E-07	1.06E-05	2.29E-02	4.16E-06	1.28E-04	2.05E-02	3.72E-06	1.14E-04
Road 3	3	1900-2000	2.88E-02	8.20E-08	4.66E-07	2.39E-02	6.81E-08	3.87E-07	2.72E-02	7.74E-07	4.40E-06	2.26E-02	6.43E-07	3.65E-06
Road 3	3	2000-2100	1.84E-02	2.08E-07	6.37E-06	1.65E-02	1.87E-07	5.73E-06	2.56E-02	2.89E-06	8.85E-05	2.29E-02	2.59E-06	7.93E-05
Road 3	3	2100-2200	1.65E-02	3.07E-07	1.88E-06	1.48E-02	2.76E-07	1.69E-06	2.56E-02	4.76E-06	2.92E-05	2.29E-02	4.27E-06	2.62E-05
Road 3	3	2200-2300	1.44E-02	3.01E-07	1.84E-06	1.29E-02	2.70E-07	1.65E-06	2.56E-02	4.76E-06	2.92E-05	2.29E-02	4.27E-06	2.62E-05
Road 3	3	2300-0000	1.71E-02	4.80E-07	2.94E-06	1.54E-02	4.32E-07	2.65E-06	2.72E-02	7.64E-06	4.68E-05	2.44E-02	6.85E-06	4.20E-05
Road 4	4	0000-0100	1.71E-02	1.92E-07	1.05E-05	1.54E-02	1.73E-07	9.48E-06	2.64E-02	2.96E-06	1.63E-04	2.44E-02	2.74E-06	1.51E-04
Road 4	4	0100-0200	1.84E-02	1.69E-07	9.31E-06	1.66E-02	1.52E-07	8.38E-06	2.66E-02	2.93E-06	1.48E-04	2.45E-02	2.64E-06	1.33E-04
Road 4	4	0200-0300	2.01E-02	1.34E-07	7.36E-06	1.81E-02	1.21E-07	6.65E-06	2.68E-02	2.66E-06	1.46E-04	2.46E-02	2.44E-06	1.34E-04
Road 4	4	0300-0400	2.72E-02	2.01E-07	1.11E-05	2.45E-02	1.81E-07	9.98E-06	2.68E-02	3.98E-06	2.19E-04	2.46E-02	3.66E-06	2.01E-04
Road 4	4	0400-0500	2.30E-02	1.34E-07	7.36E-06	2.07E-02	1.21E-07	6.65E-06	2.68E-02	3.98E-06	2.19E-04	2.46E-02	3.66E-06	2.01E-04
Road 4	4	0500-0600	2.45E-02	3.07E-07	1.69E-05	2.21E-02	2.77E-07	1.52E-05	2.85E-02	3.98E-06	2.19E-04	2.61E-02	3.66E-06	2.01E-04
Road 4	4	0600-0700	2.77E-02	1.21E-06	6.66E-05	2.50E-02	1.09E-06	6.00E-05	2.85E-02	1.26E-05	6.94E-04	2.61E-02	1.16E-05	6.38E-04
Road 4	4	0700-0800	2.77E-02	1.38E-06	7.59E-05	2.50E-02	1.24E-06	6.84E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	0800-0900	3.20E-02	1.48E-06	8.13E-05	2.88E-02	1.33E-06	7.32E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	0900-1000	3.20E-02	1.48E-06	8.13E-05	2.88E-02	1.33E-06	7.32E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1000-1100	3.42E-02	1.30E-06	7.15E-05	3.08E-02	1.19E-06	6.55E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1100-1200	3.73E-02	1.18E-06	6.48E-05	3.36E-02	1.06E-06	5.83E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1200-1300	3.73E-02	1.18E-06	6.48E-05	3.36E-02	1.06E-06	5.83E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1300-1400	3.60E-02	1.46E-06	8.02E-05	3.24E-02	1.34E-06	7.37E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1400-1500	3.60E-02	1.46E-06	8.02E-05	3.24E-02	1.34E-06	7.37E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1500-1600	3.38E-02	1.28E-06	7.04E-05	3.04E-02	1.17E-06	6.45E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1600-1700	3.38E-02	1.51E-06	8.31E-05	3.04E-02	1.40E-06	7.75E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1700-1800	2.11E-02	1.36E-06	7.48E-05	1.90E-02	1.23E-06	6.77E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1800-1900	2.11E-02	1.36E-06	7.48E-05	1.90E-02	1.23E-06	6.77E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	1900-2000	1.94E-02	1.77E-06	9.74E-05	1.74E-02	1.58E-06	8.71E-05	2.85E-02	1.44E-05	7.91E-04	2.61E-02	1.32E-05	7.27E-04
Road 4	4	2000-2100	1.83E-02	1.31E-07	7.21E-06	1.64E-02	1.17E-07	6.44E-06	2.85E-02	2.04E-06	1.12E-04	2.61E-02	1.87E-06	1.03E-04
Road 4	4	2100-2200	1.64E-02	1.31E-07	7.21E-06	1.47E-02	1.17E-07	6.44E-06	2.85E-02	2.04E-06	1.12E-04	2.61E-02	1.87E-06	1.03E-04
Road 4	4	2200-2300	1.44E-02	1.31E-07	7.21E-06	1.29E-02	1.17E-07	6.44E-06	2.85E-02	2.04E-06	1.12E-04	2.61E-02	1.87E-06	1.03E-04
Road 4	4	2300-0000	1.71E-02	1.92E-07	1.05E-05	1.54E-02	1.73E-07	9.48E-06	2.64E-02	2.96E-06	1.63E-04	2.44E-02	2.74E-06	1.51E-04
Road 5	5	0000-0100	1.92E-02	2.68E-07	1.47E-05	1.73E-02	2.41E-07	1.32E-05	2.13E-02	2.97E-06	1.63E-04	1.92E-02	2.68E-06	1.47E-04
Road 5	5	0100-0200	2.06E-02	2.34E-07	1.29E-05	1.85E-02	2.11E-07	1.16E-05	2.15E-02	2.44E-06	1.34E-04	1.94E-02	2.21E-06	1.21E-04
Road 5	5	0200-0300	2.23E-02	1.46E-07	8.03E-06	2.01E-02	1.32E-07	7.23E-06	2.17E-02	1.41E-06	7.75E-05	1.96E-02	1.27E-06	6.98E-05
Road 5	5	0300-0400	2.72E-02	1.63E-06	8.95E-05	2.45E-02	1.47E-06	8.07E-05	2.17E-02	1.30E-05	7.13E-04	1.96E-02	1.17E-05	6.43E-04
Road 5	5	0400-0500	2.55E-02	1.67E-07	8.47E-06	2.30E-02	1.50E-07	7.63E-06	2.17E-02	1.41E-06	7.16E-05	1.96E-02	1.27E-06	6.47E-05
Road 5	5	0500-0600	2.68E-02	3.07E-07	1.55E-05	2.41E-02	2.77E-07	1.40E-05	2.17E-02	2.78E-06	1.41E-04	1.96E-02	2.51E-06	1.27E-04
Road 5	5	0600-0700	2.98E-02	1.32E-06	7.61E-05	2.74E-02	1.21E-06	6.97E-05	2.17E-02	9.60E-06	5.52E-04	1.96E-02	8.68E-06	4.99E-04
Road 5	5	0700-0800	2.98E-02	1.50E-06	7.61E-05	2.74E-02	1.38E-06	7.00E-05	2.17E-02	1.09E-05	5.52E-04	1.96E-02	9.84E-06	4.99E-04
Road 5	5	0800-0900	3.44E-02	1.61E-06	8.17E-05	3.16E-02	1.48E-06	7.50E-05	2.17E-02	1.09E-05	5.52E-04	1.96E-02	9.84E-06	4.99E-04
Road 5	5	0900-1000	3.44E-02	1.61E-06	8.17E-05	3.16E-02	1.48E-06	7.50E-05	2.17E-02	1.09E-05	5.52E-04	1.96E-02	9.84E-06	4.99E-04
Road 5	5	1000-1100	3.68E-02	1.41E-06	7.81E-05	3.36E-02	1.29E-06	7.17E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1100-1200	4.02E-02	1.28E-06	6.51E-05	3.68E-02	1.17E-06	6.07E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1200-1300	4.02E-02	1.28E-06	6.51E-05	3.68E-02	1.17E-06	6.07E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1300-1400	3.91E-02	1.46E-06	8.29E-05	3.58E-02	1.34E-06	7.61E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1400-1500	3.91E-02	1.46E-06	8.29E-05	3.58E-02	1.34E-06	7.61E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1500-1600	3.68E-02	1.28E-06	7.04E-05	3.36E-02	1.17E-06	6.45E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1600-1700	3.68E-02	1.51E-06	8.31E-05	3.36E-02	1.40E-06	7.75E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1700-1800	2.06E-02	1.36E-06	7.48E-05	1.84E-02	1.23E-06	6.77E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1800-1900	2.06E-02	1.36E-06	7.48E-05	1.84E-02	1.23E-06	6.77E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	1900-2000	1.88E-02	1.77E-06	9.74E-05	1.68E-02	1.58E-06	8.71E-05	2.17E-02	8.84E-06	4.91E-04	1.96E-02	8.13E-06	4.51E-04
Road 5	5	2000-2100	1.78E-02	1.31E-07	7.21E-06	1.59E-02	1.17E-07	6.44E-06	2.17E-02	1.25E-06	6.91E-05	1.96E-02	1.15E-06	6.34E-05
Road 5	5	2100-2200	1.59E-02	1.31E-07	7.21E-06	1.42E-02	1.17E-07	6.44E-06	2.17E-02	1.25E-06	6.91E-05	1.96E-02	1.15E-06	6.34E-05
Road 5	5	2200-2300	1.39E-02	1.31E-07	7.21E-06	1.24E-02	1.17E-07	6.44E-06	2.17E-02	1.25E-06	6.91E-05	1.96E-02	1.15E-06	6.34E-05
Road 5	5	2300-0000	1.65E-02	1.92E-07	1.05E-05	1.48E-02	1.73E-07	9.48E-06	2.17E-02	1.25E-06	6.91E-05	1.96E-02	1.15E-06	6.34E-05

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 6	6	0000-0100	1.38E-02	1.95E-07	1.09E-05	1.27E-02	1.77E-07	9.93E-06	2.13E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	2.52E-01	5.36E-07	1.65E-06	2.52E-01	4.81E-07	1.48E-06	9.23E-01	1.96E-06	6.04E-06
Road 27	27	1700-1800	2.32E-01	5.36E-07	1.65E-06	2.32E-01	4.91E-07	1.51E-06	9.99E-01	2.31E-06	7.11E-06
Road 27	27	1800-1900	2.09E-01	3.31E-07	1.02E-06	1.89E-01	3.00E-07	9.23E-07	9.17E-01	1.45E-06	4.48E-06
Road 27	27	1900-2000	1.97E-01	2.04E-07	6.28E-07	1.79E-01	1.85E-07	5.70E-07	8.57E-01	8.87E-07	2.73E-06
Road 27	27	2000-2100	1.93E-01	1.59E-07	4.89E-07	1.74E-01	1.44E-07	4.43E-07	8.45E-01	6.97E-07	2.15E-06
Road 27	27	2100-2200	1.94E-01	1.65E-07	5.07E-07	1.74E-01	1.48E-07	4.55E-07	8.47E-01	7.19E-07	2.21E-06
Road 27	27	2200-2300	2.03E-01	1.50E-07	4.62E-07	1.87E-01	1.38E-07	4.24E-07	8.41E-01	6.21E-07	1.91E-06
Road 27	27	2300-0000	2.06E-01	1.25E-07	3.84E-07	1.89E-01	1.15E-07	3.53E-07	8.49E-01	5.15E-07	1.59E-06
Road 28	28	0000-0100	2.72E-01	2.46E-07	7.56E-07	2.46E-01	2.22E-07	6.84E-07	9.71E-01	8.77E-07	2.70E-06
Road 28	28	0100-0200	2.62E-01	3.36E-07	1.90E-06	2.42E-01	3.11E-07	1.76E-06	9.23E-01	1.18E-06	6.68E-06
Road 28	28	0200-0300	2.47E-01	2.67E-07	1.51E-06	2.28E-01	2.47E-07	1.40E-06	8.84E-01	9.55E-07	5.40E-06
Road 28	28	0300-0400	1.06E-02	2.31E-07	1.31E-06	2.82E-02	2.13E-07	1.21E-06	2.27E-01	4.97E-06	2.81E-05
Road 28	28	0400-0500	3.29E-02	2.84E-07	1.61E-06	2.70E-02	2.33E-07	1.32E-06	2.29E-01	1.98E-06	1.12E-05
Road 28	28	0500-0600	3.29E-02	6.75E-07	3.82E-06	2.70E-02	5.54E-07	3.13E-06	2.29E-01	4.69E-06	2.66E-05
Road 28	28	0600-0700	3.38E-02	1.05E-06	5.94E-06	2.77E-02	8.63E-07	4.88E-06	2.35E-01	7.29E-06	4.14E-05
Road 28	28	0700-0800	3.84E-02	1.20E-06	6.79E-06	3.15E-02	9.84E-07	5.56E-06	2.67E-01	8.31E-06	4.72E-05
Road 28	28	0800-0900	3.84E-02	4.30E-06	2.44E-05	3.15E-02	3.53E-06	2.00E-05	2.67E-01	2.98E-05	1.69E-04
Road 28	28	0900-1000	1.47E-02	2.51E-06	1.65E-05	1.20E-02	2.06E-06	1.35E-05	1.02E-01	1.74E-05	1.14E-04
Road 28	28	1000-1100	4.70E-02	2.85E-06	4.37E-02	2.46E-02	1.49E-06	2.29E-02	2.67E-01	1.62E-05	1.80E-05
Road 28	28	1100-1200	4.54E-02	2.42E-06	1.37E-04	2.52E-02	1.34E-06	7.58E-05	2.67E-01	1.42E-05	8.04E-04
Road 28	28	1200-1300	4.52E-02	2.61E-06	1.48E-04	2.66E-02	1.53E-06	8.72E-05	2.66E-01	1.53E-05	8.72E-04
Road 28	28	1300-1400	4.60E-02	1.59E-06	9.05E-05	2.57E-02	8.89E-07	5.06E-05	2.67E-01	9.24E-06	5.26E-04
Road 28	28	1400-1500	4.40E-02	1.55E-06	8.81E-05	2.45E-02	8.64E-07	4.91E-05	2.67E-01	9.41E-06	5.35E-04
Road 28	28	1500-1600	4.30E-02	1.62E-06	9.17E-05	2.57E-02	9.68E-07	5.44E-05	2.56E-01	9.64E-06	5.41E-04
Road 28	28	1600-1700	4.33E-02	1.70E-06	9.65E-05	2.57E-02	1.01E-06	5.73E-05	2.57E-01	9.32E-06	5.29E-04
Road 28	28	1700-1800	3.91E-02	1.45E-06	8.24E-05	2.26E-02	8.39E-07	4.76E-05	2.05E-01	7.60E-06	4.31E-04
Road 28	28	1800-1900	2.84E-02	1.14E-06	6.48E-05	2.24E-02	1.03E-06	5.86E-05	1.91E-01	8.82E-06	5.00E-04
Road 28	28	1900-2000	2.14E-02	6.02E-07	3.42E-05	1.93E-02	5.42E-07	3.08E-05	2.03E-01	5.71E-06	3.24E-04
Road 28	28	2000-2100	2.14E-02	6.02E-07	3.42E-05	1.93E-02	5.42E-07	3.08E-05	2.03E-01	5.71E-06	3.24E-04
Road 28	28	2100-2200	1.97E-02	5.51E-07	3.13E-05	1.79E-02	5.02E-07	2.85E-05	1.88E-01	5.25E-06	2.98E-04
Road 28	28	2200-2300	2.12E-02	4.33E-07	2.46E-05	1.94E-02	3.96E-07	2.25E-05	1.98E-01	4.04E-06	2.29E-04
Road 28	28	2300-0000	2.12E-02	4.33E-07	2.46E-05	1.94E-02	3.96E-07	2.25E-05	1.98E-01	4.04E-06	2.29E-04
Road 29	29	0000-0100	2.80E-02	1.96E-07	1.35E-06	2.59E-02	1.81E-07	1.25E-06	2.14E-01	1.50E-06	1.03E-05
Road 29	29	0100-0200	2.80E-02	1.96E-07	1.35E-06	2.59E-02	1.81E-07	1.25E-06	2.14E-01	1.50E-06	1.03E-05
Road 29	29	0200-0300	2.47E-02	1.73E-07	1.19E-06	2.28E-02	1.60E-07	1.10E-06	1.89E-01	1.32E-06	9.09E-06
Road 29	29	0300-0400	3.32E-02	1.39E-07	9.57E-07	3.06E-02	1.28E-07	8.82E-07	2.83E-01	1.18E-06	8.15E-06
Road 29	29	0400-0500	3.45E-02	1.59E-07	1.10E-06	3.22E-02	1.48E-07	1.02E-06	2.96E-01	1.37E-06	9.44E-06
Road 29	29	0500-0600	3.72E-02	1.51E-06	1.04E-05	3.45E-02	1.40E-06	9.69E-06	3.19E-01	1.29E-05	8.94E-05
Road 29	29	0600-0700	3.55E-02	6.04E-07	4.17E-06	3.31E-02	5.64E-07	3.89E-06	3.27E-01	5.56E-06	3.84E-05
Road 29	29	0700-0800	3.72E-02	1.51E-06	1.04E-05	3.45E-02	1.40E-06	9.69E-06	3.19E-01	1.29E-05	8.94E-05
Road 29	29	0800-0900	3.72E-02	1.51E-06	1.04E-05	3.45E-02	1.40E-06	9.69E-06	3.19E-01	1.29E-05	8.94E-05
Road 29	29	0900-1000	4.38E-02	1.56E-06	1.07E-04	4.07E-02	1.45E-06	9.98E-05	2.56E-01	9.09E-06	6.27E-04
Road 29	29	1000-1100	4.27E-02	1.37E-06	1.89E-04	3.96E-02	1.27E-06	1.75E-04	2.56E-01	8.21E-06	1.13E-03
Road 29	29	1100-1200	4.78E-02	1.43E-06	9.89E-04	4.43E-02	1.33E-06	9.19E-04	2.71E-01	8.11E-06	5.60E-03
Road 29	29	1200-1300	4.81E-02	2.01E-06	1.39E-04	4.47E-02	1.87E-06	1.29E-04	3.31E-01	1.38E-05	9.56E-04
Road 29	29	1300-1400	4.81E-02	2.01E-06	1.39E-04	4.47E-02	1.87E-06	1.29E-04	3.31E-01	1.38E-05	9.56E-04
Road 29	29	1400-1500	4.56E-02	2.11E-06	1.46E-04	4.23E-02	1.96E-06	1.35E-04	3.06E-01	1.42E-05	9.82E-04
Road 29	29	1500-1600	4.52E-02	2.19E-06	1.51E-04	4.20E-02	2.03E-06	1.40E-04	3.06E-01	1.48E-05	1.02E-03
Road 29	29	1600-1700	4.56E-02	2.16E-06	1.49E-04	4.22E-02	2.00E-06	1.38E-04	3.29E-01	1.56E-05	1.08E-03
Road 29	29	1700-1800	4.12E-02	1.53E-06	1.06E-04	3.82E-02	1.42E-06	9.83E-05	2.98E-01	1.11E-05	7.67E-04
Road 29	29	1800-1900	2.77E-02	1.54E-06	1.06E-04	2.59E-02	1.44E-06	9.93E-05	2.01E-01	1.12E-05	7.73E-04
Road 29	29	1900-2000	2.50E-02	8.52E-07	5.88E-05	2.25E-02	7.68E-07	5.30E-05	2.98E-01	1.02E-05	7.03E-04
Road 29	29	2000-2100	2.50E-02	8.52E-07	5.88E-05	2.25E-02	7.68E-07	5.30E-05	2.98E-01	1.02E-05	7.03E-04
Road 29	29	2100-2200	2.29E-02	7.75E-07	5.35E-05	2.06E-02	6.98E-07	4.82E-05	2.71E-01	9.18E-06	6.34E-04
Road 29	29	2200-2300	2.46E-02	6.09E-07	4.20E-05	2.22E-02	5.49E-07	3.79E-05	2.86E-01	7.08E-06	4.89E-04
Road 29	29	2300-0000	2.46E-02	6.09E-07	4.20E-05	2.22E-02	5.49E-07	3.79E-05	2.86E-01	7.08E-06	4.89E-04
Road 30	30	0000-0100	2.88E-02	1.35E-07	1.32E-06	2.66E-02	1.24E-07	1.22E-06	2.19E-01	1.02E-06	1.00E-05
Road 30	30	0100-0200	2.88E-02	1.35E-07	1.32E-06	2.66E-02	1.24E-07	1.22E-06	2.19E-01	1.02E-06	1.00E-05
Road 30	30	0200-0300	2.54E-02	1.19E-07	1.16E-06	2.34E-02	1.10E-07	1.08E-06	1.94E-01	9.08E-07	8.87E-06
Road 30	30	0300-0400	3.41E-02	9.56E-08	9.36E-07	3.14E-02	8.81E-08	8.62E-07	2.90E-01	8.14E-07	7.96E-06
Road 30	30	0400-0500	3.54E-02	1.09E-07	1.07E-06	3.26E-02	1.01E-07	9.87E-07	3.04E-01	9.34E-07	9.13E-06
Road 30	30	0500-0600	3.82E-02	1.04E-06	1.02E-05	3.52E-02	9.61E-07	9.40E-06	3.28E-01	8.94E-06	8.74E-05
Road 30	30	0600-0700	3.64E-02	6.08E-07	5.94E-06	3.36E-02	5.60E-07	5.48E-06	3.35E-01	5.59E-06	5.47E-05
Road 30	30	0700-0800	3.82E-02	1.04E-06	1.02E-05	3.52E-02	9.61E-07	9.40E-06	3.28E-01	8.94E-06	8.74E-05
Road 30	30	0800-0900	3.82E-02	1.04E-06	1.02E-05	3.52E-02	9.61E-07	9.40E-06	3.28E-01	8.94E-06	8.74E-05
Road 30	30	0900-1000	4.49E-02	1.60E-06	1.10E-04	4.17E-02	1.49E-06	1.02E-04	2.62E-01	9.34E-06	6.44E-04
Road 30	30	1000-1100	4.38E-02	1.41E-06	1.94E-04	4.06E-02	1.30E-06	1.79E-04	2.62E-01	8.43E-06	1.16E-03
Road 30	30	1100-1200	4.90E-02	1.47E-06	1.01E-03	4.54E-02	1.36E-06	9.42E-04	2.78E-01	8.32E-06	5.74E-03
Road 30	30	1200-1300	4.93E-02	2.06E-06	1.42E-04	4.58E-02	1.91E-06	1.32E-04	3.39E-01	1.41E-05	9.80E-04
Road 30	30	1300-1400	4.93E-02	2.06E-06	1.42E-04	4.58E-02	1.91E-06	1.32E-04	3.39E-01	1.41E-05	9.80E-04
Road 30	30	1400-1500	4.67E-02	2.16E-06	1.49E-04	4.33E-02	2.00E-06	1.38E-04	3.14E-01	1.45E-05	1.00E-03
Road 30	30	1500-1600	4.63E-02	2.24E-06	1.55E-04	4.30E-02	2.08E-06	1.43E-04	3.14E-01	1.52E-05	1.05E-03
Road 30	30	1600-1700	4.67E-02	2.21E-06	1.53E-04	4.33E-02	2.05E-06	1.41E-04	3.37E-01	1.60E-05	1.10E-03
Road 30	30	1700-1800	4.23E-02	1.57E-06	1.08E-04	3.92E-02	1.45E-06	1.01E-04	3.05E-01	1.13E-05	7.85E-04
Road 30	30	1800-1900	2.91E-02	1.58E-06	1.09E-04	2.65E-02	1.47E-06	1.02E-04	2.06E-01	1.15E-05	7.91E-04
Road 30	30	1900-2000	2.56E-02	8.72E-07	6.02E-05	2.31E-02	7.86E-07	5.43E-05	3.05E-01	1.04E-05	7.20E-04
Road 30	30	2000-2100	2.56E-02	8.72E-07	6.02E-05	2.31E-02	7.86E-07	5.43E-05	3.05E-01	1.04E-05	7.20E-04
Road 30	30	2100-2200	2.44E-02	8.26E-07	5.70E-05	2.20E-02	7.44E-07	5.14E-05	2.89E-01	9.78E-06	6.75E-04
Road 30	30	2200-2300	2.51E-02	6.21E-07	4.29E-05	2.27E-02	5.61E-07	3.87E-05	2.92E-01	7.23E-06	4.99E-04
Road 30	30	2300-0000	2.70E-02	2.72E-07	2.66E-06	2.45E-02	2.47E-07	2.42E-06	2.38E-01	2.40E-06	2.35E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.2 Emission Factor in 2030.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 31	31	0000-0100	3.65E-02	1.00E-07	8.95E-07	3.38E-02	9.29E-08	8.30E-07	2.68E-01	7.34E-07	6.56E-06
Road 31	31	0100-0200	3.65E-02	1.00E-07	8.95E-07	3.38E-02	9.29E-08	8.30E-07	2.68E-01	7.34E-07	6.56E-06
Road 31	31	0200-0300	4.11E-02	8.56E-08	7.65E-07	3.80E-02	7.91E-08	7.06E-07	2.68E-01	5.59E-07	5.29E-06
Road 31	31	0300-0400	4.51E-02	7.75E-08	6.92E-07	4.17E-02	7.12E-08	6.37E-07	3.00E-01	5.11E-07	4.56E-06
Road 31	31	0400-0500	4.57E-02	8.52E-08	7.61E-07	4.26E-02	7.95E-08	7.10E-07	2.99E-01	5.57E-07	4.98E-06
Road 31	31	0500-0600	4.55E-02	1.32E-07	1.18E-06	4.25E-02	1.24E-07	1.10E-06	3.44E-01	9.98E-07	8.88E-06
Road 31	31	0600-0700	4.04E-02	2.61E-07	2.34E-06	3.73E-02	2.42E-07	2.16E-06	2.77E-01	1.80E-06	1.60E-05
Road 31	31	0700-0800	4.51E-02	6.13E-07	5.48E-06	4.16E-02	5.66E-07	5.06E-06	2.93E-01	3.99E-06	3.57E-05
Road 31	31	0800-0900	4.34E-02	8.81E-07	7.88E-06	4.01E-02	8.14E-07	7.28E-06	2.74E-01	5.59E-06	4.99E-05
Road 31	31	0900-1000	5.03E-02	6.98E-07	6.24E-06	4.65E-02	6.44E-07	5.77E-06	2.98E-01	4.14E-06	3.70E-05
Road 31	31	1000-1100	5.49E-02	6.50E-07	5.80E-06	5.07E-02	6.04E-07	5.39E-06	3.14E-01	3.72E-06	3.33E-05
Road 31	31	1100-1200	5.07E-02	4.51E-07	4.03E-06	5.04E-02	4.22E-07	3.77E-06	3.32E-01	2.70E-06	2.41E-05
Road 31	31	1200-1300	4.95E-02	6.04E-07	5.39E-06	4.57E-02	5.61E-07	5.01E-06	3.29E-01	3.86E-06	3.45E-05
Road 31	31	1300-1400	5.04E-02	6.00E-07	5.36E-06	4.65E-02	5.55E-07	4.95E-06	3.29E-01	3.88E-06	3.46E-05
Road 31	31	1400-1500	5.00E-02	5.67E-07	5.06E-06	4.61E-02	5.24E-07	4.67E-06	3.29E-01	3.73E-06	3.33E-05
Road 31	31	1500-1600	5.04E-02	5.67E-07	5.06E-06	4.65E-02	5.24E-07	4.67E-06	3.29E-01	3.73E-06	3.33E-05
Road 31	31	1600-1700	5.07E-02	6.13E-07	5.47E-06	4.68E-02	5.66E-07	5.05E-06	3.29E-01	3.98E-06	3.55E-05
Road 31	31	1700-1800	4.57E-02	5.17E-07	4.61E-06	4.22E-02	4.77E-07	4.26E-06	3.01E-01	3.41E-06	3.04E-05
Road 31	31	1800-1900	3.48E-02	5.17E-07	4.61E-06	3.21E-02	4.77E-07	4.26E-06	2.30E-01	3.41E-06	3.04E-05
Road 31	31	1900-2000	3.07E-02	2.85E-07	2.54E-06	2.83E-02	2.63E-07	2.34E-06	2.30E-01	2.13E-06	1.90E-05
Road 31	31	2000-2100	3.07E-02	2.85E-07	2.54E-06	2.83E-02	2.63E-07	2.34E-06	2.30E-01	2.13E-06	1.90E-05
Road 31	31	2100-2200	2.82E-02	2.62E-07	2.34E-06	2.61E-02	2.42E-07	2.16E-06	2.11E-01	1.96E-06	1.75E-05
Road 31	31	2200-2300	3.04E-02	2.01E-07	1.79E-06	2.81E-02	1.86E-07	1.65E-06	2.28E-01	1.51E-06	1.34E-05
Road 31	31	2300-0000	3.04E-02	2.01E-07	1.79E-06	2.81E-02	1.86E-07	1.65E-06	2.28E-01	1.51E-06	1.34E-05
Road 32	32	0000-0100	2.29E-02	4.08E-07	2.75E-06	2.12E-02	3.77E-07	2.54E-06	1.98E-01	3.52E-06	2.37E-05
Road 32	32	0100-0200	2.29E-02	4.08E-07	2.75E-06	2.12E-02	3.77E-07	2.54E-06	1.98E-01	3.52E-06	2.37E-05
Road 32	32	0200-0300	2.61E-02	2.61E-07	1.76E-06	2.41E-02	2.41E-07	1.63E-06	2.25E-01	2.26E-06	1.52E-05
Road 32	32	0300-0400	2.85E-02	2.35E-07	1.58E-06	2.64E-02	2.17E-07	1.46E-06	2.47E-01	2.04E-06	1.37E-05
Road 32	32	0400-0500	2.94E-02	2.21E-07	1.47E-06	2.74E-02	2.06E-07	1.37E-06	2.41E-01	1.81E-06	1.20E-05
Road 32	32	0500-0600	3.12E-02	2.70E-07	1.80E-06	2.90E-02	2.80E-07	1.87E-06	2.41E-01	2.08E-06	1.38E-05
Road 32	32	0600-0700	3.49E-02	2.01E-06	1.34E-05	3.23E-02	1.86E-06	1.23E-05	2.61E-01	1.50E-05	9.98E-05
Road 32	32	0700-0800	3.49E-02	2.01E-06	1.34E-05	3.23E-02	1.86E-06	1.23E-05	2.61E-01	1.50E-05	9.98E-05
Road 32	32	0800-0900	3.49E-02	2.30E-06	1.54E-05	3.23E-02	2.13E-06	1.42E-05	2.61E-01	1.72E-05	1.15E-04
Road 32	32	0900-1000	4.02E-02	2.31E-06	1.53E-04	3.72E-02	2.14E-06	1.42E-04	2.67E-01	1.53E-05	1.01E-04
Road 32	32	1000-1100	4.34E-02	2.09E-06	1.39E-04	4.01E-02	1.94E-06	1.29E-04	2.77E-01	1.33E-05	8.88E-04
Road 32	32	1100-1200	4.34E-02	2.09E-06	1.39E-04	4.01E-02	1.94E-06	1.29E-04	2.77E-01	1.33E-05	8.88E-04
Road 32	32	1200-1300	4.24E-02	2.29E-06	1.52E-04	3.94E-02	2.13E-06	1.41E-04	2.71E-01	1.46E-05	9.73E-04
Road 32	32	1300-1400	4.24E-02	2.29E-06	1.52E-04	3.94E-02	2.13E-06	1.41E-04	2.71E-01	1.46E-05	9.73E-04
Road 32	32	1400-1500	4.40E-02	2.39E-06	1.59E-04	4.09E-02	2.22E-06	1.48E-04	2.71E-01	1.47E-05	9.79E-04
Road 32	32	1500-1600	4.36E-02	2.54E-06	1.69E-04	4.05E-02	2.36E-06	1.57E-04	2.71E-01	1.58E-05	1.05E-03
Road 32	32	1600-1700	4.40E-02	2.51E-06	1.67E-04	4.09E-02	2.33E-06	1.55E-04	2.71E-01	1.55E-05	1.03E-03
Road 32	32	1700-1800	3.98E-02	1.77E-06	1.18E-04	3.70E-02	1.64E-06	1.10E-04	2.45E-01	1.09E-05	7.25E-04
Road 32	32	1800-1900	2.74E-02	1.78E-06	1.19E-04	2.54E-02	1.66E-06	1.10E-04	1.69E-01	1.10E-05	7.31E-04
Road 32	32	1900-2000	2.41E-02	9.87E-07	6.57E-05	2.24E-02	9.17E-07	6.10E-05	2.45E-01	1.00E-05	6.67E-04
Road 32	32	2000-2100	2.41E-02	9.87E-07	6.57E-05	2.24E-02	9.17E-07	6.10E-05	2.45E-01	1.00E-05	6.67E-04
Road 32	32	2100-2200	2.21E-02	8.97E-07	5.97E-05	2.05E-02	8.34E-07	5.55E-05	2.24E-01	9.09E-06	6.05E-04
Road 32	32	2200-2300	2.39E-02	7.05E-07	4.69E-05	2.22E-02	6.55E-07	4.36E-05	2.43E-01	7.17E-06	4.77E-04
Road 32	32	2300-0000	2.39E-02	7.05E-07	4.69E-05	2.22E-02	6.55E-07	4.36E-05	2.43E-01	7.17E-06	4.77E-04
Road 33	33	0000-0100	2.31E-02	1.17E-06	2.95E-06	2.14E-02	1.08E-06	2.74E-06	1.98E-01	1.00E-05	2.53E-05
Road 33	33	0100-0200	2.31E-02	1.17E-06	2.95E-06	2.14E-02	1.08E-06	2.74E-06	1.98E-01	1.00E-05	2.53E-05
Road 33	33	0200-0300	2.58E-02	1.03E-06	2.60E-06	2.39E-02	9.54E-07	2.41E-06	2.21E-01	8.82E-06	2.23E-05
Road 33	33	0300-0400	2.82E-02	1.03E-06	2.60E-06	2.61E-02	9.54E-07	2.41E-06	2.42E-01	8.82E-06	2.23E-05
Road 33	33	0400-0500	2.82E-02	1.03E-06	2.60E-06	2.61E-02	9.54E-07	2.41E-06	2.42E-01	8.82E-06	2.23E-05
Road 33	33	0500-0600	2.76E-02	1.60E-06	4.04E-06	2.55E-02	1.48E-06	3.74E-06	2.42E-01	1.40E-05	3.54E-05
Road 33	33	0600-0700	2.76E-02	1.60E-06	4.04E-06	2.55E-02	1.48E-06	3.74E-06	2.42E-01	1.40E-05	3.54E-05
Road 33	33	0700-0800	2.76E-02	1.60E-06	4.04E-06	2.55E-02	1.48E-06	3.74E-06	2.42E-01	1.40E-05	3.54E-05
Road 33	33	0800-0900	2.76E-02	1.60E-06	4.04E-06	2.55E-02	1.48E-06	3.74E-06	2.42E-01	1.40E-05	3.54E-05
Road 33	33	0900-1000	3.56E-02	1.04E-06	1.02E-05	3.17E-02	9.64E-07	9.47E-06	2.60E-01	7.61E-06	7.46E-05
Road 33	33	1000-1100	3.99E-02	9.47E-07	9.28E-06	3.70E-02	8.81E-07	8.63E-06	2.60E-01	6.19E-06	6.06E-05
Road 33	33	1100-1200	3.99E-02	9.47E-07	9.28E-06	3.70E-02	8.81E-07	8.63E-06	2.60E-01	6.19E-06	6.06E-05
Road 33	33	1200-1300	3.99E-02	1.03E-06	1.01E-05	3.70E-02	9.56E-07	9.37E-06	2.60E-01	6.72E-06	6.58E-05
Road 33	33	1300-1400	3.99E-02	1.03E-06	1.01E-05	3.70E-02	9.56E-07	9.37E-06	2.60E-01	6.72E-06	6.58E-05
Road 33	33	1400-1500	3.45E-02	1.05E-06	1.02E-05	3.20E-02	9.74E-07	9.54E-06	2.60E-01	7.91E-06	7.74E-05
Road 33	33	1500-1600	3.45E-02	1.05E-06	1.02E-05	3.20E-02	9.74E-07	9.54E-06	2.60E-01	7.91E-06	7.74E-05
Road 33	33	1600-1700	3.51E-02	1.07E-06	1.04E-05	3.25E-02	9.92E-07	9.71E-06	2.60E-01	7.91E-06	7.74E-05
Road 33	33	1700-1800	3.91E-02	1.03E-06	1.00E-05	3.57E-02	9.57E-07	9.37E-06	2.60E-01	6.85E-06	6.70E-05
Road 33	33	1800-1900	3.22E-02	1.03E-06	1.00E-05	2.98E-02	9.57E-07	9.37E-06	2.60E-01	8.31E-06	8.13E-05
Road 33	33	1900-2000	2.56E-02	4.49E-07	4.39E-06	2.31E-02	4.06E-07	3.97E-06	2.36E-01	4.14E-06	4.05E-05
Road 33	33	2000-2100	2.56E-02	4.49E-07	4.39E-06	2.31E-02	4.06E-07	3.97E-06	2.36E-01	4.14E-06	4.05E-05
Road 33	33	2100-2200	2.44E-02	3.34E-07	3.27E-06	2.21E-02	3.02E-07	2.95E-06	2.25E-01	3.08E-06	3.01E-05
Road 33	33	2200-2300	2.44E-02	3.31E-07	3.24E-06	2.21E-02	3.00E-07	2.93E-06	2.25E-01	3.06E-06	2.99E-05
Road 33	33	2300-0000	2.44E-02	3.31E-07	3.24E-06	2.21E-02	3.00E-07	2.93E-06	2.25E-01	3.06E-06	2.99E-05
Road 34	34	0000-0100	2.56E-02	1.29E-07	3.98E-06	2.32E-02	1.17E-07	3.60E-06	2

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.43E-01	3.97E-07	1.15E-05	3.31E-01	9.77E-07	1.08E-05	6.34E-01	1.83E-06	5.25E-05	5.77E-01	2.02E-06	4.78E-05
Road 54	54	0900-1000	1.62E-01	5.84E-07	1.29E-05	1.50E-01	5.23E-07	5.68E-06	7.16E-01	2.49E-06	5.68E-05	6.58E-01	2.29E-06	5.22E-05
Road 54	54	1000-1100	1.80E-01	5.75E-07	1.31E-05	1.67E-01	5.33E-07	1.21E-05	7.67E-01	2.45E-06	5.59E-05	7.06E-01	2.26E-06	5.15E-05
Road 54	54	1100-1200	1.76E-01	5.91E-07	1.27E-05	1.63E-01	4.94E-07	1.13E-05	7.51E-01	2.28E-06	5.21E-05	6.98E-01	2.11E-06	4.81E-05
Road 54	54	1200-1300	2.28E-01	5.06E-07	1.15E-05	2.13E-01	4.74E-07	1.08E-05	9.25E-01	2.06E-06	4.69E-05	8.64E-01	1.92E-06	4.38E-05
Road 54	54	1300-1400	2.27E-01	5.42E-07	1.24E-05	2.08E-01	5.07E-07	1.16E-05	9.21E-01	2.21E-06	5.13E-05	8.51E-01	2.10E-06	4.78E-05
Road 54	54	1400-1500	2.26E-01	5.56E-07	1.27E-05	2.09E-01	5.15E-07	1.17E-05	9.25E-01	2.28E-06	5.19E-05	8.55E-01	2.10E-06	4.80E-05
Road 54	54	1500-1600	2.07E-01	5.28E-07	1.20E-05	1.92E-01	4.88E-07	1.11E-05	8.91E-01	2.27E-06	5.17E-05	8.23E-01	2.09E-06	4.78E-05
Road 54	54	1600-1700	1.82E-01	4.28E-07	9.76E-06	1.66E-01	3.91E-07	8.91E-06	8.06E-01	1.90E-06	4.33E-05	7.31E-01	1.73E-06	3.93E-05
Road 54	54	1700-1800	1.82E-01	4.28E-07	9.76E-06	1.66E-01	3.91E-07	8.91E-06	8.06E-01	1.90E-06	4.33E-05	7.31E-01	1.73E-06	3.93E-05
Road 54	54	1800-1900	1.37E-01	1.90E-07	4.32E-06	1.24E-01	1.72E-07	3.92E-06	6.26E-01	8.67E-07	1.98E-05	5.61E-01	7.77E-07	1.77E-05
Road 54	54	1900-2000	1.37E-01	1.90E-07	4.32E-06	1.24E-01	1.72E-07	3.92E-06	6.26E-01	8.67E-07	1.98E-05	5.61E-01	7.77E-07	1.77E-05
Road 54	54	2000-2100	1.30E-01	1.41E-07	3.21E-06	1.17E-01	1.28E-07	2.91E-06	6.09E-01	6.57E-07	1.50E-05	5.43E-01	5.97E-07	1.36E-05
Road 54	54	2100-2200	1.30E-01	1.41E-07	3.21E-06	1.17E-01	1.28E-07	2.91E-06	6.09E-01	6.57E-07	1.50E-05	5.43E-01	5.97E-07	1.36E-05
Road 54	54	2200-2300	1.35E-01	1.36E-07	3.10E-06	1.23E-01	1.24E-07	2.83E-06	6.03E-01	6.07E-07	1.38E-05	5.46E-01	5.49E-07	1.25E-05
Road 54	54	2300-2400	1.37E-01	1.25E-07	3.19E-06	1.25E-01	1.14E-07	2.90E-06	6.16E-01	5.61E-07	1.43E-05	5.57E-01	5.07E-07	1.29E-05
Road 101	101	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 101	101	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 102	102	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2030

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 103	103	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0800-0900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	0900-1000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1000-1100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1100-1200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1200-1300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1300-1400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1400-1500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1500-1600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1600-1700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1700-1800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1800-1900	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	1900-2000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2000-2100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2100-2200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2200-2300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 104	104	2300-2400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0000-0100	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0100-0200	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0200-0300	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0300-0400	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0400-0500	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0500-0600	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0600-0700	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Road 105	105	0700-0800	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	2.25E-02	1.44E-07	1.351E-06	2.93E-01	1.24E-06	1.564E-05	1.34E-01	5.68E-07	1.432E-05
Road 21	21	0100-0200	2.47E-02	1.04E-07	1.37E-06	2.22E-02	9.32E-08	1.23E-06	2.00E-01	8.39E-07	1.107E-05
Road 21	21	0200-0300	2.70E-02	8.38E-08	1.11E-06	2.42E-02	7.52E-08	9.94E-07	2.09E-01	6.47E-07	8.55E-06
Road 21	21	0300-0400	2.93E-02	7.26E-08	9.59E-07	2.63E-02	6.51E-08	8.60E-07	2.19E-01	5.39E-07	7.12E-06
Road 21	21	0400-0500	3.08E-02	8.39E-08	1.11E-06	2.80E-02	7.62E-08	1.01E-06	2.22E-01	6.05E-07	8.00E-06
Road 21	21	0500-0600	3.15E-02	1.49E-07	1.96E-06	2.86E-02	1.35E-07	1.78E-06	2.24E-01	1.05E-06	1.39E-05
Road 21	21	0600-0700	3.28E-02	3.31E-07	4.37E-06	2.96E-02	2.99E-07	3.95E-06	2.29E-01	2.31E-06	3.05E-05
Road 21	21	0700-0800	3.53E-02	7.28E-07	9.62E-06	3.20E-02	6.60E-07	8.72E-06	2.37E-01	4.88E-06	6.45E-05
Road 21	21	0800-0900	3.76E-02	1.04E-06	1.37E-05	3.41E-02	9.41E-07	1.24E-05	2.44E-01	6.74E-06	8.91E-05
Road 21	21	0900-1000	4.06E-02	8.30E-07	1.10E-05	3.71E-02	7.57E-07	1.00E-05	2.54E-01	5.19E-06	6.86E-05
Road 21	21	1000-1100	4.35E-02	7.45E-07	9.85E-06	4.00E-02	6.82E-07	9.02E-06	2.64E-01	4.52E-06	5.98E-05
Road 21	21	1100-1200	4.43E-02	7.54E-07	9.97E-06	4.01E-02	6.82E-07	9.02E-06	2.66E-01	4.53E-06	5.99E-05
Road 21	21	1200-1300	4.53E-02	8.38E-07	1.11E-05	4.10E-02	7.58E-07	1.00E-05	2.69E-01	4.97E-06	6.58E-05
Road 21	21	1300-1400	4.73E-02	6.75E-07	8.93E-06	4.28E-02	6.11E-07	8.08E-06	2.75E-01	3.92E-06	5.19E-05
Road 21	21	1400-1500	4.86E-02	6.96E-07	9.20E-06	4.40E-02	6.30E-07	8.33E-06	2.79E-01	4.00E-06	5.29E-05
Road 21	21	1500-1600	4.75E-02	1.66E-06	4.34E-05	4.31E-02	1.50E-06	3.94E-05	2.73E-01	9.54E-06	2.50E-04
Road 21	21	1600-1700	4.56E-02	1.56E-06	4.09E-05	4.13E-02	1.41E-06	3.71E-05	2.62E-01	8.98E-06	2.35E-04
Road 21	21	1700-1800	4.37E-02	1.52E-06	3.98E-05	3.96E-02	1.38E-06	3.61E-05	2.51E-01	8.75E-06	2.29E-04
Road 21	21	1800-1900	4.18E-02	1.47E-06	3.85E-05	3.79E-02	1.33E-06	3.49E-05	2.40E-01	8.44E-06	2.21E-04
Road 21	21	1900-2000	4.08E-02	1.03E-06	2.69E-05	3.70E-02	9.32E-07	2.44E-05	2.34E-01	5.91E-06	1.55E-04
Road 21	21	2000-2100	3.98E-02	1.02E-06	2.68E-05	3.61E-02	9.26E-07	2.42E-05	2.29E-01	5.87E-06	1.54E-04
Road 21	21	2100-2200	3.88E-02	1.01E-06	2.66E-05	3.52E-02	9.20E-07	2.41E-05	2.23E-01	5.83E-06	1.53E-04
Road 21	21	2200-2300	3.78E-02	1.00E-06	2.64E-05	3.43E-02	9.14E-07	2.39E-05	2.17E-01	5.79E-06	1.52E-04
Road 21	21	2300-0000	3.68E-02	9.91E-07	2.61E-05	3.34E-02	9.08E-07	2.38E-05	2.12E-01	5.75E-06	1.51E-04

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 22	22	0000-0100	2.03E-01	2.29E-07	4.09E-06	1.84E-01	2.08E-07	3.70E-06	8.50E-01	9.59E-07	1.71E-05
Road 22	22	0100-0200	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.27E-01	5.07E-07	9.04E-06
Road 22	22	0200-0300	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.25E-01	5.06E-07	9.02E-06
Road 22	22	0300-0400	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.25E-01	5.06E-07	9.02E-06
Road 22	22	0400-0500	2.04E-01	1.23E-07	2.19E-06	1.87E-01	1.12E-07	2.00E-06	8.50E-01	5.11E-07	9.13E-06
Road 22	22	0500-0600	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	0600-0700	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	0700-0800	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	0800-0900	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	0900-1000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1000-1100	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1100-1200	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1200-1300	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1300-1400	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1400-1500	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1500-1600	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1600-1700	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1700-1800	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1800-1900	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	1900-2000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	2000-2100	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	2100-2200	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	2200-2300	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 22	22	2300-0000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 23	23	0000-0100	2.03E-01	2.29E-07	4.09E-06	1.84E-01	2.08E-07	3.70E-06	8.50E-01	9.59E-07	1.71E-05
Road 23	23	0100-0200	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.27E-01	5.07E-07	9.04E-06
Road 23	23	0200-0300	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.25E-01	5.06E-07	9.02E-06
Road 23	23	0300-0400	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.25E-01	5.06E-07	9.02E-06
Road 23	23	0400-0500	2.04E-01	1.23E-07	2.19E-06	1.87E-01	1.12E-07	2.00E-06	8.50E-01	5.11E-07	9.13E-06
Road 23	23	0500-0600	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	0600-0700	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	0700-0800	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	0800-0900	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	0900-1000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1000-1100	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1100-1200	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1200-1300	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1300-1400	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1400-1500	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1500-1600	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1600-1700	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1700-1800	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1800-1900	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	1900-2000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	2000-2100	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	2100-2200	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	2200-2300	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 23	23	2300-0000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 24	24	0000-0100	2.25E-02	1.44E-07	1.351E-06	2.93E-01	1.24E-06	1.564E-05	1.34E-01	5.68E-07	1.432E-05
Road 24	24	0100-0200	2.47E-02	1.04E-07	1.37E-06	2.22E-02	9.32E-08	1.23E-06	2.00E-01	8.39E-07	1.107E-05
Road 24	24	0200-0300	2.70E-02	8.38E-08	1.11E-06	2.42E-02	7.52E-08	9.94E-07	2.09E-01	6.47E-07	8.55E-06
Road 24	24	0300-0400	2.93E-02	7.26E-08	9.59E-07	2.63E-02	6.51E-08	8.60E-07	2.19E-01	5.39E-07	7.12E-06
Road 24	24	0400-0500	3.08E-02	8.39E-08	1.11E-06	2.80E-02	7.62E-08	1.01E-06	2.22E-01	6.05E-07	8.00E-06
Road 24	24	0500-0600	3.15E-02	1.49E-07	1.96E-06	2.86E-02	1.35E-07	1.78E-06	2.24E-01	1.05E-06	1.39E-05
Road 24	24	0600-0700	3.28E-02	3.31E-07	4.37E-06	2.96E-02	2.99E-07	3.95E-06	2.29E-01	2.31E-06	3.05E-05
Road 24	24	0700-0800	3.53E-02	7.28E-07	9.62E-06	3.20E-02	6.60E-07	8.72E-06	2.37E-01	4.88E-06	6.45E-05
Road 24	24	0800-0900	3.76E-02	1.04E-06	1.37E-05	3.41E-02	9.41E-07	1.24E-05	2.44E-01	6.74E-06	8.91E-05
Road 24	24	0900-1000	4.06E-02	8.30E-07	1.10E-05	3.71E-02	7.57E-07	1.00E-05	2.54E-01	5.19E-06	6.86E-05
Road 24	24	1000-1100	4.35E-02	7.45E-07	9.85E-06	4.00E-02	6.82E-07	9.02E-06	2.64E-01	4.52E-06	5.98E-05
Road 24	24	1100-1200	4.43E-02	7.54E-07	9.97E-06	4.01E-02	6.82E-07	9.02E-06	2.66E-01	4.53E-06	5.99E-05
Road 24	24	1200-1300	4.53E-02	8.38E-07	1.11E-05	4.10E-02	7.58E-07	1.00E-05	2.69E-01	4.97E-06	6.58E-05
Road 24	24	1300-1400	4.73E-02	6.75E-07	8.93E-06	4.28E-02	6.11E-07	8.08E-06	2.75E-01	3.92E-06	5.19E-05
Road 24	24	1400-1500	4.86E-02	6.96E-07	9.20E-06	4.40E-02	6.30E-07	8.33E-06	2.79E-01	4.00E-06	5.29E-05
Road 24	24	1500-1600	4.75E-02	1.66E-06	4.34E-05	4.31E-02	1.50E-06	3.94E-05	2.73E-01	9.54E-06	2.50E-04
Road 24	24	1600-1700	4.56E-02	1.56E-06	4.09E-05	4.13E-02	1.41E-06	3.71E-05	2.62E-01	8.98E-06	2.35E-04
Road 24	24	1700-1800	4.37E-02	1.52E-06	3.98E-05	3.96E-02	1.38E-06	3.61E-05	2.51E-01	8.75E-06	2.29E-04
Road 24	24	1800-1900	4.18E-02	1.47E-06	3.85E-05	3.79E-02	1.33E-06	3.49E-05	2.40E-01	8.44E-06	2.21E-04
Road 24	24	1900-2000	4.08E-02	1.03E-06	2.69E-05	3.70E-02	9.32E-07	2.44E-05	2.34E-01	5.91E-06	1.55E-04
Road 24	24	2000-2100	3.98E-02	1.02E-06	2.68E-05	3.61E-02	9.26E-07	2.42E-05	2.29E-01	5.87E-06	1.54E-04
Road 24	24	2100-2200	3.88E-02	1.01E-06	2.66E-05	3.52E-02	9.20E-07	2.41E-05	2.23E-01	5.83E-06	1.53E-04
Road 24	24	2200-2300	3.78E-02	1.00E-06	2.64E-05	3.43E-02	9.14E-07	2.39E-05	2.17E-01	5.79E-06	1.52E-04
Road 24	24	2300-0000	3.68E-02	9.91E-07	2.61E-05	3.34E-02	9.08E-07	2.38E-05	2.12E-01	5.75E-06	1.51E-04

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.2 Emission Factor in 2030.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2030

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 25	25	0000-0100	2.03E-01	2.29E-07	4.09E-06	1.84E-01	2.08E-07	3.70E-06	8.50E-01	9.59E-07	1.71E-05
Road 25	25	0100-0200	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.27E-01	5.07E-07	9.04E-06
Road 25	25	0200-0300	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.25E-01	5.06E-07	9.02E-06
Road 25	25	0300-0400	1.97E-01	1.21E-07	2.16E-06	1.79E-01	1.09E-07	1.95E-06	8.25E-01	5.06E-07	9.02E-06
Road 25	25	0400-0500	2.04E-01	1.23E-07	2.19E-06	1.87E-01	1.12E-07	2.00E-06	8.50E-01	5.11E-07	9.13E-06
Road 25	25	0500-0600	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	0600-0700	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	0700-0800	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	0800-0900	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	0900-1000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1000-1100	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1100-1200	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1200-1300	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1300-1400	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1400-1500	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1500-1600	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1600-1700	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1700-1800	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1800-1900	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	1900-2000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	2000-2100	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	2100-2200	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	2200-2300	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05
Road 25	25	2300-0000	2.23E-01	2.46E-07	4.38E-06	2.04E-01	2.25E-07	4.00E-06	9.34E-01	1.03E-06	1.83E-05

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 26	26	0000-0100	2.14E-01	1.52E-07	2.85E-06	1.94E-01	1.38E-07	2.58E-06	8.96E-01	6.36E-07	1.19E-05
Road 26	26	0100-0200	2.16E-01	6.09E-08	1.14E-06	1.96E-01	5.52E-08	1.03E-06	9.04E-01	2.55E-07	4.76E-06
Road 26	26	0200-0300	2.16E-01	6.09E-08	1.14E-06	1.96E-01	5.52E-08	1.03E-06	9.04E-01	2.55E-07	4.76E-06
Road 26	26	0300-0400	2.16E-01	6.09E-08	1.14E-06	1.96E-01	5.52E-08	1.03E-06	9.04E-01	2.55E-07	4.76E-06
Road 26	26	0400-0500	2.23E-01	6.26E-08	1.17E-06	2.02E-01	5.68E-08	1.06E-06	9.31E-01	2.62E-07	4.89E-06
Road 26	26	0500-0600	2.42E-01	1.24E-07	2.32E-06	2.20E-01	1.13E-07	2.11E-06	1.01E+00	5.19E-07	9.68E-06
Road 26	26	0600-0700	2.42E-01	1.24E-07	2.32E-06	2.20E-01	1.13E-07	2.11E-06	1.01E+00	5.19E-07	9.68E-06
Road 26	26	0700-0800	2.42E-01	1.24E-07	2.32E-06	2.20E-01	1.13E-07	2.11E-06	1.01E+00	5.19E-07	9.68E-06
Road 26	26	0800-0900	2.42E-01	1.24E-07	2.32E-06	2.20E-01	1.13E-07	2.11E-06	1.01E+00	5.19E-07	9.68E-06
Road 26	26	0900-1000	2.42E-01	1.24E-07	2.32E-06	2.20E-01	1.13E-07	2.11E-06	1.01E+00	5.19E-07	9.68E-06
Road 26	26	1000-1100	2.42E-01	1.24E-07	2.32E-06	2.20E-01	1.13E-07	2.11E-06	1.01E+00	5.19E-07	9.68E-06
Road 26	26	1100-1200	2.42E-01	1.24E-07	2.32E-06	2.20E-01	1.13E-07	2.11E-06	1.01E+00	5.19E-07	9.68E-06
Road 26	26	1200-1300	2.73E-01	7.30E-07	2.74E-06	2.48E-01	6.64E-07	2.49E-06	1.09E+00	2.91E-06	1.09E-05
Road 26	26	1300-1400	2.64E-01	7.91E-07	2.97E-06	2.40E-01	7.18E-07	2.69E-06	1.08E+00	3.23E-06	1.21E-05
Road 26	26	1400-1500	2.64E-01	7.91E-07	2.97E-06	2.40E-01	7.18E-07	2.69E-06	1.08E+00	3.23E-06	1.21E-05
Road 26	26	1500-1600	2.59E-01	1.47E-06	6.08E-07	2.53E-06	6.66E-01	2.75E-06	6.95E-01	2.68E-06	1.10E-05
Road 26	26	1600-1700	2.61E-01	1.48E-06	6.13E-07	2.55E-06	6.72E-01	2.77E-06	7.00E-01	2.70E-06	1.11E-05
Road 26	26	1700-1800	2.63E-01	1.49E-06	6.17E-07	2.57E-06	6.77E-01	2.79E-06	7.05E-01	2.72E-06	1.12E-05
Road 26	26	1800-1900	2.65E-01	1.50E-06	6.22E-07	2.59E-06	6.83E-01	2.81E-06	7.11E-01	2.74E-06	1.13E-05
Road 26	26	1900-2000	2.67E-01	1.51E-06	6.26E-07	2.61E-06	6.88E-01	2.83E-06	7.16E-01	2.76E-06	1.14E-05
Road 26	26	2000-2100	2.69E-01	1.52E-06	6.31E-07	2.63E-06	6.93E-01	2.85E-06	7.21E-01	2.78E-06	1.15E-05
Road 26	26	2100-2200	2.71E-01	1.53E-06	6.35E-07	2.65E-06	6.98E-01	2.87E-06	7.26E-01	2.80E-06	1.16E-05
Road 26	26	2200-2300	2.73E-01	1.54E-06	6.40E-07	2.67E-06	7.03E-01	2.89E-06	7.31E-01	2.82E-06	1.17E-05
Road 26	26	2300-0000	2.75E-01	1.55E-06	6.44E-07	2.69E-06	7.08E-01	2.91E-06	7.36E-01	2.84E-06	1.18E-05

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2030**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	4.79E-02	1.04E-06	3.23E-05	4.30E-02	9.29E-07	2.90E-05	2.37E-01	5.13E-06	1.60E-04	2.07E-01	4.47E-06	1.40E-04
Road 47	47	1700-1800	5.43E-02	8.81E-07	2.69E-05	3.07E-02	7.70E-07	2.40E-05	1.94E-01	4.87E-06	1.52E-04	1.67E-01	4.20E-06	1.31E-04
Road 47	47	1800-1900	2.57E-02	7.33E-07	2.29E-05	2.30E-02	6.56E-07	2.05E-05	1.50E-01	4.28E-06	1.34E-04	1.29E-01	3.68E-06	1.15E-04
Road 47	47	1900-2000	2.04E-02	4.63E-07	1.45E-05	1.81E-02	4.12E-07	1.29E-05	1.36E-01	3.11E-06	9.71E-05	1.15E-01	2.63E-06	8.21E-05
Road 47	47	2000-2100	1.91E-02	3.38E-07	1.06E-05	1.70E-02	3.01E-07	9.39E-06	1.44E-01	2.55E-06	7.95E-05	1.23E-01	2.17E-06	6.76E-05
Road 47	47	2100-2200	1.61E-02	2.84E-07	8.88E-06	1.43E-02	2.51E-07	7.85E-06	1.36E-01	2.40E-06	7.49E-05	1.16E-01	1.99E-06	6.23E-05
Road 47	47	2200-2300	1.50E-02	2.58E-07	8.07E-06	1.33E-02	2.29E-07	7.14E-06	1.34E-01	2.31E-06	7.21E-05	1.12E-01	1.92E-06	6.01E-05
Road 47	47	2300-0000	1.61E-02	2.07E-07	6.45E-06	1.43E-02	1.83E-07	5.73E-06	1.35E-01	1.73E-06	5.41E-05	1.13E-01	1.45E-06	4.54E-05
Road 47	47	0000-0100	2.26E-02	2.91E-07	9.10E-06	2.02E-02	2.60E-07	8.12E-06	1.52E-01	1.96E-06	6.12E-05	1.28E-01	1.65E-06	5.15E-05
Road 48	48	0100-0200	2.72E-02	1.85E-07	2.79E-06	2.45E-02	1.66E-07	2.51E-06	2.08E-01	1.41E-06	2.12E-05	1.82E-01	1.23E-06	1.86E-05
Road 48	48	0200-0300	2.47E-02	1.31E-07	1.98E-06	2.22E-02	1.18E-07	1.78E-06	1.89E-01	1.00E-06	1.51E-05	1.65E-01	8.77E-07	1.32E-05
Road 48	48	0300-0400	3.12E-02	1.25E-07	1.88E-06	2.81E-02	1.13E-07	1.70E-06	2.22E-01	8.87E-07	1.34E-05	1.96E-01	7.83E-07	1.18E-05
Road 48	48	0400-0500	3.31E-02	1.46E-07	2.21E-06	3.00E-02	1.32E-07	2.00E-06	2.28E-01	1.01E-06	1.52E-05	2.02E-01	8.94E-07	1.35E-05
Road 48	48	0500-0600	3.49E-02	2.71E-07	4.09E-06	3.17E-02	2.45E-07	3.70E-06	2.43E-01	1.88E-06	2.83E-05	2.07E-01	1.60E-06	2.42E-05
Road 48	48	0600-0700	3.69E-02	6.19E-07	9.34E-06	3.34E-02	5.60E-07	8.44E-06	2.40E-01	4.03E-06	6.08E-05	2.12E-01	3.56E-06	5.36E-05
Road 48	48	0700-0800	3.89E-02	1.20E-06	1.81E-05	3.52E-02	1.09E-06	1.64E-05	2.44E-01	7.56E-06	1.14E-04	2.18E-01	6.75E-06	1.02E-04
Road 48	48	0800-0900	3.76E-02	1.50E-06	2.26E-05	3.43E-02	1.37E-06	2.06E-05	2.28E-01	9.09E-06	1.37E-04	2.04E-01	8.13E-06	1.23E-04
Road 48	48	0900-1000	4.45E-02	1.55E-06	2.34E-05	4.04E-02	1.41E-06	2.13E-05	2.54E-01	8.86E-06	1.34E-04	2.26E-01	7.89E-06	1.19E-04
Road 48	48	1000-1100	4.99E-02	1.56E-06	2.35E-05	4.54E-02	1.42E-06	2.14E-05	2.71E-01	8.43E-06	1.27E-04	2.43E-01	7.56E-06	1.14E-04
Road 48	48	1100-1200	4.88E-02	1.44E-06	2.17E-05	4.44E-02	1.31E-06	1.97E-05	2.70E-01	7.93E-06	1.20E-04	2.42E-01	7.11E-06	1.07E-04
Road 48	48	1200-1300	4.66E-02	1.27E-06	1.92E-05	4.25E-02	1.16E-06	1.75E-05	2.44E-01	6.68E-06	1.01E-04	2.18E-01	5.97E-06	9.01E-05
Road 48	48	1300-1400	4.89E-02	1.89E-06	2.85E-05	4.42E-02	1.71E-06	2.58E-05	2.41E-01	1.32E-05	1.99E-04	3.06E-01	1.18E-05	1.79E-04
Road 48	48	1400-1500	4.83E-02	2.98E-06	4.49E-05	4.23E-02	2.61E-06	3.93E-05	2.56E-01	1.58E-05	2.38E-04	3.23E-01	1.99E-05	3.00E-04
Road 48	48	1500-1600	4.60E-02	1.93E-06	2.91E-05	4.17E-02	1.75E-06	2.63E-05	3.30E-01	1.38E-05	2.08E-04	2.96E-01	1.24E-05	1.87E-04
Road 48	48	1600-1700	4.66E-02	2.05E-06	3.09E-05	4.19E-02	1.85E-06	2.78E-05	3.41E-01	1.50E-05	2.26E-04	3.03E-01	1.34E-05	2.01E-04
Road 48	48	1700-1800	3.76E-02	1.56E-06	2.35E-05	3.39E-02	1.41E-06	2.12E-05	2.76E-01	1.14E-05	1.72E-04	2.45E-01	1.02E-05	1.53E-04
Road 48	48	1800-1900	2.75E-02	1.42E-06	2.14E-05	2.47E-02	1.28E-06	1.93E-05	2.27E-01	1.17E-05	1.76E-04	2.01E-01	1.04E-05	1.56E-04
Road 48	48	1900-2000	2.31E-02	1.42E-06	2.14E-05	2.08E-02	1.28E-06	1.93E-05	2.27E-01	1.39E-05	2.09E-04	2.01E-01	1.23E-05	1.85E-04
Road 48	48	2000-2100	2.55E-02	8.12E-07	1.23E-05	2.29E-02	7.31E-07	1.10E-05	1.09E-01	9.85E-06	1.49E-04	2.74E-01	8.75E-06	1.32E-04
Road 48	48	2100-2200	2.34E-02	7.42E-07	1.12E-05	2.09E-02	6.62E-07	1.00E-05	2.84E-01	9.00E-06	1.36E-04	2.50E-01	7.91E-06	1.19E-04
Road 48	48	2200-2300	2.31E-02	6.47E-07	9.76E-06	2.07E-02	5.74E-07	8.67E-06	2.84E-01	7.83E-06	1.18E-04	2.50E-01	6.89E-06	1.04E-04
Road 48	48	2300-0000	2.50E-02	5.78E-07	8.72E-06	2.25E-02	5.20E-07	7.84E-06	3.01E-01	6.94E-06	1.05E-04	2.66E-01	6.15E-06	9.28E-05
Road 48	48	0000-0100	2.87E-02	3.31E-07	4.99E-06	2.58E-02	2.97E-07	4.48E-06	2.85E-01	3.28E-06	4.95E-05	2.48E-01	2.85E-06	4.30E-05
Road 49	49	0100-0200	2.28E-02	8.42E-08	2.13E-06	2.04E-02	7.51E-08	1.90E-06	2.80E-01	1.03E-06	2.60E-05	2.44E-01	8.98E-07	2.27E-05
Road 49	49	0200-0300	1.60E-02	9.32E-08	2.36E-06	1.43E-02	8.31E-08	2.10E-06	2.84E-01	1.65E-06	4.18E-05	2.44E-01	1.42E-06	3.60E-05
Road 49	49	0300-0400	2.51E-02	5.30E-08	1.34E-06	2.26E-02	4.78E-08	1.21E-06	2.83E-01	5.97E-07	1.51E-05	2.49E-01	5.25E-07	1.33E-05
Road 49	49	0400-0500	2.67E-02	6.15E-08	1.55E-06	2.41E-02	5.55E-08	1.40E-06	2.88E-01	6.64E-07	1.68E-05	2.54E-01	5.86E-07	1.48E-05
Road 49	49	0500-0600	2.94E-02	1.47E-07	3.72E-06	2.65E-02	1.32E-07	3.35E-06	2.91E-01	1.45E-06	3.68E-05	2.57E-01	1.28E-06	3.25E-05
Road 49	49	0600-0700	3.48E-02	2.96E-07	7.47E-06	3.13E-02	2.66E-07	6.72E-06	3.40E-01	2.90E-06	7.31E-05	2.99E-01	2.54E-06	6.42E-05
Road 49	49	0700-0800	4.34E-02	7.53E-07	1.90E-05	3.90E-02	6.76E-07	1.71E-05	3.54E-01	6.27E-06	1.58E-04	3.11E-01	5.49E-06	1.38E-04
Road 49	49	0800-0900	4.34E-02	8.57E-07	2.16E-05	3.95E-02	7.79E-07	1.97E-05	3.75E-01	7.40E-06	1.87E-04	3.34E-01	6.59E-06	1.66E-04
Road 49	49	0900-1000	4.68E-02	7.41E-07	1.87E-05	4.23E-02	6.70E-07	1.69E-05	3.91E-01	6.20E-06	1.56E-04	3.46E-01	5.48E-06	1.38E-04
Road 49	49	1000-1100	4.67E-02	6.01E-07	1.52E-05	4.23E-02	5.43E-07	1.37E-05	3.89E-01	5.00E-06	1.26E-04	3.46E-01	4.44E-06	1.12E-04
Road 49	49	1100-1200	4.67E-02	5.99E-07	1.51E-05	4.23E-02	5.43E-07	1.37E-05	3.89E-01	4.99E-06	1.26E-04	3.46E-01	4.44E-06	1.12E-04
Road 49	49	1200-1300	4.66E-02	5.99E-07	1.51E-05	4.22E-02	5.43E-07	1.37E-05	4.39E-01	5.64E-06	1.42E-04	3.79E-01	4.87E-06	1.23E-04
Road 49	49	1300-1400	4.35E-02	5.20E-07	1.31E-05	4.83E-02	4.70E-07	1.19E-05	4.39E-01	4.27E-06	1.08E-04	3.92E-01	3.81E-06	9.62E-05
Road 49	49	1400-1500	4.66E-02	5.80E-07	1.41E-05	4.96E-02	5.09E-07	1.28E-05	4.31E-01	4.54E-06	1.15E-04	3.89E-01	4.08E-06	1.03E-04
Road 49	49	1500-1600	5.29E-02	1.47E-06	3.56E-05	5.51E-02	1.53E-06	3.71E-05	4.47E-01	1.24E-05	3.01E-04	4.03E-01	1.12E-05	2.71E-04
Road 49	49	1600-1700	5.51E-02	6.40E-07	1.61E-05	4.96E-02	5.74E-07	1.45E-05	4.49E-01	5.22E-06	1.32E-04	3.98E-01	4.63E-06	1.17E-04
Road 49	49	1700-1800	5.72E-02	5.13E-07	1.29E-05	5.34E-02	4.79E-07	1.21E-05	4.11E-01	3.68E-06	9.31E-05	3.64E-01	3.34E-06	8.45E-05
Road 49	49	1800-1900	5.45E-02	5.27E-07	1.33E-05	5.10E-02	4.73E-07	1.19E-05	3.73E-01	5.69E-06	1.44E-04	3.31E-01	5.05E-06	1.27E-04
Road 49	49	1900-2000	4.89E-02	5.27E-07	1.33E-05	4.58E-02	4.73E-07	1.19E-05	3.73E-01	5.69E-06	1.44E-04	3.31E-01	5.05E-06	1.27E-04
Road 49	49	2000-2100	2.89E-02	2.77E-07	7.00E-06	2.59E-02	2.48E-07	6.27E-06	1.84E-01	3.68E-06	9.30E-05	3.40E-01	3.26E-06	8.23E-05
Road 49	49	2100-2200	2.51E-02	2.38E-07	6.00E-06	2.23E-02	2.12E-07	5.34E-06	1.50E-01	3.32E-06	8.38E-05	3.06E-01	2.90E-06	7.31E-05
Road 49	49	2200-2300	2.55E-02	2.38E-07	6.00E-06	2.26E-02	2.12E-07	5.34E-06	1.55E-01	3.32E-06	8.38E-05	3.06E-01	2.90E-06	7.31E-05
Road 49	49	2300-0000	2.55E-02	6.77E-07	4.46E-06	2.29E-02	1.58E-07	4.00E-06	1.55E-01	2.46E-06	6.21E-05	3.13E-01	2.17E-06	5.47E-05
Road 50	50	0000-0100	2.98E-02	1.00E-07	1.64E-06	2.68E-02	8.85E-08	1.45E-06	2.97E-01	9.98E-07	1.64E-05	2.59E-01	8.64E-07	1.42E-05
Road 50	50	0100-0200	9.09E-02	3.03E-08	4.33E-07	8.22E-02	2.74E-08	3.91E-07	4.07E-01	1.36E-07	1.93E-06	3.64E-01	1.21E-07	1.73E-06
Road 50	50	0200-0300	9.80E-02	2.58E-08	3.68E-07	8.84E-02	2.33E-08	3.32E-07	4.35E-01	1.15E-07	1.64E-06	3.89E-01	1.02E-07	1.46E-06
Road 50	50	0300-0400	1.04E-01	2.32E-08	3.31E-07	9.45E-02	2.12E-08	3.02E-07	4.58E-01	1.02E-07	1.46E-06	4.09E-01	9.09E-08	1.30E-06
Road 50	50	0400-0500	1.04E-01	2.60E-08	3.72E-07	9.48E-02	2.38E-08	3.39E-07	4.57E-01	1.14E-07	1.63E-06	4.08E-01	1.02E-07	1.46E-06
Road 50	50	0500-0600	1.08E-01	2.31E-07	3.30E-06	9.84E-02	2.92E-07	2.73E-06	4.69E-01	9.97E-07	1.42E-05	4.19E-01	8.91E-07	1.27E-05
Road 50	50	0600-0700	9.78E-02	8.77E-08	1.25E-06	8.89E-02	7.97E-08	1.14E-06	4.29E-01	3.85E-07	5.49E-06	3.87E-01	3.47E-07	4.95E-06
Road 50	50	0700-0800	1.08E-01	2.11E-07	3.00E-06	9.84E-02	1.92E-07	2.73E-06	4.69E-01	9.13E-07	1.30E-05	4.24E-01	8.26E-07	1.18E-05
Road 50	50	0800-0900	1.04E-01	2.63E-07	3.83E-06	9.44E-02	2.38E-07	3.47E-06	4.54E-01	1.15E-06	1.67E-05	4.10E-01	1.04E-06	1.51E-05
Road 50	50	0900-1000	1.15E-01	2.68E-07	3.83E-06	1.05E-01	2.44E-07	3.48E-06	4.96E-01	1.16E-06	1.65E-05	4.50E-01	1.05E-06	1.50E-05
Road 50	50	1000-1100	1.20E-01	2.45E-07	3.50E-06	1.09E-01	2.23E-07	3.19E-06	5.16E-01	1.06E-06	1.51E-05	4.68E-01	9.61E-07	1.37E-05
Road 50	50	1100-1200	1.20E-01	2.53E-07	3.61E-06	1.09E-01	2.31E-07	3.29E-06	5.12E-01	1.08E-06	1.54E-05	4.65E-01	9.79E-07	1.40E-05
Road 50	50	1200-1300	1.27E-01	2.61E-07	3.73E-06	1.15E-01	2.38E-07	3.40E-06	5.43E-01	1.11E-06	1.59E-05	4.93E-01	1.01E-06	1.44E-05
Road 50	50	1300-1400	1.40E-01	2.13E-06	1.27E-05	1.31E-01	1.93E-06	5.86E-01	6.26E-07	8.93E-06	5.31E-01	5.67E-07	8.09E-06	
Road 50	50	1400-1500	1.41E-01	1.50E-07	2.14E-06	1.29E-01	1.37E-07	1.95E-06	5.81E-01	6.23E-07	8.89E-06	5.31E-01	5.68E-07	8.11E-06
Road 50	50	1500-1600	1.38E-01	1.43E-07	2.04E-06	1.25E-01	1.29E-07	1.84E-06	5.79E-01	6.00E-07	8.56E-06	5.22E-01	5.41E-07	7.72E-06
Road 50	50	1600-1700	1.42E-01	1.74E-06	1.10E-05	1.29E-01	1.57E-06	4.98E-01	6.07E-07	7.43E-06	4.70E-01	5.47E-07	6.70E-06	
Road 50	50	1700-1800	1.26E-01	1.20E-06	8.79E-06	1.14E-01	1.08E-06	7.94E-06	5.13E-01	4.86E-06	3.57E-05	4.62E-01	4.37E-06	3.21E-05
Road 50	50	1800-1900	1.20E-01	8.79E-08	1.23E-06	1.08E-01	7.94E-08	1.11E-06	5.24E-01	3.85E-07	5.40E-06	4.73E-01	3.47E-07	4.86E-06
Road 50	50	1900-2000	1.06E-01	4.59E-08	6.55E-07	9.52E-02	4.13E-08	5.90E-07	4.64E-01	2.02E-07	2.88E-06	4.17E-01	1.81E-07	2.58E-06
Road 50	50	2000-2100	1.08E-01	3.76E-08	5.36E-07	9.64E-02	3.38E-08	4.82E-07	4.76E-01	1.67E-07	2.38E-06	4.27E-01	1.51E-07	2.15E-06
Road 50	50	2100-2200	1.07E-01	3.87E-08	5.52E-07	9.66E-02	3.48E-08	4.96E-07	4.76E-01	1.71E-07	2.44E-06	4.27E-01	1.54E-07	2.19E-06
Road 50	50	2200-2300	1.14E-01	3.68E-08	5.26E-07	1.03E-01	3.31E-08	4.73E-07	4.91E-01	1.58E-07	2.26E-06	4.42E-01	1.42E-07	2.04E-06
Road 50	50	2300-0000	1.16E-01	3.13E-08	4.46E-07	1.05E-01	2.83E-08	4.04E-07	5.00E-01	1.34E-07	1.92E-06	4.52E-01	1.21E-07	1.73E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A and B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) **Year 2030**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	2.65E-02	1.72E-07	3.20E-06	2.38E-02	1.54E-07	2.88E-06	2.06E-01	1.34E-06	2.49E-05	1.80E-01	1.17E-06	2.17E-05
Road 51	51	0100-0200	2.65E-02	1.72E-07	3.20E-06	2.38E-02	1.54E-07	2.88E-06	2.06E-01	1.34E-06	2.49E-05	1.80E-01	1.17E-06	2.17E-05
Road 51	51	0200-0300	2.85E-02	1.36E-07	2.58E-06	2.56E-02	1.22E-07	2.27E-06	2.14E-01	1.02E-06	1.90E-05	1.86E-01	8.87E-07	1.65E-05
Road 51	51	0300-0400	3.34E-02	1.16E-07	2.16E-06	2.76E-02	1.05E-07	1.95E-06	2.20E-01	8.37E-07	1.56E-05	1.94E-01	7.39E-07	1.38E-05
Road 51	51	0400-0500	3.21E-02	1.36E-07	2.53E-06	2.93E-02	1.23E-07	2.30E-06	2.26E-01	9.50E-07	1.77E-05	2.00E-01	8.42E-07	1.57E-05
Road 51	51	0500-0600	3.61E-02	2.51E-07	4.68E-06	3.29E-02	2.28E-07	4.24E-06	2.31E-01	1.70E-06	3.18E-05	2.06E-01	1.51E-06	2.81E-05
Road 51	51	0600-0700	3.60E-02	5.74E-07	1.07E-05	3.26E-02	5.19E-07	9.67E-06	2.38E-01	3.79E-06	7.07E-05	2.10E-01	3.34E-06	6.23E-05
Road 51	51	0700-0800	3.77E-02	1.22E-06	2.28E-05	3.42E-02	1.11E-06	2.07E-05	2.42E-01	7.87E-06	1.47E-04	2.14E-01	6.95E-06	1.30E-04
Road 51	51	0800-0900	3.67E-02	1.39E-06	2.59E-05	3.32E-02	1.25E-06	2.34E-05	2.41E-01	9.12E-06	1.70E-04	2.13E-01	8.06E-06	1.50E-04
Road 51	51	0900-1000	4.35E-02	1.51E-06	2.81E-05	3.96E-02	1.37E-06	2.56E-05	2.48E-01	8.62E-06	1.60E-04	2.21E-01	7.68E-06	1.43E-04
Road 51	51	1000-1100	4.77E-02	1.32E-06	2.47E-05	4.34E-02	1.20E-06	2.24E-05	2.67E-01	7.40E-06	1.38E-04	2.39E-01	6.63E-06	1.23E-04
Road 51	51	1100-1200	4.81E-02	1.73E-06	3.23E-05	4.35E-02	1.57E-06	2.93E-05	2.44E-01	8.76E-06	1.63E-04	2.19E-01	7.87E-06	1.47E-04
Road 51	51	1300-1400	4.83E-02	1.90E-06	3.55E-05	4.40E-02	1.73E-06	3.23E-05	3.39E-01	1.33E-05	2.49E-04	3.06E-01	1.20E-05	2.24E-04
Road 51	51	1400-1500	4.83E-02	1.90E-06	3.55E-05	4.40E-02	1.73E-06	3.23E-05	3.39E-01	1.33E-05	2.49E-04	3.06E-01	1.20E-05	2.24E-04
Road 51	51	1500-1600	4.80E-02	1.85E-06	3.45E-05	4.37E-02	1.68E-06	3.14E-05	3.36E-01	1.29E-05	2.42E-04	3.04E-01	1.17E-05	2.18E-04
Road 51	51	1600-1700	4.66E-02	1.97E-06	3.68E-05	4.19E-02	1.78E-06	3.31E-05	3.41E-01	1.45E-05	2.69E-04	3.04E-01	1.29E-05	2.40E-04
Road 51	51	1700-1800	3.61E-02	1.70E-06	3.17E-05	3.25E-02	1.53E-06	2.84E-05	3.10E-01	1.46E-05	2.72E-04	2.75E-01	1.29E-05	2.41E-04
Road 51	51	1800-1900	2.75E-02	1.37E-06	2.55E-05	2.47E-02	1.23E-06	2.29E-05	2.78E-01	1.38E-05	2.58E-04	2.47E-01	1.23E-05	2.29E-04
Road 51	51	1900-2000	2.55E-02	1.00E-06	1.87E-05	2.29E-02	9.02E-07	1.68E-05	2.67E-01	1.05E-05	1.96E-04	2.41E-01	9.50E-06	1.77E-04
Road 51	51	2000-2100	2.55E-02	1.00E-06	1.87E-05	2.29E-02	9.02E-07	1.68E-05	2.67E-01	1.05E-05	1.96E-04	2.41E-01	9.50E-06	1.77E-04
Road 51	51	2100-2200	2.34E-02	7.15E-07	1.33E-05	2.09E-02	6.39E-07	1.19E-05	2.85E-01	8.69E-06	1.62E-04	2.55E-01	7.64E-06	1.42E-04
Road 51	51	2200-2300	2.31E-02	6.95E-07	1.25E-05	2.07E-02	6.21E-07	1.12E-05	2.84E-01	8.42E-06	1.51E-04	2.54E-01	7.40E-06	1.33E-04
Road 51	51	2300-0000	2.51E-02	1.00E-06	1.87E-05	2.26E-02	8.98E-07	1.67E-05	2.94E-01	1.16E-05	2.16E-04	2.64E-01	1.04E-05	1.94E-04
Road 52	52	0000-0100	1.26E-01	5.46E-08	2.80E-07	1.14E-01	4.95E-08	2.53E-07	5.27E-01	2.29E-07	1.17E-06	4.77E-01	2.07E-07	1.06E-06
Road 52	52	0100-0200	1.26E-01	5.46E-08	2.80E-07	1.14E-01	4.95E-08	2.53E-07	5.27E-01	2.29E-07	1.17E-06	4.77E-01	2.07E-07	1.06E-06
Road 52	52	0200-0300	1.25E-01	3.04E-08	1.56E-07	1.13E-01	2.75E-08	1.41E-07	5.23E-01	1.27E-07	6.52E-07	4.73E-01	1.15E-07	5.90E-07
Road 52	52	0300-0400	1.25E-01	3.08E-08	1.58E-07	1.13E-01	2.79E-08	1.43E-07	5.23E-01	1.29E-07	6.61E-07	4.73E-01	1.17E-07	5.99E-07
Road 52	52	0400-0500	1.26E-01	3.08E-08	1.58E-07	1.15E-01	2.82E-08	1.44E-07	5.28E-01	1.29E-07	6.61E-07	4.83E-01	1.18E-07	6.04E-07
Road 52	52	0500-0600	1.29E-01	5.84E-08	2.99E-07	1.18E-01	5.33E-08	2.73E-07	5.40E-01	2.44E-07	1.25E-06	4.93E-01	2.23E-07	1.14E-06
Road 52	52	0600-0700	1.37E-01	1.17E-07	5.99E-07	1.26E-01	1.08E-07	5.51E-07	5.71E-01	4.89E-07	2.50E-06	5.21E-01	4.46E-07	2.28E-06
Road 52	52	0700-0800	1.38E-01	3.06E-07	1.57E-06	1.26E-01	2.80E-07	1.43E-06	5.75E-01	1.27E-06	6.53E-06	5.25E-01	1.16E-06	5.96E-06
Road 52	52	0800-0900	1.48E-01	3.63E-07	1.86E-06	1.36E-01	3.32E-07	1.70E-06	5.76E-01	1.41E-06	7.23E-06	5.26E-01	1.29E-06	6.60E-06
Road 52	52	0900-1000	1.36E-01	4.11E-07	2.10E-06	1.25E-01	3.76E-07	1.93E-06	5.76E-01	1.74E-06	8.89E-06	5.27E-01	1.59E-06	8.14E-06
Road 52	52	1000-1100	1.44E-01	3.91E-07	2.00E-06	1.32E-01	3.58E-07	1.83E-06	5.77E-01	1.57E-06	8.03E-06	5.27E-01	1.44E-06	7.35E-06
Road 52	52	1100-1200	1.43E-01	3.99E-07	2.04E-06	1.30E-01	3.65E-07	1.86E-06	5.94E-01	1.66E-06	8.48E-06	5.40E-01	1.50E-06	7.71E-06
Road 52	52	1200-1300	1.44E-01	4.18E-07	2.14E-06	1.31E-01	3.81E-07	1.95E-06	5.89E-01	1.71E-06	8.78E-06	5.36E-01	1.56E-06	7.99E-06
Road 52	52	1300-1400	1.45E-01	4.06E-07	2.08E-06	1.32E-01	3.70E-07	1.89E-06	5.91E-01	1.66E-06	8.51E-06	5.38E-01	1.51E-06	7.74E-06
Road 52	52	1400-1500	1.45E-01	4.70E-07	2.41E-06	1.31E-01	4.25E-07	2.18E-06	5.97E-01	1.93E-06	9.92E-06	5.39E-01	1.75E-06	8.96E-06
Road 52	52	1500-1600	1.45E-01	4.70E-07	2.41E-06	1.31E-01	4.25E-07	2.18E-06	5.97E-01	1.93E-06	9.92E-06	5.39E-01	1.75E-06	8.96E-06
Road 52

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2033**

Road Name	Road ID	Hour	NO_2 Emission AnnualHourMin g/km/veh	NO_2 Emission AnnualHourMin g/s/m	NO_2 Emission AnnualHourMin tonne/year	NO Emission AnnualHourMin g/km/veh	NO Emission AnnualHourMin g/s/m	NO Emission AnnualHourMin tonne/year	PM_{10} Emission AnnualHourMin g/km/veh	PM_{10} Emission AnnualHourMin g/s/m	PM_{10} Emission AnnualHourMin tonne/year	$PM_{2.5}$ Emission AnnualHourMin g/km/veh	$PM_{2.5}$ Emission AnnualHourMin g/s/m	$PM_{2.5}$ Emission AnnualHourMin tonne/year
Road 12	12	0800-0900	3.94E-01	9.55E-02	8.59E-03	9.31E-01	2.21E-01	1.98E-02	1.01E-02	2.79E-03	6.56E-04	3.23E-02	7.95E-03	7.13E-04
Road 12	12	0900-1000	3.98E-01	9.55E-02	8.59E-03	9.18E-01	2.20E-01	1.98E-02	3.02E-02	7.25E-03	6.53E-04	3.28E-02	7.88E-03	7.09E-04
Road 12	12	1000-1100	4.02E-01	9.55E-02	8.59E-03	9.23E-01	2.20E-01	1.98E-02	3.04E-02	7.24E-03	6.51E-04	3.30E-02	7.86E-03	7.07E-04
Road 12	12	1100-1200	4.04E-01	9.57E-02	8.61E-03	9.28E-01	2.20E-01	1.98E-02	3.05E-02	7.22E-03	6.49E-04	3.31E-02	7.84E-03	7.05E-04
Road 12	12	1200-1300	4.03E-01	9.59E-02	8.63E-03	9.25E-01	2.20E-01	1.98E-02	3.04E-02	7.24E-03	6.51E-04	3.30E-02	7.86E-03	7.07E-04
Road 12	12	1300-1400	4.02E-01	9.62E-02	8.65E-03	9.26E-01	2.21E-01	1.99E-02	3.03E-02	7.25E-03	6.52E-04	3.30E-02	7.88E-03	7.09E-04
Road 12	12	1400-1500	3.98E-01	9.57E-02	8.61E-03	9.19E-01	2.21E-01	1.99E-02	3.02E-02	7.26E-03	6.53E-04	3.28E-02	7.89E-03	7.10E-04
Road 12	12	1500-1600	3.98E-01	9.57E-02	8.61E-03	9.19E-01	2.21E-01	1.99E-02	3.02E-02	7.26E-03	6.53E-04	3.28E-02	7.89E-03	7.10E-04
Road 12	12	1600-1700	3.98E-01	9.58E-02	8.62E-03	9.16E-01	2.21E-01	1.99E-02	3.02E-02	7.29E-03	6.56E-04	3.29E-02	7.92E-03	7.12E-04
Road 12	12	1700-1800	3.97E-01	9.56E-02	8.60E-03	9.14E-01	2.21E-01	1.99E-02	3.01E-02	7.31E-03	6.58E-04	3.28E-02	7.95E-03	7.15E-04
Road 12	12	1800-1900	3.90E-01	9.46E-02	8.51E-03	8.98E-01	2.18E-01	1.96E-02	2.99E-02	7.25E-03	6.52E-04	3.25E-02	7.88E-03	7.09E-04
Road 12	12	1900-2000	2.87E-01	2.16E-01	1.94E-03	6.97E-01	5.25E-01	4.72E-03	2.47E-02	1.86E-02	1.67E-04	2.68E-02	2.02E-02	1.82E-04
Road 12	12	2000-2100	2.81E-01	2.11E-01	1.90E-03	6.82E-01	5.14E-01	4.62E-03	2.42E-02	1.82E-02	1.63E-04	2.62E-02	1.97E-02	1.77E-04
Road 12	12	2100-2200	2.99E-01	2.13E-01	1.92E-03	7.22E-01	5.15E-01	4.63E-03	2.55E-02	1.81E-02	1.63E-04	2.77E-02	1.97E-02	1.78E-04
Road 12	12	2200-2300	3.00E-01	2.12E-01	1.91E-03	7.23E-01	5.10E-01	4.59E-03	2.55E-02	1.80E-02	1.62E-04	2.77E-02	1.96E-02	1.76E-04
Road 12	12	2300-2400	2.97E-01	2.00E-01	1.80E-03	7.08E-01	4.76E-01	4.29E-03	2.59E-02	1.74E-02	1.56E-04	2.81E-02	1.89E-02	1.70E-04
Road 13	13	0000-0100	4.42E-02	2.60E-02	2.34E-04	1.17E-01	4.96E-02	4.47E-04	2.32E-03	1.54E-03	1.39E-05	2.52E-03	1.67E-03	1.50E-05
Road 13	13	0100-0200	4.78E-02	1.86E-09	1.69E-05	2.29E-01	8.90E-09	8.12E-05	5.34E-03	2.08E-10	1.89E-06	5.80E-03	2.25E-10	2.06E-06
Road 13	13	0200-0300	5.16E-02	1.49E-09	1.36E-05	2.42E-01	6.98E-09	6.37E-05	5.71E-03	1.65E-10	1.50E-06	6.21E-03	1.79E-10	1.63E-06
Road 13	13	0300-0400	5.13E-02	1.48E-09	1.35E-05	2.41E-01	6.96E-09	6.35E-05	5.68E-03	1.64E-10	1.49E-06	6.18E-03	1.78E-10	1.62E-06
Road 13	13	0400-0500	5.85E-02	1.51E-09	1.38E-05	2.63E-01	6.77E-09	6.18E-05	6.44E-03	1.66E-10	1.51E-06	6.99E-03	1.80E-10	1.64E-06
Road 13	13	0500-0600	6.20E-02	2.81E-09	2.56E-05	2.74E-01	1.24E-08	1.13E-04	6.79E-03	3.08E-10	2.81E-06	7.38E-03	3.34E-10	3.05E-06
Road 13	13	0600-0700	5.80E-02	2.68E-09	2.44E-05	2.57E-01	1.18E-08	1.08E-04	6.35E-03	2.94E-10	2.68E-06	6.90E-03	3.19E-10	2.91E-06
Road 13	13	0700-0800	6.83E-02	1.38E-08	1.26E-04	2.92E-01	5.91E-08	5.39E-04	7.48E-03	1.51E-09	1.38E-05	8.12E-03	1.65E-09	1.50E-05
Road 13	13	0800-0900	6.65E-02	1.58E-08	1.44E-04	2.83E-01	6.71E-08	6.12E-04	7.38E-03	1.75E-09	1.60E-05	8.02E-03	1.90E-09	1.74E-05
Road 13	13	0900-1000	7.84E-02	1.68E-08	1.53E-04	3.30E-01	7.06E-08	6.44E-04	8.55E-03	1.83E-09	1.67E-05	9.28E-03	1.99E-09	1.81E-05
Road 13	13	1000-1100	8.88E-02	1.72E-08	1.57E-04	3.53E-01	6.85E-08	6.24E-04	9.47E-03	1.84E-09	1.68E-05	1.03E-02	2.00E-09	1.82E-05
Road 13	13	1100-1200	8.67E-02	1.59E-08	1.45E-04	3.51E-01	6.43E-08	5.86E-04	9.23E-03	1.69E-09	1.54E-05	1.00E-02	1.83E-09	1.67E-05
Road 13	13	1200-1300	8.81E-02	1.71E-08	1.56E-04	3.48E-01	6.75E-08	6.15E-04	9.30E-03	1.81E-09	1.65E-05	1.01E-02	1.97E-09	1.79E-05
Road 13	13	1300-1400	8.87E-02	1.82E-08	1.66E-04	3.55E-01	7.28E-08	6.64E-04	9.44E-03	1.94E-09	1.77E-05	1.03E-02	2.10E-09	1.92E-05
Road 13	13	1400-1500	8.80E-02	1.88E-08	1.72E-04	3.43E-01	7.35E-08	6.70E-04	9.39E-03	2.01E-09	1.83E-05	1.02E-02	2.18E-09	1.99E-05
Road 13	13	1500-1600	8.15E-02	1.79E-08	1.64E-04	3.45E-01	7.60E-08	6.93E-04	8.92E-03	1.97E-09	1.79E-05	9.69E-03	2.14E-09	1.95E-05
Road 13	13	1600-1700	8.00E-02	1.78E-08	1.62E-04	3.45E-01	7.62E-08	6.95E-04	8.76E-03	1.95E-09	1.78E-05	9.51E-03	2.12E-09	1.93E-05
Road 13	13	1700-1800	6.18E-02	1.35E-04	2.79E-01	6.70E-08	6.12E-04	5.58E-04	6.77E-03	1.48E-09	1.35E-05	7.35E-03	1.61E-09	1.47E-05
Road 13	13	1800-1900	4.38E-02	1.05E-08	9.59E-05	2.05E-01	4.93E-08	4.49E-04	5.24E-03	1.26E-09	1.15E-05	5.69E-03	1.37E-09	1.25E-05
Road 13	13	1900-2000	3.84E-02	7.71E-09	6.99E-05	1.79E-01	3.60E-08	3.26E-04	4.59E-03	9.22E-10	8.36E-06	4.98E-03	1.00E-09	9.07E-06
Road 13	13	2000-2100	3.77E-02	5.42E-09	4.95E-05	2.01E-01	2.89E-08	2.64E-04	4.43E-03	6.38E-10	5.82E-06	4.82E-03	6.93E-10	6.32E-06
Road 13	13	2100-2200	3.58E-02	5.18E-09	4.73E-05	1.98E-01	2.87E-08	2.62E-04	4.22E-03	6.10E-10	5.57E-06	4.58E-03	6.63E-10	6.05E-06
Road 13	13	2200-2300	3.69E-02	5.31E-09	4.85E-05	2.04E-01	2.94E-08	2.68E-04	4.34E-03	6.25E-10	5.71E-06	4.71E-03	6.78E-10	5.58E-06
Road 13	13	2300-2400	3.93E-02	4.11E-09	3.75E-05	2.02E-01	2.13E-08	1.94E-04	4.66E-03	4.87E-10	4.45E-06	5.07E-03	4.63E-06	
Road 14	14	0000-0100	2.45E-02	1.36E-07	8.44E-04	1.69E-01	9.34E-07	5.81E-03	6.50E-03	3.60E-08	2.24E-04	7.06E-03	3.91E-08	2.43E-04
Road 14	14	0100-0200	2.52E-02	1.05E-07	6.52E-04	1.74E-01	7.21E-07	4.48E-03	6.70E-03	2.78E-08	1.73E-04	7.28E-03	3.02E-08	1.87E-04
Road 14	14	0200-0300	3.19E-02	8.90E-08	5.54E-04	1.79E-01	5.00E-07	3.11E-03	7.40E-03	2.07E-08	1.28E-04	8.04E-03	2.24E-08	1.40E-04
Road 14	14	0300-0400	3.60E-02	8.16E-08	5.08E-04	1.86E-01	4.23E-07	2.63E-03	7.88E-03	1.79E-08	1.11E-04	8.57E-03	1.94E-08	1.21E-04
Road 14	14	0400-0500	3.68E-02	8.35E-08	5.20E-04	1.90E-01	4.32E-07	2.69E-03	8.05E-03	1.83E-08	1.14E-04	8.75E-03	1.98E-08	1.24E-04
Road 14	14	0500-0600	3.25E-02	1.33E-07	8.28E-04	1.86E-01	7.61E-07	4.73E-03	7.54E-03	3.09E-08	1.92E-04	8.20E-03	3.36E-08	2.09E-04
Road 14	14	0600-0700	3.31E-02	2.81E-07	1.75E-03	2.00E-01	1.70E-06	1.06E-02	7.59E-03	6.45E-08	4.01E-04	8.26E-03	7.02E-08	4.37E-04
Road 14	14	0700-0800	3.74E-02	8.37E-07	5.21E-03	2.43E-01	5.44E-06	3.38E-02	8.94E-03	1.98E-07	1.23E-03	9.71E-03	2.15E-07	1.33E-03
Road 14	14	0800-0900	4.62E-02	9.43E-07	5.87E-03	2.31E-01	4.70E-06	2.93E-02	8.54E-03	1.74E-07	1.08E-03	9.27E-03	1.89E-07	1.18E-03
Road 14	14	0900-1000	5.18E-02	8.98E-07	5.59E-03	2.50E-01	4.32E-06	2.69E-02	9.24E-03	1.60E-07	9.96E-04	1.00E-02	1.74E-07	1.08E-03
Road 14	14	1000-1100	5.62E-02	8.58E-07	5.34E-03	2.55E-01	3.89E-06	2.42E-02	9.73E-03	1.49E-07	9.27E-04	1.06E-02	1.62E-07	1.01E-03
Road 14	14	1100-1200	5.62E-02	8.58E-07	5.34E-03	2.55E-01	3.89E-06	2.42E-02	9.73E-03	1.49E-07	9.27E-04	1.06E-02	1.62E-07	1.01E-03
Road 14	14	1200-1300	8.54E-02	1.68E-06	1.05E-02	3.48E-01	6.86E-06	4.27E-02	1.29E-02	2.53E-07	1.58E-03	1.40E-02	2.75E-07	1.71E-03
Road 14	14	1300-1400	8.83E-02	1.84E-06	1.14E-02	3.66E-01	7.47E-06	4.62E-02	1.29E-02	2.69E-07	1.67E-03	1.40E-02	2.92E-07	1.82E-03
Road 14	14	1400-1500	8.61E-02	1.72E-06	1.07E-02	3.52E-01	7.03E-06	4.35E-02	1.26E-02	2.53E-07	1.57E-03	1.37E-02	2.74E-07	1.71E-03
Road 14	14	1500-1600	8.17E-02	1.81E-06	1.13E-02	3.57E-01	7.91E-06	4.92E-02	1.24E-02	2.74E-07	1.70E-03	1.34E-02	2.98E-07	1.85E-03
Road 14	14	1600-1700	8.34E-02	1.85E-06	1.16E-02	3.51E-01	7.87E-06	4.90E-02	1.29E-02	2.88E-07	1.79E-03	1.40E-02	3.13E-07	1.95E-03
Road 14	14	1700-1800	6.64E-02	1.47E-06	9.21E-03	2.80E-01	6.26E-06	3.90E-02	1.03E-02	2.29E-07	1.43E-03	1.12E-02	2.49E-07	1.55E-03
Road 14	14	1800-1900	5.05E-02	1.16E-06	7.23E-03	2.63E-01	6.05E-06	3.76E-02	1.00E-02	2.31E-07	1.43E-03	1.09E-02	2.51E-07	1.56E-03
Road 14	14	1900-2000	3.66E-02	6.28E-07	3.91E-03	2.31E-01	3.99E-06	2.48E-02	9.25E-03	1.58E-07	9.86E-04	1.01E-02	1.72E-07	1.07E-03
Road 14	14	2000-2100	3.42E-02	4.67E-07	2.88E-03	2.24E-01	3.06E-06	1.88E-02	8.45E-03	1.14E-07	7.08E-04	9.19E-03	1.24E-07	7.70E-04
Road 14	14	2100-2200	3.32E-02	4.47E-07	2.78E-03	2.24E-01	3.01E-06	1.88E-02	8.45E-03	1.14E-07	7.08E-04	9.19E-03	1.24E-07	7.70E-04
Road 14	14	2200-2300	3.38E-02	4.34E-07	2.70E-03	2.27E-01	2.91E-06	1.82E-02	8.60E-03	1.10E-07	6.85E-04	9.35E-03	1.20E-07	7.46E-04
Road 14	14	2300-2400	3.48E-02	3.42E-07	2.12E-03	2.22E-01	2.18E-06	1.36E-02	8.82E-03	8.69E-08	5.40E-04	9.58E-03	9.44E-08	5.87E-04
Road 15	15	0000-0100	4.34E-02	6.31E-08	2.13E-04	1.76E-01	2.55E-07	8.61E-04	7.46E-03	1.08E-08	3.66E-05	8.11E-03	1.18E-08	3.98E-05
Road 15	15	0100-0200	5.29E-02	5.56E-08	1.88E-04	1.91E-01	2.00E-07	6.77E-04	8.79E-03	9.24E-09	3.12E-05	9.56E-03	1.00E-08	3.39E-05
Road 15	15	0200-0300	6.24E-02	5.30E-08	1.79E-04	2.09E-01	1.78E-07	6.00E-04	1.00E-02	8.50E-09	2.87E-05	1.09E-02	9.24E-09	3.12E-05
Road 15	15	0300-0400	7.01E-02	5.15E-08	1.74E-04	2.23E-01	1.64E-07	5.54E-04	1.12E-02	8.08E-09	2.73E-05	1.19E-02	8.78E-09	2.97E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission AnnualHourMin g/km/veh	NO_2 Emission AnnualHourMin g/s/m	NO_2 Emission AnnualHourMin tonne/year	NO Emission AnnualHourMin g/km/veh	NO Emission AnnualHourMin g/s/m	NO Emission AnnualHourMin tonne/year	PM_{10} Emission AnnualHourMin g/km/veh	PM_{10} Emission AnnualHourMin g/s/m	PM_{10} Emission AnnualHourMin tonne/year	$PM_{2.5}$ Emission AnnualHourMin g/km/veh	$PM_{2.5}$ Emission AnnualHourMin g/s/m	$PM_{2.5}$ Emission AnnualHourMin tonne/year
Road 15	15	0400-0500	6.80E-02	5.31E-08	1.79E-04	2.20E-01	1.72E-07	5.81E-04	1.08E-02	8.40E-09	2.84E-05	1.17E-02	9.13E-09	3.08E-05
Road 15	15	0500-0600	5.64E-02	6.44E-08	2.18E-04	2.04E-01	2.34E-07	7.89E-04	9.15E-03	1.05E-08	3.53E-05	9.96E-03	1.14E-08	3.85E-05
Road 15	15	0600-0700	4.40E-02	9.34E-08	3.16E-04	1.87E-01	3.97E-07	1.34E-03	7.58E-03	1.61E-08	5.44E-05	8.25E-03	1.75E-08	5.93E-05
Road 15	15	0700-0800	6.54E-02	3.17E-07	1.07E-03	2.33E-01	1.13E-06	3.81E-03	9.69E-03	4.70E-08	1.59E-04	1.06E-02	5.12E-08	1.73E-04
Road 15	15	0800-0900	6.28E-02	3.43E-07	1.16E-03	2.22E-01	1.21E-06	4.09E-03	9.23E-03	5.04E-08	1.70E-04	1.00E-02	5.48E-08	1.85E-04
Road 15	15	0900-1000	6.86E-02	3.31E-07	1.12E-03	2.38E-01	1.15E-06	3.88E-03	1.01E-02	4.88E-08	1.65E-04	1.10E-02	5.31E-08	1.80E-04
Road 15	15	1000-1100	7.56E-02	3.32E-07	1.12E-03	2.52E-01	1.11E-06	3.74E-03	1.09E-02	4.79E-08	1.62E-04	1.19E-02	5.21E-08	1.76E-04
Road 15	15	1100-1200	7.36E-02	3.10E-07	1.05E-03	2.47E-01	1.04E-06	3.52E-03	1.08E-02	4.54E-08	1.54E-04	1.18E-02	4.95E-08	1.67E-04
Road 15	15	1200-1300	8.64E-02	5.69E-07	1.92E-03	2.91E-01	1.92E-06	6.48E-03	1.16E-02	7.64E-08	2.58E-04	1.26E-02	8.31E-08	2.81E-04
Road 15	15	1300-1400	8.51E-02	5.60E-07	1.89E-03	2.86E-01	1.89E-06	6.37E-03	1.14E-02	7.97E-08	2.69E-04	1.25E-02	8.67E-08	2.93E-04
Road 15	15	1400-1500	8.42E-02	6.01E-07	2.03E-03	2.89E-01	2.06E-06	6.96E-03	1.14E-02	8.15E-08	2.75E-04	1.24E-02	8.87E-08	3.00E-04
Road 15	15	1500-1600	8.25E-02	6.04E-07	2.04E-03	2.97E-01	2.17E-06	7.34E-03	1.11E-02	8.16E-08	2.76E-04	1.21E-02	8.87E-08	3.00E-04
Road 15	15	1600-1700	8.36E-02	6.17E-07	2.09E-03	2.89E-01	2.13E-06	7.20E-03	1.13E-02	8.33E-08	2.81E-04	1.23E-02	9.05E-08	3.06E-04
Road 15	15	1700-1800	6.77E-02	5.22E-07	1.76E-03	2.54E-01	1.96E-06	6.61E-03	9.61E-03	7.41E-08	2.50E-04	1.05E-02	8.06E-08	2.73E-04
Road 15	15	1800-1900	5.79E-02	4.35E-07	1.47E-03	2.15E-01	1.61E-06	5.45E-03	8.39E-03	6.31E-08	2.13E-04	9.13E-03	6.87E-08	2.32E-04
Road 15	15	1900-2000	3.40E-02	2.76E-07	5.94E-04	1.62E-01	8.35E-07	2.82E-03	6.05E-03	3.13E-08	1.06E-04	6.58E-03	3.40E-08	1.15E-04
Road 15	15	2000-2100	3.46E-02	1.42E-07	4.80E-04	1.70E-01	6.97E-07	2.36E-03	6.16E-03	2.53E-08	8.54E-05	6.70E-03	2.75E-08	9.30E-05
Road 15	15	2100-2200	3.36E-02	1.38E-07	4.68E-04	1.67E-01	6.86E-07	2.32E-03	5.88E-03	2.42E-08	8.19E-05	6.40E-03	2.64E-08	8.91E-05
Road 15	15	2200-2300	3.43E-02	1.35E-07	4.56E-04	1.67E-01	6.55E-07	2.21E-03	5.98E-03	2.35E-08	7.95E-05	6.47E-03	2.54E-08	8.60E-05
Road 15	15	2300-2400	3.38E-02	1.26E-07	4.26E-04	1.65E-01	6.16E-07	2.08E-03	5.91E-03	2.20E-08	7.44E-05	6.39E-03	2.39E-08	8.07E-05
Road 16	16	0000-0100	1.27E-02	7.35E-08	8.22E-04	1.32E-01	7.66E-07	8.57E-03	5.64E-03	3.28E-08	3.66E-04	6.13E-03	3.56E-08	3.98E-04
Road 16	16	0100-0200	1.39E-02	5.29E-08	5.92E-04	1.34E-01	5.10E-07	5.70E-03	5.86E-03	2.24E-08	2.50E-04	6.38E-03	2.43E-08	2.72E-04
Road 16	16	0200-0300	1.37E-02	7.74E-08	8.65E-04	1.32E-01	7.46E-07	8.34E-03	5.84E-03	3.31E-08	3.70E-04	6.36E-03	3.60E-08	4.03E-04
Road 16	16	0300-0400	1.65E-02	3.71E-08	4.15E-04	1.40E-01	3.13E-07	3.51E-03	6.32E-03	1.42E-08	1.59E-04	6.88E-03	1.54E-08	1.72E-04
Road 16	16	0400-0500	1.71E-02	4.21E-08	4.71E-04	1.41E-01	3.47E-07	3.88E-03	6.43E-03	1.58E-08	1.77E-04	7.00E-03	1.72E-08	1.93E-04
Road 16	16	0500-0600	1.72E-02	1.57E-07	1.75E-03	1.45E-01	1.31E-06	1.46E-02	6.49E-03	5.84E-08	6.53E-04	7.06E-03	6.36E-08	7.11E-04
Road 16	16	0600-0700	1.74E-02	1.57E-07	1.75E-03	1.45E-01	1.31E-06	1.46E-02	6.49E-03	5.84E-08	6.53E-04	7.06E-03	6.36E-08	7.11E-04
Road 16	16	0700-0800	2.01E-02	3.70E-07	4.13E-03	1.52E-01	2.78E-06	3.11E-02	6.82E-03	1.25E-07	1.40E-03	7.41E-03	1.36E-07	1.52E-03
Road 16	16	0800-0900	2.13E-02	4.52E-07	5.06E-03	1.54E-01	3.26E-06	3.65E-02	6.52E-03	1.39E-07	1.55E-03	7.11E-03	1.51E-07	1.68E-03
Road 16	16	0900-1000	2.18E-02	3.89E-07	4.35E-03	1.47E-01	2.63E-06	2.94E-02	7.00E-03	1.25E-07	1.40E-03	7.60E-03	1.36E-07	1.52E-03
Road 16	16	1000-1100	2.23E-02	3.65E-07	4.09E-03	1.49E-01	2.44E-06	2.61E-02	7.39E-03	1.16E-07	1.29E-03	8.03E-03	1.26E-07	1.40E-03
Road 16	16	1100-1200	2.23E-02	3.30E-07	3.69E-03	1.49E-01	2.21E-06	2.48E-02	7.25E-03	1.08E-07	1.20E-03	7.88E-03	1.17E-07	1.31E-03
Road 16	16	1200-1300	2.20E-02	3.43E-07	3.84E-03	1.47E-01	2.29E-06	2.56E-02	7.15E-03	1.12E-07	1.25E-03	7.77E-03	1.21E-07	1.36E-03
Road 16	16	1300-1400	2.74E-02	4.70E-07	5.26E-03	1.82E-01	2.98E-06	3.34E-02	8.87E-03	1.44E-07	1.61E-03	9.59E-03	1.56E-07	1.75E-03
Road 16	16	1400-1500	4.87E-02	1.03E-06	1.15E-02	2.32E-01	4.91E-06	5.49E-02	1.06E-02	2.24E-07	2.50E-03	1.15E-02	2.43E-07	2.72E-03
Road 16	16	1500-1600	4.65E-02	1.00E-06	1.12E-02	2.21E-01	4.77E-06	5.34E-02	1.01E-02	2.23E-07	2.49E-03	1.10E-02	2.42E-07	2.71E-03
Road 16	16	1600-1700	4.93E-02	1.09E-06	1.22E-02	2.41E-01	5.32E-06	5.96E-02	1.09E-02	2.40E-07	2.68E-03	1.18E-02	2.61E-07	2.91E-03
Road 16	16	1700-1800	3.76E-02	8.75E-07	9.78E-03	2.19E-01	5.08E-06	5.69E-02	9.51E-03	2.21E-07	2.47E-03	1.03E-02	2.40E-07	2.69E-03
Road 16	16	1800-1900	2.47E-02	5.61E-07	6.27E-03	1.44E-01	3.26E-06	3.65E-02	6.25E-03	1.42E-07	1.59E-03	6.78E-03	1.54E-07	1.72E-03
Road 16	16	1900-2000	1.89E-02	2.32E-07	4.56E-03	1.10E-01	1.35E-06	2.65E-02	4.85E-03	5.97E-08	1.17E-03	5.16E-03	6.34E-08	1.25E-03
Road 16	16	2000-2100	1.82E-02	2.47E-07	2.76E-03	1.71E-01	2.31E-06	2.59E-02	8.35E-03	1.13E-07	1.27E-03	9.08E-03	1.23E-07	1.38E-03
Road 16	16	2100-2200	1.72E-02	2.23E-07	2.49E-03	1.65E-01	2.14E-06	2.39E-02	7.96E-03	1.03E-07	1.15E-03	8.66E-03	1.12E-07	1.25E-03
Road 16	16	2200-2300	1.72E-02	2.23E-07	2.49E-03	1.65E-01	2.14E-06	2.39E-02	7.96E-03	1.03E-07	1.15E-03	8.66E-03	1.12E-07	1.25E-03
Road 16	16	2300-2400	1.83E-02	1.80E-07	2.02E-03	1.66E-01	1.63E-06	1.83E-02	8.12E-03	8.00E-08	8.95E-04	8.83E-03	8.70E-08	9.73E-04
Road 17	17	0000-0100	1.45E-02	6.42E-08	6.85E-04	1.20E-01	5.29E-07	5.65E-03	4.84E-03	2.14E-08	2.28E-04	5.26E-03	2.33E-08	2.48E-04
Road 17	17	0100-0200	1.50E-02	6.27E-08	6.69E-04	1.24E-01	5.17E-07	5.52E-03	4.98E-03	2.08E-08	2.22E-04	5.41E-03	2.27E-08	2.42E-04
Road 17	17	0200-0300	1.45E-02	6.42E-08	6.85E-04	1.20E-01	5.29E-07	5.65E-03	4.84E-03	2.14E-08	2.28E-04	5.26E-03	2.33E-08	2.48E-04
Road 17	17	0300-0400	1.44E-02	6.37E-08	6.80E-04	1.19E-01	5.25E-07	5.61E-03	4.80E-03	2.12E-08	2.26E-04	5.22E-03	2.31E-08	2.46E-04
Road 17	17	0400-0500	1.64E-02	6.37E-08	6.80E-04	1.24E-01	4.82E-07	5.14E-03	5.21E-03	2.02E-08	2.16E-04	5.66E-03	2.20E-08	2.35E-04
Road 17	17	0500-0600	1.74E-02	1.18E-07	1.26E-03	1.28E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2033**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 35	35	0000-0100	4.45E-02	5.14E-08	4.57E-05	1.62E-01	1.87E-07	1.66E-04	6.72E-03	7.77E-09	6.90E-06	7.31E-03	8.45E-09	7.50E-06
Road 35	35	0100-0200	5.57E-02	4.69E-08	4.17E-05	1.84E-01	1.55E-07	1.37E-04	8.30E-03	7.00E-09	6.22E-06	9.02E-03	7.61E-09	6.75E-06
Road 35	35	0200-0300	6.54E-02	4.49E-08	3.99E-05	2.03E-01	1.40E-07	1.24E-04	9.62E-03	6.61E-09	5.87E-06	1.05E-02	7.18E-09	6.38E-06
Road 35	35	0300-0400	7.30E-02	4.36E-08	3.88E-05	2.18E-01	1.30E-07	1.16E-04	1.07E-02	6.39E-09	5.67E-06	1.16E-02	6.94E-09	6.16E-06
Road 35	35	0400-0500	7.09E-02	4.50E-08	4.00E-05	2.15E-01	1.37E-07	1.21E-04	1.04E-02	6.62E-09	5.88E-06	1.13E-02	7.19E-09	6.38E-06
Road 35	35	0500-0600	5.71E-02	5.27E-08	4.68E-05	1.91E-01	1.77E-07	1.57E-04	8.57E-03	7.91E-09	7.02E-06	9.31E-03	8.59E-09	7.63E-06
Road 35	35	0600-0700	4.50E-02	5.42E-08	4.81E-05	1.66E-01	1.92E-07	1.71E-04	6.94E-03	8.02E-09	7.12E-06	7.42E-03	1.27E-08	1.13E-05
Road 35	35	0700-0800	6.40E-02	2.51E-07	2.23E-04	2.13E-01	8.37E-07	7.43E-04	9.87E-03	3.87E-08	3.44E-05	1.07E-02	4.20E-08	3.73E-05
Road 35	35	0800-0900	5.95E-02	2.63E-07	2.34E-04	1.99E-01	8.79E-07	7.80E-04	8.41E-03	3.71E-08	3.30E-05	9.14E-03	4.04E-08	3.59E-05
Road 35	35	0900-1000	5.90E-02	2.61E-07	2.35E-04	1.97E-01	8.74E-07	7.84E-04	8.34E-03	3.71E-08	3.31E-05	9.06E-03	4.03E-08	3.61E-05
Road 35	35	1000-1100	7.33E-02	2.65E-07	2.56E-04	2.51E-01	1.03E-07	3.72E-08	1.03E-02	3.72E-09	3.58E-06	1.12E-02	4.05E-08	3.90E-05
Road 35	35	1100-1200	7.41E-02	2.57E-07	2.29E-04	2.36E-01	8.21E-07	7.29E-04	1.03E-02	3.58E-08	3.18E-05	1.12E-02	3.89E-08	3.45E-05
Road 35	35	1200-1300	7.41E-02	2.57E-07	2.29E-04	2.36E-01	8.21E-07	7.29E-04	1.03E-02	3.58E-08	3.18E-05	1.12E-02	3.89E-08	3.45E-05
Road 35	35	1300-1400	8.12E-02	1.92E-07	1.71E-04	2.37E-01	5.62E-07	4.99E-04	1.15E-02	2.72E-08	2.42E-05	1.25E-02	2.96E-08	2.63E-05
Road 35	35	1400-1500	8.17E-02	2.01E-07	1.79E-04	2.38E-01	5.86E-07	5.20E-04	1.14E-02	2.80E-08	2.49E-05	1.24E-02	3.04E-08	2.70E-05
Road 35	35	1500-1600	8.00E-02	2.02E-07	1.77E-04	2.38E-01	5.93E-07	5.26E-04	1.12E-02	2.79E-08	2.48E-05	1.22E-02	3.03E-08	2.69E-05
Road 35	35	1600-1700	7.90E-02	2.04E-07	1.81E-04	2.34E-01	6.05E-07	5.37E-04	1.10E-02	2.84E-08	2.52E-05	1.20E-02	3.10E-08	2.75E-05
Road 35	35	1700-1800	6.95E-02	1.95E-07	1.73E-04	2.10E-01	5.89E-07	5.23E-04	9.74E-03	2.73E-08	2.42E-05	1.06E-02	2.96E-08	2.63E-05
Road 35	35	1800-1900	6.26E-02	1.86E-07	1.65E-04	1.85E-01	5.48E-07	4.87E-04	8.77E-03	2.60E-08	2.31E-05	9.50E-03	2.82E-08	2.50E-05
Road 35	35	1900-2000	5.12E-02	1.90E-07	1.69E-04	1.52E-01	5.64E-07	5.01E-04	7.18E-03	2.66E-08	2.36E-05	7.78E-03	2.89E-08	2.56E-05
Road 35	35	2000-2100	3.57E-02	5.29E-08	4.70E-05	1.39E-01	2.06E-07	1.83E-04	5.32E-03	7.88E-09	7.00E-06	5.78E-03	8.57E-09	7.61E-06
Road 35	35	2100-2200	3.44E-02	5.11E-08	4.54E-05	1.37E-01	2.04E-07	1.81E-04	5.11E-03	7.58E-09	6.73E-06	5.56E-03	8.24E-09	7.32E-06
Road 35	35	2200-2300	3.48E-02	5.17E-08	4.59E-05	1.38E-01	2.05E-07	1.82E-04	5.17E-03	7.68E-09	6.82E-06	5.63E-03	8.35E-09	7.42E-06
Road 35	35	2300-0000	4.06E-02	4.65E-08	4.13E-05	1.49E-01	1.71E-07	1.52E-04	6.05E-03	6.93E-09	6.15E-06	6.58E-03	7.53E-09	6.69E-06
Road 36	36	0000-0100	5.42E-02	8.14E-08	7.48E-05	2.72E-01	4.09E-07	3.76E-04	1.04E-02	1.56E-08	1.44E-05	1.14E-02	1.71E-08	1.57E-05
Road 36	36	0100-0200	3.82E-02	1.93E-07	1.29E-04	1.74E-01	9.96E-07	6.08E-04	7.38E-03	3.68E-08	2.46E-05	8.03E-03	4.07E-08	2.72E-05
Road 36	36	0200-0300	7.20E-02	6.22E-08	5.72E-05	2.96E-01	2.56E-07	2.35E-04	1.27E-02	1.09E-08	1.00E-05	1.38E-02	1.19E-08	1.10E-05
Road 36	36	0300-0400	7.93E-02	5.89E-08	5.41E-05	3.05E-01	2.27E-07	2.08E-04	1.35E-02	1.01E-08	9.25E-06	1.48E-02	1.10E-08	1.01E-05
Road 36	36	0400-0500	7.30E-02	6.24E-08	5.74E-05	2.91E-01	2.49E-07	2.29E-04	1.31E-02	1.12E-08	1.03E-05	1.42E-02	1.21E-08	1.12E-05
Road 36	36	0500-0600	6.97E-02	8.22E-08	7.56E-05	3.09E-01	3.64E-07	3.35E-04	1.28E-02	1.51E-08	1.39E-05	1.40E-02	1.65E-08	1.52E-05
Road 36	36	0600-0700	6.30E-02	1.41E-07	1.29E-04	3.17E-01	7.08E-07	6.51E-04	1.22E-02	2.72E-08	2.50E-05	1.34E-02	2.99E-08	2.75E-05
Road 36	36	0700-0800	8.11E-02	4.08E-07	3.75E-04	3.96E-01	1.98E-06	1.82E-03	1.52E-02	7.63E-08	7.02E-05	1.67E-02	8.39E-08	7.72E-05
Road 36	36	0800-0900	7.78E-02	4.43E-07	4.07E-04	3.81E-01	2.16E-06	1.99E-03	1.53E-02	8.70E-08	8.00E-05	1.68E-02	9.56E-08	8.80E-05
Road 36	36	0900-1000	8.88E-02	4.47E-07	4.11E-04	3.35E-01	1.68E-06	1.55E-03	1.18E-02	5.92E-08	5.44E-05	1.29E-02	6.46E-08	5.94E-05
Road 36	36	1000-1100	9.30E-02	4.25E-07	3.90E-04	3.34E-01	1.52E-06	1.40E-03	1.19E-02	5.43E-08	4.99E-05	1.30E-02	5.91E-08	5.44E-05
Road 36	36	1100-1200	9.60E-02	4.39E-07	4.03E-04	3.45E-01	1.57E-06	1.44E-03	1.23E-02	5.61E-08	5.15E-05	1.34E-02	6.11E-08	5.61E-05
Road 36	36	1200-1300	1.10E-01	3.90E-07	3.58E-04	3.95E-01	1.40E-06	1.28E-03	1.42E-02	5.04E-08	4.62E-05	1.54E-02	5.47E-08	5.02E-05
Road 36	36	1300-1400	1.13E-01	4.14E-07	3.81E-04	3.70E-01	1.36E-06	1.25E-03	1.31E-02	4.82E-08	4.43E-05	1.43E-02	5.25E-08	4.82E-05
Road 36	36	1400-1500	1.07E-01	4.11E-07	3.77E-04	3.46E-01	1.33E-06	1.22E-03	1.23E-02	4.73E-08	4.34E-05	1.34E-02	5.16E-08	4.73E-05
Road 36	36	1500-1600	1.11E-01	4.28E-07	3.93E-04	3.72E-01	1.44E-06	1.32E-03	1.28E-02	4.96E-08	4.56E-05	1.40E-02	5.40E-08	4.97E-05
Road 36	36	1600-1700	1.07E-01	4.19E-07	3.86E-04	3.59E-01	1.41E-06	1.30E-03	1.34E-02	5.25E-08	4.83E-05	1.46E-02	5.72E-08	5.26E-05
Road 36	36	1700-1800	1.01E-01	3.97E-07	3.65E-04	3.51E-01	1.38E-06	1.26E-03	1.53E-02	6.00E-08	5.52E-05	1.67E-02	6.54E-08	6.01E-05
Road 36	36	1800-1900	7.89E-02	3.27E-07	3.00E-04	2.91E-01	1.21E-06	1.11E-03	1.24E-02	5.13E-08	4.72E-05	1.35E-02	5.60E-08	5.15E-05
Road 36	36	1900-2000	5.25E-02	1.39E-07	1.28E-04	2.52E-01	6.68E-07	6.14E-04	9.42E-03	2.50E-08	2.30E-05	1.03E-02	2.73E-08	2.51E-05
Road 36	36	2000-2100	3.68E-02	5.45E-08	4.93E-05	1.43E-01	2.12E-07	1.92E-04	5.48E-03	8.12E-09	7.34E-06	5.95E-03	8.82E-09	7.98E-06
Road 36	36	2100-2200	5.41E-02	1.16E-07	1.06E-04	2.72E-01	5.48E-07	5.04E-04	9.59E-03	2.05E-08	1.88E-05	1.05E-02	2.24E-08	2.06E-05
Road 36	36	2200-2300	5.12E-02	1.05E-07	9.68E-05	2.65E-01	5.45E-07	5.01E-04	9.23E-03	1.90E-08	1.74E-05	1.01E-02	2.07E-08	1.91E-05
Road 36	36	2300-0000	9.43E-02	6.07E-08	5.59E-05	2.77E-01	1.49E-07	1.37E-04	1.01E-02	6.44E-09	5.89E-06	1.55E-02	8.54E-09	7.84E-06
Road 37	37	0000-0100	4.40E-02	1.94E-08	1.63E-06	2.71E-01	1.20E-08	1.00E-05	8.42E-03	3.72E-10	3.13E-07	9.23E-03	4.07E-10	3.41E-07
Road 37	37	0100-0200	4.75E-02	1.38E-09	1.16E-06	2.80E-01	8.16E-09	6.84E-06	8.89E-03	2.59E-10	2.17E-07	9.74E-03	2.84E-10	2.38E-07
Road 37	37	0200-0300	5.11E-02	1.10E-09	9.25E-07	2.93E-01	6.33E-09	5.30E-06	9.34E-03	2.02E-10	1.69E-07	1.02E-02	2.22E-10	1.86E-07
Road 37	37	0300-0400	5.24E-02	1.28E-09	1.07E-06	2.96E-01	7.38E-09	6.18E-06	9.45E-03	2.35E-10	1.97E-07	1.03E-02	2.58E-10	2.16E-07
Road 37	37	0400-0500	5.77E-02	1.11E-09	9.34E-07	3.10E-01	6.00E-09	5.02E-06	1.02E-02	1.97E-10	1.65E-07	1.12E-02	2.17E-10	1.82E-07
Road 37	37	0500-0600	6.09E-02	2.07E-09	1.74E-06	3.19E-01	1.08E-08	9.06E-06	1.05E-02	3.56E-10	2.98E-07	1.15E-02	3.92E-10	3.28E-07
Road 37	37	0600-0700	6.72E-02	1.32E-09	1.11E-06	3.26E-01	7.18E-09	6.01E-06	1.08E-02	2.37E-10	1.98E-07	1.18E-02	2.61E-10	2.18E-07
Road 37	37	0700-0800	6.72E-02	1.02E-08	8.55E-06	3.35E-01	5.09E-08	4.27E-05	1.15E-02	1.75E-09	1.46E-06	1.26E-02	1.92E-09	1.61E-06
Road 37	37	0800-0900	6.73E-02	1.20E-08	1.00E-05	3.10E-01	5.52E-08	4.62E-05	9.96E-03	1.77E-09	1.49E-06	1.09E-02	1.94E-09	1.63E-06
Road 37	37	0900-1000	7.92E-02	1.23E-08	1.03E-05	3.34E-01	5.21E-08	4.37E-05	1.07E-02	1.67E-09	1.40E-06	1.17E-02	1.83E-09	1.54E-06
Road 37	37	1000-1100	8.44E-02	1.23E-08	1.03E-05	3.34E-01	4.86E-08	4.07E-05	9.44E-03	1.37E-09	1.15E-06	1.03E-02	1.50E-09	1.26E-06
Road 37	37	1100-1200	8.45E-02	1.16E-08	9.72E-06	3.38E-01	4.64E-08	3.89E-05	9.18E-03	1.26E-09	1.06E-06	1.00E-02	1.37E-09	1.15E-06
Road 37	37	1200-1300	8.54E-02	1.15E-08	9.64E-06	3.41E-01	4.60E-08	3.86E-05	9.27E-03	1.25E-09	1.05E-06	1.01E-02	1.36E-09	1.14E-06
Road 37	37	1300-1400	8.55E-02	1.32E-08	1.10E-05	3.29E-01	5.27E-08	4.42E-05	9.31E-03	1.44E-09	1.21E-06	1.01E-02	1.57E-09	1.32E-06
Road 37	37	1400-1500	8.23E-02	1.32E-08	1.11E-05	3.29E-01	5.27E-08	4.42E-05	9.70E-03	1.56E-09	1.30E-06	1.06E-02	1.70E-09	1.42E-06
Road 37	37	1500-1600	8.48E-02	1.40E-08	1.17E-05	3.65E-01	6.03E-08	5.05E-05	9.25E-03	1.53E-09	1.28E-06	1.01E-02	1.67E-09	1.40E-06
Road 37	37	1600-1700	7.99E-02	1.34E-08	1.13E-05	3.25E-01	5.47E-08	4.58E-05	1.00E-02	1.69E-09	1.42E-06	1.10E-02	1.85E-09	1.55E-06
Road 37	37	1700-1800	6.83E-02	1.23E-08	1.03E-05	3.20E-01	5.77E-08	4.83E-05	1.09E-02	1.97E-09	1.65E-06	1.20E-02	2.16E-09	1.81E-06
Road 37	37	1800-1900	4.68E-02	8.43E-09	7.06E-06	2.44E-01	4.39E-08	3.68E-05	9.08E-03	1.64E-09	1.37E-06	9.96E-03	1.79E-09	1.50E-06
Road 37	37	1900-2000	1.51E-02	5.50E-09	4.61E-06	2.32E-01	1.22E-08	2.69E-05	7.99E-03	1.11E-09	9.27E-07	8.74E-03	1.21E-09	1.01E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2033**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 37	37	2000-2100	4.05E-02	4.37E-09	3.66E-06	2.52E-01	2.72E-08	2.28E-05	7.69E-03	8.30E-10	6.95E-07	8.42E-03	9.08E-10	7.61E-07
Road 37	37	2100-2200	3.99E-02	4.33E-09	3.62E-06	2.56E-01	2.77E-08	2.32E-05	7.91E-03	8.57E-10	7.18E-07	8.66E-03	9.40E-10	7.87E-07
Road 37	37	2200-2300	3.59E-02	3.71E-09	3.11E-06	2.48E-01	2.56E-08	2.15E-05	7.43E-03	7.70E-10	6.45E-07	8.13E-03	8.43E-10	7.06E-07
Road 37	37	2300-0000	3.93E-02	3.09E-09	2.59E-06	2.57E-01	2.02E-08	1.69E-05	7.91E-03	6.21E-10	5.20E-07	8.67E-03	6.80E-10	5.70E-07
Road 38	38	0000-0100	4.45E-02	5.45E-08	1.63E-04	2.74E-01	3.35E-07	1.00E-03	8.55E-03	1.05E-08	3.13E-05	9.37E-03	1.15E-08	3.43E-05
Road 38	38	0100-0200	4.79E-02	3.87E-08	1.16E-04	2.83E-01	2.29E-07	6.83E-04	9.01E-03	7.28E-09	2.18E-05	9.88E-03	7.99E-09	2.39E-05
Road 38	38	0200-0300	5.15E-02	3.09E-08	9.23E-05	2.95E-01	1.77E-07	5.29E-04	9.46E-03	5.67E-09	1.70E-05	1.04E-02	6.23E-09	1.86E-05
Road 38	38	0300-0400	5.41E-02	3.04E-08	9.07E-05	3.08E-01	1.73E-07	5.17E-04	9.85E-03	5.55E-09	1.66E-05	1.08E-02	6.09E-09	1.82E-05
Road 38	38	0400-0500	5.81E-02	3.11E-08	9.30E-05	3.13E-01	1.68E-07	5.01E-04	1.03E-02	5.54E-09	1.65E-05	1.14E-02	6.08E-09	1.82E-05
Road 38	38	0500-0600	6.14E-02	5.57E-08	1.66E-04	3.17E-01	3.09E-07	9.22E-04	1.08E-02	1.01E-08	3.01E-05	1.18E-02	1.11E-08	3.31E-05
Road 38	38	0600-0700	6.56E-02	1.34E-07	4.02E-04	3.24E-01	6.61E-07	1.97E-03	1.10E-02	2.25E-08	6.69E-05	1.20E-02	2.46E-08	7.32E-05
Road 38	38	0700-0800	7.07E-02	2.98E-07	8.89E-04	3.50E-01	1.47E-06	4.40E-03	1.18E-02	4.97E-08	1.48E-04	1.30E-02	5.46E-08	1.63E-04
Road 38	38	0800-0900	7.19E-02	3.13E-07	1.06E-03	3.29E-01	1.61E-06	4.82E-03	1.03E-02	5.08E-08	1.52E-04	1.13E-02	5.56E-08	1.66E-04
Road 38	38	0900-1000	8.45E-02	3.75E-07	1.27E-03	3.84E-01	1.84E-06	5.51E-03	1.21E-02	5.93E-08	1.77E-04	1.32E-02	6.49E-08	1.94E-04
Road 38	38	1000-1100	9.05E-02	3.63E-07	1.09E-03	3.57E-01	1.43E-06	4.29E-03	9.91E-03	3.98E-08	1.19E-04	1.08E-02	4.33E-08	1.30E-04
Road 38	38	1100-1200	8.90E-02	3.37E-07	1.01E-03	3.56E-01	1.35E-06	4.03E-03	9.55E-03	3.62E-08	1.08E-04	1.04E-02	3.94E-08	1.18E-04
Road 38	38	1200-1300	1.33E-01	2.61E-07	7.78E-04	3.28E-01	1.01E-06	3.02E-03	1.40E-02	4.29E-08	1.28E-04	1.52E-02	4.68E-08	1.40E-04
Road 38	38	1300-1400	1.37E-01	2.97E-07	8.86E-04	4.53E-01	9.83E-07	2.94E-03	1.17E-02	2.54E-08	7.59E-05	1.27E-02	2.77E-08	8.26E-05
Road 38	38	1400-1500	1.34E-01	2.92E-07	8.72E-04	4.43E-01	9.63E-07	2.88E-03	1.14E-02	2.49E-08	7.43E-05	1.24E-02	2.71E-08	8.09E-05
Road 38	38	1500-1600	1.30E-01	3.01E-07	8.98E-04	4.31E-01	9.98E-07	2.98E-03	1.11E-02	2.58E-08	7.68E-05	1.21E-02	2.80E-08	8.36E-05
Road 38	38	1600-1700	1.32E-01	2.84E-07	8.48E-04	4.43E-01	9.50E-07	2.84E-03	1.18E-02	2.54E-08	7.58E-05	1.29E-02	2.77E-08	8.26E-05
Road 38	38	1700-1800	1.26E-01	2.56E-07	7.66E-04	4.49E-01	9.14E-07	2.73E-03	1.14E-02	2.32E-08	6.93E-05	1.25E-02	2.53E-08	7.57E-05
Road 38	38	1800-1900	1.27E-01	2.55E-07	7.61E-04	4.49E-01	9.01E-07	2.69E-03	1.15E-02	2.31E-08	6.88E-05	1.26E-02	2.53E-08	7.53E-05
Road 38	38	1900-2000	9.47E-02	1.05E-07	3.15E-04	3.61E-01	4.02E-07	1.20E-03	9.69E-03	1.08E-08	3.22E-05	1.06E-02	1.18E-08	3.51E-05
Road 38	38	2000-2100	9.62E-02	8.42E-08	2.58E-04	3.76E-01	3.30E-07	9.87E-04	9.44E-03	8.29E-09	2.48E-05	1.03E-02	9.04E-09	2.70E-05
Road 38	38	2100-2200	9.64E-02	8.63E-08	2.58E-04	3.78E-01	3.38E-07	1.01E-03	9.64E-03	8.62E-09	2.58E-05	1.05E-02	9.40E-09	2.81E-05
Road 38	38	2200-2300	9.00E-02	7.29E-08	2.18E-04	3.56E-01	2.88E-07	8.61E-04	9.76E-03	7.91E-09	2.36E-05	1.06E-02	8.63E-09	2.58E-05
Road 38	38	2300-0000	9.44E-02	6.07E-08	1.81E-04	3.66E-01	2.35E-07	7.02E-04	1.01E-02	6.51E-09	1.94E-05	1.10E-02	7.09E-09	2.12E-05
Road 39	39	0000-0100	1.15E-01	1.86E-08	5.79E-05	4.05E-01	6.58E-08	2.04E-04	1.11E-02	1.80E-09	5.60E-06	1.21E-02	1.97E-09	6.11E-06
Road 39	39	0100-0200	1.18E-01	1.49E-08	4.62E-05	4.13E-01	5.22E-08	1.62E-04	1.13E-02	1.43E-09	4.43E-06	1.23E-02	1.56E-09	4.83E-06
Road 39	39	0200-0300	1.20E-01	1.27E-08	3.95E-05	4.19E-01	4.43E-08	1.38E-04	1.15E-02	1.21E-09	3.77E-06	1.25E-02	1.32E-09	4.11E-06
Road 39	39	0300-0400	1.20E-01	1.27E-08	3.95E-05	4.19E-01	4.43E-08	1.38E-04	1.15E-02	1.21E-09	3.77E-06	1.25E-02	1.32E-09	4.11E-06
Road 39	39	0400-0500	1.24E-01	2.79E-08	8.68E-05	4.32E-01	9.66E-08	3.00E-04	1.19E-02	2.67E-09	8.29E-06	1.29E-02	2.89E-09	8.97E-06
Road 39	39	0500-0600	1.24E-01	2.79E-08	8.68E-05	4.28E-01	9.62E-08	2.99E-04	1.28E-02	2.89E-09	8.97E-06	1.38E-02	3.10E-09	9.64E-06
Road 39	39	0600-0700	1.28E-01	6.50E-08	2.02E-04	4.39E-01	2.23E-07	6.93E-04	1.20E-02	6.10E-09	1.89E-05	1.31E-02	6.64E-09	2.06E-05
Road 39	39	0700-0800	1.32E-01	6.55E-08	2.03E-04	4.47E-01	2.25E-07	6.99E-04	1.23E-02	6.15E-09	1.91E-05	1.34E-02	6.70E-09	2.08E-05
Road 39	39	0800-0900	1.32E-01	1.71E-07	5.30E-04	4.49E-01	5.78E-07	1.79E-03	1.24E-02	1.62E-08	5.02E-05	1.35E-02	1.76E-08	5.47E-05
Road 39	39	0900-1000	1.32E-01	1.94E-07	6.00E-04	4.45E-01	6.56E-07	2.03E-03	1.24E-02	1.84E-08	5.68E-05	1.35E-02	2.00E-08	6.19E-05
Road 39	39	1000-1100	1.40E-01	2.00E-07	6.20E-04	4.73E-01	6.77E-07	2.09E-03	1.32E-02	1.89E-08	5.84E-05	1.43E-02	2.05E-08	6.36E-05
Road 39	39	1100-1200	1.42E-01	2.00E-07	6.20E-04	4.77E-01	6.77E-07	2.09E-03	1.33E-02	1.89E-08	5.84E-05	1.44E-02	2.05E-08	6.36E-05
Road 39	39	1200-1300	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	1300-1400	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	1400-1500	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	1500-1600	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	1600-1700	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	1700-1800	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	1800-1900	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	1900-2000	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	2000-2100	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	2100-2200	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08	6.36E-05
Road 39	39	2200-2300	1.47E-01	2.00E-07	6.20E-04	4.91E-01	6.77E-07	2.09E-03	1.37E-02	1.89E-08	5.84E-05	1.49E-02	2.05E-08

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2033**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour
Road 103	103	1600-1700	1.92E-02	5.28E-07	4.63E-03	9.12E-02	2.51E-06	2.20E-02	4.31E-03	1.18E-07	1.04E-03	4.70E-02	1.29E-06	1.13E-03
Road 103	103	1700-1800	1.38E-02	4.26E-07	3.74E-03	7.99E-02	2.47E-06	2.17E-02	3.17E-03	9.80E-08	8.60E-04	3.45E-02	1.07E-06	9.37E-04
Road 103	103	1800-1900	9.99E-03	3.35E-07	2.94E-03	6.17E-02	2.07E-06	1.82E-02	2.34E-03	7.85E-08	6.89E-04	2.53E-02	8.51E-07	7.47E-04
Road 103	103	1900-2000	8.79E-03	2.83E-07	2.58E-03	5.26E-02	1.67E-06	1.49E-02	2.00E-03	6.29E-08	4.64E-04	2.17E-02	5.75E-08	5.05E-04
Road 103	103	2000-2100	8.57E-03	1.76E-07	1.55E-03	7.03E-02	1.45E-06	1.27E-02	1.90E-03	3.90E-08	3.43E-04	2.06E-03	4.24E-08	3.72E-04
Road 103	103	2100-2200	7.53E-03	1.55E-07	1.36E-03	6.88E-02	1.42E-06	1.25E-02	1.68E-03	3.47E-08	3.04E-04	1.81E-03	3.77E-08	3.31E-04
Road 103	103	2200-2300	6.49E-03	1.34E-07	1.17E-03	6.73E-02	1.38E-06	1.21E-02	1.45E-03	3.00E-08	2.63E-04	1.56E-03	3.46E-08	3.04E-04
Road 103	103	2300-0000	8.23E-03	1.23E-07	1.08E-03	9.48E-02	1.78E-06	1.67E-02	1.84E-03	2.76E-08	2.42E-04	2.06E-03	4.26E-08	3.72E-04
Road 104	104	0000-0100	1.43E-02	9.73E-08	7.23E-04	8.78E-02	5.99E-07	4.45E-03	3.21E-03	2.18E-08	1.62E-04	3.49E-03	2.38E-08	1.77E-04
Road 104	104	0100-0200	1.34E-02	9.13E-08	6.78E-04	8.24E-02	5.62E-07	4.17E-03	3.01E-03	2.05E-08	1.52E-04	3.27E-03	2.23E-08	1.66E-04
Road 104	104	0200-0300	1.66E-02	5.55E-08	4.12E-04	9.45E-02	3.16E-07	2.35E-03	3.71E-03	1.24E-08	9.23E-05	4.05E-03	1.35E-08	1.01E-04
Road 104	104	0300-0400	1.77E-02	4.74E-08	3.53E-04	9.72E-02	2.61E-07	1.94E-03	3.96E-03	1.06E-08	7.90E-05	4.32E-03	1.16E-08	8.61E-05
Road 104	104	0400-0500	1.77E-02	5.60E-08	4.16E-04	9.72E-02	2.99E-07	2.22E-03	4.20E-03	1.33E-08	9.85E-05	4.58E-03	1.45E-08	1.07E-04
Road 104	104	0500-0600	1.98E-02	1.04E-07	7.74E-04	1.02E-01	5.39E-07	4.01E-03	4.44E-03	2.34E-08	1.74E-04	4.84E-03	2.55E-08	1.90E-04
Road 104	104	0600-0700	2.09E-02	2.39E-07	1.78E-03	1.06E-01	1.21E-06	9.00E-03	4.67E-03	5.36E-08	3.99E-04	5.09E-03	5.85E-08	4.35E-04
Road 104	104	0700-0800	2.17E-02	5.13E-07	3.81E-03	1.07E-01	2.52E-06	1.87E-02	4.90E-03	1.16E-07	8.59E-04	5.34E-03	1.26E-07	9.36E-04
Road 104	104	0800-0900	2.10E-02	5.80E-07	4.31E-03	1.07E-01	2.96E-06	2.20E-02	4.83E-03	1.34E-07	9.92E-04	5.27E-03	1.46E-07	1.08E-03
Road 104	104	0900-1000	2.41E-02	6.05E-07	4.49E-03	1.10E-01	2.75E-06	2.05E-02	5.62E-03	1.41E-07	1.05E-03	6.13E-03	1.54E-07	1.14E-03
Road 104	104	1000-1100	2.71E-02	6.16E-07	4.58E-03	1.16E-01	2.63E-06	1.95E-02	6.27E-03	1.42E-07	1.06E-03	6.83E-03	1.55E-07	1.15E-03
Road 104	104	1100-1200	2.65E-02	5.68E-07	4.22E-03	1.16E-01	2.48E-06	1.84E-02	6.10E-03	1.31E-07	9.71E-04	6.65E-03	1.42E-07	1.06E-03
Road 104	104	1200-1300	1.66E-02	3.42E-07	2.54E-03	8.65E-02	1.78E-06	1.32E-02	3.70E-03	7.60E-08	5.65E-04	4.03E-03	8.28E-08	6.16E-04
Road 104	104	1300-1400	1.67E-02	3.49E-07	2.60E-03	8.82E-02	1.85E-06	1.37E-02	3.77E-03	7.88E-08	5.86E-04	4.10E-03	8.59E-08	6.38E-04
Road 104	104	1400-1500	1.70E-02	3.77E-07	2.81E-03	8.79E-02	1.95E-06	1.45E-02	3.82E-03	8.53E-08	6.34E-04	4.10E-03	9.15E-08	6.80E-04
Road 104	104	1500-1600	1.61E-02	3.69E-07	2.74E-03	8.76E-02	2.01E-06	1.49E-02	3.65E-03	8.38E-08	6.23E-04	3.98E-03	9.13E-08	6.79E-04
Road 104	104	1600-1700	1.72E-02	4.21E-07	3.13E-03	8.55E-02	2.10E-06	1.56E-02	3.82E-03	9.37E-08	6.96E-04	4.16E-03	1.02E-07	7.58E-04
Road 104	104	1700-1800	1.22E-02	3.41E-07	2.54E-03	7.51E-02	2.10E-06	1.57E-02	2.77E-03	7.78E-08	5.78E-04	3.02E-03	8.47E-08	6.30E-04
Road 104	104	1800-1900	8.93E-03	2.78E-07	2.07E-03	5.80E-02	1.81E-06	1.34E-02	2.08E-03	6.47E-08	4.81E-04	2.26E-03	7.04E-08	5.23E-04
Road 104	104	1900-2000	7.87E-03	1.95E-07	1.45E-03	6.01E-02	1.49E-06	1.11E-02	1.77E-03	4.39E-08	3.26E-04	1.92E-03	4.77E-08	3.54E-04
Road 104	104	2000-2100	7.65E-03	1.47E-07	1.09E-03	6.77E-02	1.30E-06	9.67E-03	1.67E-03	3.21E-08	2.38E-04	1.81E-03	3.48E-08	2.59E-04
Road 104	104	2100-2200	6.53E-03	1.26E-07	9.34E-04	6.60E-02	1.27E-06	9.44E-03	1.44E-03	2.76E-08	2.05E-04	1.56E-03	3.00E-08	2.23E-04
Road 104	104	2200-2300	6.39E-03	1.19E-07	8.87E-04	6.79E-02	1.27E-06	9.43E-03	1.35E-03	2.53E-08	1.88E-04	1.47E-03	2.74E-08	2.04E-04
Road 104	104	2300-0000	7.12E-03	9.93E-08	7.38E-04	6.95E-02	9.70E-07	7.21E-03	1.52E-03	2.12E-08	1.57E-04	1.65E-03	2.30E-08	1.71E-04
Road 105	105	0000-0100	2.45E-02	7.24E-08	5.39E-04	1.04E-01	3.08E-07	2.29E-03	5.90E-03	4.14E-08	3.08E-04	5.13E-03	1.33E-08	2.03E-04
Road 105	105	0100-0200	2.63E-02	5.16E-09	7.85E-05	1.36E-01	2.67E-08	4.07E-04	4.45E-03	8.74E-10	1.33E-05	4.84E-03	9.50E-10	1.45E-05
Road 105	105	0200-0300	2.82E-02	4.13E-09	6.28E-05	1.43E-01	2.09E-08	3.18E-04	4.74E-03	6.95E-10	1.06E-05	5.16E-03	7.56E-10	1.15E-05
Road 105	105	0300-0400	2.99E-02	3.54E-09	5.38E-05	1.48E-01	1.74E-08	2.65E-04	5.03E-03	5.94E-10	9.04E-06	5.47E-03	6.46E-10	9.83E-06
Road 105	105	0400-0500	3.16E-02	4.18E-09	6.36E-05	1.52E-01	2.01E-08	3.06E-04	5.31E-03	7.02E-10	1.07E-05	5.78E-03	7.64E-10	1.16E-05
Road 105	105	0500-0600	3.32E-02	7.77E-09	1.18E-04	1.57E-01	3.66E-08	5.57E-04	5.59E-03	1.31E-09	1.99E-05	6.08E-03	1.42E-09	2.16E-05
Road 105	105	0600-0700	3.60E-02	1.84E-08	2.79E-04	1.63E-01	8.48E-08	1.29E-03	5.92E-03	3.02E-09	4.60E-05	6.44E-03	3.29E-09	5.00E-05
Road 105	105	0700-0800	3.74E-02	3.94E-08	5.99E-04	1.69E-01	1.81E-07	2.76E-03	6.18E-03	6.51E-09	9.90E-05	6.72E-03	7.08E-09	1.08E-04
Road 105	105	0800-0900	3.74E-02	4.63E-08	7.05E-04	1.67E-01	2.06E-07	3.14E-03	6.17E-03	7.63E-09	1.16E-04	6.70E-03	8.29E-09	1.26E-04
Road 105	105	0900-1000	3.74E-02	4.32E-02	4.95E-01	1.73E-01	3.28E-03	7.51E-01	6.38E-03	1.21E-03	2.77E-01	6.92E-03	1.31E-03	3.00E-01
Road 105	105	1000-1100	4.84E-02	5.07E-08	7.72E-04	1.98E-01	2.08E-07	3.16E-03	7.84E-03	8.23E-09	1.25E-04	8.53E-03	8.95E-09	1.36E-04
Road 105	105	1100-1200	4.61E-02	4.55E-08	6.92E-04	1.93E-01	1.91E-07	2.90E-03	7.58E-03	7.50E-09	1.14E-04	8.24E-03	8.15E-09	1.24E-04
Road 105	105	1200-1300	3.11E-02	8.66E-07	1.32E-02	1.44E-01	3.62E-06	5.50E-02	5.14E-03	1.42E-07	2.16E-03	5.59E-03	1.56E-07	2.37E-03
Road 105	105	1300-1400	5.10E-01	9.70E-07	1.47E-02	4.04E-01	3.57E-06	5.42E-02	1.40E-02	1.23E-07	1.88E-03	1.52E-02	1.34E-07	2.04E-03
Road 105	105	1400-1500	1.12E-01	9.81E-07	1.49E-02	4.02E-01	3.51E-06	5.34E-02	1.42E-02	1.24E-07	1.89E-03	1.55E-02	1.35E-07	2.06E-03
Road 105	105	1500-1600	1.02E-01	9.27E-07	1.41E-02	3.98E-01	3.61E-06	5.53E-02	1.32E-02	1.21E-07	1.84E-03	1.44E-02	1.31E-07	2.00E-03
Road 105	105	1600-1700	1.05E-01	8.83E-07	1.34E-02	3.85E-01	3.25E-06	4.94E-02	1.37E-02	1.16E-07	1.76E-03	1.49E-02	1.25E-07	1.91E-03
Road 105	105	1700-1800	8.84E-02	6.75E-07	1.03E-02	3.62E-01	2.76E-06	4.20E-02	1.22E-02	9.32E-08	1.42E-03	1.32E-02	1.01E-07	1.54E-03
Road 105	105	1800-1900	7.35E-02	3.88E-07	5.91E-03	3.12E-01	1.65E-06	2.51E-02	1.09E-02	5.78E-08	8.79E-04	1.19E-02	6.27E-08	9.53E-04
Road 105	105	1900-2000	6.99E-02	2.42E-07	3.68E-03	3.01E-01	1.29E-06	1.96E-02	1.04E-02	3.61E-08	5.49E-04	1.15E-02	4.88E-08	7.42E-04
Road 105	105	2000-2100	6.38E-02	1.76E-07	2.68E-03	2.72E-01	7.51E-07	1.14E-02	1.02E-02	2.82E-08	4.29E-04	1.11E-02	3.07E-08	4.67E-04
Road 105	105	2100-2200	6.70E-02	1.90E-07	2.89E-03	2.81E-01	7.97E-07	1.21E-02	1.05E-02	2.97E-08	4.51E-04	1.14E-02	3.22E-08	4.91E-04
Road 105	105	2200-2300	7.13E-02	1.76E-07	2.68E-03	2.97E-01	7.33E-07	1.10E-02	2.73E-02	4.15E-08	6.30E-04	2.97E-02	7.32E-08	1.11E-03
Road 105	105	2300-0000	7.00E-02	1.42E-07	2.16E-03	2.68E-01	5.43E-07	8.25E-03	1.11E-02	2.25E-08	3.42E-04	1.21E-02	2.44E-08	3.72E-04
Road 106	106	0000-0100	1.89E-02	6.77E-08	7.80E-04	1.18E-01	4.23E-07	4.88E-03	3.01E-03	1.08E-08	1.25E-04	3.27E-03	1.17E-08	1.35E-04
Road 106	106	0100-0200	1.99E-02	1.60E-08	1.84E-04	1.23E-01	9.87E-08	1.14E-03	3.22E-03	2.60E-09	2.98E-05	3.50E-03	2.81E-09	3.24E-05
Road 106	106	0200-0300	2.10E-02	3.65E-08	4.21E-04	1.23E-01	2.14E-07	2.46E-03	3.44E-03	5.98E-09	6.89E-05	3.74E-03	6.49E-09	7.47E-05
Road 106	106	0300-0400	2.26E-02	3.31E-08	3.60E-04	1.28E-01	1.77E-07	2.03E-03	3.69E-03	5.11E-09	5.89E-05	4.01E-03	5.55E-09	6.39E-05
Road 106	106	0400-0500	2.41E-02	3.69E-08	4.26E-04	1.32E-01	2.02E-07	2.32E-03	3.94E-03	6.04E-09	6.95E-05	4.28E-03	6.55E-09	7.55E-05
Road 106	106	0500-0600	2.64E-02	7.08E-08	8.16E-04	1.39E-01	3.72E-07	4.29E-03	4.24E-03	1.13E-08	1.31E-04	4.62E-03	1.24E-08	1.42E-04
Road 106	106	0600-0700	3.18E-02	1.84E-07	2.12E-03	1.59E-01	9.21E-07	1.06E-02	4.72E-03	2.74E-08	3.15E-04	5.15E-03	2.98E-08	3.44E-04
Road 106	106	0700-0800	3.96E-02	4.68E-07	5.39E-03	1.86E-01	2.20E-06	2.54E-02	5.40E-03	6.37E-08	7.35E-04	5.87E-03	6.93E-08	7.99E-04
Road 106	106	0800-0900	3.99E-02	5.51E-07	6.35E-03	1.82E-01	2.51E-06	2.89E-02	5.42E-03	7.48E-08	8.62E-04	5.89E-03	8.12E-08	9.36E-04
Road 106	106	0900-1000	4.57E-02	5.68E-07	6.31E-03	2.04E-01	2.45E-06	2.82E-02	6.23E-03	7.48E-08	8.62E-04	6.77E-03	8.12E-08	9.36E-04
Road 106	106	1000-1100	5.20E-02	5.55E-07	6.39E-03	2.18E-01	2.33E-06	2.68E-02	6.97E-03	7.43E-08	8.57E-04	7.57E-03	8.08E-08	9.31E-04
Road 106	106	1100-1200	4.86E-02	4.90E-07	5.64E-03	2.11E-01	2.12E-06	2.45E-02	6.63E-03	6.68E-08	7.69E-04	7.19E-03	7.25E-08	8.35E-04

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2033**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour
Road 106	106	1200-1300	8.24E-02	1.24E-06	1.43E-02	3.10E-01	4.64E-06	5.35E-02	2.89E-02	4.34E-07	5.00E-03	1.08E-01	1.62E-06	1.87E-02
Road 106	106	1300-1400	8.57E-02	1.37E-06	1.58E-02	3.33E-01	5.33E-06	6.14E-02	3.01E-02	4.81E-07	5.54E-03	1.16E-01	1.86E-06	2.14E-02
Road 106	106	1400-1500	8.55E-02	1.41E-06	1.63E-02	3.24E-01	5.35E-06	6.17E-02	3.01E-02	4.96E-07	5.72E-03	1.14E-01	1.88E-06	2.17E-02
Road 106	106	1500-1600	7.86E-02	1.34E-06	1.55E-02	3.24E-01	5.53E-06	6.37E-02	9.51E-03	1.62E-07	1.87E-03	1.03E-02	1.76E-07	2.03E-03
Road 106	106	1600-1700	8.06E-02	1.38E-06	1.59E-02	3.09E-01	5.29E-06	6.09E-02	9.61E-03	1.64E-07	1.89E-03	1.04E-02	1.78E-07	2.06E-03
Road 106	106	1700-1800	6.15E-02	1.09E-06	1.26E-02	2.70E-01	4.80E-06	5.53E-02	7.67E-03	1.37E-07	1.57E-03	8.33E-03	1.48E-07	1.71E-03
Road 106	106	1800-1900	4.12E-02	6.98E-07	8.04E-03	1.90E-01	3.22E-06	3.71E-02	5.54E-03	9.40E-08	1.08E-03	6.02E-03	1.02E-07	1.18E-03
Road 106	106	1900-2000	3.28E-02	5.23E-07	6.02E-03	1.48E-01	2.45E-06	2.82E-02	5.04E-03	8.03E-08	9.24E-04	5.58E-03	8.88E-08	1.02E-03
Road 106	106	2000-2100	3.11E-02	2.99E-07	3.44E-03	1.45E-01	1.40E-06	1.61E-02	4.65E-03	4.47E-08	5.15E-04	4.46E-03	4.29E-08	4.94E-04
Road 106	106	2100-2200	2.93E-02	2.82E-07	3.24E-03	1.37E-01	1.32E-06	1.52E-02	4.38E-03	4.21E-08	4.85E-04	4.20E-03	4.04E-08	4.65E-04
Road 106	106	2200-2300	2.93E-02	2.38E-07	2.73E-03	1.37E-01	1.11E-06	1.28E-02	4.38E-03	3.55E-08	4.08E-04	4.20E-03	3.41E-08	3.92E-04
Road 106	106	2300-0000	2.99E-02	2.18E-07	2.51E-03	1.54E-01	1.12E-06	1.29E-02	4.39E-03	3.20E-08	3.69E-04	4.76E-03	3.48E-08	4.01E-04

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Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (January) — **Year 2033**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour
Road 1	1	0000-0100	1.80E-03	1.22E-07	7.25E-05	3.54E-03	2.38E-07	1.15E-04	3.31E-04	2.88E-08	1.53E-05	3.28E-04	2.85E-08	1.52E-05
Road 1	1	0100-0200	1.05E-02	9.18E-08	5.05E-06	9.24E-03	8.07E-08	4.44E-06	1.20E-03	1.05E-06	5.77E-05	1.01E-03	8.86E-07	4.88E-05
Road 1	1	0200-0300	1.12E-02	7.13E-08	3.92E-06	9.91E-03	6.32E-08	3.48E-06	1.25E-03	7.98E-07	4.39E-05	1.08E-03	6.90E-07	3.80E-05
Road 1	1	0300-0400	1.19E-02	6.01E-08	3.31E-06	1.05E-02	5.31E-08	2.92E-06	1.32E-03	6.67E-07	3.67E-05	1.14E-03	5.78E-07	3.18E-05
Road 1	1	0400-0500	1.26E-02	6.98E-08	3.84E-06	1.12E-02	6.18E-08	3.40E-06	1.25E-03	6.89E-07	3.79E-05	1.06E-03	5.86E-07	3.23E-05
Road 1	1	0500-0600	1.33E-02	1.37E-07	7.55E-06	1.19E-02	1.23E-07	6.77E-06	1.26E-03	1.30E-06	7.16E-05	1.07E-03	1.10E-06	6.05E-05
Road 1	1	0600-0700	1.40E-02	2.87E-07	1.58E-05	1.25E-02	2.56E-07	1.41E-05	9.61E-03	1.64E-06	1.89E-04	1.04E-02	1.78E-06	2.06E-04
Road 1	1	0700-0800	1.46E-02	6.05E-07	3.33E-05	1.32E-02	5.47E-07	3.01E-05	1.27E-01	5.25E-06	2.89E-04	1.11E-01	4.59E-06	2.53E-04
Road 1	1	0800-0900	1.53E-02	6.58E-07	3.62E-05	1.38E-02	5.95E-07	3.27E-05	1.33E-01	5.71E-06	3.14E-04	1.16E-01	4.99E-06	2.75E-04
Road 1	1	0900-1000	1.54E-02	7.29E-07	4.23E-05	1.39E-02	6.59E-07	3.82E-05	1.34E-01	6.33E-06	3.67E-04	1.17E-01	5.53E-06	3.21E-04
Road 1	1	1000-1100	1.64E-02	5.29E-07	2.91E-05	1.49E-02	4.79E-07	2.64E-05	1.25E-01	4.03E-06	2.22E-04	1.10E-01	3.55E-06	1.96E-04
Road 1	1	1100-1200	1.71E-02	7.73E-07	4.25E-05	1.56E-02	7.04E-07	3.88E-05	1.31E-01	5.57E-06	3.07E-04	1.16E-01	4.91E-06	2.71E-04
Road 1	1	1200-1300	1.77E-02	8.24E-07	4.53E-05	1.61E-02	7.49E-07	4.12E-05	1.35E-01	6.29E-06	3.46E-04	1.19E-01	5.55E-06	3.05E-04
Road 1	1	1300-1400	1.82E-02	8.24E-07	4.53E-05	1.66E-02	7.49E-07	4.12E-05	1.38E-01	6.29E-06	3.46E-04	1.22E-01	5.55E-06	3.05E-04
Road 1	1	1400-1500	1.87E-02	8.63E-07	4.75E-05	1.67E-02	7.73E-07	4.26E-05	1.33E-01	6.12E-06	3.37E-04	1.16E-01	5.36E-06	2.95E-04
Road 1	1	1500-1600	1.77E-02	8.37E-07	4.60E-05	1.58E-02	7.47E-07	4.11E-05	1.31E-01	6.20E-06	3.41E-04	1.14E-01	5.39E-06	2.96E-04
Road 1	1	1600-1700	1.89E-02	9.58E-07	5.28E-05	1.70E-02	8.60E-07	4.73E-05	1.33E-01	6.75E-06	3.72E-04	1.17E-01	5.93E-06	3.26E-04
Road 1	1	1700-1800	1.42E-02	8.24E-07	4.53E-05	1.27E-02	7.35E-07	4.05E-05	1.24E-01	7.16E-06	3.94E-04	1.08E-01	6.24E-06	3.44E-04
Road 1	1	1800-1900	1.12E-02	7.15E-07	3.94E-05	9.90E-03	6.34E-07	3.49E-05	1.08E-01	6.93E-06	3.81E-04	9.36E-02	6.00E-06	3.30E-04
Road 1	1	1900-2000	1.04E-02	2.92E-07	9.23E-03	4.72E-07	2.60E-05	1.15E-01	5.89E-06	3.25E-04	1.78E-02	5.09E-06	2.81E-04	1.54E-02
Road 1	1	2000-2100	1.02E-02	4.07E-07	2.24E-05	9.08E-03	3.61E-07	1.99E-05	1.24E-01	4.95E-06	2.72E-04	1.08E-01	4.29E-06	2.36E-04
Road 1	1	2100-2200	8.77E-03	3.47E-07	1.91E-05	7.80E-03	3.09E-07	1.70E-05	1.14E-01	4.51E-06	2.48E-04	9.88E-02	3.91E-06	2.15E-04
Road 1	1	2200-2300	8.55E-03	3.38E-07	1.86E-05	7.60E-03	3.01E-07	1.65E-05	1.04E-01	4.12E-06	2.27E-04	9.03E-02	3.57E-06	1.96E-04
Road 1	1	2300-0000	9.65E-03	2.78E-07	1.53E-05	8.54E-03	2.46E-07	1.35E-05	1.24E-01	3.54E-06	1.95E-04	1.08E-01	3.05E-06	1.68E-04
Road 2	2	0000-0100	1.21E-02	1.68E-07	8.51E-06	1.06E-02	1.47E-07	7.46E-06	1.28E-01	1.77E-06	8.98E-05	1.08E-01	1.50E-06	7.60E-05
Road 2	2	0100-0200	1.30E-02	1.61E-07	8.15E-06	1.14E-02	1.41E-07	7.14E-06	1.37E-01	1.70E-06	8.60E-05	1.16E-01	1.44E-06	7.28E-05
Road 2	2	0200-0300	1.39E-02	9.24E-08	4.68E-06	1.23E-02	8.23E-08	4.17E-06	1.31E-01	8.76E-07	4.44E-05	1.13E-01	7.54E-07	3.82E-05
Road 2	2	0300-0400	1.48E-02	8.97E-08	4.54E-06	1.31E-02	7.99E-08	4.04E-06	1.39E-01	8.51E-07	4.31E-05	1.20E-01	7.32E-07	3.71E-05
Road 2	2	0400-0500	1.56E-02	9.08E-08	4.60E-06	1.38E-02	8.07E-08	4.09E-06	1.33E-01	7.87E-07	3.99E-05	1.16E-01	6.76E-07	3.42E-05
Road 2	2	0500-0600	1.61E-02	1.64E-07	8.29E-06	1.44E-02	1.42E-07	7.42E-06	1.35E-01	1.37E-06	6.95E-05	1.19E-01	1.19E-06	6.01E-05
Road 2	2	0600-0700	1.69E-02	3.44E-07	1.74E-05	1.50E-02	3.04E-07	1.54E-05	1.35E-01	2.74E-06	1.39E-04	1.19E-01	2.38E-06	1.21E-04
Road 2	2	0700-0800	1.76E-02	7.82E-07	3.96E-05	1.60E-02	7.08E-07	3.59E-05	1.37E-01	6.07E-06	3.08E-04	1.20E-01	5.34E-06	2.71E-04
Road 2	2	0800-0900	1.67E-02	8.61E-07	4.36E-05	1.52E-02	7.84E-07	3.97E-05	1.22E-01	6.30E-06	3.19E-04	1.09E-01	5.60E-06	2.84E-04
Road 2	2	0900-1000	1.99E-02	8.32E-07	4.22E-05	1.74E-02	7.61E-07	3.86E-05	1.31E-01	5.73E-06	2.90E-04	1.17E-01	5.13E-06	2.60E-04
Road 2	2	1000-1100	2.04E-02	7.46E-07	3.78E-05	1.77E-02	6.47E-07	3.28E-05	1.34E-01	4.91E-06	2.49E-04	1.20E-01	4.61E-06	2.34E-04
Road 2	2	1100-1200	2.05E-02	7.46E-07	3.78E-05	1.86E-02	6.79E-07	3.44E-05	1.35E-01	4.93E-06	2.50E-04	1.21E-01	4.39E-06	2.22E-04
Road 2	2	1200-1300	2

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.63E-02	3.22E-03	1.62E-06	1.44E-02	1.09E-07	3.40E-06	1.16E-01	8.69E-07	3.15E-05	9.82E-06
Road 21	21	0100-0200	1.84E-02	9.28E-08	1.23E-06	1.85E-02	8.32E-08	1.10E-06	1.20E-01	6.04E-07	7.98E-06	1.04E-01
Road 21	21	0200-0300	2.04E-02	7.73E-08	1.02E-06	1.84E-02	6.98E-08	9.22E-07	1.23E-01	4.66E-07	6.15E-06	8.13E-02
Road 21	21	0300-0400	2.27E-02	9.98E-08	1.32E-06	2.05E-02	9.22E-08	1.22E-06	1.26E-01	5.56E-07	7.35E-06	9.72E-02
Road 21	21	0400-0500	2.30E-02	7.79E-08	1.03E-06	2.06E-02	6.96E-08	9.20E-07	1.30E-01	4.40E-07	5.81E-06	7.68E-02
Road 21	21	0500-0600	2.45E-02	1.65E-07	2.18E-06	2.19E-02	1.47E-07	1.94E-06	1.37E-01	9.23E-07	1.22E-05	1.61E-01
Road 21	21	0600-0700	2.11E-02	2.56E-07	3.39E-06	1.91E-02	2.32E-07	3.07E-06	1.28E-01	1.56E-06	2.06E-05	2.72E-01
Road 21	21	0700-0800	2.46E-02	6.24E-07	8.24E-06	2.25E-02	5.70E-07	7.53E-06	1.36E-01	3.46E-06	4.57E-05	6.03E-01
Road 21	21	0800-0900	2.86E-02	7.18E-07	9.49E-06	2.61E-02	6.55E-07	8.66E-06	1.37E-01	3.44E-06	4.55E-05	6.01E-01
Road 21	21	0900-1000	2.90E-02	7.58E-07	1.00E-05	2.66E-02	6.96E-07	9.20E-06	1.45E-01	3.80E-06	5.02E-05	6.63E-01
Road 21	21	1000-1100	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 21	21	1100-1200	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 21	21	1200-1300	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 21	21	1300-1400	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 21	21	1400-1500	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 21	21	1500-1600	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 21	21	1600-1700	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 21	21	1700-1800	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 21	21	1800-1900	2.44E-02	5.02E-07	6.64E-06	2.18E-02	4.49E-07	5.93E-06	1.42E-01	2.93E-06	3.87E-05	5.12E-01
Road 21	21	1900-2000	2.04E-02	3.65E-07	4.04E-06	1.84E-02	2.75E-07	3.63E-06	1.25E-01	1.86E-06	2.46E-05	3.25E-01
Road 21	21	2000-2100	2.01E-02	4.41E-07	3.18E-06	1.86E-02	4.08E-07	2.94E-06	1.29E-01	2.82E-06	2.03E-05	1.46E-01
Road 21	21	2100-2200	1.96E-02	2.32E-07	1.07E-06	1.77E-02	2.09E-07	2.76E-06	1.39E-01	1.64E-06	2.17E-05	2.87E-01
Road 21	21	2200-2300	1.91E-02	2.25E-07	1.02E-06	1.72E-02	2.03E-07	2.58E-06	1.34E-01	1.58E-06	2.01E-05	2.56E-01
Road 21	21	2300-0000	2.21E-02	1.91E-07	2.52E-06	1.99E-02	1.71E-07	2.27E-06	1.55E-01	1.33E-06	1.77E-05	2.34E-01
Road 22	22	0000-0100	1.63E-02	3.22E-03	1.62E-06	1.44E-02	1.09E-07	3.40E-06	1.16E-01	8.69E-07	3.15E-05	9.82E-06
Road 22	22	0100-0200	1.84E-02	9.28E-08	1.23E-06	1.85E-02	8.32E-08	1.10E-06	1.20E-01	6.04E-07	7.98E-06	1.04E-01
Road 22	22	0200-0300	2.04E-02	7.73E-08	1.02E-06	1.84E-02	6.98E-08	9.22E-07	1.23E-01	4.66E-07	6.15E-06	8.13E-02
Road 22	22	0300-0400	2.27E-02	9.98E-08	1.32E-06	2.05E-02	9.22E-08	1.22E-06	1.26E-01	5.56E-07	7.35E-06	9.72E-02
Road 22	22	0400-0500	2.30E-02	7.79E-08	1.03E-06	2.06E-02	6.96E-08	9.20E-07	1.30E-01	4.40E-07	5.81E-06	7.68E-02
Road 22	22	0500-0600	2.45E-02	1.65E-07	2.18E-06	2.19E-02	1.47E-07	1.94E-06	1.37E-01	9.23E-07	1.22E-05	1.61E-01
Road 22	22	0600-0700	2.11E-02	2.56E-07	3.39E-06	1.91E-02	2.32E-07	3.07E-06	1.28E-01	1.56E-06	2.06E-05	2.72E-01
Road 22	22	0700-0800	2.46E-02	6.24E-07	8.24E-06	2.25E-02	5.70E-07	7.53E-06	1.36E-01	3.46E-06	4.57E-05	6.03E-01
Road 22	22	0800-0900	2.86E-02	7.18E-07	9.49E-06	2.61E-02	6.55E-07	8.66E-06	1.37E-01	3.44E-06	4.55E-05	6.01E-01
Road 22	22	0900-1000	2.90E-02	7.58E-07	1.00E-05	2.66E-02	6.96E-07	9.20E-06	1.45E-01	3.80E-06	5.02E-05	6.63E-01
Road 22	22	1000-1100	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 22	22	1100-1200	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 22	22	1200-1300	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 22	22	1300-1400	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 22	22	1400-1500	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 22	22	1500-1600	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 22	22	1600-1700	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 22	22	1700-1800	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 22	22	1800-1900	2.44E-02	5.02E-07	6.64E-06	2.18E-02	4.49E-07	5.93E-06	1.42E-01	2.93E-06	3.87E-05	5.12E-01
Road 22	22	1900-2000	2.04E-02	3.65E-07	4.04E-06	1.84E-02	2.75E-07	3.63E-06	1.25E-01	1.86E-06	2.46E-05	3.25E-01
Road 22	22	2000-2100	2.01E-02	4.41E-07	3.18E-06	1.86E-02	4.08E-07	2.94E-06	1.29E-01	2.82E-06	2.03E-05	1.46E-01
Road 22	22	2100-2200	1.96E-02	2.32E-07	1.07E-06	1.77E-02	2.09E-07	2.76E-06	1.39E-01	1.64E-06	2.17E-05	2.87E-01
Road 22	22	2200-2300	1.91E-02	2.25E-07	1.02E-06	1.72E-02	2.03E-07	2.58E-06	1.34E-01	1.58E-06	2.01E-05	2.56E-01
Road 22	22	2300-0000	2.21E-02	1.91E-07	2.52E-06	1.99E-02	1.71E-07	2.27E-06	1.55E-01	1.33E-06	1.77E-05	2.34E-01
Road 23	23	0000-0100	1.49E-01	1.81E-07	3.24E-06	1.33E-01	1.62E-07	2.90E-06	1.58E-01	4.98E-01	6.06E-07	1.08E-05
Road 23	23	0100-0200	1.24E-01	2.22E-07	1.02E-06	1.11E-01	1.99E-07	9.16E-07	1.32E-01	2.38E-07	1.09E-06	1.57E-02
Road 23	23	0200-0300	1.40E-01	9.32E-08	1.66E-06	1.27E-01	8.47E-08	1.51E-06	1.52E-01	5.07E-07	9.04E-06	1.46E-01
Road 23	23	0300-0400	1.27E-01	2.24E-07	1.02E-06	1.14E-01	2.01E-07	9.16E-07	1.36E-01	2.40E-07	1.09E-06	1.57E-02
Road 23	23	0400-0500	1.46E-01	9.51E-08	1.70E-06	1.31E-01	8.55E-08	1.53E-06	1.56E-01	5.09E-07	9.12E-06	1.47E-01
Road 23	23	0500-0600	1.62E-01	1.93E-07	3.45E-06	1.46E-01	1.73E-07	3.10E-06	1.74E-01	5.17E-07	9.24E-06	1.49E-01
Road 23	23	0600-0700	1.41E-01	2.66E-07	1.21E-06	1.27E-01	2.39E-07	1.09E-06	1.51E-01	2.85E-07	1.29E-06	1.87E-02
Road 23	23	0700-0800	2.00E-01	1.16E-06	2.06E-05	1.84E-01	1.06E-06	1.89E-05	2.75E-01	1.60E-06	2.84E-05	4.57E-01
Road 23	23	0800-0900	2.00E-01	1.16E-06	2.06E-05	1.84E-01	1.06E-06	1.89E-05	2.75E-01	1.60E-06	2.84E-05	4.57E-01
Road 23	23	0900-1000	2.09E-01	1.58E-06	2.82E-05	1.92E-01	1.46E-06	2.60E-05	2.84E-01	2.54E-06	4.51E-05	7.24E-01
Road 23	23	1000-1100	2.24E-01	1.55E-06	2.77E-05	2.03E-01	1.41E-06	2.52E-05	3.04E-01	2.54E-06	4.51E-05	7.24E-01
Road 23	23	1100-1200	2.24E-01	1.55E-06	2.77E-05	2.03E-01	1.41E-06	2.52E-05	3.04E-01	2.54E-06	4.51E-05	7.24E-01
Road 23	23	1200-1300	2.30E-01	1.64E-06	2.93E-05	2.07E-01	1.48E-06	2.64E-05	3.08E-01	2.64E-06	4.69E-05	7.52E-01
Road 23	23	1300-1400	2.30E-01	1.64E-06	2.93E-05	2.07E-01	1.48E-06	2.64E-05	3.08E-01	2.64E-06	4.69E-05	7.52E-01
Road 23	23	1400-1500	2.27E-01	1.85E-06	3.30E-05	2.04E-01	1.66E-06	2.97E-05	3.04E-01	2.97E-06	5.31E-05	8.51E-01
Road 23	23	1500-1600	2.27E-01	1.85E-06	3.30E-05	2.04E-01	1.66E-06	2.97E-05	3.04E-01	2.97E-06	5.31E-05	8.51E-01
Road 23	23	1600-1700	2.18E-01	1.69E-06	3.01E-05	1.97E-01	1.52E-06	2.72E-05	2.90E-01	2.68E-06	4.78E-05	7.66E-01
Road 23	23	1700-1800	2.18E-01	1.69E-06	3.01E-05	1.97E-01	1.52E-06	2.72E-05	2.90E-01	2.68E-06	4.78E-05	7.66E-01
Road 23	23	1800-1900	1.33E-01	2.37E-05	1.68E-01	1.20E-06	2.15E-05	9.24E-05	1.33E-06	9.50E-05	6.71E-01	1.81E-03
Road 23	23	1900-2000	1.13E-01	1.27E-05	1.61E-01	1.02E-06	1.15E-05	8.84E-05	1.13E-06	5.09E-05	6.42E-01	1.73E-03
Road 23	23	2000-2100	1.09E-01	1.27E-05	1.61E-01	9.85E-07	1.15E-05	8.84E-05	1.09E-06	5.09E-05	6.42E-01	1.73E-03
Road 23	23	2100-2200	1.06E-01	1.27E-05	1.61E-01	9.56E-07	1.15E-05	8.84E-05	1.06E-06	5.09E-05	6.42E-01	1.73E-03
Road 23	23	2200-2300	1.03E-01	1.27E-05	1.61E-01	9.27E-07	1.15E-05	8.84E-05	1.03E-06	5.09E-05	6.42E-01	1.73E-03
Road 23	23	2300-0000	1.00E-01	1.27E-05	1.61E-01	9.00E-07	1.15E-05	8.84E-05	1.00E-06	5.09E-05	6.42E-01	1.73E-03
Road 24	24	0000-0100	1.63E-02	3.22E-03	1.62E-06	1.44E-02	1.09E-07	3.40E-06	1.16E-01	8.69E-07	3.15E-05	9.82E-06
Road 24	24	0100-0200	1.84E-02	9.28E-08	1.23E-06	1.85E-02	8.32E-08	1.10E-06	1.20E-01	6.04E-07	7.98E-06	1.04E-01
Road 24	24	0200-0300	2.04E-02	7.73E-08	1.02E-06	1.84E-02	6.98E-08	9.22E-07	1.23E-01	4.66E-07	6.15E-06	8.13E-02
Road 24	24	0300-0400	2.27E-02	9.98E-08	1.32E-06	2.05E-02	9.22E-08	1.22E-06	1.26E-01	5.56E-07	7.35E-06	9.72E-02
Road 24	24	0400-0500	2.30E-02	7.79E-08	1.03E-06	2.06E-02	6.96E-08	9.20E-07	1.30E-01	4.40E-07	5.81E-06	7.68E-02
Road 24	24	0500-0600	2.45E-02	1.65E-07	2.18E-06	2.19E-02	1.47E-07	1.94E-06	1.37E-01	9.23E-07	1.22E-05	1.61E-01
Road 24	24	0600-0700	2.11E-02	2.56E-07	3.39E-06	1.91E-02	2.32E-07	3.07E-06	1.28E-01	1.56E-06	2.06E-05	2.72E-01
Road 24	24	0700-0800	2.46E-02	6.24E-07	8.24E-06	2.25E-02	5.70E-07	7.53E-06	1.36E-01	3.46E-06	4.57E-05	6.03E-01
Road 24	24	0800-0900	2.86E-02	7.18E-07	9.49E-06	2.61E-02	6.55E-07	8.66E-06	1.37E-01	3.44E-06	4.55E-05	6.01E-01
Road 24	24	0900-1000	2.90E-02	7.58E-07	1.00E-05	2.66E-02	6.96E-07	9.20E-06	1.45E-01	3.80E-06	5.02E-05	6.63E-01
Road 24	24	1000-1100	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 24	24	1100-1200	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 24	24	1200-1300	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 24	24	1300-1400	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 24	24	1400-1500	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 24	24	1500-1600	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 24	24	1600-1700	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 24	24	1700-1800	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 24	24	1800-1900	2.44E-02	5.02E-07	6.64E-06	2.18E-02	4.49E-07	5.93E-06	1.42E-01	2.93E-06	3.87E-05	5.12E-01
Road 24	24	1900-2000	2.04E-02	3.65E-07	4.04E-06	1.84E-02	2.75E-07	3.63E-06	1.25E-01	1.86E-06	2.46E-05	3.25E-01
Road 24	24	2000-2100	2.01E-02	4.41E-07	3.18E-06	1.86E-02	4.08E-07	2.94E-06	1.29E-01	2.82E-06	2.03E-05	1.46E-01
Road 24	24	2100-2200	1.96E-02	2.32E-07	1.07E-06	1.77E-02	2.09E-07	2.76E-06	1.39E-01	1.64E-06	2.17E-05	2.87E-01
Road 24	24	2200-2300	1.91E-02	2.25E-07	1.02E-06	1.72E-02	2.03E-07	2.58E-06	1.34E-01	1.58E-06	2.01E-05	2.56E-01
Road 24	24	2300-0000	2.21E-02	1.91E-07	2.52E-06	1.99E-02	1.71E-07	2.27E-06	1.55E-01	1.33E-06	1.77E-05	2.34E-01
Road 25	25	0000-0100	1.49E-01	1.81E-07	3.24E-06	1.33E-01	1.62E-07	2.90E-06	1.58E-01	4.98E-01	6.06E-07	1.08E-05
Road 25	25	0100-0200	1.24E-01	2.22E-07	1.02E-06	1.11E-01	1.99E-07	9.16E-07	1.32E-01	2.38E-07	1.09E-06	1.57E-02
Road 25	25	0200-0300	1.40E-01	9.32E-08	1.66E-06	1.27E-01	8.47E-08	1.51E-06	1.52E-01	5.07E-07	9.04E-06	1.46E-01
Road 25	25	0300-0400	1.27E-01	2.24E-07	1.02E-06	1.14E-01	2.01E-07	9.16E-07	1.36E-01	2.40E-07	1.09E-06	1.57E-02
Road 25	25	0400-0500	1.46E-01	9.51E-08	1.70E-06	1.31E-01	8.55E-08	1.53E-06	1.56E-01	5.09E-07	9.12E-06	1.47E-01
Road 25	25	0500-0600	1.62E-01	1.93E-07	3.45E-06	1.46E-01	1.73E-07	3.10E-06	1.74E-01	5.17E-07	9.24E-06	1.49E-01
Road 25	25	0600-0700	1.41E-01	2.66E-07	1.21E-06	1.27E-01	2.39E-07	1.09E-06	1.51E-01	2.85E-07	1.29E-06	1.87E-02
Road 25	25	0700-0800	2.00E-01	1.16E-06	2.06E-05	1.84E-01	1.06E-06	1.89E-05	2.75E-01	1.60E-06	2.84E-05	4.57E-01
Road 25	25	0800-0900	2.00E-01	1.16E-06	2.06E-05	1.84E-01	1.06E-06	1.89E-05	2.75E-01	1.60E-06	2.84E-05	4.57E-01
Road 25	25	0900-1000	2.09E-01	1.58E-06	2.82E-05	1.92E-01	1.46E-06	2.60E-05	2.84E-01	2.54E-06	4.51E-05	7.24E-01
Road 25	25	1000-1100	2.24E-01	1.55E-06	2.77E-05	2.03E-01	1.41E-06	2.52E-05	3.04E-01	2.54E-06	4.51E-05	7.24E-01
Road 25	25	1100-1200	2.24E-01	1.55E-06	2.77E-05	2.03E-01	1.41E-06	2.52E-05	3.04E-01	2.54E-06	4.51E-05	7.24E-01
Road 25	25	1200-1300	2.30E-01	1.64E-06	2.93E-05	2.07E-01	1.48E-06	2.64E-05	3.08E-01	2.64E-06	4.69E-05	7.52E-01
Road 25	25	1300-1400	2.30E-01	1.64E-06	2.93E-05	2.07E-01	1.48E-06	2.64E-05	3.08E-01	2.64E-06	4.69E-05	7.52E-01
Road 25	25	1400-1500	2.27E-01	1.85E-06	3.30E-05	2.04E-01	1.66E-06	2.97E-05	3.04E-01	2.97E-06	5.31E-05	8.51E-01
Road 25	25	1500-1600	2.27E-01	1.85E-06	3.30E-05	2.04E-01	1.66E-06	2.97E-05	3.04E-01	2.97E-06	5.31E-05	8.51E-01
Road 25	25	1600-1700	2.18E-01	1.69E-06	3.01E-05	1.97E-01	1.52E-06	2.72E-05	2.90E-01	2.68E-06	4.78E-05	7.66E-01
Road 25	25	1700-1800	2.18E-01	1.69E-06	3.01E-05	1.97E-01	1.52E-06	2.72E-05	2.90E-01	2.68E-06	4.78E-05	7.66E-01
Road 25	25	1800-1900	1.33E-01	2.37E-05	1.68E-01	1.20E-06	2.15E-05	9.24E-05	1.33E-06	9.50E-05	6.71E-01	1.81E-03
Road 25	25	1900-2000	1.13E-01	1.27E-05	1.61E-01	1.02E-06	1.15E-05	8.84E-05	1.13E-06	5.09E-05	6.42E-01	1.73E-03
Road 25	25	2000-2100	1.09E-01	1.27E-05	1.61E-01	9.85E-07	1.15E-05	8.84E-05	1.09E-06	5.09E-05	6.42E-01	1.73E-03
Road 25	25	2100-2200	1.06E-01	1.27E-05	1.61E-01	9.56E-07	1.15E-05	8.84E-05	1.06E-06	5.09E-05	6.42E-01	1.73E-03
Road 25	25	2200-2300	1.03E-01	1.27E-05	1.61E-01	9.27E-07	1.15E-05	8.84E-05	1.03E-06	5.09E-05	6.42E-01	1.73E-03
Road 25	25	2300-0000	1.00E-01	1.27E-05	1.61E-01	9.00E-07	1.15E-05	8.84E-05	1.00E-06	5.09E-05	6.42E-01	1.73E-03
Road 26	26	0000-0100	1.63E-02	3.22E-03	1.62E-06	1.44E-02	1.09E-07	3.40E-06	1.16E-01	8.69E-07	3.15E-05	9.82E-06
Road 26	26	0100-0200	1.84E-02	9.28E-08	1.23E-06	1.85E-02	8.32E-08	1.10E-06	1.20E-01	6.04E-07	7.98E-06	1.04E-01
Road 26	26	0200-0300	2.04E-02	7.73E-08	1.02E-06	1.84E-02	6.98E-08	9.22E-07	1.23E-01	4.66E-07	6.15E-06	8.13E-02
Road 26	26	0300-0400	2.27E-02	9.98E-08	1.32E-06	2.05E-02	9.22E-08	1.22E-06	1.26E-01	5.56E-07	7.35E-06	9.72E-02
Road 26	26	0400-0500	2.30E-02	7.79E-08	1.03E-06	2.06E-02	6.96E-08	9.20E-07	1.30E-01	4.40E-07	5.81E-06	7.68E-02
Road 26	26	0500-0600	2.45E-02	1.65E-07	2.18E-06	2.19E-02	1.47E-07	1.94E-06	1.37E-01	9.23E-07	1.22E-05	1.61E-01
Road 26	26	0600-0700	2.11E-02	2.56E-07	3.39E-06	1.91E-02	2.32E-07	3.07E-06	1.28E-01	1.56E-06	2.06E-05	2.72E-01
Road 26	26	0700-0800	2.46E-02	6.24E-07	8.24E-06	2.25E-02	5.70E-07	7.53E-06	1.36E-01	3.46E-06	4.57E-05	6.03E-01
Road 26	26	0800-0900	2.86E-02	7.18E-07	9.49E-06	2.61E-02	6.55E-07	8.66E-06	1.37E-01	3.44E-06	4.55E-05	6.01E-01
Road 26	26	0900-1000	2.90E-02	7.58E-07	1.00E-05	2.66E-02	6.96E-07	9.20E-06	1.45E-01	3.80E-06	5.02E-05	6.63E-01
Road 26	26	1000-1100	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 26	26	1100-1200	2.91E-02	6.49E-07	8.58E-06	2.64E-02	5.88E-07	7.77E-06	1.44E-01	3.21E-06	4.24E-05	5.61E-01
Road 26	26	1200-1300	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 26	26	1300-1400	2.91E-02	7.89E-07	1.02E-05	2.56E-02	6.94E-07	9.00E-06	1.44E-01	3.90E-06	5.06E-05	6.56E-01
Road 26	26	1400-1500	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 26	26	1500-1600	4.06E-02	8.79E-07	1.16E-05	3.66E-02	7.91E-07	1.04E-05	1.96E-01	4.24E-06	5.60E-05	7.39E-01
Road 26	26	1600-1700	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 26	26	1700-1800	3.90E-02	8.61E-07	1.14E-05	3.51E-02	7.75E-07	1.02E-05	1.93E-01	4.26E-06	5.62E-05	7.42E-01
Road 26	26	1800-1900	2.44E-02	5.02E-07	6.64E-06	2.18E-02	4.49E-07	5.93E-06	1.42E-01	2.93E-06	3.87E-05	5.12E-01
Road 26	26	1900-2000	2.04E-02	3.65E-07	4.04E-06	1.84E-02	2.75E-07	3.63E-06	1.25E-01	1.86E-06	2.46E-05	3.25E-01
Road 26	26	2000-2100	2.01E-02	4.41E-07	3.18E-06	1.86E-02	4.08E-07	2.94E-06	1.29E-01	2.82E-06	2.03E-05	1.46E-01
Road 26	26	2100-2200	1.96E-02	2.32E-07	1.07E-06	1.77E-02	2.09E-07	2.76E-06	1.39E-01	1.64E-06	2.17E-05	2.87E-01
Road 26	26	2200-2300	1.91E-02	2.25E-07	1.02E-06	1.72E-02	2.03E-07	2.58E-06	1.34E-01	1.58E-06	2.01E-05	2.56E-01
Road 26	26

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.22E-02	4.95E-03	1.96E-05	1.44E-01	2.81E-06	8.77E-05	1.25E-01	2.42E-06	7.57E-05
Road 47	47	1700-1800	2.31E-02	5.20E-03	1.62E-05	2.06E-02	4.64E-07	1.45E-05	1.79E-02	4.03E-07	1.25E-05
Road 47	47	1800-1900	1.76E-02	4.47E-03	1.39E-05	1.56E-02	3.96E-07	1.24E-05	1.36E-02	3.44E-07	1.08E-05
Road 47	47	1900-2000	1.41E-02	3.97E-03	1.26E-05	1.25E-02	3.51E-07	1.12E-05	1.08E-02	3.05E-07	9.68E-06
Road 47	47	2000-2100	1.28E-02	2.01E-07	6.27E-06	1.13E-02	1.78E-07	5.55E-06	9.63E-02	1.51E-06	4.73E-05
Road 47	47	2100-2200	1.65E-02	2.59E-07	5.16E-06	1.47E-02	2.30E-07	4.59E-06	1.24E-02	1.95E-07	3.89E-06
Road 47	47	2200-2300	1.04E-02	1.59E-07	4.95E-06	9.24E-03	1.41E-07	4.39E-06	7.84E-03	1.19E-07	3.72E-06
Road 47	47	2300-0000	1.06E-02	1.21E-07	3.79E-06	9.38E-03	1.07E-07	3.34E-06	9.12E-02	1.04E-06	3.25E-05
Road 48	48	0000-0100	1.04E-02	1.18E-07	3.68E-06	9.22E-03	1.05E-07	3.26E-06	7.82E-03	8.92E-08	2.78E-06
Road 48	48	0100-0200	1.02E-02	5.66E-08	1.84E-06	9.03E-03	5.02E-08	1.63E-06	9.49E-02	5.27E-07	1.71E-05
Road 48	48	0200-0300	1.02E-02	5.91E-08	1.84E-06	9.03E-03	5.23E-08	1.63E-06	7.66E-03	4.43E-08	1.38E-06
Road 48	48	0300-0400	1.17E-02	3.73E-08	5.63E-07	1.03E-02	3.29E-08	4.97E-07	1.16E-01	3.70E-07	5.58E-06
Road 48	48	0400-0500	1.24E-02	4.55E-08	1.15E-06	1.09E-02	4.02E-08	1.02E-06	9.57E-02	3.52E-07	8.87E-06
Road 48	48	0500-0600	1.30E-02	7.90E-08	1.19E-06	1.15E-02	6.99E-08	1.05E-06	1.07E-01	6.51E-07	9.79E-06
Road 48	48	0600-0700	1.37E-02	1.79E-07	2.69E-06	1.20E-02	1.56E-07	2.35E-06	1.02E-01	1.33E-06	2.00E-05
Road 48	48	0700-0800	1.35E-02	2.34E-07	3.41E-06	1.19E-02	2.06E-07	3.00E-06	1.03E-01	1.79E-06	2.61E-05
Road 48	48	0800-0900	1.35E-02	4.09E-07	6.18E-06	1.22E-02	3.72E-07	5.61E-06	1.04E-01	3.18E-06	4.79E-05
Road 48	48	0900-1000	1.41E-02	3.77E-07	1.69E-06	1.27E-02	3.42E-07	1.53E-06	1.07E-01	2.88E-06	1.29E-05
Road 48	48	1000-1100	1.68E-02	3.82E-07	5.44E-06	1.52E-02	3.28E-07	4.94E-06	1.17E-01	2.52E-06	3.80E-05
Road 48	48	1100-1200	1.61E-02	3.29E-07	4.96E-06	1.45E-02	2.95E-07	4.45E-06	1.13E-01	2.30E-06	3.47E-05
Road 48	48	1200-1300	1.64E-02	3.44E-07	4.56E-06	1.48E-02	3.09E-07	4.09E-06	1.14E-01	2.39E-06	3.16E-05
Road 48	48	1300-1400	1.75E-02	3.75E-07	7.86E-06	1.58E-02	3.41E-07	7.14E-06	1.18E-01	2.53E-06	5.30E-05
Road 48	48	1400-1500	1.61E-02	3.29E-07	4.96E-06	1.45E-02	2.95E-07	4.45E-06	1.13E-01	2.30E-06	3.47E-05
Road 48	48	1500-1600	1.56E-02	3.25E-07	7.92E-06	1.40E-02	2.92E-07	7.12E-06	1.09E-01	2.27E-06	5.53E-05
Road 48	48	1600-1700	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05
Road 48	48	1700-1800	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05
Road 48	48	1800-1900	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05
Road 48	48	1900-2000	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05
Road 48	48	2000-2100	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05
Road 48	48	2100-2200	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05
Road 48	48	2200-2300	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05
Road 48	48	2300-0000	1.37E-02	3.56E-07	4.61E-06	1.24E-02	3.21E-07	4.16E-06	9.57E-02	2.48E-06	3.21E-05

L:\Secure\Environment_Projects\607332\P1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	1.12E-03	7.42E-08	1.38E-06	7.92E-03	4.44E-08	1.20E-06	1.10E-01	8.92E-07	1.66E-05
Road 51	51	0100-0200	9.76E-03	5.15E-08	9.60E-07	8.63E-03	4.56E-08	8.50E-07	1.11E-01	5.85E-07	1.09E-05
Road 51	51	0200-0300	1.04E-02	4.01E-08	7.48E-07	9.23E-03	3.55E-08	6.62E-07	1.13E-01	4.35E-07	8.10E-06
Road 51	51	0300-0400	1.12E-02	3.39E-08	6.31E-07	9.83E-03	2.98E-08	5.56E-07	1.15E-01	3.49E-07	6.51E-06
Road 51	51	0400-0500	1.18E-02	3.93E-08	7.33E-07	1.04E-02	3.47E-08	6.47E-07	1.16E-01	3.87E-07	7.22E-06
Road 51	51	0500-0600	1.54E-02	7.15E-08	1.33E-06	1.31E-02	6.08E-08	1.13E-06	1.19E-01	5.52E-07	1.03E-05
Road 51	51	0600-0700	1.31E-02	1.62E-07	3.01E-06	1.17E-02	1.44E-07	2.68E-06	1.19E-01	1.46E-06	2.73E-05
Road 51	51	0700-0800	1.36E-02	3.39E-07	6.31E-06	1.24E-02	3.08E-07	5.74E-06	1.18E-01	2.92E-06	5.44E-05
Road 51	51	0800-0900	1.29E-02	3.69E-07	5.37E-06	1.17E-02	3.35E-07	4.87E-06	1.04E-01	2.97E-06	4.32E-05
Road 51	51	0900-1000	1.43E-02	3.34E-07	6.23E-06	1.30E-02	3.03E-07	5.65E-06	1.12E-01	2.61E-06	4.86E-05
Road 51	51	1000-1100	1.52E-02	2.88E-07	5.73E-06	1.38E-02	2.61E-07	5.20E-06	1.17E-01	2.21E-06	4.41E-05
Road 51	51	1100-1200	1.52E-02	2.88E-07	5.37E-06	1.36E-02	2.58E-07	4.81E-06	1.17E-01	2.23E-06	4.15E-05
Road 51	51	1200-1300	1.86E-02	4.84E-07	9.03E-06	1.69E-02	4.39E-07	8.17E-06	1.37E-01	3.56E-06	6.63E-05
Road 51	51	1300-1400	1.77E-02	5.05E-07	9.33E-06	1.61E-02	4.59E-07	8.47E-06	1.34E-01	3.82E-06	7.05E-05
Road 51	51	1400-1500	1.83E-02	5.24E-07	9.78E-06	1.66E-02	4.73E-07	8.82E-06	1.38E-01	3.95E-06	7.36E-05
Road 51	51	1500-1600	1.77E-02	5.05E-07	9.33E-06	1.61E-02	4.59E-07	8.47E-06	1.34E-01	3.82E-06	7.05E-05
Road 51	51	1600-1700	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05
Road 51	51	1700-1800	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05
Road 51	51	1800-1900	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05
Road 51	51	1900-2000	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05
Road 51	51	2000-2100	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05
Road 51	51	2100-2200	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05
Road 51	51	2200-2300	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05
Road 51	51	2300-0000	1.76E-02	5.03E-07	7.88E-06	1.59E-02	4.57E-07	7.16E-06	1.32E-01	3.80E-06	5.96E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 54	54	0800-0900	1.13E-01	4.23E-07	9.63E-06	1.03E-01	3.87E-07	8.83E-06	1.43E-01	5.38E-07	1.23E-05
Road 54	54	0900-1000	1.28E-01	4.83E-07	1.05E-05	1.17E-01	4.23E-07	9.64E-06	5.13E-01	1.85E-06	4.22E-05
Road 54	54	1000-1100	1.42E-01	4.74E-07	1.08E-05	1.30E-01	4.33E-07	9.90E-06	4.41E-01	1.47E-06	3.37E-05
Road 54	54	1100-1200	1.40E-01	4.41E-07	1.00E-05	1.26E-01	3.98E-07	9.07E-06	5.39E-01	1.70E-06	3.87E-05
Road 54	54	1200-1300	1.74E-01	3.76E-07	8.57E-06	1.58E-01	3.41E-07	7.77E-06	6.23E-01	1.34E-06	3.07E-05
Road 54	54	1300-1400	1.70E-01	4.02E-07	9.16E-06	1.54E-01	3.65E-07	8.33E-06	5.97E-01	1.41E-06	3.22E-05
Road 54	54	1400-1500	1.73E-01	4.13E-07	9.42E-06	1.56E-01	3.75E-07	8.55E-06	6.29E-01	1.50E-06	3.42E-05
Road 54	54	1500-1600	1.58E-01	3.90E-07	8.90E-06	1.42E-01	3.53E-07	8.06E-06	5.73E-01	1.41E-06	3.22E-05
Road 54	54	1600-1700	1.59E-01	3.79E-07	6.94E-06	1.44E-01	3.44E-07	6.30E-06	5.26E-01	1.25E-06	2.29E-05
Road 54	54	1700-1800	1.37E-01	3.14E-07	7.16E-06	1.23E-01	2.83E-07	6.44E-06	5.68E-01	1.30E-06	2.97E-05
Road 54	54	1800-1900	1.38E-01	3.29E-07	7.50E-06	1.24E-01	2.96E-07	6.75E-06	5.82E-01	1.39E-06	3.16E-05
Road 54	54	1900-2000	1.03E-01	1.40E-07	3.18E-06	9.29E-02	1.26E-07	2.87E-06	4.36E-01	5.91E-07	1.35E-05
Road 54	54	2000-2100	1.05E-01	1.43E-07	2.61E-06	9.47E-02	1.29E-07	2.35E-06	4.45E-01	6.05E-07	1.10E-05
Road 54	54	2100-2200	9.61E-02	1.05E-07	2.38E-06	8.65E-02	9.47E-08	2.14E-06	4.06E-01	4.45E-07	1.01E-05
Road 54	54	2200-2300	1.02E-01	1.01E-07	2.30E-06	9.22E-02	9.10E-08	2.07E-06	4.17E-01	4.11E-07	9.38E-06
Road 54	54	2300-0000	1.08E-01	7.96E-08	1.35E-06	9.72E-02	7.17E-08	1.21E-06	4.39E-01	3.24E-07	5.47E-06
Road 101	101	0000-0100	9.07E-03	8.01E-08	1.37E-06	7.88E-03	6.96E-08	1.19E-06	9.04E-02	7.98E-07	1.37E-05
Road 101	101	0100-0200	1.07E-02	4.54E-08	1.80E-06	9.52E-03	4.02E-08	1.59E-06	7.75E-02	3.28E-07	1.30E-05
Road 101	101	0200-0300	1.06E-02	4.54E-08	1.80E-06	9.52E-03	4.02E-08	1.59E-06	7.75E-02	3.28E-07	1.30E-05
Road 101	101	0300-0400	1.16E-02	3.90E-08	1.55E-06	1.03E-02	3.44E-08	1.36E-06	8.00E-02	2.68E-07	1.06E-05
Road 101	101	0400-0500	1.32E-02	4.41E-08	1.83E-06	1.16E-02	3.87E-08	1.60E-06	8.20E-02	2.73E-07	1.13E-05
Road 101	101	0500-0600	1.32E-02	8.51E-08	3.37E-06	1.18E-02	7.58E-08	3.00E-06	8.34E-02	5.36E-07	2.12E-05
Road 101	101	0600-0700	1.25E-02	1.72E-07	6.84E-06	1.12E-02	1.54E-07	6.11E-06	8.18E-02	1.12E-06	4.47E-05
Road 101	101	0700-0800	1.48E-02	4.31E-07	1.44E-05	1.34E-02	3.87E-07	1.29E-05	9.81E-02	2.86E-06	9.55E-05
Road 101	101	0800-0900	1.41E-02	4.62E-07	1.83E-05	1.29E-02	4.21E-07	1.67E-05	7.67E-02	2.51E-06	9.93E-05
Road 101	101	0900-1000	1.41E-02	4.62E-07	1.83E-05	1.29E-02	4.21E-07	1.67E-05	7.67E-02	2.51E-06	9.93E-05
Road 101	101	1000-1100	1.87E-02	4.51E-07	1.79E-05	1.70E-02	4.10E-07	1.62E-05	1.04E-01	2.52E-06	9.98E-05
Road 101	101	1100-1200	2.43E-02	6.14E-07	2.43E-05	2.21E-02	5.59E-07	2.22E-05	1.04E-01	2.64E-06	1.04E-04
Road 101	101	1200-1300	2.43E-02	6.14E-07	2.43E-05	2.21E-02	5.59E-07	2.22E-05	1.04E-01	2.64E-06	1.04E-04
Road 101	101	1300-1400	2.43E-02	6.45E-07	2.55E-05	2.22E-02	5.89E-07	2.33E-05	1.07E-01	2.82E-06	1.12E-04
Road 101	101	1400-1500	2.43E-02	6.45E-07	2.55E-05	2.22E-02	5.89E-07	2.33E-05	1.07E-01	2.82E-06	1.12E-04
Road 101	101	1500-1600	2.27E-02	6.49E-07	2.57E-05	2.05E-02	5.86E-07	2.32E-05	1.05E-01	3.00E-06	1.19E-04
Road 101	101	1600-1700	1.87E-02	6.35E-07	2.74E-05	1.70E-02	5.77E-07	2.49E-05	8.88E-02	3.02E-06	1.30E-04
Road 101	101	1700-1800	1.74E-02	6.52E-07	2.19E-05	1.55E-02	5.82E-07	1.95E-05	8.88E-02	3.32E-06	1.11E-04
Road 101	101	1800-1900	1.74E-02	6.52E-07	2.19E-05	1.55E-02	5.82E-07	1.95E-05	8.88E-02	3.32E-06	1.11E-04
Road 101	101	1900-2000	1.11E-02	2.77E-07	1.10E-05	9.90E-03	2.48E-07	9.85E-06	6.76E-02	1.69E-06	6.71E-05
Road 101	101	2000-2100	1.08E-02	2.11E-07	8.37E-06	9.63E-03	1.88E-07	7.44E-06	7.40E-02	1.44E-06	5.72E-05
Road 101	101	2100-2200	1.01E-02	1.89E-07	7.48E-06	8.94E-03	1.68E-07	6.65E-06	7.35E-02	1.38E-06	5.47E-05
Road 101	101	2200-2300	1.04E-02	1.89E-07	7.48E-06	9.22E-03	1.68E-07	6.65E-06	7.57E-02	1.38E-06	5.47E-05
Road 101	101	2300-0000	1.06E-02	1.21E-07	3.79E-06	9.38E-03	1.07E-07	3.34E-06	8.20E-02	9.39E-07	2.92E-05
Road 102	102	0000-0100	1.30E-02	9.47E-08	3.52E-06	1.14E-02	8.33E-08	3.09E-06	9.26E-02	6.75E-07	2.51E-05
Road 102	102	0100-0200	1.40E-02	6.76E-08	2.51E-06	1.24E-02	5.99E-08	2.22E-06	8.49E-02	4.09E-07	1.52E-05
Road 102	102	0200-0300	1.40E-02	6.76E-08	2.51E-06	1.24E-02	5.99E-08	2.22E-06	8.49E-02	4.09E-07	1.52E-05
Road 102	102	0300-0400	1.62E-02	4.61E-08	1.71E-06	1.44E-02	4.11E-08	1.53E-06	9.10E-02	2.60E-07	9.65E-06
Road 102	102	0400-0500	1.81E-02	1.01E-07	3.74E-06	1.62E-02	9.03E-08	3.35E-06	9.52E-02	5.32E-07	1.97E-05
Road 102	102	0500-0600	1.90E-02	1.20E-07	2.23E-06	1.70E-02	1.07E-07	1.98E-06	9.73E-02	6.14E-07	1.14E-05
Road 102	102	0600-0700	1.90E-02	1.20E-07	8.55E-06	1.70E-02	1.07E-07	7.60E-06	9.73E-02	6.14E-07	4.37E-05
Road 102	102	0700-0800	1.90E-02	5.52E-07	2.05E-05	1.73E-02	5.03E-07	1.87E-05	9.02E-02	2.63E-06	9.75E-05
Road 102	102	0800-0900	1.90E-02	5.52E-07	2.05E-05	1.73E-02	5.03E-07	1.87E-05	9.02E-02	2.63E-06	9.75E-05
Road 102	102	0900-1000	2.49E-02	5.84E-07	2.17E-05	2.26E-02	5.30E-07	1.97E-05	1.07E-01	2.52E-06	9.37E-05
Road 102	102	1000-1100	2.49E-02	5.84E-07	2.17E-05	2.26E-02	5.30E-07	1.97E-05	1.07E-01	2.52E-06	9.37E-05
Road 102	102	1100-1200	2.11E-02	5.22E-07	1.94E-05	1.91E-02	4.73E-07	1.76E-05	9.52E-02	2.36E-06	8.75E-05
Road 102	102	1200-1300	2.11E-02	5.22E-07	1.94E-05	1.91E-02	4.73E-07	1.76E-05	9.52E-02	2.36E-06	8.75E-05
Road 102	102	1300-1400	2.12E-02	5.43E-07	2.02E-05	1.93E-02	4.94E-07	1.84E-05	9.73E-02	2.50E-06	9.31E-05
Road 102	102	1400-1500	2.12E-02	5.43E-07	2.02E-05	1.93E-02	4.94E-07	1.84E-05	9.73E-02	2.50E-06	9.31E-05
Road 102	102	1500-1600	2.01E-02	5.59E-07	2.08E-05	1.82E-02	5.02E-07	1.86E-05	9.72E-02	2.70E-06	1.00E-04
Road 102	102	1600-1700	1.80E-02	5.51E-07	2.05E-05	1.63E-02	4.95E-07	1.84E-05	8.54E-02	2.61E-06	9.72E-05
Road 102	102	1700-1800	1.51E-02	4.85E-07	1.80E-05	1.35E-02	4.34E-07	1.61E-05	8.16E-02	2.61E-06	9.70E-05
Road 102	102	1800-1900	1.09E-02	3.69E-07	1.37E-05	9.67E-03	3.26E-07	1.21E-05	6.28E-02	2.12E-06	7.87E-05
Road 102	102	1900-2000	8.42E-03	1.67E-07	6.20E-06	7.44E-03	1.48E-07	5.48E-06	5.86E-02	1.36E-06	5.06E-05
Road 102	102	2000-2100	9.38E-03	1.40E-07	5.19E-06	8.29E-03	1.24E-07	4.59E-06	6.53E-02	1.08E-06	4.01E-05
Road 102	102	2100-2200	8.42E-03	1.67E-07	6.20E-06	7.44E-03	1.48E-07	5.48E-06	5.86E-02	1.36E-06	5.06E-05
Road 102	102	2200-2300	9.38E-03	1.40E-07	5.19E-06	8.29E-03	1.24E-07	4.59E-06	7.15E-02	1.07E-06	3.96E-05
Road 102	102	2300-0000	9.38E-03	1.40E-07	5.19E-06	8.29E-03	1.24E-07	4.59E-06	7.15E-02	1.07E-06	3.96E-05
Road 103	103	0000-0100	7.26E-03	6.40E-08	1.54E-06	8.61E-03	5.66E-08	1.36E-06	7.43E-02	6.56E-07	1.58E-05
Road 103	103	0100-0200	6.72E-03	6.40E-08	1.54E-06	8.61E-03	5.66E-08	1.36E-06	7.43E-02	7.07E-07	1.70E-05
Road 103	103	0200-0300	6.15E-02	4.38E-08	1.05E-06	7.88E-02	3.88E-08	9.29E-07	7.95E-02	5.66E-07	1.36E-05
Road 103	103	0300-0400	6.15E-02	4.38E-08	1.05E-06	7.88E-02	3.88E-08	9.29E-07	7.95E-02	5.66E-07	1.36E-05
Road 103	103	0400-0500	1.30E-02	9.55E-08	2.30E-06	1.66E-02	8.50E-08	2.04E-06	8.29E-02	6.07E-07	1.46E-05
Road 103	103	0500-0600	1.30E-02	9.55E-08	2.30E-06	1.66E-02	8.50E-08	2.04E-06	8.29E-02	6.07E-07	1.46E-05
Road 103	103	0600-0700	1.30E-02	2.19E-07	5.26E-06	1.24E-02	1.94E-07	4.65E-06	8.53E-02	1.35E-06	3.24E-05
Road 103	103	0700-0800	1.41E-02	5.23E-07	1.26E-05	1.28E-02	4.76E-07	1.14E-05	7.73E-02	2.88E-06	6.91E-05
Road 103	103	0800-0900	1.41E-02	5.23E-07	1.26E-05	1.28E-02	4.76E-07	1.14E-05	7.73E-02	2.88E-06	6.91E-05
Road 103	103	0900-1000	1.62E-02	5.22E-07	1.47E-05	1.46E-02	4.69E-07	1.32E-05	9.00E-02	2.90E-06	8.17E-05
Road 103	103	1000-1100	1.89E-02	5.02E-07	1.21E-05	1.66E-02	4.42E-07	1.07E-05	9.00E-02	2.39E-06	5.77E-05
Road 103	103	1100-1200	1.76E-02	4.56E-07	1.10E-05	1.58E-02	4.09E-07	9.83E-06	9.01E-02	2.33E-06	5.61E-05
Road 103	103	1200-1300	1.85E-02	3.40E-07	7.74E-06	1.67E-02	3.06E-07	6.96E-06	9.47E-02	1.74E-06	3.96E-05
Road 103	103	1300-1400	1.86E-02	4.43E-07	1.07E-05	1.68E-02	4.01E-07	9.64E-06	9.08E-02	2.16E-06	5.20E-05
Road 103	103	1400-1500	1.90E-02	4.61E-07	1.11E-05	1.71E-02	4.15E-07	9.97E-06	9.31E-02	2.26E-06	5.44E-05
Road 103	103	1500-1600	1.78E-02	4.62E-07	1.11E-05	1.59E-02	4.14E-07	9.95E-06	9.09E-02	2.36E-06	5.68E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	9.06E-03	1.22E-07	4.70E-06	1.09E-02	5.98E-08	1.07E-06	1.44E-01	7.83E-07	1.40E-05
Road 1	1	0100-0200	9.71E-03	8.47E-08	4.67E-06	8.86E-03	7.56E-08	4.16E-06	1.08E-01	9.42E-07	5.19E-05
Road 1	1	0200-0300	1.04E-02	6.61E-08	3.64E-06	9.39E-03	5.89E-08	3.24E-06	9.64E-02	8.47E-07	4.66E-05
Road 1	1	0300-0400	1.41E-02	3.97E-07	1.26E-05	1.26E-02	3.56E-07	1.08E-05	9.59E-02	2.83E-07	8.61E-06
Road 1	1	0400-0500	1.18E-02	6.51E-08	3.58E-06	1.04E-02	5.75E-08	3.17E-06	1.13E-01	6.26E-07	3.45E-05
Road 1	1	0500-0600	1.15E-02	1.59E-07	5.16E-06	1.01E-02	1.40E-07	4.55E-06	1.11E-01	1.54E-06	4.99E-05
Road 1	1	0600-0700	1.31E-02	2.68E-07	1.48E-05	1.17E-02	2.38E-07	1.32E-05	1.27E-01	2.58E-06	1.43E-04
Road 1	1	0700-0800	1.37E-02	5.67E-07	3.12E-05	1.23E-02	5.11E-07	2.81E-05	1.16E-01	4.81E-06	2.65E-04
Road 1	1	0800-0900	1.19E-02	4.97E-07	1.66E-05	1.06E-02	4.44E-07	1.48E-05	1.04E-01	4.35E-06	1.45E-04
Road 1	1	0900-1000	1.44E-02	5.68E-07	3.13E-05	1.29E-02	5.07E-07	2.80E-05	1.14E-01	4.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February)
Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	1.56E-01	3.46E-07	1.54E-03	1.56E-01	3.46E-07	1.54E-03	3.38E-01	7.51E-07	3.33E-03	3.38E-01	7.51E-07	3.33E-03
Road 17	17	1700-1800	4.45E-02	1.14E-06	3.34E-05	4.07E-02	1.04E-06	3.05E-05	2.29E-01	5.88E-06	1.72E-04	2.08E-01	5.34E-06	1.56E-04
Road 17	17	1800-1900	2.68E-02	6.46E-07	1.89E-05	2.47E-02	5.96E-07	1.74E-05	1.60E-01	3.85E-06	1.12E-04	1.48E-01	3.55E-06	1.03E-04
Road 17	17	1900-2000	1.69E-02	2.41E-07	7.06E-06	1.55E-02	2.21E-07	6.45E-06	1.36E-01	1.95E-06	5.70E-05	1.23E-01	1.76E-06	5.14E-05
Road 17	17	2000-2100	1.69E-02	2.41E-07	7.06E-06	1.55E-02	2.21E-07	6.45E-06	1.36E-01	1.95E-06	5.70E-05	1.23E-01	1.76E-06	5.14E-05
Road 17	17	2100-2200	1.68E-02	2.27E-07	6.69E-06	1.55E-02	2.09E-07	6.16E-06	1.36E-01	1.84E-06	5.39E-05	1.25E-01	1.69E-06	4.95E-05
Road 17	17	2200-2300	1.66E-02	2.17E-07	6.53E-06	1.52E-02	2.00E-07	6.03E-06	1.27E-01	1.72E-06	5.04E-05	1.20E-01	1.63E-06	4.76E-05
Road 17	17	2300-0000	1.66E-02	1.73E-07	5.05E-06	1.58E-02	1.64E-07	4.80E-06	1.27E-01	1.32E-06	3.85E-05	1.20E-01	1.24E-06	3.63E-05
Road 18	18	0000-0100	1.14E-02	6.54E-08	2.30E-06	1.14E-02	6.54E-08	2.30E-06	8.88E-02	2.30E-06	1.15E-05	8.88E-02	2.30E-06	1.15E-05
Road 18	18	0100-0200	1.26E-02	4.73E-08	1.85E-06	1.20E-02	4.51E-08	1.76E-06	1.01E-01	4.40E-07	1.72E-05	1.03E-01	4.48E-07	1.75E-05
Road 18	18	0200-0300	1.50E-02	3.31E-08	1.29E-06	1.34E-02	2.96E-08	1.15E-06	1.22E-01	2.70E-07	1.06E-05	1.07E-01	2.36E-07	9.22E-06
Road 18	18	0300-0400	1.50E-02	3.31E-08	1.29E-06	1.34E-02	2.96E-08	1.15E-06	1.22E-01	2.70E-07	1.06E-05	1.07E-01	2.36E-07	9.22E-06
Road 18	18	0400-0500	1.56E-02	3.79E-08	1.48E-06	1.38E-02	3.36E-08	1.31E-06	1.27E-01	3.09E-07	1.21E-05	1.12E-01	2.73E-07	1.06E-05
Road 18	18	0500-0600	1.56E-02	3.79E-08	1.48E-06	1.38E-02	3.36E-08	1.31E-06	1.27E-01	3.09E-07	1.21E-05	1.12E-01	2.73E-07	1.06E-05
Road 18	18	0600-0700	1.57E-02	1.39E-07	5.44E-06	1.42E-02	1.26E-07	4.93E-06	1.26E-01	1.12E-06	4.38E-05	1.15E-01	9.90E-07	3.87E-05
Road 18	18	0700-0800	1.66E-02	3.04E-07	1.19E-05	1.50E-02	2.75E-07	1.07E-05	1.34E-01	2.45E-06	9.57E-05	1.21E-01	2.22E-06	8.67E-05
Road 18	18	0800-0900	1.66E-02	3.04E-07	1.31E-05	1.48E-02	2.70E-07	1.16E-05	1.34E-01	2.45E-06	1.05E-04	1.19E-01	2.17E-06	9.36E-05
Road 18	18	0900-1000	1.58E-02	9.86E-08	8.81E-07	1.45E-02	9.08E-08	8.12E-07	1.61E-01	1.00E-06	8.95E-06	1.47E-01	9.19E-07	8.21E-06
Road 18	18	1000-1100	2.04E-02	3.15E-07	1.23E-05	1.85E-02	2.86E-07	1.12E-05	1.30E-01	2.01E-06	7.84E-05	1.16E-01	1.80E-06	7.02E-05
Road 18	18	1100-1200	1.98E-02	2.90E-07	1.13E-05	1.81E-02	2.65E-07	1.03E-05	1.31E-01	1.91E-06	7.48E-05	1.18E-01	1.72E-06	6.74E-05
Road 18	18	1200-1300	2.97E-02	5.94E-07	2.37E-05	2.71E-02	5.41E-07	2.16E-05	1.96E-01	3.92E-06	1.56E-04	1.79E-01	3.57E-06	1.42E-04
Road 18	18	1300-1400	2.98E-02	5.99E-07	2.34E-05	2.71E-02	5.45E-07	2.13E-05	1.61E-01	3.24E-06	1.27E-04	1.46E-01	2.93E-06	1.15E-04
Road 18	18	1400-1500	2.98E-02	6.22E-07	2.37E-05	2.71E-02	5.66E-07	2.16E-05	1.61E-01	3.36E-06	1.28E-04	1.46E-01	3.04E-06	1.16E-04
Road 18	18	1500-1600	2.77E-02	5.96E-07	2.33E-05	2.52E-02	5.42E-07	2.12E-05	1.58E-01	3.40E-06	1.33E-04	1.44E-01	3.09E-06	1.21E-04
Road 18	18	1600-1700	2.84E-02	6.19E-07	2.42E-05	2.61E-02	5.68E-07	2.22E-05	1.59E-01	3.46E-06	1.35E-04	1.46E-01	3.19E-06	1.24E-04
Road 18	18	1700-1800	2.26E-02	2.07E-07	8.09E-06	2.07E-02	1.89E-07	7.40E-06	1.85E-01	1.70E-06	6.63E-05	1.69E-01	1.55E-06	6.06E-05
Road 18	18	1800-1900	1.76E-02	1.94E-07	7.54E-06	1.61E-02	1.77E-07	6.90E-06	1.22E-01	1.34E-06	5.22E-05	1.12E-01	1.23E-06	4.79E-05
Road 18	18	1900-2000	1.27E-02	2.13E-07	1.21E-05	1.16E-02	1.94E-07	1.10E-05	1.43E-01	2.39E-06	1.36E-04	1.28E-01	2.15E-06	1.22E-04
Road 18	18	2000-2100	1.22E-02	1.86E-07	1.06E-05	1.04E-02	1.73E-07	9.82E-06	1.28E-01	2.01E-06	1.14E-04	1.12E-01	1.73E-06	9.82E-05
Road 18	18	2100-2200	1.21E-02	1.86E-07	1.06E-05	1.04E-02	1.73E-07	9.82E-06	1.28E-01	2.01E-06	1.14E-04	1.12E-01	1.73E-06	9.82E-05
Road 18	18	2200-2300	1.27E-02	4.33E-08	2.51E-06	1.09E-02	3.71E-08	2.16E-06	1.43E-01	4.88E-07	2.84E-05	1.23E-01	4.19E-07	2.44E-05
Road 18	18	2300-0000	1.20E-02	1.45E-07	8.22E-06	1.13E-02	1.37E-07	7.80E-06	1.33E-01	1.61E-06	9.14E-05	1.25E-01	1.52E-06	8.60E-05
Road 19	19	0000-0100	1.14E-02	6.54E-08	2.30E-06	1.14E-02	6.54E-08	2.30E-06	8.88E-02	2.30E-06	1.15E-05	8.88E-02	2.30E-06	1.15E-05
Road 19	19	0100-0200	1.14E-02	4.27E-08	1.67E-06	1.08E-02	4.01E-08	1.57E-06	1.01E-01	4.40E-07	1.72E-05	1.03E-01	4.48E-07	1.75E-05
Road 19	19	0200-0300	1.26E-02	2.98E-08	1.16E-06	1.26E-02	2.78E-08	1.08E-06	1.22E-01	2.70E-07	1.06E-05	1.07E-01	2.36E-07	9.22E-06
Road 19	19	0300-0400	1.40E-02	4.95E-08	1.43E-06	1.25E-02	4.42E-08	1.27E-06	1.04E-01	3.75E-07	1.08E-05	9.19E-02	3.26E-07	9.38E-06
Road 19	19	0400-0500	1.49E-02	5.85E-08	1.68E-06	1.32E-02	5.19E-08	1.49E-06	1.09E-01	4.26E-07	1.23E-05	9.65E-02	3.77E-07	1.08E-05
Road 19	19	0500-0600	1.49E-02	5.85E-08	1.68E-06	1.32E-02	5.19E-08	1.49E-06	1.09E-01	4.26E-07	1.23E-05	9.65E-02	3.77E-07	1.08E-05
Road 19	19	0600-0700	1.66E-02	2.46E-07	7.08E-06	1.51E-02	2.23E-07	6.41E-06	1.13E-01	1.67E-06	4.81E-05	9.99E-02	1.47E-06	4.25E-05
Road 19	19	0700-0800	1.66E-02	2.44E-07	7.01E-06	1.50E-02	2.21E-07	6.34E-06	1.13E-01	1.66E-06	4.77E-05	9.99E-02	1.47E-06	4.21E-05
Road 19	19	0800-0900	1.75E-02	6.12E-07	1.76E-05	1.59E-02	5.58E-07	1.61E-05	1.20E-01	3.78E-06	1.09E-04	1.06E-01	3.29E-06	9.52E-05
Road 19	19	0900-1000	1.98E-02	5.99E-07	1.73E-05	1.82E-02	5.49E-07	1.58E-05	1.01E-01	3.05E-06	8.81E-05	9.26E-02	2.79E-06	8.07E-05
Road 19	19	1000-1100	2.13E-02	3.15E-07	1.23E-05	1.96E-02	2.90E-07	1.13E-05	1.09E-01	1.61E-06	6.29E-05	1.00E-01	1.48E-06	5.78E-05
Road 19	19	1100-1200	2.12E-02	3.02E-07	1.17E-05	1.95E-02	2.77E-07	1.08E-05	1.09E-01	1.55E-06	6.03E-05	1.00E-01	1.42E-06	5.54E-05
Road 19	19	1200-1300	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	1300-1400	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	1400-1500	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	1500-1600	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	1600-1700	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	1700-1800	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	1800-1900	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	1900-2000	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	2000-2100	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	2100-2200	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	2200-2300	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 19	19	2300-0000	2.98E-02	2.66E-07	1.03E-05	2.74E-02	2.44E-07	9.47E-06	1.53E-01	1.37E-06	5.31E-05	1.41E-01	1.26E-06	4.88E-05
Road 20	20	0000-0100	1.14E-02	6.54E-08	2.30E-06	1.14E-02	6.54E-08	2.30E-06	8.88E-02	2.30E-06	1.15E-05	8.88E-02	2.30E-06	1.15E-05
Road 20	20	0100-0200	1.26E-02	4.73E-08	1.85E-06	1.20E-02	4.51E-08	1.76E-06	1.01E-01	4.40E-07	1.72E-05	1.03E-01	4.48E-07	1.75E-05
Road 20	20	0200-0300	1.50E-02	3.31E-08	1.29E-06	1.34E-02	2.96E-08	1.15E-06	1.22E-01	2.70E-07	1.06E-05	1.07E-01	2.36E-07	9.22E-06
Road 20	20	0300-0400	1.50E-02	3.31E-08	1.29E-06	1.34E-02	2.96E-08	1.15E-06	1.22E-01	2.70E-07	1.06E-05	1.07E-01	2.36E-07	9.22E-06
Road 20	20	0400-0500	1.56E-02	3.79E-08	1.48E-06	1.38E-02	3.36E-08	1.31E-06	1.27E-01	3.09E-07	1.21E-05	1.12E-01	2.73E-07	1.06E-05
Road 20	20	0500-0600	1.56E-02	3.79E-08	1.48E-06	1.38E-02	3.36E-08	1.31E-06	1.27E-01	3.09E-07	1.21E-05	1.12E-01	2.73E-07	1.06E-05
Road 20	20	0600-0700	1.57E-02	1.39E-07	5.44E-06	1.42E-02	1.26E-07	4.93E-06	1.26E-01	1.12E-06	4.38E-05	1.15E-01	9.90E-07	3.87E-05
Road 20	20	0700-0800	1.66E-02	3.04E-07	1.19E-05	1.50E-02	2.75E-07	1.07E-05	1.34E-01	2.45E-06	9.57E-05	1.21E-01	2.22E-06	8.67E-05
Road 20	20	0800-0900	1.66E-02	3.04E-07	1.31E-05	1.48E-02	2.70E-07	1.16E-05	1.34E-01	2.45E-06	1.05E-04	1.19E-01	2.17E-06	9.36E-05
Road 20	20	0900-1000	1.58E-02	9.86E-08	8.81E-07	1.45E-02	9.08E-08	8.12E-07	1.61E-01	1.00E-06	8.95E-06	1.47E-01	9.19E-07	8.21E-06
Road 20	20	1000-1100	2.04E-02	3.15E-07	1.23E-05	1.85E-02	2.86E-07	1.12E-05	1.30E-01	2.01E-06	7.84E-05	1.16E-01	1.80E-06	7.02E-05
Road 20	20	1100-1200	1.98E-02	2.90E-07	1.13E-05	1.81E-02	2.65E-07	1.03E-05	1.31E-01	1.91E-06	7.48E-05	1.18E-01	1.72E-06	6.74E-05
Road 20	20	1200-1300	2.97E-02	5.94E-07	2.37E-05	2.71E-02	5.41E-07	2.16E-05	1.96E-01	3.92E-06	1.56E-04	1.79E-01	3.57E-06	1.42E-04
Road 20	20	1300-1400	2.98E-02	5.99E-07	2.34E-05	2.71E-02	5.45E-07	2.13E-05	1.61E-01	3.24E-06	1.27E-04	1.46E-01	2.93E-06	1.15E-04
Road 20	20	1400-1500	2.98E-02	6.22E-07	2.37E-05	2.71E-02	5.66E-07	2.16E-05	1.61E-01	3.36E-06	1.28E-04	1.46E-01	3.04E-06	1.16E-04
Road 20	20	1500-1600	2.77E-02	5.96E-07	2.33E-05	2.52E-02	5.42E-07	2.12E-05	1.58E-01	3.40E-06	1.33E-04	1.44E-01	3.09E-06	1.21E-04
Road 20	20	1600-1700	2.84E-02	6.19E-07	2.42E-05	2.61E-02	5.68E-07	2.22E-05	1.59E-01	3.46E-06	1.35E-04	1.46E-01	3.19E-06	1.24E-04
Road 20	20	1700-1800	2.26E-02	2.07E-07	8.09E-06	2.07E-02	1.89E-07	7.40E-06	1.85E-01	1.70E-06	6.63E-05	1.69E-01	1.55E-06	6.06E-05
Road 20	20	1800-1900	1.76E-02	1.94E-07	7.54E-06	1.61E-02	1.77E-07	6.90E-06	1.22E-01	1.34E-06	5.22E-05	1.12E-01	1.23E-06	4.79E-05
Road 20	20	1900-2000	1.27E-02	2.13E-07	1.21E-05	1.16E-02	1.94E-07	1.10E-05	1.43E-01	2.39E-06	1.36E-04	1.28E-01	2.15E-06	1.22E-04
Road 20	20	2000-2100	1.22E-02	1.86E-07	1.06E-05	1.04E-02	1.73E-07	9.82E-06	1.28E-01	2.01E-06	1.14E-04	1.12E-01	1.73E-06	9.82E-05
Road 20	20	2100-2200	1.21E-02	1.86E-07	1.06E-05	1.04E-02	1.73E-07	9.82E-06	1.28E-01	2.01E-06	1.14E-04	1.12E-01	1.73E-06	9.82E-05
Road 20	20	2200-2300	1.27E-02	4.33E-08	2.51E-06	1.09E-02	3.71E-08	2.16E-06	1.43E-01	4.88E-07	2.84E-05	1.23E-01	4.19E-07	2.44E-05
Road 20	20	2300-0000	1.20E-02	1.45E-07	8.22E-06	1.13E-02	1.37E-07	7.80E-06	1.33E-01	1.61E-06	9.14E-05	1.25E-01	1.52E-06	8.60E-05

L:\Secure\Environment_Projects\60733229\L01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February)
Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	1.52E-02	1.14E-07	1.53E-06	1.37E-02	1.03E-07	1.38E-06	3.38E-02	2.53E-07	3.40E-06	3.04E-02	2.28E-07	3.06E-06
Road 21	21	0100-0200	1.71E-02	8.62E-08	1.14E-06	1.55E-02	7.77E-08	1.03E-06	1.08E-01	5.46E-07	7.21E-06	9.56E-02	4.81E-07	6.36E-06
Road 21	21	0200-0300	1.91E-02	7.24E-08	9.57E-07	1.72E-02	6.52E-08	8.62E-07	1.21E-01	4.26E-07	5.62E-06	9.91E-02	3.75E-07	4.96E-06
Road 21	21	0300-0400	2.10E-02	6.47E-08	8.55E-07	1.89E-02	5.81E-08	7.69E-07	1.16E-01	3.57E-07	4.72E-06	1.02E-01	3.15E-07	4.16E-06
Road 21	21	0400-0500	2.16E-02	7.32E-08	9.67E-07	1.92E-02	6.51E-08	8.61E-07	1.19E-01	4.04E-07	5.34E-06	1.03E-01	3.50E-07	4.63E-06
Road 21	21	0500-0600	2.05E-02	1.18E-07	1.56E-06	1.82E-02	1.05E-07	1.39E-06	1.13E-01	6.51E-07	8.60E-06	1.00E-01	5.78E-07	7.63E-06
Road 21	21	0600-0700	1.99E-02	2.42E-07	3.20E-06	1.77E-02	2.15E-07	2.84E-06	1.10E-01	1.34E-06	1.77E-05	9.78E-02	1.19E-06	1.57E-05
Road 21	21	0700-0800	2.30E-02	5.84E-07	7.71E-06	2.11E-02	5.36E-07	7.08E-06	1.25E-01	3.17E-06	4.19E-05	1.13E-01	2.86E-06	3.78E-05
Road 21	21	0800-0900	2.56E-02	1.08E-06	1.43E-05	2.35E-02	9.94E-07	1.31E-05	1.28E-01	5.40E-06	7.13E-05	1.17E-01	4.97E-06	6.57E-05
Road 21	21	0900-1000	2.74E-02	1.08E-06	1.43E-05	2.51E-02	9.94E-07	1.31E-05	1.37E-01	5.40E-06	7.13E-05	1.25E-01	4.97E-06	6.57E-05
Road 21	21	1000-1100	2.75E-02	1.14E-06	1.51E-05	2.52E-02	1.04E-06	1.38E-05	1.37E-01	5.70E-06	7.54E-05	1.26E-01	5.22E-06	6.91E-05
Road 21	21	1100-1200	2.75E-02	6.14E-07	8.12E-06	2.52E-02	5.62E-07	7.43E-06	1.33E-01	3.01E-06	3.97E-05	1.22E-01	2.72E-06	3.60E-05
Road 21	21	1200-1300	2.74E-02	9.59E-07	1.27E-05	2.51E-02	8.78E-07	1.16E-05	1.33E-01	4.66E-06	6.16E-05	1.22E-01	4.26E-06	5.63E-05
Road 21	21	1300-1400	2.74E-02	7.91E-07	1.05E-05	2.51E-02	7.24E-07	9.58E-06	1.33E-01	3.85E-06	5.09E-05	1.22E-01	3.52E-06	4.66E-05
Road 21	21	1400-1500	3.84E-02	8.31E-07	1.10E-05	3.52E-02	7.60E-07	1.00E-05	1.68E-01	3.64E-06	4.81E-05	1.53E-01	3.31E-06	4.38E-05
Road 21	21	1500-1600	3.84E-02	7.95E-07	1.05E-05	3.52E-02	7.27E-07	9.58E-06	1.68E-01	3.48E-06	4.60E-05	1.53E-01	3.18E-06	4.19E-05
Road 21	21	1600-1700	3.64E-02	8.05E-07	1.06E-05	3.35E-02	7.41E-07	9.79E-06	1.65E-01	3.64E-06	4.81E-05	1.51E-01	3.33E-06	4.40E-05
Road 21	21	1700-1800	2.93E-02	6.57E-07	8.69E-06	2.67E-02	6.00E-07	7.94E-06	1.53E-01	3.43E-06	4.54E-05	1.40E-01	3.14E-06	4.15E-05
Road 21	21	1800-1900	2.27E-02	4.67E-07	6.17E-06	2.08E-02	4.27E-07	5.65E-06	1.31E-01	2.70E-06	3.56E-05	1.20E-01	2.46E-06	3.25E-06
Road 21	21	1900-2000	1.89E-02	2.63E-07	3.61E-06	1.73E-02	2.41E-07	3.30E-06	1.28E-01	1.78E-06	2.44E-05	1.17E-01	1.63E-06	2.24E-05
Road 21	21	2000-2100	1.89E-02	2.63E-07	3.61E-06	1.73E-02	2.41E-07	3.30E-06	1.28E-01	1.78E-06	2.44E-05	1.17E-01	1.63E-06	2.24E-05
Road 21	21	2100-2200	1.89E-02	2.63E-07	3.61E-06	1.73E-02	2.41E-07	3.30E-06	1.28E-01	1.78E-06	2.44E-05	1.17E-01	1.63E-06	2.24E-05
Road 21	21	2200-2300	1.89E-02	2.63E-07	3.61E-06	1.73E-02	2.41E-07	3.30E-06	1.28E-01	1.78E-06	2.44E-05	1.17E-01	1.63E-06	2.24E-05
Road 21	21	2300-0000	1.89E-02	2.63E-07	3.61E-06	1.73E-02	2.41E-07	3.30E-06	1.28E-01	1.78E-06	2.44E-05	1.17E-01	1.63E-06	2.24E-05
Road 22	22	0000-0100	1.52E-02	1.14E-07	1.53E-06	1.37E-02	1.03E-07	1.38E-06	3.38E-02	2.53E-07	3.40E-06	3.04E-02	2.28E-07	3.06E-06
Road 22	22	0100-0200	1.71E-02	8.62E-08	1.14E-06	1.55E-02	7.77E-08	1.03E-06	1.08E-01	5.46E-07	7.21E-06	9.56E-02	4.81E-07	6.36E-06
Road 22	22	0200-0300	1.91E-02	7.24E-08	9.57E-07	1.72E-02	6.52E-08	8.62E-07	1.21E-01	4.26E-07	5.62E-06	9.91E-02	3.75E-07	4.96E-06
Road 22	22	0300-0400	2.10E-02	6.47E-08	8.55E-07	1.89E-02	5.81E-08	7.69E-07	1.16E-01	3.57E-07	4.72E-06	1.02E-01	3.15E-07	4.16E-06
Road 22	22	0400-0500	2.16E-02	7.32E-08	9.67E-07	1.92E-02	6.51E-08	8.61E-07	1.19E-01	4.04E-07	5.34E-06	1.03E-01	3.50E-07	4.63E-06
Road 22	22	0500-0600	2.05E-02	1.18E-07	1.56E-06	1.82E-02	1.05E-07	1.39E-06	1.13E-01	6.51E-07	8.60E-06	1.00E-01	5.78E-07	7.63E-06
Road 22	22	0600-0700	1.99E-02	2.42E-07	3.20E-06	1.77E-02	2.15E-07	2.84E-06	1.10E-01	1.34E-06	1.77E-05	9.78E-02	1.19E-06	1.57E-05
Road 22	22	0700-0800	2.30E-02	5.84E-07	7.71E-06	2.11E-02	5.36E-07	7.08E-06	1.25E-01	3.17E-06	4.19E-05	1.13E-01	2.86E-06	3.78E-05
Road 22	22	0800-0900	2.56E-02	1.08E-06	1.43E-05	2.35E-02	9.94E-07	1.31E-05	1.28E-01	5.40E-06	7.13E-05	1.17E-01	4.97E-06	6.57E-05
Road 22	22	0900-1000	2.74E-02	1.08E-06	1.43E-05	2.51E-02	9.94E-07	1.31E-05	1.37E-01	5.40E-06	7.13E-05	1.25E-01	4.97E-06	6.57E-05
Road 22	22	1000-1100	2.75E-02	1.14E-06	1.51E-05	2.52E-02	1.04E-06	1.38E-05	1.37E-01	5.70E-06	7.54E-05	1.26E-01	5.22E-06	6.91E-05
Road 22	22	1100-1200	2.12E-02	1.47E-06	2.62E-05	1.95E-02	1.35E-06	2.41E-05	1.09E-01	7.56E-06	1.35E-04	1.00E-01	6.94E-06	1.24E-04
Road 22	22	1200-1300	2.14E-02	1.70E-06	3.04E-05	1.96E-02	1.56E-06	2.78E-05	7.51E-02	5.97E-06	1.06E-04	6.87E-02	5.46E-06	9.73E-05
Road 22	22	1300-1400	2.14E-02	1.70E-06	3.04E-05	1.96E-02	1.56E-06	2.78E-05	7.51E-02	5.97E-06	1.06E-04	6.87E-02	5.46E-06	9.73E-05
Road 22	22	1400-1500	2.14E-02	1.70E-06	3.04E-05	1.96E-02	1.56E-06	2.78E-05	7.51E-02	5.97E-06	1.06E-04	6.87E-02	5.46E-06	9.73E-05
Road 22	22	1500-1600	2.14E-02	1.70E-06	3.04E-05	1.96E-02	1.56E-06	2.78E-05	7.51E-02	5.97E-06	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	2.79E-02	2.92E-08	2.74E-07	1.61E-02	2.63E-08	2.47E-07	8.44E-02	1.33E-07	1.25E-06
Road 41	41	0100-0200	2.27E-02	2.59E-08	2.43E-07	2.05E-02	2.34E-08	2.20E-07	9.43E-02	1.07E-07	1.00E-06
Road 41	41	0200-0300	2.71E-02	2.42E-08	2.27E-07	2.45E-02	2.19E-08	2.06E-07	1.03E-01	9.22E-08	8.66E-07
Road 41	41	0300-0400	3.10E-02	2.33E-08	2.19E-07	2.79E-02	2.10E-08	1.97E-07	1.17E-01	8.83E-08	8.29E-07
Road 41	41	0400-0500	3.06E-02	2.46E-08	2.31E-07	2.72E-02	2.19E-08	2.05E-07	1.12E-01	9.01E-08	8.45E-07
Road 41	41	0500-0600	3.44E-02	3.01E-08	2.83E-07	2.67E-02	2.34E-08	2.20E-07	1.01E-01	8.84E-08	8.31E-07
Road 41	41	0600-0700	1.89E-02	6.53E-08	4.26E-07	1.71E-02	4.09E-08	3.84E-07	9.04E-02	2.17E-07	2.04E-06
Road 41	41	0700-0800	2.42E-02	1.27E-07	1.19E-06	2.19E-02	1.15E-07	1.08E-06	1.00E-01	5.26E-07	4.94E-06
Road 41	41	0800-0900	2.33E-02	1.27E-07	1.19E-06	2.11E-02	1.15E-07	1.08E-06	1.00E-01	5.47E-07	5.14E-06
Road 41	41	0900-1000	2.55E-02	1.30E-07	1.22E-06	2.31E-02	1.18E-07	1.10E-06	1.00E-01	5.10E-07	4.79E-06
Road 41	41	1000-1100	2.55E-02	1.30E-07	1.22E-06	2.31E-02	1.18E-07	1.10E-06	1.00E-01	5.10E-07	4.79E-06
Road 41	41	1100-1200	2.85E-02	1.23E-07	1.16E-06	2.59E-02	1.12E-07	1.05E-06	1.09E-01	4.70E-07	4.41E-06
Road 41	41	1200-1300	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 41	41	1300-1400	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 41	41	1400-1500	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 41	41	1500-1600	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 41	41	1600-1700	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 41	41	1700-1800	3.27E-02	2.01E-07	1.89E-06	2.97E-02	1.82E-07	1.71E-06	1.38E-01	8.48E-07	7.97E-06
Road 41	41	1800-1900	3.27E-02	2.01E-07	1.89E-06	2.97E-02	1.82E-07	1.71E-06	1.38E-01	8.48E-07	7.97E-06
Road 41	41	1900-2000	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 41	41	2000-2100	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 41	41	2100-2200	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 41	41	2200-2300	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 41	41	2300-2400	2.74E-02	4.08E-08	3.83E-07	1.66E-02	3.64E-08	3.41E-07	8.68E-02	1.80E-07	1.69E-06
Road 42	42	0000-0100	2.69E-02	5.35E-08	1.36E-06	2.43E-02	4.83E-08	1.23E-06	8.14E-02	1.99E-07	5.04E-06
Road 42	42	0100-0200	2.19E-02	4.25E-08	1.08E-06	1.97E-02	3.83E-08	9.73E-07	9.09E-02	1.76E-07	4.47E-06
Road 42	42	0200-0300	4.01E-02	4.31E-08	1.09E-06	3.63E-02	3.90E-08	9.87E-07	1.40E-01	1.51E-07	3.82E-06
Road 42	42	0300-0400	4.53E-02	4.31E-08	1.09E-06	4.09E-02	3.90E-08	9.87E-07	1.58E-01	1.51E-07	3.82E-06
Road 42	42	0400-0500	4.53E-02	4.38E-08	1.11E-06	4.04E-02	3.90E-08	9.89E-07	1.53E-01	1.48E-07	3.75E-06
Road 42	42	0500-0600	3.70E-02	5.54E-08	1.41E-06	3.28E-02	4.92E-08	1.25E-06	1.39E-01	2.09E-07	5.29E-06
Road 42	42	0600-0700	2.38E-02	8.61E-08	2.18E-06	2.15E-02	7.78E-08	1.97E-06	1.14E-01	4.13E-07	1.05E-05
Road 42	42	0700-0800	4.32E-02	2.76E-07	7.00E-06	3.92E-02	2.50E-07	6.34E-06	1.58E-01	1.01E-06	2.56E-05
Road 42	42	0800-0900	4.63E-02	2.85E-07	7.24E-06	4.24E-02	2.61E-07	6.63E-06	1.65E-01	1.02E-06	2.58E-05
Road 42	42	0900-1000	4.63E-02	2.85E-07	7.24E-06	4.24E-02	2.61E-07	6.63E-06	1.65E-01	1.02E-06	2.58E-05
Road 42	42	1000-1100	4.59E-02	2.68E-07	6.80E-06	4.20E-02	2.45E-07	6.22E-06	1.63E-01	9.52E-07	2.42E-05
Road 42	42	1100-1200	5.03E-02	2.83E-07	6.68E-06	4.57E-02	2.39E-07	6.07E-06	1.74E-01	9.13E-07	2.32E-05
Road 42	42	1200-1300	7.56E-02	3.04E-07	7.70E-06	6.93E-02	2.78E-07	7.05E-06	2.38E-01	9.56E-07	2.42E-05
Road 42	42	1300-1400	8.41E-02	3.15E-07	8.00E-06	7.70E-02	2.88E-07	7.32E-06	2.64E-01	9.91E-07	2.51E-05
Road 42	42	1400-1500	7.37E-02	3.19E-07	8.10E-06	6.79E-02	2.94E-07	7.46E-06	2.37E-01	1.03E-06	2.60E-05
Road 42	42	1500-1600	7.03E-02	3.13E-07	7.94E-06	6.46E-02	2.88E-07	7.29E-06	2.26E-01	1.01E-06	2.55E-05
Road 42	42	1600-1700	7.03E-02	3.13E-07	7.94E-06	6.46E-02	2.88E-07	7.29E-06	2.26E-01	1.01E-06	2.55E-05
Road 42	42	1700-1800	6.03E-02	2.78E-07	7.05E-06	5.59E-02	2.58E-07	6.54E-06	2.06E-01	9.51E-07	2.41E-05
Road 42	42	1800-1900	5.29E-02	2.56E-07	6.49E-06	4.91E-02	2.37E-07	6.02E-06	1.81E-01	8.77E-07	2.22E-05
Road 42	42	1900-2000	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 42	42	2000-2100	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 42	42	2100-2200	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 42	42	2200-2300	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 42	42	2300-2400	3.51E-02	2.61E-07	6.63E-06	2.66E-02	1.98E-07	5.02E-06	1.39E-01	1.03E-06	2.62E-05
Road 43	43	0000-0100	2.76E-02	2.92E-08	2.74E-07	1.61E-02	2.63E-08	2.47E-07	8.44E-02	1.33E-07	1.25E-06
Road 43	43	0100-0200	2.27E-02	2.59E-08	2.43E-07	2.05E-02	2.34E-08	2.20E-07	9.43E-02	1.07E-07	1.00E-06
Road 43	43	0200-0300	2.71E-02	2.42E-08	2.27E-07	2.45E-02	2.19E-08	2.06E-07	1.03E-01	9.22E-08	8.66E-07
Road 43	43	0300-0400	3.10E-02	2.33E-08	2.19E-07	2.79E-02	2.10E-08	1.97E-07	1.17E-01	8.83E-08	8.29E-07
Road 43	43	0400-0500	3.06E-02	2.46E-08	2.31E-07	2.72E-02	2.19E-08	2.05E-07	1.12E-01	9.01E-08	8.45E-07
Road 43	43	0500-0600	3.44E-02	3.01E-08	2.83E-07	2.67E-02	2.34E-08	2.20E-07	1.01E-01	8.84E-08	8.31E-07
Road 43	43	0600-0700	1.89E-02	6.53E-08	4.26E-07	1.71E-02	4.09E-08	3.84E-07	9.04E-02	2.17E-07	2.04E-06
Road 43	43	0700-0800	2.42E-02	1.27E-07	1.19E-06	2.19E-02	1.15E-07	1.08E-06	1.00E-01	5.26E-07	4.94E-06
Road 43	43	0800-0900	2.33E-02	1.27E-07	1.19E-06	2.11E-02	1.15E-07	1.08E-06	1.00E-01	5.47E-07	5.14E-06
Road 43	43	0900-1000	2.55E-02	1.30E-07	1.22E-06	2.31E-02	1.18E-07	1.10E-06	1.00E-01	5.10E-07	4.79E-06
Road 43	43	1000-1100	2.55E-02	1.30E-07	1.22E-06	2.31E-02	1.18E-07	1.10E-06	1.00E-01	5.10E-07	4.79E-06
Road 43	43	1100-1200	2.85E-02	1.23E-07	1.16E-06	2.59E-02	1.12E-07	1.05E-06	1.09E-01	4.70E-07	4.41E-06
Road 43	43	1200-1300	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 43	43	1300-1400	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 43	43	1400-1500	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 43	43	1500-1600	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 43	43	1600-1700	3.47E-02	1.89E-07	1.77E-06	3.15E-02	1.71E-07	1.61E-06	1.47E-01	8.00E-07	7.52E-06
Road 43	43	1700-1800	3.27E-02	2.01E-07	1.89E-06	2.97E-02	1.82E-07	1.71E-06	1.38E-01	8.48E-07	7.97E-06
Road 43	43	1800-1900	3.27E-02	2.01E-07	1.89E-06	2.97E-02	1.82E-07	1.71E-06	1.38E-01	8.48E-07	7.97E-06
Road 43	43	1900-2000	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 43	43	2000-2100	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 43	43	2100-2200	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 43	43	2200-2300	2.55E-02	1.33E-07	1.25E-06	2.31E-02	1.21E-07	1.13E-06	1.07E-01	5.60E-07	5.26E-06
Road 43	43	2300-2400	2.74E-02	4.08E-08	3.83E-07	1.66E-02	3.64E-08	3.41E-07	8.68E-02	1.80E-07	1.69E-06
Road 44	44	0000-0100	2.69E-02	5.35E-08	1.36E-06	2.43E-02	4.83E-08	1.23E-06	8.14E-02	1.99E-07	5.04E-06
Road 44	44	0100-0200	2.19E-02	4.25E-08	1.08E-06	1.97E-02	3.83E-08	9.73E-07	9.09E-02	1.76E-07	4.47E-06
Road 44	44	0200-0300	4.01E-02	4.31E-08	1.09E-06	3.63E-02	3.90E-08	9.87E-07	1.40E-01	1.51E-07	3.82E-06
Road 44	44	0300-0400	4.53E-02	4.31E-08	1.09E-06	4.09E-02	3.90E-08	9.87E-07	1.58E-01	1.51E-07	3.82E-06
Road 44	44	0400-0500	4.53E-02	4.38E-08	1.11E-06	4.04E-02	3.90E-08	9.89E-07	1.53E-01	1.48E-07	3.75E-06
Road 44	44	0500-0600	3.70E-02	5.54E-08	1.41E-06	3.28E-02	4.92E-08	1.25E-06	1.39E-01	2.09E-07	5.29E-06
Road 44	44	0600-0700	2.38E-02	8.61E-08	2.18E-06	2.15E-02	7.78E-08	1.97E-06	1.14E-01	4.13E-07	1.05E-05
Road 44	44	0700-0800	4.32E-02	2.76E-07	7.00E-06	3.92E-02	2.50E-07	6.34E-06	1.58E-01	1.01E-06	2.56E-05
Road 44	44	0800-0900	4.63E-02	2.85E-07	7.24E-06	4.24E-02	2.61E-07	6.63E-06	1.65E-01	1.02E-06	2.58E-05
Road 44	44	0900-1000	4.63E-02	2.85E-07	7.24E-06	4.24E-02	2.61E-07	6.63E-06	1.65E-01	1.02E-06	2.58E-05
Road 44	44	1000-1100	4.59E-02	2.68E-07	6.80E-06	4.20E-02	2.45E-07	6.22E-06	1.63E-01	9.52E-07	2.42E-05
Road 44	44	1100-1200	5.03E-02	2.83E-07	6.68E-06	4.57E-02	2.39E-07	6.07E-06	1.74E-01	9.13E-07	2.32E-05
Road 44	44	1200-1300	7.56E-02	3.04E-07	7.70E-06	6.93E-02	2.78E-07	7.05E-06	2.38E-01	9.56E-07	2.42E-05
Road 44	44	1300-1400	8.41E-02	3.15E-07	8.00E-06	7.70E-02	2.88E-07	7.32E-06	2.64E-01	9.91E-07	2.51E-05
Road 44	44	1400-1500	7.37E-02	3.19E-07	8.10E-06	6.79E-02	2.94E-07	7.46E-06	2.37E-01	1.03E-06	2.60E-05
Road 44	44	1500-1600	7.03E-02	3.13E-07	7.94E-06	6.46E-02	2.88E-07	7.29E-06	2.26E-01	1.01E-06	2.55E-05
Road 44	44	1600-1700	7.03E-02	3.13E-07	7.94E-06	6.46E-02	2.88E-07	7.29E-06	2.26E-01	1.01E-06	2.55E-05
Road 44	44	1700-1800	6.03E-02	2.78E-07	7.05E-06	5.59E-02	2.58E-07	6.54E-06	2.06E-01	9.51E-07	2.41E-05
Road 44	44	1800-1900	5.29E-02	2.56E-07	6.49E-06	4.91E-02	2.37E-07	6.02E-06	1.81E-01	8.77E-07	2.22E-05
Road 44	44	1900-2000	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 44	44	2000-2100	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 44	44	2100-2200	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 44	44	2200-2300	3.27E-02	1.51E-07	3.82E-06	3.03E-02	1.40E-07	3.54E-06	1.12E-01	5.18E-07	1.31E-05
Road 44	44	2300-2400	3.51E-02	2.61E-07	6.63E-06	2.66E-02	1.98E-07	5.02E-06	1.39E-01	1.03E-06	2.62E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	2.99E-02	4.81E-08	1.83E-06	2.74E-02	3.52E-08	1.72E-06	8.71E-02	2.47E-07	1.52E-05
Road 47	47	1700-1800	2.13E-02	4.80E-08	1.50E-06	1.97E-02	4.44E-08	1.39E-06	5.12E-02	2.52E-06	7.86E-05
Road 47	47	1800-1900	1.61E-02	4.08E-07	1.28E-05	1.48E-02	3.76E-07	1.17E-05	8.50E-02	2.16E-06	6.77E-05
Road 47	47	1900-2000	1.31E-02	2.65E-07	8.27E-06	1.20E-02	2.43E-07	7.58E-06	8.09E-02	1.64E-06	5.12E-05
Road 47	47	2000-2100	1.17E-02	1.84E-07	5.76E-06	1.07E-02	1.68E-07	5.24E-06	8.54E-02	1.34E-06	4.19E-05
Road 47	47	2100-2200	9.53E-03	1.55E-07	4.68E-06	8.73E-03	1.42E-07	4.29E-06	7.85E-02	1.28E-06	3.86E-05
Road 47	47	2200-2300	9.12E-03	1.40E-07	4.36E-06	8.61E-03	1.32E-07	4.12E-06	7.73E-02	1.18E-06	3.70E-05
Road 47	47	2300-0000	9.30E-03	1.06E-07	3.31E-06	8.83E-03	1.01E-07	3.15E-06	7.50E-02	8.56E-07	2.67E-05
Road 48	48	0000-0100	1.29E-02	8.81E-08	2.75E-06	1.22E-02	8.36E-08	2.61E-06	8.80E-02	6.02E-07	1.88E-05
Road 48	48	0100-0200	9.39E-03	5.21E-08	7.87E-07	8.43E-03	4.68E-08	7.06E-07	9.95E-02	5.52E-07	8.33E-06
Road 48	48	0200-0300	1.07E-02	3.43E-08	5.18E-07	9.58E-03	3.07E-08	4.63E-07	1.03E-01	3.29E-07	4.96E-06
Road 48	48	0300-0400	1.07E-02	3.43E-08	5.18E-07	9.58E-03	3.07E-08	4.63E-07	1.03E-01	3.29E-07	4.96E-06
Road 48	48	0400-0500	1.07E-02	4.05E-08	6.11E-07	9.57E-03	3.62E-08	5.46E-07	1.03E-01	3.89E-07	5.87E-06
Road 48	48	0500-0600	1.22E-02	7.24E-08	1.09E-06	1.09E-02	6.47E-08	9.76E-07	9.88E-02	5.87E-07	8.85E-06
Road 48	48	0600-0700	1.28E-02	1.67E-07	2.52E-06	1.15E-02	1.50E-07	2.27E-06	1.09E-01	1.41E-06	2.13E-05
Road 48	48	0700-0800	1.53E-02	3.85E-07	5.81E-06	1.37E-02	3.44E-07	5.27E-06	1.29E-01	3.24E-06	4.97E-05
Road 48	48	0800-0900	1.27E-02	3.85E-07	5.81E-06	1.15E-02	3.49E-07	5.27E-06	1.20E-01	3.64E-06	5.50E-05
Road 48	48	0900-1000	1.60E-02	3.43E-07	5.33E-06	1.29E-02	3.22E-07	4.86E-06	1.04E-01	2.59E-06	3.91E-05
Road 48	48	1000-1100	1.60E-02	3.43E-07	5.18E-06	1.43E-02	3.08E-07	4.66E-06	1.10E-01	2.36E-06	3.56E-05
Road 48	48	1100-1200	1.52E-02	3.09E-07	4.67E-06	1.37E-02	2.80E-07	4.22E-06	1.09E-01	2.23E-06	3.36E-05
Road 48	48	1200-1300	1.52E-02	3.37E-07	5.09E-06	1.37E-02	3.05E-07	4.60E-06	1.09E-01	2.42E-06	3.65E-05
Road 48	48	1300-1400	1.31E-02	3.31E-07	4.99E-06	1.17E-02	2.99E-07	4.51E-06	1.04E-01	2.64E-06	3.98E-05
Road 48	48	1400-1500	1.31E-02	3.31E-07	4.99E-06	1.17E-02	2.99E-07	4.51E-06	1.04E-01	2.64E-06	3.98E-05
Road 48	48	1500-1600	1.31E-02	3.31E-07	4.99E-06	1.17E-02	2.99E-07	4.51E-06	1.04E-01	2.64E-06	3.98E-05
Road 48	48	1600-1700	1.31E-02	3.31E-07	4.99E-06	1.17E-02	2.99E-07	4.51E-06	1.04E-01	2.64E-06	3.98E-05
Road 48	48	1700-1800	1.31E-02	3.31E-07	4.99E-06	1.17E-02	2.99E-07	4.51E-06	1.04E-01	2.64E-06	3.98E-05
Road 48	48	1800-1900	1.31E-02	3.31E-07	4.99E-06	1.17E-02	2.99E-07	4.51E-06	1.04E-01	2.64E-06	3.98E-05
Road 48	48	1900-2000	9.70E-03	2.45E-07	3.69E-06	8.63E-03	2.22E-07	3.34E-06	7.68E-02	1.94E-06	2.92E-05
Road 48	48	2000-2100	9.70E-03	2.45E-07	3.69E-06	8.63E-03	2.22E-07	3.34E-06	7.68E-02	1.94E-06	2.92E-05
Road 48	48	2100-2200	9.70E-03	2.45E-07	3.69E-06	8.63E-03	2.22E-07	3.34E-06	7.68E-02	1.94E-06	2.92E-05
Road 48	48	2200-2300	9.70E-03	2.45E-07	3.69E-06	8.63E-03	2.22E-07	3.34E-06	7.68E-02	1.94E-06	2.92E-05
Road 48	48	2300-2400	1.04E-02	1.73E-07	2.61E-06	9.26E-03	1.57E-07	2.36E-06	8.24E-02	1.37E-06	2.06E-05
Road 49	49	0000-0100	2.51E-02	3.70E-07	9.31E-06	2.29E-02	3.37E-07	8.52E-06	2.05E-01	3.02E-06	7.62E-05
Road 49	49	0100-0200	2.26E-02	3.68E-07	9.26E-06	2.06E-02	3.35E-07	8.47E-06	1.84E-01	2.99E-06	7.55E-05
Road 49	49	0200-0300	2.27E-02	2.87E-07	7.24E-06	2.15E-02	2.72E-07	6.86E-06	1.91E-01	2.42E-06	6.11E-05
Road 49	49	0300-0400	2.27E-02	2.87E-07	7.24E-06	2.15E-02	2.72E-07	6.86E-06	1.91E-01	2.42E-06	6.11E-05
Road 49	49	0400-0500	2.27E-02	3.04E-07	7.67E-06	2.15E-02	2.88E-07	7.26E-06	1.91E-01	2.56E-06	6.46E-05
Road 49	49	0500-0600	2.44E-02	4.82E-07	1.22E-05	2.31E-02	4.56E-07	1.15E-05	2.05E-01	4.05E-06	1.02E-04
Road 49	49	0600-0700	2.56E-02	6.69E-07	1.69E-05	2.43E-02	6.34E-07	1.60E-05	2.16E-01	5.63E-06	1.42E-04
Road 49	49	0700-0800	3.06E-02	1.54E-06	3.89E-05	2.90E-02	1.46E-06	3.69E-05	2.58E-01	1.30E-05	3.28E-04
Road 49	49	0800-0900	2.54E-02	1.54E-06	3.89E-05	2.41E-02	1.46E-06	3.69E-05	2.14E-01	1.30E-05	3.28E-04
Road 49	49	0900-1000	3.19E-02	1.54E-06	3.89E-05	3.02E-02	1.46E-06	3.69E-05	2.68E-01	1.30E-05	3.28E-04
Road 49	49	1000-1100	3.19E-02	1.54E-06	3.89E-05	3.02E-02	1.46E-06	3.69E-05	2.68E-01	1.30E-05	3.28E-04
Road 49	49	1100-1200	3.42E-02	1.48E-06	3.74E-05	3.24E-02	1.40E-06	3.54E-05	2.88E-01	1.25E-05	3.15E-04
Road 49	49	1200-1300	3.42E-02	1.66E-06	4.19E-05	3.24E-02	1.57E-06	3.97E-05	2.88E-01	1.40E-05	3.53E-04
Road 49	49	1300-1400	3.42E-02	1.66E-06	4.19E-05	3.24E-02	1.57E-06	3.97E-05	2.88E-01	1.40E-05	3.53E-04
Road 49	49	1400-1500	3.42E-02	1.66E-06	4.19E-05	3.24E-02	1.57E-06	3.97E-05	2.88E-01	1.40E-05	3.53E-04
Road 49	49	1500-1600	3.42E-02	1.66E-06	4.19E-05	3.24E-02	1.57E-06	3.97E-05	2.88E-01	1.40E-05	3.53E-04
Road 49	49	1600-1700	3.42E-02	1.66E-06	4.19E-05	3.24E-02	1.57E-06	3.97E-05	2.88E-01	1.40E-05	3.53E-04
Road 49	49	1700-1800	3.42E-02	1.66E-06	4.19E-05	3.24E-02	1.57E-06	3.97E-05	2.88E-01	1.40E-05	3.53E-04
Road 49	49	1800-1900	3.42E-02	1.66E-06	4.19E-05	3.24E-02	1.57E-06	3.97E-05	2.88E-01	1.40E-05	3.53E-04
Road 49	49	1900-2000	2.54E-02	1.23E-06	3.11E-05	2.41E-02	1.17E-06	2.95E-05	2.14E-01	1.04E-05	2.62E-04
Road 49	49	2000-2100	2.54E-02	1.23E-06	3.11E-05	2.41E-02	1.17E-06	2.95E-05	2.14E-01	1.04E-05	2.62E-04
Road 49	49	2100-2200	2.54E-02	1.23E-06	3.11E-05	2.41E-02	1.17E-06	2.95E-05	2.14E-01	1.04E-05	2.62E-04
Road 49	49	2200-2300	2.54E-02	1.23E-06	3.11E-05	2.41E-02	1.17E-06	2.95E-05	2.14E-01	1.04E-05	2.62E-04
Road 49	49	2300-2400	2.76E-02	1.84E-07	4.63E-06	2.62E-02	1.75E-07	4.41E-06	2.33E-01	1.56E-06	3.92E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	1.99E-02	1.46E-02	4.06E-06	3.09E-02	3.60E-06	1.44E-01	2.35E-06	2.27E-01	2.60E-05
Road 1	1	0100-0200	1.99E-02	1.46E-02	4.06E-06	3.09E-02	3.60E-06	1.44E-01	2.35E-06	2.27E-01	2.60E-05
Road 1	1	0200-0300	1.88E-02	1.37E-02	3.83E-06	2.91E-02	3.39E-06	1.35E-01	2.21E-06	2.14E-01	2.45E-05
Road 1	1	0300-0400	2.17E-02	7.36E-08	9.72E-07	1.93E-02	6.53E-08	8.63E-07	1.20E-01	4.06E-07	5.36E-06
Road 1	1	0400-0500	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 1	1	0500-0600	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 1	1	0600-0700	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 1	1	0700-0800	2.43E-02	8.24E-08	1.82E-06	2.15E-02	7.30E-08	1.61E-06	1.34E-01	4.54E-07	1.00E-05
Road 1	1	0800-0900	2.43E-02	8.24E-08	1.82E-06	2.15E-02	7.30E-08	1.61E-06	1.34E-01	4.54E-07	1.00E-05
Road 1	1	0900-1000	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 1	1	1000-1100	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 1	1	1100-1200	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 1	1	1200-1300	3.26E-02	1.11E-07	2.45E-06	2.88E-02	9.79E-08	2.16E-06	1.79E-01	6.09E-07	1.34E-05
Road 1	1	1300-1400	3.26E-02	1.11E-07	2.45E-06	2.88E-02	9.79E-08	2.16E-06	1.79E-01	6.09E-07	1.34E-05
Road 1	1	1400-1500	3.93E-02	8.49E-07	1.12E-05	3.50E-02	7.57E-07	1.00E-05	1.72E-01	3.72E-06	4.92E-05
Road 1	1	1500-1600	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 1	1	1600-1700	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 1	1	1700-1800	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 1	1	1800-1900	2.30E-02	4.73E-07	6.25E-06	2.08E-02	4.29E-07	5.67E-06	1.33E-01	2.74E-06	3.62E-05
Road 1	1	1900-2000	1.93E-02	2.88E-07	3.80E-06	1.73E-02	2.58E-07	3.41E-06	1.06E-01	1.58E-06	2.09E-05
Road 1	1	2000-2100	1.93E-02	2.88E-07	3.80E-06	1.73E-02	2.58E-07	3.41E-06	1.06E-01	1.58E-06	2.09E-05
Road 1	1	2100-2200	1.84E-02	2.18E-07	2.88E-06	1.68E-02	1.99E-07	2.63E-06	1.29E-01	1.53E-06	2.02E-05
Road 1	1	2200-2300	1.84E-02	2.18E-07	2.88E-06	1.68E-02	1.99E-07	2.63E-06	1.29E-01	1.53E-06	2.02E-05
Road 1	1	2300-0000	2.03E-02	1.76E-07	2.32E-06	1.85E-02	1.60E-07	2.11E-06	1.42E-01	1.23E-06	1.63E-05
Road 2	2	0000-0100	1.37E-01	1.67E-07	2.97E-06	1.25E-01	1.52E-07	2.71E-06	5.11E-01	6.23E-07	1.11E-05
Road 2	2	0100-0200	1.37E-01	1.67E-07	2.97E-06	1.25E-01	1.52E-07	2.71E-06	5.11E-01	6.23E-07	1.11E-05
Road 2	2	0200-0300	1.30E-01	1.58E-07	2.81E-06	1.18E-01	1.44E-07	2.56E-06	4.84E-01	5.89E-07	1.05E-05
Road 2	2	0300-0400	1.38E-01	9.01E-08	1.61E-06	8.05E-02	1.44E-06	5.16E-06	4.60E-01	3.00E-07	5.35E-06
Road 2	2	0400-0500	1.38E-01	9.01E-08	1.61E-06	8.05E-02	1.44E-06	5.16E-06	4.60E-01	3.00E-07	5.35E-06
Road 2	2	0500-0600	1.55E-01	1.85E-07	3.31E-06	1.38E-01	1.65E-07	2.95E-06	7.21E-01	1.46E-07	2.61E-06
Road 2	2	0600-0700	1.55E-01	1.85E-07	3.31E-06	1.38E-01	1.65E-07	2.95E-06	7.21E-01	1.46E-07	2.61E-06
Road 2	2	0700-0800	1.98E-01	1.14E-06	2.04E-05	1.72E-01	9.96E-07	1.78E-05	7.17E-01	4.15E-06	7.40E-05
Road 2	2	0800-0900	1.98E-01	1.14E-06	2.04E-05	1.72E-01	9.96E-07	1.78E-05	7.17E-01	4.15E-06	7.40E-05
Road 2	2	0900-1000	2.05E-01	1.56E-06	2.78E-05	1.80E-01	1.37E-06	2.44E-05	6.76E-01	5.12E-06	9.13E-05
Road 2	2	1000-1100	2.05E-01	1.56E-06	2.78E-05	1.80E-01	1.37E-06	2.44E-05	6.76E-01	5.12E-06	9.13E-05
Road 2	2	1100-1200	2.18E-01	1.51E-06	2.70E-05	1.92E-01	1.33E-06	2.37E-05	7.84E-01	5.43E-06	9.69E-05
Road 2	2	1200-1300	2.42E-01	1.60E-06	2.86E-05	1.98E-01	1.31E-06	2.34E-05	8.27E-01	5.47E-06	9.77E-05
Road 2	2	1300-1400	2.42E-01	1.60E-06	2.86E-05	1.98E-01	1.31E-06	2.34E-05	8.27E-01	5.47E-06	9.77E-05
Road 2	2	1400-1500	2.19E-01	1.74E-06	3.11E-05	1.95E-01	1.55E-06	2.77E-05	7.68E-01	6.10E-06	1.09E-04
Road 2	2	1500-1600	2.19E-01	1.74E-06	3.11E-05	1.95E-01	1.55E-06	2.77E-05	7.68E-01	6.10E-06	1.09E-04
Road 2	2	1600-1700	2.07E-01	1.64E-06	2.93E-05	1.84E-01	1.46E-06	2.61E-05	7.27E-01	5.75E-06	1.03E-04
Road 2	2	1700-1800	2.07E-01	1.64E-06	2.93E-05	1.84E-01	1.46E-06	2.61E-05	7.27E-01	5.75E-06	1.03E-04
Road 2	2	1800-1900	2.06E-02	6.35E-08	1.28E-06	5.79E-08	1.17E-06	2.89E-03	8.89E-07	1.80E-06	2.62E-01
Road 2	2	1900-2000	2.06E-02	6.35E-08	1.28E-06	5.79E-08	1.17E-06	2.89E-03	8.89E-07	1.80E-06	2.62E-01
Road 2	2	2000-2100	1.89E-02	5.72E-08	1.16E-06	5.29E-08	1.07E-06	2.64E-03	8.12E-07	1.64E-06	2.39E-01
Road 2	2	2100-2200	1.89E-02	5.72E-08	1.16E-06	5.29E-08	1.07E-06	2.64E-03	8.12E-07	1.64E-06	2.39E-01
Road 2	2	2200-2300	1.89E-02	5.72E-08	1.16E-06	5.29E-08	1.07E-06	2.64E-03	8.12E-07	1.64E-06	2.39E-01
Road 2	2	2300-0000	2.06E-02	6.35E-08	1.28E-06	5.79E-08	1.17E-06	2.89E-03	8.89E-07	1.80E-06	2.62E-01
Road 3	3	0000-0100	1.99E-02	1.46E-02	4.06E-06	3.09E-02	3.60E-06	1.44E-01	2.35E-06	2.27E-01	2.60E-05
Road 3	3	0100-0200	1.99E-02	1.46E-02	4.06E-06	3.09E-02	3.60E-06	1.44E-01	2.35E-06	2.27E-01	2.60E-05
Road 3	3	0200-0300	1.88E-02	1.37E-02	3.83E-06	2.91E-02	3.39E-06	1.35E-01	2.21E-06	2.14E-01	2.45E-05
Road 3	3	0300-0400	2.17E-02	7.36E-08	9.72E-07	1.93E-02	6.53E-08	8.63E-07	1.20E-01	4.06E-07	5.36E-06
Road 3	3	0400-0500	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 3	3	0500-0600	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 3	3	0600-0700	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 3	3	0700-0800	2.43E-02	8.24E-08	1.82E-06	2.15E-02	7.30E-08	1.61E-06	1.34E-01	4.54E-07	1.00E-05
Road 3	3	0800-0900	2.43E-02	8.24E-08	1.82E-06	2.15E-02	7.30E-08	1.61E-06	1.34E-01	4.54E-07	1.00E-05
Road 3	3	0900-1000	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 3	3	1000-1100	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 3	3	1100-1200	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 3	3	1200-1300	3.26E-02	1.11E-07	2.45E-06	2.88E-02	9.79E-08	2.16E-06	1.79E-01	6.09E-07	1.34E-05
Road 3	3	1300-1400	3.26E-02	1.11E-07	2.45E-06	2.88E-02	9.79E-08	2.16E-06	1.79E-01	6.09E-07	1.34E-05
Road 3	3	1400-1500	3.93E-02	8.49E-07	1.12E-05	3.50E-02	7.57E-07	1.00E-05	1.72E-01	3.72E-06	4.92E-05
Road 3	3	1500-1600	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 3	3	1600-1700	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 3	3	1700-1800	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 3	3	1800-1900	2.30E-02	4.73E-07	6.25E-06	2.08E-02	4.29E-07	5.67E-06	1.33E-01	2.74E-06	3.62E-05
Road 3	3	1900-2000	1.93E-02	2.88E-07	3.80E-06	1.73E-02	2.58E-07	3.41E-06	1.06E-01	1.58E-06	2.09E-05
Road 3	3	2000-2100	1.93E-02	2.88E-07	3.80E-06	1.73E-02	2.58E-07	3.41E-06	1.06E-01	1.58E-06	2.09E-05
Road 3	3	2100-2200	1.84E-02	2.18E-07	2.88E-06	1.68E-02	1.99E-07	2.63E-06	1.29E-01	1.53E-06	2.02E-05
Road 3	3	2200-2300	1.84E-02	2.18E-07	2.88E-06	1.68E-02	1.99E-07	2.63E-06	1.29E-01	1.53E-06	2.02E-05
Road 3	3	2300-0000	2.03E-02	1.76E-07	2.32E-06	1.85E-02	1.60E-07	2.11E-06	1.42E-01	1.23E-06	1.63E-05
Road 4	4	0000-0100	1.37E-01	1.67E-07	2.97E-06	1.25E-01	1.52E-07	2.71E-06	5.11E-01	6.23E-07	1.11E-05
Road 4	4	0100-0200	1.37E-01	1.67E-07	2.97E-06	1.25E-01	1.52E-07	2.71E-06	5.11E-01	6.23E-07	1.11E-05
Road 4	4	0200-0300	1.30E-01	1.58E-07	2.81E-06	1.18E-01	1.44E-07	2.56E-06	4.84E-01	5.89E-07	1.05E-05
Road 4	4	0300-0400	1.38E-01	9.01E-08	1.61E-06	8.05E-02	1.44E-06	5.16E-06	4.60E-01	3.00E-07	5.35E-06
Road 4	4	0400-0500	1.38E-01	9.01E-08	1.61E-06	8.05E-02	1.44E-06	5.16E-06	4.60E-01	3.00E-07	5.35E-06
Road 4	4	0500-0600	1.55E-01	1.85E-07	3.31E-06	1.38E-01	1.65E-07	2.95E-06	7.21E-01	1.46E-07	2.61E-06
Road 4	4	0600-0700	1.55E-01	1.85E-07	3.31E-06	1.38E-01	1.65E-07	2.95E-06	7.21E-01	1.46E-07	2.61E-06
Road 4	4	0700-0800	1.98E-01	1.14E-06	2.04E-05	1.72E-01	9.96E-07	1.78E-05	7.17E-01	4.15E-06	7.40E-05
Road 4	4	0800-0900	1.98E-01	1.14E-06	2.04E-05	1.72E-01	9.96E-07	1.78E-05	7.17E-01	4.15E-06	7.40E-05
Road 4	4	0900-1000	2.05E-01	1.56E-06	2.78E-05	1.80E-01	1.37E-06	2.44E-05	6.76E-01	5.12E-06	9.13E-05
Road 4	4	1000-1100	2.05E-01	1.56E-06	2.78E-05	1.80E-01	1.37E-06	2.44E-05	6.76E-01	5.12E-06	9.13E-05
Road 4	4	1100-1200	2.18E-01	1.51E-06	2.70E-05	1.92E-01	1.33E-06	2.37E-05	7.84E-01	5.43E-06	9.69E-05
Road 4	4	1200-1300	2.42E-01	1.60E-06	2.86E-05	1.98E-01	1.31E-06	2.34E-05	8.27E-01	5.47E-06	9.77E-05
Road 4	4	1300-1400	2.42E-01	1.60E-06	2.86E-05	1.98E-01	1.31E-06	2.34E-05	8.27E-01	5.47E-06	9.77E-05
Road 4	4	1400-1500	2.19E-01	1.74E-06	3.11E-05	1.95E-01	1.55E-06	2.77E-05	7.68E-01	6.10E-06	1.09E-04
Road 4	4	1500-1600	2.19E-01	1.74E-06	3.11E-05	1.95E-01	1.55E-06	2.77E-05	7.68E-01	6.10E-06	1.09E-04
Road 4	4	1600-1700	2.07E-01	1.64E-06	2.93E-05	1.84E-01	1.46E-06	2.61E-05	7.27E-01	5.75E-06	1.03E-04
Road 4	4	1700-1800	2.07E-01	1.64E-06	2.93E-05	1.84E-01	1.46E-06	2.61E-05	7.27E-01	5.75E-06	1.03E-04
Road 4	4	1800-1900	2.06E-02	6.35E-08	1.28E-06	5.79E-08	1.17E-06	2.89E-03	8.89E-07	1.80E-06	2.62E-01
Road 4	4	1900-2000	2.06E-02	6.35E-08	1.28E-06	5.79E-08	1.17E-06	2.89E-03	8.89E-07	1.80E-06	2.62E-01
Road 4	4	2000-2100	1.89E-02	5.72E-08	1.16E-06	5.29E-08	1.07E-06	2.64E-03	8.12E-07	1.64E-06	2.39E-01
Road 4	4	2100-2200	1.89E-02	5.72E-08	1.16E-06	5.29E-08	1.07E-06	2.64E-03	8.12E-07	1.64E-06	2.39E-01
Road 4	4	2200-2300	1.89E-02	5.72E-08	1.16E-06	5.29E-08	1.07E-06	2.64E-03	8.12E-07	1.64E-06	2.39E-01
Road 4	4	2300-0000	2.06E-02	6.35E-08	1.28E-06	5.79E-08	1.17E-06	2.89E-03	8.89E-07	1.80E-06	2.62E-01
Road 5	5	0000-0100	1.99E-02	1.46E-02	4.06E-06	3.09E-02	3.60E-06	1.44E-01	2.35E-06	2.27E-01	2.60E-05
Road 5	5	0100-0200	1.99E-02	1.46E-02	4.06E-06	3.09E-02	3.60E-06	1.44E-01	2.35E-06	2.27E-01	2.60E-05
Road 5	5	0200-0300	1.88E-02	1.37E-02	3.83E-06	2.91E-02	3.39E-06	1.35E-01	2.21E-06	2.14E-01	2.45E-05
Road 5	5	0300-0400	2.17E-02	7.36E-08	9.72E-07	1.93E-02	6.53E-08	8.63E-07	1.20E-01	4.06E-07	5.36E-06
Road 5	5	0400-0500	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 5	5	0500-0600	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 5	5	0600-0700	2.08E-02	7.05E-08	1.56E-06	1.84E-02	6.25E-08	1.38E-06	1.15E-01	3.89E-07	8.59E-06
Road 5	5	0700-0800	2.43E-02	8.24E-08	1.82E-06	2.15E-02	7.30E-08	1.61E-06	1.34E-01	4.54E-07	1.00E-05
Road 5	5	0800-0900	2.43E-02	8.24E-08	1.82E-06	2.15E-02	7.30E-08	1.61E-06	1.34E-01	4.54E-07	1.00E-05
Road 5	5	0900-1000	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 5	5	1000-1100	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 5	5	1100-1200	2.84E-02	9.62E-08	2.13E-06	2.51E-02	8.52E-08	1.88E-06	1.56E-01	5.30E-07	1.17E-05
Road 5	5	1200-1300	3.26E-02	1.11E-07	2.45E-06	2.88E-02	9.79E-08	2.16E-06	1.79E-01	6.09E-07	1.34E-05
Road 5	5	1300-1400	3.26E-02	1.11E-07	2.45E-06	2.88E-02	9.79E-08	2.16E-06	1.79E-01	6.09E-07	1.34E-05
Road 5	5	1400-1500	3.93E-02	8.49E-07	1.12E-05	3.50E-02	7.57E-07	1.00E-05	1.72E-01	3.72E-06	4.92E-05
Road 5	5	1500-1600	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 5	5	1600-1700	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 5	5	1700-1800	3.73E-02	8.23E-07	1.09E-05	3.32E-02	7.32E-07	9.68E-06	1.64E-01	3.62E-06	4.78E-05
Road 5	5	1800-1900	2.30E-02	4.73E-07	6.25E-06	2.08E-02	4.29E-07	5.67E-06	1.33E-01	2.74E-06	3.62E-05
Road 5	5	1900-2000	1.93E-02	2.88E-07	3.80E-06	1.73E-02	2.58E-07	3.41E-06	1.06E-01	1.58E-06	2.09E-05
Road 5	5	2000-2100	1.93E-02	2.88E-07	3.80E-06	1.73E-02	2.58E-07	3.41E-06	1.06E-01	1.58E-06	2.09E-05
Road 5	5	2100-2200	1.84E-02	2.18E-07	2.88E-06	1.68E-02	1.99E-07	2.63E-06	1.29E-01	1.53E-06	2.02E-05
Road 5	5	2200-2300	1.84E-02	2.18E-07	2.88E-06	1.68E-02	1.99E-07	2.63E-06	1.29E-01	1.53E-06	2.02E-05
Road 5	5	2300-0000	2.03E-02	1.76E-07	2.32E-06	1.85E-02	1.60E-07	2.11E-06	1.42E-01	1.23E-06	1.63E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 11	11	0000-0100	1.54E-02	1.57E-07	6.02E-07	2.27E-02	2.48E-07	5.67E-07	3.31E-01	3.39E-06	5.38E-06
Road 11	11	0100-0200	3.17E-02	1.10E-07	4.22E-07	2.97E-02	1.03E-07	3.96E-07	2.69E-01	9.36E-07	3.58E-06
Road 11	11	0200-0300	3.38E-02	8.62E-08	3.31E-07	3.16E-02	8.04E-08	3.09E-07	2.76E-01	7.03E-07	2.70E-06
Road 11	11	0300-0400	5.61E-02	7.36E-08	2.83E-07	5.23E-02	6.87E-08	2.65E-07	2.85E-01	3.76E-07	1.45E-06
Road 11	11	0400-0500	3.91E-02	8.69E-08	3.33E-07	3.66E-02	8.13E-08	3.12E-07	2.94E-01	6.53E-07	2.51E-06
Road 11	11	0500-0600	1.54E-02	1.34E-07	5.14E-07	1.44E-02	1.25E-07	4.80E-07	1.18E-01	1.02E-06	3.92E-06
Road 11	11	0600-0700	4.74E-02	3.94E-07	1.51E-06	4.38E-02	3.64E-07	1.40E-06	3.27E-01	2.72E-06	1.04E-05
Road 11	11	0700-0800	5.61E-02	9.46E-07	3.63E-06	5.11E-02	8.62E-07	3.31E-06	3.65E-01	6.15E-06	2.36E-05
Road 11	11	0800-0900	5.61E-02	1.10E-06	4.22E-06	5.14E-02	1.01E-06	3.86E-06	3.30E-01	6.46E-06	2.48E-05
Road 11	11	0900-1000	6.46E-02	1.06E-06	4.08E-06	5.98E-02	9.83E-07	3.77E-06	3.42E-01	5.62E-06	2.16E-05
Road 11	11	1000-1100	6.46E-02	1.06E-06	4.08E-06	5.98E-02	9.83E-07	3.77E-06	3.42E-01	5.62E-06	2.16E-05
Road 11	11	1100-1200	6.93E-02	9.44E-07	3.62E-06	6.43E-02	8.76E-07	3.36E-06	3.54E-01	4.82E-06	1.85E-05
Road 11	11	1200-1300	1.35E-01	2.09E-06	8.01E-06	1.01E-01	1.55E-06	5.94E-06	3.52E-01	5.44E-06	2.09E-05
Road 11	11	1300-1400	1.37E-01	2.35E-06	9.03E-06	1.08E-01	1.85E-06	7.09E-06	3.44E-01	5.91E-06	2.27E-05
Road 11	11	1400-1500	1.14E-01	2.38E-06	9.13E-06	1.06E-01	2.20E-06	8.43E-06	4.67E-01	9.72E-06	3.73E-05
Road 11	11	1500-1600	1.37E-01	2.16E-06	8.29E-06	1.27E-01	2.00E-06	7.67E-06	4.77E-01	7.50E-06	2.88E-05
Road 11	11	1600-1700	1.11E-01	2.42E-06	9.30E-06	1.04E-01	2.26E-06	8.69E-06	4.66E-01	1.01E-05	3.89E-05
Road 11	11	1700-1800	9.14E-02	2.10E-06	8.06E-06	8.58E-02	1.97E-06	7.57E-06	4.36E-01	1.00E-05	3.85E-05
Road 11	11	1800-1900	6.50E-02	1.46E-06	5.61E-06	6.12E-02	1.37E-06	5.28E-06	3.54E-01	7.95E-06	3.05E-05
Road 11	11	1900-2000	5.30E-02	9.14E-07	3.51E-06	4.96E-02	8.56E-07	3.29E-06	3.26E-01	5.62E-06	2.16E-05
Road 11	11	2000-2100	5.06E-02	6.82E-07	2.62E-06	4.80E-02	6.48E-07	2.49E-06	3.27E-01	4.41E-06	1.69E-05
Road 11	11	2100-2200	4.56E-02	4.36E-07	1.67E-06	4.34E-02	4.16E-07	1.59E-06	3.21E-01	3.08E-06	1.18E-05
Road 11	11	2200-2300	4.85E-02	4.75E-07	1.82E-06	4.58E-02	4.49E-07	1.72E-06	3.17E-01	3.11E-06	1.19E-05
Road 11	11	2300-0000	4.85E-02	4.75E-07	1.82E-06	4.58E-02	4.49E-07	1.72E-06	3.17E-01	3.11E-06	1.19E-05
Road 12	12	0000-0100	2.83E-01	1.77E-07	4.37E-06	2.59E-01	1.62E-07	4.00E-06	6.61E-01	4.14E-07	1.02E-05
Road 12	12	0100-0200	2.83E-01	1.77E-07	4.37E-06	2.59E-01	1.62E-07	4.00E-06	6.61E-01	4.14E-07	1.02E-05
Road 12	12	0200-0300	2.99E-01	1.78E-07	4.39E-06	2.69E-01	1.61E-07	3.96E-06	7.01E-01	4.20E-07	1.03E-05
Road 12	12	0300-0400	3.08E-01	1.83E-07	4.51E-06	2.75E-01	1.63E-07	4.02E-06	7.09E-01	4.21E-07	1.04E-05
Road 12	12	0400-0500	3.08E-01	1.83E-07	4.51E-06	2.75E-01	1.63E-07	4.02E-06	7.09E-01	4.21E-07	1.04E-05
Road 12	12	0500-0600	3.03E-01	1.86E-07	4.58E-06	2.69E-01	1.65E-07	4.07E-06	7.04E-01	4.32E-07	1.06E-05
Road 12	12	0600-0700	3.81E-01	2.24E-07	5.51E-06	3.31E-01	1.95E-07	4.79E-06	7.04E-01	4.12E-07	1.01E-05
Road 12	12	0700-0800	3.81E-01	9.10E-07	2.24E-05	3.31E-01	7.91E-07	1.95E-05	8.78E-01	2.10E-06	5.17

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	1.42E-02	3.94E-07	5.66E-06	3.17E-02	8.80E-06	1.26E-04	8.44E-02	2.34E-05	3.37E-04
Road 34	34	0900-1000	1.58E-02	3.36E-07	8.80E-06	1.38E-02	2.93E-07	7.67E-06	1.08E-01	2.30E-06	6.02E-05
Road 34	34	1000-1100	1.76E-02	3.24E-07	8.49E-06	1.54E-02	2.84E-07	7.44E-06	1.13E-01	2.08E-06	5.44E-05
Road 34	34	1100-1200	1.71E-02	3.98E-07	7.80E-06	1.49E-02	2.61E-07	6.83E-06	1.15E-01	2.70E-06	5.24E-05
Road 34	34	1200-1300	1.85E-02	4.45E-07	1.17E-05	3.35E-02	3.87E-07	1.01E-05	3.11E-01	3.60E-06	9.41E-05
Road 34	34	1300-1400	1.77E-02	3.65E-07	1.39E-05	1.57E-02	1.04E-05	2.95E-01	1.54E-06	4.42E-05	1.21E-03
Road 34	34	1400-1500	1.97E-02	4.74E-07	1.24E-05	3.32E-02	7.97E-07	2.09E-05	3.11E-01	7.48E-06	1.96E-04
Road 34	34	1500-1600	1.49E-02	4.51E-07	1.18E-05	3.10E-02	4.01E-07	1.05E-05	2.89E-01	3.74E-06	9.78E-05
Road 34	34	1600-1700	1.76E-02	3.36E-07	8.80E-06	1.38E-02	2.93E-07	7.67E-06	1.08E-01	2.30E-06	6.02E-05
Road 34	34	1700-1800	1.17E-02	4.36E-07	1.14E-05	2.84E-02	1.90E-07	4.97E-06	2.64E-01	1.77E-06	4.63E-05
Road 34	34	1800-1900	1.76E-02	3.24E-07	8.49E-06	1.54E-02	2.84E-07	7.44E-06	1.13E-01	2.08E-06	5.44E-05
Road 34	34	1900-2000	1.29E-02	2.84E-07	7.42E-06	2.51E-02	5.51E-07	1.44E-05	2.34E-01	5.14E-06	1.34E-04
Road 34	34	2000-2100	1.19E-02	1.87E-07	4.90E-06	2.31E-02	3.64E-07	9.52E-06	2.15E-01	3.39E-06	8.87E-05
Road 34	34	2100-2200	1.31E-02	2.27E-07	5.95E-06	2.55E-02	4.41E-07	1.15E-05	2.37E-01	4.11E-06	1.08E-04
Road 34	34	2200-2300	1.76E-02	2.10E-07	5.49E-06	2.50E-02	2.98E-07	7.80E-06	2.33E-01	2.78E-06	7.26E-05
Road 34	34	2300-2400	1.49E-02	2.84E-07	7.42E-06	2.89E-02	5.51E-07	1.44E-05	2.69E-01	5.14E-06	1.34E-04
Road 35	35	0000-0100	1.97E-02	4.59E-08	1.12E-07	3.62E-02	8.43E-08	2.06E-07	3.32E-01	7.73E-07	1.89E-06
Road 35	35	0100-0200	5.92E-02	4.07E-08	9.90E-08	3.64E-02	8.85E-08	1.80E-01	1.24E-07	3.01E-07	1.59E-01
Road 35	35	0200-0300	6.68E-02	3.99E-08	9.72E-08	6.02E-02	3.60E-08	8.75E-08	1.96E-01	1.17E-07	2.84E-07
Road 35	35	0300-0400	5.44E-02	4.15E-08	1.01E-07	3.74E-02	2.85E-08	6.94E-08	1.72E-01	1.32E-07	3.20E-07
Road 35	35	0400-0500	5.30E-02	4.89E-08	1.19E-07	4.70E-02	4.33E-08	1.05E-07	1.74E-01	1.60E-07	3.90E-07
Road 35	35	0500-0600	6.30E-02	4.29E-08	1.04E-07	4.29E-02	6.48E-08	2.70E-01	3.75E-08	5.66E-08	2.36E-01
Road 35	35	0600-0700	2.47E-02	7.98E-08	1.94E-07	1.53E-02	1.03E-07	2.50E-07	1.04E-01	3.36E-07	8.17E-07
Road 35	35	0700-0800	6.11E-02	2.40E-07	5.83E-07	3.27E-02	2.07E-07	5.04E-07	2.05E-01	8.05E-07	1.61E-06
Road 35	35	0800-0900	5.67E-02	2.50E-07	6.09E-07	4.90E-02	2.16E-07	5.26E-07	1.86E-01	8.22E-07	2.00E-06
Road 35	35	0900-1000	2.51E-02	1.75E-07	4.26E-07	2.17E-02	1.51E-07	3.68E-07	1.03E-01	7.19E-07	1.75E-06
Road 35	35	1000-1100	6.97E-02	2.52E-07	6.14E-07	6.12E-02	2.22E-07	5.39E-07	2.20E-01	7.95E-07	1.93E-06
Road 35	35	1100-1200	7.75E-02	2.81E-07	6.84E-07	6.71E-02	2.43E-07	5.91E-07	2.22E-01	8.05E-07	1.96E-06
Road 35	35	1200-1300	7.75E-02	1.81E-07	4.40E-07	6.74E-02	1.57E-07	3.81E-07	2.22E-01	5.18E-07	1.26E-06
Road 35	35	1300-1400	7.64E-02	1.81E-07	4.40E-07	6.70E-02	1.59E-07	3.86E-07	2.22E-01	5.25E-07	1.28E-06
Road 35	35	1400-1500	7.45E-02	1.86E-07	4.53E-07	6.63E-02	1.65E-07	4.02E-07	2.20E-01	5.48E-07	1.33E-06
Road 35	35	1500-1600	7.45E-02	1.86E-07	4.53E-07	6.63E-02	1.65E-07	4.02E-07	2.20E-01	5.48E-07	1.33E-06
Road 35	35	1600-1700	6.04E-02	1.76E-07	4.28E-07	5.30E-02	1.54E-07	3.75E-07	1.98E-01	5.77E-07	1.40E-06
Road 35	35	1700-1800	6.40E-02	1.79E-07	4.36E-07	5.72E-02	1.60E-07	3.90E-07	1.91E-01	5.36E-07	1.30E-06
Road 35	35	1800-1900	6.04E-02	1.76E-07	4.28E-07	5.30E-02	1.54E-07	3.75E-07	1.98E-01	5.77E-07	1.40E-06
Road 35	35	1900-2000	2.88E-02	3.29E-08	1.29E-07	4.74E-08	1.15E-07	1.09E-01	2.00E-07	4.87E-07	9.52E-02
Road 35	35	2000-2100	5.23E-02	4.79E-08	1.16E-07	2.97E-02	1.60E-07	3.50E-07	1.22E-01	8.31E-07	4.37E-06
Road 35	35	2100-2200	5.23E-02	4.79E-08	1.16E-07	2.97E-02	1.60E-07	3.50E-07	1.22E-01	8.31E-07	4.37E-06
Road 35	35	2200-2300	3.13E-02	4.53E-08	1.10E-07	2.83E-02	4.09E-08	9.96E-08	1.20E-01	1.75E-07	4.26E-07
Road 35	35	2300-2400	3.13E-02	4.53E-08	1.10E-07	2.83E-02	4.09E-08	9.96E-08	1.20E-01	1.75E-07	4.26E-07
Road 36	36	0000-0100	4.95E-02	7.44E-08	1.87E-07	4.60E-02	6.91E-08	1.74E-07	2.42E-01	3.64E-07	9.41E-07
Road 36	36	0100-0200	6.78E-02	6.22E-08	1.57E-07	6.33E-02	5.74E-08	1.45E-07	2.74E-01	2.49E-07	6.26E-07
Road 36	36	0200-0300	7.72E-02	6.12E-08	1.54E-07	7.35E-02	5.82E-08	1.47E-07	2.98E-01	2.36E-07	5.95E-07
Road 36	36	0300-0400	7.35E-02	5.45E-08	1.37E-07	6.73E-02	4.99E-08	1.26E-07	2.97E-01	2.20E-07	5.56E-07
Road 36	36	0400-0500	7.35E-02	5.45E-08	1.37E-07	6.73E-02	4.99E-08	1.26E-07	2.97E-01	2.20E-07	5.56E-07
Road 36	36	0500-0600	6.57E-02	7.74E-08	1.95E-07	6.01E-02	7.08E-08	1.78E-07	2.84E-01	3.35E-07	8.44E-07
Road 36	36	0600-0700	9.01E-02	1.34E-07	3.38E-07	5.51E-02	8.22E-08	2.07E-07	3.26E-01	4.86E-07	1.22E-06
Road 36	36	0700-0800	7.80E-02	1.92E-07	4.84E-07	3.12E-02	7.68E-08	1.93E-07	2.76E-01	6.80E-07	1.71E-06
Road 36	36	0800-0900	7.48E-02	4.26E-07	1.07E-06	6.74E-02	3.83E-07	9.66E-07	2.97E-01	1.69E-06	4.26E-06
Road 36	36	0900-1000	3.31E-02	2.31E-07	5.82E-07	2.86E-02	1.99E-07	5.02E-07	1.36E-01	9.48E-07	2.39E-06
Road 36	36	1000-1100	8.95E-02	4.09E-07	1.03E-06	8.16E-02	3.73E-07	9.40E-07	2.88E-01	1.31E-06	3.29E-06
Road 36	36	1100-1200	9.95E-02	3.61E-07	9.11E-07	8.61E-02	3.12E-07	7.87E-07	2.85E-01	1.03E-06	2.61E-06
Road 36	36	1200-1300	1.06E-01	3.75E-07	9.44E-07	9.55E-02	3.38E-07	8.51E-07	3.43E-01	1.21E-06	3.06E-06
Road 36	36	1300-1400	1.08E-01	3.96E-07	9.99E-07	8.84E-02	3.61E-07	9.10E-07	3.52E-01	1.29E-06	3.24E-06
Road 36	36	1400-1500	1.08E-01	3.96E-07	9.99E-07	8.84E-02	3.61E-07	9.10E-07	3.52E-01	1.29E-06	3.24E-06
Road 36	36	1500-1600	1.05E-01	4.07E-07	1.03E-06	9.72E-02	3.76E-07	9.47E-07	3.53E-01	1.36E-06	3.43E-06
Road 36	36	1600-1700	1.38E-01	3.20E-07	8.07E-07	1.27E-01	2.95E-07	7.44E-07	4.49E-01	1.04E-06	2.63E-06
Road 36	36	1700-1800	9.05E-02	3.74E-07	9.42E-07	8.38E-02	3.46E-07	8.72E-07	3.29E-01	1.36E-06	3.43E-06
Road 36	36	1800-1900	7.37E-02	3.05E-07	7.69E-07	6.83E-02	2.83E-07	7.12E-07	2.71E-01	1.12E-06	2.83E-06
Road 36	36	1900-2000	2.79E-02	2.84E-07	7.42E-06	2.51E-02	2.84E-07	7.42E-06	2.51E-02	2.84E-07	7.42E-06
Road 36	36	2000-2100	2.27E-02	1.87E-07	4.90E-06	2.04E-02	1.87E-07	4.90E-06	2.04E-02	1.87E-07	4.90E-06
Road 36	36	2100-2200	2.84E-02	2.34E-07	6.13E-06	2.55E-02	2.34E-07	6.13E-06	2.55E-02	2.34E-07	6.13E-06
Road 36	36	2200-2300	4.75E-02	9.75E-08	2.46E-07	4.42E-02	9.09E-08	2.29E-07	2.20E-01	4.51E-07	1.14E-06
Road 36	36	2300-0000	1.36E-02	8.69E-08	2.19E-07	5.01E-02	8.11E-08	2.04E-07	2.50E-01	4.04E-07	1.02E-06
Road 37	37	0000-0100	4.48E-02	1.31E-09	3.00E-09	4.25E-02	1.24E-09	2.85E-09	1.71E-01	5.00E-09	1.15E-08
Road 37	37	0100-0200	1.44E-02	1.31E-09	3.00E-09	1.37E-02	1.24E-09	2.85E-09	5.51E-02	5.00E-09	1.15E-08
Road 37	37	0200-0300	1.17E-02	8.97E-10	2.06E-09	4.70E-02	3.60E-09	8.28E-09	1.89E-01	1.45E-08	3.33E-08
Road 37	37	0300-0400	1.17E-02	8.97E-10	2.06E-09	4.70E-02	3.60E-09	8.28E-09	1.89E-01	1.45E-08	3.33E-08
Road 37	37	0400-0500	1.17E-02	8.97E-10	2.06E-09	4.70E-02	3.60E-09	8.28E-09	1.89E-01	1.45E-08	3.33E-08
Road 37	37	0500-0600	5.84E-02	3.98E-09	4.56E-09	5.50E-02	1.87E-09	4.29E-09	2.95E-01	2.01E-08	2.11E-08
Road 37	37	0600-0700	6.19E-02	4.58E-09	1.05E-08	5.80E-02	4.29E-09	9.85E-09	3.06E-01	2.27E-08	2.07E-08
Road 37	37	0700-0800	6.19E-02	4.58E-09	1.05E-08	5.80E-02	4.29E-09	9.85E-09	3.06E-01	2.27E-08	2.07E-08
Road 37	37	0800-0900	6.55E-02	5.17E-09	1.18E-08	5.96E-02	4.71E-09	1.08E-08	3.06E-01	2.41E-08	2.07E-08
Road 37	37	0900-1000	7.69E-02	2.24E-08	2.84E-08	5.16E-02	1.50E-08	3.81E-08	2.23E-01	6.50E-08	1.65E-07
Road 37	37	1000-1100	8.21E-02	1.20E-08	2.74E-08	7.32E-02	1.06E-08	2.44E-08	3.23E-01	4.69E-08	1.08E-07
Road 37	37	1100-1200	8.21E-02	1.13E-08	2.59E-08	7.74E-02	1.06E-08	2.44E-08	3.23E-01	4.43E-08	1.02E-07
Road 37	37	1200-1300	8.21E-02	1.13E-08	2.59E-08	7.74E-02	1.06E-08	2.44E-08	3.23E-01	4.43E-08	1.02E-07
Road 37	37	1300-1400	8.29E-02	1.28E-08	2.93E-08	7.80E-02	1.20E-08	2.76E-08	3.21E-01	4.95E-08	1.14E-07
Road 37	37	1400-1500	8.29E-02	1.28E-08	2.93E-08	7.80E-02	1.20E-08	2.76E-08	3.21E-01	4.95E-08	1.14E-07
Road 37	37	1500-1600	8.21E-02	1.36E-08	3.11E-08	7.80E-02	1.29E-08	2.96E-08	3.26E-01	5.41E-08	1.24E-07

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	1.70E-02	3.20E-07	2.98E-06	7.20E-02	1.35E-06	1.19E-05	2.82E-01	5.28E-06	4.67E-05
Road 37	37	1700-1800	6.58E-02	1.19E-08	2.72E-08	6.27E-02	1.13E-08	2.59E-08	3.02E-01	5.44E-08	1.25E-07
Road 37	37	1800-1900	4.49E-02	8.08E-09	1.85E-08	4.27E-02	7.70E-09	1.77E-08	2.06E-01	3.71E-08	8.51E-08
Road 37	37	1900-2000	1.29E-02	5.25E-09	1.21E-08	3.59E-02	4.97E-09	1.14E-08	2.17E-01	1.01E-08	6.90E-08
Road 37	37	2000-2100	3.86E-02	4.17E-09	9.56E-09	3.69E-02	3.98E-09	9.13E-09	2.34E-01	2.53E-08	5.80E-08
Road 37	37	2100-2200	1.39E-02	4.11E-09	9.40E-09	3.32E-02	9.81E-09	9.02E-09	2.15E-01	2.54E-08	5.84E-08
Road 37	37	2200-2300	3.38E-02	3.50E-09	8.03E-09	3.20E-02	3.31E-09	7.61E-09	2.24E-01	2.32E-08	5.32E-08
Road 37	37	2300-0000	3.70E-02	2.90E-09	6.67E-09	3.52E-02	2.76E-09	6.34E-09	2.32E-01	1.82E-08	4.19E-08
Road 38	38	0000-0100	4.17E-02	5.10E-08	1.17E-07	4.18E-02	3.36E-08	7.72E-08	4.85E-01	3.97E-07	9.12E-07
Road 38	38	0100-0200	4.52E-02	3.65E-08	2.99E-07	4.28E-02	3.46E-08	2.83E-07	2.57E-01	2.08E-07	1.70E-06
Road 38	38	0200-0300	3.51E-02	3.23E-08	2.65E-07	3.32E-02	3.06E-08	2.51E-07	2.00E-01	1.84E-07	1.51E-06
Road 38	38	0300-0400	5.14E-02	2.47E-08	2.02E-07	4.87E-02	2.34E-08	1.92E-07	2.75E-01	1.32E-07	1.08E-06
Road 38	38	0400-0500	5.54E-02	2.97E-08	2.43E-07	5.23E-02	2.80E-08	2.29E-07	2.86E-01	1.53E-07	1.26E-06
Road 38	38	0500-0600	9.87E-02	5.53E-08	4.53E-07	9.32E-02	5.22E-08	4.28E-07	2.97E-01	1.66E-07	1.36E-06
Road 38	38	0600-0700	6.32E-02	1.30E-07	1.06E-06	5.90E-02	1.21E-07	9.90E-07	3.12E-01	6.39E-07	5.23E-06
Road 38	38	0700-0800	6.98E-02	2.81E-07	6.48E-07	3.18E-02	2.81E-07	6.48E-07	3.18E-01	2.81E-07	6.48E-07
Road 38	38	0800-0900	6.98E-02	2.43E-07	2.81E-06	6.48E-02	2.31E-07	2.67E-06	3.41E-01	1.21E-06	1.40E-05
Road 38	38	0900-1000	1.13E-02	1.36E-07	3.13E-07	2.97E-02	3.56E-07	8.22E-07	3.36E-01	4.03E-06	9.30E-06
Road 38	38	1000-1100	8.79E-02	3.53E-07	2.89E-06	8.22E-02	3.30E-07	2.70E-06	3.40E-01	1.36E-06	1.12E-05
Road 38	38	1100-1200	3.65E-02	1.33E-01	2.87E-07	2.35E-06	1.24E-01	2.70E-07	2.21E-06	4.36E-01	9.46E-07
Road 38	38	1200-1300	1.33E-01	2.87E-07	2.35E-06	1.24E-01	2.70E-07	2.21E-06	4.36E-01	9.46E-07	7.74E-06
Road 38	38	1300-1400	1.33E-01	2.87E-07	2.35E-06	1.24E-01	2.70E-07	2.21E-06	4.36E-01	9.46E-07	7.74E-06
Road 38	38	1400-1500	1.32E-01	2.83E-07	2.32E-06	1.23E-01	2.66E-07	2.18E-06	4.31E-01	9.31E-07	7.62E-06
Road 38	38	1500-1600	1.32E-01	2.83E-07	2.32E-06	1.23E-01	2.66E-07	2.18E-06	4.31E-01	9.31E-07	7.62E-06
Road 38	38	1600-1700	1.28E-01	2.74E-07	2.24E-06	1.21E-01	2.60E-07	2.13E-06	4.24E-01	9.08E-07	7.43E-06
Road 38	38	1700-1800	1.28E-01	2.74E-07	2.24E-06	1.21E-01	2.60E-07	2.13E-06	4.24E-01	9.08E-07	7.43E-06
Road 38	38	1800-1900	1.02E-01	2.19E-07	1.79E-06	9.68E-02	2.08E-07	1.70E-06	3.39E-01	7.26E-07	5.94E-06
Road 38	38	1900-2000	9.21E-02	8.10E-08	6.63E-07	8.88E-02	7.80E-08	6.39E-07	3.54E-01	3.11E-07	2.55E-06
Road 38	38	2000-2100	9.21E-02	8.10E-08	6.63E-07	8.88E-02	7.80E-08	6.39E-07	3.54E-01	3.11E-07	2.55E-06
Road 38	38	2100-2200	9.21E-02	6.29E-08	6.75E-07	8.87E-02	7.94E-08	6.50E-07	3.54E-01	3.16E-07	2.59E-06
Road 38	38	2200-2300	8.95E-02	5.76E-08	4.71E-07	8.57E-02	5.51E-08	4.51E-07	3.39E-01	2.18E-07	1.78E-06
Road 38	38	2300-0000	8.95E-02	5.76E-08	4.71E-07	8.57E-02	5.51E-08	4.51E-07	3.39E-01	2.18E-07	1.78E-06
Road 39	39	0000-0100	1.09E-01	1.41E-08	3.38E-08	1.02E-01	1.32E-08	3.16E-08	3.54E-01	4.57E-08	1.10E-07
Road 39	39	0100-0200	1.09E-01	1.41E-08	3.38E-08	1.02E-01	1.32E-08	3.16E-08	3.54E-01	4.57E-08	1.10E-07
Road 39	39	0200-0300	1.09E-01	1.41E-08	3.38E-08	1.02E-01	1.32E-08	3.16E-08	3.54E-01	4.57E-08	1.10E-07
Road 39	39	0300-0400	1.09E-01	1.41E-08	3.38E-08	1.02E-01	1.32E-08	3.16E-08	3.54E-01	4.57E-08	1.10E-07
Road 39	39	0400-0500	1.09E-01	1.41E-08	3.38E-08	1.02E-01	1.32E-08	3.16E-08	3.54E-01	4.57E-08	1.10E-07
Road 39	39	0500-0600	1.09E-01	1.41E-08	3.38E-08	1.02E-01	1.32E-08	3.16E-08	3.54E-01	4.57E-08	1.10E-07
Road 39	39	0600-0700	1.24E-01	6.31E-08	5.37E-07	1.17E-01	5.93E-08	5.05E-07	4.21E-01	2.14E-07	1.82E-06
Road 39	39	0700-0800	1.24E-01	1.58E-07	1.79E-06	1.17E-01	1.50E-07	1.70E-06	4.21E-01	5.37E-07	6.08E-06
Road 39	39	0800-0900	1.29E-01	1.67E-07	1.42E-06	1.21E-01	1.56E-07	1.33E-06	4.36E-01	5.64E-07	4.80E-06
Road 39	39	0900-1000	1.35E-01	1.89E-07	1.61E-06	1.27E-01	1.78E-07	1.51E-06	4.46E-01	6.22E-07	5.29E-06
Road 39	39	1000-1100	1.37E-01	1.85E-07	2.48E-06	1.29E-01	1.74E-07	2.11E-06	4.41E-01	5.94E-07	7.98E-06
Road 39	39	1100-1200	1.37E-01	1.74E-07	1.48E-06	1.29E-01	1.64E-07	1.39E-06	4.41E-01	5.64E-07	4.80E-06
Road 39	39	1200-1300	1.37E-01	1.74E-07	1.48E-06	1.29E-01	1.64E-07	1.39E-06	4.41E-01	5.64E-07	4.80E-06
Road 39	39	1300-1400	1.37E-01	1.74E-07	1.48E-06	1.29E-01	1.64E-07	1.39E-06	4.41E-01	5.64E-07	4.80E-06
Road 39	39	1400-1500	1.37E-01	1.74E-07	1.48E-06	1.29E-01	1.64E-07	1.39E-06	4.41E-01	5.64E-07	4.80E-06
Road 39	39	1500-1600	1.37E-01	1.74E-07	1.48E-06	1.29E-01	1.64E-07	1.39E-06	4.41E-01	5.64E-07	4.80E-06
Road 39	39	1600-1700	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 39	39	1700-1800	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 39	39	1800-1900	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 39	39	1900-2000	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 39	39	2000-2100	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 39	39	2100-2200	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 39	39	2200-2300	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 39	39	2300-0000	1.71E-01	1.81E-08	1.54E-07	1.61E-01	1.70E-08	1.45E-07	5.46E-01	5.77E-08	4.91E-07
Road 40	40	0000-0100	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0100-0200	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0200-0300	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0300-0400	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0400-0500	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0500-0600	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0600-0700	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0700-0800	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0800-0900	6.68E-02	2.01E-08	1.71E-07	6.33E-02	1.91E-08	1.62E-07	2.86E-01	8.63E-08	7.35E-07
Road 40	40	0900-1000	9.17E-02	8.24E-07	4.01E-06	8.42E-02	7.56E-07	3.68E-06	3.48E-01	3.12E-06	1.52E-05
Road 40	40	1000-1100	9.73E-02	7.56E-07	6.46E-06	8.94E-02	6.94E-07	5.93E-06	3.48E-01	2.70E-06	2.31E-05
Road 40	40	1100-1200	9.73E-02	7.53E-07	3.66E-06	8.95E-02	6.92E-07	3.37E-06	3.25E-01	2.51E-06	1.22E-05
Road 40	40	1200-1300	1.13E-01	8.74E-07	7.47E-06	1.04E-01	8.03E-07	6.86E-06	3.77E-01	2.91E-06	2.49E-05
Road 40	40	1300-1400	1.28E-01	6.99E-07	3.40E-06	1.17E-01	6.43E-07	3.13E-06	4.15E-01	2.27E-06	1.11E-05
Road 40	40	1400-1500	1.25E-01	6.98E-07	3.40E-06	1.15E-01	6.42E-07	3.12E-06	4.08E-01	2.28E-06	1.11E-05
Road 40	40	1500-1600	1.21E-01	7.18E-07	3.49E-06	1.11E-01	6.60E-07	3.21E-06	4.08E-01	2.42E-06	1.18E-05
Road 40	40	1600-1700	1.21E-01	6.86E-07	3.33E-06	1.12E-01	6.39E-07	3.11E-06	3.98E-01	2.27E-06	1.10E-05
Road 40	40	1700-1800	1.21E-01	6.86E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 1	1	0000-0100	3.42E-02	1.13E-02	4.21E-05	3.87E-03	5.44E-06	9.66E-02	3.15E-04	8.29E-02
Road 1	1	0100-0200	9.01E-03	7.86E-08	4.33E-06	7.88E-03	6.88E-08	8.56E-07	3.77E-06	7.34E-07
Road 1	1	0200-0300	9.57E-03	6.11E-08	3.36E-06	8.59E-03	5.48E-08	3.02E-06	1.93E-06	2.71E-06
Road 1	1	0300-0400	1.01E-02	1.20E-08	7.12E-06	4.59E-06	2.53E-09	9.97E-02	5.91E-07	3.79E-05
Road 1	1	0400-0500	1.08E-02	5.96E-08	3.28E-06	9.69E-03	5.35E-08	2.94E-06	1.01E-01	5.60E-07
Road 1	1	0500-0600	1.15E-02	1.03E-07	5.69E-06	1.03E-02	9.27E-08	5.10E-06	9.79E-02	5.39E-06
Road 1	1	0600-0700	1.22E-02	2.49E-07	1.37E-05	1.09E-02	9.81E-08	5.40E-06	1.04E-01	5.72E-06
Road 1	1	0700-0800	1.30E-02	5.38E-07	2.96E-05	1.15E-02	1.03E-07	5.66E-06	2.77E-01	1.52E-05
Road 1	1	0800-0900	1.37E-02	3.01E-07	1.66E-05	1.22E-02	1.09E-07	6.00E-06	1.55E-01	8.53E-06
Road 1	1	0900-1000	1.39E-02	5.48E-07	3.02E-05	1.23E-02	4.14E-06	2.28E-04	9.16E-02	3.61E-06
Road 1	1	1000-1100	1.42E-02	6.77E-07	3.72E-05	1.26E-02	1.12E-07	6.17E-06	1.88E-01	1.03E-05
Road 1	1	1100-1200	1.48E-02	6.77E-07	2.62E-05	1.31E-02	4.23E-06	2.33E-04	1.20E-01	6.61E-06
Road 1	1	1200-1300	1.54E-02	1.03E-07	5.69E-06	1.37E-02	1.18E-07	6.49E-06	1.07E-01	5.89E-06
Road 1	1	1300-1400	1.60E-02	1.03E-07	5.69E-06	1.42E-02	1.23E-07	6.77E-06	1.12E-01	6.17E-06
Road 1	1	1400-1500	1.69E-02	7.82E-07	4.30E-05	1.48E-02	1.36E-07	7.47E-06	3.45E-01	1.90E-05
Road 1	1	1500-1600	1.76E-02	8.60E-07	4.74E-05	1.57E-02	1.36E-07	7.47E-06	3.45E-01	1.90E-05
Road 1	1	1600-1700	1.70E-02	8.60E-07	4.74E-05	1.47E-02	1.36E-07	7.47E-06	3.45E-01	1.90E-05
Road 1	1	1700-1800	1.73E-02	4.14E-07	2.28E-05	1.51E-02	9.39E-02	5.16E-03	2.58E-04	2.39E-02
Road 1	1	1800-1900	1.01E-02	6.48E-07	3.57E-05	8.68E-03	5.56E-02	3.06E-03	8.09E-02	1.86E-02
Road 1	1	1900-2000	9.12E-03	4.66E-07	2.57E-05	7.99E-03	4.09E-07	2.25E-05	8.57E-02	4.38E-06
Road 1	1	2000-2100	3.97E-03	1.32E-03	1.88E-05	1.06E-03	1.64E-04	5.46E-02	7.76E-04	2.58E-04
Road 1	1	2100-2200	7.71E-03	3.05E-07	1.68E-05	6.86E-03	2.72E-07	1.49E-05	8.75E-02	3.86E-06
Road 1	1	2200-2300	2.84E-03	2.84E-07	1.56E-05	2.02E-03	2.72E-07	1.49E-05	4.30E-02	2.37E-06
Road 1	1	2300-0000	8.47E-03	2.44E-07	1.34E-05	7.36E-03	2.72E-07	1.49E-05	8.75E-02	4.81E-06
Road 2	2	0000-0100	1.04E-02	7.24E-07	2.74E-05	9.16E-03	1.27E-06	7.43E-05	9.11E-02	1.26E-06
Road 2	2	0100-0200	2.59E-03	1.81E-07	6.85E-06	2.29E-03	3.17E-07	1.86E-05	2.28E-02	3.15E-07
Road 2	2	0200-0300	1.19E-02	7.95E-08	4.03E-06	1.05E-02	1.27E-06	7.43E-05	9.11E-02	1.26E-06
Road 2	2	0300-0400	1.34E-02	7.95E-08	4.03E-06	1.18E-02	1.43E-06	8.36E-05	1.03E-01	1.42E-06
Road 2	2	0400-0500	1.34E-02	7.80E-08	3.95E-06	1.20E-02	7.07E-08	3.28E-05	9.81E-02	5.72E-07
Road 2	2	0500-0600	1.41E-02	7.25E-06	3.27E-02	6.43E-06	1.11E-01	5.16E-04	9.59E-02	4.44E-07
Road 2	2	0600-0700	1.48E-02	1.57E-07	7.96E-06	1.32E-02	1.56E-07	8.60E-06	1.59E-01	8.77E-06
Road 2	2	0700-0800	1.57E-02	6.96E-07	3.52E-05	1.40E-02	6.19E-07	3.41E-05	1.71E-01	9.44E-06
Road 2	2	0800-0900	1.57E-02	6.96E-07	3.52E-05	1.40E-02	6.19E-07	3.41E-05	1.71E-01	9.44E-06
Road 2	2	0900-1000	1.72E-02	7.53E-07	3.81E-05	1.53E-02	6.76E-07	3.99E-05	1.66E-01	9.06E-06
Road 2	2	1000-1100	1.84E-02	6.71E-07	3.40E-05	1.64E-02	1.45E-06	7.98E-05	1.94E-01	1.07E-05
Road 2	2	1100-1200	1.84E-02	6.71E-07	3.40E-05	1.64E-02	1.45E-06	7.98E-05	1.94E-01	1.07E-05
Road 2	2	1200-1300	2.09E-02	9.16E-07	4.64E-05	1.86E-02	8.12E-07	4.11E-05	1.88E-01	9.52E-06
Road 2	2	1300-1400	2.09E-02	9.16E-07	4.64E-05	1.86E-02	8.12E-07	4.11E-05	1.88E-01	9.52E-06
Road 2	2	1400-1500	2.13E-02	1.02E-06	5.19E-05	1.86E-02	8.93E-07	4.52E-05	2.11E-01	5.79E-06
Road 2	2	1500-1600	2.20E-02	9.85E-07	5.75E-02	8.61E-07	9.34E-07	4.73E-05	1.24E-01	6.28E-06
Road 2	2	1600-1700	2.07E-02	1.06E-06	5.39E-05	1.83E-02	9.43E-07	4.77E-05	1.19E-01	6.04E-06
Road 2	2	1700-1800	1.60E-02	9.05E-07	4.58E-05	1.38E-02	7.82E-06	1.12E-03	6.36E-06	3.22E-04
Road 2	2	1800-1900	1.32E-02	7.54E-07	3.82E-05	1.15E-02	1.15E-07	6.50E-06	1.32E-01	6.68E-06
Road 2	2	1900-2000	1.06E-02	4.97E-07	2.52E-05	9.69E-03	4.54E-06	2.30E-04	8.38E-02	3.92E-06
Road 2	2	2000-2100	3.38E-03	1.96E-07	9.99E-06	3.08E-03	1.31E-06	7.43E-05	2.67E-02	1.51E-06
Road 2	2	2100-2200	9.38E-03	3.42E-07	1.73E-05	8.36E-03	3.04E-07	1.72E-05	8.40E-02	3.06E-06
Road 2	2	2200-2300	3.33E-03	1.69E-07	8.61E-06	2.95E-03	3.04E-06	1.72E-04	8.64E-02	3.05E-06
Road 2	2	2300-0000	1.00E-02	4.51E-08	2.77E-07	8.81E-03	3.96E-08	2.43E-07	1.26E-01	5.30E-07
Road 3	3	0000-0100	1.00E-02	4.51E-08	2.77E-07	8.81E-03	3.96E-08	2.43E-07	1.26E-01	5.30E-07
Road 3	3	0100-0200	1.12E-02	2.47E-08	1.48E-07	9.91E-03	2.77E-08	1.66E-07	1.41E-01	5.96E-07
Road 3	3	0200-0300	1.12E-02	2.41E-08	1.44E-07	9.91E-03	2.70E-08	1.62E-07	1.41E-01	5.96E-07
Road 3	3	0300-0400	1.12E-02	2.47E-08	1.48E-07	9.91E-03	2.77E-08	1.66E-07	1.41E-01	5.96E-07
Road 3	3	0400-0500	1.25E-02	2.31E-08	1.42E-07	1.07E-02	2.59E-08	1.59E-07	1.37E-01	8.43E-07
Road 3	3	0500-0600	1.32E-02	1.26E-07	7.74E-07	1.13E-02	1.41E-07	8.66E-07	1.21E-01	7.43E-06
Road 3	3	0600-0700	1.40E-02	1.26E-07	7.74E-07	1.20E-02	1.41E-07	8.66E-07	1.21E-01	7.43E-06
Road 3	3	0700-0800	1.48E-02	2.96E-07	1.82E-06	1.26E-02	3.32E-07	2.04E-06	1.27E-01	7.81E-06
Road 3	3	0800-0900	1.48E-02	2.96E-07	1.82E-06	1.26E-02	3.32E-07	2.04E-06	1.27E-01	7.81E-06
Road 3	3	0900-1000	1.58E-02	3.20E-07	1.96E-06	1.35E-02	3.58E-07	2.19E-06	1.37E-01	8.43E-06
Road 3	3	1000-1100	1.75E-02	2.01E-07	1.23E-06	1.49E-02	1.53E-07	9.41E-07	1.31E-01	8.08E-06
Road 3	3	1100-1200	1.75E-02	2.01E-07	1.23E-06	1.49E-02	1.53E-07	9.41E-07	1.31E-01	8.08E-06
Road 3	3	1200-1300	2.01E-02	2.91E-07	1.79E-06	1.71E-02	1.58E-07	9.72E-07	1.51E-01	9.28E-06
Road 3	3	1300-1400	2.01E-02	2.91E-07	1.79E-06	1.71E-02	1.58E-07	9.72E-07	1.51E-01	9.28E-06
Road 3	3	1400-1500	2.04E-02	3.26E-07	2.00E-06	1.73E-02	1.77E-07	1.09E-06	1.53E-01	9.41E-06
Road 3	3	1500-1600	2.11E-02	3.14E-07	1.93E-06	1.79E-02	1.71E-07	1.05E-06	1.48E-01	9.09E-06
Road 3	3	1600-1700	1.99E-02	3.39E-07	2.08E-06	1.69E-02	1.84E-07	1.13E-06	1.56E-01	9.58E-06
Road 3	3	1700-1800	1.54E-02	2.89E-07	1.77E-06	1.31E-02	1.57E-07	9.64E-07	1.21E-01	7.43E-06
Road 3	3	1800-1900	1.27E-02	2.41E-07	1.48E-06	1.08E-02	1.31E-07	8.03E-07	1.01E-01	6.19E-06
Road 3	3	1900-2000	1.02E-02	1.93E-07	1.18E-06	8.66E-03	1.05E-07	6.42E-07	8.07E-02	4.95E-06
Road 3	3	2000-2100	3.25E-03	1.54E-07	9.44E-07	2.76E-03	3.35E-07	2.05E-06	2.57E-02	1.58E-06
Road 3	3	2100-2200	9.03E-03	1.71E-07	1.05E-06	7.68E-03	9.31E-07	5.70E-06	7.14E-02	4.38E-06
Road 3	3	2200-2300	3.21E-03	1.60E-07	9.81E-07	2.73E-03	3.31E-07	2.03E-06	2.54E-02	1.56E-06
Road 3	3	2300-0000	9.62E-03	4.81E-08	2.95E-07	8.18E-03	9.93E-07	6.08E-06	7.62E-02	4.68E-06
Road 4	4	0000-0100	1.03E-02	4.51E-08	2.77E-07	8.81E-03	3.96E-08	2.43E-07	1.26E-01	5.30E-07
Road 4	4	0100-0200	1.12E-02	2.47E-08	1.48E-07	9.91E-03	2.77E-08	1.66E-07	1.41E-01	5.96E-07
Road 4	4	0200-0300	1.12E-02	2.41E-08	1.44E-07	9.91E-03	2.70E-08	1.62E-07	1.41E-01	5.96E-07
Road 4	4	0300-0400	1.12E-02	2.47E-08	1.48E-07	9.91E-03	2.77E-08	1.66E-07	1.41E-01	5.96E-07
Road 4	4	0400-0500	1.25E-02	2.31E-08	1.42E-07	1.07E-02	2.59E-08	1.59E-07	1.37E-01	8.43E-07
Road 4	4	0500-0600	1.32E-02	1.26E-07	7.74E-07	1.13E-02	1.41E-07	8.66E-07	1.21E-01	7.43E-06
Road 4	4	0600-0700	1.40E-02	1.26E-07	7.74E-07	1.20E-02	1.41E-07	8.66E-07	1.21E-01	7.43E-06
Road 4	4	0700-0800	1.48E-02	2.96E-07	1.82E-06	1.26E-02	3.32E-07	2.04E-06	1.27E-01	7.81E-06
Road 4	4	0800-0900	1.48E-02	2.96E-07	1.82E-06	1.26E-02	3.32E-07	2.04E-06	1.27E-01	7.81E-06
Road 4	4	0900-1000	1.58E-02	3.20E-07	1.96E-06	1.35E-02	3.58E-07	2.19E-06	1.37E-01	8.43E-06
Road 4	4	1000-1100	1.75E-02	2.01E-07	1.23E-06	1.49E-02	1.53E-07	9.41E-07	1.31E-01	8.08E-06
Road 4	4	1100-1200	1.75E-02	2.01E-07	1.23E-06	1.49E-02	1.53E-07	9.41E-07	1.31E-01	8.08E-06
Road 4	4	1200-1300	2.01E-02	2.91E-07	1.79E-06	1.71E-02	1.58E-07	9.72E-07	1.51E-01	9.28E-06
Road 4	4	1300-1400	2.01E-02	2.91E-07	1.79E-06	1.71E-02	1.58E-07	9.72E-07	1.51E-01	9.28E-06
Road 4	4	1400-1500	2.04E-02	3.26E-07	2.00E-06	1.73E-02	1.77E-07	1.09E-06	1.53E-01	9.41E-06
Road 4	4	1500-1600	2.11E-02	3.14E-07	1.93E-06	1.79E-02	1.71E-07	1.05E-06	1.48E-01	9.09E-06
Road 4	4	1600-1700	1.99E-02	3.39E-07	2.08E-06	1.69E-02	1.84E-07	1.13E-06	1.56E-01	9.58E-06
Road 4	4	1700-1800	1.54E-02	2.89E-07	1.77E-06	1.31E-02	1.57E-07	9.64E-07	1.21E-01	7.43E-06
Road 4	4	1800-1900	1.27E-02	2.41E-07	1.48E-06	1.08E-02	1.31E-07	8.03E-07	1.01E-01	6.19E-06
Road 4	4	1900-2000	1.02E-02	1.93E-07	1.18E-06	8.66E-03	1.05E-07	6.42E-07	8.07E-02	4.95E-06
Road 4	4	2000-2100	3.25E-03	1.54E-07	9.44E-07	2.76E-03	3.35E-07	2.05E-06	2.57E-02	1.58E-06
Road 4	4	2100-2200	9.03E-03	1.71E-07	1.05E-06	7.68E-03	9.31E-07	5.70E-06	7.14E-02	4.38E-06
Road 4	4	2200-2300	3.21E-03	1.60E-07	9.81E-07	2.73E-03	3.31E-07	2.03E-06	2.54E-02	1.56E-06
Road 4	4	2300-0000	9.62E-03	4.81E-08	2.95E-07	8.18E-03	9.93E-07	6.08E-06	7.62E-02	4.68E-06
Road 5	5	0000-0100	1.26E-02	8.81E-08	3.37E-06	1.07E-02	1.55E-06	9.05E-05	1.11E-01	1.54E-06
Road 5	5	0100-0200	3.15E-03	2.20E-07	8.42E-06	2.68E-03	3.87E-07	2.26E-05	2.78E-02	3.84E-07
Road 5	5	0200-0300	1.45E-02	9.68E-08	4.95E-06	1.23E-02	1.55E-06	9.05E-05	1.11E-01	1.54E-06
Road 5	5	0300-0400	1.64E-02	9.68E-08	4.95E-06	1.39E-02	1.74E-06	1.02E-04	1.25E-01	1.73E-06
Road 5	5	0400-0500	1.64E-02	9.50E-08	4.81E-06	1.47E-02	8.61E-08	4.00E-06	1.20E-01	6.97E-07
Road 5	5	0500-0600	1.72E-02	8.83E-07	3.98E-05	1.57E-02	1.35E-06	6.25E-04	1.17E-01	5.43E-06
Road 5	5	0600-0700	1.81E-02	1.92E-06	9.73E-05	1.61E-02	1.90E-06	8.82E-04	1.23E-01	5.71E-06
Road 5	5	0700-0800	1.91E-02	8.48E-06	4.29E-04	1.70E-02	8.41E-06	3.90E-03	1.30E-01	6.03E-06
Road 5	5	0800-0900	1.91E-02	8.48E-06	4.29E-04	1.70E-02	8.41E-06	3.90E-03	1.30E-01	6.03E-06
Road 5	5	0900-1000	1.99E-02	4.11E-06	2.08E-04	1.77E-02	4.37E-06	2.03E-03	1.35E-01	6.27E-06
Road 5	5	1000-1100	2.13E-02	1.26E-06	6.38E-05	1.89E-02	1.34E-06	6.21E-04	1.44E-01	6.68E-06
Road 5	5	1100-1200	2.13E-02	1.26E-06	6.38E-05	1.89E-02	1.34E-06	6.21E-04	1.44E-01	6.68E-06
Road 5	5	1200-1300	2.49E-02	1.47E-06	7.45E-05	2.21E-02	1.56E-06	7.25E-04	1.69E-01	7.80E-06
Road 5	5	1300-1400	2.49E-02	1.47E-06	7.45E-05	2.21E-02	1.56E-06	7.25E-04	1.69E-01	7.80E-06
Road 5	5	1400-1500	2.53E-02	1.62E-06	8.23E-05	2.24E-02	1.72E-06	8.00E-04	1.72E-01	7.94E-06
Road 5	5	1500-1600	2.62E-02	1.56E-06	7.91E-05	2.32E-02	1.66E-06	7.71E-04	1.66E-01	7.67E-06
Road 5	5	1600-1700	2.47E-02	1.68E-06	8.53E-05	2.19E-02	1.79E-06	8.31E-04	1.79E-01	8.26E-06
Road 5	5	1700-1800	1.91E-02	1.43E-06	7.25E-05	1.69E-02	1.52E-06	7.06E-04	1.52E-01	7.01E-06
Road 5	5	1800-1900	1.58E-02	1.19E-06	6.04E-05	1.40E-02	1.26E-06	5.84E-04	1.26E-01	5.80E-06
Road 5	5	1900-2000	1.26E-02	9.54E-07	4.84E-05	1.12E-02	1.01E-06	4.67E-04	1.01E-01	4.64E-06
Road 5	5	2000-2100	4.03E-03	3.05E-07	1.55E-05	3.57E-03	3.22E-07	1.49E-04	3.22E-02	1.48E-06
Road 5	5	2100-2200	1.12E-02	3.39E-07	1.72E-05	9.94E-03	8.95E-07	4.14E-04	8.95E-02	4.12E-06
Road 5	5	2200-2300	3.98E-03	3.01E-07	1.53E-05	3.53E-03	3.18E-07	1.47E-04	3.18E-02	1.46E-06
Road 5	5	2300-0000	1.19E-02	9.03E-08	4.58E-06	1.06E-02	9.54E-07	4.41E-04	9.54E-02	4.39E-06
Road 6	6	0000-0100	1.23E-02	8.61E-08	3.29E-06	1.05E-02	1.51E-06	8.84E-05	1.08E-01	1.51E-06
Road 6	6	0100-0200	3.08E-03	2.15E-07	8.23E-06	2.62E-03	3.78E-07	2.21E-05	2.72E-02	3.75E-07
Road 6	6	0200-0300	1.42E-02	9.46E-08	4.84E-06	1.21E-02	1.51E-06	8.84E-05	1.08E-01	1.51E-06
Road 6	6	0300-0400	1.60E-02	9.46E-08	4.84E-06	1.36E-02	1.70E-06	9.95E-05	1.22E-01	1.69E-06
Road 6	6	0400-0500	1.60E-02	9.28E-08	4.70E-06	1.44E-02	8.41E-08	3.91E-06	1.17E-01	6.81E-07
Road 6	6	0500-0600	1.68E-02	8.63E-07	3.89E-05	1.53E-02	1.32E-06	6.11E-04	1.14E-01	5.31E-06
Road 6	6	0600-0700	1.77E-02	1.88E-06	9.51E-05	1.57E-02	1.86E-06	8.62E-04	1.20E-01	5.58E-06
Road 6	6	0700-0800	1.86E-02	8.29E-06	4.19E-04	1.66E-02	8.22E-06	3.81E-03	1.27E-01	5.89E-06
Road 6	6	0800-0900	1.86E-02	8.29E-06	4.19E-04	1.66E-02	8.22E-06	3.81E-03	1.27E-01	5.89E-06
Road 6	6	0900-1000	1.94E-02	4.02E-06	2.03E-04	1.73E-02	4.27E-06	1.98E-03	1.32E-01	6.13E-06
Road 6	6	1000-1100	2.08E-02	1.23E-06	6.24E-05	1.85E-02	1.31E-06	6.07E-04	1.41E-01	6.53E-06
Road 6	6	1100-1200	2.08E-02	1.23E-06	6.24E-05	1.85E-02	1.31E-06	6.07E-04	1.41E-01	6.53E-06
Road 6	6	1200-1300	2.43E-02	1.44E-06	7.28E-05	2.16E-02	1.53E-06	7.09E-04	1.65E-01	7.63E-06
Road 6	6	1300-1400	2.43E-02	1.44E-06	7.28E-05	2.16E-02	1.53E-06	7.09E-04	1.65E-01	7.63E-06
Road 6	6	1400-1500	2.47E-02	1.58E-06	8.04E-05	2.19E-02	1.68E-06	7.82E-04	1.68E-01	7.77E-06
Road 6	6	1500-1600	2.56E-02	1.52E-06	7.73E-05	2.27E-02	1.62E-06	7.53E-04	1.62E-01	7.50E-06
Road 6	6	1600-1700	2.41E-02	1.64E-06	8.33E-05	2.14E-02	1.75E-06	8.12E-04	1.75E-01	8.07E-06
Road 6	6	1700-1800	1.86E-02	1.40E-06	7.08E-05	1.65E-02	1.49E-06	6.89E-04	1.48E-01	6.85E-06
Road 6	6	1800-1900	1.54E-02	1.16E-06	5.90E-05	1.37E-02	1.23E-06	5.70E-04	1.23E-01	5.67E-06
Road 6	6	1900-2000	1.23E-02	9.31E-07	4.72E-05	1.09E-02	9.87E-07	4.57E-04	9.87E-02	4.55E-06
Road 6	6	2000-2100	3.94E-03	2.98E-07	1.51E-05	3.49E-03	3.15E-07	1.46E-04	3.15E-02	1.45E-06
Road 6	6	2100-2200	1.09E-02	3.31E-07	1.68E-05	9.72E-03	8.75E-07	4.05E-04	8.75E-02	4.03E-06
Road 6	6	2200-2300	3.90E-03	2.94E-07	1.49E-05	3.45E-03	3.11E-07	1.44E-04	3.11E-02	1.43E-06
Road 6	6	2300-0000	1.16E-02	8.83E-08	4.48E-06	1.03E-02	9.32E-07	4.31E-04	9.32E-02	4.30E-06
Road 7	7	0000-0100	1.23E-02	8.61E-08	3.29E-06	1.05E-02	1.51E-06	8.84E-05	1.08E-01	1.51E-06
Road 7	7	0100-0200	3.08E-03	2.15E-07	8.23E-06	2.62E-03	3.78E-07	2.21E-05	2.72E-02	3.75E-07
Road 7	7	0200-0300	1.42E-02	9.46E-08	4.84E-06	1.21E-02	1.51E-06	8.84E-05	1.08E-01	1.51E-06
Road 7	7	0300-0400	1.60E-02	9.46E-08	4.84E-06	1.36E-02	1.70E-06	9.95E-05	1.22E-01	1.69E-06
Road 7	7	0400-0500	1.60E-02	9.28E-08	4.70E-06	1.44E-02	8.41E-08	3.91E-06	1.17E-01	6.81E-07
Road 7	7	0500-0600	1.68E-02	8.63E-07	3.89E-05	1.53E-02	1.32E-06	6.11E-04	1.14E-01	5.31E-06
Road 7	7	0600-0700	1.77E-02	1.88E-06	9.51E-05	1.57E-02	1.86E-06	8.62E-04	1.20E-01	5.58E-06
Road 7	7	0700-0800	1.86E-02	8.29E-06	4.19E-04	1.66E-02	8.22E-06	3.81E-03	1.27E-01	5.89E-06
Road 7	7	0800-0900	1.86E-02	8.29E-06	4.19E-04	1.66E-02	8.22E-06	3.81E-03	1.27E-01	5.89E-06
Road 7	7	0900-1000	1.94E-02	4.02E-06	2.03E-04	1.73E-02	4.27E-06	1.98E-03	1.32E-01	6.13E-06
Road 7	7	1000-1100	2.08E-02	1.23E-06	6.24E-05	1.85E-02	1.31E-06	6.07E-04	1.41E-01	6.53E-06
Road 7	7	1100-1200	2.08E-02	1.23E-06	6.24E-05	1.85E-02	1.31E-06	6.07E-04	1.41E-01	6.53E-06
Road 7	7	1200-1300	2.43E-02	1.44E-06	7.28E-05	2.16E-02	1.53E-06	7.09E-04	1.65E-01	7.63E-06
Road 7	7	1300-1400	2.43E-02	1.44E-06	7.28E-05	2.16E-02	1.53E-06	7.09E-04	1.65E-01	7.63E-06
Road 7	7	1400-1500	2.47E-02	1.58E-06	8.04E-05	2.19E-02	1.68E-06	7.82E-04	1.68E-01	7.77E-06
Road 7	7	1500-1600	2.56E-02	1.52E-06	7.73E-05	2.27E-02	1.62E-06	7.53E-04	1.62E-01	7.50E-06
Road 7	7	1600-1700	2.41E-02	1.64E-06	8.33E-05	2.14E-02	1.75E-06	8.12E-04	1.75E-01	8.07E-06
Road 7	7	1700-1800	1.86E-02	1.40E-06	7.08E-05	1.65E-02	1.49E-06	6.89E-04	1.48E-01	6.85E-06
Road 7	7	1800-1900	1.54E-02	1.16E-06	5.90E-05	1.37E-02	1.23E-06	5.70E-04	1.23E-01	5.67E-06
Road 7	7	1900-2000	1.23E-02	9.31E-07	4.72E-05	1.09E-02	9.87E-07	4.57E-04	9.87E-02	4.55E-06
Road 7	7	2000-2100	3.94E-03	2.98E-07	1.51E-05	3.49E-03	3.15E-07	1.46E-04	3.15E-02	1.45E-06
Road 7	7	2100-2200	1.09E-02	3.31E-07	1.68E-05	9.72E-03	8.75E-07	4.05E-04	8.75E-02	4.03E-06
Road 7	7	2200-2300	3.90E-03	2.94E-07	1.49E-05	3.45E-03	3.11E-07	1.44E-04	3.11E-02	1.43E-06
Road 7	7	2300-0000	1.16E-02	8.83E-08	4.48E-06	1.03E-02	9.32E-07	4.31E-04	9.32E-02	4.30E-06
Road 8	8	0000-0100	1.23E-02	8.61E-08	3.29E-06	1.05E-02	1.51E-06	8.84E-05	1.08E-01	1.51E-06
Road 8	8	0100-0200	3.08E-03	2.15E-07	8.23E-06	2.62E-03	3.78E-07	2.21E-05	2.72E-02	3.75E-07
Road 8	8	0200-0300	1.42E-02	9.46E-08	4.84E-06	1.21E-02	1.51E-06	8.84E-05	1.08E-01	1.51E-06
Road 8	8	0300-0400

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 27	27	1600-1700	1.80E-03	4.99E-03	1.41E-06	3.94E-03	4.06E-03	1.25E-06	3.54E-03	3.53E-06
Road 27	27	1700-1800	1.60E-03	3.89E-07	1.14E-06	3.38E-03	3.16E-07	9.74E-07	6.48E-03	4.59E-06
Road 27	27	1800-1900	1.41E-03	2.23E-07	6.86E-07	1.22E-03	1.93E-07	5.95E-07	5.89E-03	4.08E-06
Road 27	27	1900-2000	2.89E-03	1.27E-03	4.07E-07	1.17E-03	1.76E-03	2.61E-07	9.96E-04	8.38E-07
Road 27	27	2000-2100	1.25E-03	1.03E-03	3.17E-07	1.09E-03	8.99E-08	2.77E-07	5.21E-03	4.28E-07
Road 27	27	2100-2200	1.26E-03	1.07E-03	3.29E-07	1.13E-03	9.55E-08	2.94E-07	5.38E-03	4.56E-07
Road 27	27	2200-2300	1.32E-03	9.72E-04	2.99E-07	1.03E-03	1.11E-06	4.39E-01	3.23E-07	9.94E-07
Road 27	27	2300-0000	1.36E-03	8.24E-08	2.54E-07	1.20E-03	2.22E-07	1.05E-03	3.23E-07	9.94E-07
Road 28	28	0000-0100	1.60E-03	3.89E-07	1.14E-06	3.38E-03	3.16E-07	9.74E-07	6.48E-03	4.59E-06
Road 28	28	0100-0200	1.60E-03	1.02E-07	5.80E-06	1.41E-02	9.01E-06	1.48E-01	9.49E-07	5.38E-05
Road 28	28	0200-0300	1.60E-03	1.02E-07	5.80E-06	1.41E-02	9.01E-06	1.48E-01	9.49E-07	5.38E-05
Road 28	28	0300-0400	1.72E-02	6.49E-08	3.69E-06	9.08E-02	1.14E-01	4.50E-07	4.23E-06	3.25E-05
Road 28	28	0400-0500	1.90E-02	7.51E-08	4.26E-06	1.01E-01	1.26E-01	5.00E-07	4.70E-06	3.61E-05
Road 28	28	0500-0600	1.90E-02	1.39E-03	7.08E-06	3.73E-01	1.27E-01	1.52E-01	1.51E-06	9.31E-05
Road 28	28	0600-0700	1.98E-02	3.14E-07	1.78E-05	2.79E-02	1.57E-01	2.76E-06	1.53E-01	2.42E-06
Road 28	28	0700-0800	1.98E-02	3.14E-07	1.78E-05	2.79E-02	1.57E-01	2.76E-06	1.53E-01	2.42E-06
Road 28	28	0800-0900	1.97E-02	7.36E-07	4.17E-05	6.48E-02	3.68E-05	1.60E-01	5.99E-06	1.40E-01
Road 28	28	0900-1000	1.97E-02	2.68E-02	1.52E-06	1.41E-02	1.34E-03	5.85E-02	3.32E-06	5.12E-02
Road 28	28	1000-1100	2.47E-02	7.27E-07	4.13E-05	2.16E-02	6.37E-07	1.39E-01	7.91E-06	1.24E-01
Road 28	28	1100-1200	2.40E-02	6.70E-07	3.80E-05	3.32E-05	1.73E-01	4.81E-06	2.73E-04	7.58E-06
Road 28	28	1200-1300	2.20E-02	4.41E-07	2.51E-05	1.46E-02	1.58E-01	3.16E-06	1.80E-04	4.98E-06
Road 28	28	1300-1400	2.20E-02	4.56E-07	2.59E-05	1.91E-02	1.66E-04	3.44E-06	1.96E-04	5.42E-06
Road 28	28	1400-1500	2.20E-02	4.56E-07	2.59E-05	1.91E-02	1.66E-04	3.44E-06	1.96E-04	5.42E-06
Road 28	28	1500-1600	2.09E-02	4.68E-07	2.66E-05	1.81E-02	4.05E-02	2.30E-03	1.31E-04	3.62E-06
Road 28	28	1600-1700	2.16E-02	5.04E-07	2.86E-05	1.90E-02	4.44E-07	2.52E-05	1.41E-03	3.90E-06
Road 28	28	1700-1800	2.16E-02	6.17E-07	3.50E-05	1.90E-02	4.44E-07	1.27E-06	7.23E-05	1.99E-06
Road 28	28	1800-1900	1.31E-02	3.57E-07	2.03E-05	1.15E-02	3.29E-06	1.87E-04	1.03E-01	2.80E-06
Road 28	28	1900-2000	1.22E-02	2.05E-07	1.16E-05	1.06E-02	1.78E-06	1.01E-04	5.56E-03	1.51E-06
Road 28	28	2000-2100	1.22E-02	2.05E-07	1.16E-05	1.06E-02	1.78E-06	1.01E-04	5.56E-03	1.51E-06
Road 28	28	2100-2200	1.10E-02	1.82E-07	1.03E-05	9.75E-03	5.62E-06	1.32E-04	7.26E-03	1.34E-06
Road 28	28	2200-2300	1.20E-02	1.45E-07	8.24E-06	1.04E-02	1.26E-06	1.61E-04	8.85E-03	1.64E-06
Road 28	28	2300-0000	1.20E-02	1.45E-07	8.24E-06	1.04E-02	1.26E-06	1.61E-04	8.85E-03	1.64E-06
Road 29	29	0000-0100	1.28E-02	4.39E-08	3.03E-06	1.16E-02	5.97E-08	1.00E-03	3.60E-07	2.49E-05
Road 29	29	0100-0200	1.32E-02	4.94E-08	3.41E-06	1.19E-02	6.46E-08	3.08E-06	3.70E-07	2.56E-05
Road 29	29	0200-0300	1.32E-02	4.94E-08	3.41E-06	1.19E-02	6.46E-08	3.08E-06	3.70E-07	2.56E-05
Road 29	29	0300-0400	1.28E-02	4.39E-08	3.03E-06	1.16E-02	5.97E-08	1.00E-03	3.60E-07	2.49E-05
Road 29	29	0400-0500	1.32E-02	4.94E-08	3.41E-06	1.19E-02	6.46E-08	3.08E-06	3.70E-07	2.56E-05
Road 29	29	0500-0600	1.30E-02	8.57E-08	5.91E-06	1.17E-02	1.14E-01	2.95E-06	1.67E-04	4.84E-06
Road 29	29	0600-0700	1.30E-02	1.75E-07	1.21E-05	1.17E-02	1.48E-06	1.02E-04	9.47E-02	1.28E-06
Road 29	29	0700-0800	1.34E-02	3.44E-07	2.37E-05	1.20E-02	3.06E-01	2.11E-05	1.46E-03	4.23E-06
Road 29	29	0800-0900	1.34E-02	6.24E-07	2.93E-05	1.18E-02	1.27E-06	8.65E-02	2.74E-06	1.89E-04
Road 29	29	0900-1000	1.53E-02	3.98E-07	2.75E-05	1.33E-02	2.81E-06	1.19E-04	9.39E-02	2.44E-06
Road 29	29	1000-1100	1.83E-02	3.98E-07	2.75E-05	1.33E-02	2.81E-06	1.19E-04	9.39E-02	2.44E-06
Road 29	29	1100-1200	1.64E-02	3.49E-07	2.41E-05	3.05E-02	2.10E-05	1.15E-01	2.45E-06	1.69E-04
Road 29	29	1200-1300	1.64E-02	3.49E-07	2.41E-05	3.05E-02	2.10E-05	1.15E-01	2.45E-06	1.69E-04
Road 29	29	1300-1400	1.41E-02	5.83E-07	4.02E-05	2.97E-02	5.09E-06	3.51E-05	2.70E-01	2.78E-06
Road 29	29	1400-1500	1.41E-02	6.08E-07	4.20E-05	2.97E-02	5.30E-06	3.66E-05	2.81E-01	2.90E-06
Road 29	29	1500-1600	3.24E-02	8.31E-08	5.74E-06	6.83E-02	1.00E-06	1.52E-04	1.05E-02	7.24E-06
Road 29	29	1600-1700	3.34E-02	6.19E-07	4.28E-05	2.95E-02	5.47E-07	3.77E-05	2.86E-01	1.97E-06
Road 29	29	1700-1800	3.34E-02	4.95E-07	3.42E-05	2.95E-02	4.37E-07	3.01E-05	2.08E-01	1.44E-06
Road 29	29	1800-1900	2.63E-02	2.28E-02	4.32E-07	2.98E-01	2.32E-02	4.39E-07	2.98E-01	2.32E-02
Road 29	29	1900-2000	2.15E-02	2.05E-02	3.88E-07	2.68E-01	2.08E-02	3.94E-07	2.68E-01	2.08E-02
Road 29	29	2000-2100	2.15E-02	2.05E-02	3.88E-07	2.68E-01	2.08E-02	3.94E-07	2.68E-01	2.08E-02
Road 29	29	2100-2200	1.32E-01	9.72E-04	2.99E-07	1.03E-03	1.11E-06	4.39E-01	3.23E-07	9.94E-07
Road 29	29	2200-2300	1.36E-03	8.24E-08	2.54E-07	1.20E-03	2.22E-07	1.05E-03	3.23E-07	9.94E-07
Road 29	29	2300-0000	1.36E-03	8.24E-08	2.54E-07	1.20E-03	2.22E-07	1.05E-03	3.23E-07	9.94E-07
Road 30	30	0000-0100	1.54E-02	8.05E-08	7.88E-07	1.39E-02	7.25E-08	7.00E-07	9.80E-03	8.50E-07
Road 30	30	0100-0200	1.54E-02	8.05E-08	7.88E-07	1.39E-02	7.25E-08	7.00E-07	9.80E-03	8.50E-07
Road 30	30	0200-0300	1.54E-02	8.05E-08	7.88E-07	1.39E-02	7.25E-08	7.00E-07	9.80E-03	8.50E-07
Road 30	30	0300-0400	1.54E-02	8.05E-08	7.88E-07	1.39E-02	7.25E-08	7.00E-07	9.80E-03	8.50E-07
Road 30	30	0400-0500	1.73E-02	9.02E-08	8.83E-07	1.56E-02	8.13E-08	7.85E-07	1.10E-02	9.53E-07
Road 30	30	0500-0600	1.73E-02	9.02E-08	8.83E-07	1.56E-02	8.13E-08	7.85E-07	1.10E-02	9.53E-07
Road 30	30	0600-0700	1.98E-02	3.14E-07	1.78E-05	2.79E-02	1.57E-01	2.76E-06	1.53E-01	2.42E-06
Road 30	30	0700-0800	1.98E-02	3.14E-07	1.78E-05	2.79E-02	1.57E-01	2.76E-06	1.53E-01	2.42E-06
Road 30	30	0800-0900	1.97E-02	7.36E-07	4.17E-05	6.48E-02	3.68E-05	1.60E-01	5.99E-06	1.40E-01
Road 30	30	0900-1000	2.02E-02	7.00E-07	6.85E-06	1.56E-02	1.66E-01	3.37E-06	3.30E-04	2.55E-06
Road 30	30	1000-1100	2.21E-02	6.45E-07	6.31E-06	1.95E-02	1.53E-01	4.47E-06	4.37E-04	3.85E-06
Road 30	30	1100-1200	2.21E-02	6.45E-07	6.31E-06	1.95E-02	1.53E-01	4.47E-06	4.37E-04	3.85E-06
Road 30	30	1200-1300	2.20E-02	4.41E-07	4.31E-06	1.46E-02	1.58E-01	3.16E-06	3.09E-04	4.98E-06
Road 30	30	1300-1400	3.07E-02	9.21E-07	9.01E-06	2.89E-02	8.06E-07	2.89E-01	7.06E-06	3.62E-05
Road 30	30	1400-1500	3.09E-02	9.55E-07	9.35E-06	2.29E-02	1.24E-01	3.83E-06	3.75E-04	3.76E-05
Road 30	30	1500-1600	3.09E-02	9.55E-07	9.35E-06	2.29E-02	1.24E-01	3.83E-06	3.75E-04	3.76E-05
Road 30	30	1600-1700	2.93E-02	9.34E-07	9.14E-06	2.57E-02	8.19E-07	8.02E-06	3.99E-03	4.41E-06
Road 30	30	1700-1800	2.40E-02	7.91E-07	7.75E-06	2.11E-02	1.05E-01	3.90E-06	3.82E-04	3.61E-06
Road 30	30	1800-1900	1.88E-02	5.89E-07	5.76E-06	1.65E-02	1.56E-06	3.49E-05	9.72E-02	3.04E-06
Road 30	30	1900-2000	1.58E-02	3.67E-07	3.59E-06	1.40E-02	3.24E-07	3.17E-06	2.12E-01	2.91E-06
Road 30	30	2000-2100	1.55E-02	2.89E-07	2.83E-06	1.37E-02	2.55E-07	2.50E-06	1.67E-01	2.29E-06
Road 30	30	2100-2200	1.51E-02	2.76E-07	2.70E-06	1.32E-02	2.41E-07	2.36E-06	1.58E-01	2.17E-06
Road 30	30	2200-2300	1.54E-02	2.27E-07	2.22E-06	1.49E-02	1.98E-07	2.94E-06	1.96E-01	2.90E-06
Road 30	30	2300-0000	1.71E-02	2.27E-07	2.22E-06	1.49E-02	1.98E-07	2.94E-06	1.96E-01	2.90E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 31	31	0000-0100	1.71E-02	2.03E-08	1.82E-07	1.50E-02	1.79E-08	1.60E-07	1.77E-01	2.11E-07
Road 31	31	0100-0200	1.71E-02	2.03E-08	1.82E-07	1.50E-02	1.79E-08	1.60E-07	1.77E-01	2.11E-07
Road 31	31	0200-0300	1.78E-02	1.57E-08	1.40E-07	1.60E-02	1.41E-08	1.26E-07	1.77E-01	1.56E-07
Road 31	31	0300-0400	1.84E-02	1.30E-08	1.16E-07	1.66E-02	1.17E-08	1.05E-07	1.77E-01	1.29E-07
Road 31	31	0400-0500	1.92E-02	1.50E-08	1.34E-07	1.73E-02	1.35E-08	1.21E-07	1.76E-01	1.38E-07
Road 31	31	0500-0600	2.50E-02	2.78E-08	2.48E-07	2.25E-02	2.50E-08	2.23E-07	1.76E-01	1.95E-07
Road 31	31	0600-0700	2.08E-02	6.43E-08	5.73E-07	1.86E-02	5.31E-07	4.75E-06	1.54E-01	1.98E-06
Road 31	31	0700-0800	2.18E-02	1.33E-07	1.19E-06	1.92E-02	1.10E-06	9.88E-06	1.54E-01	4.10E-06
Road 31	31	0800-0900	2.08E-02	1.47E-07	1.31E-06	1.87E-02	1.21E-06	1.09E-05	1.54E-01	4.51E-06
Road 31	31	0900-1000	2.15E-02	1.42E-07	1.27E-06	1.93E-02	1.17E-06	1.05E-05	1.54E-01	4.35E-06
Road 31	31	1000-1100	2.54E-02	2.38E-07	2.12E-06	2.23E-02	1.20E-07	1.07E-06	1.77E-01	9.49E-07
Road 31	31	1100-1200	2.54E-02	1.36E-07	1.22E-06	2.23E-02	1.20E-07	1.07E-06	1.77E-01	9.49E-07
Road 31	31	1200-1300	2.51E-02	1.21E-07	1.08E-06	2.20E-02	1.06E-07	9.48E-07	1.77E-01	8.37E-07
Road 31	31	1300-1400	2.52E-02	1.33E-07	1.19E-06	2.21E-02	1.17E-07	1.04E-06	1.77E-01	9.19E-07
Road 31	31	1400-1500	2.52E-02	1.33E-07	1.19E-06	2.21E-02	1.17E-07	1.04E-06	1.77E-01	9.49E-07
Road 31	31	1500-1600	2.56E-02	1.39E-07	1.24E-06	2.25E-02	1.22E-07	1.08E-06	1.77E-01	9.76E-07
Road 31	31	1600-1700	2.48E-02	1.45E-07	1.29E-06	2.18E-02	1.27E-07	1.13E-06	1.77E-01	1.02E-06
Road 31	31	1700-1800	2.48E-02	1.45E-07	1.29E-06	2.18E-02	1.27E-07	1.13E-06	1.77E-01	1.02E-06
Road 31	31	1800-1900	2.31E-02	1.34E-07	1.20E-06	2.03E-02	1.18E-07	1.04E-06	1.77E-01	9.44E-07
Road 31	31	1900-2000	2.31E-02	1.34E-07	1.20E-06	2.03E-02	1.18E-07	1.04E-06	1.77E-01	9.44E-07
Road 31	31	2000-2100	2.31E-02	1.34E-07	1.20E-06	2.03E-02	1.18E-07	1.04E-06	1.77E-01	9.44E-07
Road 31	31	2100-2200	2.51E-02	1.21E-07	1.08E-06	2.20E-02	1.06E-07	9.48E-07	1.77E-01	8.37E-07
Road 31	31	2200-2300	2.51E-02	1.21E-07	1.08E-06	2.20E-02	1.06E-07	9.48E-07	1.77E-01	8.37E-07
Road 31	31	2300-0000	2.51E-02	1.21E-07	1.08E-06	2.20E-02	1.06E-07	9.48E-07	1.77E-01	8.37E-07
Road 32	32	0000-0100	1.50E-02	1.36E-07	9.03E-06	1.32E-02	1.20E-07	7.95E-06	1.68E-01	1.52E-06
Road 32	32	0100-0200	1.50E-02	1.36E-07	9.03E-06	1.32E-02	1.20E-07	7.95E-06	1.68E-01	1.52E-06
Road 32	32	0200-0300	1.61E-02	7.22E-08	4.80E-06	1.41E-02	6.50E-08	4.32E-06	1.68E-01	7.39E-07
Road 32	32	0300-0400	1.78E-02	6.91E-08	4.59E-06	1.61E-02	6.23E-08	4.13E-06	1.69E-01	6.55E-07
Road 32	32	0400-0500	1.78E-02	6.91E-08	4.59E-06	1.61E-02	6.23E-08	4.13E-06	1.69E-01	6.55E-07
Road 32	32	0500-0600	1.88E-02	1.28E-07	8.49E-06	1.66E-02	1.15E-07	7.50E-06	1.72E-01	1.17E-06
Road 32	32	0600-0700	2.04E-02	6.12E-07	4.06E-05	1.79E-02	5.38E-07	3.57E-05	1.74E-01	5.23E-06
Road 32	32	0700-0800	2.04E-02	6.12E-07	4.06E-05	1.79E-02	5.38E-07	3.57E-05	1.74E-01	5.23E-06
Road 32	32	0800-0900	2.04E-02	6.72E-07	4.46E-05	1.91E-02	5.92E-07	3.93E-05	1.74E-01	5.36E-06
Road 32	32	0900-1000	2.20E-02	6.72E-07	4.46E-05	1.91E-02	5.92E-07	3.86E-05	1.68E-01	5.14E-06
Road 32	32	1000-1100	2.38E-02	6.12E-07	4.07E-05	2.09E-02	5.39E-07	3.58E-05	1.72E-01	4.42E-06
Road 32	32	1100-1200	2.14E-02	2.80E-07	1.86E-05	1.88E-02	2.46E-07	1.63E-05	1.72E-01	2.15E-06
Road 32	32	1200-1300	2.14E-02	2.80E-07	1.86E-05	1.88E-02	2.46E-07	1.63E-05	1.72E-01	2.15E-06
Road 32	32	1300-1400	2.16E-02	4.18E-07	2.78E-05	1.90E-02	4.08E-07	2.71E-05	1.72E-01	3.56E-06
Road 32	32	1400-1500	2.16E-02	4.18E-07	2.78E-05	1.90E-02	4.08E-07	2.71E-05	1.72E-01	3.56E-06
Road 32	32	1500-1600	2.20E-02	2.06E-07	1.37E-05	1.94E-02	2.01E-07	1.34E-05	1.72E-01	1.76E-06
Road 32	32	1600-1700	2.20E-02	2.06E-07	1.37E-05	1.94E-02	2.01E-07	1.34E-05	1.72E-01	1.76E-06
Road 32	32	1700-1800	2.20E-02	2.06E-07	1.37E-05	1.94E-02	2.01E-07	1.34E-05	1.72E-01	1.76E-06
Road 32	32	1800-1900	2.11E-02	2.06E-07	1.37E-05	1.86E-02	2.01E-07	1.34E-05	1.72E-01	1.76E-06
Road 32	32	1900-2000	2.11E-02	2.06E-07	1.37E-05	1.86E-02	2.01E-07	1.34E-05	1.72E-01	1.76E-06
Road 32	32	2000-2100	2.11E-02	2.06E-07	1.37E-05	1.86E-02	2.01E-07	1.34E-05	1.72E-01	1.76E-06
Road 32	32	2100-2200	2.38E-02	6.12E-07	4.07E-05	2.09E-02	5.39E-07	3.58E-05	1.72E-01	4.42E-06
Road 32	32	2200-2300	2.38E-02	6.12E-07	4.07E-05	2.09E-02	5.39E-07	3.58E-05	1.72E-01	4.42E-06
Road 32	32	2300-0000	2.38E-02	6.12E-07	4.07E-05	2.09E-02	5.39E-07	3.58E-05	1.72E-01	4.42E-06
Road 33	33	0000-0100	1.28E-02	1.23E-07	1.85E-06	1.12E-02	1.08E-07	1.62E-06	1.04E-01	1.00E-06
Road 33	33	0100-0200	1.28E-02	1.23E-07	1.85E-06	1.12E-02	1.08E-07	1.62E-06	1.04E-01	1.00E-06
Road 33	33	0200-0300	1.58E-02	7.49E-08	1.13E-06	1.42E-02	6.74E-08	1.01E-06	1.03E-01	9.20E-07
Road 33	33	0300-0400	1.58E-02	7.49E-08	1.13E-06	1.42E-02	6.74E-08	1.01E-06	1.03E-01	9.20E-07
Road 33	33	0400-0500	1.76E-02	7.39E-08	1.11E-06	1.58E-02	6.66E-08	1.00E-06	1.13E-01	4.75E-07
Road 33	33	0500-0600	1.73E-02	1.24E-07	1.87E-06	1.53E-02	1.10E-07	1.65E-06	1.15E-01	8.26E-07
Road 33	33	0600-0700	1.88E-02	5.92E-07	8.91E-06	1.65E-02	5.20E-07	7.83E-06	1.59E-01	3.75E-06
Road 33	33	0700-0800	1.88E-02	5.92E-07	8.91E-06	1.65E-02	5.20E-07	7.83E-06	1.59E-01	3.75E-06
Road 33	33	0800-0900	2.07E-02	6.56E-07	9.87E-06	1.82E-02	5.75E-07	8.66E-06	1.59E-01	4.08E-06
Road 33	33	0900-1000	2.07E-02	6.56E-07	9.87E-06	1.82E-02	5.75E-07	8.66E-06	1.59E-01	4.08E-06
Road 33	33	1000-1100	2.32E-02	6.06E-07	9.11E-06	2.04E-02	5.31E-07	7.99E-06	1.59E-01	3.76E-06
Road 33	33	1100-1200	3.01E-02	8.46E-07	1.27E-05	2.65E-02	7.43E-07	1.12E-05	1.46E-01	4.10E-06
Road 33	33	1200-1300	3.01E-02	8.46E-07	1.27E-05	2.65E-02	7.43E-07	1.12E-05	1.46E-01	4.10E-06
Road 33	33	1300-1400	3.01E-02	8.46E-07	1.27E-05	2.65E-02	7.43E-07	1.12E-05	1.46E-01	4.10E-06
Road 33	33	1400-1500	3.01E-02	8.46E-07	1.27E-05	2.65E-02	7.43E-07	1.12E-05	1.46E-01	4.10E-06
Road 33	33	1500-1600	2.80E-02	8.12E-07	1.22E-05	2.47E-02	7.13E-07	1.07E-05	1.45E-01	4.19E-06
Road 33	33	1600-1700	2.80E-02	8.12E-07	1.22E-05	2.47E-02	7.13E-07	1.07E-05	1.45E-01	4.19E-06
Road 33	33	1700-1800	2.33E-02	7.07E-07	1.06E-05	2.02E-02	6.14E-07	9.24E-06	1.38E-01	4.17E-06
Road 33	33	1800-1900	2.33E-02	7.07E-07	1.06E-05	2.02E-02	6.14E-07	9.24E-06	1.38E-01	4.17E-06
Road 33	33	1900-2000	1.97E-02	5.97E-07	8.98E-06	1.71E-02	5.18E-07	7.80E-06	1.38E-01	3.52E-06
Road 33	33	2000-2100	1.49E-02	2.54E-07	3.83E-06	1.30E-02	2.28E-07	3.43E-06	1.21E-01	2.07E-06
Road 33	33	2100-2200	1.52E-02	2.21E-07	3.32E-06	1.32E-02	2.21E-07	3.32E-06	1.20E-01	2.04E-06
Road 33	33	2200-2300	1.52E-02	2.21E-07	3.32E-06	1.32E-02	2.21E-07	3.32E-06	1.20E-01	2.04E-06
Road 33	33	2300-0000	1.52E-02	2.21E-07	3.32E-06	1.32E-02	2.21E-07	3.32E-06	1.20E-01	2.04E-06
Road 34	34	0000-0100	9.02E-03	6.00E-08	1.73E-06	7.90E-03	5.78E-08	1.51E-06	8.91E-02	6.52E-07
Road 34	34	0100-0200	9.02E-03	4.89E-08	1.28E-06	8.32E-03	4.80E-08	1.26E-06	9.17E-02	4.80E-07
Road 34	34	0200-0300	1.14E-02	4.01E-08	1.05E-06	1.02E-02	3.60E-08	9.42E-07	9.36E-02	3.31E-07
Road 34	34	0300-0400	1.24E-02	3.49E-08	9.14E-07	1.12E-02	3.15E-08	8.24E-07	9.52E-02	2.68E-07
Road 34	34	0400-0500	1.28E-02	3.93E-08	1.03E-06	1.15E-02	3.53E-08	9.25E-07	9.62E-02	2.95E-07
Road 34	34	0500-0600	1.26E-02	6.57E-08	1.72E-06	1.11E-02	5.81E-08	1.52E-06	9.51E-02	5.04E-07
Road 34	34	0600-0700	1.26E-02	1.36E-07	3.56E-06	1.11E-02	1.20E-07	3.14E-06	9.51E-02	1.04E-06
Road 34	34	0700-0800	1.38E-02	3.10E-07	8.12E-06	1.21E-02	2.72E-07	7.12E-06	1.02E-01	2.29E-06
Road 34	34	0800-0900	1.24E-02	2.82E-07	7.40E-06	1.09E-02	2.48E-07	6.50E-06	1.02E-01	2.29E-06
Road 34	34	0900-1000	1.40E-02	3.24E-07	2.00E-06	1.21E-02	2.86E-07	1.76E-06	1.33E-01	2.86E-07
Road 34	34	1000-1100	1.68E-02	3.89E-07	2.39E-06	1.45E-02	3.43E-07	2.11E-06	2.07E-01	7.62E-06
Road 34	34	1100-1200	1.49E-02	2.54E-07	3.83E-06	1.30E-02	2.28E-07	3.43E-06	1.21E-01	2.07E-06
Road 34	34	1200-1300	1.49E-02	2.54E-07	3.83E-06	1.30E-02	2.28E-07	3.43E-06	1.21E-01	2.07E-06
Road 34	34	1300-1400	1.49E-02	2.54E-07	3.83E-06	1.30E-02	2.28E-07	3.43E-06	1.21E-01	2.07E-06
Road 34	34	1400-1500	1.49E-02	2.54E-07	3.83E-06	1.30E-02	2.28E-07	3.43E-06	1.21E-01	2.07E-06
Road 34	34	1500-1600	1.49E-02	2.54E-07	3.83E-06	1.30E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.02E-01	4.83E-07	8.74E-06	1.01E-02	3.38E-07	7.39E-06	3.44E-05	1.52E-01	3.32E-06	3.00E-05
Road 54	54	0900-1000	1.17E-01	4.23E-07	9.64E-06	1.02E-01	3.67E-07	8.37E-06	3.81E-05	3.99E-01	1.44E-06	3.28E-05
Road 54	54	1000-1100	1.31E-01	4.33E-07	9.87E-06	1.04E-01	3.80E-07	8.65E-06	4.90E-01	1.63E-06	3.72E-05	4.26E-01
Road 54	54	1100-1200	1.28E-01	4.03E-07	9.18E-06	1.13E-01	3.55E-07	8.10E-06	4.87E-01	1.53E-06	3.50E-05	4.27E-01
Road 54	54	1200-1300	1.60E-01	3.45E-07	7.86E-06	1.40E-01	3.02E-07	6.88E-06	5.69E-01	1.23E-06	2.80E-05	4.96E-01
Road 54	54	1300-1400	1.56E-01	3.69E-07	8.40E-06	1.37E-01	3.23E-07	7.36E-06	5.79E-01	1.37E-06	3.12E-05	5.05E-01
Road 54	54	1400-1500	1.58E-01	3.78E-07	8.61E-06	1.39E-01	3.32E-07	7.57E-06	5.72E-01	1.37E-06	3.12E-05	5.02E-01
Road 54	54	1500-1600	1.45E-01	3.57E-07	8.13E-06	1.27E-01	3.14E-07	7.16E-06	5.70E-01	1.41E-06	3.21E-05	5.00E-01
Road 54	54	1600-1700	1.35E-01	3.66E-07	8.34E-06	1.18E-01	3.21E-07	7.32E-06	5.51E-01	1.49E-06	3.39E-05	4.84E-01
Road 54	54	1700-1800	1.26E-01	2.89E-07	6.59E-06	1.10E-01	2.53E-07	5.77E-06	5.20E-01	1.19E-06	2.72E-05	4.49E-01
Road 54	54	1800-1900	1.22E-01	2.68E-07	6.11E-06	1.07E-01	2.35E-07	5.36E-06	4.43E-01	9.74E-07	2.22E-05	3.82E-01
Road 54	54	1900-2000	9.18E-02	1.25E-07	2.84E-06	8.10E-02	1.10E-07	2.51E-06	1.84E-01	2.51E-07	5.72E-06	1.62E-01
Road 54	54	2000-2100	8.61E-02	9.29E-08	2.12E-06	7.59E-02	8.19E-08	1.87E-06	1.37E-01	1.48E-07	3.37E-06	1.21E-01
Road 54	54	2100-2200	8.60E-02	9.36E-08	2.13E-06	7.58E-02	8.25E-08	1.88E-06	1.37E-01	1.49E-07	3.39E-06	1.21E-01
Road 54	54	2200-2300	9.01E-02	8.89E-08	2.03E-06	8.07E-02	7.96E-08	1.81E-06	1.60E-01	1.58E-07	3.59E-06	1.43E-01
Road 54	54	2300-2400	9.51E-02	7.96E-08	1.81E-06	8.52E-02	7.13E-08	1.62E-06	1.69E-01	1.41E-07	3.22E-06	1.51E-01
Road 101	101	0000-0100	7.76E-03	6.85E-08	2.91E-06	4.60E-02	5.03E-07	1.99E-05	4.85E-02	4.28E-07	1.70E-05	1.92E-02
Road 101	101	0100-0200	8.51E-03	4.90E-08	1.96E-06	7.72E-03	5.91E-02	1.41E-07	3.35E-06	2.68E-07	1.15E-05	1.30E-02
Road 101	101	0200-0300	9.23E-03	3.90E-08	1.55E-06	8.27E-03	3.49E-08	6.08E-02	2.57E-07	1.03E-05	5.28E-02	2.23E-07
Road 101	101	0300-0400	9.89E-03	3.32E-08	1.31E-06	8.91E-03	2.99E-08	1.18E-06	6.22E-02	2.09E-07	8.27E-06	2.50E-02
Road 101	101	0400-0500	1.07E-02	3.94E-08	1.56E-06	9.58E-03	3.52E-08	1.39E-06	6.68E-02	2.46E-07	9.73E-06	2.70E-02
Road 101	101	0500-0600	1.16E-02	7.46E-08	2.96E-06	1.02E-02	6.56E-08	2.60E-06	6.77E-02	4.35E-07	1.72E-05	2.68E-02
Road 101	101	0600-0700	1.25E-02	1.22E-07	2.56E-06	1.10E-02	1.07E-07	2.25E-06	7.34E-02	7.14E-07	1.50E-05	2.91E-02
Road 101	101	0700-0800	1.33E-02	1.73E-07	3.48E-06	1.17E-02	1.52E-07	3.06E-06	7.80E-02	1.01E-06	2.04E-05	3.09E-02
Road 101	101	0800-0900	1.27E-02	4.16E-07	1.65E-05	1.13E-02	3.68E-07	1.46E-05	6.57E-02	2.15E-06	8.50E-05	7.31E-05
Road 101	101	0900-1000	1.31E-02	4.10E-07	1.62E-05	1.16E-02	3.63E-07	1.44E-05	6.77E-02	2.12E-06	8.39E-05	7.53E-05
Road 101	101	1000-1100	1.71E-02	4.12E-07	1.63E-05	1.51E-02	3.64E-07	1.44E-05	8.85E-02	2.13E-06	8.42E-05	9.84E-05
Road 101	101	1100-1200	1.73E-02	3.91E-07	1.55E-05	1.53E-02	3.46E-07	1.37E-05	8.94E-02	2.02E-06	8.00E-05	9.94E-05
Road 101	101	1200-1300	2.23E-02	5.63E-07	2.23E-05	1.97E-02	4.98E-07	1.97E-05	1.15E-01	2.91E-06	1.15E-04	1.28E-04
Road 101	101	1300-1400	2.23E-02	5.91E-07	2.34E-05	1.97E-02	5.23E-07	2.07E-05	1.15E-01	3.06E-06	1.21E-04	1.28E-04
Road 101	101	1400-1500	2.07E-02	5.92E-07	2.34E-05	1.83E-02	5.24E-07	2.08E-05	9.38E-02	2.69E-06	1.06E-04	1.04E-04
Road 101	101	1500-1600	2.07E-02	5.92E-07	2.34E-05	1.83E-02	5.24E-07	2.08E-05	9.38E-02	2.69E-06	1.06E-04	1.04E-04
Road 101	101	1600-1700	1.70E-02	5.99E-07	2.37E-05	1.50E-02	5.30E-07	2.10E-05	7.70E-02	2.71E-06	1.07E-04	8.55E-05
Road 101	101	1700-1800	1.59E-02	5.05E-07	2.00E-05	1.38E-02	4.37E-07	1.73E-05	7.92E-02	2.51E-06	9.94E-05	8.80E-05
Road 101	101	1800-1900	1.54E-02	4.68E-07	1.85E-05	1.34E-02	4.06E-07	1.60E-05	7.68E-02	2.33E-06	9.21E-05	8.53E-05
Road 101	101	1900-2000	9.76E-03	4.25E-07	8.58E-06	2.15E-02	8.52E-06	5.70E-02	1.43E-06	5.66E-05	4.85E-02	1.21E-04
Road 101	101	2000-2100	9.54E-03	1.86E-07	7.38E-06	6.56E-06	6.20E-02	1.21E-06	4.79E-05	5.34E-02	1.04E-06	4.13E-05
Road 101	101	2100-2200	9.73E-03	1.77E-07	7.02E-06	6.69E-06	5.96E-02	1.12E-06	4.60E-05	5.14E-02	1.00E-06	3.97E-05
Road 101	101	2200-2300	8.70E-03	1.64E-07	6.48E-06	7.72E-03	1.45E-07	5.75E-06	5.96E-02	1.12E-06	4.43E-05	5.51E-02
Road 101	101	2300-2400	8.50E-03	1.60E-07	6.33E-06	7.54E-03	1.42E-07	5.62E-06	5.82E-02	1.10E-06	4.33E-05	5.39E-02
Road 102	102	0000-0100	1.12E-02	8.19E-08	3.04E-06	9.89E-03	7.19E-08	5.62E-02	4.10E-07	1.52E-05		
Road 102	102	0100-0200	1.22E-02	5.85E-08	2.17E-06	1.07E-02	5.14E-08	1.91E-06	6.88E-02	3.31E-07	1.23E-05	5.84E-02
Road 102	102	0200-0300	1.31E-02	4.66E-08	1.73E-06	1.15E-02	4.09E-08	1.52E-06	7.39E-02	2.63E-07	9.77E-06	6.24E-02
Road 102	102	0300-0400	1.38E-02	3.94E-08	1.46E-06	1.21E-02	3.47E-08	1.29E-06	7.79E-02	2.23E-07	8.27E-06	6.58E-02
Road 102	102	0400-0500	1.50E-02	4.68E-08	1.74E-06	1.32E-02	4.12E-08	1.53E-06	8.47E-02	2.64E-07	9.81E-06	7.15E-02
Road 102	102	0500-0600	1.58E-02	8.83E-08	3.28E-06	1.40E-02	7.84E-08	2.91E-06	7.88E-02	4.39E-07	1.63E-05	6.76E-02
Road 102	102	0600-0700	1.66E-02	2.01E-07	7.47E-06	1.48E-02	1.78E-07	6.62E-06	8.34E-02	1.01E-06	3.75E-05	7.15E-02
Road 102	102	0700-0800	1.77E-02	2.86E-07	1.06E-05	1.57E-02	2.53E-07	9.41E-06	8.89E-02	1.44E-06	5.32E-05	7.64E-02
Road 102	102	0800-0900	1.70E-02	4.95E-07	1.84E-05	1.50E-02	4.37E-07	1.62E-05	7.81E-02	2.27E-06	8.44E-05	6.76E-02
Road 102	102	0900-1000	1.75E-02	4.88E-07	1.81E-05	1.55E-02	4.31E-07	1.60E-05	8.04E-02	2.24E-06	8.32E-05	6.96E-02
Road 102	102	1000-1100	2.26E-02	4.90E-07	1.82E-05	2.00E-02	4.33E-07	1.61E-05	1.05E-01	2.25E-06	8.37E-05	9.07E-02
Road 102	102	1100-1200	2.30E-02	4.65E-07	1.72E-05	2.03E-02	4.11E-07	1.52E-05	1.06E-01	2.14E-06	7.94E-05	9.17E-02
Road 102	102	1200-1300	2.97E-02	6.69E-07	2.48E-05	2.62E-02	5.91E-07	2.19E-05	1.37E-01	3.08E-06	1.14E-04	1.19E-01
Road 102	102	1300-1400	2.97E-02	7.02E-07	2.60E-05	2.62E-02	6.21E-07	2.30E-05	1.37E-01	3.24E-06	1.20E-04	1.19E-01
Road 102	102	1400-1500	2.76E-02	7.03E-07	2.61E-05	2.44E-02	6.22E-07	2.31E-05	1.25E-01	3.19E-06	1.18E-04	1.08E-01
Road 102	102	1500-1600	2.76E-02	7.03E-07	2.61E-05	2.44E-02	6.22E-07	2.31E-05	1.25E-01	3.19E-06	1.18E-04	1.08E-01
Road 102	102	1600-1700	2.26E-02	7.12E-07	2.64E-05	1.99E-02	6.30E-07	2.33E-05	1.02E-01	3.22E-06	1.19E-04	8.84E-02
Road 102	102	1700-1800	2.12E-02	6.00E-07	2.22E-05	1.87E-02	5.31E-07	1.97E-05	1.04E-01	2.95E-06	1.09E-04	9.04E-02
Road 102	102	1800-1900	2.05E-02	5.56E-07	2.06E-05	1.81E-02	4.92E-07	1.82E-05	1.01E-01	2.74E-06	1.01E-04	8.75E-02
Road 102	102	1900-2000	1.30E-02	5.05E-07	1.02E-05	2.86E-02	1.11E-05	7.56E-02	1.90E-06	7.38E-05	6.44E-02	1.61E-04
Road 102	102	2000-2100	1.27E-02	2.21E-07	8.77E-06	8.72E-06	8.23E-02	1.61E-06	6.36E-05	7.09E-02	1.38E-06	5.48E-05
Road 102	102	2100-2200	1.29E-02	2.11E-07	8.34E-06	8.89E-06	7.91E-02	1.49E-06	6.11E-05	6.82E-02	1.33E-06	5.27E-05
Road 102	102	2200-2300	1.15E-02	1.95E-07	7.70E-06	1.03E-02	1.72E-07	6.84E-06	7.08E-02	1.33E-06	5.27E-05	6.55E-02
Road 102	102	2300-2400	1.13E-02	1.90E-07	7.52E-06	1.00E-02	1.69E-07	6.68E-06	6.92E-02	1.31E-06	5.14E-05	6.41E-02
Road 103	103	0000-0100	1.26E-02	9.22E-08	3.42E-06	1.11E-02	8.09E-08	6.32E-02	4.61E-07	1.71E-05		
Road 103	103	0100-0200	1.37E-02	6.58E-08	2.44E-06	1.20E-02	5.78E-08	2.15E-06	7.74E-02	3.72E-07	1.38E-05	6.57E-02
Road 103	103	0200-0300	1.47E-02	5.24E-08	1.95E-06	1.29E-02	4.60E-08	1.71E-06	8.31E-02	2.96E-07	1.10E-05	7.02E-02
Road 103	103	0300-0400	1.55E-02	4.43E-08	1.64E-06	1.36E-02	3.90E-08	1.45E-06	8.77E-02	2.51E-07	9.31E-06	7.41E-02
Road 103	103	0400-0500	1.69E-02	5.27E-08	1.95E-06	1.48E-02	4.63E-08	1.72E-06	9.53E-02	2.97E-07	1.10E-05	8.05E-02
Road 103	103	0500-0600	1.78E-02	9.94E-08	3.69E-06	1.56E-02	8.82E-08	3.27E-06	8.87E-02	4.94E-07	1.83E-05	7.49E-02
Road 103	103	0600-0700	1.87E-02	2.26E-07	8.40E-06	1.65E-02	2.00E-07	7.44E-06	9.38E-02	1.13E-06	4.22E-05	7.92E-02
Road 103	103	0700-0800	1.99E-02	3.22E-07	1.19E-05	1.76E-02	2.85E-07	1.06E-05	1.00E-01	1.62E-06	5.99E-05	8.45E-02
Road 103	103	0800-0900	1.91E-02	5.57E-07	2.07E-05	1.69E-02	4.92E-07	1.83E-05	8.80E-02	2.56E-06	9.50E-05	7.61E-02
Road 103	103	0900-1000	1.97E-02	5.49E-07	2.04E-05	1.74E-02	4.85E-07	1.80E-05	9.05E-02	2.52E-06	9.36E-05	7.84E-02
Road 103	103	1000-1100	2.54E-02	5.52E-07	2.05E-05	2.25E-02	4.88E-07	1.81E-05	1.18E-01	2.53E-06	9.41E-05	1.02E-01
Road 103	103	1100-1200	2.59E-02	5.24E-07	1.94E-05	2.29E-02	4.63E-07	1.72E-05	1.19E-01	2.41E-06	8.94E-05	1.03E-01
Road 103	103	1200-1300	3.34E-02	7.53E-07	2.79E-05	2.95E-02	6.66E-07	2.47E-05	1.54E-01	3.47E-06	1.29E-04	1.34E-01
Road 103	103	1300-1400	3.34E-02	7.91E-07	2.93E-05	2.95E-02	6.99E-07	2.59E-05	1.54E-01	3.64E-06	1.35E-04	1.34E-01
Road 103	103	1400-1500	3.11E-02	7.92E-07	2.94E-05	2.75E-02	7.00E-07	2.60E-05	1.41E-01	3.59E-06	1.33E-04	1.22E-01
Road 103	103	1500-1600	3.11E-02	7.92E-07	2.94E-05	2.75E-02	7.00E-07	2.60E-05	1.41E-01	3.59E-06	1.33E-04	1.22E-01
Road 103	103	1600-1700	2.54E-02	8.02E-07	2.97E-05	2.24E-02	7.09E-07	2.63E-05	1.15E-01	3.63E-06	1.34E-04	9.95E-02
Road 103	103	1700-1800	2.39E-02	6.75E-07	2.50E-05	2.11E-02	5.97E-07	2.21E-05	1.17E-01	3.32E-06	1.23E-04	1.02E-01
Road 103	103	1800-1900	2.31E-02	6.26E-07	2.32E-05	2.04E-02	5.53E-07	2.05E-05	1.13E-01	3.08E-06	1.14E-04	9.85E-02
Road 103	103	1900-2000	1.46E-02	5.68E-07	1.15E-05	3.22E-02	1.25E-05	8.51E-02	2.14E-06	8.31E-05	7.25E-02	1.81E-04
Road 103	103	2000-2100	1.43E-02	2.49E-07	9.87E-06	9.81E-06	9.26E-02	1.81E-06	7.16E-05	7.98E-02	1.55E-06	6.17E-05
Road 103	103	2100-2200	1.46E-02	2.38E-07	9.39E-06	1.00E-02	8.90E-02	1.68E-06	6.87E-05	7.67E-02	1.49E-06	5.93E-05
Road 103	103	2200-2300	1.29E-02	2.19E-07	8.66E-06	1.16E-02	1.93E-07	7.69E-06	7.96E-02	1.49E-06	5.93E-05	7.36E-02
Road 103	103	2300-2400	1.27E-02	2.13E-07	8.45E-06	1.13E-02	1.90E-07	7.51E-06	7.78E-02	1.47E-06	5.82E-05	7.21E-02
Road 103	103	1600-1700	1.62E-02	4.20E-07	1.55E-05	1.43E-02	3.71E-07	1.37E-05	7.48E-02	1.94E-06	7.16E-05	6.61E-02
Road 103	103	1700-1800	1.52E-02	3.52E-07	1.30E-05	1.34E-02	3.11E-07	1.15E-05	7.48E-02	1.73E-06	6.41E-05	6.59E-02
Road 103	103	1800-1900	1.47E-02	3.26E-07	1.21E-05	1.30E-02	2.88E-07	1.07E-05	7.31E-02	1.62E-06	5.97E-05	6.45E-02
Road 103	103	1900-2000	9.31E-03	2.96E-07	5.98E-06	2.05E-02	6.51E-06	4.43E-02	1.36E-06	4.32E-05	2.87E-02	1.15E-04
Road 103	103	2000-2100	9.09E-03	1.30E-07	5.14E-06	6.24E-06	4.82E-02	9.41E-07	3.72E-05	4.15E-02	8.09E-07	3.21E-05
Road 103	103	2100-2200	9.28E-03	1.24E-07	4.89E-06	6.36E-06	4.63E-02	8.75E-07	3.58E-05	3.99E-02	7.79E-07	3.09E-05
Road 103	103	2200-2300	8.22E-03	1.14E-07	4.51E-06	7.35E-03	1.01E-07	4.00E-06	3.72E-02	6.94E-07	2.74E-05	3.43E-02
Road 103	103	2300-2400	8.09E-03	1.12E-07	4.40E-06	7.17E-03	9.89E-08	3.91E-06	3.63E-02	6.85E-07	2.70E-05	3.36E-02
Road 103	103	1600-1700	1.62E-02	4.20E-07	1.55E-05	1.43E-02	3.71E-07	1.37E-05	7.48E-02	1.94E-06	7.16E-05	6.61E-02
Road 103	103	1700-1800	1.52E-02	3.52E-07	1.30E-05	1.34E-02	3.11E-07	1.15E-05	7.48E-02	1.73E-06	6.41E-05	6.59E-02
Road 103	103	1800-1900	1.47E-02	3.26E-07	1.21E-05	1.30E-02	2.88E-07	1.07E-05	7.31E-02	1.62E-06	5.97E-05	6.45E-02
Road 103	103	1900-2000	9.31E-03	2.96E-07	5.98E-06	2.05E-02	6.51E-06	4.43E-02	1.36E-06	4.32E-05	2.87E-02	1.15E-04
Road 103	103	2000-2100	9.09E-03	1.30E-07	5.14E-06	6.24E-06	4.82E-02	9.41E-07	3.72E-05	4.15E-02	8.09E-07	3.21E-05
Road 103	103	2100-2200	9.28E-03	1.24E-07	4.89E-06	6.36E-06	4.63E-02	8.75E-07	3.58E-05	3.99E-02	7.79E-07	3.09E-05
Road 103	103	2200-2300	8.22E-03	1.14E-07	4.51E-06	7.35E-03	1.01E-07	4.00E-06	3.72E-02	6.94E-07	2.74E-05	3.43E-02
Road 103	103	2300-2400	8.09E-03	1.12E-07	4.40E-06	7.17E-03	9.89E-08	3.91E-06	3.63E-02	6.85E-07	2.70E-05	3.36E-02

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	1.22E-02	3.77E-07	9.07E-06	1.05E-02	3.25E-07	7.82E-06	6.73E-02	2.08E-06	5.01E-05	5.64E-02
Road 103	103	1700-1800	1.22E-02	3.77E-07	9.07E-06	1.05E-02	3.25E-07	7.82E-06	6.73E-02	2.08E-06	5.01E-05	5.64E-02
Road 103	103	1800-1900	8.74E-03	2.94E-07	7.06E-06	7.49E-03	2.51E-07	6.05E-06	5.09E-02	1.71E-06	4.11E-05	4.21E-02
Road 103	103	1900-2000	7.46E-03	1.98E-07	4.75E-06	6.53E-03	1.73E-07	4.16E-06	4.36E-02	1.31E-06	3.15E-05	3.60E-02
Road 103	103	2000-2100	7.24E-03	1.49E-07	3.58E-06	6.42E-03	1.32E-07	3.18E-06	5.50E-02	1.13E-06	2.72E-05	4.69E-02
Road 103	103	2100-2200	7.86E-03	1.29E-07	3.09E-06	6.96E-03	1.14E-07	2.74E-06	5.94E-02	1.08E-06	2.60E-05	5.07E-02
Road 103	103	2200-2300	6.13E-03	1.22E-07	2.94E-06	5.41E-03	1.08E-07	2.60E-06	5.27E-02	1.05E-06	2.53E-05	4.67E-02
Road 103	103	2300-2400	6.99E-03	1.05E-07	2.51E-06	6.03E-03	9.02E-08	2.17E-06	5.60E-02	8.37E-07	2.01E-05	4.61E-02
Road 104	104	0000-0100	1.21E-02	8.24E-08	3.06E-06	1.06E-02	7.25E-08	1.68E-06	6.87E-02	4.68E-07	5.53E-06	5.85E-02
Road 104	104	0100-0200	1.31E-02	5.89E-08	2.19E-06	1.15E-02	5.17E-08	1.05E-06	7.14E-02	3.22E-07	6.55E-06	6.08E-02
Road 104	104	0200-0300	1.41E-02	4.69E-08	1.74E-06	1.24E-02	4.12E-08	8.39E-07	7.68E-02	2.55E-07	5.19E-06	6.54E-02
Road 104	104	0300-0400	1.48E-02	3.98E-08	8.10E-07	1.34E-02	3.59E-08	7.32E-07	7.56E-02	2.03E-07	4.13E-06	6.67E-02
Road 104	104	0400-0500	1.58E-02	4.72E-08	9.61E-07	1.42E-02	4.23E-08	8.66E-07	7.82E-02	2.34E-07	4.77E-06	6.90E-02
Road 104	104	0500-0600	1.67E-02	8.91E-08	1.82E-06	1.50E-02	7.98E-08	1.63E-06	8.21E-02	4.37E-07	8.92E-06	7.24E-02
Road 104	104	0600-0700	1.77E-02	2.03E-07	4.13E-06	1.58E-02	1.81E-07	3.69E-06	8.37E-02	9.60E-07	1.96E-05	7.31E-02
Road 104	104	0700-0800	1.88E-02	2.89E-07	5.89E-06	1.68E-02	2.58E-07	5.26E-06	8.82E-02	1.36E-06	2.77E-05	7.70E-02
Road 104	104	0800-0900	1.82E-02	5.02E-07	1.02E-05	1.62E-02	4.48E-07	9.14E-06	8.52E-02	2.36E-06	4.82E-05	7.44E-02
Road 104	104	0900-1000	1.87E-02	4.94E-07	1.01E-05	1.67E-02	4.41E-07	9.00E-06	8.77E-02	2.32E-06	4.73E-05	7.66E-02
Road 104	104	1000-1100	2.42E-02	4.96E-07	1.01E-05	2.16E-02	4.43E-07	9.04E-06	1.13E-01	2.33E-06	4.75E-05	9.87E-02
Road 104	104	1100-1200	2.46E-02	4.71E-07	9.60E-06	2.19E-02	4.20E-07	8.57E-06	1.15E-01	2.21E-06	4.51E-05	1.00E-01
Road 104	104	1200-1300	3.18E-02	6.77E-07	1.38E-05	2.83E-02	6.04E-07	1.23E-05	1.49E-01	3.18E-06	6.48E-05	1.30E-01
Road 104	104	1300-1400	3.18E-02	7.11E-07	1.45E-05	2.83E-02	6.34E-07	1.29E-05	1.49E-01	3.34E-06	6.79E-05	1.30E-01
Road 104	104	1400-1500	2.96E-02	7.12E-07	1.45E-05	2.64E-02	6.35E-07	1.29E-05	1.35E-01	3.29E-06	6.70E-05	1.17E-01
Road 104	104	1500-1600	2.96E-02	7.12E-07	1.45E-05	2.64E-02	6.35E-07	1.29E-05	1.35E-01	3.29E-06	6.70E-05	1.17E-01
Road 104	104	1600-1700	2.42E-02	7.21E-07	1.47E-05	2.16E-02	6.43E-07	1.31E-05	1.10E-01	3.33E-06	6.78E-05	9.56E-02
Road 104	104	1700-1800	2.28E-02	6.07E-07	1.24E-05	2.03E-02	5.41E-07	1.10E-05	1.12E-01	3.04E-06	6.19E-05	9.77E-02
Road 104	104	1800-1900	2.20E-02	5.63E-07	1.15E-05	1.96E-02	5.02E-07	1.02E-05	1.08E-01	2.82E-06	5.74E-05	9.42E-02
Road 104	104	1900-2000	1.39E-02	5.11E-07	1.04E-05	3.08E-02	1.13E-05	7.66E-02	1.83E-06	6.72E-05	4.57E-02	1.73E-04
Road 104	104	2000-2100	1.37E-02	2.24E-07	4.56E-06	9.38E-06	8.34E-02	1.70E-06	6.44E-05	7.18E-02	1.46E-06	5.55E-05
Road 104	104	2100-2200	1.39E-02	2.14E-07	4.35E-06	9.57E-06	8.01E-02	1.63E-06	6.19E-05	6.91E-02	1.41E-06	5.34E-05
Road 104	104	2200-2300	1.23E-02	1.97E-07	4.01E-06	1.10E-02	1.74E-07	3.55E-06	6.72E-02	1.07E-06	2.18E-05	4.16E-02
Road 104	104	2300-2400	1.21E-02	1.92E-07	3.90E-06	1.08E-02	1.71E-07	3.48E-06	6.58E-02	1.04E-06	2.12E-05	4.07E-02
Road 104	104	1600-1700	1.50E-02	3.78E-07	7.68E-06	1.31E-02	3.34E-07	6.79E-06	6.94E-02	1.75E-06	3.56E-05	6.13E-02
Road 104	104	1700-1800	1.41E-02	3.17E-07	6.44E-06	1.24E-02	2.80E-07	5.69E-06	6.94E-02	1.56E-06	3.17E-05	6.13E-02
Road 104	104	1800-1900	1.36E-02	2.93E-07	5.96E-06	1.20E-02	2.59E-07	5.27E-06	6.77E-02	1.46E-06	2.97E-05	5.97E-02
Road 104	104	1900-2000	8.62E-03	2.66E-07	5.40E-06	1.98E-02	6.11E-06	4.14E-02	1.32E-06	4.07E-05	2.70E-02	1.11E-04
Road 104	104	2000-2100	8.48E-03	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.42E-02	1.97E-07	1.41E-06	9.24E-03	1.22E-06	9.66E-05	3.94E-07	5.59E-06	8.17E-02	2.14E-07	3.02E-06	8.11E-06
Road 21	21	0100-0200	1.61E-02	8.08E-08	1.07E-06	1.39E-02	7.00E-08	9.25E-07	5.99E-02	6.64E-06	8.46E-02	4.26E-07	5.63E-06	
Road 21	21	0200-0300	1.80E-02	6.83E-08	9.02E-07	1.58E-02	5.99E-08	7.92E-07	1.04E-01	3.94E-07	5.20E-06	4.98E-02	1.89E-07	2.49E-06
Road 21	21	0300-0400	1.99E-02	5.12E-08	8.09E-07	1.75E-02	5.12E-08	7.03E-07	1.04E-01	3.13E-07	4.40E-06	9.23E-02	2.84E-07	3.75E-06
Road 21	21	0400-0500	2.04E-02	6.91E-08	9.13E-07	1.77E-02	5.98E-08	7.91E-07	1.11E-01	3.74E-07	4.95E-06	9.38E-02	3.17E-07	4.20E-06
Road 21	21	0500-0600	1.98E-02	1.14E-07	1.50E-06	1.68E-02	9.67E-08	1.28E-06	1.13E-01	6.47E-07	8.55E-06	9.38E-02	5.36E-07	7.09E-06
Road 21	21	0600-0700	1.92E-02	2.33E-07	3.08E-06	1.62E-02	1.97E-07	2.60E-06	1.12E-01	1.36E-06	1.80E-05	9.21E-02	1.12E-06	1.48E-05
Road 21	21	0700-0800	2.28E-02	5.77E-07	7.62E-06	1.89E-02	4.80E-07	6.34E-06	1.23E-01	3.11E-06	4.11E-05	9.97E-02	2.53E-06	3.34E-05
Road 21	21	0800-0900	2.24E-02	5.74E-07	7.58E-06	1.87E-02	4.79E-07	6.32E-06	1.24E-01	3.17E-06	4.19E-05	1.00E-01	2.57E-06	3.39E-05
Road 21	21	0900-1000	2.67E-02	6.97E-07	9.21E-06	2.29E-02	5.98E-07	7.90E-06	1.32E-01	3.44E-06	4.55E-05	1.12E-01	2.92E-06	3.86E-05
Road 21	21	1000-1100	2.70E-02	6.01E-07	7.94E-06	2.29E-02	5.11E-07	6.75E-06	1.32E-01	2.93E-06	3.88E-05	1.10E-01	2.46E-06	3.26E-05
Road 21	21	1100-1200	2.70E-02	7.22E-07	9.53E-06	2.29E-02	4.95E-07	6.54E-06	1.32E-01	3.54E-06	4.68E-05	1.11E-01	2.98E-06	3.94E-05
Road 21	21	1200-1300	2.69E-02	1.96E-07	1.59E-06	2.29E-02	8.66E-07	1.14E-05	1.32E-01	9.62E-07	1.27E-05	1.11E-01	7.96E-06	1.05E-04
Road 21	21	1300-1400	2.50E-02	8.57E-07	1.13E-05	2.13E-02	7.29E-06	9.63E-05	1.23E-01	4.21E-06	5.56E-05	1.04E-01	3.57E-06	4.71E-05
Road 21	21	1400-1500	3.80E-02	8.22E-07	1.09E-05	3.20E-02	6.93E-07	9.15E-06	1.66E-01	3.60E-06	4.75E-05	1.39E-01	3.01E-06	3.98E-05
Road 21	21	1500-1600	3.80E-02	1.09E-06	1.44E-05	3.20E-02	9.20E-07	1.21E-05	1.66E-01	4.78E-06	6.31E-05	1.39E-01	3.99E-06	5.27E-05
Road 21	21	1600-1700	3.65E-02	8.06E-07	1.07E-05	3.04E-02	6.64E-07	8.77E-06	1.51E-01	3.64E-06	4.81E-05	1.35E-01	2.97E-06	3.93E-05
Road 21	21	1700-1800	2.98E-02	6.50E-07	8.59E-06	2.47E-02	5.41E-07	7.20E-06	1.31E-01	3.38E-06	4.47E-05	1.25E-01	2.81E-06	3.72E-05
Road 21	21	1800-1900	2.21E-02	4.55E-07	6.01E-06	1.89E-02	3.90E-07	5.15E-06	1.27E-01	2.62E-06	3.47E-05	1.08E-01	2.22E-06	2.94E-05
Road 21	21	1900-2000	1.84E-02	2.76E-07	3.64E-06	1.58E-02	2.36E-07	3.12E-06	1.25E-01	1.87E-06	2.47E-05	1.05E-01	1.57E-06	2.08E-05
Road 21	21	2000-2100	1.75E-02	2.06E-07	2.73E-06	1.53E-02	1.81E-07	2.40E-06	1.24E-01	1.46E-06	1.93E-05	1.04E-01	1.23E-06	1.63E-05
Road 21	21	2100-2200	1.75E-02	2.06E-07	2.73E-06	1.53E-02	1.81E-07	2.40E-06	1.24E-01	1.46E-06	1.93E-05	1.04E-01	1.23E-06	1.63E-05
Road 21	21	2200-2300	1.62E-02	1.91E-07	2.53E-06	1.42E-02	1.68E-07	2.22E-06	1.24E-01	1.46E-06	1.93E-05	1.04E-01	1.23E-06	1.63E-05
Road 21	21	2300-0000	1.94E-02	1.87E-07	2.21E-06	1.69E-02	1.64E-07	1.94E-06	1.26E-01	1.22E-06	1.44E-05	1.06E-01	1.03E-06	1.36E-05
Road 22	22	0000-0100	1.31E-01	1.60E-07	2.85E-06	1.14E-01	1.39E-07	2.49E-06	4.90E-01	5.97E-07	1.06E-05	4.26E-01	5.19E-07	9.25E-06
Road 22	22	0100-0200	1.29E-01	7.22E-07	1.29E-05	1.12E-01	6.28E-07	1.12E-05	4.83E-01	2.70E-06	4.81E-05	4.20E-01	2.35E-06	4.18E-05
Road 22	22	0200-0300	1.25E-01	8.30E-08	1.48E-06	1.09E-01	7.21E-08	1.30E-06	4.67E-01	3.10E-07	5.54E-06	4.06E-01	2.69E-07	4.82E-06
Road 22	22	0300-0400	1.22E-01	1.45E-07	2.58E-06	1.06E-01	1.26E-07	2.25E-06	4.55E-01	5.41E-07	9.64E-06	3.96E-01	4.71E-07	8.38E-06
Road 22	22	0400-0500	1.30E-01	8.50E-08	1.52E-06	1.13E-01	7.39E-08	1.32E-06	4.86E-01	3.17E-07	5.65E-06	4.22E-01	2.75E-07	4.90E-06
Road 22	22	0500-0600	1.48E-01	1.77E-07	3.16E-06	1.29E-01	1.54E-07	2.75E-06	5.54E-01	6.61E-07	1.18E-05	4.81E-01	5.74E-07	1.02E-05
Road 22	22	0600-0700	1.86E-01	1.08E-06	1.92E-05	1.55E-01	8.99E-07	1.60E-05	6.73E-01	3.89E-06	6.94E-05	5.62E-01	3.25E-06	5.79E-05
Road 22	22	0700-0800	1.93E-01	1.46E-06	2.60E-05	1.66E-01	1.25E-06	2.24E-05	7.22E-01	5.47E-06	9.76E-05	6.20E-01	4.70E-06	8.38E-05
Road 22	22	0800-0900	1.93E-01	1.46E-06	2.60E-05	1.66E-01	1.25E-06	2.24E-05	7.22E-01	5.47E-06	9.76E-05	6.20E-01	4.70E-06	8.38E-05
Road 22	22	0900-1000	1.93E-01	1.46E-06	2.60E-05	1.66E-01	1.25E-06	2.24E-05	7.22E-01	5.47E-06	9.76E-05	6.20E-01	4.70E-06	8.38E-05
Road 22	22	1000-1100	2.08E-01	1.44E-06	2.57E-05	1.79E-01	1.23E-06	2.21E-05	7.46E-01	5.17E-06	9.22E-05	6.41E-01	4.44E-06	7.92E-05
Road 22	22	1100-1200	2.16E-01	1.54E-06	2.75E-05	1.86E-01	1.32E-06	2.36E-05	7.75E-01	5.52E-06	9.85E-05	6.66E-01	4.75E-06	8.47E-05
Road 22	22	1200-1300	2.07E-01	1.46E-06	2.60E-05	1.78E-01	1.25E-06	2.24E-05	7.44E-01	5.24E-06	9.35E-05	6.39E-01	4.50E-06	8.04E-05
Road 22	22	1300-1400	2.12E-01	1.69E-06	3.01E-05	1.79E-01	1.42E-06	2.54E-05	7.43E-01	5.90E-06	1.05E-04	6.26E-01	4.98E-06	8.87E-05
Road 22	22	1400-1500	2.12E-01	1.69E-06	3.01E-05	1.79E-01	1.42E-06	2.54E-05	7.43E-01	5.90E-06	1.05E-04	6.26E-01	4.98E-06	8.87E-05
Road 22	22	1500-1600	2.14E-01	1.71E-06	3.05E-05	1.81E-01	1.44E-06	2.57E-05	7.51E-01	5.97E-06	1.06E-04	6.34E-01	5.04E-06	8.98E-05
Road 22	22	1600-1700	2.04E-01	1.58E-06	2.82E-05	1.68E-01	1.30E-06	2.32E-05	7.32E-01	5.67E-06	1.01E-04	6.02E-01	4.67E-06	8.32E-05
Road 22	22	1700-1800	1.72E-01	1.23E-06	2.20E-05	1.44E-01	1.04E-06	1.85E-05	6.87E-01	4.92E-06	8.78E-05	5.76E-01	4.13E-06	7.36E-05
Road 22	22	1800-1900	1.32E-01	7.72E-07	1.37E-05	1.10E-01	6.47E-07	1.15E-05	6.26E-01	3.66E-06	6.52E-05	5.25E-01	3.07E-06	5.47E-05
Road 22	22	1900-2000	1.24E-01	4.45E-07	7.91E-06	1.06E-01	3.81E-07	6.80E-06	5.01E-01	1.79E-06	3.20E-05	4.28E-01	1.53E-06	2.73E-05
Road 22	22	2000-2100	1.20E-01	3.48E-07	6.20E-06	1.05E-01	3.06E-07	5.46E-06	4.94E-01	1.43E-06	2.56E-05	4.34E-01	1.26E-06	2.25E-05
Road 22	22	2100-2200	1.20E-01	3.33E-07	5.95E-06	1.05E-01	5.21E-06	9.42E-05	4.97E-01	1.37E-06	2.45E-05	4.37E-01	2.41E-06	4.35E-05
Road 22	22	2200-2300	1.20E-01	4.72E-07	8.42E-06	1.05E-01	4.76E-07	8.50E-06	4.97E-01	1.95E-06	3.48E-05	4.37E-01	1.97E-06	3.52E-05
Road 22	22	2300-0000	1.25E-01	3.46E-08	6.38E-07	1.09E-01	3.01E-08	5.56E-07	4.67E-01	1.29E-07	2.38E-06	4.09E-01	1.12E-07	2.07E-06
Road 23	23	0000-0100	1.25E-01	3.46E-08	6.38E-07	1.09E-01	3.01E-08	5.56E-07	4.67E-01	1.29E-07	2.38E-06	4.09E-01	1.12E-07	2.07E-06
Road 23	23	0100-0200	1.29E-01	1.97E-08	3.64E-07	1.12E-01	1.71E-08	3.16E-07	4.83E-01	7.36E-08	1.36E-06	4.20E-01	6.40E-08	1.18E-06
Road 23	23	0200-0300	1.29E-01	1.97E-08	3.64E-07	1.12E-01	1.71E-08	3.16E-07	4.83E-01	7.36E-08	1.36E-06	4.20E-01	6.40E-08	1.18E-06
Road 23	23	0300-0400	1.33E-01	2.02E-08	3.73E-07	1.16E-01	1.76E-08	3.24E-07	4.94E-01	7.50E-08	1.39E-06	4.29E-01	6.51E-08	1.20E-06
Road 23	23	0400-0500	1.33E-01	2.02E-08	3.73E-07	1.16E-01	1.76E-08	3.24E-07	4.94E-01	7.50E-08	1.39E-06	4.29E-01	6.51E-08	1.20E-06
Road 23	23	0500-0600	1.37E-01	3.83E-08	7.07E-07	1.17E-01	3.26E-08	6.03E-07	5.07E-01	1.42E-07	2.62E-06	4.32E-01	1.21E-07	2.23E-06
Road 23	23	0600-0700	1.41E-01	1.06E-07	1.96E-06	1.20E-01	9.04E-08	1.67E-06	5.21E-01	3.92E-07	7.23E-06	4.44E-01	3.34E-07	6.17E-06
Road 23	23	0700-0800	1.68E-01	2.29E-07	4.23E-06	1.40E-01	1.92E-07	3.54E-06	6.15E-01	8.38E-07	1.55E-05	5.13E-01	7.00E-07	1.29E-05
Road 23	23	0800-0900	1.68E-01	2.29E-07	4.23E-06	1.40E-01	1.92E-07	3.54E-06	6.15E-01	8.38E-07	1.55E-05	5.13E-01	7.00E-07	1.29E-05
Road 23	23	0900-1000	1.62E-01	2.96E-07	5.46E-06	1.39E-01	2.54E-07	4.68E-06	6.19E-01	1.13E-06	2.08E-05	5.32E-01	9.70E-07	1.79E-05
Road 23	23	1000-1100	1.74E-01	3.12E-07	5.75E-06	1.48E-01	2.66E-07	4.91E-06	6.31E-01	1.13E-06	2.08E-05	5.43E-01	9.21E-07	1.70E-05
Road 23	23	1100-1200	1.74E-01	3.12E-07	5.75E-06	1.48E-01	2.66E-07	4.91E-06	6.31E-01	1.13E-06	2.08E-05	5.43E-01	9.21E-07	1.70E-05
Road 23	23	1200-1300	1.84E-01	3.31E-07	6.10E-06	1.57E-01	2.82E-07	5.20E-06	6.67E-01	1.20E-06	2.21E-05	5.74E-01	1.03E-06	1.90E-05
Road 23	23	1300-1400	1.76E-01	3.17E-07	5.84E-06	1.50E-01	2.70E-07	4.98E-06	6.50E-01	1.17E-06	2.15E-05	5.60E-01	1.01E-06	1.85E-05
Road 23	23	1400-1500	1.76E-01	3.17E-07	5.84E-06	1.50E-01	2.70E-07	4.98E-06	6.50E-01	1.17E-06	2.15E-05	5.60E-01	1.01E-06	1.85E-05
Road 23	23	1500-1600	1.77E-01	3.19E-07	5.87E-06	1.51E-01	2.72E-07	5.01E-06	6.54E-01	1.18E-06	2.16E-05	5.63E-01	1.01E-06	1.86E-05
Road 23	23	1600-1700	1.68E-01	3.02E-07	5.57E-06	1.43E-01	2.58E-07	4.75E-06	6.20E-01	1.12E-06	2.05E-05	5.34E-01	9.60E-07	1.77E-05
Road 23	23	1700-1800	1.41E-01	2.54E-07	4.68E-06	1.20E-01	2.16E-07	3.98E-06	5.21E-01	9.38E-07	1.73E-05	4.48E-01	8.06E-07	1.48E-05
Road 23	23	1800-1900	1.11E-01	1.99E-07	3.67E-06	9.47E-02	1.70E-07	3.13E-06	4.10E-01	7.36E-07	1.36E-05	3.52E-01	6.32E-07	1.16E-05
Road 23	23	1900-2000	1.04E-01	1.56E-07	2.87E-06	8.87E-02	1.33E-07	2.45E-06	3.84E-01	5.76E-07	1.06E-05	3.30E-01	4.95E-07	9.11E-06
Road 23	23	2000-2100	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 23	23	2100-2200	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 23	23	2200-2300	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 23	23	2300-0000	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 24	24	0000-0100	1.31E-01	1.60E-07	2.85E-06	1.14E-01	1.39E-07	2.49E-06	4.90E-01	5.97E-07	1.06E-05	4.26E-01	5.19E-07	9.25E-06
Road 24	24	0100-0200	1.29E-01	7.22E-07	1.29E-05	1.12E-01	6.28E-07	1.12E-05	4.83E-01	2.70E-06	4.81E-05	4.20E-01	2.35E-06	4.18E-05
Road 24	24	0200-0300	1.25E-01	8.30E-08	1.48E-06	1.09E-01	7.21E-08	1.30E-06	4.67E-01	3.10E-07	5.54E-06	4.06E-01	2.69E-07	4.82E-06
Road 24	24	0300-0400	1.22E-01	1.45E-07	2.58E-06	1.06E-01	1.26E-07	2.25E-06	4.55E-01	5.41E-07	9.64E-06	3.96E-01	4.71E-07	8.38E-06
Road 24	24	0400-0500	1.30E-01	8.50E-08	1.52E-06	1.13E-01	7.39E-08	1.32E-06	4.86E-01	3.17E-07	5.65E-06	4.22E-01	2.75E-07	4.90E-06
Road 24	24	0500-0600	1.48E-01	1.77E-07	3.16E-06	1.29E-01	1.54E-07	2.75E-06	5.54E-01	6.61E-07	1.18E-05	4.81E-01	5.74E-07	1.02E-05
Road 24	24	0600-0700	1.86E-01	1.08E-06	1.92E-05	1.55E-01	8.99E-07	1.60E-05	6.73E-01	3.89E-06	6.94E-05	5.62E-01	3.25E-06	5.79E-05
Road 24	24	0700-0800	1.93E-01	1.46E-06	2.60E-05	1.66E-01	1.25E-06	2.24E-05	7.22E-01	5.47E-06	9.76E-05	6.20E-01	4.70E-06	8.38E-05
Road 24	24	0800-0900	1.93E-01	1.46E-06	2.60E-05	1.66E-01	1.25E-06	2.24E-05	7.22E-01	5.47E-06	9.76E-05	6.20E-01	4.70E-06	8.38E-05
Road 24	24	0900-1000	1.93E-01	1.46E-06	2.60E-05	1.66E-01	1.25E-06	2.24E-05	7.22E-01	5.47E-06	9.76E-05	6.20E-01	4.70E-06	8.38E-05
Road 24	24	1000-1100	2.08E-01	1.44E-06	2.57E-05	1.79E-01	1.23E-06	2.21E-05	7.46E-01	5.17E-06	9.22E-05	6.41E-01	4.44E-06	7.92E-05
Road 24	24	1100-1200	2.16E-01	1.54E-06	2.75E-05	1.86E-01	1.32E-06	2.36E-05	7.75E-01	5.52E-06	9.85E-05	6.66E-01	4.75E-06	8.47E-05
Road 24	24	1200-1300	2.07E-01	1.46E-06	2.60E-05	1.78E-01	1.25E-06	2.24E-05	7.44E-01	5.24E-06	9.35E-05	6.39E-01	4.50E-06	8.04E-05
Road 24	24	1300-1400	2.12E-01	1.69E-06	3.01E-05	1.79E-01	1.42E-06	2.54E-05	7.43E-01	5.90E-06	1.05E-04	6.26E-01	4.98E-06	8.87E-05
Road 24	24	1400-1500	2.12E-01	1.69E-06	3.01E-05	1.79E-01	1.42E-06	2.54E-05	7.43E-01	5.90E-06	1.05E-04	6.26E-01	4.98E-06	8.87E-05
Road 24	24	1500-1600	2.14E-01	1.71E-06	3.05E-05	1.81E-01	1.44E-06	2.57E-05	7.51E-01	5.97E-06	1.06E-04	6.34E-01	5.04E-06	8.98E-05
Road 24	24	1600-1700	2.04E-01	1.58E-06	2.82E-05	1.68E-01	1.30E-06	2.32E-05	7.32E-01	5.67E-06	1.01E-04	6.02E-01	4.67E-06	8.32E-05
Road 24	24	1700-1800	1.72E-01	1.23E-06	2.20E-05	1.44E-01	1.04E-06	1.85E-05	6.87E-01	4.92E-06	8.78E-05	5.76E-01	4.13E-06	7.36E-05
Road 24	24	1800-1900	1.32E-01	7.72E-07	1.37E-05	1.10E-01	6.47E-07	1.15E-05	6.26E-01	3.66E-06	6.52E-05	5.25E-01	3.07E-06	5.47E-05
Road 24	24	1900-2000	1.24E-01	4.45E-07	7.91E-06	1.06E-01	3.81E-07	6.80E-06	5.01E-01	1.79E-06	3.20E-05	4.28E-01	1.53E-06	2.73E-05
Road 24	24	2000-2100	1.20E-01	3.48E-07	6.20E-06	1.05E-01	3.06E-07	5.46E-06	4.94E-01	1.43E-06	2.56E-05	4.34E-01	1.26E-06	2.25E-05
Road 24	24	2100-2200	1.20E-01	3.33E-07	5.95E-06	1.05E-01	5.21E-06	9.42E-05	4.97E-01	1.37E-06	2.45E-05	4.37E-01	2.41E-06	4.35E-05
Road 24	24	2200-2300	1.20E-01	4.72E-07	8.42E-06	1.05E-01	4.76E-07	8.50E-06	4.97E-01	1.95E-06	3.48E-05	4.37E-01	1.97E-06	3.52E-05
Road 24	24	2300-0000	1.25E-01	3.46E-08	6.38E-07	1.09E-01	3.01E-08	5.56E-07	4.67E-01	1.29E-07	2.38E-06	4.09E-01	1.12E-07	2.07E-06
Road 25	25	0000-0100	1.25E-01	3.46E-08	6.38E-07	1.09E-01	3.01E-08	5.56E-07	4.67E-01	1.29E-07	2.38E-06	4.09E-01	1.12E-07	2.07E-06
Road 25	25	0100-0200	1.29E-01	1.97E-08	3.64E-07	1.12E-01	1.71E-08	3.16E-07	4.83E-01	7.36E-08	1.36E-06	4.20E-01	6.40E-08	1.18E-06
Road 25	25	0200-0300	1.29E-01	1.97E-08	3.64E-07	1.12E-01	1.71E-08	3.16E-07	4.83E-01	7.36E-08	1.36E-06	4.20E-01	6.40E-08	1.18E-06
Road 25	25	0300-0400	1.33E-01	2.02E-08	3.73E-07	1.16E-01	1.76E-08	3.24E-07	4.94E-01	7.50E-08	1.39E-06	4.29E-01	6.51E-08	1.20E-06
Road 25	25	0400-0500	1.33E-01	2.02E-08	3.73E-07	1.16E-01	1.76E-08	3.24E-07	4.94E-01	7.50E-08	1.39E-06	4.29E-01	6.51E-08	1.20E-06
Road 25	25	0500-0600	1.37E-01	3.83E-08	7.07E-07	1.17E-01	3.26E-08	6.03E-07	5.07E-01	1.42E-07	2.62E-06	4.32E-01	1.21E-07	2.23E-06
Road 25	25	0600-0700	1.41E-01	1.06E-07	1.96E-06	1.20E-01	9.04E-08	1.67E-06	5.21E-01	3.92E-07	7.23E-06	4.44E-01	3.34E-07	6.17E-06
Road 25	25	0700-0800	1.68E-01	2.29E-07	4.23E-06	1.40E-01	1.92E-07	3.54E-06	6.15E-01	8.38E-07	1.55E-05	5.13E-01	7.00E-07	1.29E-05
Road 25	25	0800-0900	1.68E-01	2.29E-07	4.23E-06	1.40E-01	1.92E-07	3.54E-06	6.15E-01	8.38E-07	1.55E-05	5.13E-01	7.00E-07	1.29E-05
Road 25	25	0900-1000	1.62E-01	2.96E-07	5.46E-06	1.39E-01	2.54E-07	4.68E-06	6.19E-01	1.13E-06	2.08E-05	5.32E-01	9.70E-07	1.79E-05
Road 25	25	1000-1100	1.74E-01	3.12E-07	5.75E-06	1.48E-01	2.66E-07	4.91E-06	6.31E-01	1.13E-06	2.08E-05	5.43E-01	9.21E-07	1.70E-05
Road 25	25	1100-1200	1.74E-01	3.12E-07	5.75E-06	1.48E-01	2.66E-07	4.91E-06	6.31E-01	1.13E-06	2.08E-05	5.43E-01	9.21E-07	1.70E-05
Road 25	25	1200-1300	1.84E-01	3.31E-07	6.10E-06	1.57E-01	2.82E-07	5.20E-06	6.67E-01	1.20E-06	2.21E-05	5.74E-01	1.03E-06	1.90E-05
Road 25	25	1300-1400	1.76E-01	3.17E-07	5.84E-06	1.50E-01	2.70E-07	4.98E-06	6.50E-01	1.17E-06	2.15E-05	5.60E-01	1.01E-06	1.85E-05
Road 25	25	1400-1500	1.76E-01	3.17E-07	5.84E-06	1.50E-01	2.70E-07	4.98E-06	6.50E-01	1.17E-06	2.15E-05	5.60E-01	1.01E-06	1.85E-05
Road 25	25	1500-1600	1.77E-01	3.19E-07	5.87E-06	1.51E-01	2.72E-07	5.01E-06	6.54E-01	1.18E-06	2.16E-05	5.63E-01	1.01E-06	1.86E-05
Road 25	25	1600-1700	1.68E-01	3.02E-07	5.57E-06	1.43E-01	2.58E-07	4.75E-06	6.20E-01	1.12E-06	2.05E-05	5.34E-01	9.60E-07	1.77E-05
Road 25	25	1700-1800	1.41E-01	2.54E-07	4.68E-06	1.20E-01	2.16E-07	3.98E-06	5.21E-01	9.38E-07	1.73E-05	4.48E-01	8.06E-07	1.48E-05
Road 25	25	1800-1900	1.11E-01	1.99E-07	3.67E-06	9.47E-02	1.70E-07	3.13E-06	4.10E-01	7.36E-07	1.36E-05	3.52E-01	6.32E-07	1.16E-05
Road 25	25	1900-2000	1.04E-01	1.56E-07	2.87E-06	8.87E-02	1.33E-07	2.45E-06	3.84E-01	5.76E-07	1.06E-05	3.30E-01	4.95E-07	9.11E-06
Road 25	25	2000-2100	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 25	25	2100-2200	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 25	25	2200-2300	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 25	25	2300-0000	1.01E-01	1.44E-07	2.65E-06	8.61E-02	1.23E-07	2.26E-06	3.73E-01	5.32E-07	9.79E-06	3.20E-01	4.57E-07	8.41E-06
Road 26	26	0000-0100	1.31E-01	1.60E-07	2.85E-06	1.14E-01	1.39E-07	2.49E-06	4.90E-01	5.97E-07	1.06E-05	4.26E-01	5.19E-07	9.25E-06
Road 26	26	0100-0200	1.32E-01	7.41E-07	1.32E-05	1.15E-01	6.44E-07	1.15E-05	4.96E-01	2.77E-06	4.94E-05	4.31E-01	2.41E-06	4.29E-05
Road 26	26	0200-0300	1.29E-01	8.57E-08	1.53E-06	1.12E-01	7.44E-08	1.33E-06	4.83E-01	3.20E-07	5.72E-06	4.20E-01	2.78

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	3.00E-02	8.85E-07	1.83E-05	4.85E-02	1.43E-06	2.96E-05	1.04E-01	3.07E-06	6.34E-05	1.68E-01	4.96E-06	1.02E-04
Road 47	47	1700-1800	2.11E-02	4.75E-07	1.48E-05	1.75E-02	3.94E-07	1.23E-05	1.04E-01	2.34E-06	7.32E-05	1.68E-01	3.78E-06	1.18E-04
Road 47	47	1800-1900	1.57E-02	3.99E-07	1.25E-05	1.33E-02	3.39E-07	1.06E-05	8.26E-02	2.10E-06	6.56E-05	6.76E-02	1.72E-06	5.36E-05
Road 47	47	1900-2000	1.27E-02	3.57E-07	1.07E-05	2.16E-02	6.75E-07	1.79E-05	6.23E-02	1.96E-06	5.27E-05	4.89E-02	1.54E-06	4.13E-05
Road 47	47	2000-2100	1.12E-02	1.77E-07	5.52E-06	9.72E-03	1.53E-07	4.77E-06	7.99E-02	1.26E-06	3.92E-05	6.61E-02	1.04E-06	3.25E-05
Road 47	47	2100-2200	9.14E-03	1.44E-07	4.49E-06	7.97E-03	1.25E-07	3.92E-06	7.94E-02	1.25E-06	3.90E-05	6.57E-02	1.03E-06	3.23E-05
Road 47	47	2200-2300	8.83E-03	1.33E-07	4.22E-06	7.62E-03	1.17E-07	3.64E-06	6.98E-02	1.07E-06	3.42E-05	6.08E-02	9.31E-07	2.91E-05
Road 47	47	2300-0000	9.13E-03	1.04E-07	3.25E-06	7.84E-03	8.94E-08	2.79E-06	7.26E-02	8.29E-07	2.59E-05	5.96E-02	6.80E-07	2.12E-05
Road 47	47	0000-0100	8.08E-03	8.85E-08	2.76E-06	8.95E-03	9.80E-08	3.06E-06	6.92E-02	7.58E-07	2.36E-05	6.66E-02	7.29E-07	2.27E-05
Road 48	48	0100-0200	8.72E-03	4.85E-08	7.31E-07	7.47E-03	4.15E-08	6.26E-07	9.05E-02	5.03E-07	7.59E-06	7.54E-02	4.19E-07	6.32E-06
Road 48	48	0200-0300	8.44E-03	4.69E-08	7.08E-07	7.23E-03	4.02E-08	6.06E-07	8.28E-02	4.60E-07	6.94E-06	6.91E-02	3.84E-07	5.79E-06
Road 48	48	0300-0400	1.01E-02	5.22E-08	4.85E-07	8.69E-03	4.49E-08	4.17E-07	9.45E-02	4.88E-07	4.53E-06	8.09E-02	4.18E-07	3.88E-06
Road 48	48	0400-0500	1.35E-02	6.98E-08	6.48E-07	1.16E-02	6.00E-08	5.57E-07	9.82E-02	5.07E-07	4.71E-06	8.42E-02	4.35E-07	4.04E-06
Road 48	48	0500-0600	1.61E-02	8.32E-08	7.72E-07	1.38E-02	7.14E-08	6.63E-07	1.02E-01	5.28E-07	4.90E-06	8.76E-02	4.53E-07	4.20E-06
Road 48	48	0600-0700	1.72E-02	8.89E-08	8.25E-07	1.48E-02	7.62E-08	7.08E-07	1.05E-01	5.41E-07	5.02E-06	9.01E-02	4.65E-07	4.32E-06
Road 48	48	0700-0800	1.72E-02	8.89E-08	8.25E-07	1.48E-02	7.62E-08	7.08E-07	1.05E-01	5.41E-07	5.02E-06	9.01E-02	4.65E-07	4.32E-06
Road 48	48	0800-0900	1.61E-02	8.32E-08	7.72E-07	1.38E-02	7.14E-08	6.63E-07	1.02E-01	5.28E-07	4.90E-06	8.76E-02	4.53E-07	4.20E-06
Road 48	48	0900-1000	1.55E-02	3.33E-07	5.02E-06	1.32E-02	2.84E-07	4.28E-06	1.05E-01	2.26E-06	3.41E-05	8.88E-02	1.89E-06	2.86E-05
Road 48	48	1000-1100	1.49E-02	3.03E-07	4.58E-06	1.24E-02	2.52E-07	3.81E-06	1.07E-01	2.17E-06	3.28E-05	8.68E-02	1.77E-06	2.67E-05
Road 48	48	1100-1200	1.49E-02	3.03E-07	4.58E-06	1.24E-02	2.52E-07	3.81E-06	1.07E-01	2.17E-06	3.28E-05	8.68E-02	1.77E-06	2.67E-05
Road 48	48	1200-1300	1.55E-02	3.33E-07	5.02E-06	1.32E-02	2.84E-07	4.28E-06	1.05E-01	2.26E-06	3.41E-05	8.88E-02	1.89E-06	2.86E-05
Road 48	48	1300-1400	1.51E-02	3.68E-07	7.36E-06	1.29E-02	3.14E-07	6.28E-06	1.02E-01	2.49E-06	4.98E-05	8.64E-02	2.09E-06	4.19E-05
Road 48	48	1400-1500	1.34E-02	3.26E-07	6.52E-06	1.14E-02	2.78E-07	5.56E-06	9.04E-02	2.20E-06	4.41E-05	7.67E-02	1.86E-06	3.72E-05
Road 48	48	1500-1600	1.34E-02	3.26E-07	6.52E-06	1.14E-02	2.78E-07	5.56E-06	9.04E-02	2.20E-06	4.41E-05	7.67E-02	1.86E-06	3.72E-05
Road 48	48	1600-1700	1.51E-02	2.91E-07	5.82E-06	1.29E-02	2.48E-07	4.96E-06	1.02E-01	1.97E-06	3.94E-05	8.64E-02	1.66E-06	3.32E-05
Road 48	48	1700-1800	1.72E-02	3.31E-07	6.62E-06	1.47E-02	2.83E-07	5.66E-06	1.05E-01	2.02E-06	4.03E-05	8.91E-02	1.71E-06	3.42E-05
Road 48	48	1800-1900	2.68E-02	4.00E-07	6.03E-06	2.29E-02	3.41E-07	5.15E-06	1.07E-01	1.60E-06	2.41E-05	9.13E-02	1.36E-06	2.06E-05
Road 48	48	1900-2000	1.74E-02	2.54E-07	3.83E-06	2.19E-02	3.19E-07	4.81E-06	1.07E-01	1.56E-06	2.35E-05	9.13E-02	1.33E-06	2.01E-05
Road 48	48	2000-2100	1.74E-02	2.54E-07	3.83E-06	2.19E-02	3.19E-07	4.81E-06	1.07E-01	1.56E-06	2.35E-05	9.13E-02	1.33E-06	2.01E-05
Road 48	48	2100-2200	1.25E-02	2.39E-07	3.61E-06	1.58E-02	3.01E-07	4.54E-06	1.07E-01	2.04E-06	3.08E-05	9.13E-02	1.74E-06	2.63E-05
Road 48	48	2200-2300	1.25E-02	2.39E-07	3.61E-06	1.58E-02	3.01E-07	4.54E-06	1.07E-01	2.04E-06	3.08E-05	9.13E-02	1.74E-06	2.63E-05
Road 48	48	2300-0000	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	0000-0100	1.27E-02	2.41E-07	1.82E-06	1.61E-02	3.05E-07	2.30E-06	1.07E-01	2.04E-06	1.54E-05	9.13E-02	1.74E-06	1.31E-05
Road 49	49	0100-0200	1.27E-02	2.41E-07	1.82E-06	1.61E-02	3.05E-07	2.30E-06	1.07E-01	2.04E-06	1.54E-05	9.13E-02	1.74E-06	1.31E-05
Road 49	49	0200-0300	1.27E-02	2.41E-07	1.82E-06	1.61E-02	3.05E-07	2.30E-06	1.07E-01	2.04E-06	1.54E-05	9.13E-02	1.74E-06	1.31E-05
Road 49	49	0300-0400	1.27E-02	2.41E-07	1.82E-06	1.61E-02	3.05E-07	2.30E-06	1.07E-01	2.04E-06	1.54E-05	9.13E-02	1.74E-06	1.31E-05
Road 49	49	0400-0500	1.41E-02	3.09E-07	7.79E-07	1.20E-02	2.63E-07	6.64E-07	1.08E-01	2.37E-06	5.98E-06	9.21E-02	2.02E-06	5.09E-06
Road 49	49	0500-0600	1.58E-02	3.49E-07	8.81E-07	1.35E-02	2.98E-07	7.52E-07	1.08E-01	2.39E-06	6.03E-06	9.21E-02	2.03E-06	5.12E-06
Road 49	49	0600-0700	1.90E-02	1.53E-07	1.85E-06	1.59E-02	1.28E-07	3.23E-06	1.75E-01	1.41E-06	3.57E-05	1.44E-01	1.16E-06	2.92E-05
Road 49	49	0700-0800	2.24E-02	1.80E-07	2.18E-06	1.87E-02	1.51E-07	3.81E-06	1.75E-01	1.41E-06	3.57E-05	1.44E-01	1.16E-06	2.92E-05
Road 49	49	0800-0900	2.50E-02	4.66E-07	1.18E-05	2.10E-02	3.92E-07	9.88E-06	1.98E-01	3.70E-06	9.32E-05	1.64E-01	3.05E-06	7.70E-05
Road 49	49	0900-1000	2.45E-02	3.61E-07	9.11E-06	2.06E-02	3.04E-07	7.68E-06	1.98E-01	2.92E-06	7.38E-05	1.65E-01	2.43E-06	6.13E-05
Road 49	49	1000-1100	2.37E-02	2.81E-07	7.10E-06	1.99E-02	2.36E-07	5.97E-06	1.63E-01	1.93E-06	4.87E-05	1.37E-01	1.62E-06	4.09E-05
Road 49	49	1100-1200	2.37E-02	2.81E-07	7.10E-06	1.99E-02	2.36E-07	5.97E-06	1.63E-01	1.93E-06	4.87E-05	1.37E-01	1.62E-06	4.09E-05
Road 49	49	1200-1300	2.50E-02	4.66E-07	1.18E-05	2.10E-02	3.92E-07	9.88E-06	1.98E-01	3.70E-06	9.32E-05	1.64E-01	3.05E-06	7.70E-05
Road 49	49	1300-1400	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	1400-1500	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	1500-1600	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	1600-1700	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	1700-1800	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	1800-1900	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	1900-2000	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	2000-2100	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	2100-2200	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	2200-2300	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 49	49	2300-0000	2.72E-02	2.88E-07	2.17E-06	3.73E-02	3.95E-07	2.98E-06	1.07E-01	1.13E-06	8.54E-06	9.13E-02	9.68E-07	7.29E-06
Road 50	50	0000-0100	1.27E-02	2.41E-07	1.82E-06	1.61E-02	3.05E-07	2.30E-06	1.07E-01	2.04E-06	1.54E-05	9.13E-02	1.74E-06	1.31E-05
Road 50	50	0100-0200	1.27E-02	2.41E-07	1.82E-06	1.61E-02	3.05E-07	2.30E-06	1.07E-01	2.04E-06	1.54E-05	9.13E-02	1.74E-06	1.31E-05
Road 50	50	0200-0300	3.88E-02	8.75E-09	1.25E-07	3.42E-02	7.70E-09	1.10E-07	1.61E-01	3.62E-08	5.17E-07	1.40E-01	3.16E-08	4.51E-07
Road 50	50	0300-0400	1.50E-02	3.38E-09	4.83E-08	1.32E-02	2.98E-09	4.26E-08	1.61E-01	3.62E-08	5.17E-07	1.40E-01	3.16E-08	4.51E-07
Road 50	50	0400-0500	4.26E-02	9.04E-09	1.29E-07	3.76E-02	7.98E-09	1.13E-07	1.61E-01	3.42E-08	4.88E-07	1.40E-01	2.98E-08	4.25E-07
Road 50	50	0500-0600	1.61E-02	3.42E-09	4.89E-08	1.42E-02	3.01E-09	4.31E-08	1.61E-01	3.42E-08	4.88E-07	1.40E-01	2.98E-08	4.25E-07
Road 50	50	0600-0700	4.66E-02	5.98E-08	5.68E-07	3.94E-02	5.07E-08	4.80E-07	2.88E-01	3.70E-07	3.51E-06	2.27E-01	2.91E-07	2.76E-06
Road 50	50	0700-0800	1.37E-02	9.20E-08	1.31E-06	4.35E-02	2.92E-07	8.31E-06	2.88E-01	1.93E-06	5.49E-05	2.27E-01	1.52E-06	4.33E-05
Road 50	50	0800-0900	1.37E-02	1.17E-07	1.67E-06	4.55E-02	3.89E-07	5.55E-06	2.88E-01	2.46E-06	3.51E-05	2.27E-01	1.94E-06	2.76E-05
Road 50	50	0900-1000	1.37E-02	1.17E-07	1.67E-06	4.55E-02	3.89E-07	5.55E-06	2.88E-01	2.46E-06	3.51E-05	2.27E-01	1.94E-06	2.76E-05
Road 50	50	1000-1100	1.37E-02	1.17E-07	1.67E-06	4.55E-02	3.89E-07	5.55E-06	2.88E-01	2.46E-06	3.51E-05	2.27E-01	1.94E-06	2.76E-05
Road 50	50	1100-1200	1.84E-02	1.44E-07	1.63E-06	4.89E-02	3.82E-07	5.40E-06	2.88E-01	2.25E-06	3.18E-05	2.27E-01	1.77E-06	2.50E-05
Road 50	50	1200-1300	1.84E-02	1.44E-07	1.63E-06	4.89E-02	3.82E-07	5.40E-06	2.88E-01	2.25E-06	3.18E-05	2.27E-01	1.77E-06	2.50E-05
Road 50	50	1300-1400	6.38E-02	5.87E-08	8.37E-07	5.27E-02	4.85E-08	6.92E-07	2.42E-01	2.22E-07	3.16E-06	2.00E-01	1.84E-07	2.62E-06
Road 50	50	1400-1500	6.56E-02	6.00E-08	8.56E-07	5.42E-02	4.96E-08	7.08E-07	2.42E-01	2.22E-07	3.16E-06	2.00E-01	1.84E-07	2.62E-06
Road 50	50	1500-1600	6.38E-02	5.84E-08	8.34E-07	5.27E-02	4.82E-08	6.88E-07	2.42E-01	2.22E-07	3.16E-06	2.00E-01	1.84E-07	2.62E-06
Road 50	50	1600-1700	6.32E-02	5.62E-08	8.02E-07	5.27E-02	4.68E-08	6.68E-07	2.39E-01	2.12E-07	3.03E-06	2.00E-01	1.78E-07	2.52E-06
Road 50	50	1700-1800	6.32E-02	5.62E-08	8.02E-07	5.27E-02	4.68E-08	6.68E-07	2.39E-01	2.12E-07	3.03E-06	2.00E-01	1.78E-07	2.52E-06
Road 50	50	1800-1900	4.70E-02	2.77E-08	3.95E-07	3.92E-02	2.31E-08	3.29E-07	2.39E-01	1.41E-07	2.01E-06	1.99E-01	1.17E-07	1.67E-06
Road 50	50	1900-2000	4.69E-02	2.76E-08	3.94E-07	3.91E-02	2.30E-08	3.28E-07	2.39E-01	1.41E-07	2.01E-06	1.99E-01	1.17E-07	1.67E-06
Road 50	50	2000-2100	4.37E-02	1.54E-07	2.20E-06	3.64E-02	1.28E-07	1.83E-06	2.39E-01	8.41E-07	1.20E-05	1.99E-01	7.00E-07	9.98E-06
Road 50	50	2100-2200	4.89E-02	1.13E-08	1.61E-07	4.27E-02	9.84E-09	1.40E-07	1.92E-01	4.42E-08	6.30E-07	1.67E-01	3.84E-08	5.48E-07
Road 50	50	2200-2300	4.89E-02	1.13E-08	1.61E-07	4.27E-02	9.84E-09	1.40E-07	1.92E-01	4.42E-08	6.30E-07	1.67E-01	3.84E-08	5.48E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	7.71E-03	2.04E-07	5.77E-06	8.34E-03	2.20E-07	6.24E-06	1.44E-01	3.81E-06	1.08E-04	1.55E-01	4.10E-06	1.16E-04
Road 51	51	0100-0200	8.24E-03	7.19E-08	1.96E-06	7.19E-03	6.28E-08	3.46E-06	8.86E-02	7.74E-07	4.26E-05	7.58E-02	6.61E-07	3.64E-05
Road 51	51	0200-0300	8.31E-03	5.62E-08	1.09E-06	7.65E-03	4.88E-08	2.69E-06	8.99E-02	5.74E-07	3.15E-05	7.65E-02	4.88E-07	2.69E-05
Road 51	51	0300-0400	9.29E-03	4.68E-08	2.58E-06	8.15E-03	4.11E-08	2.26E-06	9.04E-02	4.55E-07	2.51E-05	7.76E-02	3.91E-07	2.15E-05
Road 51	51	0400-0500	1.01E-02	5.57E-08	3.07E-06	8.66E-03	4.78E-08	2.63E-06	9.37E-02	5.17E-07	2.85E-05	7.87E-02	4.35E-07	2.39E-05
Road 51	51	0500-0600	1.05E-02	1.01E-07	5.55E-06	8.73E-03	8.41E-08	4.61E-06	9.37E-02	9.04E-07	4.96E-05	7.60E-02	7.32E-07	4.18E-05
Road 52	52	0600-0700	1.12E-02	2.31E-07	1.27E-05	9.63E-03	1.97E-07	1.08E-05	9.73E-02	2.00E-06	1.10E-04	8.13E-02	1.67E-06	9.18E-05
Road 52	52	0700-0800	1.22E-02	5.05E-07	2.78E-05	1.04E-02	4.31E-07	2.37E-05	1.01E-01	4.17E-06	2.30E-04	8.35E-02	3.48E-06	1.91E-04
Road 52	52	0800-0900	1.19E-02	1.41E-07	7.76E-06	1.01E-02	1.20E-07	6.61E-06	1.01E-01	1.20E-06	6.61E-05	8.28E-02	9.84E-07	5.42E-05
Road 53	53	0900-1000	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1000-1100	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1100-1200	1.26E-02	4.61E-07	2.54E-05	1.07E-02	3.91E-07	2.16E-05	1.01E-01	3.69E-06	2.03E-04	8.28E-02	3.02E-06	1.67E-04
Road 53	53	1200-1300	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1300-1400	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1400-1500	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1500-1600	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1600-1700	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1700-1800	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1800-1900	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	1900-2000	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	2000-2100	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	2100-2200	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	2200-2300	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 53	53	2300-0000	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0000-0100	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0100-0200	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0200-0300	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0300-0400	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0400-0500	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0500-0600	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0600-0700	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0700-0800	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0800-0900	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	0900-1000	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1000-1100	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1100-1200	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1200-1300	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1300-1400	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1400-1500	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1500-1600	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1600-1700	1.31E-02	3.41E-07	1.88E-05	1.11E-02	2.89E-07	1.59E-05	1.01E-01	2.64E-06	1.45E-04	8.28E-02	2.15E-06	1.18E-04
Road 54	54	1700-1800	1.31E-02	3.41E-07	1.88E-05	1.11

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 14	14	0800-0900	3.80E-02	2.75E-07	1.32E-05	4.64E-02	1.10E-05	2.32E-03	1.54E-01	1.34E-06	5.35E-05
Road 14	14	0900-1000	4.39E-02	7.60E-07	1.30E-05	3.71E-02	6.42E-07	1.05E-05	1.71E-01	2.96E-06	5.05E-05
Road 14	14	1000-1100	4.79E-02	7.33E-07	1.25E-05	3.99E-02	6.10E-07	1.04E-05	2.12E-01	3.25E-06	5.53E-05
Road 14	14	1100-1200	4.63E-02	8.77E-07	1.17E-05	3.94E-02	3.72E-07	9.76E-06	2.07E-01	1.96E-06	4.96E-05
Road 14	14	1200-1300	7.16E-02	1.41E-06	2.40E-05	6.11E-02	1.20E-06	2.05E-05	2.89E-01	5.69E-06	9.70E-05
Road 14	14	1300-1400	7.47E-02	1.56E-06	2.51E-05	6.36E-02	1.32E-06	2.13E-05	3.07E-01	6.38E-06	1.03E-04
Road 14	14	1400-1500	7.44E-02	1.60E-06	2.73E-05	6.32E-02	1.36E-06	2.32E-05	3.02E-01	6.49E-06	1.11E-04
Road 14	14	1500-1600	6.89E-02	1.53E-06	2.61E-05	5.94E-02	1.32E-06	2.24E-05	2.98E-01	6.61E-06	1.13E-04
Road 14	14	1600-1700	6.87E-02	1.53E-06	2.61E-05	5.94E-02	1.32E-06	2.24E-05	2.98E-01	6.61E-06	1.13E-04
Road 14	14	1700-1800	5.56E-02	1.31E-06	2.23E-05	4.68E-02	1.10E-06	1.88E-05	2.64E-01	6.22E-06	1.06E-04
Road 14	14	1800-1900	3.97E-02	9.99E-07	1.70E-05	3.41E-02	8.58E-07	1.46E-05	2.16E-01	5.43E-06	9.24E-05
Road 14	14	1900-2000	2.97E-02	5.09E-07	8.67E-06	2.46E-02	4.46E-07	7.60E-06	1.84E-01	3.15E-06	5.38E-05
Road 14	14	2000-2100	2.64E-02	3.87E-07	6.60E-06	2.24E-02	3.35E-07	5.71E-06	1.67E-01	2.46E-06	4.19E-05
Road 14	14	2100-2200	2.64E-02	3.39E-07	5.77E-06	2.24E-02	2.93E-07	4.99E-06	1.67E-01	2.15E-06	3.66E-05
Road 14	14	2200-2300	2.64E-02	3.39E-07	5.78E-06	2.10E-02	2.73E-07	4.67E-06	1.67E-01	2.15E-06	3.66E-05
Road 14	14	2300-2400	2.64E-02	3.39E-07	5.78E-06	2.10E-02	2.73E-07	4.67E-06	1.67E-01	2.15E-06	3.66E-05
Road 15	15	0200-0300	4.93E-02	4.19E-08	3.88E-07	3.42E-02	1.59E-01	1.35E-07	1.25E-06	1.38E-01	1.17E-07
Road 15	15	0300-0400	5.53E-02	4.06E-08	3.76E-07	3.02E-05	1.70E-01	1.25E-07	1.16E-06	1.49E-01	1.09E-07
Road 15	15	0400-0500	4.97E-02	4.26E-08	3.88E-07	3.44E-05	1.68E-01	1.44E-07	1.31E-06	1.47E-01	1.26E-07
Road 15	15	0500-0600	4.45E-02	5.08E-08	4.71E-07	3.88E-02	4.43E-08	4.10E-07	1.54E-01	1.76E-07	1.63E-06
Road 15	15	0600-0700	4.45E-02	5.08E-08	4.71E-07	3.88E-02	4.48E-08	4.15E-07	1.54E-01	1.76E-07	1.63E-06
Road 15	15	0700-0800	5.34E-02	2.59E-07	2.40E-06	4.66E-02	2.21E-07	2.05E-06	1.54E-01	7.48E-07	6.93E-06
Road 15	15	0800-0900	5.19E-02	2.84E-07	2.63E-06	4.48E-02	2.45E-07	2.27E-06	1.78E-01	9.73E-07	9.01E-06
Road 15	15	0900-1000	2.83E-02	6.78E-07	1.16E-05	2.39E-02	5.73E-07	9.79E-06	1.64E-01	7.91E-07	7.34E-06
Road 15	15	1000-1100	6.49E-02	2.85E-07	2.64E-06	5.43E-02	2.38E-07	2.20E-06	2.13E-01	9.34E-07	8.64E-06
Road 15	15	1100-1200	2.21E-02	2.16E-07	2.71E-06	1.87E-02	1.83E-07	2.29E-06	1.17E-01	1.14E-06	1.43E-05
Road 15	15	1200-1300	7.29E-02	4.80E-07	4.44E-06	6.16E-02	4.05E-07	3.75E-06	2.43E-01	1.60E-06	1.48E-05
Road 15	15	1300-1400	7.34E-02	5.08E-07	4.70E-06	6.21E-02	4.23E-07	3.92E-06	2.52E-01	1.74E-06	1.62E-05
Road 15	15	1400-1500	1.23E-01	4.44E-07	4.11E-06	1.04E-01	3.76E-07	3.48E-06	2.09E-01	7.55E-07	6.99E-06
Road 15	15	1500-1600	7.03E-02	5.15E-07	4.77E-06	5.95E-02	4.36E-07	4.04E-06	2.51E-01	1.83E-06	1.70E-05
Road 15	15	1600-1700	6.97E-02	5.15E-07	4.77E-06	5.90E-02	4.36E-07	4.04E-06	2.42E-01	1.79E-06	1.65E-05
Road 15	15	1700-1800	5.72E-02	4.41E-07	4.08E-06	4.84E-02	3.70E-07	3.42E-06	2.11E-01	1.63E-06	1.51E-05
Road 15	15	1800-1900	3.73E-02	3.37E-07	3.12E-06	3.16E-02	2.85E-07	2.64E-06	1.71E-01	1.54E-06	1.43E-05
Road 15	15	1900-2000	2.73E-02	4.01E-07	1.31E-06	2.42E-02	1.25E-07	1.36E-06	1.25E-01	6.46E-07	7.08E-06
Road 15	15	2000-2100	2.80E-02	1.15E-07	1.06E-06	2.42E-02	9.94E-08	9.20E-07	1.32E-01	5.44E-07	5.03E-06
Road 15	15	2100-2200	2.68E-02	1.05E-07	9.76E-07	2.36E-02	9.30E-08	8.61E-07	1.23E-01	4.83E-07	4.47E-06
Road 15	15	2200-2300	2.68E-02	1.05E-07	9.76E-07	2.36E-02	9.30E-08	8.61E-07	1.23E-01	4.83E-07	4.47E-06
Road 15	15	2300-2400	2.68E-02	1.05E-07	9.76E-07	2.36E-02	9.30E-08	8.61E-07	1.23E-01	4.83E-07	4.47E-06
Road 16	16	0000-0100	9.85E-03	5.72E-08	1.75E-06	8.64E-03	5.02E-08	1.54E-06	9.87E-02	5.73E-07	1.76E-05
Road 16	16	0100-0200	1.08E-02	4.12E-08	1.26E-06	9.45E-03	3.60E-08	1.10E-06	9.79E-02	3.73E-07	1.14E-05
Road 16	16	0200-0300	1.08E-02	4.12E-08	1.26E-06	9.45E-03	3.60E-08	1.10E-06	9.79E-02	3.73E-07	1.14E-05
Road 16	16	0300-0400	2.28E-02	2.87E-08	8.78E-07	1.99E-02	2.51E-08	7.68E-07	1.46E-01	1.84E-07	5.63E-06
Road 16	16	0400-0500	1.33E-02	5.63E-08	1.72E-06	1.16E-02	4.88E-08	1.50E-06	1.04E-01	4.40E-07	1.35E-05
Road 16	16	0500-0600	1.33E-02	5.63E-08	1.72E-06	1.16E-02	4.88E-08	1.50E-06	1.04E-01	4.40E-07	1.35E-05
Road 16	16	0600-0700	1.34E-02	1.21E-07	3.69E-06	1.19E-02	1.07E-07	3.26E-06	1.04E-01	9.41E-07	2.87E-05
Road 16	16	0700-0800	1.34E-02	1.21E-07	3.69E-06	1.19E-02	1.07E-07	3.26E-06	1.04E-01	9.41E-07	2.87E-05
Road 16	16	0800-0900	1.75E-02	3.71E-07	1.14E-05	1.50E-02	3.19E-07	9.79E-06	1.14E-01	2.42E-06	7.44E-05
Road 16	16	0900-1000	1.75E-02	3.71E-07	1.14E-05	1.50E-02	3.19E-07	9.79E-06	1.14E-01	2.42E-06	7.44E-05
Road 16	16	1000-1100	1.99E-02	3.12E-07	9.60E-06	1.70E-02	2.67E-07	8.23E-06	1.29E-01	2.03E-06	6.25E-05
Road 16	16	1100-1200	1.99E-02	3.12E-07	9.60E-06	1.70E-02	2.67E-07	8.23E-06	1.29E-01	2.03E-06	6.25E-05
Road 16	16	1200-1300	3.67E-02	7.07E-07	2.17E-05	3.09E-02	5.94E-07	1.82E-05	2.86E-01	5.50E-06	1.69E-04
Road 16	16	1300-1400	4.08E-02	8.33E-07	2.55E-05	3.37E-02	6.87E-07	2.11E-05	3.19E-01	6.50E-06	1.99E-04
Road 16	16	1400-1500	4.08E-02	8.33E-07	2.55E-05	3.37E-02	6.87E-07	2.11E-05	3.19E-01	6.50E-06	1.99E-04
Road 16	16	1500-1600	3.97E-02	8.64E-07	2.65E-05	3.33E-02	7.25E-07	2.22E-05	3.99E-01	8.68E-06	2.66E-04
Road 16	16	1600-1700	3.97E-02	8.64E-07	2.65E-05	3.33E-02	7.25E-07	2.22E-05	3.99E-01	8.68E-06	2.66E-04
Road 16	16	1700-1800	3.72E-02	7.39E-07	2.26E-05	6.19E-02	1.90E-05	1.82E-01	4.22E-06	1.39E-01	1.06E-05
Road 16	16	1800-1900	2.08E-02	4.72E-07	1.45E-05	1.85E-02	4.21E-07	1.29E-05	1.38E-01	3.13E-06	9.60E-05
Road 16	16	1900-2000	1.50E-02	2.39E-07	7.34E-06	1.34E-02	2.13E-07	6.53E-06	1.22E-01	1.94E-06	5.93E-05
Road 16	16	2000-2100	1.46E-02	1.98E-07	6.08E-06	1.27E-02	1.72E-07	5.26E-06	1.14E-01	1.55E-06	4.74E-05
Road 16	16	2100-2200	1.33E-02	1.73E-07	5.29E-06	1.18E-02	1.53E-07	4.68E-06	1.07E-01	1.39E-06	4.25E-05
Road 16	16	2200-2300	1.42E-02	1.40E-07	4.28E-06	1.29E-02	1.27E-07	3.90E-06	1.07E-01	1.05E-06	3.21E-05
Road 16	16	2300-2400	1.42E-02	1.40E-07	4.28E-06	1.29E-02	1.27E-07	3.90E-06	1.07E-01	1.05E-06	3.21E-05
Road 17	17	0100-0200	1.05E-02	6.30E-08	1.84E-06	9.18E-03	5.51E-08	1.61E-06	8.41E-02	5.05E-07	1.47E-05
Road 17	17	0200-0300	1.05E-02	6.30E-08	1.84E-06	9.18E-03	5.51E-08	1.61E-06	8.41E-02	5.05E-07	1.47E-05
Road 17	17	0300-0400	1.19E-02	4.06E-08	1.24E-06	1.04E-02	3.55E-08	1.08E-06	9.51E-02	3.25E-07	9.90E-06
Road 17	17	0400-0500	1.19E-02	4.06E-08	1.24E-06	1.04E-02	3.55E-08	1.08E-06	9.51E-02	3.25E-07	9.90E-06
Road 17	17	0500-0600	1.34E-02	1.21E-07	3.69E-06	1.19E-02	1.07E-07	3.26E-06	1.04E-01	9.41E-07	2.87E-05
Road 17	17	0600-0700	1.34E-02	1.21E-07	3.69E-06	1.19E-02	1.07E-07	3.26E-06	1.04E-01	9.41E-07	2.87E-05
Road 17	17	0700-0800	1.94E-02	6.72E-07	6.58E-06	1.66E-02	5.76E-07	5.64E-06	1.29E-01	4.47E-06	4.37E-05
Road 17	17	0800-0900	1.94E-02	6.72E-07	6.58E-06	1.66E-02	5.76E-07	5.64E-06	1.29E-01	4.47E-06	4.37E-05
Road 17	17	0900-1000	1.94E-02	6.72E-07	6.58E-06	1.66E-02	5.76E-07	5.64E-06	1.29E-01	4.47E-06	4.37E-05
Road 17	17	1000-1100	2.10E-02	6.11E-07	5.99E-06	1.78E-02	5.19E-07	5.08E-06	1.38E-01	4.02E-06	3.94E-05
Road 17	17	1100-1200	2.10E-02	6.11E-07	5.99E-06	1.78E-02	5.19E-07	5.08E-06	1.38E-01	4.02E-06	3.94E-05
Road 17	17	1200-1300	3.67E-02	7.07E-07	2.17E-05	3.09E-02	5.94E-07	1.82E-05	2.86E-01	5.50E-06	1.69E-04
Road 17	17	1300-1400	4.08E-02	8.33E-07	2.55E-05	3.37E-02	6.87E-07	2.11E-05	3.19E-01	6.50E-06	1.99E-04
Road 17	17	1400-1500	4.08E-02	8.33E-07	2.55E-05	3.37E-02	6.87E-07	2.11E-05	3.19E-01	6.50E-06	1.99E-04
Road 17	17	1500-1600	3.97E-02	8.64E-07	2.65E-05	3.33E-02	7.25E-07	2.22E-05	3.99E-01	8.68E-06	2.66E-04
Road 17	17	1600-1700	3.97E-02	8.64E-07	2.65E-05	3.33E-02	7.25E-07	2.22E-05	3.99E-01	8.68E-06	2.66E-04
Road 17	17	1700-1800	3.72E-02	7.39E-07	2.26E-05	6.19E-02	1.90E-05	1.82E-01	4.22E-06	1.39E-01	1.06E-05
Road 17	17	1800-1900	2.08E-02	4.72E-07	1.45E-05	1.85E-02	4.21E-07	1.29E-05	1.38E-01	3.13E-06	9.60E-05
Road 17	17	1900-2000	1.50E-02	2.39E-07	7.34E-06	1.34E-02	2.13E-07	6.53E-06	1.22E-01	1.94E-06	5.93E-05
Road 17	17	2000-2100	1.46E-02	1.98E-07	6.08E-06	1.27E-02	1.72E-07	5.26E-06	1.14E-01	1.55E-06	4.74E-05
Road 17	17	2100-2200	1.33E-02	1.73E-07	5.29E-06	1.18E-02	1.53E-07	4.68E-06	1.07E-01	1.39E-06	4.25E-05
Road 17	17	2200-2300	1.42E-02	1.40E-07	4.28E-06	1.29E-02	1.27E-07	3.90E-06	1.07E-01	1.05E-06	3.21E-05
Road 17	17	2300-2400	1.42E-02	1.40E-07	4.28E-06	1.29E-02	1.27E-07	3.90E-06	1.07E-01	1.05E-06	3.21E-05
Road 17	17	0100-0200	1.05E-02	6.30E-08	1.84E-06	9.18E-03	5.51E-08	1.61E-06	8.41E-02	5.05E-07	1.47E-05
Road 17	17	0200-0300	1.05E-02	6.30E-08	1.84E-06	9.18E-03	5.51E-08	1.61E-06	8.41E-02	5.05E-07	1.47E-05
Road 17	17	0300-0400	1.19E-02	4.06E-08	1.24E-06	1.04E-02	3.55E-08	1.08E-06	9.51E-02	3.25E-07	9.90E-06
Road 17	17	0400-0500	1.19E-02	4.06E-08	1.24E-06	1.04E-02	3.55E-08	1.08E-06	9.51E-02	3.25E-07	9.90E-06
Road 17	17	0500-0600	1.34E-02	1.21E-07	3.69E-06	1.19E-02	1.07E-07	3.26E-06	1.04E-01	9.41E-07	2.87E-05
Road 17	17	0600-0700	1.34E-02	1.21E-07	3.69E-06	1.19E-02	1.07E-07	3.26E-06	1.04E-01	9.41E-07	2.87E-05
Road 17	17	0700-0800	1.94E-02	6.72E-07	6.58E-06	1.66E-02	5.76E-07	5.64E-06	1.29E-01	4.47E-06	4.37E-05
Road 17	17	0800-0900	1.94E-02	6.72E-07	6.58E-06	1.66E-02	5.76E-07	5.64E-06	1.29E-01	4.47E-06	4.37E-05
Road 17	17	0900-1000	1.94E-02	6.72E-07	6.58E-06	1.66E-02	5.76E-07	5.64E-06	1.29E-01	4.47E-06	4.37E-05
Road 17	17	1000-1100	2.10E-02	6.11E-07	5.99E-06	1.78E-02	5.19E-07	5.08E-06	1.38E-01	4.02E-06	3.94E-05
Road 17	17	1100-1200	2.10E-02	6.11E-07	5.99E-06	1.78E-02	5.19E-07	5.08E-06	1.38E-01	4.02E-06	3.94E-05
Road 17	17	1200-1300	3.67E-02	7.07E-07	2.17E-05	3.09E-02	5.94E-07	1.82E-05	2.86E-01	5.50E-06	1.69E-04
Road 17	17	1300-1400	4.08E-02	8.33E-07	2.55E-05	3.37E-02	6.87E-07	2.11E-05	3.19E-01	6.50E-06	1.99E-04
Road 17	17	1400-1500	4.08E-02	8.33E-07	2.55E-05	3.37E-02	6.87E-07	2.11E-05	3.19E-01	6.50E-06	1.99E-04
Road 17	17	1500-1600	3.97E-02	8.64E-07	2.65E-05	3.33E-02	7.25E-07	2.22E-05	3.99E-01	8.68E-06	2.66E-04
Road 17	17	1600-1700	3.97E-02	8.64E-07	2.65E-05	3.33E-02	7.25E-07	2.22E-05	3.99E-01	8.68E-06	2.66E-04
Road 17	17	1700-1800	3.72E-02	7.39E-07	2.26E-05	6.19E-02	1.90E-05	1.82E-01	4.22E-06	1.39E-01	1.06E-05
Road 17	17	1800-1900	2.08E-02	4.72E-07	1.45E-05	1.85E-02	4.21E-07	1.29E-05	1.38E-01	3.13E-06	9.60E-05
Road 17	17	1900-2000	1.50E-02	2.39E-07	7.34E-06	1.34E-02	2.13E-07	6.53E-06	1.22E-01	1.94E-06	5.93E-05
Road 17	17	2000-2100	1.46E-02	1.98E-07	6.08E-06	1.27E-02	1.72E-07	5.26E-06	1.14E-01	1.55E-06	4.74E-05
Road 17	17	2100-2200	1.33E-02	1.73E-07	5.29E-06	1.18E-02	1.53E-07	4.68E-06	1.07E-01	1.39E-06	4.25E-05
Road 17	17	2200-2300	1.42E-02	1.40E-07	4.28E-06	1.29E-02	1.27E-07	3.90E-06	1.07E-01	1.05E-06	3.21E-05
Road 17	17	2300-2400	1.42E-02	1.40E-07	4.28E-06	1.29E-02	1.27E-07	3.90E-06	1.07E-01	1.05E-06	3.21E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	3.52E-02	1.47E-06	2.50E-05	4.30E-02	1.79E-06	3.06E-05	1.86E-01	7.75E-06	1.32E-04
Road 17	17	1700-1800	4.15E-02	1.07E-06	3.12E-05	3.48E-02	8.94E-07	2.61E-05	1.79E-01	4.54E-06	1.33E-04
Road 17	17	1800-1900	2.40E-02	5.79E-07	1.69E-05	2.13E-02	5.15E-07	1.50E-05	1.25E-01	3.02E-06	8.83E-05
Road 17	17	1900-2000	1.64E-02	2.98E-07	8.72E-06	1.46E-02	2.64E-07	7.78E-06	1.28E-01	2.33E-06	6.28E-05
Road 17	17	2000-2100	1.52E-02	2.17E-07	6.33E-06	1.31E-02	1.88E-07	5.48E-06	1.21E-01	1.72E-06	5.04E-05
Road 17	17	2100-2200	1.64E-02	2.06E-07	6.05E-06	1.25E-02	1.58E-07	4.63E-06	1.27E-01	1.60E-06	4.69E-05
Road 17	17	2200-2300	1.48E-02	1.94E-07	5.68E-06	1.26E-02	1.65E-07	4.84E-06	1.17E-01	1.53E-06	4.48E-05
Road 17	17	2300-2400	1.49E-02	1.54E-07	4.51E-06	1.35E-02	1.40E-07	4.11E-06	1.12E-01	1.16E-06	3.38E-05
Road 18	18	0000-0100	9.81E-03	5.62E-08	1.74E-06	8.59E-03	4.92E-08	1.53E-06	9.81E-02	5.61E-07	1.74E-05
Road 18	18	0100-0200	1.08E-02	4.06E-08	1.25E-06	9.45E-03	3.56E-08	1.09E-06	9.73E-02	3.68E-07	1.14E-05
Road 18	18	0200-0300	1.08E-02	4.06E-08	1.25E-06	9.45E-03	3.56E-08	1.09E-06	9.73E-02	3.68E-07	1.14E-05
Road 18	18	0300-0400	1.28E-02	2.82E-08	1.10E-06	1.12E-02	2.48E-08	9.69E-07	1.01E-01	2.24E-07	8.76E-06
Road 18	18	0400-0500	1.32E-02	3.20E-08	1.16E-06	1.16E-02	2.81E-08	1.02E-06	1.05E-01	2.54E-07	9.25E-06
Road 18	18	0500-0600	1.35E-02	3.09E-07	2.97E-06	1.18E-02	2.71E-07	2.60E-06	1.22E-01	2.80E-06	2.69E-05
Road 18	18	0600-0700	1.35E-02	1.20E-07	4.68E-06	1.18E-02	1.05E-07	4.10E-06	1.05E-01	9.33E-07	3.64E-05
Road 18	18	0700-0800	1.41E-02	2.91E-07	2.79E-06	1.24E-02	2.56E-07	2.45E-06	1.27E-01	2.62E-06	2.51E-05
Road 18	18	0800-0900	1.46E-02	3.05E-07	1.19E-05	1.25E-02	2.62E-07	1.02E-05	2.16E-01	4.52E-06	1.76E-04
Road 18	18	0900-1000	1.91E-02	2.95E-07	1.15E-05	1.60E-02	2.47E-07	9.67E-06	1.20E-01	1.86E-06	7.27E-05
Road 18	18	1000-1100	1.82E-02	2.66E-07	1.04E-05	1.52E-02	2.23E-07	8.70E-06	1.19E-01	1.74E-06	6.80E-05
Road 18	18	1100-1200	1.82E-02	2.66E-07	1.04E-05	1.52E-02	2.23E-07	8.70E-06	1.19E-01	1.74E-06	6.80E-05
Road 18	18	1200-1300	2.79E-02	5.63E-07	2.20E-05	2.32E-02	4.67E-07	1.82E-05	1.51E-01	3.04E-06	1.19E-04
Road 18	18	1300-1400	2.79E-02	5.63E-07	2.20E-05	2.32E-02	4.67E-07	1.82E-05	1.51E-01	3.04E-06	1.19E-04
Road 18	18	1400-1500	2.81E-02	5.95E-07	2.32E-05	2.34E-02	4.95E-07	1.93E-05	1.51E-01	3.20E-06	1.24E-04
Road 18	18	1500-1600	2.58E-02	5.54E-07	2.18E-05	2.18E-02	4.68E-07	1.83E-05	1.47E-01	3.15E-06	1.23E-04
Road 18	18	1600-1700	2.65E-02	5.78E-07	2.26E-05	2.24E-02	4.86E-07	1.90E-05	1.48E-01	3.22E-06	1.26E-04
Road 18	18	1700-1800	2.61E-02	5.70E-07	2.23E-05	2.20E-02	4.80E-07	1.88E-05	1.48E-01	3.23E-06	1.26E-04
Road 18	18	1800-1900	1.51E-02	3.52E-07	1.38E-05	1.27E-02	2.96E-07	1.16E-05	1.47E-01	3.43E-06	1.34E-04
Road 18	18	1900-2000	1.16E-02	1.85E-07	6.77E-06	1.03E-02	1.64E-07	6.00E-06	1.21E-01	1.92E-06	7.03E-05
Road 18	18	2000-2100	1.13E-02	1.53E-07	5.61E-06	1.01E-02	1.36E-07	4.99E-06	1.14E-01	1.54E-06	5.65E-05
Road 18	18	2100-2200	1.03E-02	1.34E-07	4.91E-06	9.16E-03	1.19E-07	4.36E-06	1.07E-01	1.39E-06	5.09E-05
Road 18	18	2200-2300	1.10E-02	1.08E-07	3.97E-06	9.98E-03	9.82E-08	3.60E-06	1.07E-01	1.05E-06	3.84E-05
Road 18	18	2300-2400	1.10E-02	1.08E-07	3.97E-06	9.98E-03	9.82E-08	3.60E-06	1.07E-01	1.05E-06	3.84E-05
Road 19	19	0000-0100	1.19E-02	4.23E-08	1.22E-06	1.05E-02	3.71E-08	1.07E-06	8.72E-02	3.09E-07	8.90E-06
Road 19	19	0100-0200	1.25E-02	4.34E-08	1.25E-06	1.10E-02	3.82E-08	1.10E-06	8.72E-02	3.03E-07	8.73E-06
Road 19	19	0200-0300	1.25E-02	4.34E-08	1.25E-06	1.10E-02	3.82E-08	1.10E-06	8.72E-02	3.03E-07	8.73E-06
Road 19	19	0300-0400	1.19E-02	4.23E-08	1.22E-06	1.05E-02	3.71E-08	1.07E-06	8.72E-02	3.09E-07	8.90E-06
Road 19	19	0400-0500	1.24E-02	4.34E-08	1.25E-06	1.10E-02	3.82E-08	1.10E-06	8.72E-02	3.03E-07	8.73E-06
Road 19	19	0500-0600	1.34E-02	1.21E-07	3.69E-06	1.19E-02	1.07E-07	3.26E-06	1.04E-01	9.41E-07	2.87E-05
Road 19	19	0600-0700	1.43E-02	2.11E-07	6.07E-06	1.26E-02	1.85E-07	5.34E-06	9.38E-02	1.38E-06	3.98E-05
Road 19	19	0700-0800	1.77E-02	2.53E-07	7.27E-06	1.56E-02	2.23E-07	6.41E-06	1.24E-01	1.77E-06	5.08E-05
Road 19	19	0800-0900	1.59E-02	5.56E-07	1.60E-05	1.37E-02	4.79E-07	1.38E-05	1.33E-01	4.65E-06	1.34E-04
Road 19	19	0900-1000	1.85E-02	5.39E-07	1.61E-05	1.53E-02	4.63E-07	1.38E-05	1.08E-01	3.27E-06	9.41E-05
Road 19	19	1000-1100	1.91E-02	5.02E-07	1.44E-05	1.58E-02	4.31E-07	1.24E-05	1.08E-01	2.84E-06	8.17E-05
Road 19	19	1100-1200	1.91E-02	4.42E-07	1.27E-05	1.58E-02	3.79E-07	1.09E-05	1.08E-01	2.50E-06	7.19E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	1.538 02	2.153 08	1.38E-02	2.211 08	2.98E-07	9.92E-02	3.13E-07	1.06E-06	5.32E-02	6.67E-07	9.07E-07	
Road 41	41	0100-0200	1.96E-02	2.23E-08	2.10E-07	1.72E-02	1.96E-08	1.84E-07	7.81E-02	8.91E-08	8.36E-07	6.67E-02	7.61E-08	7.14E-07
Road 41	41	0200-0300	2.36E-02	2.11E-08	1.98E-07	2.06E-02	1.84E-08	1.72E-07	8.70E-02	7.77E-08	7.29E-07	7.39E-02	6.61E-08	6.20E-07
Road 41	41	0300-0400	2.66E-02	2.00E-08	1.88E-07	2.35E-02	1.77E-08	1.66E-07	9.27E-02	6.96E-08	6.53E-07	8.02E-02	6.04E-08	5.66E-07
Road 41	41	0400-0500	2.63E-02	2.12E-08	1.99E-07	2.29E-02	1.84E-08	1.73E-07	9.34E-02	7.52E-08	7.05E-07	7.92E-02	6.37E-08	5.98E-07
Road 41	41	0500-0600	2.68E-02	2.56E-08	2.40E-07	2.35E-02	2.24E-08	2.10E-07	9.37E-02	8.73E-08	8.19E-07	7.95E-02	7.40E-08	6.95E-07
Road 41	41	0600-0700	1.63E-02	3.91E-08	3.67E-07	1.42E-02	3.40E-08	3.19E-07	7.43E-02	1.78E-07	1.67E-06	6.26E-02	1.50E-07	1.41E-06
Road 41	41	0700-0800	2.19E-02	1.15E-07	1.08E-06	1.87E-02	9.81E-08	9.20E-07	8.78E-02	4.61E-07	4.33E-06	7.29E-02	3.83E-07	3.59E-06
Road 41	41	0800-0900	2.16E-02	1.15E-07	1.08E-06	1.85E-02	9.81E-08	9.20E-07	8.65E-02	4.61E-07	4.33E-06	7.18E-02	3.83E-07	3.59E-06
Road 41	41	0900-1000	2.38E-02	1.21E-07	1.13E-06	2.04E-02	1.03E-07	9.67E-07	9.54E-02	4.85E-07	4.55E-06	7.92E-02	4.03E-07	3.78E-06
Road 41	41	1000-1100	2.61E-02	1.13E-07	1.06E-06	2.22E-02	9.60E-08	9.01E-07	8.82E-02	4.25E-07	3.99E-06	9.64E-02	4.18E-07	3.92E-06
Road 41	41	1100-1200	2.61E-02	1.13E-07	1.06E-06	2.22E-02	9.60E-08	9.01E-07	8.82E-02	4.25E-07	3.99E-06	9.64E-02	4.18E-07	3.92E-06
Road 41	41	1200-1300	2.61E-02	1.15E-07	1.08E-06	2.22E-02	9.78E-08	9.18E-07	8.82E-02	4.34E-07	4.07E-06	9.64E-02	4.26E-07	4.00E-06
Road 41	41	1300-1400	2.38E-02	1.15E-07	1.08E-06	2.04E-02	9.78E-08	9.18E-07	8.65E-02	4.34E-07	4.07E-06	9.64E-02	4.26E-07	4.00E-06
Road 41	41	1400-1500	2.16E-02	1.15E-07	1.08E-06	1.85E-02	9.78E-08	9.18E-07	8.65E-02	4.34E-07	4.07E-06	9.64E-02	4.26E-07	4.00E-06
Road 41	41	1500-1600	2.16E-02	1.15E-07	1.08E-06	1.85E-02	9.78E-08	9.18E-07	8.65E-02	4.34E-07	4.07E-06	9.64E-02	4.26E-07	4.00E-06
Road 41	41	1600-1700	2.16E-02	1.15E-07	1.08E-06	1.85E-02	9.78E-08	9.18E-07	8.65E-02	4.34E-07	4.07E-06	9.64E-02	4.26E-07	4.00E-06
Road 41	41	1700-1800	2.38E-02	1.21E-07	1.13E-06	2.04E-02	1.03E-07	9.67E-07	9.54E-02	4.85E-07	4.55E-06	7.92E-02	4.03E-07	3.78E-06
Road 41	41	1800-1900	2.07E-02	1.19E-07	1.11E-06	1.80E-02	1.03E-07	9.69E-07	7.96E-02	4.57E-07	4.29E-06	6.83E-02	3.92E-07	3.68E-06
Road 41	41	1900-2000	1.38E-02	5.47E-08	5.13E-07	1.20E-02	4.77E-08	4.48E-07	6.57E-02	2.61E-07	2.45E-06	5.71E-02	2.27E-07	2.09E-06
Road 41	41	2000-2100	1.38E-02	3.51E-08	3.67E-07	1.20E-02	3.06E-08	3.21E-07	6.57E-02	1.68E-07	1.76E-06	5.71E-02	1.46E-07	1.53E-06
Road 41	41	2100-2200	1.38E-02	4.38E-08	4.11E-07	1.18E-02	3.74E-08	3.51E-07	7.02E-02	2.22E-07	2.08E-06	5.82E-02	1.84E-07	1.73E-06
Road 41	41	2200-2300	1.38E-02	4.41E-08	4.14E-07	1.18E-02	3.76E-08	3.53E-07	7.02E-02	2.24E-07	2.10E-06	5.82E-02	1.85E-07	1.74E-06
Road 41	41	2300-0000	1.55E-02	3.65E-08	3.42E-07	1.41E-02	3.32E-08	3.11E-07	7.11E-02	1.67E-07	1.57E-06	6.32E-02	1.49E-07	1.39E-06
Road 42	42	0000-0100	2.31E-02	4.60E-08	1.17E-06	2.04E-02	4.07E-08	1.03E-06	9.41E-02	1.87E-07	4.75E-06	8.09E-02	1.61E-07	4.09E-06
Road 42	42	0100-0200	2.31E-02	4.60E-08	1.17E-06	2.04E-02	4.07E-08	1.03E-06	9.41E-02	1.87E-07	4.75E-06	8.09E-02	1.61E-07	4.09E-06
Road 42	42	0200-0300	3.49E-02	3.75E-08	9.52E-07	3.27E-02	3.51E-08	8.91E-07	1.42E-01	1.52E-07	3.86E-06	1.29E-01	1.39E-07	3.52E-06
Road 42	42	0300-0400	3.78E-02	3.58E-08	9.08E-07	3.40E-02	3.28E-08	8.32E-07	1.54E-01	1.45E-07	3.68E-06	1.40E-01	1.33E-07	3.36E-06
Road 42	42	0400-0500	3.92E-02	3.78E-08	9.58E-07	3.40E-02	3.28E-08	8.32E-07	1.28E-01	1.24E-07	3.14E-06	1.09E-01	1.06E-07	2.68E-06
Road 42	42	0500-0600	3.15E-02	4.72E-08	1.20E-06	2.75E-02	4.12E-08	1.05E-06	1.14E-01	1.71E-07	4.33E-06	9.73E-02	1.46E-07	3.70E-06
Road 42	42	0600-0700	3.15E-02	4.72E-08	1.20E-06	2.75E-02	4.12E-08	1.05E-06	1.14E-01	1.71E-07	4.33E-06	9.73E-02	1.46E-07	3.70E-06
Road 42	42	0700-0800	3.91E-02	2.50E-07	6.34E-06	3.35E-02	2.14E-07	5.42E-06	1.40E-01	8.91E-07	2.26E-05	1.17E-01	7.45E-07	1.89E-05
Road 42	42	0800-0900	3.92E-02	2.71E-07	6.87E-06	3.35E-02	2.32E-07	5.87E-06	1.40E-01	9.66E-07	2.45E-05	1.17E-01	8.07E-07	2.04E-05
Road 42	42	0900-1000	4.31E-02	2.66E-07	6.75E-06	3.68E-02	2.27E-07	5.76E-06	1.51E-01	9.35E-07	2.37E-05	1.25E-01	7.74E-07	1.96E-05
Road 42	42	1000-1100	4.61E-02	2.41E-07	6.12E-06	3.91E-02	2.05E-07	5.20E-06	1.58E-01	8.28E-07	2.10E-05	1.32E-01	6.92E-07	1.76E-05
Road 42	42	1100-1200	4.61E-02	2.41E-07	6.12E-06	3.91E-02	2.05E-07	5.20E-06	1.58E-01	8.28E-07	2.10E-05	1.32E-01	6.92E-07	1.76E-05
Road 42	42	1200-1300	4.63E-02	2.78E-07	7.06E-06	3.92E-02	2.38E-07	6.03E-06	1.58E-01	9.52E-07	2.42E-05	1.32E-01	7.99E-07	2.03E-05
Road 42	42	1300-1400	4.63E-02	2.78E-07	7.06E-06	3.92E-02	2.38E-07	6.03E-06	1.58E-01	9.52E-07	2.42E-05	1.32E-01	7.99E-07	2.03E-05
Road 42	42	1400-1500	4.79E-02	2.94E-07	7.46E-06	5.70E-02	2.27E-07	5.76E-06	1.64E-01	9.87E-07	2.51E-05	1.36E-01	8.29E-07	2.10E-05
Road 42	42	1500-1600	4.63E-02	2.84E-07	7.20E-06	5.50E-02	2.19E-07	5.56E-06	1.58E-01	9.52E-07	2.42E-05	1.32E-01	7.99E-07	2.03E-05
Road 42	42	1600-1700	4.50E-02	2.76E-07	7.00E-06	5.35E-02	2.13E-07	5.41E-06	1.54E-01	9.26E-07	2.35E-05	1.32E-01	7.77E-07	1.97E-05
Road 42	42	1700-1800	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 42	42	1800-1900	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 42	42	1900-2000	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 42	42	2000-2100	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 42	42	2100-2200	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 42	42	2200-2300	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 42	42	2300-0000	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 43	43	0000-0100	2.31E-02	4.60E-08	1.17E-06	2.04E-02	4.07E-08	1.03E-06	9.41E-02	1.87E-07	4.75E-06	8.09E-02	1.61E-07	4.09E-06
Road 43	43	0100-0200	2.31E-02	4.60E-08	1.17E-06	2.04E-02	4.07E-08	1.03E-06	9.41E-02	1.87E-07	4.75E-06	8.09E-02	1.61E-07	4.09E-06
Road 43	43	0200-0300	3.49E-02	3.75E-08	9.52E-07	3.27E-02	3.51E-08	8.91E-07	1.42E-01	1.52E-07	3.86E-06	1.29E-01	1.39E-07	3.52E-06
Road 43	43	0300-0400	3.78E-02	3.58E-08	9.08E-07	3.40E-02	3.28E-08	8.32E-07	1.54E-01	1.45E-07	3.68E-06	1.40E-01	1.33E-07	3.36E-06
Road 43	43	0400-0500	3.92E-02	3.78E-08	9.58E-07	3.40E-02	3.28E-08	8.32E-07	1.28E-01	1.24E-07	3.14E-06	1.09E-01	1.06E-07	2.68E-06
Road 43	43	0500-0600	3.15E-02	4.72E-08	1.20E-06	2.75E-02	4.12E-08	1.05E-06	1.14E-01	1.71E-07	4.33E-06	9.73E-02	1.46E-07	3.70E-06
Road 43	43	0600-0700	3.15E-02	4.72E-08	1.20E-06	2.75E-02	4.12E-08	1.05E-06	1.14E-01	1.71E-07	4.33E-06	9.73E-02	1.46E-07	3.70E-06
Road 43	43	0700-0800	3.91E-02	2.50E-07	6.34E-06	3.35E-02	2.14E-07	5.42E-06	1.40E-01	8.91E-07	2.26E-05	1.17E-01	7.45E-07	1.89E-05
Road 43	43	0800-0900	3.92E-02	2.71E-07	6.87E-06	3.35E-02	2.32E-07	5.87E-06	1.40E-01	9.66E-07	2.45E-05	1.17E-01	8.07E-07	2.04E-05
Road 43	43	0900-1000	4.31E-02	2.66E-07	6.75E-06	3.68E-02	2.27E-07	5.76E-06	1.51E-01	9.35E-07	2.37E-05	1.25E-01	7.74E-07	1.96E-05
Road 43	43	1000-1100	4.61E-02	2.41E-07	6.12E-06	3.91E-02	2.05E-07	5.20E-06	1.58E-01	8.28E-07	2.10E-05	1.32E-01	6.92E-07	1.76E-05
Road 43	43	1100-1200	4.61E-02	2.41E-07	6.12E-06	3.91E-02	2.05E-07	5.20E-06	1.58E-01	8.28E-07	2.10E-05	1.32E-01	6.92E-07	1.76E-05
Road 43	43	1200-1300	4.63E-02	2.78E-07	7.06E-06	3.92E-02	2.38E-07	6.03E-06	1.58E-01	9.52E-07	2.42E-05	1.32E-01	7.99E-07	2.03E-05
Road 43	43	1300-1400	4.63E-02	2.78E-07	7.06E-06	3.92E-02	2.38E-07	6.03E-06	1.58E-01	9.52E-07	2.42E-05	1.32E-01	7.99E-07	2.03E-05
Road 43	43	1400-1500	4.79E-02	2.94E-07	7.46E-06	5.70E-02	2.27E-07	5.76E-06	1.64E-01	9.87E-07	2.51E-05	1.36E-01	8.29E-07	2.10E-05
Road 43	43	1500-1600	4.63E-02	2.84E-07	7.20E-06	5.50E-02	2.19E-07	5.56E-06	1.58E-01	9.52E-07	2.42E-05	1.32E-01	7.99E-07	2.03E-05
Road 43	43	1600-1700	4.50E-02	2.76E-07	7.00E-06	5.35E-02	2.13E-07	5.41E-06	1.54E-01	9.26E-07	2.35E-05	1.32E-01	7.77E-07	1.97E-05
Road 43	43	1700-1800	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 43	43	1800-1900	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 43	43	1900-2000	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 43	43	2000-2100	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 43	43	2100-2200	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 43	43	2200-2300	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05
Road 43	43	2300-0000	4.39E-02	2.69E-07	6.83E-06	5.21E-02	2.07E-07	5.27E-06	1.50E-01	9.03E-07	2.29E-05	1.29E-01	7.58E-07	1.92E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 44	44	0800-0900	1.17E-02	3.31E-07	2.64E-06	9.94E-03	2.82E-07	2.25E-06	1.82E-02	5.15E-07	4.11E-06	1.54E-02	4.38E-07	3.49E-06
Road 44	44	0900-1000	1.34E-02	3.11E-07	1.92E-06	1.12E-02	2.61E-07	1.61E-06	9.60E-02	2.23E-06	1.38E-05	7.89E-02	1.83E-06	1.13E-05
Road 44	44	1000-1100	1.49E-02	2.99E-07	1.84E-06	1.24E-02	2.48E-07	1.53E-06	9.97E-02	2.00E-06	1.23E-05	8.10E-02	1.62E-06	1.00E-05
Road 44	44	1100-1200	1.40E-02	2.66E-07	1.65E-06	1.17E-02	2.21E-07	1.39E-06	9.34E-02	1.87E-06	1.15E-05	8.17E-02	1.55E-06	9.58E-06
Road 44	44	1200-1300	1.68E-02	4.16E-07	2.57E-06	1.43E-02	3.54E-07	2.19E-06	1.08E-01	2.67E-06	1.65E-05	9.04E-02	2.24E-06	1.38E-05
Road 44	44	1300-1400	1.70E-02	4.30E-07	2.66E-06	1.45E-02	3.66E-07	2.26E-06	1.10E-01	2.78E-06	1.71E-05	9.20E-02	2.32E-06	1.44E-05
Road 44	44	1400-1500	1.72E-02	4.64E-07	2.87E-06	1.44E-02	3.88E-07	2.40E-06	1.10E-01	2.95E-06	1.82E-05	9.30E-02	2.50E-06	1.55E-05
Road 44	44	1500-1600	1.64E-02	4.52E-07	2.79E-06	1.41E-02	3.89E-07	2.40E-06	1.09E-01	3.02E-06	1.86E-05	9.26E-02	2.55E-06	1.58E-05
Road 44	44	1600-1700	1.99E-02	3.84E-07	2.37E-06	1.71E-02	3.30E-07	2.04E-06	4.98E-02	3.08E-06	1.90E-05	1.17E-01	5.51E-06	3.41E-05
Road 44	44	1700-1800	2.05E-02	2.83E-07	4.22E-06	1.72E-02	5.74E-07	3.55E-06	1.34E-01	4.46E-06	2.76E-05	1.00E-01	3.68E-06	2.27E-05
Road 44	44	1800-1900	2.08E-02	2.88E-07	4.29E-06	1.75E-02	5.84E-07	3.61E-06	1.36E-01	4.53E-06	2.80E-05	1.02E-01	3.74E-06	2.31E-05
Road 44	44	1900-2000	8.68E-03	2.52E-07	1.56E-06	7.55E-03	2.19E-07	1.36E-06	8.68E-02	2.52E-06	1.56E-05	7.42E-02	2.16E-06	1.33E-05
Road 44	44	2000-2100	8.44E-03	1.91E-07	1.18E-06	7.25E-03	1.64E-07	1.01E-06	9.18E-02	2.08E-06	1.28E-05	7.74E-02	1.75E-06	1.08E-05
Road 44	44	2100-2200	7.34E-03	1.57E-07	9.67E-07	6.25E-03	1.34E-07	8.24E-07	8.72E-02	1.87E-06	1.15E-05	7.42E-02	1.59E-06	9.84E-06
Road 44	44	2200-2300	7.14E-03	1.57E-07	9.67E-07	6.23E-03	1.37E-07	8.44E-07	8.50E-02	1.87E-06	1.15E-05	7.26E-02	1.59E-06	9.84E-06
Road 44	44	2300-0000	8.38E-03	1.97E-07	1.21E-06	7.31E-03	1.69E-07	1.04E-06	8.20E-02	1.93E-06	1.19E-05	7.00E-02	1.64E-06	1.01E-05
Road 45	45	0000-0100	7.18E-03	5.38E-08	6.62E-07	6.31E-03	4.73E-08	5.82E-07	7.98E-02	5.98E-07	7.36E-06	6.46E-02	5.12E-07	6.31E-06
Road 45	45	0100-0200	7.34E-03	5.77E-08	7.10E-07	6.44E-03	5.06E-08	6.23E-07	8.15E-02	6.41E-07	7.88E-06	6.60E-02	5.19E-07	6.38E-06
Road 45	45	0200-0300	8.38E-03	2.98E-08	3.67E-07	7.23E-03	2.57E-08	3.16E-07	8.32E-02	2.96E-07	3.64E-06	7.01E-02	2.49E-07	3.07E-06
Road 45	45	0300-0400	8.79E-03	2.47E-08	3.03E-07	7.72E-03	2.17E-08	2.67E-07	8.31E-02	2.33E-07	2.87E-06	7.12E-02	2.00E-07	2.46E-06
Road 45	45	0400-0500	9.57E-03	2.36E-08	2.90E-07	8.23E-03	2.03E-08	2.50E-07	8.62E-02	2.65E-07	3.26E-06	7.38E-02	2.28E-07	2.74E-06
Road 45	45	0500-0600	1.00E-02	5.33E-08	6.56E-07	8.68E-03	4.62E-08	5.69E-07	8.62E-02	4.59E-07	5.65E-06	7.30E-02	3.89E-07	4.79E-06
Road 45	45	0600-0700	1.00E-02	1.32E-07	1.63E-06	8.68E-03	1.14E-07	1.41E-06	8.62E-02	1.14E-06	1.40E-05	7.30E-02	9.65E-07	1.19E-05
Road 45	45	0700-0800	1.19E-02	2.91E-07	5.94E-06	1.18E-02	2.48E-07	5.05E-06	6.99E-02	1.46E-06	2.98E-05	5.77E-02	1.21E-06	2.46E-05
Road 45	45	0800-0900	1.14E-02	3.03E-07	3.74E-06	9.63E-03	2.58E-07	3.18E-06	6.70E-02	1.79E-06	2.21E-05	5.53E-02	1.48E-06	1.82E-05
Road 45	45	0900-1000	1.34E-02	2.81E-07	3.46E-06	1.13E-02	2.39E-07	2.95E-06	6.99E-02	1.46E-06	1.80E-05	5.77E-02	1.21E-06	1.49E-05
Road 45	45	1000-1100	1.34E-02	3.08E-07	3.80E-06	1.13E-02	2.62E-07	3.23E-06	6.70E-02	1.54E-06	1.90E-05	5.53E-02	1.28E-06	1.57E-05
Road 45	45	1100-1200	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1200-1300	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1300-1400	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1400-1500	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1500-1600	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1600-1700	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1700-1800	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1800-1900	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	1900-2000	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	2000-2100	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	2100-2200	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	2200-2300	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 45	45	2300-0000	1.42E-02	3.08E-07	3.80E-06	1.20E-02	2.62E-07	3.23E-06	7.11E-02	1.54E-06	1.90E-05	5.87E-02	1.28E-06	1.57E-05
Road 46	46	0000-0100	1.54E-02	2.15E-08	1.38E-07	2.21E-02	2.98E-07	9.92E-02	3.13E-07	1.06E-06	5.32E-02	6.67E-07	9.07E-07	
Road 46	46	0100-0200	1.96E-02	2.23E-08	2.10E-07	1.72E-02	1.96E-08	1.84E-07	7.81E-02	8.91E-08	8.36E-07	6.67E-02	7.61E-08	7.14E-07
Road 46	46	0200-0300	2.36E-02	2.11E-08	1.98E-07	2.06E-02	1.84E-08	1.72E-07	8.70E-02	7.77E-08	7.29E-07	7.39E-02	6.61E-08	6.20E-07
Road 46	46	0300-0400	2.66E-02	2.00E-08	1.88E-07	2.35E-02	1.77E-08	1.66E-07	9.27E-02	6.96E-08	6.53E-07	8.02E-02	6.04E-08	5.66E-07
Road 46	46	0400-0500	2.63E-02	2.12E-08	1.99E-07	2.29E-02	1.84E-08	1.73E-07	9.34E-02	7.52E-08	7.05E-07	7.92E-02	6.37E-08	5.98E-07
Road 46	46	0500-0600	2.68E-02	2.56E-08	2.40E-07	2.35E-02	2.24E-08	2.10E-07	9.37E-02	8.73E-08	8.19E-07	7.95E-02	7.40E-08	6.95E-07
Road 46	46	0600-0700	1.63E-02	3.91E-08	3.67E-07	1.42E-02	3.40E-08	3.19E-07	7.43E-02	1.78E-07	1.67E-06	6.26E-02	1.50E-07	1.41E-06
Road 46	46	0700-0800	2.19E-02	1.15E-07	1.08E-06	1.87E-02	9.81E-08	9.20E-07	8.78E-02	4.61E-07	4.33E-06	7.29E-02	3.83E-07	3.59E-06
Road 46	46	0800-0900	2.16E-02	1.15E-07	1.08E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.376E-02	2.70E-07	3.16E-06	1.31E-02	2.63E-07	3.08E-06	1.20E-01	2.36E-06	2.76E-05
Road 1	1	0100-0200	1.376E-02	2.70E-07	3.16E-06	1.31E-02	2.63E-07	3.08E-06	1.20E-01	2.36E-06	2.76E-05
Road 1	1	0200-0300	1.55E-02	5.87E-08	7.75E-07	1.45E-02	5.49E-08	7.25E-07	8.79E-02	3.32E-07	4.38E-06
Road 1	1	0300-0400	1.68E-02	1.27E-08	1.68E-07	1.57E-02	1.19E-08	1.57E-07	8.79E-02	6.67E-07	8.81E-06
Road 1	1	0400-0500	1.74E-02	5.89E-08	7.78E-07	1.62E-02	5.48E-08	7.24E-07	9.24E-02	3.13E-07	4.13E-06
Road 1	1	0500-0600	1.77E-02	1.29E-06	1.58E-05	1.65E-02	1.20E-06	1.47E-05	1.39E-02	1.01E-06	1.24E-05
Road 1	1	0600-0700	1.68E-02	2.04E-07	2.70E-06	1.52E-02	1.85E-07	2.44E-06	9.67E-02	1.18E-06	1.56E-05
Road 1	1	0700-0800	2.05E-02	5.21E-07	6.88E-06	1.78E-02	4.52E-07	5.97E-06	1.09E-01	2.77E-06	3.67E-05
Road 1	1	0800-0900	1.67E-02	2.55E-07	3.37E-06	1.48E-02	2.26E-07	2.98E-06	1.14E-01	1.74E-06	2.30E-05
Road 1	1	0900-1000	2.51E-02	6.57E-07	8.68E-06	2.15E-02	5.64E-07	7.45E-06	1.40E-01	3.67E-06	4.85E-05
Road 1	1	1000-1100	2.53E-02	5.65E-07	7.46E-06	2.14E-02	4.76E-07	6.29E-06	1.23E-01	2.74E-06	3.62E-05
Road 1	1	1100-1200	2.53E-02	5.65E-07	7.46E-06	2.14E-02	4.76E-07	6.29E-06	1.23E-01	2.74E-06	3.62E-05
Road 1	1	1200-1300	2.45E-02	8.91E-07	1.18E-05	2.07E-02	7.53E-07	9.95E-06	1.19E-01	4.33E-06	5.72E-05
Road 1	1	1300-1400	2.30E-02	5.01E-06	6.62E-05	1.95E-02	4.24E-06	5.60E-05	1.12E-01	2.44E-05	3.22E-04
Road 1	1	1400-1500	3.57E-02	7.73E-07	1.02E-05	3.03E-02	6.55E-07	8.66E-06	1.56E-01	3.37E-06	4.46E-05
Road 1	1	1500-1600	3.40E-02	7.36E-07	9.72E-06	2.88E-02	6.24E-07	8.24E-06	1.48E-01	3.21E-06	4.24E-05
Road 1	1	1600-1700	3.40E-02	7.50E-07	9.91E-06	2.90E-02	6.40E-07	8.46E-06	1.53E-01	3.37E-06	4.46E-05
Road 1	1	1700-1800	3.99E-02	8.07E-07	1.07E-05	3.41E-02	6.87E-07	9.08E-06	1.75E-01	3.54E-06	4.68E-05
Road 1	1	1800-1900	2.07E-02	4.27E-07	5.64E-06	1.80E-02	3.71E-07	4.90E-06	1.19E-01	2.45E-06	3.24E-05
Road 1	1	1900-2000	1.69E-02	2.53E-07	3.35E-06	1.50E-02	2.24E-07	2.96E-06	1.14E-01	1.70E-06	2.25E-05
Road 1	1	2000-2100	1.67E-02	1.38E-07	1.83E-06	1.48E-02	1.22E-07	1.62E-06	1.14E-01	9.41E-07	1.24E-05
Road 1	1	2100-2200	1.64E-02	1.94E-07	2.56E-06	1.46E-02	1.72E-07	2.28E-06	1.13E-01	1.34E-06	1.77E-05
Road 1	1	2200-2300	1.64E-02	1.16E-07	1.54E-06	1.46E-02	1.03E-07	1.37E-06	1.13E-01	8.00E-07	1.06E-05
Road 1	1	2300-0000	1.79E-02	1.55E-07	2.05E-06	1.60E-02	1.38E-07	1.83E-06	1.24E-01	1.07E-06	1.42E-05
Road 2	2	0000-0100	1.19E-01	1.45E-07	2.59E-06	1.08E-01	1.32E-07	2.35E-06	2.44E-01	2.97E-07	5.30E-06
Road 2	2	0100-0200	1.19E-01	1.45E-07	2.59E-06	1.08E-01	1.32E-07	2.35E-06	2.44E-01	2.97E-07	5.30E-06
Road 2	2	0200-0300	1.08E-01	7.16E-08	1.28E-06	1.01E-01	6.71E-08	1.20E-06	2.27E-01	1.51E-07	2.69E-06
Road 2	2	0300-0400	1.08E-01	7.16E-08	1.28E-06	1.01E-01	6.71E-08	1.20E-06	2.27E-01	1.51E-07	2.69E-06
Road 2	2	0400-0500	1.11E-01	7.27E-08	1.30E-06	1.04E-01	6.78E-08	1.21E-06	4.15E-01	2.71E-07	4.82E-06
Road 2	2	0500-0600	1.28E-01	1.53E-07	2.72E-06	1.20E-01	1.43E-07	2.55E-06	4.79E-01	5.72E-07	1.02E-05
Road 2	2	0600-0700	1.44E-01	2.49E-07	4.41E-06	1.35E-01	2.33E-07	4.13E-06	5.40E-01	9.32E-07	1.65E-05
Road 2	2	0700-0800	1.68E-01	9.72E-07	1.73E-05	1.46E-01	8.47E-07	1.51E-05	6.08E-01	3.52E-06	6.27E-05
Road 2	2	0800-0900	1.71E-01	3.92E-07	6.98E-06	1.49E-01	3.41E-07	6.08E-06	6.21E-01	1.42E-06	2.53E-05
Road 2	2	0900-1000	1.58E-01	6.01E-07	1.72E-05	1.37E-01	5.21E-07	1.49E-05	5.73E-01	2.18E-06	6.23E-05
Road 2	2	1000-1100	1.56E-01	1.14E-06	2.03E-05	1.36E-01	9.91E-07	1.76E-05	5.66E-01	4.13E-06	7.35E-05
Road 2	2	1100-1200	1.56E-01	1.14E-06	2.03E-05	1.36E-01	9.91E-07	1.76E-05	5.66E-01	4.13E-06	7.35E-05
Road 2	2	1200-1300	1.46E-01	1.66E-06	2.95E-05	1.27E-01	1.44E-06	2.56E-05	5.31E-01	6.03E-06	1.07E-04
Road 2	2	1300-1400	1.36E-01	1.86E-06	3.31E-05	1.18E-01	1.62E-06	2.87E-05	4.94E-01	6.75E-06	1.20E-04
Road 2	2	1400-1500	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	1500-1600	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	1600-1700	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	1700-1800	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	1800-1900	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	1900-2000	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	2000-2100	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	2100-2200	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	2200-2300	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 2	2	2300-0000	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	0000-0100	1.19E-01	1.45E-07	2.59E-06	1.08E-01	1.32E-07	2.35E-06	2.44E-01	2.97E-07	5.30E-06
Road 3	3	0100-0200	1.19E-01	1.45E-07	2.59E-06	1.08E-01	1.32E-07	2.35E-06	2.44E-01	2.97E-07	5.30E-06
Road 3	3	0200-0300	1.08E-01	7.16E-08	1.28E-06	1.01E-01	6.71E-08	1.20E-06	2.27E-01	1.51E-07	2.69E-06
Road 3	3	0300-0400	1.08E-01	7.16E-08	1.28E-06	1.01E-01	6.71E-08	1.20E-06	2.27E-01	1.51E-07	2.69E-06
Road 3	3	0400-0500	1.11E-01	7.27E-08	1.30E-06	1.04E-01	6.78E-08	1.21E-06	4.15E-01	2.71E-07	4.82E-06
Road 3	3	0500-0600	1.28E-01	1.53E-07	2.72E-06	1.20E-01	1.43E-07	2.55E-06	4.79E-01	5.72E-07	1.02E-05
Road 3	3	0600-0700	1.44E-01	2.49E-07	4.41E-06	1.35E-01	2.33E-07	4.13E-06	5.40E-01	9.32E-07	1.65E-05
Road 3	3	0700-0800	1.68E-01	9.72E-07	1.73E-05	1.46E-01	8.47E-07	1.51E-05	6.08E-01	3.52E-06	6.27E-05
Road 3	3	0800-0900	1.71E-01	3.92E-07	6.98E-06	1.49E-01	3.41E-07	6.08E-06	6.21E-01	1.42E-06	2.53E-05
Road 3	3	0900-1000	1.58E-01	6.01E-07	1.72E-05	1.37E-01	5.21E-07	1.49E-05	5.73E-01	2.18E-06	6.23E-05
Road 3	3	1000-1100	1.56E-01	1.14E-06	2.03E-05	1.36E-01	9.91E-07	1.76E-05	5.66E-01	4.13E-06	7.35E-05
Road 3	3	1100-1200	1.56E-01	1.14E-06	2.03E-05	1.36E-01	9.91E-07	1.76E-05	5.66E-01	4.13E-06	7.35E-05
Road 3	3	1200-1300	1.46E-01	1.66E-06	2.95E-05	1.27E-01	1.44E-06	2.56E-05	5.31E-01	6.03E-06	1.07E-04
Road 3	3	1300-1400	1.36E-01	1.86E-06	3.31E-05	1.18E-01	1.62E-06	2.87E-05	4.94E-01	6.75E-06	1.20E-04
Road 3	3	1400-1500	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	1500-1600	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	1600-1700	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	1700-1800	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	1800-1900	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	1900-2000	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	2000-2100	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	2100-2200	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	2200-2300	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 3	3	2300-0000	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	0000-0100	1.19E-01	1.45E-07	2.59E-06	1.08E-01	1.32E-07	2.35E-06	2.44E-01	2.97E-07	5.30E-06
Road 4	4	0100-0200	1.19E-01	1.45E-07	2.59E-06	1.08E-01	1.32E-07	2.35E-06	2.44E-01	2.97E-07	5.30E-06
Road 4	4	0200-0300	1.08E-01	7.16E-08	1.28E-06	1.01E-01	6.71E-08	1.20E-06	2.27E-01	1.51E-07	2.69E-06
Road 4	4	0300-0400	1.08E-01	7.16E-08	1.28E-06	1.01E-01	6.71E-08	1.20E-06	2.27E-01	1.51E-07	2.69E-06
Road 4	4	0400-0500	1.11E-01	7.27E-08	1.30E-06	1.04E-01	6.78E-08	1.21E-06	4.15E-01	2.71E-07	4.82E-06
Road 4	4	0500-0600	1.28E-01	1.53E-07	2.72E-06	1.20E-01	1.43E-07	2.55E-06	4.79E-01	5.72E-07	1.02E-05
Road 4	4	0600-0700	1.44E-01	2.49E-07	4.41E-06	1.35E-01	2.33E-07	4.13E-06	5.40E-01	9.32E-07	1.65E-05
Road 4	4	0700-0800	1.68E-01	9.72E-07	1.73E-05	1.46E-01	8.47E-07	1.51E-05	6.08E-01	3.52E-06	6.27E-05
Road 4	4	0800-0900	1.71E-01	3.92E-07	6.98E-06	1.49E-01	3.41E-07	6.08E-06	6.21E-01	1.42E-06	2.53E-05
Road 4	4	0900-1000	1.58E-01	6.01E-07	1.72E-05	1.37E-01	5.21E-07	1.49E-05	5.73E-01	2.18E-06	6.23E-05
Road 4	4	1000-1100	1.56E-01	1.14E-06	2.03E-05	1.36E-01	9.91E-07	1.76E-05	5.66E-01	4.13E-06	7.35E-05
Road 4	4	1100-1200	1.56E-01	1.14E-06	2.03E-05	1.36E-01	9.91E-07	1.76E-05	5.66E-01	4.13E-06	7.35E-05
Road 4	4	1200-1300	1.46E-01	1.66E-06	2.95E-05	1.27E-01	1.44E-06	2.56E-05	5.31E-01	6.03E-06	1.07E-04
Road 4	4	1300-1400	1.36E-01	1.86E-06	3.31E-05	1.18E-01	1.62E-06	2.87E-05	4.94E-01	6.75E-06	1.20E-04
Road 4	4	1400-1500	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	1500-1600	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	1600-1700	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	1700-1800	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	1800-1900	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	1900-2000	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	2000-2100	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	2100-2200	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	2200-2300	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04
Road 4	4	2300-0000	1.39E-01	1.93E-06	3.43E-05	1.21E-01	1.68E-06	2.98E-05	5.06E-01	7.01E-06	1.24E-04

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	2.49E-02	1.43E-07	3.50E-06	2.04E-02	1.17E-07	2.87E-06	4.68E-01	2.69E-06	6.59E-05
Road 11	11	0100-0200	2.84E-02	9.86E-08	3.79E-07	2.74E-02	9.51E-08	3.65E-07	2.30E-01	7.98E-07	3.06E-06
Road 11	11	0200-0300	2.99E-02	7.63E-08	2.93E-07	2.91E-02	7.42E-08	2.85E-07	2.32E-01	5.92E-07	2.27E-06
Road 11	11	0300-0400	3.22E-02	6.51E-08	2.50E-07	3.11E-02	6.31E-08	2.42E-07	2.39E-01	4.83E-07	1.85E-06
Road 11	11	0400-0500	3.46E-02	7.70E-08	2.95E-07	3.34E-02	7.43E-08	2.85E-07	2.48E-01	5.50E-07	2.11E-06
Road 11	11	0500-0600	3.46E-02	1.29E-07	1.96E-06	3.36E-02	1.25E-07	1.90E-06	2.48E-01	9.24E-07	1.40E-05
Road 11	11	0600-0700	4.22E-02	3.51E-07	1.35E-06	4.01E-02	3.33E-07	1.28E-06	2.78E-01	2.31E-06	8.88E-06
Road 11	11	0700-0800	5.04E-02	8.49E-07	3.26E-06	4.72E-02	7.96E-07	3.05E-06	3.15E-01	5.31E-06	2.04E-05
Road 11	11	0800-0900	5.11E-02	1.01E-06	3.88E-06	4.78E-02	9.46E-07	3.64E-06	3.25E-01	6.42E-06	2.47E-05
Road 11	11	0900-1000	6.01E-02	9.88E-07	3.79E-06	5.56E-02	9.15E-07	3.51E-06	3.80E-01	6.25E-06	2.40E-05
Road 11	11	1000-1100	6.45E-02	8.79E-07	3.37E-06	5.94E-02	8.09E-07	3.10E-06	4.06E-01	5.53E-06	2.12E-05
Road 11	11	1100-1200	6.45E-02	8.79E-07	3.37E-06	5.94E-02	8.09E-07	3.10E-06	4.06E-01	5.53E-06	2.12E-05
Road 11	11	1200-1300	6.25E-02	1.39E-06	5.34E-06	5.76E-02	1.28E-06	4.92E-06	3.93E-01	8.74E-06	3.36E-05
Road 11	11	1300-1400	5.87E-02	7.80E-06	2.99E-05	5.41E-02	7.19E-06	2.76E-05	3.69E-01	4.91E-05	1.88E-04
Road 11	11	1400-1500	9.11E-02	1.20E-06	4.61E-06	8.39E-02	1.11E-06	4.25E-06	5.73E-01	7.55E-06	2.90E-05
Road 11	11	1500-1600	8.67E-02	1.15E-06	4.42E-06	7.99E-02	1.06E-06	4.08E-06	5.45E-01	7.24E-06	2.78E-05
Road 11	11	1600-1700	8.67E-02	1.15E-06	4.42E-06	7.99E-02	1.06E-06	4.08E-06	5.45E-01	7.24E-06	2.78E-05
Road 11	11	1700-1800	1.02E-01	1.35E-06	5.17E-06	9.38E-02	1.24E-06	4.76E-06	6.40E-01	8.48E-06	3.25E-05
Road 11	11	1800-1900	5.27E-02	1.09E-06	4.19E-06	4.85E-02	1.00E-06	3.85E-06	3.31E-01	6.85E-06	2.63E-05
Road 11	11	1900-2000	4.31E-02	6.44E-07	2.47E-06	3.97E-02	5.93E-07	2.27E-06	3.13E-01	4.68E-06	1.79E-05
Road 11	11	2000-2100	4.26E-02	3.52E-07	1.35E-06	3.92E-02	3.24E-07	1.24E-06	3.09E-01	2.55E-06	9.79E-06
Road 11	11	2100-2200	4.18E-02	4.94E-07	1.89E-06	3.85E-02	4.55E-07	1.74E-06	3.04E-01	3.59E-06	1.37E-05
Road 11	11	2200-2300	4.18E-02	2.96E-07	1.13E-06	3.85E-02	2.72E-07	1.04E-06	3.04E-01	2.15E-06	8.23E-06
Road 11	11	2300-0000	4.58E-02	3.95E-07	1.51E-06	4.22E-02	3.64E-07	1.39E-06	3.33E-01	2.87E-06	1.10E-05
Road 12	12	0000-0100	2.47E-01	1.55E-07	3.82E-06	2.24E-01	1.41E-07	3.46E-06	5.77E-01	3.62E-07	8.92E-06
Road 12	12	0100-0200	2.47E-01	1.55E-07	3.82E-06	2.24E-01	1.41E-07	3.46E-06	5.77E-01	3.62E-07	8.92E-06
Road 12	12	0200-0300	2.44E-01	1.46E-07	3.59E-06	2.20E-01	1.37E-07	3.39E-06	5.63E-01	3.36E-07	8.28E-06
Road 12	12	0300-0400	2.44E-01	1.46E-07	3.59E-06	2.20E-01	1.37E-07	3.39E-06	5.63E-01	3.36E-07	8.28E-06
Road 12	12	0400-0500	2.52E-01	1.50E-07	3.69E-06	2.32E-01	1.38E-07	3.39E-06	5.80E-01	3.44E-07	8.49E-06
Road 12	12	0500-0600	2.50E-01	1.53E-07	3.78E-06	2.32E-01	1.43E-07	3.51E-06	5.81E-01	3.57E-07	8.79E-06
Road 12	12	0600-0700	2.50E-01	1.53E-07	3.78E-06	2.32E-01	1.43E-07	3.51E-06	5.81E-01	3.57E-07	8.79E-06
Road 12	12	0700-0800	3.23E-01	7.72E-07	1.90E-05	2.85E-01	6.81E-07	1.68E-05	7.45E-01	1.78E-06	4.39E-05
Road 12	12	0800-0900	3.27E-01	7.93E-07	1.95E-05	2.88E-01	6.99E-07	1.72E-05	7.54E-01	1.83E-06	4.52E-05
Road 12	12	0900-1000	3.32E-01	7.96E-07	1.96E-05	2.88E-01	6.91E-07	1.70E-05	7.64E-01	1.83E-06	4.52E-05
Road 12	12	1000-1100	3.40E-01	8.06E-07	1.99E-05	2.93E-01	6.94E-07	1.71E-05	7.82E-01	1.85E-06	4.56E-05
Road 12	12	1100-1200	3.40E-01	8.10E-07	2.00E-05	2.93E-01	6.97E-07	1.72E-05	7.81E-01	1.86E-06	4.58E-05
Road 12	12	1200-1300	3.40E-01	8.21E-07	2.02E-05	2.91E-01	6.98E-07	1.72E-05	7.88E-01	1.89E-06	4.66E-05
Road 12	12	1300-1400	3.42E-01	8.21E-07	2.02E-05	2.91E-01	6.98E-07	1.72E-05	7.88E-01	1.89E-06	4.66E-05
Road 12	12	1400-1500	3.42E-01	8.21E-07	2.02E-05	2.91E-01	6.98E-07	1.72E-05	7.88E-01	1.89E-06	4.66E-05
Road 12	12	1500-1600	3.42E-01	8.21E-07	2.02E-05	2.91E-01	6.98E-07	1.72E-05	7.88E-01	1.89E-06	4.66E-05
Road 12	12	1600-1700	3.35E-01	8.07E-07	1.99E-05	2.86E-01	6.89E-07	1.70E-05	7.72E-01	1.86E-06	4.58E-05
Road 12	12	1700-1800	3.29E-01	7.99E-07	1.97E-05	2.82E-01	6.83E-07	1.68E-05	7.62E-01	1.85E-06	4.55E-05
Road 12	12	1800-1900	3.27E-01	7.93E-07	1.95E-05	2.80E-01	6.78E-07	1.67E-05	7.56E-01	1.83E-06	4.51E-05
Road 12	12	1900-2000	3.32E-01	7.96E-07	1.96E-05	2.84E-01	6.81E-07	1.68E-05	7.64E-01	1.83E-06	4.52E-05
Road 12	12	2000-2100	3.35E-01	7.99E-07	1.97E-05	2.87E-01	6.84E-07	1.69E-05	7.72E-01	1.84E-06	4.54E-05
Road 12	12	2100-2200	3.35E-01	7.99E-07	1.97E-05	2.87E-01	6.84E-07	1.69E-05	7.72E-01	1.84E-06	4.54E-05
Road 12	12	2200-2300	3.35E-01	7.99E-07	1.97E-05	2.87E-01	6.84E-07	1.69E-05	7.72E-01	1.84E-06	4.54E-05
Road 12	12	2300-0000	3.35E-01	7.99E-07	1.97E-05	2.87E-01	6.84E-07	1.69E-05	7.72E-01	1.84E-06	4.54E-05
Road 13	13	0000-0100	2.47E-01	1.55E-07	3.82E-06	2.24E-01	1.41E-07	3.46E-06	5.77E-01	3.62E-07	8.92E-06
Road 13	13	0100-0200	2.47E-01	1.55E-07	3.82E-06	2.24E-01	1.41E-07	3.46E-06	5.77E-01	3.62E-07	8.92E-06
Road 13	13	0200-0300	2.44E-01	1.46E-07	3.59E-06	2.20E-01	1.37E-07	3.39E-06	5.63E-01	3.36E-07	8.28E-06
Road 13	13	0300-0400	2.44E-01	1.46E-07	3.59E-06	2.20E-01	1.37E-07	3.39E-06	5.63E-01	3.36E-07	8.28E-06
Road 13	13	0400-0500	2.52E-01	1.50E-07	3.69E-06	2.32E-01	1.38E-07	3.39E-06	5.80E-01	3.44E-07	8.49E-06
Road 13	13	0500-0600	2.50E-01	1.53E-07	3.78E-06	2.32E-01	1.43E-07	3.51E-06	5.81E-01	3.57E-07	8.79E-06
Road 13	13	0600-0700	2.50E-01	1.53E-07	3.78E-06	2.32E-01	1.43E-07	3.51E-06	5.81E-01	3.57E-07	8.79E-06
Road 13	13	0700-0800	3.23E-01	7.72E-07	1.90E-05	2.85E-01	6.81E-07	1.68E-05	7.45E-01	1.78E-06	4.39E-05
Road 13	13	0800-0900	3.27E-01	7.93E-07	1.95E-05	2.88E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	1.23E-02	3.41E-06	4.53E-07	1.44E-02	2.71E-07	7.30E-06	1.53E-02	2.85E-06	4.83E-05
Road 34	34	0900-1000	1.39E-02	2.96E-07	7.75E-06	1.20E-02	2.55E-07	6.68E-06	9.35E-02	1.99E-06	5.21E-05
Road 34	34	1000-1100	1.57E-02	2.89E-07	7.56E-06	1.32E-02	2.43E-07	6.36E-06	9.91E-02	1.82E-06	4.77E-05
Road 34	34	1100-1200	1.51E-02	2.63E-07	6.88E-06	1.28E-02	2.23E-07	5.85E-06	9.93E-02	1.73E-06	4.54E-05
Road 34	34	1200-1300	3.41E-02	3.94E-07	1.03E-05	2.91E-02	3.36E-07	8.80E-06	2.75E-01	3.18E-06	8.31E-05
Road 34	34	1300-1400	3.51E-02	4.09E-07	1.07E-05	2.88E-02	3.51E-07	9.19E-06	2.84E-01	3.46E-06	9.07E-05
Road 34	34	1400-1500	3.41E-02	4.29E-07	1.12E-05	2.91E-02	3.66E-07	9.57E-06	2.87E-01	3.60E-06	9.43E-05
Road 34	34	1500-1600	3.23E-02	4.17E-07	1.09E-05	2.71E-02	3.50E-07	9.17E-06	2.67E-01	3.45E-06	9.03E-05
Road 34	34	1600-1700	3.34E-02	3.96E-07	1.04E-05	2.82E-02	3.34E-07	8.74E-06	2.78E-01	3.29E-06	8.62E-05
Road 34	34	1700-1800	2.89E-02	3.98E-07	1.04E-05	2.47E-02	3.40E-07	8.90E-06	2.43E-01	3.40E-06	8.89E-05
Road 34	34	1800-1900	2.45E-02	3.03E-07	7.93E-06	2.09E-02	2.58E-07	6.76E-06	2.06E-01	2.54E-06	6.65E-05
Road 34	34	1900-2000	2.45E-02	2.49E-07	6.53E-06	2.15E-02	2.19E-07	5.75E-06	2.29E-01	2.33E-06	6.12E-05
Road 34	34	2000-2100	2.24E-02	1.95E-07	5.11E-06	2.09E-02	1.82E-07	4.76E-06	2.24E-01	1.95E-06	5.11E-05
Road 34	34	2100-2200	2.35E-02	1.64E-07	4.30E-06	2.16E-02	1.51E-07	3.95E-06	2.32E-01	1.62E-06	4.24E-05
Road 34	34	2200-2300	2.47E-02	1.88E-07	4.91E-06	2.16E-02	1.64E-07	4.30E-06	2.36E-01	1.79E-06	4.69E-05
Road 34	34	2300-2400	2.47E-02	1.88E-07	4.91E-06	2.16E-02	1.64E-07	4.30E-06	2.36E-01	1.79E-06	4.69E-05
Road 35	35	0000-0100	3.45E-02	3.98E-08	9.69E-08	3.12E-02	3.61E-08	8.78E-08	1.18E-01	1.37E-07	3.33E-07
Road 35	35	0100-0200	3.29E-02	3.79E-08	9.23E-08	2.98E-02	3.43E-08	8.36E-08	1.13E-01	1.30E-07	3.17E-07
Road 35	35	0200-0300	4.80E-02	3.30E-08	8.02E-08	4.52E-02	3.11E-08	7.56E-08	1.43E-01	9.81E-08	2.39E-07
Road 35	35	0300-0400	5.39E-02	3.22E-08	7.84E-08	5.05E-02	3.02E-08	7.34E-08	1.45E-01	8.64E-08	2.10E-07
Road 35	35	0400-0500	5.15E-02	3.36E-08	8.18E-08	4.57E-02	2.98E-08	7.25E-08	1.30E-01	8.47E-08	2.06E-07
Road 35	35	0500-0600	4.37E-02	4.03E-08	9.80E-08	4.05E-02	3.74E-08	9.10E-08	1.39E-01	1.28E-07	3.11E-07
Road 35	35	0600-0700	3.15E-02	3.44E-08	8.37E-08	2.72E-02	2.97E-08	7.23E-08	1.03E-01	1.12E-07	2.73E-07
Road 35	35	0700-0800	5.16E-02	2.02E-07	4.93E-07	4.58E-02	1.80E-07	4.38E-07	1.65E-01	6.48E-07	1.58E-06
Road 35	35	0800-0900	4.91E-02	2.17E-07	5.28E-07	4.21E-02	1.86E-07	4.53E-07	1.49E-01	6.59E-07	1.60E-06
Road 35	35	0900-1000	3.51E-02	2.21E-07	5.37E-07	3.04E-02	1.91E-07	4.65E-07	1.07E-01	6.74E-07	1.64E-06
Road 35	35	1000-1100	6.22E-02	2.25E-07	5.48E-07	5.26E-02	1.91E-07	4.65E-07	1.83E-01	6.63E-07	1.61E-06
Road 35	35	1100-1200	1.84E-02	2.25E-07	5.48E-07	1.57E-02	1.91E-07	4.65E-07	5.42E-02	6.63E-07	1.61E-06
Road 35	35	1200-1300	8.87E-02	1.60E-07	3.90E-07	5.85E-02	1.37E-07	3.32E-07	1.95E-01	4.56E-07	1.11E-06
Road 35	35	1300-1400	9.85E-02	1.62E-07	3.95E-07	6.47E-02	1.37E-07	3.32E-07	2.16E-01	4.56E-07	1.11E-06
Road 35	35	1400-1500	9.85E-02	1.62E-07	3.95E-07	6.47E-02	1.37E-07	3.32E-07	2.16E-01	4.56E-07	1.11E-06
Road 35	35	1500-1600	6.90E-02	1.72E-07	4.19E-07	5.79E-02	1.44E-07	3.52E-07	2.02E-01	5.05E-07	1.23E-06
Road 35	35	1600-1700	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 35	35	1700-1800	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 35	35	1800-1900	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 35	35	1900-2000	2.53E-02	4.84E-08	1.13E-07	2.22E-02	4.07E-08	9.90E-08	9.32E-02	1.71E-07	4.16E-07
Road 35	35	2000-2100	2.82E-02	4.18E-08	1.02E-07	2.54E-02	3.77E-08	9.17E-08	1.04E-01	1.54E-07	3.77E-07
Road 35	35	2100-2200	2.82E-02	5.12E-08	1.25E-07	2.47E-02	4.73E-08	1.39E-07	1.04E-01	1.95E-07	4.77E-07
Road 35	35	2200-2300	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 35	35	2300-2400	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 36	36	0000-0100	1.44E-02	6.67E-08	1.68E-07	1.44E-02	6.22E-08	1.57E-07	1.43E-01	6.63E-07	1.67E-06
Road 36	36	0100-0200	5.01E-02	6.40E-08	1.36E-07	4.75E-02	5.11E-08	1.29E-07	2.77E-01	3.54E-07	8.95E-07
Road 36	36	0200-0300	4.42E-02	6.40E-08	1.36E-07	4.19E-02	5.11E-08	1.29E-07	2.44E-01	3.54E-07	8.95E-07
Road 36	36	0300-0400	8.15E-02	4.56E-08	1.15E-07	7.84E-02	4.34E-08	1.09E-07	4.32E-01	2.41E-07	6.08E-07
Road 36	36	0400-0500	8.15E-02	4.56E-08	1.15E-07	7.84E-02	4.34E-08	1.09E-07	4.32E-01	2.41E-07	6.08E-07
Road 36	36	0500-0600	1.60E-02	6.71E-08	1.69E-07	5.41E-02	6.38E-08	1.61E-07	2.42E-01	2.86E-07	7.20E-07
Road 36	36	0600-0700	1.58E-02	2.37E-07	5.97E-07	1.54E-02	2.31E-07	5.82E-07	1.41E-01	2.12E-06	5.28E-06
Road 36	36	0700-0800	1.47E-02	3.78E-07	9.51E-07	1.43E-02	3.68E-07	9.26E-07	1.31E-01	3.37E-06	8.47E-06
Road 36	36	0800-0900	9.75E-02	3.84E-07	9.67E-07	6.09E-02	3.46E-07	8.72E-07	2.64E-01	1.50E-06	3.78E-06
Road 36	36	0900-1000	8.25E-02	3.56E-07	8.97E-07	5.15E-02	3.21E-07	8.09E-07	2.23E-01	1.39E-06	3.50E-06
Road 36	36	1000-1100	8.25E-02	3.77E-07	9.48E-07	3.95E-02	3.32E-07	8.36E-07	1.79E-01	1.50E-06	3.78E-06
Road 36	36	1100-1200	1.63E-02	3.63E-07	8.85E-07	3.06E-02	7.71E-07	1.11E-06	2.77E-01	2.79E-06	9.89E-07
Road 36	36	1200-1300	9.68E-02	4.33E-07	8.85E-07	3.06E-02	7.71E-07	1.11E-06	2.77E-01	2.79E-06	9.89E-07
Road 36	36	1300-1400	1.00E-01	3.67E-07	9.25E-07	9.03E-02	3.23E-07	1.19E-06	2.99E-01	2.92E-06	1.07E-06
Road 36	36	1400-1500	1.00E-01	3.67E-07	9.25E-07	9.03E-02	3.23E-07	1.19E-06	2.99E-01	2.92E-06	1.07E-06
Road 36	36	1500-1600	9.99E-02	3.86E-07	9.73E-07	9.03E-02	3.41E-07	1.28E-06	3.23E-01	3.09E-06	1.15E-06
Road 36	36	1600-1700	9.99E-02	3.86E-07	9.73E-07	9.03E-02	3.41E-07	1.28E-06	3.23E-01	3.09E-06	1.15E-06
Road 36	36	1700-1800	8.49E-02	3.53E-07	8.89E-07	7.67E-02	3.11E-07	1.17E-06	2.74E-01	2.82E-06	1.05E-06
Road 36	36	1800-1900	6.81E-02	2.82E-07	7.11E-07	6.15E-02	2.58E-07	9.29E-07	2.34E-01	2.54E-06	9.45E-07
Road 36	36	1900-2000	2.53E-02	4.84E-08	1.13E-07	2.22E-02	4.07E-08	9.90E-08	9.32E-02	1.71E-07	4.16E-07
Road 36	36	2000-2100	2.82E-02	4.18E-08	1.02E-07	2.54E-02	3.77E-08	9.17E-08	1.04E-01	1.54E-07	3.77E-07
Road 36	36	2100-2200	2.82E-02	5.12E-08	1.25E-07	2.47E-02	4.73E-08	1.39E-07	1.04E-01	1.95E-07	4.77E-07
Road 36	36	2200-2300	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 36	36	2300-2400	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 37	37	0000-0100	3.45E-02	3.98E-08	9.69E-08	3.12E-02	3.61E-08	8.78E-08	1.18E-01	1.37E-07	3.33E-07
Road 37	37	0100-0200	3.29E-02	3.79E-08	9.23E-08	2.98E-02	3.43E-08	8.36E-08	1.13E-01	1.30E-07	3.17E-07
Road 37	37	0200-0300	4.80E-02	3.30E-08	8.02E-08	4.52E-02	3.11E-08	7.56E-08	1.43E-01	9.81E-08	2.39E-07
Road 37	37	0300-0400	5.39E-02	3.22E-08	7.84E-08	5.05E-02	3.02E-08	7.34E-08	1.45E-01	8.64E-08	2.10E-07
Road 37	37	0400-0500	5.15E-02	3.36E-08	8.18E-08	4.57E-02	2.98E-08	7.25E-08	1.30E-01	8.47E-08	2.06E-07
Road 37	37	0500-0600	4.37E-02	4.03E-08	9.80E-08	4.05E-02	3.74E-08	9.10E-08	1.39E-01	1.28E-07	3.11E-07
Road 37	37	0600-0700	3.15E-02	3.44E-08	8.37E-08	2.72E-02	2.97E-08	7.23E-08	1.03E-01	1.12E-07	2.73E-07
Road 37	37	0700-0800	5.16E-02	2.02E-07	4.93E-07	4.58E-02	1.80E-07	4.38E-07	1.65E-01	6.48E-07	1.58E-06
Road 37	37	0800-0900	4.91E-02	2.17E-07	5.28E-07	4.21E-02	1.86E-07	4.53E-07	1.49E-01	6.59E-07	1.60E-06
Road 37	37	0900-1000	3.51E-02	2.21E-07	5.37E-07	3.04E-02	1.91E-07	4.65E-07	1.07E-01	6.74E-07	1.64E-06
Road 37	37	1000-1100	6.22E-02	2.25E-07	5.48E-07	5.26E-02	1.91E-07	4.65E-07	1.83E-01	6.63E-07	1.61E-06
Road 37	37	1100-1200	1.84E-02	2.25E-07	5.48E-07	1.57E-02	1.91E-07	4.65E-07	5.42E-02	6.63E-07	1.61E-06
Road 37	37	1200-1300	8.87E-02	1.60E-07	3.90E-07	5.85E-02	1.37E-07	3.32E-07	1.95E-01	4.56E-07	1.11E-06
Road 37	37	1300-1400	9.85E-02	1.62E-07	3.95E-07	6.47E-02	1.37E-07	3.32E-07	2.16E-01	4.56E-07	1.11E-06
Road 37	37	1400-1500	9.85E-02	1.62E-07	3.95E-07	6.47E-02	1.37E-07	3.32E-07	2.16E-01	4.56E-07	1.11E-06
Road 37	37	1500-1600	6.90E-02	1.72E-07	4.19E-07	5.79E-02	1.44E-07	3.52E-07	2.02E-01	5.05E-07	1.23E-06
Road 37	37	1600-1700	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 37	37	1700-1800	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 37	37	1800-1900	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 37	37	1900-2000	2.53E-02	4.84E-08	1.13E-07	2.22E-02	4.07E-08	9.90E-08	9.32E-02	1.71E-07	4.16E-07
Road 37	37	2000-2100	2.82E-02	4.18E-08	1.02E-07	2.54E-02	3.77E-08	9.17E-08	1.04E-01	1.54E-07	3.77E-07
Road 37	37	2100-2200	2.82E-02	5.12E-08	1.25E-07	2.47E-02	4.73E-08	1.39E-07	1.04E-01	1.95E-07	4.77E-07
Road 37	37	2200-2300	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 37	37	2300-2400	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 37	37	0000-0100	1.44E-02	6.67E-08	1.68E-07	1.44E-02	6.22E-08	1.57E-07	1.43E-01	6.63E-07	1.67E-06
Road 37	37	0100-0200	5.01E-02	6.40E-08	1.36E-07	4.75E-02	5.11E-08	1.29E-07	2.77E-01	3.54E-07	8.95E-07
Road 37	37	0200-0300	4.42E-02	6.40E-08	1.36E-07	4.19E-02	5.11E-08	1.29E-07	2.44E-01	3.54E-07	8.95E-07
Road 37	37	0300-0400	8.15E-02	4.56E-08	1.15E-07	7.84E-02	4.34E-08	1.09E-07	4.32E-01	2.41E-07	6.08E-07
Road 37	37	0400-0500	8.15E-02	4.56E-08	1.15E-07	7.84E-02	4.34E-08	1.09E-07	4.32E-01	2.41E-07	6.08E-07
Road 37	37	0500-0600	1.60E-02	6.71E-08	1.69E-07	5.41E-02	6.38E-08	1.61E-07	2.42E-01	2.86E-07	7.20E-07
Road 37	37	0600-0700	1.58E-02	2.37E-07	5.97E-07	1.54E-02	2.31E-07	5.82E-07	1.41E-01	2.12E-06	5.28E-06
Road 37	37	0700-0800	1.47E-02	3.78E-07	9.51E-07	1.43E-02	3.68E-07	9.26E-07	1.31E-01	3.37E-06	8.47E-06
Road 37	37	0800-0900	9.75E-02	3.84E-07	9.67E-07	6.09E-02	3.46E-07	8.72E-07	2.64E-01	1.50E-06	3.78E-06
Road 37	37	0900-1000	8.25E-02	3.56E-07	8.97E-07	5.15E-02	3.21E-07	8.09E-07	2.23E-01	1.39E-06	3.50E-06
Road 37	37	1000-1100	8.25E-02	3.77E-07	9.48E-07	3.95E-02	3.32E-07	8.36E-07	1.79E-01	1.50E-06	3.78E-06
Road 37	37	1100-1200	1.63E-02	3.63E-07	8.85E-07	3.06E-02	7.71E-07	1.11E-06	2.77E-01	2.79E-06	9.89E-07
Road 37	37	1200-1300	9.68E-02	4.33E-07	8.85E-07	3.06E-02	7.71E-07	1.11E-06	2.77E-01	2.79E-06	9.89E-07
Road 37	37	1300-1400	1.00E-01	3.67E-07	9.25E-07	9.03E-02	3.23E-07	1.19E-06	2.99E-01	2.92E-06	1.07E-06
Road 37	37	1400-1500	1.00E-01	3.67E-07	9.25E-07	9.03E-02	3.23E-07	1.19E-06	2.99E-01	2.92E-06	1.07E-06
Road 37	37	1500-1600	9.99E-02	3.86E-07	9.73E-07	9.03E-02	3.41E-07	1.28E-06	3.23E-01	3.09E-06	1.15E-06
Road 37	37	1600-1700	9.99E-02	3.86E-07	9.73E-07	9.03E-02	3.41E-07	1.28E-06	3.23E-01	3.09E-06	1.15E-06
Road 37	37	1700-1800	8.49E-02	3.53E-07	8.89E-07	7.67E-02	3.11E-07	1.17E-06	2.74E-01	2.82E-06	1.05E-06
Road 37	37	1800-1900	6.81E-02	2.82E-07	7.11E-07	6.15E-02	2.58E-07	9.29E-07	2.34E-01	2.54E-06	9.45E-07
Road 37	37	1900-2000	4.30E-02	1.70E-08	2.42E-07	3.78E-02	1.49E-08	2.13E-07	1.81E-01	7.14E-08	1.02E-06
Road 37	37	2000-2100	4.79E-02	1.47E-08	2.09E-07	4.31E-02	1.32E-08	1.88E-07	2.02E-01	6.19E-08	8.77E-07
Road 37	37	2100-2200	4.79E-02	1.80E-08	2.56E-07	4.20E-02	1.66E-08	2.36E-07	2.02E-01	7.66E-08	1.09E-06
Road 37	37	2200-2300	4.77E-02	1.42E-08	2.02E-07	4.16E-02	1.24E-08	1.76E-07	2.01E-01	5.98E-08	8.49E-07
Road 37	37	2300-2400	4.77E-02	1.42E-08	2.02E-07	4.16E-02	1.24E-08	1.76E-07	2.01E-01	5.98E-08	8.49E-07
Road 38	38	0000-0100	3.45E-02	3.98E-08	9.69E-08	3.12E-02	3.61E-08	8.78E-08	1.18E-01	1.37E-07	3.33E-07
Road 38	38	0100-0200	3.29E-02	3.79E-08	9.23E-08	2.98E-02	3.43E-08	8.36E-08	1.13E-01	1.30E-07	3.17E-07
Road 38	38	0200-0300	4.80E-02	3.30E-08	8.02E-08	4.52E-02	3.11E-08	7.56E-08	1.43E-01	9.81E-08	2.39E-07
Road 38	38	0300-0400	5.39E-02	3.22E-08	7.84E-08	5.05E-02	3.02E-08	7.34E-08	1.45E-01	8.64E-08	2.10E-07
Road 38	38	0400-0500	5.15E-02	3.36E-08	8.18E-08	4.57E-02	2.98E-08	7.25E-08	1.30E-01	8.47E-08	2.06E-07
Road 38	38	0500-0600	4.37E-02	4.03E-08	9.80E-08	4.05E-02	3.74E-08	9.10E-08	1.39E-01	1.28E-07	3.11E-07
Road 38	38	0600-0700	3.15E-02	3.44E-08	8.37E-08	2.72E-02	2.97E-08	7.23E-08	1.03E-01	1.12E-07	2.73E-07
Road 38	38	0700-0800	5.16E-02	2.02E-07	4.93E-07	4.58E-02	1.80E-07	4.38E-07	1.65E-01	6.48E-07	1.58E-06
Road 38	38	0800-0900	4.91E-02	2.17E-07	5.28E-07	4.21E-02	1.86E-07	4.53E-07	1.49E-01	6.59E-07	1.60E-06
Road 38	38	0900-1000	3.51E-02	2.21E-07	5.37E-07	3.04E-02	1.91E-07	4.65E-07	1.07E-01	6.74E-07	1.64E-06
Road 38	38	1000-1100	6.22E-02	2.25E-07	5.48E-07	5.26E-02	1.91E-07	4.65E-07	1.83E-01	6.63E-07	1.61E-06
Road 38	38	1100-1200	1.84E-02	2.25E-07	5.48E-07	1.57E-02	1.91E-07	4.65E-07	5.42E-02	6.63E-07	1.61E-06
Road 38	38	1200-1300	8.87E-02	1.60E-07	3.90E-07	5.85E-02	1.37E-07	3.32E-07	1.95E-01	4.56E-07	1.11E-06
Road 38	38	1300-1400	9.85E-02	1.62E-07	3.95E-07	6.47E-02	1.37E-07	3.32E-07	2.16E-01	4.56E-07	1.11E-06
Road 38	38	1400-1500	9.85E-02	1.62E-07	3.95E-07	6.47E-02	1.37E-07	3.32E-07	2.16E-01	4.56E-07	1.11E-06
Road 38	38	1500-1600	6.90E-02	1.72E-07	4.19E-07	5.79E-02	1.44E-07	3.52E-07	2.02E-01	5.05E-07	1.23E-06
Road 38	38	1600-1700	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 38	38	1700-1800	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 38	38	1800-1900	1.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.17E-06
Road 38	38	1900-2000	2.53E-02	4.84E-08	1.13E-07	2.22E-02	4.07E-08	9.90E-08	9.32E-02	1.71E-07	4.16E-07
Road 38	38	2000-2100	2.82E-02	4.18E-08	1.02E-07	2.54E-02	3.77E-08	9.17E-08	1.04E-01	1.54E-07	3.77E-07
Road 38	38	2100-2200	2.82E-02	5.12E-08	1.25E-07	2.47E-02	4.73E-08	1.39E-07	1.04E-01	1.95E-07	4.77E-07
Road 38	38	2200-2300	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 38	38	2300-2400	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 39	39	0000-0100	1.44E-02	6.67E-08	1.68E-07	1.44E-02	6.22E-08	1.57E-07	1.43E-01	6.63E-07	1.67E-06
Road 39	39	0100-0200	5.01E-02	6.40E-08	1.36E-07	4.75E-02	5.11E-08	1.29E-07	2.77E-01	3.54E-07	8.95E-07
Road 39	39	0200-0300	4.42E-02	6.40E-08	1.36E-07	4.19E-02	5.11E-08	1.29E-07	2.44E-01	3.54E-07	8.95E-07
Road 39	39	0300-0400	8.15E-02	4.56E-08	1.15E-07	7.84E-02	4.34E-08	1.09E-07	4.32E-01	2.41E-07	6.08E-07
Road 39	39	0400-0500	8.15E-02	4.56E-08	1.15E-07	7.84E-02	4.34E-08	1.09E-07	4.32E-01	2.41E-07	6.08E-07
Road 39	39	0500-0600	1.60E-02	6.71E-08	1.69E-07	5.41E-02	6.38E-08	1.61E-07	2.42E-01	2.86E-07	7.20E-07
Road 39	39	0600-0700	1.58E-02	2.37E-07	5.97E-07	1.54E-02	2.31E-07	5.82E-07	1.41E-01	2.12E-06	5.28E-06
Road 39	39	0700-0800	1.47E-02	3.78E-07	9.51E-07	1.43E-02	3.68E-07	9.26E-07	1.31E-01	3.37E-06	8.47E-06
Road 39	39	0800-0900	9.75E-02	3.84E-07	9.67E-07	6.09E-02	3.46E-07	8.72E-07	2.64E-01	1.50E-06	3.78E-06
Road 39	39	0900-1000	1.28E-01	1.78E-07	1.52E-06	1.21E-01	1.68E-07	1.43E-06	4.16E-01	5.80E-07	4.96E-06
Road 39	39	1000-1100	1.29E-01	1.75E-07	1.49E-06	1.20E-01	1.53E-07	1.30E-06	4.13E-01	5.26E-07	4.47E-06
Road 39	39	1100-1200	1.29E-01	1.64E-07	1.40E-06	1.20E-01	1.53E-07	1.30E-06	4.13E-01	5.26E-07	4.47E-06
Road 39	39	1200-1300	1.29E-01	1.80E-07	1.53E-06	1.71E-01	1.68E-07	1.43E-06	4.66E-01	5.80E-07	4.96E-06
Road 39	39	1300-1400	1.29E-01	1.80E-07	1.53E-06	1.71E-01	1.68E-07	1.43E-06	4.66E-01	5.80E-07	4.96E-06
Road 39	39	1400-1500	1.29E-01	1.80E-07	1.53E-06	1.71E-01	1.68E-07	1.43E-06	4.66E-01	5.80E-07	4.96E-06
Road 39	39	1500-1600	1.29E-01	1.80E-07	1.53E-06	1.71E-01	1.68E-07	1.43E-06	4.66E-01	5.80E-07	4.96E-06
Road 39	39	1600-1700	1.29E-01	1.80E-07	1.53E-06	1.71E-01	1.68E-07	1.43E-06	4.66E-01	5.80E-07	4.96E-06
Road 39	39	1700-1800	1.29E-01	1.80E-07	1.53E-06	1.71E-01	1.68E-07	1.43E-06	4.66E-01	5.80E-07	4.96E-06
Road 39	39	1800-1900	1.29E-01	1.80E-07	1.53E-06	1.71E-01	1.68E-07	1.43E-06	4.66E-01	5.80E-07	4.96E-06
Road 39	39	1900-2000	2.53E-02	4.84E-08	1.13E-07	2.22E-02	4.07E-08	9.90E-08	9.32E-02	1.71

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	7.65E-03	1.25E-05	5.66E-05	3.78E-03	5.10E-06	2.53E-05	3.45E-03	7.54E-06	2.02E-05	5.59E-05
Road 1	1	0100-0200	8.17E-03	7.14E-06	3.93E-06	7.38E-03	6.44E-06	3.55E-06	8.80E-03	7.68E-06	4.23E-06	4.67E-06
Road 1	1	0200-0300	8.62E-03	5.50E-06	3.03E-06	7.90E-03	5.04E-06	2.78E-06	9.63E-03	6.14E-06	3.39E-06	3.74E-06
Road 1	1	0300-0400	9.26E-03	4.66E-06	2.57E-06	8.37E-03	4.22E-06	2.32E-06	8.97E-03	5.02E-06	2.77E-06	3.06E-06
Road 1	1	0400-0500	9.76E-03	5.39E-06	2.97E-06	8.89E-03	4.91E-06	2.70E-06	9.05E-03	5.00E-06	2.75E-06	3.11E-06
Road 1	1	0500-0600	1.01E-02	8.69E-06	4.79E-06	9.56E-03	8.19E-06	4.52E-06	9.04E-03	7.74E-06	4.27E-06	5.02E-06
Road 1	1	0600-0700	1.08E-02	2.21E-07	1.22E-05	1.00E-02	2.06E-07	1.13E-05	9.17E-03	1.88E-06	1.03E-05	1.28E-05
Road 1	1	0700-0800	1.16E-02	4.81E-07	2.65E-05	1.05E-02	4.37E-07	2.40E-05	9.53E-03	3.95E-06	2.17E-05	2.78E-05
Road 1	1	0800-0900	1.54E-02	1.53E-06	8.42E-05	1.40E-02	1.39E-06	7.66E-05	1.27E-02	1.26E-06	6.94E-05	8.84E-05
Road 1	1	0900-1000	1.28E-02	5.05E-07	2.78E-05	1.14E-02	4.48E-07	2.47E-05	1.02E-02	4.03E-06	2.21E-05	2.85E-05
Road 1	1	1000-1100	1.50E-02	1.43E-06	7.87E-05	1.36E-02	1.30E-06	7.16E-05	1.23E-02	1.17E-06	6.49E-05	8.26E-05
Road 1	1	1100-1200	1.43E-02	6.62E-07	3.64E-05	1.29E-02	5.98E-07	3.29E-05	1.16E-02	5.38E-06	2.96E-05	3.80E-05
Road 1	1	1200-1300	1.39E-02	6.37E-07	3.50E-05	1.25E-02	5.76E-07	3.17E-05	1.12E-02	5.18E-06	2.85E-05	3.66E-05
Road 1	1	1300-1400	1.35E-02	6.35E-07	3.49E-05	1.21E-02	5.74E-07	3.16E-05	1.09E-02	5.16E-06	2.84E-05	3.65E-05
Road 1	1	1400-1500	1.68E-02	1.58E-06	8.68E-05	1.51E-02	1.43E-06	7.89E-05	1.36E-02	1.29E-06	7.15E-05	9.14E-05
Road 1	1	1500-1600	7.05E-02	1.56E-06	8.57E-05	5.97E-02	1.32E-06	7.26E-05	5.06E-02	1.12E-06	6.15E-05	7.91E-05
Road 1	1	1600-1700	1.52E-02	1.43E-06	7.87E-05	1.36E-02	1.30E-06	7.16E-05	1.23E-02	1.17E-06	6.49E-05	8.26E-05
Road 1	1	1700-1800	1.62E-02	1.32E-06	7.26E-05	1.47E-02	1.20E-06	6.60E-05	1.33E-02	1.08E-06	5.97E-05	7.61E-05
Road 1	1	1800-1900	9.24E-03	5.92E-07	3.26E-05	8.05E-03	5.15E-07	2.84E-05	8.72E-03	5.59E-06	3.08E-05	3.96E-05
Road 1	1	1900-2000	8.84E-03	4.42E-07	2.43E-05	7.38E-03	3.37E-07	1.72E-05	1.26E-07	7.48E-04	2.09E-05	2.64E-05
Road 1	1	2000-2100	8.18E-03	1.25E-07	6.87E-06	6.91E-03	1.06E-07	5.81E-06	7.49E-03	1.14E-06	6.29E-06	8.08E-06
Road 1	1	2100-2200	7.37E-03	2.92E-07	1.61E-05	6.32E-03	2.50E-07	1.38E-05	6.29E-03	2.49E-06	1.37E-05	1.76E-05
Road 1	1	2200-2300	6.77E-03	2.45E-07	1.35E-05	5.94E-03	2.15E-07	1.18E-05	5.52E-03	2.00E-06	1.10E-05	1.41E-05
Road 1	1	2300-0000	7.84E-03	2.26E-07	1.24E-05	6.79E-03	1.96E-07	1.08E-05	6.52E-03	1.88E-06	1.03E-05	1.32E-05
Road 2	2	0000-0100	9.52E-03	1.32E-07	6.69E-06	8.45E-03	1.17E-07	5.94E-06	9.56E-03	1.33E-06	6.72E-06	8.32E-06
Road 2	2	0100-0200	9.25E-03	7.72E-07	4.25E-06	8.66E-03	7.23E-07	3.98E-06	9.63E-03	7.76E-07	4.27E-06	4.93E-06
Road 2	2	0200-0300	1.08E-02	7.18E-08	3.64E-06	9.89E-03	6.60E-08	3.34E-06	9.66E-03	6.44E-07	3.26E-05	3.75E-05
Road 2	2	0300-0400	1.11E-02	5.55E-08	2.81E-06	9.87E-03	4.92E-08	2.49E-06	1.09E-02	5.42E-07	2.75E-05	3.17E-05
Road 2	2	0400-0500	1.21E-02	7.05E-08	3.57E-06	1.10E-02	6.45E-08	3.26E-06	9.89E-02	5.77E-07	2.92E-05	3.91E-05
Road 2	2	0500-0600	1.24E-02	1.26E-07	6.36E-06	1.18E-02	5.96E-08	9.79E-02	9.93E-03	1.00E-06	5.05E-05	6.22E-05
Road 2	2	0600-0700	1.40E-02	2.86E-07	1.45E-05	1.33E-02	2.72E-07	1.38E-05	1.12E-02	2.29E-06	1.16E-05	1.45E-05
Road 2	2	0700-0800	1.40E-02	6.23E-07	3.15E-05	1.27E-02	5.65E-07	2.86E-05	1.04E-01	4.61E-06	2.33E-04	9.32E-02
Road 2	2	0800-0900	1.85E-02	1.98E-06	1.00E-04	1.68E-02	1.80E-06	9.09E-05	1.51E-02	1.62E-06	8.19E-05	1.05E-04
Road 2	2	0900-1000	1.58E-02	6.90E-07	3.50E-05	1.41E-02	6.17E-07	3.13E-05	1.26E-02	5.52E-06	2.80E-05	3.61E-05
Road 2	2	1000-1100	1.78E-02	6.47E-07	3.28E-05	1.55E-02	5.63E-07	2.85E-05	1.15E-01	4.18E-06	2.12E-04	8.46E-02
Road 2	2	1100-1200	1.78E-02	2.43E-07	1.23E-05	1.61E-02	2.20E-07	1.11E-05	1.44E-02	1.96E-06	9.93E-06	1.24E-05
Road 2	2	1200-1300	1.73E-02	2.39E-07	1.21E-05	1.57E-02	2.17E-07	1.10E-05	1.40E-02	1.94E-06	9.82E-06	1.23E-05
Road 2	2	1300-1400	1.68E-02	2.37E-07	1.20E-05	1.52E-02	2.15E-07	1.09E-05	1.36E-02	1.92E-06	9.71E-06	1.21E-05
Road 2	2	1400-1500	2.09E-02	2.36E-07	1.19E-05	1.89E-02	2.14E-07	1.08E-05	1.69E-02	1.91E-06	9.66E-06	1.21E-05
Road 2	2	1500-1600	8.76E-02	2.32E-07	1.17E-05	7.92E-02	2.10E-07	1.06E-05	7.08E-02	1.88E-06	9.52E-06	1.19E-05
Road 2	2	1600-1700	1.89E-02	2.13E-07	1.08E-05	1.71E-02	1.93E-07	9.77E-06	1.53E-02	1.74E-06	8.81E-06	1.10E-05
Road 2	2	1700-1800	2.01E-02	1.96E-07	9.92E-06	1.82E-02	1.78E-07	9.00E-06	1.63E-02	1.59E-06	8.05E-06	1.01E-05
Road 2	2	1800-1900	1.15E-02	8.79E-08	4.45E-06	1.04E-02	7.96E-08	4.03E-06	1.08E-02	8.22E-07	4.16E-05	4.68E-05
Road 2	2	1900-2000	1.10E-02	6.56E-08	3.32E-06	9.91E-03	5.94E-08	3.01E-06	1.04E-02	6.22E-07	3.15E-05	3.55E-05
Road 2	2	2000-2100	1.02E-02	1.86E-08	9.41E-07	9.21E-03	1.68E-08	8.51E-07	9.65E-03	1.76E-07	8.91E-06	1.00E-05
Road 2	2	2100-2200	9.25E-03	4.34E-08	2.20E-06	8.34E-03	3.91E-08	1.98E-06	8.74E-03	4.10E-07	2.08E-05	2.34E-05
Road 2	2	2200-2300	8.50E-03	3.64E-08	1.84E-06	7.67E-03	3.28E-08	1.66E-06	8.04E-03	3.44E-07	1.74E-05	1.96E-05
Road 2	2	2300-0000	9.84E-03	3.36E-08	1.70E-06	8.87E-03	3.03E-08	1.53E-06	9.30E-03	3.18E-07	1.61E-05	1.81E-05
Road 3	3	0000-0100	1.19E-02	1.96E-07	9.92E-06	1.07E-02	1.77E-07	8.94E-06	1.20E-02	1.98E-06	1.00E-05	1.20E-05
Road 3	3	0100-0200	1.16E-02	1.07E-06	5.41E-06	1.08E-02	1.00E-06	5.06E-06	1.21E-02	1.12E-06	5.66E-06	6.71E-06
Road 3	3	0200-0300	1.35E-02	9.97E-07	5.04E-06	1.24E-02	9.16E-07	4.63E-06	1.21E-02	8.93E-06	4.51E-05	5.41E-05
Road 3	3	0300-0400	1.39E-02	7.70E-07	3.89E-06	1.23E-02	6.82E-07	3.45E-06	1.36E-02	7.52E-06	3.80E-05	4.56E-05
Road 3	3	0400-0500	1.51E-02	9.79E-07	4.95E-06	1.37E-02	8.87E-07	4.48E-06	1.24E-02	8.06E-06	4.07E-05	4.88E-05
Road 3	3	0500-0600	1.55E-02	1.75E-06	8.84E-06	1.47E-02	1.66E-06	8.39E-06	1.24E-02	1.40E-06	7.08E-06	8.48E-06
Road 3	3	0600-0700	1.75E-02	3.97E-06	2.01E-05	1.66E-02	3.77E-06	1.91E-05	1.40E-02	3.18E-06	1.61E-05	1.93E-05
Road 3	3	0700-0800	1.75E-02	8.65E-06	4.37E-05	1.59E-02	7.85E-06	3.97E-05	1.30E-02	6.44E-06	3.25E-05	3.90E-05
Road 3	3	0800-0900	2.31E-02	2.75E-06	1.39E-04	2.10E-02	2.50E-06	1.26E-04	1.89E-02	2.25E-06	1.14E-04	1.37E-04
Road 3	3	0900-1000	1.97E-02	9.58E-07	4.84E-05	1.76E-02	8.56E-07	4.33E-05	1.58E-02	7.67E-06	3.88E-05	4.65E-05
Road 3	3	1000-1100	2.22E-02	8.98E-07	4.54E-05	1.93E-02	7.82E-07	3.96E-05	1.44E-02	5.82E-06	2.94E-05	3.53E-05
Road 3	3	1100-1200	2.22E-02	3.37E-07	1.70E-05	2.01E-02	3.05E-07	1.54E-05	1.80E-02	2.72E-06	1.38E-05	1.65E-05
Road 3	3	1200-1300	2.16E-02	3.32E-07	1.68E-05	1.96E-02	3.01E-07	1.52E-05	1.75E-02	2.69E-06	1.36E-05	1.63E-05
Road 3	3	1300-1400	2.10E-02	3.29E-07	1.66E-05	1.90E-02	2.98E-07	1.51E-05	1.70E-02	2.66E-06	1.35E-05	1.62E-05
Road 3	3	1400-1500	2.61E-02	3.27E-07	1.65E-05	2.36E-02	2.96E-07	1.50E-05	2.11E-02	2.64E-06	1.34E-05	1.60E-05
Road 3	3	1500-1600	1.10E-01	3.23E-07	1.63E-05	9.90E-02	2.92E-07	1.48E-05	8.85E-02	2.61E-06	1.32E-05	1.59E-05
Road 3	3	1600-1700	2.36E-02	2.96E-07	1.50E-05	2.14E-02	2.68E-07	1.36E-05	1.91E-02	2.41E-06	1.22E-05	1.46E-05
Road 3	3	1700-1800	2.51E-02	2.72E-07	1.38E-05	2.27E-02	2.47E-07	1.25E-05	2.03E-02	2.21E-06	1.12E-05	1.35E-05
Road 3	3	1800-1900	1.44E-02	1.22E-07	6.17E-06	1.30E-02	1.10E-07	5.58E-06	1.35E-02	1.14E-06	5.77E-06	6.91E-06
Road 3	3	1900-2000	1.37E-02	9.11E-08	4.61E-06	1.24E-02	8.24E-08	4.17E-06	1.30E-02	8.63E-07	4.37E-05	4.93E-05
Road 3	3	2000-2100	1.27E-02	2.58E-08	1.31E-06	1.15E-02	2.34E-08	1.18E-06	1.20E-02	2.44E-07	1.24E-05	1.39E-05
Road 3	3	2100-2200	1.15E-02	6.03E-08	3.05E-06	1.04E-02	5.45E-08	2.76E-06	1.09E-02	5.70E-07	2.89E-05	3.25E-05
Road 3	3	2200-2300	1.06E-02	5.06E-08	2.56E-06	9.55E-03	4.57E-08	2.31E-06	1.00E-02	4.78E-07	2.42E-05	2.72E-05
Road 3	3	2300-0000	1.22E-02	4.67E-08	2.36E-06	1.10E-02	4.22E-08	2.14E-06	1.15E-02	4.41E-07	2.24E-05	2.51E-05
Road 4	4	0000-0100	1.19E-02	1.96E-07	9.92E-06	1.07E-02	1.77E-07	8.94E-06	1.20E-02	1.98E-06	1.00E-05	1.20E-05
Road 4	4	0100-0200	1.16E-02	1.07E-06	5.41E-06	1.08E-02	1.00E-06	5.06E-06	1.21E-02	1.12E-06	5.66E-06	6.71E-06
Road 4	4	0200-0300	1.35E-02	9.97E-07	5.04E-06	1.24E-02	9.16E-07	4.63E-06	1.21E-02	8.93E-06	4.51E-05	5.41E-05
Road 4	4	0300-0400	1.39E-02	7.70E-07	3.89E-06	1.23E-02	6.82E-07	3.45E-06	1.36E-02	7.52E-06	3.80E-05	4.56E-05
Road 4	4	0400-0500	1.51E-02	9.79E-07	4.95E-06	1.37E-02	8.87E-07	4.48E-06	1.24E-02	8.06E-06	4.07E-05	4.88E-05
Road 4	4	0500-0600	1.55E-02	1.75E-06	8.84E-06	1.47E-02	1.66E-06	8.39E-06	1.24E-02	1.40E-06	7.08E-06	8.48E-06
Road 4	4	0600-0700	1.75E-02	3.97E-06	2.01E-05	1.66E-02	3.77E-06	1.91E-05	1.40E-02	3.18E-06	1.61E-05	1.93E-05
Road 4	4	0700-0800	1.75E-02	8.65E-06	4.37E-05	1.59E-02	7.85E-06	3.97E-05	1.30E-02	6.44E-06	3.25E-05	3.90E-05
Road 4	4	0800-0900	2.31E-02	2.75E-06	1.39E-04	2.10E-02	2.50E-06	1.26E-04	1.89E-02	2.25E-06	1.14E-04	1.37E-04
Road 4	4	0900-1000	1.97E-02	9.58E-07	4.84E-05	1.76E-02	8.56E-07	4.33E-05	1.58E-02	7.67E-06	3.88E-05	4.65E-05
Road 4	4	1000-1100	2.22E-02	8.98E-07	4.54E-05	1.93E-02	7.82E-07	3.96E-05	1.44E-02	5.82E-06	2.94E-05	3.53E-05
Road 4	4	1100-1200	2.22E-02	3.37E-07	1.70E-05	2.01E-02	3.05E-07	1.54E-05	1.80E-02	2.72E-06	1.38E-05	1.65E-05
Road 4	4	1200-1300	2.16E-02	3.32E-07	1.68E-05	1.96E-02	3.01E-07	1.52E-05	1.75E-02	2.69E-06	1.36E-05	1.63E-05
Road 4	4	1300-1400	2.10E-02	3.29E-07	1.66E-05	1.90E-02	2.98E-07	1.51E-05	1.70E-02	2.66E-06	1.35E-05	1.62E-05
Road 4	4	1400-1500	2.61E-02	3.27E-07	1.65E-05	2.36E-02	2.96E-07	1.50E-05	2.11E-02	2.64E-06	1.34E-05	1.60E-05
Road 4	4	1500-1600	1.10E-01	3.23E-07	1.63E-05	9.90E-02	2.92E-07	1.48E-05	8.85E-02	2.61E-06	1.32E-05	1.59E-05
Road 4	4	1600-1700	2.36E-02	2.96E-07	1.50E-05	2.14E-02	2.68E-07	1.36E-05	1.91E-02	2.41E-06	1.22E-05	1.46E-05
Road 4	4	1700-1800	2.51E-02	2.72E-07	1.38E-05	2.27E-02	2.47E-07	1.25E-05	2.03E-02	2.21E-06	1.12E-05	1.35E-05
Road 4	4	1800-1900	1.44E-02	1.22E-07	6.17E-06	1.30E-02	1.10E-07	5.58E-06	1.35E-02	1.14E-06	5.77E-06	6.91E-06
Road 4	4	1900-2000	1.37E-02	9.11E-08	4.61E-06	1.24E-02	8.24E-08	4.17E-06	1.30E-02	8.63E-07	4.37E-05	4.93E-05
Road 4	4	2000-2100	1.27E-02	2.58E-08	1.31E-06	1.15E-02	2.34E-08	1.18E-06	1.20E-02	2.44E-07	1.24E-05	1.39E-05
Road 4	4	2100-2200	1.15E-02	6.03E-08	3.05E-06	1.04E-02	5.45E-08	2.76E-06	1.09E-02	5.70E-07	2.89E-05	3.25E-05
Road 4	4	2200-2300	1.06E-02	5.06E-08	2.56E-06	9.55E-03	4.57E-08	2.31E-06	1.00E-02	4.78E-07	2.42E-05	2.72E-05
Road 4	4	2300-0000	1.22E-02	4.67E-08	2.36E-06	1.10E-02	4.22E-08	2.14E-06	1.15E-02	4.41E-07	2.24E-05	2.51E-05
Road 7	7	0000-0100	1.30E-02	1.96E-07	9.92E-06	1.17E-02	1.77E-07	8.94E-06	1.31E-02	1.98E-06	1.00E-05	1.20E-05
Road 7	7	0100-0200	1.38E-02	1.07E-06	5.41E-06	1.29E-02	1.00E-06	5.06E-06	1.44E-02	1.12E-06	5.66E-06	6.71E-06
Road 7	7	0200-0300	1.79E-02	9.97E-07	5.04E-06	1.65E-02	9.16E-07	4.63E-06	1.61E-02	8.93E-06	4.51E-05	5.41E-05
Road 7	7	0300-0400	1.84E-02	7.70E-07	3.89E-06	1.63E-02	6.82E-07	3.45E-06	1.81E-02	7.52E-06	3.80E-05	4.56E-05
Road 7	7	0400-0500	2.00E-02	9.79E-07	4.95E-06	1.82E-02	8.87E-07	4.48E-06	1.65E-02	8.06E-06	4.07E-05	4.88E-05
Road 7	7	0500-0600	2.06E-02	1.75E-06	8.84E-06	1.95E-02	1.66E-06	8.39E-06	1.65E-02	1.40E-06	7.08E-06	8.48E-06
Road 7	7	0600-0700	2.32E-02	3.97E-06	2.01E-05	2.21E-02	3.77E-06	1.91E-05	1.86E-02	3.18E-06	1.61E-05	1.93E-05
Road 7	7	0700-0800	2.32E-02	8.65E-06	4.37E-05	2.11E-02	7.85E-06	3.97E-05	1.73E-02	6.44E-06	3.25E-05	3.90E-05
Road 7	7	0800-0900	3.07E-02	2.75E-06	1.39E-04	2.79E-02	2.50E-06	1.26E-04	2.51E-02	2.25E-06	1.14E-04	1.37E-04
Road 7	7	0900-1000	2.62E-02	9.58E-07	4.84E-05	2.34E-02	8.56E-07	4.33E-05	2.10E-02	7.67E-06	3.88E-05	4.65E-05
Road 7	7	1000-1100	2.95E-02	8.98E-07	4.54E-05	2.57E-02	7.82E-07	3.96E-05	1.92E-02	5.82E-06	2.94E-05	3.53E-05
Road 7	7	1100-1200	2.95E-02	3.37E-07	1.70E-05	2.67E-02	3.05E-07	1.54E-05	2.40E-02	2.72E-06	1.38E-05	1.65E-05
Road 7	7	1200-1300	2.87E-02	3.32E-07	1.68E-05	2.61E-02	3.01E-07	1.52E-05	2.33E-02	2.69E-06	1.36E-05	1.63E-05
Road 7	7	1300-1400	2.79E-02	3.29E-07	1.66E-05	2.54E-02	2.98E-07	1.51E-05	2.27E-02	2.66E-06	1.35E-05	1.62E-05
Road 7	7	1400-1500	3.48E-02	3.27E-07	1.65E-05	3.15E-02	2.96E-07	1.50E-05	2.81E-02	2.64E-06	1.34E-05	1.60E-05
Road 7	7	1500-1600	1.74E-02	2.84E-07	3.33E-06	1.47E-02	2.39E-07	2.81E-06	1.30E-01	2.12E-06	2.49E-05	1.08E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 7	7	1600-1700	1.85E-02	2.12E-07	2.38E-06	1.59E-02	1.91E-07	2.01E-06	9.31E-02	1.69E-06	1.78E-05	7.73E-02
Road 7	7	1700-1800	1.38E-02	2.72E-07	3.19E-06	1.15E-02	2.26E-07	2.65E-06	1.21E-01	2.39E-06	2.80E-05	9.93E-02
Road 7	7	1800-1900	1.04E-02	2.25E-07	2.64E-06	8.49E-03	1.84E-07	2.16E-06	9.09E-02	1.96E-06	2.30E-05	7.53E-02
Road 7	7	1900-2000	9.44E-03	1.27E-07	1.49E-06	8.29E-03	1.11E-07	1.31E-06	1.44E-01	1.93E-06	2.26E-05	1.19E-01
Road 7	7	2000-2100	9.44E-03	1.27E-07	1.49E-06	8.29E-03	1.11E-07	1.31E-06	1.44E-01	1.93E-06	2.26E-05	1.19E-01
Road 7	7	2100-2200	8.84E-03	1.25E-07	1.47E-06	7.72E-03	1.09E-07	1.28E-06	1.34E-01	1.88E-06	2.20E-05	1.11E-01
Road 7	7	2200-2300	8.89E-03	1.16E-07	1.36E-06	7.74E-03	1.01E-07	1.19E-06	1.34E-01	1.74E-06	2.04E-05	1.11E-01
Road 7	7	2300-0000	9.15E-03	8.90E-08	1.04E-06	7.97E-03	7.75E-08	9.09E-07	1.38E-01	1.34E-06	1.57E-05	1.14E-01
Road 8	8	0000-0100	1.30E-02	1.96E-07	9.92E-06	1.17E-02	1.77E-07	8.94E-06	1.31E-02	1.98E-06	1.00E-05	1.20E-05
Road 8	8	0100-0200	1.38E-02	1.07E-06	5.41E-06	1.29E-02	1.00E-06	5.06E-06	1.44E-02	1.12E-06	5.66E-06	6.71E-06
Road 8	8	0200-0300	1.79E-02	9.97E-07	5.04E-06	1.65E-02	9.16E-07	4.63E-06	1.61E-02	8.93E-06	4.51E-05	5.41E-05
Road 8	8	0300-0400	1.84E-02	7.70E-07	3.89E-06	1.63E-02	6.82E-07	3.45E-06	1.81E-02	7.52E-06	3.80E-05	4.56E-05
Road 8	8	0400-0500	2.00E-02	9.79E-07	4.95E-06	1.82E-02	8.87E-07	4.48E-06	1.65E-02	8.06E-06	4.07E-05	4.88E-05
Road 8	8	0500-0600	2.06E-02	1.75E-06	8.84E-06	1.95E-02	1.66E-06	8.39E-06	1.65E-02	1.40E-06	7.08E-06	8.48E-06
Road 8	8	0600-0700	2.15E-02	1.81E-06	3.65E-07	2.01E-02	1.68E-06	3.40E-07	3.00E-01	2.51E-07	5.08E-06	2.79E-01
Road 8	8	0700-0800	2.25E-02	3.82E-06	7.70E-07	2.09E-02	3.54E-06	7.16E-07	3.89E-01	6.58E-07	1.33E-05	3.62E-01
Road 8	8	0800-0900	2.22E-02	4.27E-06	8.64E-07	2.07E-02	3.96E-06	8.02E-07	3.84E-01	7.38E-07	1.49E-05	3.57E-01
Road 8	8	0900-1000	2.26E-02	8.15E-06	1.65E-06	2.10E-02	7.56E-06	1.53E-06	3.90E-01	1.41E-06	2.84E-05	3.62E-01
Road 8	8	1000-1100	2.26E-02	3.82E-06	7.73E-07	2.10E-02	3.54E-06	7.16E-07	3.90E-01	6.58E-07	1.33E-05	3.62E-01
Road 8	8	1100-1200	2.20E-02	3.72E-06	7.53E-07	2.04E-02	3.45E-06	6.98E-07	3.79E-01	6.41E-07	1.29E-05	3.52E-01
Road 8	8	1200-1300	2.14E-02	3.62E-06	7.33E-07	1.99E-02	3.36E-06	6.80E-07	3.69E-01	6.24E-07	1.26E-05	3.43E-01
Road 8	8	1300-1400	2.08E-02	3.52E-06	7.13E-07	1.93E-02	3.27E-06	6.62E-07	3.59E-01	6.08E-07	1.23E-05	3.33E-01
Road 8	8	1400-1500	2.58E-02	3.43E-06	6.95E-07	2.39E-02	3.18E-06	6.44E-07	4.44E-01	5.91E-07	1.20E-05	4.12E-01
Road 8	8	1500-1600	1.09E-01	3.39E-06	6.86E-07	1.01E-01	3.14E-06	6.36E-07	1.88E-01	5.84E-07	1.18E-05	1.74E-01
Road 8	8	1600-1700	2.34E-02	3.11E-06	6.29E-07	2.17E-02	2.88E-06	5.83E-07	4.03E-01	5.36E-07	1.08E-05	3.74E-01
Road 8	8	1700-1800	2.49E-02	2.86E-06	5.79E-07	2.31E-02	2.65E-06	5.36E-07	4.29E-01	4.92E-07	9.97E-06	3.98E-01
Road 8	8	1800-1900	1.43E-02	1.28E-06	2.59E-07	1.32E-02	1.19E-06	2.40E-07	2.46E-01	2.21E-07	4.47E-06	2.28E-01
Road 8	8	1900-2000	1.36E-02	9.56E-07	1.94E-07	1.26E-02	8.86E-07	1.79E-07	2.34E-01	1.65E-07	3.33E-06	2.17E-01
Road 8	8	2000-2100	1.26E-02	2.71E-07	5.48E-08	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	1.77E-01	4.92E-03	1.39E-05	1.49E-01	3.79E-02	1.44E-04	3.56E-01	9.89E-03	2.78E-05	3.00E-01	7.62E-02	2.89E-04
Road 27	27	1700-1800	1.52E-01	3.50E-02	1.08E-04	1.28E-01	2.94E-02	9.06E-05	3.06E-01	7.03E-02	2.17E-04	2.58E-01	5.93E-02	1.82E-04
Road 27	27	1800-1900	1.29E-01	2.04E-02	6.27E-05	1.14E-01	1.80E-02	5.55E-05	2.59E-01	4.09E-02	1.26E-04	2.29E-01	3.63E-02	1.12E-04
Road 27	27	1900-2000	1.22E-01	1.26E-02	3.87E-05	1.05E-01	1.08E-02	3.33E-05	2.47E-01	2.55E-02	7.83E-05	2.13E-01	2.19E-02	6.73E-05
Road 27	27	2000-2100	1.15E-01	9.42E-03	2.90E-05	1.02E-01	8.35E-03	2.57E-05	2.34E-01	1.91E-02	5.87E-05	2.07E-01	1.69E-02	5.20E-05
Road 27	27	2100-2200	1.11E-01	7.02E-03	2.16E-05	9.86E-02	6.23E-03	1.92E-05	2.26E-01	1.43E-02	4.38E-05	2.00E-01	1.26E-02	3.88E-05
Road 27	27	2200-2300	1.08E-01	5.23E-03	1.61E-05	9.57E-02	4.64E-03	1.43E-05	2.19E-01	1.06E-02	3.27E-05	1.94E-01	9.41E-03	2.89E-05
Road 27	27	2300-0000	1.04E-01	3.90E-03	1.20E-05	9.26E-02	3.46E-03	1.06E-05	2.12E-01	7.94E-03	2.44E-05	1.88E-01	7.01E-03	2.16E-05
Road 27	27	0000-0100	1.01E-01	2.91E-03	8.94E-06	8.98E-02	2.58E-03	7.93E-06	2.06E-01	5.92E-03	1.82E-05	1.82E-01	5.23E-03	1.61E-05
Road 27	27	0100-0200	9.84E-02	2.17E-03	6.67E-06	8.72E-02	1.92E-03	5.91E-06	2.00E-01	4.42E-03	1.36E-05	1.77E-01	3.90E-03	1.20E-05
Road 27	27	0200-0300	9.57E-02	1.62E-03	4.97E-06	8.48E-02	1.43E-03	4.41E-06	1.95E-01	3.29E-03	1.01E-05	1.73E-01	2.91E-03	8.94E-06
Road 27	27	0300-0400	9.31E-02	1.21E-03	3.71E-06	8.25E-02	1.07E-03	3.29E-06	1.89E-01	2.46E-03	7.56E-06	1.68E-01	2.18E-03	6.68E-06
Road 27	27	0400-0500	9.06E-02	1.35E-03	4.14E-06	8.03E-02	1.19E-03	3.67E-06	1.84E-01	2.74E-03	8.43E-06	1.63E-01	2.43E-03	7.45E-06
Road 27	27	0500-0600	8.80E-02	2.17E-03	6.67E-06	7.80E-02	1.92E-03	5.91E-06	1.79E-01	4.42E-03	1.36E-05	1.59E-01	3.92E-03	1.20E-05
Road 27	27	0600-0700	8.54E-02	3.25E-03	9.98E-06	7.57E-02	2.88E-03	8.85E-06	1.74E-01	6.62E-03	2.03E-05	1.54E-01	5.87E-03	1.80E-05
Road 27	27	0700-0800	8.28E-02	4.33E-03	1.33E-05	7.34E-02	3.84E-03	1.18E-05	1.68E-01	8.82E-03	2.71E-05	1.49E-01	7.82E-03	2.40E-05
Road 27	27	0800-0900	8.02E-02	4.33E-03	1.33E-05	7.11E-02	3.84E-03	1.18E-05	1.63E-01	8.82E-03	2.71E-05	1.45E-01	7.82E-03	2.40E-05
Road 27	27	0900-1000	7.76E-02	3.25E-03	9.98E-06	6.88E-02	2.88E-03	8.85E-06	1.58E-01	6.62E-03	2.03E-05	1.40E-01	5.87E-03	1.80E-05
Road 27	27	1000-1100	7.50E-02	2.17E-03	6.67E-06	6.65E-02	1.92E-03	5.91E-06	1.53E-01	4.42E-03	1.36E-05	1.36E-01	3.92E-03	1.20E-05
Road 27	27	1100-1200	7.24E-02	1.08E-03	3.33E-06	6.42E-02	9.58E-04	2.95E-06	1.48E-01	2.21E-03	6.78E-06	1.31E-01	1.95E-03	6.00E-06
Road 27	27	1200-1300	6.98E-02	1.08E-03	3.33E-06	6.19E-02	9.58E-04	2.95E-06	1.43E-01	2.21E-03	6.78E-06	1.27E-01	1.95E-03	6.00E-06
Road 27	27	1300-1400	6.72E-02	1.08E-03	3.33E-06	5.96E-02	9.58E-04	2.95E-06	1.38E-01	2.21E-03	6.78E-06	1.22E-01	1.95E-03	6.00E-06
Road 27	27	1400-1500	6.46E-02	1.08E-03	3.33E-06	5.73E-02	9.58E-04	2.95E-06	1.33E-01	2.21E-03	6.78E-06	1.18E-01	1.95E-03	6.00E-06
Road 27	27	1500-1600	6.20E-02	1.08E-03	3.33E-06	5.50E-02	9.58E-04	2.95E-06	1.28E-01	2.21E-03	6.78E-06	1.13E-01	1.95E-03	6.00E-06
Road 28	28	0000-0100	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 28	28	0100-0200	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 28	28	0200-0300	1.61E-02	1.41E-03	1.26E-06	1.48E-02	1.30E-03	1.16E-06	1.59E-01	1.40E-02	1.25E-05	1.46E-01	1.28E-02	1.14E-05
Road 28	28	0300-0400	1.68E-02	1.29E-03	1.15E-06	1.54E-02	1.19E-03	1.06E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 28	28	0400-0500	1.75E-02	1.41E-03	1.26E-06	1.61E-02	1.30E-03	1.16E-06	1.59E-01	1.29E-02	1.15E-05	1.46E-01	1.18E-02	1.05E-05
Road 28	28	0500-0600	1.82E-02	1.85E-03	1.65E-06	1.67E-02	1.69E-03	1.51E-06	1.59E-01	1.62E-02	1.44E-05	1.46E-01	1.48E-02	1.32E-05
Road 28	28	0600-0700	1.89E-02	2.77E-03	2.47E-06	1.73E-02	2.54E-03	2.27E-06	1.59E-01	2.43E-02	2.16E-05	1.46E-01	2.23E-02	1.99E-05
Road 28	28	0700-0800	1.96E-02	3.69E-03	3.29E-06	1.80E-02	3.38E-03	3.02E-06	1.59E-01	3.24E-02	2.89E-05	1.46E-01	2.97E-02	2.65E-05
Road 28	28	0800-0900	2.03E-02	3.69E-03	3.29E-06	1.86E-02	3.38E-03	3.02E-06	1.59E-01	3.24E-02	2.89E-05	1.46E-01	2.97E-02	2.65E-05
Road 28	28	0900-1000	2.10E-02	2.77E-03	2.47E-06	1.92E-02	2.54E-03	2.27E-06	1.59E-01	2.43E-02	2.16E-05	1.46E-01	2.23E-02	1.99E-05
Road 28	28	1000-1100	2.17E-02	1.85E-03	1.65E-06	1.99E-02	1.69E-03	1.51E-06	1.59E-01	1.62E-02	1.44E-05	1.46E-01	1.48E-02	1.32E-05
Road 28	28	1100-1200	2.24E-02	1.41E-03	1.26E-06	2.05E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 28	28	1200-1300	2.31E-02	1.41E-03	1.26E-06	2.12E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 28	28	1300-1400	2.38E-02	1.41E-03	1.26E-06	2.18E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 28	28	1400-1500	2.45E-02	1.41E-03	1.26E-06	2.25E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 28	28	1500-1600	2.52E-02	1.41E-03	1.26E-06	2.31E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 29	29	0000-0100	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 29	29	0100-0200	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 29	29	0200-0300	1.61E-02	1.41E-03	1.26E-06	1.48E-02	1.30E-03	1.16E-06	1.59E-01	1.40E-02	1.25E-05	1.46E-01	1.28E-02	1.14E-05
Road 29	29	0300-0400	1.68E-02	1.29E-03	1.15E-06	1.54E-02	1.19E-03	1.06E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 29	29	0400-0500	1.75E-02	1.41E-03	1.26E-06	1.61E-02	1.30E-03	1.16E-06	1.59E-01	1.29E-02	1.15E-05	1.46E-01	1.18E-02	1.05E-05
Road 29	29	0500-0600	1.82E-02	1.85E-03	1.65E-06	1.67E-02	1.69E-03	1.51E-06	1.59E-01	1.62E-02	1.44E-05	1.46E-01	1.48E-02	1.32E-05
Road 29	29	0600-0700	1.89E-02	2.77E-03	2.47E-06	1.73E-02	2.54E-03	2.27E-06	1.59E-01	2.43E-02	2.16E-05	1.46E-01	2.23E-02	1.99E-05
Road 29	29	0700-0800	1.96E-02	3.69E-03	3.29E-06	1.80E-02	3.38E-03	3.02E-06	1.59E-01	3.24E-02	2.89E-05	1.46E-01	2.97E-02	2.65E-05
Road 29	29	0800-0900	2.03E-02	3.69E-03	3.29E-06	1.86E-02	3.38E-03	3.02E-06	1.59E-01	3.24E-02	2.89E-05	1.46E-01	2.97E-02	2.65E-05
Road 29	29	0900-1000	2.10E-02	2.77E-03	2.47E-06	1.92E-02	2.54E-03	2.27E-06	1.59E-01	2.43E-02	2.16E-05	1.46E-01	2.23E-02	1.99E-05
Road 29	29	1000-1100	2.17E-02	1.85E-03	1.65E-06	1.99E-02	1.69E-03	1.51E-06	1.59E-01	1.62E-02	1.44E-05	1.46E-01	1.48E-02	1.32E-05
Road 29	29	1100-1200	2.24E-02	1.41E-03	1.26E-06	2.05E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 29	29	1200-1300	2.31E-02	1.41E-03	1.26E-06	2.12E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 29	29	1300-1400	2.38E-02	1.41E-03	1.26E-06	2.18E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 29	29	1400-1500	2.45E-02	1.41E-03	1.26E-06	2.25E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 29	29	1500-1600	2.52E-02	1.41E-03	1.26E-06	2.31E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 30	30	0000-0100	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 30	30	0100-0200	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 30	30	0200-0300	1.61E-02	1.41E-03	1.26E-06	1.48E-02	1.30E-03	1.16E-06	1.59E-01	1.40E-02	1.25E-05	1.46E-01	1.28E-02	1.14E-05
Road 30	30	0300-0400	1.68E-02	1.29E-03	1.15E-06	1.54E-02	1.19E-03	1.06E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 30	30	0400-0500	1.75E-02	1.41E-03	1.26E-06	1.61E-02	1.30E-03	1.16E-06	1.59E-01	1.29E-02	1.15E-05	1.46E-01	1.18E-02	1.05E-05
Road 30	30	0500-0600	1.82E-02	1.85E-03	1.65E-06	1.67E-02	1.69E-03	1.51E-06	1.59E-01	1.62E-02	1.44E-05	1.46E-01	1.48E-02	1.32E-05
Road 30	30	0600-0700	1.89E-02	2.77E-03	2.47E-06	1.73E-02	2.54E-03	2.27E-06	1.59E-01	2.43E-02	2.16E-05	1.46E-01	2.23E-02	1.99E-05
Road 30	30	0700-0800	1.96E-02	3.69E-03	3.29E-06	1.80E-02	3.38E-03	3.02E-06	1.59E-01	3.24E-02	2.89E-05	1.46E-01	2.97E-02	2.65E-05
Road 30	30	0800-0900	2.03E-02	3.69E-03	3.29E-06	1.86E-02	3.38E-03	3.02E-06	1.59E-01	3.24E-02	2.89E-05	1.46E-01	2.97E-02	2.65E-05
Road 30	30	0900-1000	2.10E-02	2.77E-03	2.47E-06	1.92E-02	2.54E-03	2.27E-06	1.59E-01	2.43E-02	2.16E-05	1.46E-01	2.23E-02	1.99E-05
Road 30	30	1000-1100	2.17E-02	1.85E-03	1.65E-06	1.99E-02	1.69E-03	1.51E-06	1.59E-01	1.62E-02	1.44E-05	1.46E-01	1.48E-02	1.32E-05
Road 30	30	1100-1200	2.24E-02	1.41E-03	1.26E-06	2.05E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 30	30	1200-1300	2.31E-02	1.41E-03	1.26E-06	2.12E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 30	30	1300-1400	2.38E-02	1.41E-03	1.26E-06	2.18E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 30	30	1400-1500	2.45E-02	1.41E-03	1.26E-06	2.25E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 30	30	1500-1600	2.52E-02	1.41E-03	1.26E-06	2.31E-02	1.30E-03	1.16E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 31	31	0000-0100	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 31	31	0100-0200	1.55E-02	1.85E-03	1.65E-06	1.42E-02	1.69E-03	1.51E-06	1.60E-01	1.91E-02	1.70E-05	1.45E-01	1.73E-02	1.55E-05
Road 31	31	0200-0300	1.61E-02	1.41E-03	1.26E-06	1.48E-02	1.30E-03	1.16E-06	1.59E-01	1.40E-02	1.25E-05	1.46E-01	1.28E-02	1.14E-05
Road 31	31	0300-0400	1.68E-02	1.29E-03	1.15E-06	1.54E-02	1.19E-03	1.06E-06	1.59E-01	1.23E-02	1.09E-05	1.46E-01	1.13E-02	1.00E-05
Road 31	31	0400-0500	1.75E-02	1.37E-03	1.22E-06	1.61E-02	1.26E-03	1.12E-06	1.59E-01	1.24E-02	1.11E-05	1.46E-01	1.14E-02	1.02E-05
Road 31	31	0500-0600	1.82E-02	1.85E-03	1.65E-06	1.67E-02	1.69E-03	1.51E-06	1.59E-01	1.62E-02	1.44E-05	1.46E-01	1.48E-02	1.32E-05
Road 31	31	0600-0700	1.89E-02	2.77E-03	2.47E-06	1.73E-02	2.54E-03	2.27E-06	1.59E-01	2.43E-02	2.16E-05	1.46E-01	2.23E-02	1.99E-05
Road 31	31	0700-0800	1.96E-02	3.69E-03	3.29E-06	1.80E-02	3.38E-03	3.02E-06	1.59E-01	3.24E-02	2.89E-05	1.46E-01	2.97E-02	2.65E-05
Road 31	31	0800-0900	1.95E-02	3.38E-03	3.02E-06	1.79E-02	3.10E-03	2.77E-06	1.58E-01	2.97E-02	2.65E-05	1.45E-01	2.72E-02	2.43E-05
Road 31	31	0900-1000	2.18E-02	1.37E-03	1.22E-06	2.00E-02	1.26E-03	1.12E-06	1.60E-01	1.24E-02	1.11E-05	1.46E-01	1.14E-02	1.02E-05
Road 31	31	1000-1100	2.41E-02	1.37E-03	1.22E-06	2.21E-02	1.26E-03	1.12E-06	1.60E-01	1.24E-02	1.11E-05	1.46E-01	1.14E-02	1.02E-05
Road 31	31	1100-1200	2.64E-02	1.04E-03	3.29E-06	2.42E-02	9.58E-04	2.95E-06	1.60E-01	2.21E-03	6.78E-06	1.47E-01	1.95E-03	6.00E-06
Road 31	31	1200-1300	2.87E-02	1.04E-03	3.29E-06	2.63E-02	9.58E-04	2.95E-06	1.60E-01	2.21E-03	6.78E-06	1.47E-01	1.95E-03	6.00E-06
Road 31	31	1300-1400	3.10E-02	1.04E-03	3.29E-06	2.84E-02	9.58E-04	2.95E-06	1.60E-01	2.21E-03	6.78E-06	1.47E-01	1.95E-03	6.00E-06
Road 31	31	1400-1500	3.33E-02	1.04E-03	3.29E-06	3.05E-02	9.58E-04	2.95E-06	1.60E-01	2.21E-03	6.78E-06	1.47E-01	1.95E-03	6.00E-06
Road 31	31	1500-1600	3.56E-02	1.04E-03	3.29E-06	3.26E-02	9.58E-04	2.95E-06	1.60E-01	2.21E-03	6.78E-06	1.47E-01	1.95E-03	6.00E-06
Road 32	32	0000-0100	1.37E-02	1.25E-03	1.11E-06	1.26E-02	1.14E-03	1.02E-06	1.42E-01	1.29E-02	1.15E-05	1.30E-01	1.17E-02	1.05E-05
Road 32	32	0100-0200	1.37E-02	1.25E-03	1.11E-06	1.26E-02	1.14E-03	1.02E-06	1.42E-01	1.29E-02	1.15E-05	1.30E-01	1.17E-02	1.05E-05
Road 32	32	0200-0300	1.43E-02	9.56E-04	8.53E-07	1.31E-02	8.80E-04	7.86E-07	1.41E-01	9.44E-03	8.43E-06	1.29E-01	8.65E-03	7.72E-06
Road 32	32	0300-0400	1.48E-02	8.74E-04	7.80E-07	1.36E-02	8.04E-04	7.18E-07	1.41E-01	8.32E-03	7.43E-06	1.29E-01	7.62E-03	6.81E-06
Road 32	32	0400-0500	1.53E-02	9.56E-04	8.53E-07	1.41E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 32	32	0500-0600	1.58E-02	1.25E-03	1.11E-06	1.45E-02	1.14E-03	1.02E-06	1.41E-01	1.17E-02	1.04E-05	1.29E-01	1.07E-02	9.56E-06
Road 32	32	0600-0700	1.63E-02	1.87E-03	1.67E-06	1.49E-02	1.72E-03	1.53E-06	1.41E-01	1.54E-02	1.37E-05	1.29E-01	1.41E-02	1.26E-05
Road 32	32	0700-0800	1.68E-02	2.49E-03	2.22E-06	1.54E-02	2.29E-03	2.04E-06	1.41E-01	2.06E-02	1.83E-05	1.29E-01	1.89E-02	1.68E-05
Road 32	32	0800-0900	1.73E-02	2.49E-03	2.22E-06	1.59E-02	2.29E-03	2.04E-06	1.41E-01	2.06E-02	1.83E-05	1.29E-01	1.89E-02	1.68E-05
Road 32	32	0900-1000	1.78E-02	1.87E-03	1.67E-06	1.64E-02	1.72E-03	1.53E-06	1.41E-01	1.54E-02	1.37E-05	1.29E-01	1.41E-02	1.26E-05
Road 32	32	1000-1100	1.83E-02	1.25E-03	1.11E-06	1.69E-02	1.14E-03	1.02E-06	1.41E-01	1.17E-02	1.04E-05	1.29E-01	1.07E-02	9.56E-06
Road 32	32	1100-1200	1.88E-02	9.56E-04	8.53E-07	1.73E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 32	32	1200-1300	1.93E-02	9.56E-04	8.53E-07	1.78E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 32	32	1300-1400	1.98E-02	9.56E-04	8.53E-07	1.82E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 32	32	1400-1500	2.03E-02	9.56E-04	8.53E-07	1.87E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 32	32	1500-1600	2.08E-02	9.56E-04	8.53E-07	1.92E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 33	33	0000-0100	1.17E-02	1.12E-03	9.99E-07	1.08E-02	1.03E-03	9.17E-07	1.21E-01	1.16E-02	1.03E-05	1.11E-01	1.06E-02	9.43E-06
Road 33	33	0100-0200	1.17E-02	1.12E-03	9.99E-07	1.08E-02	1.03E-03	9.17E-07	1.21E-01	1.16E-02	1.03E-05	1.11E-01	1.06E-02	9.43E-06
Road 33	33	0200-0300	1.42E-02	9.56E-04	8.53E-07	1.30E-02	8.80E-04	7.86E-07	1.40E-01	9.44E-03	8.43E-06	1.28E-01	8.65E-03	7.72E-06
Road 33	33	0300-0400	1.48E-02	8.74E-04	7.80E-07	1.36E-02	8.04E-04	7.18E-07	1.41E-01	8.32E-03	7.43E-06	1.29E-01	7.62E-03	6.81E-06
Road 33	33	0400-0500	1.53E-02	9.56E-04	8.53E-07	1.41E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 33	33	0500-0600	1.58E-02	1.25E-03	1.11E-06	1.45E-02	1.14E-03	1.02E-06	1.41E-01	1.17E-02	1.04E-05	1.29E-01	1.07E-02	9.56E-06
Road 33	33	0600-0700	1.63E-02	1.87E-03	1.67E-06	1.49E-02	1.72E-03	1.53E-06	1.41E-01	1.54E-02	1.37E-05	1.29E-01	1.41E-02	1.26E-05
Road 33	33	0700-0800	1.68E-02	2.49E-03	2.22E-06	1.54E-02	2.29E-03	2.04E-06	1.41E-01	2.06E-02	1.83E-05	1.29E-01	1.89E-02	1.68E-05
Road 33	33	0800-0900	1.73E-02	2.49E-03	2.22E-06	1.59E-02	2.29E-03	2.04E-06	1.41E-01	2.06E-02	1.83E-05	1.29E-01	1.89E-02	1.68E-05
Road 33	33	0900-1000	1.78E-02	1.87E-03	1.67E-06	1.64E-02	1.72E-03	1.53E-06	1.41E-01	1.54E-02	1.37E-05	1.29E-01	1.41E-02	1.26E-05
Road 33	33	1000-1100	1.83E-02	1.25E-03	1.11E-06	1.69E-02	1.14E-03	1.02E-06	1.41E-01	1.17E-02	1.04E-05	1.29E-01	1.07E-02	9.56E-06
Road 33	33	1100-1200	1.88E-02	9.56E-04	8.53E-07	1.73E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 33	33	1200-1300	1.93E-02	9.56E-04	8.53E-07	1.78E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 33	33	1300-1400	1.98E-02	9.56E-04	8.53E-07	1.82E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 33	33	1400-1500	2.03E-02	9.56E-04	8.53E-07	1.87E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03	7.85E-06	1.29E-01	8.05E-03	7.19E-06
Road 33	33	1500-1600	2.08E-02	9.56E-04	8.53E-07	1.92E-02	8.80E-04	7.86E-07	1.41E-01	8.79E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	1.62E-02	1.05E-07	8.21E-06	1.41E-02	1.31E-07	7.38E-06	3.73E-02	2.41E-07	1.89E-05	3.23E-02	3.00E-07	1.69E-05
Road 54	54	0900-1000	1.09E-01	3.92E-07	8.93E-06	9.53E-02	3.44E-07	7.84E-06	4.28E-01	1.54E-06	3.52E-05	3.72E-01	1.34E-06	3.06E-05
Road 54	54	1000-1100	1.27E-01	4.24E-07	9.67E-06	1.08E-01	3.59E-07	8.18E-06	4.79E-01	1.60E-06	3.64E-05	4.02E-01	1.34E-06	3.05E-05
Road 54	54	1100-1200	1.25E-01	4.52E-07	8.74E-06	1.04E-01	3.29E-07	7.49E-06	4.75E-01	1.49E-06	3.40E-05	3.94E-01	1.24E-06	2.83E-05
Road 54	54	1200-1300	1.54E-01	3.33E-07	7.60E-06	1.33E-01	2.88E-07	6.56E-06	5.50E-01	1.19E-06	2.70E-05	4.72E-01	1.02E-06	2.32E-05
Road 54	54	1300-1400	1.54E-01	3.57E-07	8.07E-06	1.33E-01	3.05E-07	6.97E-06	5.50E-01	1.27E-06	2.87E-05	4.72E-01	1.09E-06	2.47E-05
Road 54	54	1400-1500	1.53E-01	3.66E-07	8.35E-06	1.29E-01	3.07E-07	7.01E-06	5.54E-01	1.32E-06	3.02E-05	4.64E-01	1.11E-06	2.52E-05
Road 54	54	1500-1600	1.40E-01	3.45E-07	7.88E-06	1.18E-01	2.92E-07	6.66E-06	5.52E-01	1.36E-06	3.11E-05	4.65E-01	1.15E-06	2.62E-05
Road 54	54	1600-1700	1.48E-01	3.68E-07	8.41E-06	1.22E-01	3.03E-07	6.91E-06	5.45E-01	1.35E-06	3.09E-05	4.50E-01	1.12E-06	2.55E-05
Road 54	54	1700-1800	1.20E-01	2.74E-07	6.24E-06	1.09E-01	2.49E-07	5.71E-06	4.92E-01	1.13E-06	2.59E-05	4.47E-01	1.03E-06	2.36E-05
Road 54	54	1800-1900	1.16E-01	2.66E-07	6.07E-06	1.06E-01	2.42E-07	5.55E-06	4.77E-01	1.09E-06	2.49E-05	4.34E-01	9.93E-07	2.27E-05
Road 54	54	1900-2000	8.73E-02	1.58E-07	2.70E-06	7.50E-02	2.32E-06	3.63E-06	3.61E-01	4.93E-07	1.12E-05	3.08E-01	4.39E-07	9.54E-06
Road 54	54	2000-2100	7.95E-02	8.53E-08	1.94E-06	6.95E-02	1.72E-06	3.41E-06	3.68E-01	2.93E-07	6.66E-06	3.25E-01	3.22E-07	7.35E-06
Road 54	54	2100-2200	8.26E-02	9.28E-08	2.11E-06	7.26E-02	1.77E-06	3.57E-06	3.81E-01	3.08E-07	7.00E-06	3.35E-01	3.26E-07	7.44E-06
Road 54	54	2200-2300	8.88E-02	8.76E-08	2.00E-06	7.50E-02	1.72E-06	3.49E-06	3.91E-01	2.98E-07	6.79E-06	3.35E-01	3.13E-07	7.14E-06
Road 54	54	2300-2400	9.08E-02	1.06E-07	2.41E-06	7.69E-02	1.77E-06	3.61E-06	3.97E-01	3.08E-07	7.02E-06	3.35E-01	3.09E-07	7.04E-06
Road 101	101	0000-0100	7.07E-03	6.25E-08	2.47E-06	6.29E-03	5.54E-08	2.19E-06	1.78E-02	1.57E-07	6.20E-06	1.58E-02	1.39E-07	5.49E-06
Road 101	101	0100-0200	7.71E-03	4.44E-08	1.76E-06	7.02E-03	4.05E-08	1.60E-06	1.94E-02	1.12E-07	4.42E-06	1.77E-02	1.02E-07	4.03E-06
Road 101	101	0200-0300	8.29E-03	3.51E-08	1.39E-06	7.59E-03	3.21E-08	1.27E-06	5.34E-02	2.26E-07	8.94E-06	4.75E-02	2.01E-07	7.95E-06
Road 101	101	0300-0400	9.02E-03	3.02E-08	1.20E-06	8.16E-03	2.74E-08	1.08E-06	5.54E-02	1.86E-07	7.36E-06	4.87E-02	1.63E-07	6.46E-06
Road 101	101	0400-0500	9.72E-03	3.24E-08	1.28E-06	8.76E-03	2.92E-08	1.15E-06	5.72E-02	1.91E-07	7.55E-06	5.03E-02	1.68E-07	6.64E-06
Road 101	101	0500-0600	1.01E-02	6.50E-08	2.58E-06	9.45E-03	6.07E-08	2.40E-06	5.71E-02	3.67E-07	1.45E-05	5.23E-02	3.36E-07	1.33E-05
Road 101	101	0600-0700	1.04E-02	1.61E-07	5.96E-06	9.77E-03	1.51E-07	5.59E-06	5.64E-02	8.72E-07	3.22E-05	5.16E-02	7.98E-07	2.95E-05
Road 101	101	0700-0800	1.19E-02	3.33E-07	1.32E-05	1.08E-02	3.03E-07	1.20E-05	6.33E-02	1.78E-06	7.04E-05	5.64E-02	1.58E-06	6.26E-05
Road 101	101	0800-0900	1.19E-02	3.90E-07	1.55E-05	1.05E-02	3.44E-07	1.36E-05	6.11E-02	2.00E-06	7.92E-05	5.26E-02	1.72E-06	6.80E-05
Road 101	101	0900-1000	1.16E-02	3.81E-07	1.51E-05	1.03E-02	3.37E-07	1.33E-05	5.95E-02	1.95E-06	7.73E-05	5.14E-02	1.68E-06	6.64E-05
Road 101	101	1000-1100	1.66E-02	5.66E-07	2.24E-05	1.47E-02	5.01E-07	1.98E-05	8.54E-02	2.91E-06	1.15E-04	7.58E-02	2.58E-06	1.02E-04
Road 101	101	1100-1200	1.29E-02	4.39E-07	1.74E-05	1.14E-02	3.89E-07	1.54E-05	6.62E-02	2.26E-06	8.94E-05	5.87E-02	2.00E-06	7.92E-05
Road 101	101	1200-1300	1.21E-02	5.45E-07	2.16E-05	1.86E-02	4.71E-07	1.87E-05	9.06E-02	2.29E-06	9.08E-05	7.72E-02	1.95E-06	7.74E-05
Road 101	101	1300-1400	2.14E-02	5.69E-07	2.25E-05	1.86E-02	4.92E-07	1.95E-05	9.02E-02	2.44E-06	9.66E-05	7.87E-02	2.09E-06	8.26E-05
Road 101	101	1400-1500	2.01E-02	5.73E-07	2.27E-05	1.71E-02	4.89E-07	1.94E-05	9.08E-02	2.59E-06	1.03E-04	7.63E-02	2.18E-06	8.63E-05
Road 101	101	1500-1600	1.57E-02	5.76E-07	2.28E-05	1.71E-02	5.04E-07	2.00E-05	8.66E-02	2.66E-06	1.05E-04	7.31E-02	2.25E-06	8.90E-05
Road 101	101	1600-1700	1.80E-02	4.78E-07	1.89E-05	1.27E-02	4.04E-07	1.60E-05	7.46E-02	2.37E-06	9.38E-05	6.14E-02	1.95E-06	7.73E-05
Road 101	101	1700-1800	1.64E-02	4.58E-07	1.81E-05	1.27E-02	4.02E-07	1.59E-05	7.06E-02	2.34E-06	9.26E-05	6.14E-02	1.94E-06	7.68E-05
Road 101	101	1800-1900	1.90E-02	4.28E-07	1.23E-05	1.27E-02	3.56E-07	1.35E-05	7.54E-02	2.10E-06	6.04E-05	6.14E-02	1.72E-06	6.52E-05
Road 101	101	1900-2000	9.28E-03	2.33E-07	9.22E-06	7.93E-03	1.99E-07	7.87E-06	5.38E-02	1.35E-06	5.34E-05	4.43E-02	1.11E-06	4.40E-05
Road 101	101	2000-2100	8.75E-03	1.61E-07	6.38E-06	7.56E-03	1.35E-07	5.35E-06	5.05E-02	9.32E-07	3.69E-05	4.23E-02	7.55E-07	2.99E-05
Road 101	101	2100-2200	8.57E-03	1.61E-07	6.38E-06	7.56E-03	1.35E-07	5.35E-06	4.95E-02	9.32E-07	3.69E-05	4.23E-02	7.55E-07	2.99E-05
Road 101	101	2200-2300	8.57E-03	1.61E-07	6.38E-06	7.56E-03	1.35E-07	5.35E-06	4.95E-02	9.32E-07	3.69E-05	4.23E-02	7.55E-07	2.99E-05
Road 101	101	2300-2400	8.57E-03	1.61E-07	6.38E-06	7.56E-03	1.35E-07	5.35E-06	4.95E-02	9.32E-07	3.69E-05	4.23E-02	7.55E-07	2.99E-05
Road 102	102	0000-0100	1.02E-02	7.47E-08	2.77E-06	9.11E-03	6.65E-08	2.47E-06	5.93E-02	4.33E-07	1.61E-05	5.29E-02	3.86E-07	1.43E-05
Road 102	102	0100-0200	1.10E-02	5.32E-08	1.97E-06	9.98E-03	4.80E-08	1.78E-06	6.13E-02	2.95E-07	1.10E-05	5.39E-02	2.59E-07	9.64E-06
Road 102	102	0200-0300	1.19E-02	4.25E-08	1.58E-06	1.08E-02	3.85E-08	1.43E-06	6.33E-02	2.25E-07	8.36E-06	5.49E-02	1.95E-07	7.32E-06
Road 102	102	0300-0400	1.27E-02	3.61E-08	1.34E-06	1.15E-02	3.28E-08	1.22E-06	6.53E-02	1.86E-07	6.92E-06	5.78E-02	1.65E-07	6.13E-06
Road 102	102	0400-0500	1.35E-02	3.89E-08	1.45E-06	1.22E-02	3.53E-08	1.31E-06	6.73E-02	1.93E-07	7.17E-06	5.95E-02	1.71E-07	6.36E-06
Road 102	102	0500-0600	1.39E-02	7.74E-08	2.87E-06	1.30E-02	7.25E-08	2.69E-06	6.72E-02	3.75E-07	1.39E-05	6.22E-02	3.47E-07	1.29E-05
Road 102	102	0600-0700	1.48E-02	1.79E-07	6.65E-06	1.38E-02	1.67E-07	6.21E-06	7.01E-02	8.50E-07	3.16E-05	6.56E-02	7.85E-07	2.91E-05
Road 102	102	0700-0800	1.59E-02	4.62E-07	1.71E-05	1.41E-02	4.09E-07	1.52E-05	7.24E-02	2.11E-06	7.82E-05	6.31E-02	1.84E-06	6.82E-05
Road 102	102	0800-0900	1.58E-02	4.22E-07	1.57E-05	1.39E-02	3.74E-07	1.39E-05	7.24E-02	2.11E-06	7.82E-05	6.31E-02	1.84E-06	6.82E-05
Road 102	102	0900-1000	2.16E-02	5.07E-07	1.88E-05	1.86E-02	4.38E-07	1.62E-05	9.08E-02	2.13E-06	7.92E-05	7.74E-02	1.82E-06	6.75E-05
Road 102	102	1000-1100	2.16E-02	5.07E-07	1.88E-05	1.86E-02	4.38E-07	1.62E-05	9.08E-02	2.13E-06	7.92E-05	7.74E-02	1.82E-06	6.75E-05
Road 102	102	1100-1200	1.83E-02	6.53E-07	1.58E-05	1.92E-02	1.46E-05	8.03E-02	1.99E-06	7.38E-05	6.82E-02	1.68E-06	6.26E-05	
Road 102	102	1200-1300	1.83E-02	6.53E-07	1.58E-05	1.92E-02	1.46E-05	8.03E-02	1.99E-06	7.38E-05	6.82E-02	1.68E-06	6.26E-05	
Road 102	102	1300-1400	1.83E-02	4.70E-07	1.75E-05	1.58E-02	4.06E-07	1.51E-05	8.18E-02	2.10E-06	7.80E-05	6.95E-02	1.78E-06	6.63E-05
Road 102	102	1400-1500	1.83E-02	4.70E-07	1.75E-05	1.58E-02	4.06E-07	1.51E-05	8.18E-02	2.10E-06	7.80E-05	6.95E-02	1.78E-06	6.63E-05
Road 102	102	1500-1600	1.75E-02	4.87E-07	1.81E-05	1.49E-02	4.14E-07	1.54E-05	8.24E-02	2.29E-06	8.50E-05	6.85E-02	1.91E-06	7.08E-05
Road 102	102	1600-1700	1.75E-02	4.87E-07	1.81E-05	1.49E-02	4.14E-07	1.54E-05	8.24E-02	2.29E-06	8.50E-05	6.85E-02	1.91E-06	7.08E-05
Road 102	102	1700-1800	1.30E-02	4.66E-07	1.55E-05	1.31E-02	3.91E-07	1.30E-05	6.73E-02	2.16E-06	8.01E-05	5.51E-02	1.76E-06	6.55E-05
Road 102	102	1800-1900	9.04E-03	3.05E-07	1.13E-05	7.85E-03	2.65E-07	9.84E-06	4.94E-02	1.67E-06	6.18E-05	4.15E-02	1.40E-06	5.21E-05
Road 102	102	1900-2000	8.00E-03	2.11E-07	7.81E-06	6.90E-03	1.82E-07	6.74E-06	4.92E-02	1.30E-06	4.81E-05	4.04E-02	1.07E-06	3.96E-05
Road 102	102	2000-2100	7.45E-03	1.53E-07	5.68E-06	6.37E-03	1.31E-07	4.87E-06	4.42E-02	9.10E-07	3.38E-05	3.78E-02	7.77E-07	2.89E-05
Road 102	102	2100-2200	7.45E-03	1.53E-07	5.68E-06	6.37E-03	1.31E-07	4.87E-06	4.42E-02	9.10E-07	3.38E-05	3.78E-02	7.77E-07	2.89E-05
Road 102	102	2200-2300	7.08E-03	1.40E-07	5.21E-06	5.94E-03	1.18E-07	4.38E-06	4.20E-02	8.31E-07	3.09E-05	3.52E-02	6.97E-07	2.59E-05
Road 102	102	2300-2400	6.56E-03	1.26E-07	4.69E-06	5.50E-03	1.06E-07	3.95E-06	3.95E-02	7.62E-07	2.83E-05	3.31E-02	6.39E-07	2.37E-05
Road 103	103	0000-0100	1.13E-02	4.19E-08	5.59E-06	9.84E-03	3.65E-08	4.86E-06	5.31E-02	1.97E-07	2.62E-05	4.61E-02	1.71E-07	2.28E-05
Road 103	103	0100-0200	1.09E-02	3.92E-08	5.23E-06	9.53E-03	3.44E-08	4.58E-06	5.12E-02	1.85E-07	2.47E-05	4.45E-02	1.61E-07	2.15E-05
Road 103	103	0200-0300	1.06E-02	3.67E-08	4.90E-06	9.26E-03	3.21E-08	4.29E-06	4.98E-02	1.73E-07	2.31E-05	4.33E-02	1.50E-07	2.01E-05
Road 103	103	0300-0400	1.03E-02	3.46E-08	4.62E-06	8.98E-03	3.02E-08	4.04E-06	4.84E-02	1.63E-07	2.18E-05	4.21E-02	1.41E-07	1.89E-05
Road 103	103	0400-0500	1.00E-02	3.25E-08	4.34E-06	8.71E-03	2.84E-08	3.80E-06	4.70E-02	1.53E-07	2.04E-05	4.09E-02	1.33E-07	1.78E-05
Road 103	103	0500-0600	9.76E-03	6.32E-08	2.51E-06	8.49E-03	5.50E-08	2.18E-06	4.58E-02	2.97E-07	1.18E-05	3.98E-02	2.58E-07	1.03E-05
Road 103	103	0600-0700	1.10E-02	1.57E-07	5.81E-06	9.56E-03	1.36E-07	5.05E-06	4.83E-02	6.85E-07	2.53E-05	4.20E-02	5.96E-07	2.20E-05
Road 103	103	0700-0800	1.16E-02	3.24E-07	1.29E-05	1.01E-02	2.82E-07	1.12E-05	5.31E-02	1.49E-06	5.91E-05	4.62E-02	1.29E-06	5.14E-05
Road 103	103	0800-0900	1.19E-02	4.41E-07	1.06E-05	1.03E-02	3.85E-07	9.25E-06	5.66E-02	2.10E-06	5.04E-05	4.92E-02	1.83E-06	4.40E-05
Road 103	103	0900-1000	1.16E-02	4.29E-07	1.03E-05	1.00E-02	3.74E-07	8.98E-06	5.52E-02	2.04E-06	4.89E-05	4.79E-02	1.78E-06	4.27E-05
Road 103	103	1000-1100	1.66E-02	5.66E-07	1.36E-05	1.47E-02	5.01E-07	1.20E-05	8.54E-02	2.91E-06	6.98E-05	7.58E-02	2.58E-06	6.19E-05
Road 103	103	1100-1200	1.29E-02	4.39E-07	1.05E-05	1.14E-02	3.89E-07	9.34E-06	6.62E-02	2.26E-06	5.41E-05	5.87E-02	2.00E-06	4.80E-05
Road 103	103	1200-1300	1.21E-02	5.45E-07	1.31E-05	1.86E-02	4.71E-07	1.13E-05	9.06E-02	2.29E-06	5.50E-05	7.72E-02	1.95E-06	4.68E-05
Road 103	103	1300-1400	2.14E-02	5.69E-07	1.36E-05	1.86E-02	4.92E-07	1.18E-05	9.02E-02	2.44E-06	5.85E-05	7.87E-02	2.09E-06	5.00E-05
Road 103	103	1400-1500	2.01E-02	5.73E-07	1.37E-05	1.71E-02	4.89E-07	1.17E-05	9.08E-02	2.59E-06	6.22E-05	7.63E-02	2.18E-06	5.22E-05
Road 103	103	1500-1600	1.57E-02	5.76E-07	1.38E-05	1.71E-02	5.04E-07	1.21E-05	8.66E-02	2.66E-06	6.37E-05	7.31E-02	2.25E-06	5.39E-05
Road 103	103	1600-1700	1.80E-02	4.78E-07	1.14E-05	1.27E-02	4.04E-07	9.68E-06	7.46E-02	2.37E-06	5.68E-05	6.14E-02	1.95E-06	4.67E-05
Road 103	103	1700-1800	1.64E-02	4.58E-07	1.10E-05	1.27E-02	4.02E-07	9.63E-06	7.06E-02	2.34E-06	5.60E-05	6.14E-02	1.94E-06	4.65E-05
Road 103	103	1800-1900	1.90E-02	4.28E-07	7.46E-06	1.27E-02	3.56E-07	8.16E-06	7.54E-02	2.10E-06	3.65E-05	6.14E-02	1.72E-06	3.94E-05
Road 103	103	1900-2000	9.28E-03	2.33E-07	5.57E-06	7.93E-03	1.99E-07	4.76E-06	5.38E-02	1.35E-06	3.23E-05	4.43E-02	1.11E-06	2.66E-05
Road 103	103	2000-2100	8.75E-03	1.61E-07	3.86E-06	7.56E-03	1.35E-07	3.23E-06	5.05E-02	9.32E-07	2.23E-05	4.23E-02	7.55E-07	1.81E-05
Road 103	103	2100-2200	8.57E-03	1.61E-07	3.86E-06	7.56E-03	1.35E-07	3.23E-06	4.95E-02	9.32E-07	2.23E-05	4.23E-02	7.55E-07	1.81E-05
Road 103	103	2200-2300	8.57E-03	1.61E-07	3.86E-06	7.56E-03	1.35E-07	3.23E-06	4.95E-02	9.32E-07	2.23E-05	4.23E-02	7.55E-07	1.81E-05
Road 103	103	2300-2400	8.57E-03	1.61E-07	3.86E-06	7.56E-03	1.35E-07	3.23E-06	4.95E-02	9.32E-07	2.23E-05	4.23E-02	7.55E-07	1.81E-05
Road 103	103	0000-0100	1.02E-02	7.47E-08	2.77E-06	9.11E-03	6.65E-08	2.47E-06	5.93E-02	4.33E-07	1.61E-05	5.29E-02	3.86E-07	1.43E-05
Road 103	103	0100-0200	1.10E-02	5.32E-08	1.97E-06	9.98E-03	4.80E-08	1.78E-06	6.13E-02	2.95E-07	1.10E-05	5.39E-02	2.59E-07	9.64E-06
Road 103	103	0200-0300	1.19E-02	4.25E-08	1.58E-06	1.08E-02	3.85E-08	1.43E-06	6.33E-02	2.25E-07	8.36E-06	5.49E-02	1.95E-07	7.32E-06
Road 103	103	0300-0400	1.27E-02	3.61E-08	1.34E-06	1.15E-02	3.28E-08	1.22E-06	6.53E-02	1.86E-07	6.92E-06	5.78E-02	1.65E-07	6.13E-06
Road 103	103	0400-0500	1.35E-02	3.89E-08	1.45E-06	1.22E-02	3.53E-08	1.31E-06	6.73E-02	1.93E-07	7.17E-06	5.95E-02	1.71E-07	6.36E-06
Road 103	103	0500-0600	1.39E-02	7.74E-08	2.87E-06	1.30E-02	7.25E-08	2.69E-06	6.72E-02	3.75E-07	1.39E-05	6.22E-02	3.47E-07	1.29E-05
Road 103	103	0600-0700	1.48E-02	1.79E-07	6.65E-06	1.38E-02	1.67E-07	6.21E-06	7.01E-02	8.50E-07	3.16E-05	6.56E-02	7.85E-07	2.91E-05
Road 103	103	0700-0800	1.59E-02	4.62E-07	1.71E-05	1.41E-02	4.09E-07	1.52E-05	7.24E-02	2.11E-06	7.82E-05	6.31E-02	1.84E-06	6.82E-05
Road 103	103	0800-0900	1.58E-02	4.22E-07	1.57E-05	1.39E-02	3.74E-07	1.39E-05	7.24E-02	2.11E-06	7.82E-05	6.31E-02	1.84E-06	6.82E-05
Road 103	103	0900-1000	2.16E-02	5.07E-07	1.88E-05	1.86E-02	4.38E-07	1.62E-05	9.08E-02	2.13E-06	7.92E-05	7.74E-02	1.82E-06	6.75E-05
Road 103	103	1000-1100	2.16E-02	5.07E-07	1.88E-05	1.86E-02	4.38E-07	1.62E-05	9.08E-02	2.13E-06	7.92E-05	7.74E-02	1.82E-06	6.75E-05
Road 103	103	1100-1200	1.83E-02	6.53E-07	1.58E-05	1.92E-02	1.46E-05	8.03E-02	1.99E-06	7.38E-05	6.82E-02	1.68E-06	6.26E-05	
Road 103	103	1200-1300	1.83E-02	6.53E-07	1.58E-05	1.92E-02	1.46E-05	8.03E-02	1.99E-06	7.38E-05	6.82E-02	1.68E-06	6.26E-05	
Road 103	103	1300-1400	1.83E-02	4.70E-07	1.75E-05	1.58E-02	4.06E-07	1.51E-05	8.18E-02	2.10E-06	7.80E-05	6.95E-02	1.78E-06	6.63E-05
Road 103	103	1400-1500	1.83E-02	4.70E-07	1.75E-05	1.58E-02	4.06E-07	1.51E-05	8.18E-02	2.10E-06	7.80E-05	6.95E-02	1.78E-06	6.63E-05
Road 103	103	1500-1600	1.57E-02	4.87E-07	1.81E-05	1.49E-02	4.14E-07	1.54E-05	8.24E-02	2.29E-06	8.50E-05	6.85E-02	1.91E-06	7.08E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	1.66E-02	4.26E-07	1.03E-05	1.38E-02	3.55E-07	8.58E-06	7.54E-02	2.08E-06	5.02E-05	6.25E-02	1.68E-06	4.04E-05
Road 103	103	1700-1800	1.15E-02	3.56E-07	8.57E-06	9.58E-03	2.97E-07	7.13E-06	6.33E-02	1.96E-06	4.71E-05	5.09E-02	1.57E-06	3.79E-05
Road 103	103	1800-1900	8.03E-03	2.70E-07	6.48E-06	6.98E-03	2.34E-07	5.64E-06	4.62E-02	1.55E-06	3.73E-05	3.89E-02	1.31E-06	3.14E-05
Road 103	103	1900-2000	7.08E-03	1.88E-07	4.51E-06	6.03E-03	1.60E-07	3.84E-06	4.67E-02	1.24E-06	2.98E-05	3.81E-02	1.01E-06	2.43E-05
Road 103	103	2000-2100	6.63E-03	1.36E-07	3.28E-06	5.80E-03	1.19E-07	2.87E-06	4.94E-02	1.02E-06	2.45E-05	4.16E-02	8.57E-07	2.06E-05
Road 103	103	2100-2200	6.45E-03	1.24E-07	2.98E-06	5.51E-03	1.06E-07	2.54E-06	4.93E-02	9.47E-07	2.27E-05	4.16E-02	7.99E-07	1.92E-05
Road 103	103	2200-2300	6.05E-03	1.21E-07	2.90E-06	5.01E-03	1.00E-07	2.40E-06	4.57E-02	9.12E-07	2.19E-05	3.78E-02	7.55E-07	1.81E-05
Road 103	103	2300-2400	6.49E-03	9.71E-08	2.33E-06	5.57E-03	8.34E-08	2.00E-06	5.10E-02	7.63E-07	1.83E-05	4.19E-02	6.26E-07	1.51E-05
Road 104	104	0000-0100	1.31E-02	7.54E-08	3.23E-06	1.06E-02	6.13E-08	2.62E-06	6.86E-02	3.95E-07	1.69E-05	5.58E-02	3.21E-07	1.37E-05
Road 104	104	0100-0200	1.19E-02	5.36E-08	1.09E-06	1.09E-02	4.90E-08	9.97E-07	6.23E-02	2.88E-07	5.86E-06	5.70E-02	2.57E-07	5.23E-06
Road 104	104	0200-0300	1.36E-02	3.64E-08	7.41E-07	1.23E-02	3.30E-08	6.72E-07	6.80E-02	1.82E-07	3.71E-06	6.04E-02	1.62E-07	3.30E-06
Road 104	104	0300-0400	1.54E-02	3.94E-08	8.02E-07	1.39E-02	3.57E-08	7.27E-07	7.01E-02	1.79E-07	3.65E-06	6.31E-02	1.62E-07	3.30E-06
Road 104	104	0400-0500	1.44E-02	4.24E-08	8.63E-07	1.30E-02	3.84E-08	7.82E-07	6.60E-02	1.94E-07	3.95E-06	5.95E-02	1.75E-07	3.56E-06
Road 104	104	0500-0600	1.58E-02	8.72E-08	3.48E-06	1.43E-02	7.89E-08	3.15E-06	7.27E-02	4.01E-07	1.60E-05	6.56E-02	3.62E-07	1.45E-05
Road 104	104	0600-0700	1.58E-02	1.81E-07	3.68E-06	1.47E-02	1.69E-07	3.43E-06	7.31E-02	8.39E-07	1.71E-05	6.73E-02	7.72E-07	1.57E-05
Road 104	104	0700-0800	1.71E-02	4.72E-07	9.61E-06	1.49E-02	4.13E-07	8.39E-06	7.51E-02	2.12E-06	4.32E-05	6.60E-02	1.82E-06	3.71E-05
Road 104	104	0800-0900	1.71E-02

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.53E-02	3.15E-03	1.52E-05	9.67E-03	1.28E-06	1.05E-05	7.31E-07	1.05E-05	1.64E-02	4.49E-03	1.64E-05	8.58E-06
Road 21	21	0100-0200	1.71E-02	8.83E-08	1.14E-06	1.46E-02	7.32E-08	9.68E-07	1.08E-03	5.42E-07	7.17E-06	8.94E-02	4.50E-07	5.94E-06
Road 21	21	0200-0300	1.92E-02	7.26E-08	9.60E-07	1.62E-02	6.11E-08	8.08E-07	1.12E-01	4.24E-07	5.61E-06	9.22E-02	3.49E-07	4.61E-06
Road 21	21	0300-0400	2.12E-02	5.52E-08	8.61E-07	1.77E-02	5.45E-08	7.20E-07	1.24E-01	3.23E-07	5.12E-06	9.52E-02	2.95E-07	3.87E-06
Road 21	21	0400-0500	2.16E-02	7.30E-08	9.65E-07	1.80E-02	8.07E-07	1.18E-01	3.98E-07	5.26E-06	9.63E-02	3.26E-07	4.31E-06	
Road 21	21	0500-0600	2.05E-02	1.18E-07	1.56E-06	1.70E-02	9.86E-08	1.30E-06	1.17E-01	6.74E-07	8.90E-06	9.14E-02	5.31E-07	7.03E-06
Road 21	21	0600-0700	2.00E-02	2.43E-07	3.21E-06	1.68E-02	2.04E-07	2.70E-06	1.17E-01	1.43E-06	1.89E-05	9.67E-02	1.18E-06	1.56E-05
Road 21	21	0700-0800	2.34E-02	5.92E-07	7.83E-06	1.98E-02	5.01E-07	6.62E-06	1.26E-01	3.20E-06	4.23E-05	1.05E-01	2.66E-06	3.52E-05
Road 21	21	0800-0900	2.49E-02	1.29E-07	1.71E-06	2.11E-02	1.09E-07	1.44E-06	1.26E-01	6.52E-07	8.62E-06	1.05E-01	5.52E-07	7.30E-06
Road 21	21	0900-1000	2.81E-02	7.36E-07	9.73E-06	2.39E-02	6.26E-07	8.27E-06	1.40E-01	3.65E-06	4.83E-05	1.18E-01	3.08E-06	4.07E-05
Road 21	21	1000-1100	2.80E-02	1.46E-07	1.93E-06	2.38E-02	1.24E-07	1.64E-06	1.40E-01	7.31E-07	9.66E-06	1.18E-01	6.21E-07	8.21E-06
Road 21	21	1100-1200	2.81E-02	6.26E-07	8.27E-06	2.41E-02	5.38E-07	7.11E-06	1.38E-01	3.07E-06	4.06E-05	1.17E-01	2.62E-06	3.46E-05
Road 21	21	1200-1300	2.73E-02	9.66E-08	1.28E-06	2.34E-02	8.40E-08	1.11E-06	1.35E-01	4.81E-07	6.36E-06	1.14E-01	4.09E-07	5.40E-06
Road 21	21	1300-1400	3.75E-02	7.36E-07	9.73E-06	3.22E-02	6.26E-07	8.28E-06	1.45E-01	3.07E-06	4.06E-05	1.22E-01	2.62E-06	3.46E-05
Road 21	21	1400-1500	3.87E-02	8.36E-07	1.11E-05	3.31E-02	7.16E-07	9.47E-06	1.70E-01	3.67E-06	4.85E-05	1.45E-01	3.13E-06	4.14E-05
Road 21	21	1500-1600	3.78E-02	1.32E-07	1.75E-06	3.24E-02	1.13E-07	1.49E-06	1.70E-01	5.94E-07	7.85E-06	1.45E-01	5.08E-07	6.72E-06
Road 21	21	1600-1700	3.78E-02	8.34E-07	1.10E-05	3.24E-02	7.14E-07	9.43E-06	1.70E-01	3.75E-06	4.96E-05	1.45E-01	3.21E-06	4.24E-05
Road 21	21	1700-1800	3.66E-02	1.32E-07	1.74E-06	3.13E-02	1.13E-07	1.49E-06	1.64E-01	5.94E-07	7.85E-06	1.40E-01	5.08E-07	6.72E-06
Road 21	21	1800-1900	2.36E-02	4.85E-07	6.42E-06	1.96E-02	4.03E-07	5.33E-06	1.37E-01	2.82E-06	3.72E-05	1.12E-01	2.31E-06	3.06E-05
Road 21	21	1900-2000	1.96E-02	2.93E-07	3.88E-06	1.63E-02	2.44E-07	3.22E-06	1.34E-01	2.00E-06	2.64E-05	1.10E-01	1.64E-06	2.17E-05
Road 21	21	2000-2100	1.97E-02	2.32E-07	3.06E-06	1.63E-02	1.92E-07	2.53E-06	1.34E-01	1.58E-06	2.08E-05	1.10E-01	1.29E-06	1.71E-05
Road 21	21	2100-2200	1.91E-02	2.26E-07	2.99E-06	1.59E-02	1.88E-07	2.47E-06	1.30E-01	1.54E-06	2.03E-05	1.07E-01	1.26E-06	1.66E-05
Road 21	21	2200-2300	1.89E-02	2.24E-07	2.96E-06	1.57E-02	1.86E-07	2.45E-06	1.29E-01	1.53E-06	2.01E-05	1.06E-01	1.25E-06	1.65E-05
Road 21	21	2300-0000	1.41E-01	1.72E-07	1.06E-06	1.19E-01	1.45E-07	8.93E-07	1.04E-02	4.49E-07	2.76E-06	8.75E-03	2.77E-07	1.71E-06
Road 22	22	0000-0100	1.41E-01	1.72E-07	1.06E-06	1.19E-01	1.45E-07	8.93E-07	1.04E-02	4.49E-07	2.76E-06	8.75E-03	2.77E-07	1.71E-06
Road 22	22	0100-0200	1.71E-02	8.83E-08	1.14E-06	1.46E-02	7.32E-08	9.68E-07	1.08E-03	5.42E-07	7.17E-06	8.94E-02	4.50E-07	5.94E-06
Road 22	22	0200-0300	1.92E-02	7.26E-08	9.60E-07	1.62E-02	6.11E-08	8.08E-07	1.12E-01	4.24E-07	5.61E-06	9.22E-02	3.49E-07	4.61E-06
Road 22	22	0300-0400	2.12E-02	5.52E-08	8.61E-07	1.77E-02	5.45E-08	7.20E-07	1.24E-01	3.23E-07	5.12E-06	9.52E-02	2.95E-07	3.87E-06
Road 22	22	0400-0500	2.16E-02	7.30E-08	9.65E-07	1.80E-02	8.07E-07	1.18E-01	3.98E-07	5.26E-06	9.63E-02	3.26E-07	4.31E-06	
Road 22	22	0500-0600	2.05E-02	1.18E-07	1.56E-06	1.70E-02	9.86E-08	1.30E-06	1.17E-01	6.74E-07	8.90E-06	9.14E-02	5.31E-07	7.03E-06
Road 22	22	0600-0700	2.00E-02	2.43E-07	3.21E-06	1.68E-02	2.04E-07	2.70E-06	1.17E-01	1.43E-06	1.89E-05	9.67E-02	1.18E-06	1.56E-05
Road 22	22	0700-0800	2.34E-02	5.92E-07	7.83E-06	1.98E-02	5.01E-07	6.62E-06	1.26E-01	3.20E-06	4.23E-05	1.05E-01	2.66E-06	3.52E-05
Road 22	22	0800-0900	2.49E-02	1.29E-07	1.71E-06	2.11E-02	1.09E-07	1.44E-06	1.26E-01	6.52E-07	8.62E-06	1.05E-01	5.52E-07	7.30E-06
Road 22	22	0900-1000	2.81E-02	7.36E-07	9.73E-06	2.39E-02	6.26E-07	8.27E-06	1.40E-01	3.65E-06	4.83E-05	1.18E-01	3.08E-06	4.07E-05
Road 22	22	1000-1100	2.80E-02	1.46E-07	1.93E-06	2.38E-02	1.24E-07	1.64E-06	1.40E-01	7.31E-07	9.66E-06	1.18E-01	6.21E-07	8.21E-06
Road 22	22	1100-1200	2.81E-02	6.26E-07	8.27E-06	2.41E-02	5.38E-07	7.11E-06	1.38E-01	3.07E-06	4.06E-05	1.17E-01	2.62E-06	3.46E-05
Road 22	22	1200-1300	2.73E-02	9.66E-08	1.28E-06	2.34E-02	8.40E-08	1.11E-06	1.35E-01	4.81E-07	6.36E-06	1.14E-01	4.09E-07	5.40E-06
Road 22	22	1300-1400	3.75E-02	7.36E-07	9.73E-06	3.22E-02	6.26E-07	8.28E-06	1.45E-01	3.07E-06	4.06E-05	1.22E-01	2.62E-06	3.46E-05
Road 22	22	1400-1500	3.87E-02	8.36E-07	1.11E-05	3.31E-02	7.16E-07	9.47E-06	1.70E-01	3.67E-06	4.85E-05	1.45E-01	3.13E-06	4.14E-05
Road 22	22	1500-1600	3.78E-02	1.32E-07	1.75E-06	3.24E-02	1.13E-07	1.49E-06	1.70E-01	5.94E-07	7.85E-06	1.45E-01	5.08E-07	6.72E-06
Road 22	22	1600-1700	3.78E-02	8.34E-07	1.10E-05	3.24E-02	7.14E-07	9.43E-06	1.70E-01	3.75E-06	4.96E-05	1.45E-01	3.21E-06	4.24E-05
Road 22	22	1700-1800	3.66E-02	1.32E-07	1.74E-06	3.13E-02	1.13E-07	1.49E-06	1.64E-01	5.94E-07	7.85E-06	1.40E-01	5.08E-07	6.72E-06
Road 22	22	1800-1900	2.36E-02	4.85E-07	6.42E-06	1.96E-02	4.03E-07	5.33E-06	1.37E-01	2.82E-06	3.72E-05	1.12E-01	2.31E-06	3.06E-05
Road 22	22	1900-2000	1.96E-02	2.93E-07	3.88E-06	1.63E-02	2.44E-07	3.22E-06	1.34E-01	2.00E-06	2.64E-05	1.10E-01	1.64E-06	2.17E-05
Road 22	22	2000-2100	1.97E-02	2.32E-07	3.06E-06	1.63E-02	1.92E-07	2.53E-06	1.34E-01	1.58E-06	2.08E-05	1.10E-01	1.29E-06	1.71E-05
Road 22	22	2100-2200	1.91E-02	2.26E-07	2.99E-06	1.59E-02	1.88E-07	2.48E-06	1.34E-01	1.59E-06	2.10E-05	1.10E-01	1.30E-06	1.72E-05
Road 22	22	2200-2300	1.89E-02	2.24E-07	2.96E-06	1.57E-02	1.86E-07	2.45E-06	1.32E-01	1.56E-06	2.06E-05	1.08E-01	1.28E-06	1.69E-05
Road 22	22	2300-0000	1.41E-01	1.72E-07	1.06E-06	1.19E-01	1.45E-07	8.93E-07	1.04E-02	4.49E-07	2.76E-06	8.75E-03	2.77E-07	1.71E-06
Road 23	23	0000-0100	1.41E-01	1.72E-07	1.06E-06	1.19E-01	1.45E-07	8.93E-07	1.04E-02	4.49E-07	2.76E-06	8.75E-03	2.77E-07	1.71E-06
Road 23	23	0100-0200	1.71E-02	8.83E-08	1.14E-06	1.46E-02	7.32E-08	9.68E-07	1.08E-03	5.42E-07	7.17E-06	8.94E-02	4.50E-07	5.94E-06
Road 23	23	0200-0300	1.92E-02	7.26E-08	9.60E-07	1.62E-02	6.11E-08	8.08E-07	1.12E-01	4.24E-07	5.61E-06	9.22E-02	3.49E-07	4.61E-06
Road 23	23	0300-0400	2.12E-02	5.52E-08	8.61E-07	1.77E-02	5.45E-08	7.20E-07	1.24E-01	3.23E-07	5.12E-06	9.52E-02	2.95E-07	3.87E-06
Road 23	23	0400-0500	2.16E-02	7.30E-08	9.65E-07	1.80E-02	8.07E-07	1.18E-01	3.98E-07	5.26E-06	9.63E-02	3.26E-07	4.31E-06	
Road 23	23	0500-0600	2.05E-02	1.18E-07	1.56E-06	1.70E-02	9.86E-08	1.30E-06	1.17E-01	6.74E-07	8.90E-06	9.14E-02	5.31E-07	7.03E-06
Road 23	23	0600-0700	2.00E-02	2.43E-07	3.21E-06	1.68E-02	2.04E-07	2.70E-06	1.17E-01	1.43E-06	1.89E-05	9.67E-02	1.18E-06	1.56E-05
Road 23	23	0700-0800	2.34E-02	5.92E-07	7.83E-06	1.98E-02	5.01E-07	6.62E-06	1.26E-01	3.20E-06	4.23E-05	1.05E-01	2.66E-06	3.52E-05
Road 23	23	0800-0900	2.49E-02	1.29E-07	1.71E-06	2.11E-02	1.09E-07	1.44E-06	1.26E-01	6.52E-07	8.62E-06	1.05E-01	5.52E-07	7.30E-06
Road 23	23	0900-1000	2.81E-02	7.36E-07	9.73E-06	2.39E-02	6.26E-07	8.27E-06	1.40E-01	3.65E-06	4.83E-05	1.18E-01	3.08E-06	4.07E-05
Road 23	23	1000-1100	2.80E-02	1.46E-07	1.93E-06	2.38E-02	1.24E-07	1.64E-06	1.40E-01	7.31E-07	9.66E-06	1.18E-01	6.21E-07	8.21E-06
Road 23	23	1100-1200	2.81E-02	6.26E-07	8.27E-06	2.41E-02	5.38E-07	7.11E-06	1.38E-01	3.07E-06	4.06E-05	1.17E-01	2.62E-06	3.46E-05
Road 23	23	1200-1300	2.73E-02	9.66E-08	1.28E-06	2.34E-02	8.40E-08	1.11E-06	1.35E-01	4.81E-07	6.36E-06	1.14E-01	4.09E-07	5.40E-06
Road 23	23	1300-1400	3.75E-02	7.36E-07	9.73E-06	3.22E-02	6.26E-07	8.28E-06	1.45E-01	3.07E-06	4.06E-05	1.22E-01	2.62E-06	3.46E-05
Road 23	23	1400-1500	3.87E-02	8.36E-07	1.11E-05	3.31E-02	7.16E-07	9.47E-06	1.70E-01	3.67E-06	4.85E-05	1.45E-01	3.13E-06	4.14E-05
Road 23	23	1500-1600	3.78E-02	1.32E-07	1.75E-06	3.24E-02	1.13E-07	1.49E-06	1.70E-01	5.94E-07	7.85E-06	1.45E-01	5.08E-07	6.72E-06
Road 23	23	1600-1700	3.78E-02	8.34E-07	1.10E-05	3.24E-02	7.14E-07	9.43E-06	1.70E-01	3.75E-06	4.96E-05	1.45E-01	3.21E-06	4.24E-05
Road 23	23	1700-1800	3.66E-02	1.32E-07	1.74E-06	3.13E-02	1.13E-07	1.49E-06	1.64E-01	5.94E-07	7.85E-06	1.40E-01	5.08E-07	6.72E-06
Road 23	23	1800-1900	2.36E-02	4.85E-07	6.42E-06	1.96E-02	4.03E-07	5.33E-06	1.37E-01	2.82E-06	3.72E-05	1.12E-01	2.31E-06	3.06E-05
Road 23	23	1900-2000	1.96E-02	2.93E-07	3.88E-06	1.63E-02	2.44E-07	3.22E-06	1.34E-01	2.00E-06	2.64E-05	1.10E-01	1.64E-06	2.17E-05
Road 23	23	2000-2100	1.97E-02	2.32E-07	3.06E-06	1.63E-02	1.92E-07	2.53E-06	1.34E-01	1.58E-06	2.08E-05	1.10E-01	1.29E-06	1.71E-05
Road 23	23	2100-2200	1.91E-02	2.26E-07	2.99E-06	1.59E-02	1.88E-07	2.48E-06	1.34E-01	1.59E-06	2.10E-05	1.10E-01	1.30E-06	1.72E-05
Road 23	23	2200-2300	1.89E-02	2.24E-07	2.96E-06	1.57E-02	1.86E-07	2.45E-06	1.32E-01	1.56E-06	2.06E-05	1.08E-01	1.28E-06	1.69E-05
Road 23	23	2300-0000	1.41E-01	1.72E-07	1.06E-06	1.19E-01	1.45E-07	8.93E-07	1.04E-02	4.49E-07	2.76E-06	8.75E-03	2.77E-07	1.71E-06
Road 24	24	0000-0100	1.41E-01	1.72E-07	1.06E-06	1.19E-01	1.45E-07	8.93E-07	1.04E-02	4.49E-07	2.76E-06	8.75E-03	2.77E-07	1.71E-06
Road 24	24	0100-0200	1.71E-02	8.83E-08	1.14E-06	1.46E-02	7.32E-08	9.68E-07	1.08E-03	5.42E-07	7.17E-06	8.94E-02	4.50E-07	5.94E-06
Road 24	24	0200-0300	1.92E-02	7.26E-08	9.60E-07	1.62E-02	6.11E-08	8.08E-07	1.12E-01	4.24E-07	5.61E-06	9.22E-02	3.49E-07	4.61E-06
Road 24	24	0300-0400	2.12E-02	5.52E-08	8.61E-07	1.77E-02	5.45E-08	7.20E-07	1.24E-01	3.23E-07	5.12E-06	9.52E-02	2.95E-07	3.87E-06
Road 24	24	0400-0500	2.16E-02	7.30E-08	9.65E-07	1.80E-02	8.07E-07	1.18E-01	3.98E-07	5.26E-06	9.63E-02	3.26E-07	4.31E-06	
Road 24	24	0500-0600	2.05E-02	1.18E-07	1.56E-06	1.70E-02	9.86E-08	1.30E-06	1.17E-01	6.74E-07	8.90E-06	9.14E-02	5.31E-07	7.03E-06
Road 24	24	0600-0700	2.00E-02	2.43E-07	3.21E-06	1.68E-02	2.04E-07	2.70E-06	1.17E-01	1.43E-06	1.89E-05	9.67E-02	1.18E-06	1.56E-05
Road 24	24	0700-0800	2.34E-02	5.92E-07	7.83E-06	1.98E-02	5.01E-07	6.62E-06	1.26E-01	3.20E-06	4.23E-05	1.05E-01	2.66E-06	3.52E-05
Road 24	24	0800-0900	2.49E-02	1.29E-07	1.71E-06	2.11E-02	1.09E-07	1.44E-06	1.26E-01	6.52E-07	8.62E-06	1.05E-01	5.52E-07	7.30E-06
Road 24	24	0900-1000	2.81E-02	7.36E-07	9.73E-06	2.39E-02	6.26E-07	8.27E-06	1.40E-01	3.65E-06	4.83E-05	1.18E-01	3.08E-06	4.07E-05
Road 24	24	1000-1100	2.80E-02	1.46E-07	1.93E-06	2.38E-02	1.24E-07	1.64E-06	1.40E-01	7.31E-07	9.66E-06	1.18E-01	6.21E-07	8.21E-06
Road 24	24	1100-1200	2.81E-02	6.26E-07	8.27E-06	2.41E-02	5.38E-07	7.11E-06	1.38E-01	3.07E-06	4.06E-05	1.17E-01	2.62E-06	3.46E-05
Road 24	24	1200-1300	2.73E-02	9.66E-08	1.28E-06	2.34E-02	8.40E-08	1.11E-06	1.35E-01	4.81E-07	6.36E-06	1.14E-01	4.09E-07	5.40E-06
Road 24	24	1300-1400	3.75E-02	7.36E-07	9.73E-06	3.22E-02	6.26E-07	8.28E-06	1.45E-01	3.07E-06	4.06E-05	1.22E-01	2.62E-06	3.46E-05
Road 24	24	1400-1500	3.87E-02	8.36E-07	1.11E-05	3.31E-02	7.16E-07	9.47E-06	1.70E-01	3.67E-06	4.85E-05	1.45E-01	3.13E-06	4.14E-05
Road 24	24	1500-1600	3.78E-02	1.32E-07	1.75E-06	3.24E-02	1.13E-07	1.49E-06	1.70E-01	5.94E-07	7.85E-06	1.45E-01	5.08E-07	6.72E-06
Road 24	24	1600-1700	3.78E-02	8.34E-07	1.10E-05	3.24E-02	7.14E-07	9.43E-06	1.70E-01	3.75E-06	4.96E-05	1.45E-01	3.21E-06	4.24E-05
Road 24	24	1700-1800	3.66E-02	1.32E-07	1.74E-06	3.13E-02	1.13E-07	1.49E-06	1.64E-01	5.94E-07	7.85E-06	1.40E-01	5.08E-07	6.72E-06
Road 24	24	1800-1900	2.36E-02	4.85E-07	6.42E-06	1.96E-02	4.03E-07	5.33E-06	1.37E-01	2.82E-06	3.72E-05	1.12E-01	2.31E-06	3.06E-05
Road 24	24	1900-2000	1.96E-02	2.93E-07	3.88E-06	1.63E-02	2.44E-07	3.22E-06	1.34E-01	2.00E-06	2.64E-05	1.10E-01	1.64E-06	2.17E-05
Road 24	24	2000-2100	1.97E-02	2.32E-07	3.06E-06	1.63E-02	1.92E-07	2.53E-06	1.34E-01	1.58E-06	2.08E-05	1.10E-01	1.29E-06	1.71E-05
Road 24	24	2100-2200	1.91E-02	2.26E-07	2.99E-06	1.59E-02	1.88E-07	2.48E-06	1.34E-01	1.59E-06	2.10E-05	1.10E-01	1.30E-06	1.72E-05
Road 24	24	2200-2300	1.89E-02	2.24E-07	2.96E-06	1.57E-02	1.86E-07	2.45E-06	1.32E-01	1.56E-06	2.06E-05	1.08E-01	1.28E-06	1.69E-05
Road 24	24	2300-0000	1.41E-01	1.72E-07	1.06E-06	1.19E-01	1.45E-07	8.93E-07	1.04E-02	4.49E-07	2.76E-06	8.75E-03	2.77E-07	1.71E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.76E-02	1.32E-07	1.75E-06	1.61E-02	1.13E-07	1.49E-06	1.57E-01	5.94E-07	7.85E-06	1.34E-01	5.08E-07	6.72E-06
Road 27	27	1700-1800	1.69E-01	3.90E-07	1.20E-06	1.40E-01	3.21E-07	9.89E-07	6.84E-01	1.58E-06	4.85E-06	5.64E-01	1.30E-06	4.00E-06
Road 27	27	1800-1900	1.49E-01	2.36E-07	7.24E-07	1.24E-01	1.96E-07	6.04E-07	6.24E-01	9.85E-07	3.03E-06	5.19E-01	8.19E-07	2.52E-06
Road 27	27	1900-2000	1.34E-01	1.10E-07	3.38E-07	1.11E-01	9.16E-08	2.82E-07	5.56E-01	4.57E-07	1.41E-06	4.62E-01	3.80E-07	1.17E-06
Road 27	27	2000-2100	1.34E-01	1.10E-07	3.38E-07	1.11E-01	9.16E-08	2.82E-07	5.56E-01	4.57E-07	1.41E-06	4.62E-01	3.80E-07	1.17E-06
Road 27	27	2100-2200	1.37E-01	1.15E-07	3.53E-07	1.14E-01	9.55E-08	2.93E-07	5.70E-01	4.77E-07	1.46E-06	4.74E-01	3.96E-07	1.22E-06
Road 27	27	2200-2300	1.42E-01	1.05E-07	3.22E-07	1.19E-01	8.76E-08	2.70E-07	5.91E-01	4.36E-07	1.34E-06	4.91E-01	3.63E-07	1.12E-06
Road 27	27	2300-0000	1.45E-01	8.75E-08	2.69E-07	1.20E-01	7.25E-08	2.23E-07	5.37E-01	3.24E-07	9.99E-07	4.45E-01	2.69E-07	8.27E-07
Road 28	28	0000-0100	1.70E-02	3.09E-07	6.17E-06	1.44E-02	9.23E-08	5.24E-06	1.82E-01	1.16E-06	6.61E-05	1.53E-01	9.77E-07	5.54E-05
Road 28	28	0100-0200	1.70E-02	3.09E-07	6.17E-06	1.44E-02	9.23E-08	5.24E-06	1.82E-01	1.16E-06	6.61E-05	1.53E-01	9.77E-07	5.54E-05
Road 28	28	0200-0300	1.87E-02	7.04E-08	4.00E-06	1.57E-02	5.90E-08	3.35E-06	1.84E-01	6.94E-07	3.94E-05	1.53E-01	5.75E-07	3.26E-05
Road 28	28	0300-0400	1.87E-02	7.04E-08	4.00E-06	1.57E-02	5.90E-08	3.35E-06	1.84E-01	6.94E-07	3.94E-05	1.53E-01	5.75E-07	3.26E-05
Road 28	28	0400-0500	2.09E-02	8.13E-08	4.62E-06	1.76E-02	6.81E-08	3.87E-06	1.84E-01	7.74E-07	4.39E-05	1.53E-01	6.39E-07	3.63E-05
Road 28	28	0500-0600	2.62E-02	1.48E-07	8.39E-06	1.70E-02	1.24E-07	7.04E-06	1.85E-01	1.35E-06	7.65E-05	1.53E-01	1.12E-06	6.37E-05
Road 28	28	0600-0700	2.09E-02	3.32E-07	1.88E-05	1.77E-02	2.80E-07	1.59E-05	1.85E-01	2.93E-06	1.66E-04	1.55E-01	2.45E-06	1.39E-04
Road 28	28	0700-0800	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	0800-0900	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	0900-1000	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	1000-1100	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	1100-1200	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	1200-1300	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	1300-1400	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	1400-1500	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04	1.55E-01	5.76E-06	3.26E-04
Road 28	28	1500-1600	2.09E-02	7.81E-07	4.43E-05	1.77E-02	6.58E-07	3.73E-05	1.85E-01	6.90E-06	3.91E-04

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.11E-02	4.09E-02	1.90E-05	1.05E-02	2.04E-02	9.48E-06	8.43E-05	1.12E-01	1.18E-04	4.21E-05	5.58E-02	5.91E-05
Road 47	47	1700-1800	2.25E-02	5.06E-02	1.58E-05	1.82E-02	4.10E-02	1.28E-05	1.20E-01	2.70E-06	8.43E-05	9.35E-02	2.11E-06	6.57E-05
Road 47	47	1800-1900	1.69E-02	4.30E-07	1.34E-05	1.39E-02	3.53E-07	1.10E-05	8.11E-02	2.31E-06	7.23E-05	7.17E-02	1.82E-06	5.69E-05
Road 47	47	1900-2000	1.36E-02	2.77E-02	1.08E-05	9.58E-03	1.95E-02	7.62E-06	6.69E-02	1.36E-06	5.32E-05	5.84E-02	1.19E-06	4.64E-05
Road 47	47	2000-2100	1.22E-02	1.92E-02	6.00E-06	9.92E-03	1.56E-02	4.87E-06	8.98E-02	1.41E-06	4.41E-05	6.91E-02	1.09E-06	3.39E-05
Road 47	47	2100-2200	1.02E-02	1.60E-02	5.01E-06	8.33E-03	1.31E-02	4.09E-06	8.51E-02	1.34E-06	4.20E-05	6.81E-02	1.07E-06	3.36E-05
Road 47	47	2200-2300	9.71E-03	1.49E-02	4.64E-06	7.93E-03	1.21E-02	3.79E-06	8.40E-02	1.29E-06	4.01E-05	6.47E-02	9.91E-07	3.09E-05
Road 47	47	2300-0000	1.00E-02	1.14E-02	3.56E-06	8.15E-03	9.30E-03	2.91E-06	8.21E-02	9.38E-07	2.93E-05	6.33E-02	7.23E-07	2.26E-05
Road 48	48	0000-0100	9.38E-03	6.02E-03	1.88E-06	7.65E-03	4.91E-03	1.54E-06	7.70E-02	4.94E-07	1.55E-05	5.94E-02	3.81E-07	1.20E-05
Road 48	48	0100-0200	9.38E-03	5.21E-08	7.86E-07	7.90E-03	4.39E-08	6.62E-07	9.87E-02	5.48E-07	8.27E-06	8.09E-02	4.49E-07	6.78E-06
Road 48	48	0200-0300	1.08E-02	5.45E-08	1.41E-06	8.93E-03	4.51E-08	1.17E-06	1.00E-01	5.06E-07	1.31E-05	8.14E-02	4.11E-07	1.07E-05
Road 48	48	0300-0400	1.08E-02	5.45E-08	5.20E-07	8.93E-03	4.51E-08	4.30E-07	1.02E-01	5.06E-07	4.83E-06	8.24E-02	4.09E-07	3.90E-06
Road 48	48	0400-0500	1.21E-02	2.29E-08	6.07E-07	9.64E-03	1.82E-08	4.83E-07	1.14E-01	2.14E-07	5.67E-06	9.17E-02	1.73E-07	4.58E-06
Road 48	48	0500-0600	1.21E-02	2.29E-08	1.07E-06	9.64E-03	1.82E-08	8.51E-07	1.14E-01	2.14E-07	1.00E-05	9.17E-02	1.73E-07	8.07E-06
Road 48	48	0600-0700	1.27E-02	1.65E-07	2.50E-06	1.06E-02	1.38E-06	2.08E-05	8.68E-02	1.13E-06	1.71E-05	7.25E-02	9.44E-07	1.43E-05
Road 48	48	0700-0800	1.29E-02	3.92E-07	2.96E-06	1.07E-02	3.26E-06	2.46E-05	8.68E-02	2.64E-06	1.99E-05	7.25E-02	2.20E-06	1.67E-05
Road 48	48	0800-0900	1.29E-02	3.92E-07	5.92E-06	1.08E-02	3.26E-06	4.92E-05	8.77E-02	2.65E-06	4.00E-05	7.32E-02	2.21E-06	3.34E-05
Road 48	48	0900-1000	1.64E-02	3.52E-07	5.31E-06	1.39E-02	2.98E-07	4.50E-06	1.12E-01	2.41E-06	3.64E-05	9.34E-02	2.01E-06	3.03E-05
Road 48	48	1000-1100	1.64E-02	3.52E-07	5.31E-06	1.39E-02	2.98E-07	4.50E-06	1.12E-01	2.41E-06	3.64E-05	9.34E-02	2.01E-06	3.03E-05
Road 48	48	1100-1200	1.55E-02	3.16E-07	4.77E-06	1.31E-02	2.68E-07	4.04E-06	1.12E-01	2.28E-06	3.45E-05	9.35E-02	1.91E-06	2.88E-05
Road 48	48	1200-1300	1.55E-02	3.16E-07	4.77E-06	1.31E-02	2.68E-07	4.04E-06	1.12E-01	2.28E-06	3.45E-05	9.35E-02	1.91E-06	2.88E-05
Road 48	48	1300-1400	1.61E-02	5.02E-07	7.57E-06	3.08E-02	4.28E-07	6.45E-06	1.06E-01	4.25E-06	6.42E-05	2.60E-01	3.61E-06	5.45E-05
Road 48	48	1400-1500	1.61E-02	5.02E-07	7.87E-06	3.08E-02	4.28E-07	6.71E-06	1.06E-01	4.44E-06	6.96E-05	2.60E-01	3.77E-06	5.91E-05
Road 48	48	1500-1600	3.45E-02	5.08E-07	7.67E-06	2.86E-02	4.22E-07	6.37E-06	1.85E-01	2.72E-06	4.11E-05	2.54E-01	3.74E-06	5.65E-05
Road 48	48	1600-1700	3.64E-02	5.46E-07	8.24E-06	3.04E-02	4.55E-07	6.86E-06	3.35E-01	5.02E-06	7.58E-05	2.78E-01	4.17E-06	6.29E-05
Road 48	48	1700-1800	3.88E-02	5.59E-07	5.17E-06	3.23E-02	4.66E-07	4.31E-06	3.57E-01	5.14E-06	4.76E-05	2.96E-01	4.27E-06	3.95E-05
Road 48	48	1800-1900	2.88E-02	4.29E-07	6.47E-06	2.38E-02	3.55E-07	5.35E-06	3.69E-01	5.50E-06	8.30E-05	3.04E-01	4.53E-06	6.84E-05
Road 48	48	1900-2000	2.91E-02	4.16E-07	6.27E-06	2.41E-02	3.44E-07	5.18E-06	3.73E-01	5.33E-06	8.04E-05	3.07E-01	4.39E-06	6.62E-05
Road 48	48	2000-2100	2.95E-02	2.74E-07	4.14E-06	2.43E-02	2.26E-07	3.40E-06	4.24E-01	3.93E-06	5.93E-05	3.48E-01	3.23E-06	4.87E-05
Road 48	48	2100-2200	2.80E-02	2.52E-07	3.81E-06	2.32E-02	2.09E-07	3.16E-06	3.92E-01	3.53E-06	5.33E-05	3.24E-01	2.92E-06	4.40E-05
Road 48	48	2200-2300	2.80E-02	2.52E-07	3.81E-06	2.32E-02	2.09E-07	3.16E-06	3.92E-01	3.53E-06	5.33E-05	3.24E-01	2.92E-06	4.40E-05
Road 48	48	2300-0000	2.96E-02	1.96E-07	2.96E-06	2.45E-02	1.62E-07	2.45E-06	4.06E-01	2.70E-06	4.07E-05	3.35E-01	2.22E-06	3.36E-05
Road 49	49	0000-0100	2.16E-02	4.27E-07	7.31E-07	1.79E-02	3.54E-07	6.06E-07	2.96E-01	5.85E-06	1.00E-05	2.45E-01	4.84E-06	8.27E-06
Road 49	49	0100-0200	1.25E-02	4.42E-08	1.11E-06	1.03E-02	3.73E-08	9.40E-07	1.52E-01	5.35E-07	1.35E-05	1.26E-01	4.43E-07	1.12E-05
Road 49	49	0200-0300	1.25E-02	4.42E-08	1.11E-06	1.03E-02	3.73E-08	9.40E-07	1.52E-01	5.35E-07	1.35E-05	1.26E-01	4.43E-07	1.12E-05
Road 49	49	0300-0400	1.36E-02	2.74E-08	6.91E-07	1.13E-02	2.27E-08	5.73E-07	1.52E-01	3.05E-07	7.70E-06	1.23E-01	2.48E-07	6.25E-06
Road 49	49	0400-0500	1.48E-02	3.25E-08	8.20E-07	1.22E-02	2.68E-08	6.77E-07	1.67E-01	3.44E-07	8.69E-06	1.27E-01	2.79E-07	7.03E-06
Road 49	49	0500-0600	1.84E-02	4.10E-08	1.36E-06	1.52E-02	3.38E-08	1.12E-06	1.67E-01	3.72E-06	1.51E-05	1.21E-01	2.69E-06	9.95E-06
Road 49	49	0600-0700	1.97E-02	6.58E-07	4.00E-06	1.65E-02	1.33E-07	3.36E-06	1.83E-01	1.47E-06	3.72E-05	1.51E-01	1.21E-06	3.07E-05
Road 49	49	0700-0800	2.12E-02	4.08E-07	3.51E-06	1.77E-02	3.42E-07	2.94E-06	1.83E-01	3.52E-06	3.03E-05	1.51E-01	2.90E-06	2.50E-05
Road 49	49	0800-0900	2.59E-02	4.82E-07	1.22E-05	2.18E-02	4.06E-07	1.02E-05	2.06E-01	3.84E-06	9.69E-05	1.71E-01	3.19E-06	8.04E-05
Road 49	49	0900-1000	2.57E-02	3.79E-07	9.56E-06	2.17E-02	3.20E-07	8.09E-06	2.09E-01	3.09E-06	7.79E-05	1.75E-01	2.58E-06	6.52E-05
Road 49	49	1000-1100	2.47E-02	3.41E-07	8.61E-06	2.08E-02	2.88E-07	7.27E-06	2.01E-01	2.78E-06	7.01E-05	1.68E-01	2.32E-06	5.87E-05
Road 49	49	1100-1200	2.47E-02	2.94E-07	7.41E-06	2.09E-02	2.48E-07	6.27E-06	1.75E-01	2.08E-06	5.25E-05	1.47E-01	1.74E-06	4.39E-05
Road 49	49	1200-1300	2.42E-02	2.94E-07	7.41E-06	2.04E-02	2.48E-07	6.27E-06	1.75E-01	2.08E-06	5.25E-05	1.47E-01	1.74E-06	4.39E-05
Road 49	49	1300-1400	1.29E-02	3.23E-07	8.14E-06	2.79E-02	2.74E-07	6.92E-06	2.43E-01	2.38E-06	6.02E-05	2.05E-01	2.01E-06	5.07E-05
Road 49	49	1400-1500	1.29E-02	3.84E-07	9.20E-06	2.79E-02	2.74E-07	7.80E-06	2.43E-01	2.61E-06	6.58E-05	2.05E-01	2.19E-06	5.53E-05
Road 49	49	1500-1600	3.34E-02	4.30E-07	6.47E-06	2.88E-02	3.71E-07	5.58E-06	2.48E-01	3.19E-06	4.80E-05	2.14E-01	2.75E-06	4.14E-05
Road 49	49	1600-1700	3.56E-02	4.17E-07	1.05E-05	2.96E-02	3.46E-07	8.74E-06	2.52E-01	2.96E-06	7.46E-05	2.07E-01	2.42E-06	6.12E-05
Road 49	49	1700-1800	3.79E-02	4.08E-07	5.06E-06	3.15E-02	3.39E-07	4.20E-06	2.56E-01	2.75E-06	3.42E-05	2.10E-01	2.25E-06	2.79E-05
Road 49	49	1800-1900	2.26E-02	3.48E-07	8.79E-06	1.86E-02	2.86E-07	7.23E-06	2.10E-01	3.24E-06	8.18E-05	1.75E-01	2.63E-06	6.63E-05
Road 49	49	1900-2000	1.85E-02	3.79E-07	4.52E-06	1.51E-02	3.09E-07	3.69E-06	2.18E-01	2.11E-06	5.32E-05	1.75E-01	1.69E-06	4.28E-05
Road 49	49	2000-2100	1.85E-02	1.79E-07	4.52E-06	1.51E-02	1.46E-07	3.69E-06	2.18E-01	2.11E-06	5.32E-05	1.75E-01	1.69E-06	4.28E-05
Road 49	49	2100-2200	1.58E-02	1.52E-07	3.83E-06	1.30E-02	1.25E-07	3.14E-06	1.91E-01	1.84E-06	4.63E-05	1.56E-01	1.50E-06	3.79E-05
Road 49	49	2200-2300	1.58E-02	1.52E-07	3.83E-06	1.30E-02	1.25E-07	3.14E-06	1.91E-01	1.84E-06	4.63E-05	1.56E-01	1.50E-06	3.79E-05
Road 49	49	2300-0000	1.69E-02	1.14E-07	2.77E-06	1.39E-02	9.35E-08	2.27E-06	2.31E-01	1.56E-06	3.80E-05	1.90E-01	1.28E-06	3.12E-05
Road 50	50	0000-0100	1.22E-02	2.41E-07	4.12E-07	1.01E-02	1.99E-07	3.41E-07	1.67E-01	3.30E-06	5.65E-06	1.38E-01	2.72E-06	4.66E-06
Road 50	50	0100-0200	1.22E-02	2.41E-07	4.12E-07	1.01E-02	1.99E-07	3.41E-07	1.67E-01	3.30E-06	5.65E-06	1.38E-01	2.72E-06	4.66E-06
Road 50	50	0200-0300	4.12E-02	9.29E-09	1.33E-07	3.50E-02	7.88E-09	1.12E-07	1.72E-01	3.87E-08	5.53E-07	1.46E-01	3.29E-08	4.68E-07
Road 50	50	0300-0400	4.46E-02	1.89E-09	1.14E-07	3.79E-02	1.60E-09	9.68E-08	1.72E-01	7.29E-09	4.40E-07	1.46E-01	6.20E-09	3.74E-07
Road 50	50	0400-0500	4.46E-02	9.48E-09	1.35E-07	3.79E-02	8.06E-09	1.14E-07	1.72E-01	3.65E-08	5.21E-07	1.46E-01	3.10E-08	4.42E-07
Road 50	50	0500-0600	4.82E-02	6.12E-08	5.88E-07	4.09E-02	4.99E-08	4.93E-07	1.66E-01	2.11E-06	1.99E-06	1.41E-01	1.79E-06	1.68E-06
Road 50	50	0600-0700	5.07E-02	9.50E-08	1.36E-06	4.31E-02	8.08E-08	1.16E-06	1.72E-01	3.22E-06	4.61E-06	1.46E-01	2.73E-06	3.89E-06
Road 50	50	0700-0800	5.29E-02	1.23E-07	1.75E-06	4.49E-02	1.04E-07	1.49E-06	2.27E-01	5.29E-06	7.52E-06	1.93E-01	4.49E-06	6.39E-06
Road 50	50	0800-0900	5.51E-02	1.23E-07	1.75E-06	4.68E-02	1.04E-07	1.49E-06	2.27E-01	5.07E-06	7.21E-06	1.93E-01	4.31E-06	6.13E-06
Road 50	50	0900-1000	5.62E-02	1.23E-07	1.75E-06	4.78E-02	1.04E-07	1.49E-06	2.27E-01	4.85E-06	6.90E-06	1.93E-01	4.13E-06	5.87E-06
Road 50	50	1000-1100	6.08E-02	1.19E-07	1.69E-06	5.17E-02	1.01E-07	1.44E-06	2.45E-01	4.79E-06	6.81E-06	2.08E-01	4.07E-06	5.79E-06
Road 50	50	1100-1200	6.08E-02	1.19E-07	1.69E-06	5.17E-02	1.01E-07	1.44E-06	2.45E-01	4.65E-06	6.61E-06	2.08E-01	3.95E-06	5.62E-06
Road 50	50	1200-1300	6.08E-02	1.19E-07	1.69E-06	5.17E-02	1.01E-07	1.44E-06	2.45E-01	4.65E-06	6.61E-06	2.08E-01	3.95E-06	5.62E-06
Road 50	50	1300-1400	6.56E-02	6.04E-08	8.61E-07	5.59E-02	5.15E-08	7.35E-07	2.49E-01	2.29E-07	3.27E-06	2.12E-01	1.95E-07	2.79E-06
Road 50	50	1400-1500	6.70E-02	6.12E-08	8.74E-07	5.70E-02	5.21E-08	7.43E-07	2.49E-01	2.27E-07	3.23E-06	2.12E-01	1.93E-07	2.75E-06
Road 50	50	1500-1600	6.70E-02	6.12E-08	8.74E-07	5.70E-02	5.21E-08	7.43E-07	2.49E-01	2.27E-07	3.23E-06	2.12E-01	1.93E-07	2.75E-06
Road 50	50	1600-1700	6.57E-02	5.84E-08	8.33E-07	5.48E-02	4.87E-08	6.94E-07	2.48E-01	2.21E-07	3.15E-06	2.07E-01	1.84E-07	2.62E-06
Road 50	50	1700-1800	5.70E-02	4.66E-08	6.64E-07	4.75E-02	3.88E-08	5.53E-07	2.37E-01	1.94E-07	2.76E-06	1.98E-01	1.62E-07	2.30E-06
Road 50	50	1800-1900	5.05E-02	2.97E-08	4.24E-07	4.18E-02	2.46E-08	3.51E-07	2.19E-01	1.29E-07	1.84E-06	1.81E-01	1.07E-07	1.52E-06
Road 50	50	1900-2000	5.01E-02	1.98E-08	2.83E-07	4.16E-02	1.64E-08	2.35E-07	2.12E-01	8.36E-08	1.19E-06	1.79E-01	6.91E-08	9.86E-07
Road 50	50	2000-2100	4.74E-02	1.49E-08	2.12E-07	3.91E-02	1.23E-08	1.75E-07	2.00E-01	6.31E-08	9.00E-07	1.69E-01	5.21E-08	7.43E-07
Road 50	50	2100-2200	4.81E-02	1.55E-08	2.21E-07	3.97E-02	1.28E-08	1.82E-07	2.03E-01	6.55E-08	9.34E-07	1.71E-01	5.40E-08	7.71E-07
Road 50	50	2200-2300	4.81E-02	1.55E-08	2.21E-07	3.97E-02	1.28E-08	1.82E-07	2.03E-01	6.55E-08	9.34E-07	1.71E-01	5.40E-08	7.71E-07
Road 50	50	2300-0000	5.32E-02	1.22E-08	1.75E-07	4.41E-02	1.01E-08	1.45E-07	2.09E-01	4.82E-08	6.87E-07	1.72E-01	3.97E-08	5.67E-07

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2033**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	8.41E-03	6.88E-03	1.28E-06	6.88E-03	5.63E-03	1.04E-06	6.76E-02	5.53E-07	1.48E-05	5.53E-02	4.52E-07	1.21E-05
Road 51	51	0100-0200	8.96E-03	4.73E-08	8.82E-07	7.55E-03	3.98E-08	7.43E-07	9.81E-02	5.18E-07	9.66E-06	8.05E-02	4.25E-07	7.92E-06
Road 51	51	0200-0300	9.59E-03	3.69E-08	6.88E-07	8.03E-03	3.09E-08	5.77E-07	9.96E-02	3.83E-07	7.15E-06	8.19E-02	3.15E-07	5.83E-06
Road 51	51	0300-0400	1.03E-02	3.13E-08	5.83E-07	8.53E-03	2.59E-08	4.83E-07	1.02E-01	3.09E-07	5.76E-06	8.19E-02	2.49E-07	4.63E-06
Road 51	51	0400-0500	1.10E-02	3.65E-08	6.79E-07	9.07E-03	3.01E-08	5.62E-07	1.04E-01	3.45E-07	6.42E-06	8.31E-02	2.76E-07	5.15E-06
Road 51	51	0500-0600	1.03E-02	6.87E-08	1.28E-06	8.53E-03	5.68E-08	1.06E-06	1.05E-01	6.02E-07	1.12E-05	8.61E-02	4.85E-07	9.04E-06
Road 51	51	0600-0700	1.12E-02	1.50E-07	2.79E-06	1.02E-02	1.36E-07	2.46E-06	1.01E-01	1.30E-06	2.42E-05	9.34E-02	1.24E-06	6.50E-05
Road 51	51	0700-0800	1.29E-02	3.21E-07	5.98E-06	1.08E-02	2.67E-07	4.98E-06	1.08E-01	2.67E-06	4.98E-05	8.76E-02	2.17E-06	4.05E-05
Road 51	51	0800-0900	1.23E-02	3.53E-07	6.57E-06	1.04E-02	2.97E-07	5.54E-06	9.67E-02	2.77E-06	5.17E-05	7.95E-02	2.28E-06	4.25E-05
Road 51	51	0900-1000	1.37E-02	3.20E-07	5.97E-06	1.16E-02	2.71E-07	5.06E-06	1.05E-01	2.45E-06	4.56E-05	8.73E-02	2.04E-06	3.79E-05
Road 51	51	1000-1100	1.46E-02	2.77E-07	5.16E-06	1.24E-02	2.35E-07	4.37E-06	1.11E-01	2.10E-06	3.92E-05	9.23E-02	1.75E-06	3.27E-05
Road 51	51	1100-1200	1.57E-02	4.66E-07	8.69E-06	1.33E-02	3.97E-07	7.39E-06	1.20E-01	3.57E-06	6.65E-05	9.96E-02	2.97E-06	5.53E-05
Road 51	51	1200-1300	1.57E-02	4.68E-07	8.69E-06	1.33E-02	3.97E-07	7.39E-06	1.20E-01	3.57E-06	6.65E-05	9.96E-02	2.97E-06	5.53E-05
Road 51	51	1300-1400	1.66E-02	2.01E-07	3.74E-06	1.41E-02	1.71E-07	3.56E-06	1.27E-01	1.54E-06	2.87E-05	1.07E-01	1.30E-06	2.43E-05
Road 51	51	1400-1500	1.66E-02	2.01E-07	3.74E-06	1.41E-02	1.71E-07	3.56E-06	1.27E-01	1.54E-06	2.87E-05	1.07E-01	1.30E-06	2.43E-05
Road 51	51	1500-1600	3.66E-02	2.68E-07	4.99E-06	3.04E-02	2.22E-07	4.14E-06	1.96E-01	1.43E-06	2.67E-05	1.63E-01	1.19E-06	2.22E-05
Road 51	51	1600-1700	3.84E-02	2.68E-07	4.99E-06	3.19E-02	2.22E-07	4.14E-06	2.06E-01	1.43E-06	2.67E-05	1.71E-01	1.19E-06	2.22E-05
Road 51	51	1700-1800	4.09E-02	2.68E-07	4.99E-06	3.40E-02	2.22E-07	4.14E-06	2.19E-01	1.43E-06	2.67E-05	1.82E-01	1.19E-06	2.22E-05
Road 51	51	1800-1900	3.04E-02	2.68E-07	4.99E-06	2.53E-02	2.22E-07	4.14E-06	1.96E-01	1.43E-06	2.67E-05	1.63E-01	1.19E-06	2.22E-05
Road 51	51	1900-2000	3.07E-02	2.68E-07	4.99E-06	2.55E-02	2.22E-07	4.14E-06	1.96E-01	1.43E-06	2.67E-05	1.63E-01	1.19E-06	2.22E-05
Road 51	51	2000-2100	3.12E-02	2.74E-07	4.14E-06	2.57E-02	2.26E-07	3.40E-06	2.24E-01	1.97E-06	2.97E-05	1.84E-01	1.62E-06	2.45E-05
Road 51	51	2100-2200	2.96E-02	2.52E-07	3.81E-06	2.44E-02	2.09E-07	3.16E-06	2.12E-01	1.81E-06	2.73E-05	1.75E-01	1.49E-06	2.25E-05
Road 51	51	2200-2300	2.96E-02	2.52E-07	3.81E-06	2.44E-02	2.09E-07	3.16E-06	2.12E-01	1.81E-06	2.73E-05	1.75E-01	1.49E-06	2.25E-05
Road 51	51	2300-0000	3.13E-02	1.96E-07	2.96E-06	2.58E-02	1.62E-07	2.44E-06	2.39E-01	1.49E-06	2.26E-05	1.97E-01	1.23E-06	1.86E-05
Road 52	52	0000-0100	1.32E-02	2.60E-07	4.45E-07	1.09E-02	2.15E-07	3.68E-07	1.80E-01	3.56E-06	6.08E-06	1.49E-01	2.94E-06	5.02E-06
Road 52	52	0100-0200	1.32E-02	2.60E-07	4.45E-07	1.09E-02	2.15E-07	3.68E-07	1.80E-01	3.56E-06	6.08E-06	1.49E-01	2.94E-06	5.02E-06
Road 52	52	0200-0300	1.35E-02	2.77E-08	6.91E-07	1.11E-02	2.27E-08	5.73E-07	1.84E-01	3.78E-07	9.41E-06	1.52E-01	3.12E-07	7.78E-06
Road 52	52	0300-0400	1.35E-02	2.77E-08	6.91E-07	1.11E-02	2.27E-08	5.73E-07	1.84E-01	3.78E-07	9.41E-06	1.52E-01	3.12E-07	7.78E-06
Road 52	52	0400-0500	1.48E-02	3.25E-08	8.20E-07	1.22E-02	2.68E-08	6.77E-07	2.01E-01	4.41E-06	1.11E-05	1.65E-01	3.63E-06	9.16E-06
Road 52	52	0500-0600	1.84E-02	4.10E-08	1.36E-06	1.52E-02	3.38E-08	1.12E-06	2.01E-01	4.47E-06	1.81E-05	1.65E-01	3.67E-06	1.49E-05
Road 52	52	0600-0700	1.97E-02	6.58E-07	4.00E-06	1.65E-02	1.33E-07	3.36E-06	2.20E-01	1.77E-06	4.47E-05	1.81E-01	1.46E-06	3.69E-05
Road 52	52	0700-0800	2.12E-02	4.08E-07	3.51E-06	1.77E-02	3.42E-07	2.94E-06	2.20E-01	4.23E-06	3.64E-05	1.81E-01	3.48E-06	3.00E-05
Road 52	52	0800-0900	2.59E-02	4.82E-07	1.22E-05	2.18E-02	4.06E-07	1.02E-05	2.47E-01	4.61E-06	1.16E-04	2.06E-01	3.84E-06	9.66E-05
Road 52	52	0900-1000	2.57E-02	3.79E-07	9.56E-06	2.17E-02	3.20E-07	8.09E-06	2.51E-01	3.71E-06	9.36E-05	2.10E-01	3.09E-06	7.83E-05
Road 52	52	1000-1100	2.47E-02	3.41E-07	8.61E-06	2.08E-02	2.88E-07	7.27E-06	2.41E-01	3.33E-06	8.42E-05	2.02E-01	2.79E-06	7.05E-05
Road 52	52	1100-1200	2.47E-02	2.94E-07	7.41E-06	2.09E-02	2.48E-07	6.27E-06	2.10E-01	2.50E-06	6.31E-05	1.77E-01	2.09E-06	5.27E-05
Road 52	52	1200-1300	2.42E-02	2.94E-07	7.41E-06	2.04E-02	2.48E-07	6.27E-06	2.10E-01	2.50E-06	6.31E-05	1.77E-01	2.09E-06	5.27E-05
Road 52	52	1300-1400	1.29E-02	3.23E-07	8.14E-06	2.79E-02	2.74E-07	6.92E-06	2.91E-01	2.86E-06	7.22E-05	2.46E-01	2.41E-06	6.09E-05
Road 52	52	1400-1500	1.29E-02	3.84E-07	9.20E-06	2.79E-02	2.74E-07	7.80E-06	2.91E-01	3.13E-06	7.90E-05	2.46E-01	2.63E-06	6.64E-05
Road 52	52	1500-1600	3.34E-02	4.30E-07	6.47E-06	2.88E-02	3.71E-07	5.58E-06	2.97E-01	3.83E-06	5.76E-05	2.56E-01	3

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 14	14	0800-0900	4.25E-02	8.67E-07	1.44E-06	4.73E-02	1.32E-06	2.23E-06	1.32E-01	3.71E-06	6.33E-06
Road 14	14	0900-1000	4.77E-02	8.27E-07	1.41E-05	4.29E-02	7.42E-07	1.27E-05	1.83E-01	3.17E-06	5.41E-05
Road 14	14	1000-1100	5.16E-02	7.89E-07	1.34E-05	4.65E-02	7.10E-07	1.21E-05	2.30E-01	3.51E-06	5.97E-05
Road 14	14	1100-1200	5.06E-02	7.35E-07	1.27E-05	4.60E-02	6.68E-07	1.14E-05	2.78E-01	4.03E-06	6.88E-05
Road 14	14	1200-1300	7.76E-02	1.53E-06	2.60E-05	7.04E-02	1.39E-06	2.36E-05	3.14E-01	6.18E-06	1.05E-04
Road 14	14	1300-1400	8.56E-02	1.66E-06	2.84E-05	7.78E-02	1.51E-06	2.58E-05	3.46E-01	6.70E-06	1.15E-04
Road 14	14	1400-1500	7.95E-02	1.72E-06	2.92E-05	7.27E-02	1.57E-06	2.67E-05	3.23E-01	6.96E-06	1.18E-04
Road 14	14	1500-1600	7.44E-02	1.65E-06	2.81E-05	6.74E-02	1.49E-06	2.55E-05	3.23E-01	7.15E-06	1.22E-04
Road 14	14	1600-1700	8.39E-02	1.80E-06	3.06E-05	7.65E-02	1.64E-06	2.79E-05	3.46E-01	7.42E-06	1.26E-04
Road 14	14	1700-1800	9.95E-02	1.40E-06	2.39E-05	9.47E-02	1.29E-06	2.20E-05	2.83E-01	3.98E-06	6.76E-05
Road 14	14	1800-1900	1.22E-01	1.72E-06	2.92E-05	1.16E-01	1.58E-06	2.69E-05	3.46E-01	4.87E-06	8.28E-05
Road 14	14	1900-2000	1.21E-01	5.50E-07	9.37E-06	1.20E-01	5.43E-07	9.24E-06	1.81E-01	8.20E-07	1.39E-05
Road 15	15	2000-2100	1.23E-01	3.89E-07	6.63E-06	1.22E-01	3.86E-07	6.57E-06	1.83E-01	5.79E-07	9.85E-06
Road 15	15	2100-2200	1.28E-01	3.43E-07	5.84E-06	1.27E-01	3.41E-07	5.79E-06	1.91E-01	5.12E-07	8.70E-06
Road 15	15	2200-2300	1.30E-01	3.04E-07	5.17E-06	1.29E-01	3.02E-07	5.13E-06	1.94E-01	4.53E-07	7.71E-06
Road 15	15	2300-2400	1.32E-01	2.66E-07	4.52E-06	1.31E-01	2.64E-07	4.49E-06	1.97E-01	3.96E-07	6.74E-06
Road 15	15	0000-0100	1.34E-01	2.29E-07	3.89E-06	1.33E-01	2.27E-07	3.86E-06	2.00E-01	3.41E-07	5.80E-06
Road 15	15	0100-0200	1.36E-01	1.91E-07	3.25E-06	1.35E-01	1.90E-07	3.23E-06	2.03E-01	2.85E-07	4.85E-06
Road 15	15	0200-0300	1.37E-01	1.53E-07	2.60E-06	1.36E-01	1.52E-07	2.58E-06	2.05E-01	2.28E-07	3.88E-06
Road 15	15	0300-0400	1.38E-01	1.15E-07	1.96E-06	1.37E-01	1.14E-07	1.94E-06	2.07E-01	1.72E-07	2.92E-06
Road 15	15	0400-0500	1.39E-01	7.66E-08	1.30E-06	1.38E-01	7.62E-08	1.30E-06	2.09E-01	1.14E-07	1.95E-06
Road 15	15	0500-0600	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	0600-0700	1.40E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	0700-0800	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	0800-0900	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	0900-1000	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1000-1100	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1100-1200	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1200-1300	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1300-1400	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1400-1500	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1500-1600	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1600-1700	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1700-1800	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1800-1900	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	1900-2000	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	2000-2100	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	2100-2200	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	2200-2300	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 15	15	2300-2400	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	0800-0900	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	0900-1000	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1000-1100	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1100-1200	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1200-1300	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1300-1400	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1400-1500	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1500-1600	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1600-1700	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1700-1800	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1800-1900	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	1900-2000	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	2000-2100	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	2100-2200	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	2200-2300	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 16	16	2300-2400	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	0800-0900	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	0900-1000	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1000-1100	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1100-1200	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1200-1300	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1300-1400	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1400-1500	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1500-1600	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1600-1700	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1700-1800	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1800-1900	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	1900-2000	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	2000-2100	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	2100-2200	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	2200-2300	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07
Road 17	17	2300-2400	1.39E-01	3.83E-08	6.51E-07	1.39E-01	3.81E-08	6.48E-07	2.09E-01	5.72E-08	9.73E-07

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	1.29E-02	1.56E-06	4.57E-05	1.32E-02	1.56E-06	4.57E-05	1.32E-01	1.56E-06	4.57E-05
Road 17	17	1700-1800	4.41E-02	1.13E-06	3.30E-05	4.00E-02	1.02E-06	3.00E-05	2.27E-01	5.81E-06	1.70E-04
Road 17	17	1800-1900	2.66E-02	6.40E-07	1.87E-05	2.43E-02	5.85E-07	1.71E-05	1.58E-01	3.81E-06	1.11E-04
Road 17	17	1900-2000	1.80E-02	3.27E-07	9.57E-06	1.63E-02	2.98E-07	8.70E-06	1.30E-01	2.37E-06	6.93E-05
Road 17	17	2000-2100	1.64E-02	2.35E-07	6.86E-06	1.51E-02	2.16E-07	6.30E-06	1.32E-01	1.88E-06	5.51E-05
Road 17	17	2100-2200	1.75E-02	2.26E-07	6.61E-06	1.62E-02	2.09E-07	6.03E-06	1.41E-01	1.82E-06	5.29E-05
Road 17	17	2200-2300	1.64E-02	2.23E-07	6.52E-06	1.46E-02	1.99E-07	5.82E-06	1.31E-01	1.78E-06	5.19E-05
Road 17	17	2300-0000	1.75E-02	1.82E-07	5.32E-06	1.55E-02	1.61E-07	4.69E-06	1.34E-01	1.39E-06	4.06E-05
Road 18	18	0000-0100	1.31E-02	6.58E-08	2.50E-06	1.30E-02	6.52E-08	2.48E-06	1.12E-01	5.75E-07	2.18E-05
Road 18	18	0100-0200	1.23E-02	4.62E-08	1.81E-06	1.10E-02	4.15E-08	1.62E-06	1.13E-01	4.27E-07	1.67E-05
Road 18	18	0200-0300	1.34E-02	3.22E-08	1.26E-06	1.30E-02	2.88E-08	1.12E-06	1.17E-01	2.60E-07	1.02E-05
Road 18	18	0300-0400	1.46E-02	3.22E-08	1.26E-06	1.30E-02	2.88E-08	1.12E-06	1.17E-01	2.60E-07	1.02E-05
Road 18	18	0400-0500	1.52E-02	3.68E-08	1.44E-06	1.38E-02	3.34E-08	1.31E-06	1.24E-01	3.01E-07	1.18E-05
Road 18	18	0500-0600	1.53E-02	6.38E-08	2.49E-06	1.38E-02	5.74E-08	2.24E-06	1.24E-01	5.17E-07	2.02E-05
Road 18	18	0600-0700	1.58E-02	1.40E-07	5.47E-06	1.39E-02	1.23E-07	4.81E-06	1.25E-01	1.11E-06	4.35E-05
Road 18	18	0700-0800	1.62E-02	3.40E-07	1.33E-05	1.45E-02	3.03E-07	1.19E-05	1.31E-01	2.73E-06	1.07E-04
Road 18	18	0800-0900	1.62E-02	3.40E-07	1.33E-05	1.45E-02	3.03E-07	1.19E-05	1.31E-01	2.73E-06	1.07E-04
Road 18	18	0900-1000	1.85E-02	3.26E-07	1.27E-05	1.66E-02	2.93E-07	1.14E-05	1.66E-01	2.93E-06	1.14E-04
Road 18	18	1000-1100	2.04E-02	3.15E-07	1.23E-05	1.84E-02	2.85E-07	1.11E-05	2.00E-01	3.09E-06	1.21E-04
Road 18	18	1100-1200	1.98E-02	2.90E-07	1.13E-05	1.79E-02	2.62E-07	1.02E-05	2.16E-01	3.16E-06	1.23E-04
Road 18	18	1200-1300	2.94E-02	5.92E-07	2.31E-05	2.70E-02	5.43E-07	2.12E-05	1.59E-01	3.21E-06	1.25E-04
Road 18	18	1300-1400	2.94E-02	5.92E-07	2.31E-05	2.70E-02	5.43E-07	2.12E-05	1.59E-01	3.21E-06	1.25E-04
Road 18	18	1400-1500	2.94E-02	6.35E-07	2.48E-05	2.70E-02	5.83E-07	2.27E-05	1.59E-01	3.44E-06	1.34E-04
Road 18	18	1500-1600	2.75E-02	5.91E-07	2.31E-05	2.52E-02	5.42E-07	2.12E-05	1.57E-01	3.37E-06	1.32E-04
Road 18	18	1600-1700	2.81E-02	6.12E-07	2.39E-05	2.60E-02	5.66E-07	2.21E-05	1.57E-01	3.41E-06	1.33E-04
Road 18	18	1700-1800	2.89E-02	4.06E-07	1.58E-05	2.75E-02	3.87E-07	1.51E-05	1.64E-01	2.30E-06	8.98E-05
Road 18	18	1800-1900	1.74E-02	3.89E-07	1.52E-05	1.59E-02	3.56E-07	1.39E-05	1.32E-01	2.96E-06	1.16E-04
Road 18	18	1900-2000	1.74E-02	7.91E-07	3.09E-05	1.72E-02	7.82E-07	3.05E-05	1.32E-01	6.00E-06	2.34E-04
Road 19	19	2000-2100	1.77E-02	5.59E-07	2.18E-05	1.74E-02	5.50E-07	2.15E-05	1.34E-01	4.24E-06	1.65E-04
Road 19	19	2100-2200	1.84E-02	4.93E-07	1.92E-05	1.82E-02	4.87E-07	1.90E-05	1.37E-01	3.68E-06	1.43E-04
Road 19	19	2200-2300	1.87E-02	4.37E-07	1.71E-05	1.85E-02	4.32E-07	1.69E-05	1.40E-01	3.27E-06	1.27E-04
Road 19	19	2300-2400	1.90E-02	3.82E-07	1.49E-05	1.88E-02	3.78E-07	1.48E-05	1.42E-01	2.86E-06	1.12E-04
Road 19	19	0000-0100	1.92E-02	3.29E-07	1.28E-05	1.90E-02	3.26E-07	1.27E-05	1.45E-01	2.47E-06	9.65E-05
Road 19	19	0100-0200	1.95E-02	2.75E-07	1.07E-05	1.93E-02	2.72E-07	1.06E-05	1.47E-01	2.06E-06	8.04E-05
Road 19	19	0200-0300	1.97E-02	2.20E-07	8.60E-06	1.95E-02	2.18E-07	8.51E-06	1.49E-01	1.65E-06	6.44E-05
Road 19	19	0300-0400	1.98E-02	1.65E-07	6.45E-06	1.96E-02	1.63E-07	6.38E-06	1.50E-01	1.24E-06	4.83E-05
Road 19	19	0400-0500	2.00E-02	1.10E-07	4.30E-06	1.98E-02	1.09E-07	4.25E-06	1.51E-01	8.29E-07	3.23E-05
Road 19	19	0500-0600	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	0600-0700	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	0700-0800	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	0800-0900	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	0900-1000	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1000-1100	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1100-1200	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1200-1300	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1300-1400	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1400-1500	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1500-1600	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1600-1700	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1700-1800	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1800-1900	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	1900-2000	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	2000-2100	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	2100-2200	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	2200-2300	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 19	19	2300-2400	2.01E-02	5.51E-08	2.15E-06	1.99E-02	5.46E-08	2.13E-06	1.53E-01	4.19E-07	1.64E-05
Road 20	20	0000-0100	1.96E-02	1.32E-07	5.16E-06	1.94E-02	1.31E-07	5.11E-06	1.49E-01	1.00E-06	3.92E-05
Road 20	20	0100-0200	1.84E-02	9.24E-08	3.61E-06	1.65E-02	8.31E-08	3.25E-06	1.69E-01	8.51E-07	3.33E-05
Road 20	20	0200-0300	2.01E-02	6.44E-08	2.52E-06	1.95E-02	6.25E-08	2.45E-06	1.95E-01	6.25E-07	2.45E-05
Road 20	20	0300-0400	2.19E-02	6.44E-08	2.52E-06	1.95E-02	6.25E-08	2.45E-06	1.95E-01	6.25E-07	2.45E-05
Road 20	20	0400-0500	2.28E-02	7.36E-08	2.88E-06	2.07E-02	6.68E-08	2.61E-06	2.07E-01	6.68E-07	2.61E-05
Road 20	20	0500-0600	2.30E-02	1.28E-07	4.98E-06	2.07E-02	1.15E-07	4.48E-06	2.07E-01	1.15E-06	4.48E-05
Road 20	20	0600-0700	2.38E-02	2.80E-07	1.09E-05	2.07E-02	2.44E-07	9.51E-06	2.07E-01	2.44E-06	9.51E-05
Road 20	20	0700-0800	2.43E-02	6.80E-07	2.66E-05	2.17E-02	6.07E-07	2.38E-05	2.17E-01	6.07E-06	2.38E-04
Road 20	20	0800-0900	2.43E-02	6.80E-07	2.66E-05	2.17E-02	6.07E-07	2.38E-05	2.17E-01	6.07E-06	2.38E-04
Road 20	20	0900-1000	2.77E-02	6.52E-07	2.55E-05	2.49E-02	5.86E-07	2.29E-05	2.49E-01	5.86E-06	2.29E-04
Road 20	20	1000-1100	3.06E-02	6.30E-07	2.46E-05	2.76E-02	5.67E-07	2.21E-05	2.76E-01	5.67E-06	2.21E-04
Road 20	20	1100-1200	2.96E-02	5.80E-07	2.27E-05	2.67E-02	5.22E-07	2.04E-05	2.67E-01	5.22E-06	2.04E-04
Road 20	20	1200-1300	4.41E-02	1.18E-06	4.62E-05	4.04E-02	1.08E-06	4.23E-05	3.97E-01	1.06E-05	4.16E-04
Road 20	20	1300-1400	4.41E-02	1.18E-06	4.62E-05	4.04E-02	1.08E-06	4.23E-05	3.97E-01	1.06E-05	4.16E-04
Road 20	20	1400-1500	4.09E-02	1.27E-06	4.98E-05	3.75E-02	1.16E-06	4.56E-05	3.68E-01	1.14E-05	4.48E-04
Road 20	20	1500-1600	4.13E-02	1.18E-06	4.62E-05	3.78E-02	1.08E-06	4.23E-05	3.71E-01	1.06E-05	4.16E-04
Road 20	20	1600-1700	4.22E-02	1.23E-06	4.81E-05	3.87E-02	1.13E-06	4.41E-05	3.71E-01	1.08E-05	4.23E-04
Road 20	20	1700-1800	4.34E-02	8.16E-07	3.19E-05	4.13E-02	7.77E-07	3.04E-05	3.93E-01	7.39E-06	2.89E-04
Road 20	20	1800-1900	2.61E-02	7.82E-07	3.06E-05	2.39E-02	7.17E-07	2.81E-05	2.39E-01	7.17E-06	2.81E-04
Road 20	20	1900-2000	2.61E-02	1.59E-06	6.22E-05	2.58E-02	1.57E-06	6.14E-05	2.39E-01	1.45E-05	5.68E-04
Road 20	20	2000-2100	2.65E-02	1.12E-06	4.39E-05	2.62E-02	1.11E-06	4.34E-05	2.39E-01	1.01E-05	3.96E-04
Road 20	20	2100-2200	2.75E-02	1.50E-06	5.87E-05	2.72E-02	1.48E-06	5.80E-05	2.39E-01	1.30E-05	5.09E-04
Road 20	20	2200-2300	2.85E-02	1.50E-06	5.87E-05	2.82E-02	1.48E-06	5.80E-05	2.39E-01	1.26E-05	4.94E-04
Road 20	20	2300-0000	7.44E-02	1.37E-06	2.53E-05	6.59E-02	1.21E-06	2.24E-05	4.47E-01	8.24E-06	2.14E-01	3.95E-07	7.28E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	1.81E-02	3.95E-06	2.27E-07	3.63E-02	8.47E-06	4.86E-07	1.29E-06	7.15E-02	4.17E-07
Road 41	41	0100-0200	2.23E-02	2.54E-06	2.39E-07	2.00E-02	2.28E-06	2.14E-07	9.14E-02	1.04E-07	9.78E-07
Road 41	41	0200-0300	2.66E-02	2.38E-06	2.23E-07	2.39E-02	2.14E-06	2.00E-07	9.99E-02	8.93E-08	8.38E-07
Road 41	41	0300-0400	3.03E-02	2.28E-06	2.14E-07	2.77E-02	2.05E-06	1.93E-07	1.07E-01	8.08E-08	7.58E-07
Road 41	41	0400-0500	2.95E-02	2.37E-06	2.22E-07	2.66E-02	2.14E-06	2.01E-07	1.06E-01	8.54E-08	8.02E-07
Road 41	41	0500-0600	2.60E-02	2.78E-06	2.61E-07	2.42E-02	2.58E-06	2.42E-07	9.74E-02	1.04E-07	9.76E-07
Road 41	41	0600-0700	1.89E-02	4.54E-06	4.26E-07	1.69E-02	4.04E-06	3.79E-07	8.91E-02	2.13E-07	2.00E-06
Road 41	41	0700-0800	2.44E-02	1.28E-07	1.20E-08	2.17E-02	1.14E-07	1.07E-08	1.00E-01	5.26E-07	4.94E-06
Road 41	41	0800-0900	2.56E-02	1.28E-07	1.20E-08	2.28E-02	1.14E-07	1.07E-08	1.05E-01	5.26E-07	4.94E-06
Road 41	41	0900-1000	2.59E-02	1.31E-07	1.23E-08	2.31E-02	1.17E-07	1.10E-08	1.06E-01	5.40E-07	5.07E-06
Road 41	41	1000-1100	2.63E-02	1.30E-07	1.22E-08	2.34E-02	1.16E-07	1.09E-08	1.08E-01	5.35E-07	5.02E-06
Road 41	41	1100-1200	2.86E-02	1.24E-07	1.16E-08	2.60E-02	1.12E-07	1.05E-08	1.17E-01	5.07E-07	4.76E-06
Road 41	41	1200-1300	2.96E-02	1.24E-07	1.16E-08	2.70E-02	1.13E-07	1.06E-08	1.21E-01	5.07E-07	4.76E-06
Road 41	41	1300-1400	3.44E-02	1.24E-07	1.16E-08	3.14E-02	1.13E-07	1.06E-08	1.41E-01	5.07E-07	4.76E-06
Road 41	41	1400-1500	3.40E-02	1.78E-07	1.67E-08	3.10E-02	1.62E-07	1.52E-08	1.39E-01	7.28E-07	6.83E-06
Road 41	41	1500-1600	3.78E-02	1.78E-07	1.67E-08	3.45E-02	1.62E-07	1.52E-08	1.55E-01	7.28E-07	6.83E-06
Road 41	41	1600-1700	3.27E-02	1.78E-07	1.67E-08	3.00E-02	1.63E-07	1.53E-08	1.34E-01	7.32E-07	6.87E-06
Road 41	41	1700-1800	2.72E-02	1.55E-07	1.46E-08	2.48E-02	1.41E-07	1.33E-08	1.11E-01	6.34E-07	5.97E-06
Road 41	41	1800-1900	2.23E-02	1.28E-07	1.20E-08	2.05E-02	1.18E-07	1.10E-08	8.66E-02	4.97E-07	4.67E-06
Road 41	41	1900-2000	1.49E-02	5.92E-08	5.55E-09	1.35E-02	5.38E-08	5.04E-09	5.78E-02	2.29E-07	2.15E-06
Road 41	41	2000-2100	1.65E-02	4.89E-08	4.59E-09	1.50E-02	4.44E-08	4.17E-09	6.41E-02	1.90E-07	1.78E-06
Road 41	41	2100-2200	1.49E-02	4.71E-08	4.42E-09	1.36E-02	4.28E-08	4.02E-09	5.78E-02	1.82E-07	1.71E-06
Road 41	41	2200-2300	1.83E-02	4.30E-08	4.04E-09	1.82E-02	3.80E-08	3.56E-09	7.09E-02	1.67E-07	1.56E-06
Road 41	41	2300-0000	1.83E-02	4.30E-08	4.04E-09	1.82E-02	3.80E-08	3.56E-09	7.09E-02	1.67E-07	1.56E-06
Road 42	42	0000-0100	2.71E-02	5.40E-08	3.87E-09	2.37E-02	4.72E-08	3.20E-09	1.14E-01	2.28E-07	5.77E-06
Road 42	42	0100-0200	3.34E-02	4.67E-08	3.34E-09	2.97E-02	4.15E-08	2.81E-09	1.40E-01	1.96E-07	4.96E-06
Road 42	42	0200-0300	3.93E-02	4.22E-08	3.07E-09	3.54E-02	3.80E-08	2.58E-09	1.66E-01	1.78E-07	4.56E-06
Road 42	42	0300-0400	4.54E-02	4.22E-08	3.07E-09	4.09E-02	3.80E-08	2.58E-09	1.92E-01	1.78E-07	4.56E-06
Road 42	42	0400-0500	4.38E-02	4.22E-08	3.07E-09	3.95E-02	3.81E-08	2.58E-09	1.86E-01	1.79E-07	4.57E-06
Road 42	42	0500-0600	3.64E-02	5.46E-08	3.98E-09	3.28E-02	4.92E-08	3.35E-09	1.54E-01	2.31E-07	5.88E-06
Road 42	42	0600-0700	2.64E-02	7.96E-08	5.81E-09	2.38E-02	7.17E-08	4.88E-09	1.24E-01	3.74E-07	9.54E-06
Road 42	42	0700-0800	4.37E-02	2.79E-07	7.08E-06	3.88E-02	2.48E-07	6.28E-06	1.58E-01	1.01E-06	2.57E-05
Road 42	42	0800-0900	4.59E-02	2.72E-07	6.90E-06	4.08E-02	2.41E-07	6.12E-06	1.66E-01	9.85E-07	2.50E-05
Road 42	42	0900-1000	4.69E-02	2.89E-07	7.34E-06	4.21E-02	2.60E-07	6.58E-06	1.66E-01	1.03E-06	2.61E-05
Road 42	42	1000-1100	4.72E-02	2.68E-07	6.80E-06	4.27E-02	2.42E-07	6.15E-06	1.68E-01	9.54E-07	2.42E-05
Road 42	42	1100-1200	5.04E-02	2.84E-07	6.70E-06	4.58E-02	2.58E-07	6.08E-06	1.75E-01	9.14E-07	2.32E-05
Road 42	42	1200-1300	5.25E-02	2.84E-07	6.70E-06	4.77E-02	2.58E-07	6.08E-06	1.82E-01	9.14E-07	2.32E-05
Road 42	42	1300-1400	5.34E-02	2.84E-07	6.70E-06	4.85E-02	2.58E-07	6.08E-06	1.85E-01	9.14E-07	2.32E-05
Road 42	42	1400-1500	5.86E-02	4.07E-07	9.60E-06	5.32E-02	3.70E-07	8.72E-06	2.03E-01	1.44E-06	3.65E-05
Road 42	42	1500-1600	5.86E-02	4.07E-07	9.60E-06	5.32E-02	3.70E-07	8.72E-06	2.03E-01	1.44E-06	3.65E-05
Road 42	42	1600-1700	5.12E-02	4.07E-07	9.60E-06	4.66E-02	3.70E-07	8.72E-06	1.78E-01	1.44E-06	3.65E-05
Road 42	42	1700-1800	4.26E-02	3.55E-07	8.37E-06	3.87E-02	3.22E-07	7.60E-06	1.48E-01	1.26E-06	3.18E-05
Road 42	42	1800-1900	3.49E-02	2.93E-07	6.91E-06	3.17E-02	2.66E-07	6.27E-06	1.21E-01	1.04E-06	2.63E-05
Road 42	42	1900-2000	2.33E-02	1.36E-07	3.20E-06	2.12E-02	1.24E-07	2.91E-06	8.09E-02	4.83E-07	1.22E-05
Road 42	42	2000-2100	2.58E-02	1.12E-07	2.64E-06	2.35E-02	1.02E-07	2.40E-06	8.98E-02	3.98E-07	1.00E-05
Road 42	42	2100-2200	2.33E-02	1.08E-07	2.54E-06	2.12E-02	9.84E-08	2.31E-06	8.09E-02	3.84E-07	9.68E-06
Road 42	42	2200-2300	2.86E-02	9.84E-08	2.32E-06	2.60E-02	8.95E-08	2.11E-06	9.94E-02	3.42E-07	8.63E-06
Road 42	42	2300-0000	2.86E-02	9.84E-08	2.32E-06	2.60E-02	8.95E-08	2.11E-06	9.94E-02	3.42E-07	8.63E-06
Road 43	43	0000-0100	1.81E-02	3.95E-06	2.27E-07	3.63E-02	8.47E-06	4.86E-07	1.29E-06	7.15E-02	4.17E-07
Road 43	43	0100-0200	2.23E-02	2.54E-06	2.39E-07	2.00E-02	2.28E-06	2.14E-07	9.14E-02	1.04E-07	9.78E-07
Road 43	43	0200-0300	2.66E-02	2.38E-06	2.23E-07	2.39E-02	2.14E-06	2.00E-07	9.99E-02	8.93E-08	8.38E-07
Road 43	43	0300-0400	3.03E-02	2.28E-06	2.14E-07	2.77E-02	2.05E-06	1.93E-07	1.07E-01	8.08E-08	7.58E-07
Road 43	43	0400-0500	2.95E-02	2.37E-06	2.22E-07	2.66E-02	2.14E-06	2.01E-07	1.06E-01	8.54E-08	8.02E-07
Road 43	43	0500-0600	2.60E-02	2.78E-06	2.61E-07	2.42E-02	2.58E-06	2.42E-07	9.74E-02	1.04E-07	9.76E-07
Road 43	43	0600-0700	1.89E-02	4.54E-06	4.26E-07	1.69E-02	4.04E-06	3.79E-07	8.91E-02	2.13E-07	2.00E-06
Road 43	43	0700-0800	2.44E-02	1.28E-07	1.20E-08	2.17E-02	1.14E-07	1.07E-08	1.00E-01	5.26E-07	4.94E-06
Road 43	43	0800-0900	2.56E-02	1.28E-07	1.20E-08	2.28E-02	1.14E-07	1.07E-08	1.05E-01	5.26E-07	4.94E-06
Road 43	43	0900-1000	2.59E-02	1.31E-07	1.23E-08	2.31E-02	1.17E-07	1.10E-08	1.06E-01	5.40E-07	5.07E-06
Road 43	43	1000-1100	2.63E-02	1.30E-07	1.22E-08	2.34E-02	1.16E-07	1.09E-08	1.08E-01	5.35E-07	5.02E-06
Road 43	43	1100-1200	2.86E-02	1.24E-07	1.16E-08	2.60E-02	1.12E-07	1.05E-08	1.17E-01	5.07E-07	4.76E-06
Road 43	43	1200-1300	2.96E-02	1.24E-07	1.16E-08	2.70E-02	1.13E-07	1.06E-08	1.21E-01	5.07E-07	4.76E-06
Road 43	43	1300-1400	3.44E-02	1.24E-07	1.16E-08	3.14E-02	1.13E-07	1.06E-08	1.41E-01	5.07E-07	4.76E-06
Road 43	43	1400-1500	3.40E-02	1.78E-07	1.67E-08	3.10E-02	1.62E-07	1.52E-08	1.39E-01	7.28E-07	6.83E-06
Road 43	43	1500-1600	3.78E-02	1.78E-07	1.67E-08	3.45E-02	1.62E-07	1.52E-08	1.55E-01	7.28E-07	6.83E-06
Road 43	43	1600-1700	3.27E-02	1.78E-07	1.67E-08	3.00E-02	1.63E-07	1.53E-08	1.34E-01	7.32E-07	6.87E-06
Road 43	43	1700-1800	2.72E-02	1.55E-07	1.46E-08	2.48E-02	1.41E-07	1.33E-08	1.11E-01	6.34E-07	5.97E-06
Road 43	43	1800-1900	2.23E-02	1.28E-07	1.20E-08	2.05E-02	1.18E-07	1.10E-08	8.66E-02	4.97E-07	4.67E-06
Road 43	43	1900-2000	1.49E-02	5.92E-08	5.55E-09	1.35E-02	5.38E-08	5.04E-09	5.78E-02	2.29E-07	2.15E-06
Road 43	43	2000-2100	1.65E-02	4.89E-08	4.59E-09	1.50E-02	4.44E-08	4.17E-09	6.41E-02	1.90E-07	1.78E-06
Road 43	43	2100-2200	1.49E-02	4.71E-08	4.42E-09	1.36E-02	4.28E-08	4.02E-09	5.78E-02	1.82E-07	1.71E-06
Road 43	43	2200-2300	1.83E-02	4.30E-08	4.04E-09	1.82E-02	3.80E-08	3.56E-09	7.09E-02	1.67E-07	1.56E-06
Road 43	43	2300-0000	1.83E-02	4.30E-08	4.04E-09	1.82E-02	3.80E-08	3.56E-09	7.09E-02	1.67E-07	1.56E-06
Road 44	44	0000-0100	2.71E-02	5.40E-08	3.87E-09	2.37E-02	4.72E-08	3.20E-09	1.14E-01	2.28E-07	5.77E-06
Road 44	44	0100-0200	3.34E-02	4.67E-08	3.34E-09	2.97E-02	4.15E-08	2.81E-09	1.40E-01	1.96E-07	4.96E-06
Road 44	44	0200-0300	3.93E-02	4.22E-08	3.07E-09	3.54E-02	3.80E-08	2.58E-09	1.66E-01	1.78E-07	4.56E-06
Road 44	44	0300-0400	4.54E-02	4.22E-08	3.07E-09	4.09E-02	3.80E-08	2.58E-09	1.92E-01	1.78E-07	4.56E-06
Road 44	44	0400-0500	4.38E-02	4.22E-08	3.07E-09	3.95E-02	3.81E-08	2.58E-09	1.86E-01	1.79E-07	4.57E-06
Road 44	44	0500-0600	3.64E-02	5.46E-08	3.98E-09	3.28E-02	4.92E-08	3.35E-09	1.54E-01	2.31E-07	5.88E-06
Road 44	44	0600-0700	2.64E-02	7.96E-08	5.81E-09	2.38E-02	7.17E-08	4.88E-09	1.24E-01	3.74E-07	9.54E-06
Road 44	44	0700-0800	4.37E-02	2.79E-07	7.08E-06	3.88E-02	2.48E-07	6.28E-06	1.58E-01	1.01E-06	2.57E-05
Road 44	44	0800-0900	4.59E-02	2.72E-07	6.90E-06	4.08E-02	2.41E-07	6.12E-06	1.66E-01	9.85E-07	2.50E-05
Road 44	44	0900-1000	4.69E-02	2.89E-07	7.34E-06	4.21E-02	2.60E-07	6.58E-06	1.66E-01	1.03E-06	2.61E-05
Road 44	44	1000-1100	4.72E-02	2.68E-07	6.80E-06	4.27E-02	2.42E-07	6.15E-06	1.68E-01	9.54E-07	2.42E-05
Road 44	44	1100-1200	5.04E-02	2.84E-07	6.70E-06	4.58E-02	2.58E-07	6.08E-06	1.75E-01	9.14E-07	2.32E-05
Road 44	44	1200-1300	5.25E-02	2.84E-07	6.70E-06	4.77E-02	2.58E-07	6.08E-06	1.82E-01	9.14E-07	2.32E-05
Road 44	44	1300-1400	5.34E-02	2.84E-07	6.70E-06	4.85E-02	2.58E-07	6.08E-06	1.85E-01	9.14E-07	2.32E-05
Road 44	44	1400-1500	5.86E-02	4.07E-07	9.60E-06	5.32E-02	3.70E-07	8.72E-06	2.03E-01	1.44E-06	3.65E-05
Road 44	44	1500-1600	5.86E-02	4.07E-07	9.60E-06	5.32E-02	3.70E-07	8.72E-06	2.03E-01	1.44E-06	3.65E-05
Road 44	44	1600-1700	5.12E-02	4.07E-07	9.60E-06	4.66E-02	3.70E-07	8.72E-06	1.78E-01	1.44E-06	3.65E-05
Road 44	44	1700-1800	4.26E-02	3.55E-07	8.37E-06	3.87E-02	3.22E-07	7.60E-06	1.48E-01	1.26E-06	3.18E-05
Road 44	44	1800-1900	3.49E-02	2.93E-07	6.91E-06	3.17E-02	2.66E-07	6.27E-06	1.21E-01	1.04E-06	2.63E-05
Road 44	44	1900-2000	2.33E-02	1.36E-07	3.20E-06	2.12E-02	1.24E-07	2.91E-06	8.09E-02	4.83E-07	1.22E-05
Road 44	44	2000-2100	2.58E-02	1.12E-07	2.64E-06	2.35E-02	1.02E-07	2.40E-06	8.98E-02	3.98E-07	1.00E-05
Road 44	44	2100-2200	2.33E-02	1.08E-07	2.54E-06	2.12E-02	9.84E-08	2.31E-06	8.09E-02	3.84E-07	9.68E-06
Road 44	44	2200-2300	2.86E-02	9.84E-08	2.32E-06	2.60E-02	8.95E-08	2.11E-06	9.94E-02	3.42E-07	8.63E-06
Road 44	44	2300-0000	2.86E-02	9.84E-08	2.32E-06	2.60E-02	8.95E-08	2.11E-06	9.94E-02	3.42E-07	8.63E-06
Road 45	45	0000-0100	1.81E-02	3.95E-06	2.27E-07	3.63E-02	8.47E-06	4.86E-07	1.29E-06	7.15E-02	4.17E-07
Road 45	45	0100-0200	2.23E-02	2.54E-06	2.39E-07	2.00E-02	2.28E-06	2.14E-07	9.14E-02	1.04E-07	9.78E-07
Road 45	45	0200-0300	2.66E-02	2.38E-06	2.23E-07	2.39E-02	2.14E-06	2.00E-07	9.99E-02	8.93E-08	8.38E-07
Road 45	45	0300-0400	3.03E-02	2.28E-06	2.14E-07	2.77E-02	2.05E-06	1.93E-07	1.07E-01	8.08E-08	7.58E-07
Road 45	45	0400-0500	2.95E-02	2.37E-06	2.22E-07	2.66E-02	2.14E-06	2.01E-07	1.06E-01	8.54E-08	8.02E-07
Road 45	45	0500-0600	2.60E-02	2.78E-06	2.61E-07	2.42E-02	2.58E-06	2.42E-07	9.74E-02	1.04E-07	9.76E-07
Road 45	45	0600-0700	1.89E-02	4.54E-06	4.26E-07	1.69E-02	4.04E-06	3.79E-07	8.91E-02	2.13E-07	2.00E-06
Road 45	45	0700-0800	2.44E-02	1.28E-07	1.20E-08	2.17E-02	1.14E-07	1.07E-08	1.00E-01	5.26E-07	4.94E-06
Road 45	45	0800-0900	2.56E-02	1.28E-07	1.20E-08	2.28E-02	1.14E-07	1.07E-08	1.05E-01	5.26E-07	4.94E-06
Road 45	45	0900-1000	2.59E-02	1.31E-07	1.23E-08	2.31E-02	1.17E-07	1.10E-08	1.06E-01	5.40E-07	5.07E-06
Road 45	45	1000-1100	2.63E-02	1.30E-07	1.22E-08	2.34E-02	1.16E-07	1.09E-08	1.08E-01	5.35E-07	5.02E-06
Road 45	45	1100-1200	2.86E-02	1.24E-07	1.16E-08	2.60E-02	1.12E-07	1.05E-08	1.17E-01	5.07E-07	4.76E-06
Road 45	45	1200-1300	2.96E-02	1.24E-07	1.16E-08	2.70E-02	1.13E-07	1.06E-08	1.21E-01	5.07E-07	4.76E-06
Road 45	45	1300-1400	3.44E-02	1.24E-07	1.16E-08	3.14E-02	1.13E-07	1.06E-08	1.41E-01	5.07E-07	4.76E-06
Road 45	45	1400-1500	3.40E-02	1.78E-07	1.67E-08	3.10E-02	1.62E-07	1.52E-08	1.39E-01	7.28E-07	6.83E-06
Road 45	45	1500-1600	3.78E-02	1.78E-07	1.67E-08	3.45E-02	1.62E-07	1.52E-08	1.55E-01	7.28E-07	6.83E-06
Road 45	45	1600-1700	3.27E-02	1.78E-07	1.67E-08	3.00E-02	1.63E-07	1.53E-08	1.34E-01	7.32E-07	6.87E-06
Road 45	45	1700-1800	2.72E-02	1.55E-07	1.46E-08	2.48E-02	1.41E-07	1.33E-08	1.11E-01	6.34E-07	5.97E-06
Road 45	45	1800-1900	2.23E-02	1.28E-07	1.20E-08	2.05E-02	1.18E-07	1.10E-08	8.66E-02	4.97E-07	4.67E-06
Road 45	45	1900-2000	1.49E-02	5.92E-08	5.55E-09	1.35E-02	5.38E-08	5.04E-09	5.78E-02	2.29E-07	2.15E-06
Road 45	45	2000-2100	1.65E-02	4.89E-08	4.59E-09	1.50E-02	4.44E-08	4.17E-09	6.41E-02	1.90E-07	1.78E-06
Road 45	45	2100-2200	1.49E-02	4.71E-08	4.42E-09	1.36E-02	4.28E-08	4.02E-09	5.78E-02	1.82E-07	1.71E-06
Road 45	45	2200-2300	1.83E-02	4.30E-08	4.04E-09	1.82E-02	3.80E-08	3.56E-09	7.09E-02	1.67E-07	1.56E-06
Road 45	45	2300-0000	1.83E-02	4.30E-08	4.04E-09	1.82E-02	3.80E-08	3.56E-09	7.09E-02	1.67E-07	1.56E-06
Road 46	46	0000-0100	2.71E-02	5.40E-08	3.87E-09	2.37E-02	4.72E-08	3.20E-09	1.14E-01	2.28E-07	5.77E-06
Road 46	46	0100-0200	3.34E-02	4.67E-08	3.34E-09	2.97E-02	4.15E-08	2.81E-09	1.40E-01	1.96E-07	4.96E-06
Road 46	46	0200-0300	3.93E-02	4.22E-08	3.07E-09	3.54E-02	3.80E-08	2.58E-09	1.66E-01	1.78E-07	4.56E-06
Road 46	46	0300-0400	4.54E-02	4.22E-08	3.07E-09	4.09E-02	3.80E-08	2.58E-09	1.92E-01	1.78E-07	4.56E-06
Road 46	46	0400-0500	4.38E-02	4.22E-08	3.07E-09	3.95E-02	3.81E-08	2.58E-09	1.86E-01	1.79E-07	4.57E-06
Road 46	46	0500-0600	3.64E-02	5.46E-08	3.98E-09	3.28E-02	4.92E-08	3.35E-09	1.54E-01	2.31E-07	5.88E-06
Road 46	46	0600-0700	2.64E-02	7.96E-08	5.81E-09	2.38E-02	7.17E-08	4.88E-09	1.24E-01	3.74E-07	9.54E-06
Road 46	46	0700-0800	4.37E-02	2.79E-07	7.08E-06	3.88E-02	2.48E-07	6.28E-06	1.58E-01	1.01E-06	2.57E-05
Road 46	46	0800-0900	4.59E-02	2.72E-07	6.90E-06	4.08E-02	2.41E-07	6.12E-06	1.66E-01	9.85E-07	2.50E-05
Road 46	46	0900-1000	4.69E-02	2.89E-07	7.34E-06	4.21E-02	2.60E-07	6.58E-06	1.66E-01	1.03E-06	2.61E-05
Road 46	46	1000-1100	4.72E-02	2.68E-07	6.80E-06	4.27E-02	2.42E-07	6.15E-06	1.68E-01	9.54E-07	2.42E-05
Road 46	46	1100-1200	5.04E-02	2.84E-07	6.70E-06	4.58E-02	2.58E-07	6.08E-06	1.75E-01	9.14E-07	2.32E-05
Road 46	46	1200-1300	5.25E-02	2.84E-07	6.70E-06	4.77E-02	2.58E-07	6.08E-06	1.82E-01	9.14E-07	2.32E-05
Road 46	46	1300-1400	5.34E-02	2.84E-07	6.70E-06	4.85E-02	2.58E-07	6.08E-06	1.85E-01	9.14E-07	2.32E-05
Road 46	46	1400-1500	5.86E-02	4.07E-07	9.60E-06	5.32E-02	3.70E-07	8.72E-06	2.03E-01	1.44E-06	3.65E-05
Road 46	46	1500-1600	5.86E-02	4.07E-07	9.60E-06	5.32E-02	3.70E-07	8.72E-06	2.03E-01	1.44E-06	3.65E-05
Road 46	46	1600-1700	5.12E-02	4.07E-07	9.60E-06	4.66E-02	3.70E-07	8.72E-06	1.78E-01	1.44E-06	3.65E-05
Road 46	46	1700-1800	4.26E-02	3.55E-07	8.37E-06	3.87E-02	3.22E-07	7.60E-06	1.48E-01	1.26E-06	3.18E-05
Road 46	46	1800-1900	3.49E-02	2.93E-07	6.91E-06	3.17E-02	2.66E-07	6.27E-06	1.21E-01	1.04E-06	2.63E-05
Road 46	46	1900-2000	2.33E-02	1.36E-07	3.20E-06	2.12E-02	1.24E-07	2.91E-06	8.09E-02	4.83E-07	1.22E-05
Road 46	46	2000-2100	2.58E-02	1.12E-07	2.64E-06	2.35E-02	1.02E-07	2.40E-06	8.98E-02	3.98E-07	1.00E-05
Road 46	46	2100-2200	2.33E-02	1.08E-07	2.54E-06	2.12E-02	9.84E-08	2.31E-06	8.09E-02	3.84E-07	9.68E-06
Road 46	46	2200-2300	2.86E-02	9.84E-08	2.32E-06	2.60E-02	8.95E-08	2.11E-06	9.94E-02	3.42E-07	8.63E-06
Road 46	46	2300-0000	2.86E-02	9.84E-08	2.32E-06	2.60E-02	8.95E-08	2.11E-06	9.94E-02	3.42E-07	8.63E-06
Road 47	47	0000-0100	1.88E-02	4.10E-06	2.36E-07	3.77E-02	8.81E-06	5.05E-07	1.34E-06	7.43E-02	4.33E-07
Road 47	47	0100-0200	2.32E-02	2.64E-06	2.48E-07	2.08E-02	2.37E-06	2.23E-07	9.50E-02	1.08E-07	1.02E-06
Road 47	47	0200-0300	2.76E-02	2.47E-06	2.32E-07	2.48E-02	2.22E-06	2.08E-07	1.04E-01	9.28E-08	8.71E-07
Road 47	47	0300-0400	3.15E-02	2.37E-06	2.22E-07	2.88E-02	2.13E-06	2.00E-07	1.11E-01	8.39E-08	7.88E-07
Road 47	47	0400-0500	3.06E-02	2.46E-06	2.31E-07	2.77E-02	2.23E-06	2.09E-07	1.10E-01	8.87E-08	8.33E-07
Road 47	47	0500-0600	2.70E-02	2.89E-06	2.71E-07	2.51E-02	2.68E-06	2.52E-07	1.01E-01	1.08E-07	1.01E-06
Road 47	47	0600-0700	1.96E-02	4.71E-06	4.42E-07	1.75E-02	4.20E-06	3.94E-07	9.26E-02	2.22E-07	2.08E-06
Road 47	47	0700-0800	2.53E-02	1.33E-07	1.25E-08	2.25E-02	1.18E-07	1.11E-08	1.04E-01	5.46E-07	5.13E-06
Road 47	47	0800-0900	2.66E-02	1.33E-07	1.25E-08	2.37E-02	1.18E-07	1.11E-08	1.09E-01	5.46E-07	5.13E-06
Road 47	47	0900-1000	2.69E-02	1.36E-07	1.28E-08	2.40E-02	1.21E-07	1.14E-08	1.10E-01	5.61E-07	5.26E-06
Road 47	47	1000-1100	2.73E-02	1.35E-07	1.27E-08	2.43E-02	1.20E-07	1.13E-08	1.12E-01	5.56E-07	5.21E-06
Road 47	47	1100-1200	2.97E-02	1.29E-07	1.21E-08	2.70E-02	1.16E-07	1.09E-08	1.22E-01	5.26

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	1600-1700	2.02E-02	1.53E-05	4.31E-06	3.25E-02	3.81E-06	1.07E-06	3.29E-02	3.86E-06	1.09E-06
Road 1	1	1700-1800	1.56E-02	3.07E-07	3.60E-06	1.41E-02	2.79E-06	3.27E-06	1.24E-02	2.46E-06	2.88E-06
Road 1	1	1800-1900	1.22E-02	2.63E-07	3.09E-06	1.10E-02	2.38E-06	2.79E-06	9.91E-03	2.14E-06	2.51E-06
Road 1	1	1900-2000	1.15E-02	3.99E-07	2.81E-06	1.04E-02	3.79E-07	2.67E-06	1.17E-02	3.82E-06	2.70E-06
Road 1	1	2000-2100	1.15E-02	1.54E-07	1.81E-06	1.03E-02	1.38E-06	1.62E-06	1.42E-02	1.91E-06	2.24E-06
Road 1	1	2100-2200	1.51E-02	1.54E-07	1.77E-06	1.36E-02	1.38E-06	1.58E-06	1.64E-02	1.55E-06	1.78E-06
Road 1	1	2200-2300	1.01E-02	1.31E-07	1.54E-06	9.14E-03	1.19E-06	1.39E-06	1.27E-02	1.66E-06	1.95E-06
Road 1	1	2300-0000	1.09E-02	1.06E-07	1.24E-06	9.78E-03	9.51E-07	1.11E-06	1.38E-02	1.34E-06	1.57E-06
Road 1	1	0000-0100	1.56E-02	1.06E-07	1.24E-06	1.41E-02	9.51E-07	1.11E-06	1.98E-02	1.34E-06	1.57E-06
Road 1	1	0100-0200	1.56E-02	1.06E-07	1.24E-06	1.41E-02	9.51E-07	1.11E-06	1.98E-02	1.34E-06	1.57E-06
Road 1	1	0200-0300	1.98E-02	1.06E-07	1.24E-06	1.78E-02	9.51E-07	1.11E-06	2.51E-02	1.34E-06	1.57E-06
Road 1	1	0300-0400	2.50E-02	1.06E-07	1.24E-06	2.25E-02	9.51E-07	1.11E-06	3.17E-02	1.34E-06	1.57E-06
Road 1	1	0400-0500	2.50E-02	1.06E-07	1.24E-06	2.25E-02	9.51E-07	1.11E-06	3.17E-02	1.34E-06	1.57E-06
Road 1	1	0500-0600	2.62E-02	1.06E-07	1.24E-06	2.36E-02	9.51E-07	1.11E-06	3.32E-02	1.34E-06	1.57E-06
Road 1	1	0600-0700	2.69E-02	2.25E-08	4.56E-07	2.48E-02	2.08E-08	4.22E-07	3.77E-02	3.17E-08	6.41E-07
Road 1	1	0700-0800	2.51E-02	5.37E-08	1.09E-06	2.31E-02	4.95E-08	1.00E-06	3.51E-02	7.52E-08	1.52E-06
Road 1	1	0800-0900	2.61E-02	5.03E-08	1.02E-06	2.40E-02	4.62E-08	9.34E-07	3.65E-02	7.03E-08	1.42E-06
Road 1	1	0900-1000	2.82E-02	4.59E-08	9.27E-07	2.58E-02	4.22E-08	8.52E-07	3.93E-02	6.41E-08	1.29E-06
Road 1	1	1000-1100	2.96E-02	4.25E-08	8.60E-07	2.74E-02	3.94E-08	7.96E-07	3.50E-01	5.04E-07	1.02E-05
Road 1	1	1100-1200	3.01E-02	3.98E-08	8.05E-07	2.78E-02	3.68E-08	7.44E-07	3.55E-01	4.69E-07	9.48E-06
Road 1	1	1200-1300	3.11E-02	3.98E-08	8.05E-07	2.88E-02	3.68E-08	7.44E-07	3.68E-01	4.69E-07	9.48E-06
Road 1	1	1300-1400	3.06E-02	2.25E-07	2.53E-06	2.83E-02	2.08E-07	2.34E-06	3.62E-01	2.66E-06	2.99E-05
Road 1	1	1400-1500	3.14E-02	2.25E-07	2.53E-06	2.90E-02	2.08E-07	2.34E-06	3.71E-01	2.66E-06	2.99E-05
Road 1	1	1500-1600	3.14E-02	2.25E-07	2.53E-06	2.90E-02	2.08E-07	2.34E-06	3.71E-01	2.66E-06	2.99E-05
Road 1	1	1600-1700	3.03E-02	2.59E-07	2.91E-06	2.80E-02	2.39E-07	2.69E-06	3.58E-01	3.06E-06	3.44E-05
Road 1	1	1700-1800	3.24E-02	2.59E-07	2.91E-06	2.99E-02	2.39E-07	2.69E-06	3.83E-01	3.06E-06	3.44E-05
Road 1	1	1800-1900	2.15E-02	3.06E-07	2.15E-06	1.99E-02	2.82E-07	1.98E-06	2.54E-01	3.61E-06	2.54E-05
Road 1	1	1900-2000	2.17E-02	6.69E-08	1.35E-06	1.95E-02	6.01E-08	1.21E-06	3.05E-01	9.37E-07	1.90E-05
Road 1	1	2000-2100	2.17E-02	6.69E-08	1.35E-06	1.95E-02	6.01E-08	1.21E-06	3.05E-01	9.37E-07	1.90E-05
Road 1	1	2100-2200	2.00E-02	6.05E-08	1.22E-06	1.80E-02	5.50E-08	1.11E-06	2.78E-01	8.41E-07	1.70E-05
Road 1	1	2200-2300	2.00E-02	6.05E-08	1.22E-06	1.80E-02	5.50E-08	1.11E-06	2.78E-01	8.41E-07	1.70E-05
Road 1	1	2300-0000	2.14E-02	4.75E-08	9.61E-07	1.95E-02	4.31E-08	8.72E-07	2.93E-01	6.48E-07	1.31E-05
Road 1	1	0000-0100	2.76E-02	4.75E-08	9.61E-07	2.50E-02	4.31E-08	8.72E-07	3.77E-01	6.48E-07	1.31E-05
Road 1	1	0100-0200	1.63E-02	4.97E-08	3.69E-06	1.48E-02	4.52E-08	3.35E-06	2.48E-01	7.56E-07	5.61E-05
Road 1	1	0200-0300	1.63E-02	4.97E-08	3.69E-06	1.48E-02	4.52E-08	3.35E-06	2.48E-01	7.56E-07	5.61E-05
Road 1	1	0300-0400	1.63E-02	4.97E-08	3.69E-06	1.48E-02	4.52E-08	3.35E-06	2.48E-01	7.56E-07	5.61E-05
Road 1	1	0400-0500	1.63E-02	4.97E-08	3.69E-06	1.48E-02	4.52E-08	3.35E-06	2.48E-01	7.56E-07	5.61E-05
Road 1	1	0500-0600	1.63E-02	4.97E-08	3.69E-06	1.48E-02	4.52E-08	3.35E-06	2.48E-01	7.56E-07	5.61E-05
Road 1	1	0600-0700	1.63E-02	1.44E-07	5.64E-06	1.51E-02	1.34E-07	5.23E-06	2.56E-01	2.26E-06	8.85E-05
Road 1	1	0700-0800	1.77E-02	3.23E-07	1.26E-05	1.64E-02	2.99E-07	1.17E-05	2.78E-01	5.07E-06	1.98E-04
Road 1	1	0800-0900	1.66E-02	3.53E-07	1.38E-05	1.55E-02	3.26E-07	1.27E-05	2.63E-01	5.58E-06	2.18E-04
Road 1	1	0900-1000	1.66E-02	4.96E-08	1.94E-06	1.54E-02	4.59E-08	1.80E-06	2.61E-01	7.79E-07	3.05E-05
Road 1	1	1000-1100	2.13E-02	3.29E-07	2.29E-05	1.98E-02	3.05E-07	2.12E-05	3.36E-01	5.17E-06	3.60E-04
Road 1	1	1100-1200	2.13E-02	3.29E-07	2.29E-05	1.98E-02	3.05E-07	2.12E-05	3.36E-01	5.17E-06	3.60E-04
Road 1	1	1200-1300	2.13E-02	3.29E-07	2.29E-05	1.98E-02	3.05E-07	2.12E-05	3.36E-01	5.17E-06	3.60E-04
Road 1	1	1300-1400	3.08E-02	6.20E-07	2.42E-05	2.87E-02	5.78E-07	2.26E-05	3.77E-01	7.59E-06	2.97E-04
Road 1	1	1400-1500	3.08E-02	6.20E-07	2.42E-05	2.87E-02	5.78E-07	2.26E-05	3.77E-01	7.59E-06	2.97E-04
Road 1	1	1500-1600	3.08E-02	6.20E-07	2.42E-05	2.87E-02	5.78E-07	2.26E-05	3.77E-01	7.59E-06	2.97E-04
Road 1	1	1600-1700	2.96E-02	6.44E-07	2.52E-05	2.74E-02	5.97E-07	2.33E-05	3.66E-01	7.97E-06	3.11E-04
Road 1	1	1700-1800	3.16E-02	6.44E-07	2.52E-05	2.93E-02	5.97E-07	2.33E-05	3.91E-01	7.97E-06	3.11E-04
Road 1	1	1800-1900	2.81E-02	4.16E-07	1.63E-05	2.60E-02	3.86E-07	1.51E-05	3.47E-01	5.14E-06	2.01E-04
Road 1	1	1900-2000	2.84E-02	8.85E-08	1.73E-06	2.63E-02	8.20E-08	1.60E-06	3.51E-01	1.09E-06	2.13E-05
Road 1	1	2000-2100	2.84E-02	8.85E-08	1.73E-06	2.63E-02	8.20E-08	1.60E-06	3.51E-01	1.09E-06	2.13E-05
Road 1	1	2100-2200	2.62E-02	7.99E-08	1.61E-06	2.43E-02	7.41E-08	1.49E-06	3.24E-01	9.87E-07	1.99E-05
Road 1	1	2200-2300	2.62E-02	7.99E-08	1.61E-06	2.43E-02	7.41E-08	1.49E-06	3.24E-01	9.87E-07	1.99E-05
Road 1	1	2300-0000	2.80E-02	6.27E-08	1.27E-06	2.59E-02	5.81E-08	1.17E-06	3.46E-01	7.75E-07	1.57E-05
Road 1	1	0000-0100	3.61E-02	6.27E-08	1.27E-06	3.34E-02	5.81E-08	1.17E-06	4.46E-01	7.75E-07	1.57E-05
Road 1	1	0100-0200	2.13E-02	6.56E-08	4.87E-06	1.97E-02	6.08E-08	4.51E-06	2.63E-01	8.11E-07	6.02E-05
Road 1	1	0200-0300	2.13E-02	6.56E-08	4.87E-06	1.97E-02	6.08E-08	4.51E-06	2.63E-01	8.11E-07	6.02E-05
Road 1	1	0300-0400	2.13E-02	6.56E-08	4.87E-06	1.97E-02	6.08E-08	4.51E-06	2.63E-01	8.11E-07	6.02E-05
Road 1	1	0400-0500	2.13E-02	6.56E-08	4.87E-06	1.97E-02	6.08E-08	4.51E-06	2.63E-01	8.11E-07	6.02E-05
Road 1	1	0500-0600	2.13E-02	6.56E-08	4.87E-06	1.97E-02	6.08E-08	4.51E-06	2.63E-01	8.11E-07	6.02E-05
Road 1	1	0600-0700	2.13E-02	1.90E-07	7.45E-06	1.97E-02	1.76E-07	6.90E-06	2.72E-01	2.42E-06	9.48E-05
Road 1	1	0700-0800	2.31E-02	4.26E-07	1.67E-05	2.14E-02	3.94E-07	1.54E-05	2.96E-01	5.46E-06	2.13E-04
Road 1	1	0800-0900	2.17E-02	4.66E-07	1.82E-05	2.01E-02	4.31E-07	1.68E-05	2.79E-01	5.99E-06	2.34E-04
Road 1	1	0900-1000	2.17E-02	6.55E-08	2.56E-06	2.01E-02	6.06E-08	2.37E-06	2.79E-01	8.38E-07	3.28E-05
Road 1	1	1000-1100	2.78E-02	4.34E-07	3.02E-05	2.58E-02	4.02E-07	2.80E-05	3.58E-01	5.56E-06	3.87E-04
Road 1	1	1100-1200	2.78E-02	4.34E-07	3.02E-05	2.58E-02	4.02E-07	2.80E-05	3.58E-01	5.56E-06	3.87E-04
Road 1	1	1200-1300	2.78E-02	4.34E-07	3.02E-05	2.58E-02	4.02E-07	2.80E-05	3.58E-01	5.56E-06	3.87E-04
Road 1	1	1300-1400	4.02E-02	8.17E-07	3.19E-05	3.74E-02	7.59E-07	2.96E-05	4.91E-01	9.98E-06	3.90E-04
Road 1	1	1400-1500	4.02E-02	8.17E-07	3.19E-05	3.74E-02	7.59E-07	2.96E-05	4.91E-01	9.98E-06	3.90E-04
Road 1	1	1500-1600	4.02E-02	8.17E-07	3.19E-05	3.74E-02	7.59E-07	2.96E-05	4.91E-01	9.98E-06	3.90E-04
Road 1	1	1600-1700	3.87E-02	8.49E-07	3.32E-05	3.59E-02	7.87E-07	3.08E-05	4.72E-01	1.04E-05	4.05E-04
Road 1	1	1700-1800	4.15E-02	8.49E-07	3.32E-05	3.85E-02	7.87E-07	3.08E-05	5.06E-01	1.04E-05	4.05E-04
Road 1	1	1800-1900	3.60E-02	5.48E-07	2.14E-05	3.34E-02	5.08E-07	1.99E-05	4.39E-01	6.68E-06	2.61E-04
Road 1	1	1900-2000	3.64E-02	1.17E-07	2.27E-06	3.38E-02	1.08E-07	2.11E-06	4.44E-01	1.43E-06	2.77E-05
Road 1	1	2000-2100	3.64E-02	1.17E-07	2.27E-06	3.38E-02	1.08E-07	2.11E-06	4.44E-01	1.43E-06	2.77E-05
Road 1	1	2100-2200	3.36E-02	1.05E-07	2.04E-06	3.12E-02	9.77E-08	1.90E-06	4.10E-01	1.28E-06	2.49E-05
Road 1	1	2200-2300	3.36E-02	1.05E-07	2.04E-06	3.12E-02	9.77E-08	1.90E-06	4.10E-01	1.28E-06	2.49E-05
Road 1	1	2300-0000	3.59E-02	8.25E-08	1.60E-06	3.33E-02	7.66E-08	1.48E-06	4.38E-01	1.01E-06	1.95E-05
Road 1	1	0000-0100	4.63E-02	8.25E-08	1.60E-06	4.30E-02	7.66E-08	1.48E-06	5.65E-01	1.01E-06	1.95E-05
Road 1	1	0100-0200	3.24E-02	1.13E-07	4.32E-07	3.09E-02	1.07E-07	4.12E-07	2.75E-01	9.55E-07	3.66E-06
Road 1	1	0200-0300	3.24E-02	1.13E-07	4.32E-07	3.09E-02	1.07E-07	4.12E-07	2.75E-01	9.55E-07	3.66E-06
Road 1	1	0300-0400	3.24E-02	1.13E-07	4.32E-07	3.09E-02	1.07E-07	4.12E-07	2.75E-01	9.55E-07	3.66E-06
Road 1	1	0400-0500	3.96E-02	8.80E-08	3.38E-07	3.77E-02	8.34E-08	3.24E-07	2.98E-01	6.62E-07	2.54E-06
Road 1	1	0500-0600	3.96E-02	8.80E-08	3.38E-07	3.79E-02	8.41E-08	3.24E-07	2.98E-01	6.62E-07	2.54E-06
Road 1	1	0600-0700	4.77E-02	3.97E-07	1.52E-06	4.55E-02	3.78E-07	1.45E-06	3.61E-01	6.15E-06	2.36E-05
Road 1	1	0700-0800	5.62E-02	9.47E-07	3.64E-06	5.33E-02	8.99E-07	3.45E-06	3.65E-01	6.15E-06	2.36E-05
Road 1	1	0800-0900	5.57E-02	1.11E-06	4.26E-06	5.26E-02	1.05E-06	4.02E-06	3.34E-01	6.54E-06	2.51E-05
Road 1	1	0900-1000	6.53E-02	1.07E-06	4.12E-06	6.22E-02	1.02E-06	3.93E-06	3.48E-01	5.73E-06	2.20E-05
Road 1	1	1000-1100	6.94E-02	9.46E-07	3.63E-06	6.64E-02	9.05E-07	3.47E-06	3.53E-01	4.81E-06	1.84E-05
Road 1	1	1100-1200	6.94E-02	9.46E-07	3.63E-06	6.64E-02	9.05E-07	3.47E-06	3.53E-01	4.81E-06	1.84E-05
Road 1	1	1200-1300	6.94E-02	9.46E-07	3.63E-06	6.64E-02	9.05E-07	3.47E-06	3.53E-01	4.81E-06	1.84E-05
Road 1	1	1300-1400	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	1400-1500	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	1500-1600	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	1600-1700	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	1700-1800	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	1800-1900	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	1900-2000	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	2000-2100	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	2100-2200	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	2200-2300	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	2300-0000	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0000-0100	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0100-0200	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0200-0300	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0300-0400	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0400-0500	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0500-0600	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0600-0700	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05
Road 1	1	0700-0800	9.17E-02	1.09E-06	2.09E-06	8.74E-02	1.04E-06	2.00E-06	4.66E-01	5.54E-06	2.67E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tseng Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 2	2	0000-0100	1.54E-02	1.18E-07	1.57E-06	1.43E-02	1.47E-06	1.95E-06	1.67E-02	1.72E-06	2.28E-06
Road 2	2	0100-0200	1.77E-02	8.89E-08	1.18E-06	1.64E-02	8.25E-08	1.09E-06	1.91E-02	9.60E-08	1.27E-06
Road 2	2	0200-0300	1.98E-02	7.50E-08	9.91E-07	1.83E-02	6.92E-08	9.15E-07	2.13E-02	8.04E-08	1.06E-06
Road 2	2	0300-0400	2.18E-02	6.70E-08	8.86E-07	2.01E-02	6.17E-08	8.16E-07	2.35E-02	7.20E-08	9.52E-07
Road 2	2	0400-0500	2.21E-02	7.49E-08	9.90E-07	2.04E-02	6.91E-08	9.14E-07	2.38E-02	8.06E-08	1.07E-06
Road 2	2	0500-0600	2.13E-02	1.65E-07	1.97E-06	1.97E-02	1.52E-06	1.81E-06	2.30E-02	1.78E-06	2.12E-06
Road 2	2	0600-0700	2.07E-02	2.52E-07	3.33E-06	1.92E-02	2.33E-06	3.07E-06	2.25E-02	2.73E-06	3.60E-06
Road 2	2	0700-0800	2.45E-02	6.21E-07	8.20E-06	2.25E-02	5.71E-06	7.55E-06	2.64E-02	6.69E-06	8.84E-06
Road 2	2	0800-0900	2.46E-02	6.23E-07	8.23E-06	2.27E-02	5.73E-06	7.57E-06	2.65E-02	6.71E-06	8.87E-06
Road 2	2	0900-1000	2.89E-02	7.56E-07	9.99E-06	2.68E-02	7.00E-06	9.25E-06	3.11E-02	8.15E-06	1.08E-05
Road 2	2	1000-1100	2.86E-02	6.38E-07	8.44E-06	2.67E-02	5.95E-06	7.86E-06	4.00E-02	8.92E-06	1.18E-05
Road 2	2	1100-1200	3.15E-02	7.55E-07	9.98E-06	2.95E-02	7.04E-06	9.31E-06	4.41E-02	1.06E-05	1.40E-05
Road 2	2	1200-1300	3.15E-02	7.55E-07	9.98E-06	2.95E-02	7.04E-06	9.31E-06	4.41E-02	1.06E-05	1.40E-05
Road 2	2	1300-1400	3.97E-02	8.59E-07	1.14E-05	3.72E-02	8.04E-06	1.06E-05	3.76E-02	8.13E-06	1.07E-05
Road 2	2	1400-1500	3.97E-02	8.59E-07	1.14E-05	3.72E-02	8.04E-06	1.06E-05	3.76E-02	8.13E-06	1.07E-05
Road 2	2	1500-1600	3.97E-02	8.59E-07	1.14E-05	3.72E-02	8.04E-06	1.06E-05	3.76E-02	8.13E-06	1.07E-05
Road 2	2	1600-1700	3.80E-02	8.39E-07	1.11E-05	3.52E-02	7.77E-06	1.03E-05	3.56E-02	7.85E-06	1.04E-05
Road 2	2	1700-1800	4.07E-02	8.39E-07	1.11E-05	3.77E-02	7.77E-06	1.03E-05	3.81E-02	7.85E-06	1.04E-05
Road 2	2	1800-1900	2.38E-02	4.91E-07	6.49E-06	2.16E-02	4.45E-06	5.88E-06	2.38E-02	4.91E-07	6.49E-06
Road 2	2	1900-2000	2.01E-02	3.01E-07	3.97E-06	1.82E-02	2.72E-06	3.59E-06	2.01E-02	3.01E-07	3.97E-06
Road 2	2	2000-2100	2.01E-02	3.01E-07	3.97E-06	1.82E-02	2.72E-06	3.59E-06	2.01E-02	3.01E-07	3.97E-06
Road 2	2	2100-2200	1.94E-02	2.30E-07	3.04E-06	1.77E-02	2.09E-06	2.77E-06	1.94E-02	2.30E-07	3.04E-06
Road 2	2	2200-2300	1.94E-02	2.30E-07	3.04E-06	1.77E-02	2.09E-06	2.77E-06	1.94E-02	2.30E-07	3.04E-06
Road 2	2	2300-0000	2.15E-02	1.86E-07	2.47E-06	1.96E-02	1.69E-06	2.24E-06	2.15E-02	1.86E-07	2.47E-06
Road 2	2	0000-0100	1.45E-02	1.76E-07	3.15E-06	1.32E-02	1.61E-06	2.88E-06	1.45E-02	1.76E-07	3.15E-06
Road 2	2	0100-0200	1.24E-02	1.07E-07	1.91E-06	1.13E-02	9.74E-07	1.74E-06	1.24E-02	1.07E-07	1.91E-06
Road 2	2	0200-0300	1.36E-02	9.07E-08	1.62E-06	1.23E-02	8.25E-07	1.48E-06	1.36E-02	9.07E-08	1.62E-06
Road 2	2	0300-0400	1.46E-02	8.29E-08	1.48E-06	1.33E-02	7.54E-07	1.35E-06	1.46E-02	8.29E-08	1.48E-06
Road 2	2	0400-0500	1.44E-02	1.28E-07	2.29E-06	1.31E-02	1.16E-06	2.08E-06	1.44E-02	1.28E-07	2.29E-06
Road 2	2	0500-0600	1.58E-02	1.88E-07	3.36E-06	1.44E-02	1.71E-06	3.06E-06	1.58E-02	1.88E-07	3.36E-06
Road 2	2	0600-0700	1.76E-02	2.58E-07	7.54E-06	1.64E-02	2.41E-06	7.04E-06	1.76E-02	2.58E-07	7.54E-06
Road 2	2	0700-0800	1.96E-02	3.42E-07	1.00E-05	1.82E-02	3.17E-06	9.31E-06	1.96E-02	3.42E-07	1.00E-05
Road 2	2	0800-0900	1.96E-02	3.42E-07	1.00E-05	1.82E-02	3.17E-06	9.31E-06	1.96E-02	3.42E-07	1.00E-05
Road 2	2	0900-1000	2.08E-02	6.30E-07	1.81E-05	1.93E-02	5.84E-06	1.68E-05	2.08E-02	6.30E-07	1.81E-05
Road 2	2	1000-1100	2.13E-02	5.60E-07	1.61E-05	2.05E-02	5.20E-06	1.57E-05	2.13E-02	5.60E-07	1.61E-05
Road 2	2	1100-1200	2.21E-02	5.60E-07	1.61E-05	2.05E-02	5.20E-06	1.57E-05	2.21E-02	5.60E-07	1.61E-05
Road 2	2	1200-1300	2.21E-02	5.60E-07	1.61E-05	2.05E-02	5.20E-06	1.57E-05	2.21E-02	5.60E-07	1.61E-05
Road 2	2	1300-1400	3.28E-02	2.74E-07	2.23E-05	3.08E-02	2.47E-06	2.01E-05	3.28E-02	2.74E-07	2.23E-05
Road 2	2	1400-1500	3.30E-02	2.74E-07	2.23E-05	3.08E-02	2.47E-06	2.01E-05	3.30E-02	2.74E-07	2.23E-05
Road 2	2	1500-1600	3.30E-02	2.74E-07	2.23E-05	3.08E-02	2.47E-06	2.01E-05	3.30E-02	2.74E-07	2.23E-05
Road 2	2	1600-1700	3.58E-02	6.64E-07	3.32E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	2.56E-02	6.67E-06	2.56E-02	1.26E-02	3.28E-06	1.26E-02	1.38E-02	3.59E-06	1.38E-02
Road 37	37	1700-1800	6.67E-02	1.73E-05	6.40E-02	1.15E-02	2.65E-06	1.05E-02	5.50E-08	1.26E-07	5.08E-08
Road 37	37	1800-1900	4.54E-02	8.18E-09	1.88E-08	4.34E-02	7.81E-09	1.79E-08	2.31E-01	4.15E-08	9.52E-08
Road 37	37	1900-2000	1.61E-02	5.36E-09	1.23E-08	1.08E-02	3.60E-09	8.29E-09	5.09E-09	1.17E-08	2.11E-01
Road 37	37	2000-2100	3.94E-02	4.25E-09	9.76E-09	3.74E-02	4.04E-09	9.27E-09	2.39E-01	2.58E-08	5.91E-08
Road 37	37	2100-2200	1.87E-02	4.19E-09	9.67E-09	3.32E-02	7.43E-09	1.71E-08	4.61E-09	9.20E-09	2.12E-01
Road 37	37	2200-2300	3.45E-02	3.57E-09	8.20E-09	3.28E-02	3.40E-09	7.80E-09	2.28E-01	2.36E-08	5.42E-08
Road 37	37	2300-0000	3.81E-02	2.99E-09	6.86E-09	3.61E-02	2.84E-09	6.51E-09	2.40E-01	1.88E-08	4.33E-08
Road 38	38	0000-0100	4.29E-02	3.26E-09	7.49E-09	4.08E-02	3.10E-09	7.12E-09	2.70E-01	2.05E-08	4.72E-08
Road 38	38	0100-0200	4.61E-02	3.73E-08	3.05E-07	4.43E-02	3.58E-08	2.93E-07	2.62E-01	2.12E-07	1.73E-06
Road 38	38	0200-0300	5.22E-02	2.51E-08	2.05E-07	4.99E-02	2.40E-08	1.96E-07	2.80E-01	1.35E-07	1.10E-06
Road 38	38	0300-0400	5.61E-02	2.51E-08	2.05E-07	5.40E-02	2.41E-08	1.97E-07	2.75E-01	1.23E-07	1.00E-06
Road 38	38	0400-0500	5.61E-02	3.04E-08	2.49E-07	5.40E-02	2.92E-08	2.39E-07	2.75E-01	1.49E-07	1.22E-06
Road 38	38	0500-0600	5.94E-02	5.39E-08	4.41E-07	5.73E-02	5.20E-08	4.25E-07	2.84E-01	2.58E-07	2.11E-06
Road 38	38	0600-0700	6.36E-02	1.30E-07	1.07E-06	6.10E-02	1.25E-07	1.02E-06	3.16E-01	6.47E-07	5.30E-06
Road 38	38	0700-0800	7.02E-02	3.45E-07	2.82E-06	6.71E-02	3.30E-07	2.70E-06	3.48E-01	1.71E-06	1.40E-05
Road 38	38	0800-0900	7.02E-02	3.45E-07	2.82E-06	6.71E-02	3.30E-07	2.70E-06	3.12E-01	1.53E-06	1.26E-05
Road 38	38	0900-1000	6.84E-02	3.55E-07	2.91E-06	6.48E-02	3.40E-07	2.79E-06	3.43E-01	1.38E-06	1.13E-05
Road 38	38	1000-1100	8.84E-02	3.55E-07	2.91E-06	8.48E-02	3.40E-07	2.79E-06	3.43E-01	1.38E-06	1.13E-05
Road 38	38	1100-1200	8.66E-02	3.28E-07	2.69E-06	8.34E-02	3.16E-07	2.59E-06	3.39E-01	1.28E-06	1.05E-05
Road 38	38	1200-1300	1.03E-01	3.28E-07	2.69E-06	9.92E-02	3.16E-07	2.59E-06	3.39E-01	1.28E-06	1.05E-05
Road 38	38	1300-1400	1.03E-01	3.28E-07	2.69E-06	9.92E-02	3.16E-07	2.59E-06	4.36E-01	9.46E-07	7.75E-06
Road 38	38	1400-1500	1.24E-01	3.28E-07	2.69E-06	1.19E-01	3.16E-07	2.59E-06	4.36E-01	9.46E-07	7.75E-06
Road 38	38	1500-1600	1.33E-01	3.02E-07	2.48E-06	1.28E-01	2.91E-07	2.38E-06	4.48E-01	1.01E-06	8.29E-06
Road 38	38	1600-1700	1.29E-01	2.76E-07	2.26E-06	1.24E-01	2.66E-07	2.17E-06	4.27E-01	9.15E-07	7.49E-06
Road 38	38	1700-1800	1.29E-01	2.76E-07	2.26E-06	1.24E-01	2.66E-07	2.17E-06	4.35E-01	9.31E-07	7.62E-06
Road 38	38	1800-1900	1.03E-01	3.66E-08	8.39E-08	9.89E-02	1.57E-07	1.29E-06	3.56E-01	5.66E-07	4.64E-06
Road 38	38	1900-2000	1.03E-01	3.66E-08	8.39E-08	9.89E-02	1.57E-07	1.29E-06	3.56E-01	5.66E-07	4.64E-06
Road 38	38	2000-2100	9.42E-02	8.27E-08	6.77E-07	9.01E-02	7.92E-08	6.48E-07	3.63E-01	3.19E-07	2.61E-06
Road 38	38	2100-2200	9.42E-02	8.42E-08	6.90E-07	9.01E-02	8.05E-08	6.63E-07	3.63E-01	3.25E-07	2.66E-06
Road 38	38	2200-2300	7.09E-02	5.82E-08	4.77E-07	6.78E-02	5.57E-08	4.57E-07	3.29E-01	2.70E-07	2.21E-06
Road 38	38	2300-0000	9.21E-02	5.92E-08	4.85E-07	8.80E-02	5.66E-08	4.63E-07	3.51E-01	2.25E-07	1.85E-06
Road 39	39	0000-0100	1.09E-01	2.57E-07	2.11E-06	1.04E-01	2.46E-07	2.01E-06	4.26E-01	1.00E-06	8.21E-06
Road 39	39	0100-0200	1.11E-01	1.85E-07	1.51E-06	1.08E-01	1.75E-07	1.43E-06	4.29E-01	7.14E-07	5.85E-06
Road 39	39	0200-0300	1.17E-01	1.84E-07	1.51E-06	1.14E-01	1.74E-07	1.42E-06	4.42E-01	6.96E-07	5.70E-06
Road 39	39	0300-0400	1.17E-01	1.24E-08	1.05E-07	1.12E-01	1.19E-08	1.01E-07	4.02E-01	4.26E-08	3.62E-07
Road 39	39	0400-0500	1.19E-01	1.46E-08	1.24E-07	1.15E-01	1.41E-08	1.20E-07	4.09E-01	5.04E-08	4.29E-07
Road 39	39	0500-0600	1.22E-01	2.57E-08	2.19E-07	1.18E-01	2.48E-08	2.11E-07	4.20E-01	8.85E-08	7.52E-07
Road 39	39	0600-0700	1.25E-01	6.34E-08	5.40E-07	1.20E-01	6.12E-08	5.21E-07	4.24E-01	2.15E-07	1.83E-06
Road 39	39	0700-0800	1.38E-01	1.68E-07	1.43E-06	1.33E-01	1.62E-07	1.38E-06	4.68E-01	5.70E-07	4.85E-06
Road 39	39	0800-0900	1.30E-01	1.73E-07	1.47E-06	1.25E-01	1.67E-07	1.42E-06	4.42E-01	5.87E-07	4.99E-06
Road 39	39	0900-1000	1.36E-01	1.90E-07	1.62E-06	1.31E-01	1.83E-07	1.56E-06	4.50E-01	6.27E-07	5.34E-06
Road 39	39	1000-1100	1.37E-01	1.90E-07	1.62E-06	1.32E-01	1.83E-07	1.56E-06	4.64E-01	6.45E-07	5.49E-06
Road 39	39	1100-1200	1.37E-01	1.74E-07	1.48E-06	1.32E-01	1.68E-07	1.43E-06	4.64E-01	5.91E-07	5.03E-06
Road 39	39	1200-1300	1.37E-01	1.74E-07	1.48E-06	1.32E-01	1.68E-07	1.43E-06	4.64E-01	5.91E-07	5.03E-06
Road 39	39	1300-1400	1.71E-01	1.74E-07	1.48E-06	1.64E-01	1.68E-07	1.43E-06	5.65E-01	5.91E-07	5.03E-06
Road 39	39	1400-1500	1.71E-01	1.74E-07	1.48E-06	1.64E-01	1.68E-07	1.43E-06	5.65E-01	5.91E-07	5.03E-06
Road 39	39	1500-1600	1.71E-01	1.60E-07	1.36E-06	1.64E-01	1.54E-07	1.31E-06	5.65E-01	5.43E-07	4.62E-06
Road 39	39	1600-1700	1.68E-01	1.46E-07	1.24E-06	1.61E-01	1.41E-07	1.20E-06	5.56E-01	4.96E-07	4.22E-06
Road 39	39	1700-1800	1.68E-01	1.46E-07	1.24E-06	1.61E-01	1.41E-07	1.20E-06	5.56E-01	4.96E-07	4.22E-06
Road 39	39	1800-1900	1.37E-01	1.90E-07	1.62E-06	1.32E-01	1.83E-07	1.56E-06	4.64E-01	6.45E-07	5.49E-06
Road 39	39	1900-2000	1.37E-01	1.90E-07	1.62E-06	1.32E-01	1.83E-07	1.56E-06	4.64E-01	6.45E-07	5.49E-06
Road 39	39	2000-2100	1.25E-01	1.90E-07	1.62E-06	1.20E-01	1.83E-07	1.56E-06	4.24E-01	6.45E-07	5.49E-06
Road 39	39	2100-2200	1.25E-01	1.90E-07	1.62E-06	1.20E-01	1.83E-07	1.56E-06	4.24E-01	6.45E-07	5.49E-06
Road 39	39	2200-2300	9.42E-02	1.90E-07	1.62E-06	9.01E-02	1.83E-07	1.56E-06	3.19E-01	6.45E-07	5.49E-06
Road 39	39	2300-0000	1.22E-01	1.90E-07	1.62E-06	1.17E-01	1.83E-07	1.56E-06	4.13E-01	6.45E-07	5.49E-06
Road 40	40	0000-0100	1.45E-01	3.43E-07	2.81E-06	1.39E-01	3.29E-07	2.69E-06	4.91E-01	1.16E-06	9.49E-06
Road 40	40	0100-0200	1.48E-01	2.47E-07	2.02E-06	1.44E-01	2.40E-07	1.96E-06	5.04E-01	8.41E-07	6.89E-06
Road 40	40	0200-0300	1.56E-01	2.46E-07	2.01E-06	1.52E-01	2.39E-07	1.95E-06	5.29E-01	8.37E-07	6.85E-06
Road 40	40	0300-0400	1.56E-01	1.66E-08	1.40E-07	1.50E-01	1.59E-08	1.35E-07	5.29E-01	5.61E-08	4.76E-07
Road 40	40	0400-0500	1.59E-01	1.95E-08	1.65E-07	1.53E-01	1.88E-08	1.59E-07	5.39E-01	6.62E-08	5.61E-07
Road 40	40	0500-0600	1.63E-01	3.43E-08	2.92E-07	1.57E-01	3.31E-08	2.81E-07	5.53E-01	1.16E-07	9.89E-07
Road 40	40	0600-0700	1.67E-01	8.46E-08	7.20E-07	1.60E-01	8.14E-08	6.92E-07	5.66E-01	2.87E-07	2.44E-06
Road 40	40	0700-0800	1.84E-01	2.24E-07	1.91E-06	1.77E-01	2.16E-07	1.84E-06	6.24E-01	7.60E-07	6.47E-06
Road 40	40	0800-0900	1.73E-01	2.31E-07	1.96E-06	1.66E-01	2.22E-07	1.89E-06	5.89E-01	7.83E-07	6.66E-06
Road 40	40	0900-1000	1.81E-01	2.53E-07	2.16E-06	1.74E-01	2.44E-07	2.07E-06	6.14E-01	8.59E-07	7.31E-06
Road 40	40	1000-1100	1.83E-01	2.53E-07	2.16E-06	1.75E-01	2.43E-07	2.07E-06	6.20E-01	8.59E-07	7.31E-06
Road 40	40	1100-1200	1.82E-01	2.31E-07	1.97E-06	1.75E-01	2.22E-07	1.89E-06	6.17E-01	7.83E-07	6.66E-06
Road 40	40	1200-1300	1.82E-01	2.31E-07	1.97E-06	1.75E-01	2.22E-07	1.89E-06	6.17E-01	7.83E-07	6.66E-06
Road 40	40	1300-1400	2.28E-01	2.31E-07	1.97E-06	2.19E-01	2.22E-07	1.89E-06	7.72E-01	7.83E-07	6.66E-06
Road 40	40	1400-1500	2.28E-01	2.31E-07	1.97E-06	2.19E-01	2.22E-07	1.89E-06	7.72E-01	7.83E-07	6.66E-06
Road 40	40	1500-1600	2.28E-01	2.25E-07	1.92E-06	2.19E-01	2.16E-07	1.84E-06	7.72E-01	7.63E-07	6.49E-06
Road 40	40	1600-1700	2.23E-01	2.06E-07	1.75E-06	2.14E-01	1.97E-07	1.68E-06	7.56E-01	6.96E-07	5.92E-06
Road 40	40	1700-1800	2.23E-01	2.06E-07	1.75E-06	2.14E-01	1.97E-07	1.68E-06	7.56E-01	6.96E-07	5.92E-06
Road 40	40	1800-1900	1.83E-01	2.53E-07	2.16E-06	1.75E-01	2.43E-07	2.07E-06	6.20E-01	8.59E-07	7.31E-06
Road 40	40	1900-2000	1.83E-01	2.53E-07	2.16E-06	1.75E-01	2.43E-07	2.07E-06	6.20E-01	8.59E-07	7.31E-06
Road 40	40	2000-2100	1.67E-01	2.53E-07	2.16E-06	1.60E-01	2.43E-07	2.07E-06	5.66E-01	8.59E-07	7.31E-06
Road 40	40	2100-2200	1.67E-01	2.53E-07	2.16E-06	1.60E-01	2.43E-07	2.07E-06	5.66E-01	8.59E-07	7.31E-06
Road 40	40	2200-2300	1.25E-01	2.53E-07	2.16E-06	1.20E-01	2.43E-07	2.07E-06	4.24E-01	8.59E-07	7.31E-06
Road 40	40	2300-0000	1.63E-01	2.53E-07	2.16E-06	1.56E-01	2.43E-07	2.07E-06	5.52E-01	8.59E-07	7.31E-06
Road 41	41	0000-0100	1.86E-02	1.03E-08	2.85E-07	1.68E-02	9.27E-09	2.56E-07	1.38E-01	7.63E-08	2.11E-06
Road 41	41	0100-0200	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	9.80E-02	1.12E-07	1.05E-06
Road 41	41	0200-0300	2.81E-02	2.51E-08	2.36E-07	2.60E-02	2.32E-08	2.18E-07	2.31E-01	2.07E-07	1.94E-06
Road 41	41	0300-0400	3.22E-02	2.43E-08	2.28E-07	2.96E-02	2.23E-08	2.09E-07	1.17E-01	8.78E-08	8.24E-07
Road 41	41	0400-0500	3.13E-02	2.52E-08	2.36E-07	2.92E-02	2.35E-08	2.20E-07	1.15E-01	9.27E-08	8.70E-07
Road 41	41	0500-0600	3.52E-02	3.11E-08	2.91E-07	3.29E-02	2.90E-08	2.72E-07	1.04E-01	9.17E-08	8.61E-07
Road 41	41	0600-0700	3.97E-02	4.72E-08	4.43E-07	3.82E-02	4.55E-08	4.08E-07	9.55E-02	2.29E-07	2.15E-06
Road 41	41	0700-0800	2.54E-02	1.33E-07	1.25E-06	2.34E-02	1.23E-07	1.15E-06	1.06E-01	5.59E-07	5.24E-06
Road 41	41	0800-0900	2.28E-02	1.68E-07	1.57E-06	2.11E-02	1.56E-07	1.46E-06	1.29E-01	9.50E-07	8.92E-06
Road 41	41	0900-1000	2.69E-02	1.37E-07	1.28E-06	2.49E-02	1.27E-07	1.19E-06	1.37E-01	6.97E-07	6.55E-06
Road 41	41	1000-1100	2.69E-02	1.37E-07	1.28E-06	2.49E-02	1.27E-07	1.19E-06	1.37E-01	6.97E-07	6.55E-06
Road 41	41	1100-1200	2.69E-02	1.37E-07	1.28E-06	2.49E-02	1.27E-07	1.19E-06	1.37E-01	6.97E-07	6.55E-06
Road 41	41	1200-1300	2.69E-02	1.37E-07	1.28E-06	2.49E-02	1.27E-07	1.19E-06	1.37E-01	6.97E-07	6.55E-06
Road 41	41	1300-1400	3.13E-02	1.37E-07	1.28E-06	2.92E-02	1.27E-07	1.19E-06	1.51E-01	6.97E-07	6.55E-06
Road 41	41	1400-1500	3.13E-02	1.37E-07	1.28E-06	2.92E-02	1.27E-07	1.19E-06	1.51E-01	6.97E-07	6.55E-06
Road 41	41	1500-1600	3.13E-02	1.26E-07	1.18E-06	2.92E-02	1.17E-07	1.09E-06	1.51E-01	6.44E-07	6.05E-06
Road 41	41	1600-1700	3.09E-02	1.15E-07	1.08E-06	2.88E-02	1.07E-07	9.98E-07	1.49E-01	5.91E-07	5.55E-06
Road 41	41	1700-1800	3.09E-02	1.15E-07	1.08E-06	2.88E-02	1.07E-07	9.98E-07	1.49E-01	5.91E-07	5.55E-06
Road 41	41	1800-1900	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	1.38E-01	7.63E-08	2.11E-06
Road 41	41	1900-2000	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	1.38E-01	7.63E-08	2.11E-06
Road 41	41	2000-2100	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	1.38E-01	7.63E-08	2.11E-06
Road 41	41	2100-2200	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	1.38E-01	7.63E-08	2.11E-06
Road 41	41	2200-2300	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	1.38E-01	7.63E-08	2.11E-06
Road 41	41	2300-0000	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	1.38E-01	7.63E-08	2.11E-06
Road 42	42	0000-0100	2.79E-02	5.56E-08	1.41E-06	2.33E-02	4.63E-08	1.17E-06	1.38E-01	2.75E-07	6.98E-06
Road 42	42	0100-0200	4.16E-02	4.47E-08	1.13E-06	3.84E-02	4.13E-08	1.04E-06	2.06E-01	2.21E-07	5.60E-06
Road 42	42	0200-0300	4.16E-02	4.47E-08	1.13E-06	3.84E-02	4.13E-08	1.04E-06	2.06E-01	2.21E-07	5.60E-06
Road 42	42	0300-0400	4.16E-02	4.47E-08	1.13E-06	3.84E-02	4.13E-08	1.04E-06	2.06E-01	2.21E-07	5.60E-06
Road 42	42	0400-0500	4.65E-02	4.49E-08	1.14E-06	4.18E-02	4.03E-08	1.02E-06	2.30E-01	2.22E-07	5.63E-06
Road 42	42	0500-0600	5.82E-02	5.72E-08	1.45E-06	5.34E-02	5.25E-08	1.33E-06	2.88E-01	2.83E-07	7.17E-06
Road 42	42	0600-0700	6.66E-02	1.68E-07	4.26E-06	6.08E-02	1.53E-07	3.88E-06	3.29E-01	8.31E-07	2.11E-05
Road 42	42	0700-0800	4.54E-02	2.90E-07	7.35E-06	4.19E-02	2.68E-07	6.78E-06	1.68E-01	1.07E-06	2.71E-05
Road 42	42	0800-0900	4.64E-02	2.90E-07	7.35E-06	4.19E-02	2.68E-07	6.78E-06	1.68E-01	1.07E-06	2.71E-05
Road 42	42	0900-1000	4.88E-02	3.01E-07	7.63E-06	4.51E-02	2.78E-07	7.04E-06	1.75E-01	1.08E-06	2.73E-05
Road 42	42	1000-1100	5.24E-02	2.74E-07	6.96E-06	4.87E-02	2.55E-07	6.46E-06	1.82E-01	9.54E-07	2.42E-05
Road 42	42	1100-1200	7.88E-02	3.17E-07	8.03E-06	7.17E-02	2.56E-07	6.51E-06	2.48E-01	9.98E-07	2.53E-05
Road 42	42	1200-1300	7.71E-02	3.25E-07	8.24E-06	7.03E-02	2.96E-07	7.50E-06	2.43E-01	1.02E-06	2.59E-05
Road 42	42	1300-1400	7.70E-02	3.34E-07	8.46E-06	7.13E-02	3.09E-07	7.83E-06	2.48E-01	1.07E-06	2.72E-05
Road 42	42	1400-1500	7.70E-02	3.34E-07	8.46E-06	7.13E-02	3.09E-07	7.83E-06	2.48E-01	1.07E-06	2.72E-05
Road 42	42	1500-1600	7.70E-02	3.23E-07	8.19E-06	7.13E-02	2.99E-07	7.58E-06	2.48E-01	1.04E-06	2.63E-05
Road 42	42	1600-1700	7.76E-02	3.28E-07	8.31E-06	6.80E-02	3.01E-07	7.63E-06	2.38E-01	1.06E-06	2.68E-05
Road 42	42	1700-1800	6.37E-02	2.94E-07	7.45E-06	5.81E-02	2.68E-07	6.79E-06	2.18E-01	1.01E-06	2.55E-05
Road 42	42	1800-1900	4.65E-02	2.90E-07	7.35E-06	4.19E-02	2.68E-07	6.78E-06	1.68E-01	1.07E-06	2.71E-05
Road 42	42	1900-2000	4.88E-02	3.01E-07	7.63E-06	4.51E-02	2.78E-07	7.04E-06	1.75E-01	1.08E-06	2.73E-05
Road 42	42	2000-2100	4.88E-02	3.01E-07	7.63E-06	4.51E-02	2.78E-07	7.04E-06	1.75E-01	1.08E-06	2.73E-05
Road 42	42	2100-2200	4.88E-02	3.01E-07	7.63E-06	4.51E-02	2.78E-07	7.04E-06	1.75E-01	1.08E-06	2.73E-05
Road 42	42	2200-2300	4.88E-02	3.01E-07	7.63E-06	4.51E-02	2.78E-07	7.04E-06	1.75E-01	1.08E-06	2.73E-05
Road 42	42	2300-0000	4.88E-02	3.01E-07	7.63E-06	4.51E-02	2.78E-07	7.04E-06	1.75E-01	1.08E-06	2.73E-05
Road 43	43	0000-0100	1.09E-02	2.57E-08	6.52E-07	9.68E-03	2.28E-08	5.78E-07	7.96E-02	1.88E-07	4.77E-06
Road 43	43	0100-0200	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0200-0300	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0300-0400	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0400-0500	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0500-0600	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0600-0700	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0700-0800	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0800-0900	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	0900-1000	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1000-1100	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1100-1200	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1200-1300	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1300-1400	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1400-1500	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1500-1600	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1600-1700	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1700-1800	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1800-1900	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	1900-2000	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	2000-2100	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	2100-2200	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	2200-2300	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 43	43	2300-0000	1.38E-02	2.47E-08	6.26E-07	1.26E-02	2.26E-08	5.72E-07	1.13E-01	2.02E-07	5.12E-06
Road 44	44	0000-0100	1.82E-02	4.63E-08	1.17E-06	1.56E-02	3.97E-08	1.00E-06	1.38E-01	3.51E-07	8.89E-06
Road 44	44	0100-0200	2.35E-02	2.87E-08	2.51E-07	2.17E-02	2.48E-08	2.32E-07	9.80E-02	1.12E-07	1.05E-06
Road 44	44	0200-0300	2.81E-02	2.51E-08	2.36E-07	2.60E-02	2.32E-08	2.18E-07	2.31E-01	2.07E-07	1.94E-06
Road 44	44	0300-0400	3.22E-02	2.43E-08	2.28E-07	2.96E-02	2.23E-08	2.09E-07	1.17E-01	8.78E-

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.02E-02	1.34E-03	7.40E-06	8.89E-03	1.19E-03	6.57E-06	1.21E-01	1.63E-02	8.95E-05	1.04E-01	1.39E-02	7.68E-05
Road 1	1	0100-0200	1.07E-02	9.36E-03	5.16E-06	9.51E-03	8.31E-03	4.57E-06	1.23E-01	1.07E-01	5.91E-05	1.05E-01	9.18E-02	5.05E-05
Road 1	1	0200-0300	1.15E-02	7.33E-03	4.04E-06	1.02E-02	6.49E-03	3.57E-06	1.25E-01	8.00E-02	4.41E-05	1.07E-01	6.81E-02	3.75E-05
Road 1	1	0300-0400	1.22E-02	6.15E-03	3.39E-06	1.09E-02	5.51E-03	3.03E-06	1.27E-01	6.42E-02	3.52E-05	1.10E-01	5.55E-02	3.04E-05
Road 1	1	0400-0500	1.30E-02	7.16E-08	3.94E-06	1.16E-02	6.42E-08	3.53E-06	1.29E-01	7.12E-07	3.92E-05	1.11E-01	6.15E-07	3.39E-05
Road 1	1	0500-0600	1.37E-02	1.51E-02	8.31E-06	1.22E-02	1.34E-02	7.37E-06	1.30E-01	1.45E-01	7.99E-05	1.12E-01	1.29E-01	7.09E-05
Road 1	1	0600-0700	1.45E-02	2.97E-07	1.64E-05	1.30E-02	2.66E-07	1.46E-05	1.33E-01	2.72E-06	1.50E-04	1.15E-01	2.35E-06	1.29E-04
Road 1	1	0700-0800	1.52E-02	6.29E-07	3.46E-05	1.36E-02	5.64E-07	3.11E-05	1.33E-01	5.52E-06	3.04E-04	1.15E-01	4.76E-06	2.62E-04
Road 1	1	0800-0900	1.60E-02	1.37E-06	7.54E-05	1.43E-02	1.23E-06	6.77E-05	1.36E-01	1.16E-05	6.40E-04	1.18E-01	1.01E-05	5.57E-04
Road 1	1	0900-1000	1.60E-02	6.30E-07	3.47E-05	1.43E-02	5.65E-07	3.11E-05	1.36E-01	5.35E-06	2.95E-04	1.18E-01	4.80E-06	2.64E-04
Road 1	1	1000-1100	1.60E-02	1.70E-02	9.35E-06	1.43E-02	1.52E-02	8.37E-06	1.36E-01	1.44E-01	7.94E-05	1.18E-01	1.28E-01	7.04E-05
Road 1	1	1100-1200	1.70E-02	5.49E-07	3.02E-05	1.54E-02	4.97E-07	2.73E-05	1.31E-01	4.21E-06	2.32E-04	1.15E-01	3.70E-06	2.04E-04
Road 1	1	1200-1300	1.70E-02	8.03E-07	4.42E-05	1.54E-02	7.27E-07	4.00E-05	1.31E-01	6.16E-06	3.39E-04	1.15E-01	5.14E-06	2.83E-04
Road 1	1	1300-1400	1.89E-02	8.14E-07	4.48E-05	1.71E-02	7.37E-07	4.05E-05	1.37E-01	5.90E-06	3.25E-04	1.24E-01	5.34E-06	2.94E-04
Road 1	1	1400-1500	1.92E-02	8.85E-07	4.87E-05	1.73E-02	7.99E-07	4.40E-05	1.36E-01	6.29E-06	3.47E-04	1.20E-01	5.56E-06	3.06E-04
Road 1	1	1500-1600	1.92E-02	9.84E-07	5.41E-05	1.73E-02	8.88E-07	4.89E-05	1.36E-01	6.99E-06	3.85E-04	1.20E-01	6.18E-06	3.40E-04
Road 1	1	1600-1700	1.95E-02	9.86E-07	5.43E-05	1.74E-02	8.91E-07	4.91E-05	1.38E-01	6.99E-06	3.85E-04	1.21E-01	6.10E-06	3.36E-04
Road 1	1	1700-1800	1.97E-02	8.50E-07	4.68E-05	1.76E-02	7.68E-07	4.23E-05	1.38E-01	5.96E-06	3.28E-04	1.21E-01	5.37E-06	2.96E-04
Road 1	1	1800-1900	1.15E-02	7.39E-07	4.07E-05	1.03E-02	6.57E-07	3.62E-05	1.12E-01	7.18E-06	3.95E-04	9.76E-02	6.25E-06	3.44E-04
Road 1	1	1900-2000	1.07E-02	5.48E-07	3.02E-05	9.51E-03	4.87E-07	2.68E-05	1.20E-01	6.15E-06	3.39E-04	1.04E-01	5.32E-06	2.93E-04
Road 1	1	2000-2100	1.06E-02	4.22E-07	2.33E-05	9.44E-03	3.76E-07	2.07E-05	1.30E-01	5.18E-06	2.85E-04	1.04E-01	4.62E-06	2.54E-04
Road 1	1	2100-2200	9.21E-03	3.65E-07	2.01E-05	8.13E-03	3.22E-07	1.77E-05	1.21E-01	4.80E-06	2.65E-04	1.04E-01	4.11E-06	2.26E-04
Road 1	1	2200-2300	9.19E-03	3.64E-07	2.01E-05	8.11E-03	3.21E-07	1.77E-05	1.21E-01	4.79E-06	2.64E-04	1.04E-01	4.11E-06	2.26E-04
Road 1	1	2300-0000	9.95E-03	2.87E-07	1.58E-05	8.85E-03	2.55E-07	1.40E-05	1.28E-01	3.68E-06	2.03E-04	1.04E-01	3.00E-06	1.65E-04
Road 2	2	0000-0100	1.23E-02	1.71E-07	8.67E-06	1.10E-02	1.53E-07	7.75E-06	1.31E-01	1.82E-06	9.20E-05	1.13E-01	1.57E-06	7.96E-05
Road 2	2	0100-0200	1.29E-02	1.07E-07	5.41E-06	1.15E-02	9.56E-08	4.84E-06	1.33E-01	1.10E-06	5.58E-05	1.14E-01	9.84E-07	4.98E-05
Road 2	2	0200-0300	1.42E-02	9.49E-08	4.80E-06	1.27E-02	8.45E-08	4.28E-06	1.35E-01	9.04E-07	4.58E-05	1.14E-01	7.77E-07	3.94E-05
Road 2	2	0300-0400	1.47E-02	1.20E-07	6.08E-06	1.31E-02	1.07E-07	5.41E-06	1.37E-01	1.12E-06	5.67E-05	1.16E-01	9.47E-07	4.80E-05
Road 2	2	0400-0500	1.60E-02	9.32E-08	4.72E-06	1.43E-02	8.36E-08	4.24E-06	1.39E-01	8.13E-07	4.12E-05	1.21E-01	7.05E-07	3.57E-05
Road 2	2	0500-0600	1.87E-02	1.69E-07	8.56E-06	1.49E-02	1.41E-07	7.13E-06	1.42E-01	1.28E-06	6.50E-05	1.24E-01	1.07E-06	5.42E-05
Road 2	2	0600-0700	1.83E-02	3.84E-07	1.94E-05	1.75E-02	3.60E-07	1.82E-05	1.43E-01	3.00E-06	1.52E-04	1.24E-01	2.61E-06	1.32E-04
Road 2	2	0700-0800	1.83E-02	8.11E-07	4.11E-05	1.64E-02	7.30E-07	3.70E-05	1.43E-01	6.36E-06	3.22E-04	1.25E-01	5.53E-06	2.80E-04
Road 2	2	0800-0900	1.90E-02	9.91E-07	5.02E-05	1.70E-02	8.92E-07	4.52E-05	1.43E-01	7.47E-06	3.78E-04	1.25E-01	6.49E-06	3.29E-04
Road 2	2	0900-1000	1.98E-02	8.64E-07	4.38E-05	1.79E-02	7.83E-07	3.97E-05	1.47E-01	6.01E-06	3.05E-04	1.28E-01	5.55E-06	2.81E-04
Road 2	2	1000-1100	2.05E-02	1.70E-02	8.61E-06	1.85E-02	1.53E-02	7.77E-06	1.47E-01	1.21E-01	6.14E-05	1.28E-01	1.06E-01	5.38E-05
Road 2	2	1100-1200	2.13E-02	7.74E-07	3.92E-05	1.93E-02	7.01E-07	3.55E-05	1.42E-01	5.15E-06	2.61E-04	1.25E-01	4.56E-06	2.31E-04
Road 2	2	1200-1300	2.49E-02	1.05E-06	5.32E-05	2.17E-02	9.53E-07	4.83E-05	1.49E-01	6.31E-06	3.20E-04	1.28E-01	5.44E-06	2.75E-04
Road 2	2	1300-1400	2.49E-02	1.05E-06	5.32E-05	2.17E-02	9.53E-07	4.83E-05	1.49E-01	6.31E-06	3.20E-04	1.28E-01	5.44E-06	2.75E-04
Road 2	2	1400-1500	2.41E-02	1.16E-06	5.87E-05	2.18E-02	1.05E-06	5.30E-05	1.49E-01	7.19E-06	3.64E-04	1.28E-01	6.19E-06	3.13E-04
Road 2	2	1500-1600	2.49E-02	1.16E-06	5.87E-05	2.18E-02	1.05E-06	5.30E-05	1.49E-01	7.19E-06	3.64E-04	1.28E-01	6.19E-06	3.13E-04
Road 2	2	1600-1700	2.37E-02	1.32E-06	6.69E-05	2.07E-02	1.15E-06	5.82E-05	1.49E-01	8.29E-06	4.20E-04	1.28E-01	7.13E-06	3.61E-04
Road 2	2	1700-1800	2.49E-02	1.32E-06	6.69E-05	2.18E-02	1.15E-06	5.82E-05	1.49E-01	7.91E-06	4.01E-04	1.28E-01	6.80E-06	3.45E-04
Road 2	2	1800-1900	1.89E-02	1.15E-06	5.83E-05	1.71E-02	1.04E-06	5.27E-05	1.37E-01	8.32E-06	4.22E-04	1.24E-01	7.52E-06	3.81E-04
Road 2	2	1900-2000	1.66E-02	1.02E-06	5.16E-05	1.50E-02	9.24E-07	4.68E-05	1.31E-01	8.06E-06	4.08E-04	1.18E-01	7.29E-06	3.69E-04
Road 2	2	2000-2100	1.66E-02	1.02E-06	5.16E-05	1.50E-02	9.24E-07	4.68E-05	1.31E-01	8.06E-06	4.08E-04	1.18E-01	7.29E-06	3.69E-04
Road 2	2	2100-2200	1.66E-02	1.02E-06	5.16E-05	1.50E-02	9.24E-07	4.68E-05	1.31E-01	8.06E-06	4.08E-04	1.18E-01	7.29E-06	3.69E-04
Road 2	2	2200-2300	1.66E-02	1.02E-06	5.16E-05	1.50E-02	9.24E-07	4.68E-05	1.31E-01	8.06E-06	4.08E-04	1.18E-01	7.29E-06	3.69E-04
Road 2	2	2300-0000	1.66E-02	1.02E-06	5.16E-05	1.50E-02	9.24E-07	4.68E-05	1.31E-01	8.06E-06	4.08E-04	1.18E-01	7.29E-06	3.69E-04
Road 3	3	0000-0100	1.29E-02	1.79E-07	9.08E-06	1.15E-02	1.60E-07	8.11E-06	1.37E-01	1.91E-06	9.64E-05	1.18E-01	1.64E-06	8.33E-05
Road 3	3	0100-0200	1.35E-02	1.12E-07	5.66E-06	1.20E-02	1.00E-07	5.07E-06	1.39E-01	1.15E-06	5.84E-05	1.19E-01	1.03E-06	5.21E-05
Road 3	3	0200-0300	1.49E-02	9.93E-08	5.02E-06	1.33E-02	8.84E-08	4.47E-06	1.41E-01	9.40E-07	4.76E-05	1.20E-01	8.06E-07	4.09E-05
Road 3	3	0300-0400	1.54E-02	1.26E-07	6.36E-06	1.37E-02	1.12E-07	5.66E-06	1.43E-01	1.17E-06	5.92E-05	1.22E-01	9.88E-07	5.01E-05
Road 3	3	0400-0500	1.68E-02	9.74E-08	4.92E-06	1.49E-02	8.66E-08	4.38E-06	1.45E-01	8.41E-07	4.26E-05	1.24E-01	7.30E-07	3.70E-05
Road 3	3	0500-0600	1.96E-02	1.77E-07	8.97E-06	1.56E-02	1.41E-07	7.13E-06	1.49E-01	1.35E-06	6.85E-05	1.28E-01	1.08E-06	5.48E-05
Road 3	3	0600-0700	1.92E-02	4.03E-07	2.04E-05	1.84E-02	3.78E-07	1.91E-05	1.50E-01	3.14E-06	1.59E-04	1.28E-01	2.74E-06	1.39E-04
Road 3	3	0700-0800	1.92E-02	8.52E-07	4.31E-05	1.72E-02	7.66E-07	3.88E-05	1.50E-01	6.68E-06	3.38E-04	1.29E-01	5.81E-06	2.94E-04
Road 3	3	0800-0900	1.99E-02	1.04E-06	5.27E-05	1.78E-02	9.37E-07	4.75E-05	1.50E-01	7.85E-06	3.97E-04	1.29E-01	6.82E-06	3.45E-04
Road 3	3	0900-1000	2.08E-02	9.07E-07	4.59E-05	1.87E-02	8.22E-07	4.16E-05	1.54E-01	6.72E-06	3.40E-04	1.32E-01	5.98E-06	3.02E-04
Road 3	3	1000-1100	2.15E-02	1.79E-02	9.06E-06	1.94E-02	1.61E-02	8.15E-06	1.54E-01	1.28E-01	6.47E-05	1.32E-01	1.10E-01	5.57E-05
Road 3	3	1100-1200	2.23E-02	8.14E-07	4.12E-05	2.01E-02	7.33E-07	3.71E-05	1.49E-01	5.44E-06	2.75E-04	1.32E-01	4.85E-06	2.46E-04
Road 3	3	1200-1300	2.61E-02	1.10E-06	5.57E-05	2.27E-02	9.98E-07	5.05E-05	1.56E-01	6.61E-06	3.34E-04	1.34E-01	5.70E-06	2.88E-04
Road 3	3	1300-1400	2.61E-02	1.10E-06	5.57E-05	2.27E-02	9.98E-07	5.05E-05	1.56E-01	6.61E-06	3.34E-04	1.34E-01	5.70E-06	2.88E-04
Road 3	3	1400-1500	2.53E-02	1.22E-06	6.19E-05	2.28E-02	1.10E-06	5.58E-05	1.56E-01	7.52E-06	3.81E-04	1.34E-01	6.48E-06	3.28E-04
Road 3	3	1500-1600	2.61E-02	1.22E-06	6.19E-05	2.28E-02	1.10E-06	5.58E-05	1.56E-01	7.52E-06	3.81E-04	1.34E-01	6.48E-06	3.28E-04
Road 3	3	1600-1700	2.49E-02	1.39E-06	7.03E-05	2.18E-02	1.21E-06	6.12E-05	1.56E-01	8.70E-06	4.41E-04	1.34E-01	7.49E-06	3.79E-04
Road 3	3	1700-1800	2.61E-02	1.39E-06	7.03E-05	2.28E-02	1.21E-06	6.12E-05	1.56E-01	8.31E-06	4.21E-04	1.34E-01	7.14E-06	3.62E-04
Road 3	3	1800-1900	1.98E-02	1.21E-06	6.11E-05	1.79E-02	1.09E-06	5.52E-05	1.44E-01	8.73E-06	4.42E-04	1.30E-01	7.86E-06	3.98E-04
Road 3	3	1900-2000	1.74E-02	1.07E-06	5.41E-05	1.57E-02	9.67E-07	4.89E-05	1.37E-01	8.47E-06	4.29E-04	1.24E-01	7.62E-06	3.86E-04
Road 3	3	2000-2100	1.74E-02	1.07E-06	5.41E-05	1.57E-02	9.67E-07	4.89E-05	1.37E-01	8.47E-06	4.29E-04	1.24E-01	7.62E-06	3.86E-04
Road 3	3	2100-2200	1.74E-02	1.07E-06	5.41E-05	1.57E-02	9.67E-07	4.89E-05	1.37E-01	8.47E-06	4.29E-04	1.24E-01	7.62E-06	3.86E-04
Road 3	3	2200-2300	1.74E-02	1.07E-06	5.41E-05	1.57E-02	9.67E-07	4.89E-05	1.37E-01	8.47E-06	4.29E-04	1.24E-01	7.62E-06	3.86E-04
Road 3	3	2300-0000	1.74E-02	1.07E-06	5.41E-05	1.57E-02	9.67E-07	4.89E-05	1.37E-01	8.47E-06	4.29E-04	1.24E-01	7.62E-06	3.86E-04
Road 4	4	0000-0100	1.32E-02	1.44E-07	7.29E-06	1.19E-02	1.29E-07	6.56E-06	1.41E-01	1.54E-06	7.78E-05	1.27E-01	1.39E-06	7.04E-05
Road 4	4	0100-0200	1.38E-02	9.00E-08	4.54E-06	1.24E-02	8.09E-08	4.08E-06	1.43E-01	9.32E-07	4.70E-05	1.29E-01	8.38E-07	4.23E-05
Road 4	4	0200-0300	1.52E-02	8.87E-08	4.48E-06	1.37E-02	7.98E-08	4.03E-06	1.45E-01	8.46E-07	4.28E-05	1.31E-01	7.61E-07	3.84E-05
Road 4	4	0300-0400	1.57E-02	1.12E-07	5.66E-06	1.41E-02	1.01E-07	5.09E-06	1.47E-01	1.05E-06	5.31E-05	1.32E-01	9.44E-07	4.77E-05
Road 4	4	0400-0500	1.72E-02	8.66E-08	4.38E-06	1.55E-02	7.79E-08	3.94E-06	1.49E-01	8.07E-07	4.08E-05	1.34E-01	7.26E-07	3.67E-05
Road 4	4	0500-0600	2.01E-02	1.64E-07	8.29E-06	1.81E-02	1.47E-07	7.45E-06	1.54E-01	1.26E-06	6.36E-05	1.39E-01	1.13E-06	5.72E-05
Road 4	4	0600-0700	1.96E-02	3.92E-07	1.98E-05	1.76E-02	3.53E-07	1.78E-05	1.54E-01	3.08E-06	1.56E-04	1.39E-01	2.77E-06	1.40E-04
Road 4	4	0700-0800	1.96E-02	8.29E-07	4.19E-05	1.76E-02	7.46E-07	3.77E-05	1.54E-01	6.51E-06	3.29E-04	1.39E-01	5.66E-06	2.86E-04
Road 4	4	0800-0900	2.03E-02	1.01E-06	5.13E-05	1.83E-02	9.12E-07	4.61E-05	1.54E-01	7.64E-06	3.86E-04	1.39E-01	6.64E-06	3.36E-04
Road 4	4	0900-1000	2.12E-02	8.83E-07	4.47E-05	1.91E-02	7.95E-07	4.02E-05	1.58E-01	6.58E-06	3.33E-04	1.42E-01	5.85E-06	2.96E-04
Road 4	4	1000-1100	2.19E-02	1.74E-02	8.81E-06	1.97E-02	1.57E-02	7.93E-06	1.58E-01	1.25E-01	6.33E-05	1.42E-01	1.13E-01	5.72E-05
Road 4	4	1100-1200	2.27E-02	7.96E-07	4.03E-05	2.05E-02	7.20E-07	3.64E-05	1.53E-01	5.29E-06	2.68E-04	1.42E-01	4.78E-06	2.42E-04
Road 4	4	1200-1300	2.65E-02	1.08E-06	5.47E-05	2.31E-02	9.81E-07	4.97E-05	1.60E-01	6.50E-06	3.29E-04	1.44E-01	5.88E-06	2.97E-04
Road 4	4	1300-1400	2.65E-02	1.08E-06	5.47E-05	2.31E-02	9.81E-07	4.97E-05	1.60E-01	6.50E-06	3.29E-04	1.44E-01	5.88E-06	2.97E-04
Road 4	4	1400-1500	2.57E-02	1.24E-06	6.28E-05	2.32E-02	1.12E-06	5.67E-05	1.60E-01	7.71E-06	3.90E-04	1.44E-01	6.64E-06	3.36E-04
Road 4	4	1500-1600	2.65E-02	1.24E-06	6.28E-05	2.32E-02	1.12E-06	5.67E-05	1.60E-01	7.71E-06	3.90E-04	1.44E-01	6.64E-06	3.36E-04
Road 4	4	1600-1700	2.53E-02	1.41E-06	7.14E-05	2.22E-02	1.23E-06	6.23E-05	1.60E-01	8.88E-06	4.49E-04	1.44E-01	7.63E-06	3.86E-04
Road 4	4	1700-1800	2.65E-02	1.41E-06	7.14E-05	2.32E-02	1.23E-06	6.23E-05	1.60E-01	8.47E-06	4.29E-04	1.44E-01	7.27E-06	3.68E-04
Road 4	4	1800-1900	2.01E-02	1.23E-06	6.22E-05	1.82E-02	1.11E-06	5.62E-05	1.46E-01	8.89E-06	4.50E-04	1.32E-01	8.01E-06	4.05E-04
Road 4	4	1900-2000	1.77E-02	1.09E-06	5.51E-05	1.60E-02	9.85E-07	4.98E-05	1.39E-01	8.63E-06	4.37E-04	1.26E-01	7.77E-06	3.93E-04
Road 4	4	2000-2100	1.77E-02	1.09E-06	5.51E-05	1.60E-02	9.85E-07	4.98E-05	1.39E-01	8.63E-06	4.37E-04	1.26E-01	7.77E-06	3.93E-04
Road 4	4	2100-2200	1.77E-02	1.09E-06	5.51E-05	1.60E-02	9.85E-07	4.98E-05	1.39E-01	8.63E-06	4.37E-04	1.26E-01	7.77E-06	3.93E-04
Road 4	4	2200-2300	1.77E-02	1.09E-06	5.51E-05	1.60E-02	9.85E-07	4.98E-05	1.39E-01	8.63E-06	4.37E-04	1.26E-01	7.77E-06	3.93E-04
Road 4	4	2300-0000	1.77E-02	1.09E-06	5.51E-05	1.60E-02	9.85E-07	4.98E-05	1.39E-01	8.63E-06	4.37E-04	1.26E-01	7.77E-06	3.93E-04
Road 5	5	0000-0100	1.49E-02	2.05E-07	1.04E-05	1.34E-02	1.84E-07	9.31E-06	1.59E-01	2.19E-06	1.11E-04	1.36E-01	1.87E-06	9.48E-05
Road 5	5	0100-0200	1.54E-02	1.28E-07	6.49E-06	1.39E-02	1.15E-07	5.82E-06	1.61E-01	1.34E-06	6.79E-05	1.37E-01	1.20E-06	6.08E-05
Road 5	5	0200-0300	1.68E-02	1.12E-07	5.66E-06	1.51E-02	1.00E-07	5.07E-06	1.63E-01	1.09E-06	5.51E-05	1.38E-01	9.18E-07	4.65E-05
Road 5	5	0300-0400	1.73E-02	1.41E-07	7.14E-06	1.56E-02	1.27E-07	6.42E-06	1.65E-01	1.34E-06	6.81E-05	1.40E-01	1.14E-06	5.77E-05
Road 5	5	0400-0500	1.87E-02	1.08E-07	5.47E-06	1.68E-02	9.68E-08	4.90E-06	1.67E-01	9.66E-07	4.89E-05	1.42E-01	8.61E-07	4.36E-05
Road 5	5	0500-0600	2.16E-02	1.95E-07	9.87E-06	1.80E-02	1.63E-07	8.24E-06	1.72E-01	1.55E-06	7.85E-05	1.46E-01	1.23E-06	6.25E-05
Road 5	5	0600-0700	2.12E-02	4.44E-07	2.25E-05	2.03E-02	4.17E-07	2.11E-05	1.72E-01	3.61E-06	1.83E-04	1.46E-01	3.14E-06	1.59E-04
Road 5	5	0700-0800	2.12E-02	9.39E-07	4.75E-05	1.89E-02	8.45E-07	4.28E-05	1.72E-01	7.64E-06	3.87E-04	1.47E-01	6.65E-06	3.37E-04
Road 5	5	0800-0900	2.20E-02	1.15E-06	5.82E-05	1.96E-02	1.03E-06	5.21E-05	1.72E-01	8.96E-06	4.54E-04	1.47E-01	7.80E-06	3.95E-04
Road 5	5	0900-1000	2.29E-02	1.00E-06	5.07E-05	2.04E-02	8.92E-07	4.52E-05	1.77E-01	7.74E-06	3.92E-04	1.51E-01	6.72E-06	3.40E-04
Road 5	5	1000-1100	2.37E-02	1.85E-02	9.36E-06	2.11E-02	1.65E-02	8.32E-06	1.77E-01	1.38E-01	6.98E-05	1.51E-01	1.18E-01	5.95E-05
Road 5	5	1100-1200	2.46E-02	8.44E-07	4.27E-05	2.19E-02	7.50E-07	3.79E-05	1.72E-01	6.13E-06	3.10E-04	1.51E-01	5.38E-06	2.72E-04
Road 5	5	1200-1300	2.88E-02	1.21E-06	6.13E-05	2.51E-02	1.06E-06	5.34E-05	1.80E-01	7.56E-06	3.82E-04	1.54E-01	6.61E-06	3.34E-04
Road 5	5	1300-1400	2.88E-02	1.21E-06	6.13E-05	2.51E-02	1.06E-06	5.34E-05	1.80E-01	7.56E-06	3.82E-04	1.54E-01	6.61E-06	3.34E-04
Road 5	5	1400-1500	2.80E-02	1.34E-06	6.85E-05	2.52E-02	1.21E-06	6.17E-05	1.80E-01	8.66E-06	4.39E-04	1.54E-01	7.44E-06	3.76E-04
Road 5	5	1500-1600	2.88E-02	1.34E-06	6.85E-05	2.52E-02	1.21E-06	6.17E-05	1.80E-01	8.66E-06	4.39E-04	1.54E-01	7.44E-06	3.76E-04
Road 5	5	1600-1700	2.76E-02	1.53E-06	7.77E-05	2.42E-02	1.34E-06	6.78E-05	1.80E-01	9.97E-06	5.05E-04	1.54E-01	8.56E-06	4.33E-04
Road 5	5	1700-1800	2.88E-02	1.53E-06	7.77E-05	2.52E-02	1.34E-06	6.78E-05	1.80E-01	9.56E-06	4.84E-04	1.54E-01	8.21E-06	4.16E-04
Road 5	5	1800-1900	2.20E-02	1.35E-06	6.85E-05	1.99E-02	1.22E-06	6.19E-05	1.61E-01	9.79E-06	4.96E-04	1.45E-01	8.82E-06	4.47E-04
Road 5	5	1900-2000	1.93E-02	1.19E-06	6.03E-05	1.74E-02	1.07E-06	5.43E-05	1.53E-01	9.44E-06	4.78E-04	1.38E-01	8.50E-06	4.31E-04
Road 5	5	2000-2100	1.93E-02	1.19E-06	6.03E-05	1.74E-02	1.07E-06	5.43E-05	1.53E-01	9.44E-06	4.78E-04	1.38E-01	8.50E-06	4.31E-04
Road 5	5	2100-2200	1.93E-02	1.19E-06	6.03E-05	1.74E-02	1.07E-06	5.43E-05	1.53E-01	9.44E-06	4.78E-04	1.38E-01	8.50E-06	4.31E-04
Road 5	5	2200-2300	1.93E-02	1.19E-06	6.03E-05	1.74E-02	1.07E-06	5.43E-05	1.53E-01	9.44E-06	4.78E-04	1.38E-01	8.50E-06	4.31E-04
Road 5	5	2300-0000	1.93E-02	1.19E-06	6.03E-05	1.74E-02	1.07E-06	5.43E-05	1.53E-01	9.44E-06	4.78E-04	1.38E-01	8.50E-06	4.31E-04
Road 6	6	0000-0100	1.39E-02	5.29E-08	1.62E-06	1.24E-02	4.73E-08	1.44E-06	1.51E-01	5.75E-07	1.76E-05	1.35E-01	5.14E-07	1.57E-05
Road 6	6	0100-0200	1.45E-02	3.71E-08	1.14E-06	1.29E-02	3.32E-08	1.01E-06	1.53E-01	4.03E-07	1.24E-05	1.36E-01	3.60E-07	1.11E-05
Road 6	6	0200-0300	1.65E-02	3.71E-08	1.14E-06	1.46E-02	3.32E-08	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	1.04E-01	2.20E-05	1.60E-05	3.41E-04	7.24E-01	1.67E-06	5.13E-06	6.52E-01	1.50E-06	4.62E-06
Road 27	27	1700-1800	1.79E-01	6.32E-07	1.27E-06	1.81E-01	3.71E-01	1.44E-06	7.24E-01	1.67E-06	5.13E-06	6.52E-01	1.50E-06	4.62E-06
Road 27	27	1800-1900	1.58E-01	2.50E-07	7.70E-07	1.44E-01	2.27E-07	6.98E-07	6.42E-01	1.05E-06	9.47E-07	2.92E-06
Road 27	27	1900-2000	1.47E-01	1.52E-07	4.68E-07	1.33E-01	1.37E-07	4.22E-07	5.94E-01	6.14E-07	1.89E-06	5.36E-01	5.52E-07	1.70E-06
Road 27	27	2000-2100	1.44E-01	1.18E-07	3.63E-07	1.30E-01	1.07E-07	3.29E-07	5.98E-01	4.91E-07	1.51E-06	5.41E-01	4.44E-07	1.37E-06
Road 27	27	2100-2200	1.41E-01	1.17E-07	3.61E-07	1.27E-01	1.06E-07	3.26E-07	5.98E-01	4.96E-07	1.53E-06	5.41E-01	4.48E-07	1.38E-06
Road 27	27	2200-2300	1.54E-01	1.13E-07	3.48E-07	1.39E-01	1.02E-07	3.15E-07	5.72E-01	4.20E-07	1.29E-06	5.17E-01	3.80E-07	1.17E-06
Road 27	27	2300-0000	1.55E-01	9.37E-08	2.88E-07	1.41E-01	8.50E-08	2.62E-07	5.27E-01	3.18E-07	1.07E-06	5.22E-01	3.15E-07	9.70E-07
Road 28	28	0000-0100	1.87E-01	1.20E-07	3.69E-07	1.70E-01	1.09E-07	3.35E-07	6.96E-01	4.46E-07	1.37E-06	6.30E-01	4.04E-07	1.24E-06
Road 28	28	0100-0200	1.87E-01	1.20E-07	6.79E-06	1.68E-01	2.04E-01	1.31E-06	7.42E-01	1.80E-01	1.15E-06	6.54E-05
Road 28	28	0200-0300	1.87E-01	1.20E-07	2.47E-06	1.68E-01	7.42E-02	4.76E-07	7.42E-01	1.80E-01	1.15E-06	2.38E-05
Road 28	28	0300-0400	2.05E-02	7.73E-08	4.38E-06	1.86E-02	7.00E-03	3.97E-06	2.07E-01	7.80E-02	4.43E-06	3.94E-05
Road 28	28	0400-0500	2.13E-02	8.91E-08	5.06E-06	1.93E-02	8.08E-03	4.58E-06	2.07E-01	8.65E-02	4.91E-06	4.37E-05
Road 28	28	0500-0600	2.22E-02	1.04E-07	5.87E-06	2.00E-02	9.32E-03	5.26E-06	2.07E-01	9.68E-02	5.47E-06	5.04E-05
Road 28	28	0600-0700	2.31E-02	3.65E-07	2.07E-05	2.08E-02	3.29E-02	1.88E-06	1.85E-01	2.93E-01	1.66E-05	1.66E-04
Road 28	28	0700-0800	2.15E-02	3.40E-07	1.93E-05	1.94E-02	3.07E-02	1.75E-06	1.85E-01	2.93E-01	1.66E-05	1.66E-04
Road 28	28	0800-0900	1.26E-02	8.45E-07	4.79E-05	1.13E-02	7.60E-02	4.31E-06	1.85E-01	1.24E-03	7.04E-05	3.99E-04
Road 28	28	0900-1000	1.77E-02	8.17E-07	4.64E-05	2.25E-02	1.03E-03	5.87E-06	1.85E-01	8.52E-03	4.84E-05	2.75E-04
Road 28	28	1000-1100	2.77E-02	8.17E-07	4.64E-05	2.52E-02	7.42E-02	4.21E-06	1.96E-01	5.77E-06	3.27E-04	1.75E-01	5.17E-06	2.93E-04
Road 28	28	1100-1200	3.72E-02	7.58E-07	4.30E-05	2.46E-02	6.85E-02	3.89E-06	1.99E-01	5.53E-06	3.14E-04	1.77E-01	4.93E-06	2.80E-04
Road 28	28	1200-1300	2.56E-02	4.99E-07	2.83E-05	2.26E-02	4.51E-02	2.56E-06	1.99E-01	3.63E-06	2.06E-04	1.77E-01	3.24E-06	1.84E-04
Road 28	28	1300-1400	2.49E-02	5.15E-07	2.92E-05	2.26E-02	4.67E-02	2.65E-06	1.63E-01	3.37E-06	1.91E-04	1.45E-01	3.00E-06	1.70E-04
Road 28	28	1400-1500	2.44E-02	5.03E-07	2.85E-05	2.21E-02	4.55E-02	2.58E-06	1.63E-01	3.36E-06	1.91E-04	1.45E-01	2.98E-06	1.69E-04
Road 28	28	1500-1600	2.34E-02	5.23E-07	2.97E-05	2.12E-02	4.73E-02	2.68E-06	1.59E-01	3.56E-06	2.02E-04	1.42E-01	3.18E-06	1.81E-04
Road 28	28	1600-1700	2.45E-02	5.73E-07	3.25E-05	2.21E-02	5.17E-02	2.93E-06	1.64E-01	3.83E-06	2.17E-04	1.46E-01	3.39E-06	1.92E-04
Road 28	28	1700-1800	2.13E-02	4.98E-07	2.82E-05	1.92E-02	4.49E-02	2.55E-06	1.64E-01	3.83E-06	2.17E-04	1.46E-01	3.39E-06	1.92E-04
Road 28	28	1800-1900	1.49E-02	4.05E-07	2.30E-05	1.34E-02	3.65E-02	2.07E-06	1.39E-01	3.79E-06	2.15E-04	1.24E-01	3.36E-06	1.91E-04
Road 28	28	1900-2000	1.42E-02	3.38E-07	1.35E-05	1.27E-02	3.21E-02	1.54E-06	1.43E-01	2.39E-06	1.36E-04	1.27E-01	2.12E-06	1.20E-04
Road 28	28	2100-2200	1.28E-02	2.14E-07	1.21E-05	1.15E-02	2.72E-02	1.54E-06	1.43E-01	2.39E-06	1.36E-04	1.27E-01	2.12E-06	1.20E-04
Road 28	28	2200-2300	1.28E-02	1.88E-07	1.07E-05	1.15E-02	2.39E-02	1.36E-06	1.43E-01	2.10E-06	1.19E-04	1.27E-01	1.86E-06	1.06E-04
Road 28	28	2300-0000	1.39E-02	1.68E-07	9.53E-06	1.24E-02	1.50E-02	8.54E-06	1.59E-01	1.92E-06	1.09E-04	1.39E-01	1.68E-06	9.56E-05
Road 29	29	0000-0100	1.26E-02	1.31E-07	7.44E-06	1.13E-02	1.17E-02	6.68E-06	1.59E-01	1.65E-06	9.39E-05	1.39E-01	1.45E-06	8.24E-05
Road 29	29	0100-0200	1.26E-02	1.38E-07	5.89E-06	1.13E-02	1.23E-02	5.28E-06	1.59E-01	1.74E-06	7.43E-05	1.39E-01	1.53E-06	6.52E-05
Road 29	29	0200-0300	1.26E-02	1.45E-07	4.62E-06	1.13E-02	1.29E-02	4.14E-06	1.59E-01	1.83E-06	5.83E-05	1.39E-01	1.61E-06	5.12E-05
Road 29	29	0300-0400	1.26E-02	1.52E-07	4.84E-06	1.13E-02	1.35E-02	4.34E-06	1.59E-01	1.92E-06	6.12E-05	1.39E-01	1.69E-06	5.37E-05
Road 29	29	0400-0500	1.26E-02	1.59E-07	5.07E-06	1.13E-02	1.42E-02	4.54E-06	1.59E-01	2.01E-06	6.41E-05	1.39E-01	1.77E-06	5.63E-05
Road 29	29	0500-0600	1.26E-02	1.67E-07	5.31E-06	1.13E-02	1.49E-02	4.75E-06	1.59E-01	2.11E-06	6.71E-05	1.39E-01	1.85E-06	5.89E-05
Road 29	29	0600-0700	1.26E-02	1.76E-07	5.60E-06	1.13E-02	1.57E-02	5.01E-06	1.59E-01	2.22E-06	7.07E-05	1.39E-01	1.95E-06	6.21E-05
Road 29	29	0700-0800	1.26E-02	1.85E-07	5.89E-06	1.13E-02	1.65E-02	5.26E-06	1.59E-01	2.33E-06	7.42E-05	1.39E-01	2.05E-06	6.52E-05
Road 29	29	0800-0900	1.26E-02	1.94E-07	6.18E-06	1.13E-02	1.73E-02	5.51E-06	1.59E-01	2.44E-06	7.78E-05	1.39E-01	2.15E-06	6.84E-05
Road 29	29	0900-1000	1.26E-02	2.03E-07	6.47E-06	1.13E-02	1.81E-02	5.76E-06	1.59E-01	2.55E-06	8.13E-05	1.39E-01	2.25E-06	7.16E-05
Road 29	29	1000-1100	1.26E-02	2.12E-07	6.76E-06	1.13E-02	1.89E-02	6.02E-06	1.59E-01	2.66E-06	8.49E-05	1.39E-01	2.35E-06	7.48E-05
Road 29	29	1100-1200	1.26E-02	2.21E-07	7.04E-06	1.13E-02	1.97E-02	6.27E-06	1.59E-01	2.77E-06	8.84E-05	1.39E-01	2.45E-06	7.80E-05
Road 29	29	1200-1300	1.26E-02	2.30E-07	7.33E-06	1.13E-02	2.05E-02	6.53E-06	1.59E-01	2.88E-06	9.20E-05	1.39E-01	2.55E-06	8.12E-05
Road 29	29	1300-1400	1.26E-02	2.39E-07	7.62E-06	1.13E-02	2.13E-02	6.78E-06	1.59E-01	2.99E-06	9.55E-05	1.39E-01	2.65E-06	8.45E-05
Road 29	29	1400-1500	1.26E-02	2.48E-07	7.91E-06	1.13E-02	2.21E-02	7.04E-06	1.59E-01	3.10E-06	9.91E-05	1.39E-01	2.75E-06	8.77E-05
Road 29	29	1500-1600	1.26E-02	2.57E-07	8.20E-06	1.13E-02	2.29E-02	7.29E-06	1.59E-01	3.21E-06	1.03E-04	1.39E-01	2.85E-06	9.09E-05
Road 29	29	1600-1700	1.26E-02	2.66E-07	8.49E-06	1.13E-02	2.37E-02	7.55E-06	1.59E-01	3.32E-06	1.06E-04	1.39E-01	2.95E-06	9.41E-05
Road 29	29	1700-1800	1.26E-02	2.75E-07	8.78E-06	1.13E-02	2.45E-02	7.80E-06	1.59E-01	3.43E-06	1.09E-04	1.39E-01	3.05E-06	9.73E-05
Road 29	29	1800-1900	1.26E-02	2.84E-07	9.06E-06	1.13E-02	2.53E-02	8.06E-06	1.59E-01	3.54E-06	1.13E-04	1.39E-01	3.15E-06	1.00E-04
Road 29	29	1900-2000	1.26E-02	2.93E-07	9.35E-06	1.13E-02	2.61E-02	8.31E-06	1.59E-01	3.65E-06	1.16E-04	1.39E-01	3.25E-06	1.04E-04
Road 29	29	2000-2100	1.26E-02	3.02E-07	9.64E-06	1.13E-02	2.69E-02	8.57E-06	1.59E-01	3.76E-06	1.20E-04	1.39E-01	3.35E-06	1.07E-04
Road 29	29	2100-2200	1.26E-02	3.11E-07	9.93E-06	1.13E-02	2.77E-02	8.82E-06	1.59E-01	3.87E-06	1.23E-04	1.39E-01	3.45E-06	1.10E-04
Road 29	29	2200-2300	1.26E-02	3.20E-07	1.02E-05	1.13E-02	2.85E-02	9.08E-06	1.59E-01	3.98E-06	1.27E-04	1.39E-01	3.55E-06	1.13E-04
Road 29	29	2300-0000	1.26E-02	3.29E-07	1.05E-05	1.13E-02	2.93E-02	9.33E-06	1.59E-01	4.09E-06	1.30E-04	1.39E-01	3.65E-06	1.16E-04
Road 30	30	0000-0100	1.26E-02	1.31E-07	7.44E-06	1.13E-02	1.17E-02	6.68E-06	1.59E-01	1.65E-06	9.39E-05	1.39E-01	1.45E-06	8.24E-05
Road 30	30	0100-0200	1.26E-02	1.38E-07	5.89E-06	1.13E-02	1.23E-02	5.28E-06	1.59E-01	1.74E-06	7.43E-05	1.39E-01	1.53E-06	6.52E-05
Road 30	30	0200-0300	1.26E-02	1.45E-07	4.62E-06	1.13E-02	1.29E-02	4.14E-06	1.59E-01	1.83E-06	5.83E-05	1.39E-01	1.61E-06	5.12E-05
Road 30	30	0300-0400	1.26E-02	1.52E-07	4.84E-06	1.13E-02	1.35E-02	4.34E-06	1.59E-01	1.92E-06	6.12E-05	1.39E-01	1.69E-06	5.37E-05
Road 30	30	0400-0500	1.26E-02	1.59E-07	5.07E-06	1.13E-02	1.42E-02	4.54E-06	1.59E-01	2.01E-06	6.41E-05	1.39E-01	1.77E-06	5.63E-05
Road 30	30	0500-0600	1.26E-02	1.67E-07	5.31E-06	1.13E-02	1.49E-02	4.75E-06	1.59E-01	2.11E-06	6.71E-05	1.39E-01	1.85E-06	5.89E-05
Road 30	30	0600-0700	1.26E-02	1.76E-07	5.60E-06	1.13E-02	1.57E-02	5.01E-06	1.59E-01	2.22E-06	7.07E-05	1.39E-01	1.95E-06	6.21E-05
Road 30	30	0700-0800	1.26E-02	1.85E-07	5.89E-06	1.13E-02	1.65E-02	5.26E-06	1.59E-01	2.33E-06	7.42E-05	1.39E-01	2.05E-06	6.52E-05
Road 30	30	0800-0900	1.26E-02	1.94E-07	6.18E-06	1.13E-02	1.73E-02	5.51E-06	1.59E-01	2.44E-06	7.78E-05	1.39E-01	2.15E-06	6.84E-05
Road 30	30	0900-1000	1.26E-02	2.03E-07	6.47E-06	1.13E-02	1.81E-02	5.76E-06	1.59E-01	2.55E-06	8.13E-05	1.39E-01	2.25E-06	7.16E-05
Road 30	30	1000-1100	1.26E-02	2.12E-07	6.76E-06	1.13E-02	1.89E-02	6.02E-06	1.59E-01	2.66E-06	8.49E-05	1.39E-01	2.35E-06	7.48E-05
Road 30	30	1100-1200	1.26E-02	2.21E-07	7.04E-06	1.13E-02	1.97E-02	6.27E-06	1.59E-01	2.77E-06	8.84E-05	1.39E-01	2.45E-06	7.80E-05
Road 30	30	1200-1300	1.26E-02	2.30E-07	7.33E-06	1.13E-02	2.05E-02	6.53E-06	1.59E-01	2.88E-06	9.20E-05	1.39E-01	2.55E-06	8.12E-05
Road 30	30	1300-1400	1.26E-02	2.39E-07	7.62E-06	1.13E-02	2.13E-02	6.78E-06	1.59E-01	2.99E-06	9.55E-05	1.39E-01	2.65E-06	8.45E-05
Road 30	30	1400-1500	1.26E-02	2.48E-07	7.91E-06	1.13E-02	2.21E-02	7.04E-06	1.59E-01	3.10E-06	9.91E-05	1.39E-01	2.75E-06	8.77E-05
Road 30	30	1500-1600	1.26E-02	2.57E-07	8.20E-06	1.13E-02	2.29E-02	7.29E-06	1.59E-01	3.21E-06	1.03E-04	1.39E-01	2.85E-06	9.09E-05
Road 30	30	1600-1700	1.26E-02	2.66E-07	8.49E-06	1.13E-02	2.37E-02	7.55E-06	1.59E-01	3.32E-06	1.06E-04	1.39E-01	2.95E-06	9.41E-05
Road 30	30	1700-1800	1.26E-02	2.75E-07	8.78E-06	1.13E-02	2.45E-02	7.80E-06	1.59E-01	3.43E-06	1.09E-04	1.39E-01	3.05E-06	9.73E-05
Road 30	30	1800-1900	1.26E-02	2.84E-07	9.06E-06	1.13E-02	2.53E-02	8.06E-06	1.59E-01	3.54E-06	1.13E-04	1.39E-01	3.15E-06	1.00E-04
Road 30	30	1900-2000	1.26E-02	2.93E-07	9.35E-06	1.13E-02	2.61E-02	8.31E-06	1.59E-01	3.65E-06	1.16E-04	1.39E-01	3.25E-06	1.04E-04
Road 30	30	2000-2100	1.26E-02	3.02E-07	9.64E-06	1.13E-02	2.69E-02	8.57E-06	1.59E-01	3.76E-06	1.20E-04	1.39E-01	3.35E-06	1.07E-04
Road 30	30	2100-2200	1.26E-02	3.11E-07	9.93E-06	1.13E-02	2.77E-02	8.82E-06	1.59E-01	3.87E-06	1.23E-04	1.39E-01	3.45E-06	1.10E-04
Road 30	30	2200-2300	1.26E-02	3.20E-07	1.02E-05	1.13E-02	2.85E-02	9.08E-06	1.59E-01	3.98E-06	1.27E-04	1.39E-01	3.55E-06	1.13E-04
Road 30	30	2300-0000	1.26E-02	3.29E-07	1.05E-05	1.13E-02	2.93E-02	9.33E-06	1.59E-01	4.09E-06	1.30E-04	1.39E-01	3.65E-06	1.16E-04

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 31	31	0000-0100	1.91E-02	3.46E-08	3.09E-07	2.71E-02	3.44E-02	3.43E-06	1.87E-01	3.38E-07	3.02E-06
Road 31	31	0100-0200	2.00E-02	2.38E-08	2.13E-07	1.79E-02	2.13E-02	1.91E-07	2.12E-01	2.53E-07	2.26E-06	1.87E-01	2.23E-07	1.99E-06
Road 31	31	0200-0300	2.10E-02	1.85E-08	1.65E-07	1.88E-02	1.65E-02	1.48E-07	2.12E-01	1.89E-07	1.69E-06	1.87E-01	1.67E-07	1.48E-06
Road 31	31	0300-0400	2.19E-02	1.54E-08	1.37E-07	1.98E-02	1.37E-02	1.23E-07	2.12E-01	1.57E-07	1.40E-06	1.87E-01	1.38E-07	1.23E-06
Road 31	31	0400-0500	2.27E-02	1.78E-08	1.59E-07	2.06E-02	1.61E-02	1.44E-07	2.15E-01	1.68E-07	1.50E-06	1.91E-01	1.50E-07	1.34E-06
Road 31	31	0500-0600	2.63E-02	3.23E-08	2.89E-07	2.39E-02	2.93E-02	2.61E-07	2.15E-01	2.64E-07	2.35E-06	1.91E-01	2.34E-07	2.08E-06
Road 31	31	0600-0700	2.45E-02	2.28E-08	2.03E-07	2.21E-02	2.07E-02	1.84E-07	2.15E-01	2.00E-07	1.78E-06	1.91E-01	1.77E-07	1.58E-06
Road 31	31	0700-0800	2.52E-02	1.53E-07	1.37E-06	2.28E-02	1.39E-02	1.24E-06	2.14E-01	1.31E-06	1.17E-05	1.91E-01	1.16E-06	1.04E-05
Road 31	31	0800-0900	2.40E-02	1.69E-07	1.51E-06	2.16E-02	1.54E-02	1.38E-06	2.14E-01	1.45E-06	1.29E-05	1.91E-01	1.28E-06	1.15E-05
Road 31	31	0900-1000	2.67E-02	1.61E-07	1.44E-06	2.41E-02	1.46E-02	1.31E-06	2.14E-01	1.37E-06	1.23E-05	1.91E-01	1.22E-06	1.09E-05
Road 31	31	1000-1100	2.88E-02	1.61E-07	1.44E-06	2.59E-02	1.46E-02	1.31E-06	2.06E-01	1.16E-06	1.03E-05	1.84E-01	1.04E-06	9.29E-06
Road 31	31	1100-1200	2.88E-02	1.54E-07	1.38E-06	2.61E-02	1.40E-02	1.25E-06	2.06E-01	1.09E-06	9.75E-06	1.82E-01	9.79E-07	8.74E-06
Road 31	31	1200-1300	2.84E-02	1.37E-07	1.22E-06	2.57E-02	1.24E-02	1.11E-06	2.04E-01	9.85E-07	8.79E-06	1.80E-01	8.69E-07	7.75E-06
Road 31	31	1300-1400	2.83E-02	1.41E-07	1.26E-06	2.56E-02	1.28E-02	1.14E-06	2.04E-01	1.01E-06	9.07E-06	1.80E-01	8.97E-07	8.00E-06
Road 31	31	1400-1500	2.83E-02	1.49E-07	1.33E-06	2.56E-02	1.35E-02	1.20E-06	2.04E-01	1.07E-06	9.56E-06	1.80E-01	9.47E-07	8.45E-06
Road 31	31	1500-1600	2.77E-02	1.57E-07	1.40E-06	2.50E-02	1.42E-02	1.26E-06	2.04E-01	1.16E-06	1.03E-05	1.80E-01	1.03E-06	9.18E-06
Road 31	31	1600-1700	2.77E-02	1.72E-07	1.53E-06	2.50E-02	1.56E-02	1.38E-06	2.04E-01	1.26E-06	1.12E-05	1.80E-01	1.12E-06	9.96E-06
Road 31	31	1700-1800	2.77E-02	1.11E-07	9.89E-07	2.59E-02	1.04E-02	9.24E-07	1.83E-01	7.34E-07	6.54E-06	1.78E-01	7.14E-07	6.35E-06
Road 31	31	1800-1900	2.77E-02	1.22E-07	1.08E-06	2.59E-02	1.14E-02	1.01E-06	1.83E-01	8.07E-07	7.18E-06	1.78E-01	7.85E-07	6.98E-06
Road 31	31	1900-2000	2.77E-02	1.34E-07	1.19E-06	2.59E-02	1.25E-02	1.11E-06	1.83E-01	8.87E-07	7.89E-06	1.78E-01	8.63E-07	7.68E-06
Road 31	31	2000-2100	2.77E-02	1.47E-07	1.31E-06	2.59E-02	1.37E-02	1.22E-06	1.83E-01	9.75E-07	8.67E-06	1.78E-01	9.49E-07	8.44E-06
Road 31	31	2100-2200	2.77E-02	1.61E-07	1.43E-06	2.59E-02	1.50E-02	1.34E-06	1.83E-01	1.07E-06	9.54E-06	1.78E-01	1.04E-06	9.25E-06
Road 31	31	2200-2300	2.77E-02	1.76E-07	1.56E-06	2.59E-02	1.64E-02	1.46E-06	1.83E-01	1.17E-06	1.04E-05	1.78E-01	1.14E-06	1.01E-05
Road 31	31	2300-0000	2.77E-02	1.92E-07	1.71E-06	2.59E-02	1.79E-02	1.59E-06	1.83E-01	1.27E-06	1.13E-05	1.78E-01	1.24E-06	1.10E-05
Road 32	32	0000-0100	1.76E-02	1.60E-07	1.06E-05	1.58E-02	1.43E-02	9.50E-06	2.03E-01	1.83E-06	1.22E-04	1.78E-01	1.61E-06	1.07E-04
Road 32	32	0100-0200	1.76E-02	1.60E-07	7.38E-06	1.58E-02	1.43E-02	6.54E-06	2.03E-01	1.83E-06	8.41E-05	1.78E-01	1.61E-06	7.36E-05
Road 32	32	0200-0300	1.94E-02	2.51E-08	1.16E-06	1.74E-02	2.26E-02	1.04E-06	2.01E-01	2.60E-07	1.20E-05	1.77E-01	2.29E-07	1.06E-05
Road 32	32	0300-0400	2.01E-02	1.89E-08	8.74E-07	1.80E-02	1.70E-02	7.84E-07	2.01E-01	1.95E-07	9.00E-06	1.77E-01	1.72E-07	7.94E-06
Road 32	32	0400-0500	2.11E-02	8.19E-08	5.44E-06	1.92E-02	7.42E-02	4.93E-06	2.06E-01	7.99E-07	5.30E-05	1.83E-01	7.11E-07	4.72E-05
Road 32	32	0500-0600	2.20E-02	2.45E-07	1.63E-05	1.99E-02	1.99E-02	1.35E-06	2.06E-01	2.40E-06	9.30E-05	1.83E-01	2.14E-06	8.26E-05
Road 32	32	0600-0700	2.36E-02	7.06E-07	4.69E-05	2.13E-02	6.39E-07	4.24E-05	2.07E-01	6.20E-06	4.12E-04	1.83E-01	5.50E-06	3.65E-04
Road 32	32	0700-0800	2.34E-02	2.74E-07	7.77E-06	2.11E-02	2.47E-07	7.00E-06	2.04E-01	2.39E-06	6.63E-05	1.81E-01	2.12E-06	5.88E-05
Road 32	32	0800-0900	2.50E-02	2.59E-07	7.35E-06	2.25E-02	2.33E-07	6.62E-06	2.04E-01	2.26E-06	6.26E-05	1.81E-01	2.00E-06	5.56E-05
Road 32	32	0900-1000	2.59E-02	2.52E-07	7.17E-06	2.33E-02	2.27E-07	6.45E-06	2.04E-01	2.20E-06	6.10E-05	1.81E-01	1.95E-06	5.42E-05
Road 32	32	1000-1100	2.70E-02	6.95E-07	4.61E-05	2.45E-02	6.31E-07	4.19E-05	1.98E-01	5.10E-06	3.38E-04	1.77E-01	4.56E-06	3.03E-04
Road 32	32	1100-1200	2.42E-02	4.30E-07	2.85E-05	2.19E-02	3.88E-07	2.58E-05	1.57E-01	2.79E-06	1.85E-04	1.39E-01	2.47E-06	1.64E-04
Road 32	32	1200-1300	2.42E-02	4.43E-07	2.94E-05	2.19E-02	3.88E-07	2.58E-05	1.57E-01	2.87E-06	1.91E-04	1.39E-01	2.54E-06	1.69E-04
Road 32	32	1300-1400	2.43E-02	4.70E-07	3.12E-05	2.20E-02	4.27E-07	2.83E-05	1.55E-01	3.00E-06	1.99E-04	1.39E-01	2.68E-06	1.78E-04
Road 32	32	1400-1500	2.43E-02	4.70E-07	3.12E-05	2.20E-02	4.27E-07	2.83E-05	1.55E-01	3.00E-06	1.99E-04	1.39E-01	2.68E-06	1.78E-04
Road 32	32	1500-1600	2.43E-02	4.70E-07	3.12E-05	2.20E-02	4.27E-07	2.83E-05	1.55E-01	3.00E-06	1.99E-04	1.39E-01	2.68E-06	1.78E-04
Road 32	32	1600-1700	2.39E-02	4.97E-07	3.30E-05	2.14E-02	4.46E-07	2.96E-05	1.56E-01	3.26E-06	2.16E-04	1.40E-01	2.92E-06	1.93E-04
Road 32	32	1700-1800	1.84E-02	4.24E-07	2.82E-05	1.65E-02	3.80E-07	2.52E-05	1.47E-01	3.40E-06	2.26E-04	1.29E-01	2.98E-06	1.98E-04
Road 32	32	1800-1900	1.84E-02	4.24E-07	7.77E-06	1.65E-02	3.80E-07	6.97E-06	1.47E-01	3.40E-06	6.23E-05	1.29E-01	2.98E-06	5.46E-05
Road 32	32

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 54	54	0800-0900	1.17E-01	4.40E-02	1.00E-05	1.07E-01	4.02E-02	9.17E-06	3.21E-02	1.37E-02	4.04E-06	2.26E-02	9.68E-03	3.64E-06
Road 54	54	0900-1000	1.33E-01	4.79E-02	1.09E-05	1.21E-01	4.35E-02	9.92E-06	5.33E-02	1.92E-02	4.38E-06	4.78E-02	1.72E-02	3.93E-06
Road 54	54	1000-1100	1.47E-01	4.89E-02	1.11E-05	1.34E-01	4.45E-02	1.01E-05	5.60E-02	1.86E-02	4.25E-06	5.04E-02	1.68E-02	3.82E-06
Road 54	54	1100-1200	1.45E-01	4.55E-02	1.04E-05	1.32E-01	4.15E-02	9.45E-06	5.59E-02	1.76E-02	4.01E-06	5.03E-02	1.58E-02	3.61E-06
Road 54	54	1200-1300	1.80E-01	3.89E-02	8.86E-06	1.63E-01	3.52E-02	8.02E-06	6.45E-02	1.39E-02	3.17E-06	5.81E-02	1.25E-02	2.86E-06
Road 54	54	1300-1400	1.76E-01	4.15E-02	9.47E-06	1.59E-01	3.76E-02	8.58E-06	6.55E-02	1.55E-02	3.53E-06	5.91E-02	1.40E-02	3.18E-06
Road 54	54	1400-1500	1.77E-01	4.23E-02	9.65E-06	1.61E-01	3.85E-02	8.79E-06	6.44E-02	1.54E-02	3.51E-06	5.81E-02	1.40E-02	3.18E-06
Road 54	54	1500-1600	1.82E-01	4.00E-02	9.13E-06	1.65E-01	3.63E-02	8.28E-06	6.43E-02	1.59E-02	3.62E-06	5.81E-02	1.43E-02	3.27E-06
Road 54	54	1600-1700	1.61E-01	3.61E-02	8.23E-06	1.46E-01	3.28E-02	7.48E-06	6.30E-02	1.41E-02	3.21E-06	5.69E-02	1.31E-02	2.98E-06
Road 54	54	1700-1800	1.41E-01	3.23E-02	7.38E-06	1.27E-01	2.91E-02	6.64E-06	5.86E-02	1.34E-02	3.05E-06	5.24E-02	1.20E-02	2.74E-06
Road 54	54	1800-1900	1.26E-01	3.01E-02	6.87E-06	1.14E-01	2.71E-02	6.18E-06	5.61E-02	1.34E-02	3.05E-06	5.01E-02	1.19E-02	2.72E-06
Road 54	54	1900-2000	1.06E-01	3.44E-02	7.28E-06	9.54E-02	3.09E-02	6.55E-06	4.91E-02	1.59E-02	3.36E-06	4.37E-02	1.41E-02	2.99E-06
Road 54	54	2000-2100	1.05E-01	3.41E-02	7.21E-06	9.45E-02	3.06E-02	6.49E-06	4.91E-02	1.59E-02	3.36E-06	4.37E-02	1.41E-02	2.99E-06
Road 54	54	2100-2200	1.00E-01	3.24E-02	6.86E-06	9.00E-02	2.91E-02	6.18E-06	4.68E-02	1.51E-02	3.20E-06	4.16E-02	1.35E-02	2.84E-06
Road 54	54	2200-2300	1.05E-01	1.04E-02	2.37E-06	9.50E-02	9.37E-03	2.14E-06	4.31E-02	4.25E-03	9.70E-07	3.86E-02	3.81E-03	8.61E-07
Road 54	54	2300-2400	1.01E-01	1.04E-02	2.29E-06	9.15E-02	9.37E-03	2.07E-06	4.16E-02	4.25E-03	9.37E-07	3.72E-02	3.81E-03	8.31E-07
Road 101	101	0000-0100	9.29E-02	8.20E-02	3.25E-06	8.27E-02	7.56E-02	6.67E-07	6.24E-02	5.50E-02	2.18E-06	5.55E-02	5.09E-02	4.49E-07
Road 101	101	0100-0200	1.01E-01	5.84E-02	2.31E-06	8.98E-02	5.17E-02	2.05E-06	7.77E-02	4.47E-02	1.77E-06	6.42E-02	3.70E-02	1.47E-06
Road 101	101	0200-0300	1.11E-02	4.68E-08	1.85E-06	9.78E-03	4.13E-08	1.64E-06	8.10E-02	3.43E-07	1.36E-05	6.64E-02	2.81E-07	1.11E-05
Road 101	101	0300-0400	1.19E-02	4.00E-08	1.58E-06	1.07E-02	3.58E-08	1.42E-06	8.33E-02	2.79E-07	1.11E-05	7.00E-02	2.35E-07	9.29E-06
Road 101	101	0400-0500	1.22E-02	4.72E-08	1.87E-06	1.15E-02	4.45E-08	1.76E-06	8.33E-02	3.22E-07	1.27E-05	7.21E-02	2.78E-07	1.10E-05
Road 101	101	0500-0600	1.37E-02	8.78E-08	3.48E-06	1.23E-02	7.89E-08	3.12E-06	8.74E-02	5.62E-07	2.22E-05	7.40E-02	4.75E-07	1.88E-05
Road 101	101	0600-0700	1.08E-02	6.84E-08	2.71E-06	9.04E-03	5.70E-08	2.26E-06	8.04E-02	5.07E-07	2.01E-05	6.68E-02	4.21E-07	1.67E-05
Road 101	101	0700-0800	1.54E-02	4.32E-07	1.71E-05	1.29E-02	3.60E-07	1.42E-05	9.30E-02	2.60E-06	1.03E-04	7.79E-02	2.19E-06	8.66E-05
Road 101	101	0800-0900	1.48E-02	4.84E-07	1.92E-05	1.34E-02	4.38E-07	1.73E-05	8.23E-02	2.69E-06	1.07E-04	7.07E-02	2.31E-06	9.15E-05
Road 101	101	0900-1000	1.59E-02	5.30E-07	2.10E-05	1.44E-02	4.79E-07	1.90E-05	8.24E-02	2.74E-06	1.09E-04	7.08E-02	2.35E-06	9.31E-05
Road 101	101	1000-1100	1.93E-02	4.66E-07	1.84E-05	1.76E-02	4.24E-07	1.68E-05	9.52E-02	2.30E-06	9.11E-05	8.32E-02	2.01E-06	7.98E-05
Road 101	101	1100-1200	1.93E-02	4.64E-07	1.84E-05	1.76E-02	4.23E-07	1.67E-05	9.52E-02	2.29E-06	9.08E-05	8.32E-02	2.00E-06	7.95E-05
Road 101	101	1200-1300	2.51E-02	6.34E-07	2.51E-05	2.28E-02	5.77E-07	2.29E-05	1.08E-01	2.74E-06	1.08E-04	9.60E-02	2.43E-06	9.62E-05
Road 101	101	1300-1400	2.51E-02	6.65E-07	2.63E-05	2.28E-02	6.05E-07	2.40E-05	1.11E-01	2.93E-06	1.16E-04	9.84E-02	2.61E-06	1.03E-04
Road 101	101	1400-1500	2.51E-02	6.59E-07	2.61E-05	2.28E-02	5.97E-07	2.37E-05	1.10E-01	2.88E-06	1.14E-04	9.84E-02	2.58E-06	1.02E-04
Road 101	101	1500-1600	2.33E-02	6.66E-07	2.64E-05	2.11E-02	6.02E-07	2.39E-05	1.08E-01	3.09E-06	1.22E-04	9.57E-02	2.73E-06	1.08E-04
Road 101	101	1600-1700	2.42E-02	6.40E-07	2.54E-05	2.19E-02	5.79E-07	2.30E-05	1.12E-01	2.96E-06	1.17E-04	9.92E-02	2.62E-06	1.04E-04
Road 101	101	1700-1800	1.79E-02	6.69E-07	2.65E-05	1.60E-02	5.99E-07	2.37E-05	9.25E-02	2.94E-06	1.16E-04	8.00E-02	2.54E-06	1.01E-04
Road 101	101	1800-1900	1.44E-02	2.87E-07	1.14E-05	1.02E-02	2.55E-07	1.01E-05	7.09E-02	1.78E-06	7.04E-05	5.99E-02	1.50E-06	5.95E-05
Road 101	101	1900-2000	1.12E-02	2.19E-07	8.67E-06	1.00E-02	1.95E-07	7.74E-06	6.78E-02	1.32E-06	5.22E-05	5.66E-02	1.11E-06	4.39E-05
Road 101	101	2000-2100	1.12E-02	2.19E-07	8.67E-06	1.00E-02	1.95E-07	7.74E-06	6.78E-02	1.32E-06	5.22E-05	5.66E-02	1.11E-06	4.39E-05
Road 101	101	2200-2300	1.04E-02	1.95E-07	7.73E-06	9.24E-03	1.74E-07	6.87E-06	6.77E-02	1.46E-06	5.79E-05	6.51E-02	1.22E-06	4.84E-05
Road 101	101	2300-2400	1.03E-02	1.84E-07	7.29E-06	9.17E-03	1.64E-07	6.48E-06	6.77E-02	1.46E-06	5.79E-05	6.51E-02	1.22E-06	4.84E-05
Road 102	102	0000-0100	1.32E-02	9.67E-08	3.59E-06	1.18E-02	8.65E-08	3.21E-06	8.47E-02	6.18E-07	2.30E-05	7.16E-02	5.22E-07	1.94E-05
Road 102	102	0100-0200	1.43E-02	6.89E-08	2.56E-06	1.28E-02	6.17E-08	2.29E-06	8.73E-02	4.20E-07	1.56E-05	7.41E-02	3.56E-07	1.32E-05
Road 102	102	0200-0300	1.65E-02	4.57E-08	1.70E-06	1.48E-02	4.09E-08	1.52E-06	8.73E-02	2.41E-07	8.96E-06	7.41E-02	2.04E-07	7.59E-06
Road 102	102	0300-0400	1.65E-02	4.72E-08	1.75E-06	1.49E-02	4.24E-08	1.58E-06	9.38E-02	2.68E-07	9.95E-06	8.02E-02	2.29E-07	8.50E-06
Road 102	102	0400-0500	1.67E-02	4.72E-08	1.75E-06	1.50E-02	4.24E-08	1.58E-06	9.38E-02	2.65E-07	9.84E-06	8.02E-02	2.27E-07	8.41E-06
Road 102	102	0500-0600	1.86E-02	1.04E-07	3.86E-06	1.67E-02	9.34E-08	3.47E-06	9.93E-02	5.54E-07	2.06E-05	8.50E-02	4.75E-07	1.76E-05
Road 102	102	0600-0700	1.96E-02	2.38E-07	8.84E-06	1.76E-02	2.14E-07	7.94E-06	1.02E-01	1.24E-06	4.60E-05	8.74E-02	1.06E-06	3.93E-05
Road 102	102	0700-0800	2.20E-02	1.04E-07	3.87E-06	1.97E-02	9.37E-08	3.48E-06	1.15E-01	5.47E-07	2.03E-05	9.84E-02	4.68E-07	1.74E-05
Road 102	102	0800-0900	1.98E-02	5.76E-07	2.14E-05	1.80E-02	5.23E-07	1.94E-05	9.59E-02	2.79E-06	1.04E-04	8.39E-02	2.44E-06	9.07E-05
Road 102	102	0900-1000	2.80E-02	2.27E-07	8.44E-06	2.54E-02	2.06E-07	7.65E-06	1.32E-01	1.07E-06	3.97E-05	1.15E-01	9.32E-07	3.46E-05
Road 102	102	1000-1100	2.58E-02	6.05E-07	2.25E-05	2.34E-02	5.49E-07	2.04E-05	1.12E-01	2.63E-06	9.76E-05	9.75E-02	2.29E-06	8.64E-05
Road 102	102	1100-1200	2.51E-02	5.03E-07	1.87E-05	2.28E-02	4.56E-07	1.69E-05	1.09E-01	2.19E-06	8.12E-05	9.48E-02	1.90E-06	7.19E-05
Road 102	102	1200-1300	2.19E-02	5.42E-07	2.01E-05	1.98E-02	4.89E-07	1.82E-05	9.96E-02	2.46E-06	9.15E-05	8.70E-02	2.15E-06	7.99E-05
Road 102	102	1300-1400	2.20E-02	5.65E-07	2.10E-05	1.98E-02	5.09E-07	1.89E-05	1.02E-01	2.62E-06	9.72E-05	8.92E-02	2.29E-06	8.50E-05
Road 102	102	1400-1500	2.43E-02	5.61E-07	2.08E-05	2.19E-02	5.05E-07	1.87E-05	1.06E-01	2.60E-06	9.66E-05	9.29E-02	2.14E-06	7.96E-05
Road 102	102	1500-1600	2.07E-02	5.75E-07	2.14E-05	1.86E-02	5.16E-07	1.92E-05	1.00E-01	2.79E-06	1.04E-04	8.76E-02	2.44E-06	9.06E-05
Road 102	102	1600-1700	2.01E-02	5.61E-07	2.08E-05	1.81E-02	5.04E-07	1.87E-05	9.97E-02	2.78E-06	1.03E-04	8.71E-02	2.43E-06	9.01E-05
Road 102	102	1700-1800	1.57E-02	5.02E-07	1.86E-05	1.40E-02	4.48E-07	1.66E-05	8.55E-02	2.74E-06	1.02E-04	7.32E-02	2.34E-06	8.71E-05
Road 102	102	1800-1900	1.12E-02	3.80E-07	1.41E-05	1.00E-02	3.38E-07	1.26E-05	6.53E-02	2.20E-06	8.19E-05	5.57E-02	1.88E-06	6.97E-05
Road 102	102	1900-2000	9.07E-03	2.81E-07	1.04E-05	8.08E-03	2.50E-07	9.32E-06	5.56E-02	1.72E-06	6.40E-05	4.74E-02	1.47E-06	5.46E-05
Road 102	102	2000-2100	9.74E-03	2.00E-07	7.43E-06	8.66E-03	1.78E-07	6.60E-06	5.33E-02	1.10E-06	4.08E-05	4.61E-02	1.27E-06	4.71E-05
Road 102	102	2100-2200	1.60E-02	2.19E-07	8.13E-06	1.42E-02	1.95E-07	7.23E-06	8.81E-02	1.21E-06	4.50E-05	7.62E-02	1.04E-06	3.86E-05
Road 102	102	2200-2300	8.72E-03	1.73E-07	6.42E-06	7.69E-03	1.53E-07	5.67E-06	7.29E-02	1.44E-06	5.37E-05	6.02E-02	1.19E-06	4.43E-05
Road 102	102	2300-2400	9.66E-03	1.44E-07	5.35E-06	8.59E-03	1.28E-07	4.76E-06	7.55E-02	1.13E-06	4.19E-05	6.30E-02	9.40E-07	3.49E-05
Road 103	103	0000-0100	1.04E-02	7.61E-08	2.83E-06	9.26E-03	6.77E-08	2.52E-06	6.67E-02	4.87E-07	1.81E-05	5.63E-02	4.11E-07	1.53E-05
Road 103	103	0100-0200	9.96E-03	6.55E-08	1.58E-06	8.82E-03	5.80E-08	1.40E-06	7.72E-02	5.08E-07	1.22E-05	6.38E-02	4.20E-07	1.01E-05
Road 103	103	0200-0300	1.01E-02	4.64E-08	1.12E-06	8.96E-03	4.11E-08	9.93E-07	7.72E-02	3.54E-07	8.56E-06	6.38E-02	2.93E-07	7.08E-06
Road 103	103	0300-0400	1.17E-02	4.49E-08	1.08E-06	1.05E-02	4.02E-08	9.67E-07	8.28E-02	3.16E-07	7.61E-06	6.95E-02	2.66E-07	6.39E-06
Road 103	103	0400-0500	1.17E-02	4.64E-08	1.12E-06	1.05E-02	4.15E-08	1.00E-06	8.28E-02	3.28E-07	7.90E-06	6.95E-02	2.75E-07	6.63E-06
Road 103	103	0500-0600	1.35E-02	8.86E-08	2.13E-06	8.69E-02	6.36E-07	1.53E-05	7.35E-02	5.38E-07	1.29E-05	2.86E-05	2.09E-10	5.03E-09
Road 103	103	0600-0700	1.44E-02	2.27E-07	5.45E-06	1.29E-02	2.03E-07	4.87E-06	8.99E-02	1.42E-06	3.40E-05	7.55E-02	1.19E-06	2.86E-05
Road 103	103	0700-0800	1.47E-02	5.47E-07	1.31E-05	1.32E-02	4.95E-07	1.19E-05	8.30E-02	3.09E-06	7.42E-05	7.12E-02	2.66E-06	6.37E-05
Road 103	103	0800-0900	1.68E-02	5.24E-07	1.26E-05	1.51E-02	4.73E-07	1.14E-05	8.99E-02	2.81E-06	6.76E-05	7.69E-02	2.40E-06	5.78E-05
Road 103	103	0900-1000	1.99E-02	5.19E-07	1.25E-05	1.79E-02	4.67E-07	1.13E-05	9.40E-02	2.57E-06	6.19E-05	8.17E-02	2.24E-06	5.37E-05
Road 103	103	1000-1100	1.82E-02	4.71E-07	1.13E-05	1.65E-02	4.27E-07	1.03E-05	9.44E-02	2.44E-06	5.87E-05	8.18E-02	2.12E-06	5.09E-05
Road 103	103	1100-1200	1.91E-02	4.44E-07	1.07E-05	1.72E-02	4.00E-07	9.63E-06	9.29E-02	2.16E-06	5.19E-05	8.05E-02	1.87E-06	4.50E-05
Road 103	103	1200-1300	1.91E-02	4.44E-07	1.07E-05	1.72E-02	4.00E-07	9.63E-06	9.29E-02	2.16E-06	5.19E-05	8.05E-02	1.87E-06	4.50E-05
Road 103	103	1300-1400	1.92E-02	4.58E-07	1.10E-05	1.73E-02	4.13E-07	9.94E-06	9.50E-02	2.26E-06	5.45E-05	8.21E-02	1.97E-06	4.73E-05
Road 103	103	1400-1500	1.94E-02	4.91E-07	1.18E-05	1.74E-02	4.42E-07	1.06E-05	9.50E-02	2.40E-06	5.78E-05	8.21E-02	2.08E-06	5.00E-05
Road 103	103	1500-1600	1.83E-02	4.74E-07	1.14E-05	1.65E-02	4.28E-07	1.03E-05	9.37E-02	2.44E-06	5.86E-05	8.15E-02	2.12E-06	5.12E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.3 Emission Factor in 2033.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 103	103	1600-1700	1.32E-02	3.28E-07	7.85E-06	1.19E-02	2.96E-07	7.07E-06	8.48E-02	2.11E-06	5.04E-05	7.36E-02	1.83E-06	4.38E-05
Road 103	103	1700-1800	1.38E-02	4.26E-07	1.02E-05	1.23E-02	3.80E-07	9.14E-06	7.99E-02	2.47E-06	5.95E-05	6.81E-02	2.11E-06	5.07E-05
Road 103	103	1800-1900	9.99E-03	3.35E-07	8.07E-06	8.92E-03	2.99E-07	7.20E-06	6.17E-02	2.07E-06	4.98E-05	5.23E-02	1.76E-06	4.22E-05
Road 103	103	1900-2000	8.79E-03	2.33E-07	5.60E-06	7.78E-03	2.06E-07	4.96E-06	6.29E-02	1.67E-06	4.01E-05	5.23E-02	1.39E-06	3.34E-05
Road 103	103	2000-2100	8.57E-03	1.76E-07	4.24E-06	7.60E-03	1.57E-07	3.76E-06	7.03E-02	1.45E-06	3.48E-05	5.90E-02	1.21E-06	2.92E-05
Road 103	103	2100-2200	7.17E-02	1.55E-07	3.73E-06	6.36E-02	1.38E-07	3.31E-06	6.88E-02	1.42E-06	3.41E-05	5.66E-02	1.17E-06	2.80E-05
Road 103	103	2200-2300	7.41E-03	3.48E-07	8.36E-06	6.54E-03	3.06E-07	7.34E-06	1.04E-01	4.89E-06	1.17E-04	8.61E-02	4.04E-06	9.70E-05
Road 103	103	2300-2400	8.23E-03	1.23E-07	2.96E-06	7.29E-03	1.09E-07	2.62E-06	7.22E-02	1.08E-06	2.60E-05	5.99E-02	8.96E-07	2.15E-05
Road 104	104	0000-0100	1.43E-02	9.73E-08	3.61E-06	1.27E-02	8.65E-08	3.21E-06	8.78E-02	5.97E-07	2.22E-05	7.44E-02	5.06E-07	1.88E-05
Road 104	104	0100-0200	1.54E-02	6.93E-08	2.58E-06	1.37E-02	6.16E-08	2.29E-06	8.78E-02	3.96E-07	1.47E-05	7.44E-02	3.35E-07	1.24E-05
Road 104	104	0200-0300	1.77E-02	4.74E-08	1.76E-06	1.57E-02	4.21E-08	1.56E-06	9.38E-02	2.51E-07	9.32E-06	8.02E-02	2.13E-07	7.92E-06
Road 104	104	0300-0400	1.77E-02	4.74E-08	1.76E-06	1.57E-02	4.21E-08	1.56E-06	9.38E-02	2.51E-07	9.32E-06	8.02E-02	2.13E-07	7.92E-06
Road 104	104	0400-0500	1.87E-02	5.62E-08	2.23E-06	1.67E-02	5.01E-08	1.99E-06	9.93E-02	2.98E-07	1.18E-05	8.50E-02	2.55E-07	1.01E-05
Road 104	104	0500-0600	1.90E-02	1.04E-07	4.13E-06	1.70E-02	9.32E-08	3.70E-06	1.01E-01	5.52E-07	2.19E-05	8.64E-02	4.74E-07	1.88E-05
Road 104	104	0600-0700	2.09E-02	2.39E-07	9.48E-06	1.87E-02	2.14E-07	8.48E-06	1.11E-01	1.27E-06	5.04E-05	9.51E-02	1.09E-06	4.31E-05
Road 104	104	0700-0800	2.34E-02	1.04E-07	4.14E-06	2.09E-02	9.35E-08	3.71E-06	1.24E-01	5.52E-07	2.19E-05	1.06E-01	4.74E-07	1.88E-05
Road 104	104	0800-0900	2.19E-02	5.39E-07	2.14E-05	1.96E-02	4.82E-07	1.91E-05	1.16E-01	2.85E-06	1.13E-04	9.95E-02	2.45E-06	9.72E-05
Road 104	104	0900-1000	2.98E-02	5.30E-07	2.10E-05	2.67E-02	4.74E-07	1.88E-05	1.58E-01	2.81E-06	1.12E-04	1.36E-01	2.42E-06	9.58E-05
Road 104	104	1000-1100	2.71E-02	6.16E-07	2.45E-05	2.43E-02	5.51E-07	2.19E-05	1.44E-01	3.26E-06	1.29E-04	1.24E-01	2.77E-06	1.10E-04
Road 104	104	1100-1200	2.71E-02	6.98E-07	2.77E-05	2.43E-02	6.25E-07	2.48E-05	1.44E-01	3.70E-06	1.47E-04	1.24E-01	3.14E-06	1.25E-04
Road 104	104	1200-1300	3.54E-02	6.34E-07	2.51E-05	3.17E-02	5.68E-07	2.25E-05	1.88E-01	3.36E-06	1.33E-04	1.62E-01	2.90E-06	1.15E-04
Road 104	104	1300-1400	3.67E-02	6.57E-07	2.60E-05	3.29E-02	5.89E-07	2.33E-05	1.95E-01	3.49E-06	1.38E-04	1.68E-01	3.01E-06	1.19E-04
Road 104	104	1400-1500	3.67E-02	6.57E-07	2.60E-05	3.29E-02	5.89E-07	2.33E-05	1.95E-01	3.49E-06	1.38E-04	1.68E-01	3.01E-06	1.19E-04
Road 104	104	1500-1600	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	1600-1700	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	1700-1800	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	1800-1900	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	1900-2000	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	2000-2100	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	2100-2200	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	2200-2300	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 104	104	2300-2400	3.61E-02	6.57E-07	2.60E-05	3.23E-02	5.89E-07	2.33E-05	1.92E-01	3.49E-06	1.38E-04	1.65E-01	3.01E-06	1.19E-04
Road 105	105	0000-0100	1.43E-02	9.73E-08	3.61E-06	1.27E-02	8.65E-08	3.21E-06	8.78E-02	5.97E-07	2.22E-05	7.44E-02	5.06E-07	1.88E-05
Road 105	105	0100-0200	1.54E-02	6.93E-08	2.58E-06	1.37E-02	6.16E-08	2.29E-06	8.78E-02	3.96E-07	1.47E-05	7.44E-02	3.35E-07	1.24E-05
Road 105	105	0200-0300	1.77E-02	4.74E-08	1.76E-06	1.57E-02	4.21E-08	1.56E-06	9.38E-02	2.51E-07	9.32E-06	8.02E-02	2.13E-07	7.92E-06
Road 105	105	0300-0400	1.77E-02	4.74E-08	1.76E-06	1.57E-02	4.21E-08	1.56E-06	9.38E-02	2.51E-07	9.32E-06	8.02E-02	2.13E-07	7.92E-06
Road 105	105	0400-0500	1.87E-02	5.62E-08	2.23E-06	1.67E-02	5.01E-08	1.99E-06	9.93E-02	2.98E-07	1.18E-05	8.50E-02	2.55E-07	1.01E-05
Road 105	105	0500-0600	1.90E-02	1.04E-07	4.13E-06	1.70E-02	9.32E-08	3.70E-06	1.01E-01	5.52E-07	2.19E-05	8.64E-02	4.74E-07	1.88E-05
Road 105	105	0600-0700	2.09E-02	2.39E-07	9.48E-06	1.87E-02	2.14E-07	8.48E-06	1.11E-01	1.27E-06	5.04E-05	9.51E-02	1.09E-06	4.31E-05
Road 105	105	0700-0800	2.34E-02	1.04E-07	4.14E-06	2.09E-02	9.35E-08	3.71E-06	1.24E-01	5.52E-07	2.19E-05	1.06E-01	4.74E-07	1.88E-05
Road 105	105	0800-0900	2.19E-02	5.39E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2038**

Road Name	Road ID	Hour	NO_x Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 18	18	0000-0100	8.98E-01	9.53E-04	1.24E-02	5.68E-01	6.03E-04	7.85E-03	5.54E-01	1.94E-03	1.28E-02	1.82E-01	6.37E-04	4.21E-03
Road 18	18	0100-0200	1.01E-02	4.36E-08	6.22E-04	6.13E-02	2.66E-07	3.76E-03	2.37E-03	1.03E-08	1.47E-04	1.45E-03	6.29E-09	8.98E-05
Road 18	18	0200-0300	1.12E-02	3.58E-08	5.10E-04	6.43E-02	2.06E-07	2.94E-03	2.43E-03	7.78E-09	1.11E-04	2.64E-03	8.45E-09	1.21E-04
Road 18	18	0300-0400	1.23E-02	3.91E-08	4.40E-04	6.69E-02	1.71E-07	2.44E-03	2.67E-03	6.81E-09	9.71E-05	2.91E-03	7.42E-09	1.06E-04
Road 18	18	0400-0500	1.28E-02	3.60E-08	5.13E-04	6.89E-02	1.93E-07	2.76E-03	2.82E-03	7.90E-09	1.13E-04	3.06E-03	8.58E-09	1.22E-04
Road 18	18	0500-0600	1.29E-02	6.23E-08	8.89E-04	7.01E-02	3.39E-07	4.83E-03	2.86E-03	1.38E-08	1.97E-04	3.11E-03	1.50E-08	2.14E-04
Road 18	18	0600-0700	1.27E-02	1.94E-07	2.77E-03	6.94E-02	1.06E-06	1.51E-02	2.94E-03	4.49E-08	6.33E-04	3.30E-03	5.04E-08	7.11E-04
Road 18	18	0700-0800	1.43E-02	3.01E-07	4.30E-03	7.47E-02	1.57E-06	2.24E-02	3.20E-03	6.75E-08	9.63E-04	3.48E-03	7.34E-08	1.05E-03
Road 18	18	0800-0900	1.37E-02	3.35E-07	4.78E-03	6.88E-02	1.68E-06	2.39E-02	3.14E-03	7.67E-08	1.09E-03	3.41E-03	8.32E-08	1.19E-03
Road 18	18	0900-1000	1.58E-02	3.27E-07	4.66E-03	7.79E-02	1.61E-06	2.30E-02	3.58E-03	7.60E-08	1.08E-03	3.84E-03	8.27E-08	1.18E-03
Road 18	18	1000-1100	1.79E-02	3.26E-07	4.65E-03	8.10E-02	1.47E-06	2.10E-02	4.13E-03	7.51E-08	1.07E-03	4.50E-03	8.18E-08	1.17E-03
Road 18	18	1100-1200	1.74E-02	2.99E-07	4.27E-03	8.10E-02	1.39E-06	1.99E-02	3.96E-03	6.82E-08	9.73E-04	4.31E-03	7.43E-08	1.06E-03
Road 18	18	1200-1300	1.68E-02	2.88E-07	4.11E-03	7.97E-02	1.37E-06	1.96E-02	3.82E-03	6.57E-08	9.38E-04	4.16E-03	7.16E-08	1.02E-03
Road 18	18	1300-1400	2.40E-02	5.13E-07	7.32E-03	1.01E-01	2.15E-06	3.07E-02	5.48E-03	1.19E-07	1.70E-03	5.94E-03	1.29E-07	1.85E-03
Road 18	18	1400-1500	2.39E-02	5.33E-07	7.60E-03	9.84E-02	2.19E-06	3.13E-02	5.55E-03	1.24E-07	1.76E-03	6.02E-03	1.34E-07	1.91E-03
Road 18	18	1500-1600	2.22E-02	5.10E-07	7.27E-03	9.90E-02	2.27E-06	3.24E-02	5.28E-03	1.21E-07	1.72E-03	5.73E-03	1.31E-07	1.87E-03
Road 18	18	1600-1700	2.28E-02	5.34E-07	7.61E-03	9.83E-02	2.30E-06	3.28E-02	5.76E-03	1.35E-07	1.92E-03	6.25E-03	1.46E-07	2.08E-03
Road 18	18	1700-1800	1.75E-02	4.38E-07	6.25E-03	8.40E-02	2.11E-06	3.01E-02	4.10E-03	1.03E-07	1.47E-03	4.45E-03	1.12E-07	1.59E-03
Road 18	18	1800-1900	1.29E-02	3.24E-07	4.63E-03	6.40E-02	1.61E-06	2.30E-02	3.02E-03	7.60E-08	1.08E-03	3.27E-03	8.24E-08	1.18E-03
Road 18	18	1900-2000	1.10E-02	2.83E-07	4.04E-03	5.47E-02	1.41E-06	2.01E-02	2.58E-03	6.64E-08	9.48E-04	2.79E-03	7.19E-08	1.03E-03
Road 18	18	2000-2100	1.09E-02	1.66E-07	2.36E-03	6.43E-02	9.74E-07	1.39E-02	2.47E-03	3.74E-08	5.33E-04	2.68E-03	4.06E-08	5.78E-04
Road 18	18	2100-2200	1.03E-02	1.56E-07	2.23E-03	6.37E-02	9.64E-07	1.37E-02	2.33E-03	3.53E-08	5.03E-04	2.68E-03	3.82E-08	5.45E-04
Road 18	18	2200-2300	1.16E-02	1.75E-07	2.49E-03	6.37E-02	9.64E-07	1.37E-02	2.64E-03	3.99E-08	5.68E-04	3.01E-03	4.55E-08	6.48E-04
Road 18	18	2300-0000	1.13E-02	1.25E-07	1.78E-03	6.49E-02	7.15E-07	1.02E-02	2.49E-03	2.74E-08	3.91E-04	2.71E-03	2.98E-08	4.25E-04
Road 19	19	0000-0100	1.05E-02	9.06E-08	9.52E-04	6.45E-02	5.58E-07	5.87E-03	2.35E-03	2.03E-08	2.14E-04	2.55E-03	2.21E-08	2.32E-04
Road 19	19	0100-0200	1.13E-02	6.42E-08	6.75E-04	6.64E-02	3.78E-07	3.97E-03	2.55E-03	1.45E-08	1.53E-04	2.78E-03	1.58E-08	1.66E-04
Road 19	19	0200-0300	1.22E-02	5.12E-08	5.38E-04	6.94E-02	2.91E-07	3.06E-03	2.77E-03	1.16E-08	1.22E-04	3.01E-03	1.26E-08	1.33E-04
Road 19	19	0300-0400	1.31E-02	4.38E-08	4.61E-04	7.21E-02	2.41E-07	2.54E-03	2.98E-03	9.97E-09	1.05E-04	3.24E-03	1.08E-08	1.14E-04
Road 19	19	0400-0500	1.39E-02	5.37E-08	5.47E-04	7.76E-02	2.99E-07	3.05E-03	3.15E-03	1.22E-08	1.24E-04	3.46E-03	1.33E-08	1.36E-04
Road 19	19	0500-0600	1.48E-02	9.61E-08	1.01E-03	7.69E-02	5.01E-07	5.26E-03	3.39E-03	2.20E-08	2.32E-04	3.68E-03	2.39E-08	2.52E-04
Road 19	19	0600-0700	1.57E-02	2.22E-07	2.33E-03	8.05E-02	1.14E-06	1.19E-02	3.60E-03	5.07E-08	5.33E-04	3.91E-03	5.51E-08	5.79E-04
Road 19	19	0700-0800	1.69E-02	4.88E-07	5.13E-03	8.45E-02	2.44E-06	2.56E-02	3.83E-03	1.10E-07	1.16E-03	4.16E-03	1.20E-07	1.26E-03
Road 19	19	0800-0900	1.68E-02	5.51E-07	5.79E-03	8.40E-02	2.84E-06	2.98E-02	3.81E-03	1.25E-07	1.31E-03	4.14E-03	1.36E-07	1.44E-03
Road 19	19	0900-1000	1.91E-02	5.63E-07	5.92E-03	8.94E-02	2.64E-06	2.77E-02	4.44E-03	1.31E-07	1.38E-03	4.83E-03	1.43E-07	1.50E-03
Road 19	19	1000-1100	2.16E-02	5.71E-07	6.01E-03	9.47E-02	2.50E-06	2.63E-02	4.98E-03	1.32E-07	1.38E-03	5.41E-03	1.43E-07	1.51E-03
Road 19	19	1100-1200	2.20E-02	5.62E-07	5.91E-03	9.61E-02	2.45E-06	2.58E-02	5.06E-03	1.29E-07	1.36E-03	5.50E-03	1.40E-07	1.48E-03
Road 19	19	1200-1300	2.72E-02	6.19E-07	6.51E-03	1.08E-01	2.66E-06	2.79E-02	5.48E-03	1.34E-07	1.41E-03	5.96E-03	1.46E-07	1.53E-03
Road 19	19	1300-1400	2.78E-02	6.76E-07	7.11E-03	1.14E-01	2.78E-06	2.93E-02	6.42E-03	1.56E-07	1.64E-03	6.98E-03	1.70E-07	1.79E-03
Road 19	19	1400-1500	2.98E-02	7.37E-07	7.75E-03	1.19E-01	2.95E-06	3.10E-02	6.88E-03	1.70E-07	1.79E-03	7.48E-03	1.85E-07	1.94E-03
Road 19	19	1500-1600	2.56E-02	6.63E-07	6.97E-03	1.12E-01	2.91E-06	3.06E-02	6.05E-03	1.57E-07	1.65E-03	6.31E-03	1.70E-07	1.79E-03
Road 19	19	1600-1700	2.64E-02	6.83E-07	7.18E-03	1.07E-01	2.78E-06	2.92E-02	6.11E-03	1.58E-07	1.66E-03	6.64E-03	1.72E-07	1.81E-03
Road 19	19	1700-1800	2.05E-02	5.51E-07	5.80E-03	8.94E-02	2.60E-06	2.74E-02	4.80E-03	1.29E-07	1.36E-03	5.26E-03	1.40E-07	1.48E-03
Road 19	19	1800-1900	1.48E-02	3.76E-07	3.96E-03	7.34E-02	1.87E-06	1.96E-02	3.56E-03	9.07E-08	9.54E-04	3.84E-03	9.84E-08	1.03E-03
Road 19	19	1900-2000	1.33E-02	2.56E-07	2.69E-03	6.85E-02	1.32E-06	1.39E-02	3.11E-03	6.01E-08	6.32E-04	3.39E-03	6.55E-08	6.88E-04
Road 19	19	2000-2100	1.26E-02	1.91E-07	2.01E-03	7.27E-02	1.09E-06	1.15E-02	3.29E-03	4.96E-08	5.22E-04	3.59E-03	5.40E-08	5.68E-04
Road 19	19	2100-2200	1.26E-02	1.91E-07	2.01E-03	7.21E-02	1.09E-06	1.15E-02	2.95E-03	4.47E-08	4.69E-04	3.20E-03	4.84E-08	5.09E-04
Road 19	19	2200-2300	1.27E-02	1.83E-07	1.93E-03	7.04E-02	1.01E-06	1.06E-02	2.87E-03	4.13E-08	4.35E-04	3.12E-03	4.48E-08	4.71E-04
Road 19	19	2300-0000	1.26E-02	1.53E-07	1.61E-03	7.27E-02	8.81E-07	9.27E-03	3.14E-03	3.44E-08	3.62E-04	3.48E-03	3.75E-08	3.94E-04
Road 20	20	0000-0100	7.11E-02	1.05E-07	7.09E-04	2.10E-01	3.10E-07	2.09E-03	1.07E-02	1.58E-08	1.06E-04	1.16E-02	1.71E-08	1.15E-04
Road 20	20	0100-0200	7.92E-02	9.14E-08	6.15E-04	2.21E-01	2.55E-07	1.72E-03	1.16E-02	1.34E-08	9.03E-05	1.27E-02	1.46E-08	9.82E-05
Road 20	20	0200-0300	8.55E-02	8.45E-08	5.69E-04	2.30E-01	2.27E-07	1.53E-03	1.24E-02	1.22E-08	8.23E-05	1.35E-02	1.33E-08	8.95E-05
Road 20	20	0300-0400	8.80E-02	8.51E-08	5.73E-04	2.36E-01	2.28E-07	1.54E-03	1.27E-02	1.23E-08	8.27E-05	1.38E-02	1.34E-08	8.99E-05
Road 20	20	0400-0500	8.80E-02	8.51E-08	5.73E-04	2.36E-01	2.28E-07	1.54E-03	1.27E-02	1.23E-08	8.27E-05	1.38E-02	1.34E-08	8.99E-05
Road 20	20	0500-0600	7.73E-02	1.09E-07	7.34E-04	2.26E-01	3.19E-07	2.15E-03	1.16E-02	1.63E-08	1.10E-04	1.26E-02	1.77E-08	1.19E-04
Road 20	20	0600-0700	8.47E-02	2.47E-07	1.67E-03	2.47E-01	7.22E-07	4.87E-03	1.24E-02	3.62E-08	2.44E-04	1.35E-02	3.94E-08	2.65E-04
Road 20	20	0700-0800	9.66E-02	6.12E-07	4.12E-03	2.86E-01	1.81E-06	1.22E-02	1.25E-02	7.89E-08	5.31E-04	1.35E-02	8.56E-08	5.76E-04
Road 20	20	0800-0900	9.48E-02	6.85E-07	4.61E-03	2.91E-01	2.10E-06	1.42E-02	1.22E-02	8.78E-08	5.91E-04	1.32E-02	9.54E-08	6.42E-04
Road 20	20	0900-1000	1.06E-01	6.26E-07	4.68E-03	3.19E-01	1.88E-06	1.40E-02	1.36E-02	8.03E-08	6.00E-04	1.45E-02	8.71E-08	6.51E-04
Road 20	20	1000-1100	1.06E-01	7.81E-07	5.26E-03	3.19E-01	2.35E-06	1.58E-02	1.32E-02	9.77E-08	6.57E-04	1.44E-02	1.06E-07	7.14E-04
Road 20	20	1100-1200	1.03E-01	7.21E-07	4.85E-03	3.09E-01	2.17E-06	1.46E-02	1.31E-02	9.18E-08	6.18E-04	1.42E-02	9.97E-08	6.71E-04
Road 20	20	1200-1300	1.03E-01	7.21E-07	4.85E-03	3.08E-01	2.17E-06	1.46E-02	1.31E-02	9.18E-08	6.18E-04	1.42E-02	9.97E-08	6.71E-04
Road 20	20	1300-1400	1.02E-01	7.49E-07	5.04E-03	3.10E-01	2.27E-06	1.53E-02	1.30E-02	9.56E-08	6.43E-04	1.42E-02	1.04E-07	6.98E-04
Road 20	20	1400-1500	1.03E-01	7.56E-07	5.09E-03	3.07E-01	2.25E-06	1.51E-02	1.31E-02	9.63E-08	6.48E-04	1.43E-02	1.05E-07	7.04E-04
Road 20	20	1500-1600	9.98E-02	7.55E-07	5.08E-03	3.08E-01	2.33E-06	1.57E-02	1.27E-02	9.60E-08	6.46E-04	1.38E-02	1.04E-07	7.02E-04
Road 20	20	1600-1700	1.00E-01	7.26E-07	4.89E-03	3.02E-01	2.18E-06	1.47E-02	1.29E-02	9.32E-08	6.27E-04	1.40E-02	1.01E-07	6.81E-04
Road 20	20	1700-1800	9.23E-02	6.37E-07	4.29E-03	2.92E-01	2.02E-06	1.36E-02	1.29E-02	8.93E-08	6.01E-04	1.29E-02	8.93E-08	6.01E-04
Road 20	20	1800-1900	8.43E-02	4.80E-07	3.23E-03	2.55E-01	1.45E-06	9.77E-03	1.11E-02	6.31E-08	4.26E-04	1.21E-02	6.89E-08	4.64E-04
Road 20	20	1900-2000	1.31E-02	4.39E-08	1.21E-03	1.95E-01	6.32E-07	8.57E-03	2.77E-03	1.08E-08	2.97E-04	2.93E-03	1.02E-08	2.80E-04

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2038.xlsx

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2038**

Road Name	Road ID	Hour	NO_x Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 20	20	2000-2100	5.61E-02	1.48E-07	9.98E-04	1.96E-01	5.18E-07	3.48E-03	8.90E-03	2.91E-07	7.06E-03	1.31E-03	3.21E-04	3.49E-04
Road 20	20	2100-2200	5.62E-02	1.51E-07	1.02E-03	1.96E-01	5.27E-07	3.55E-03	8.92E-03	2.97E-07	7.20E-03	1.31E-03	3.27E-04	3.56E-04
Road 20	20	2200-2300	5.99E-02	1.48E-07	9.95E-04	1.94E-01	4.79E-07	3.22E-03	9.05E-03	2.23E-08	1.50E-04	9.82E-03	2.42E-08	1.63E-04
Road 21	21	2300-0000	6.46E-02	1.33E-07	8.92E-04	2.02E-01	4.15E-07	2.79E-03	9.69E-03	1.99E-08	1.34E-04	1.05E-02	2.16E-08	1.45E-04
Road 21	21	0000-0100	1.43E-02	1.02E-07	4.91E-04	7.25E-02	5.15E-07	2.49E-03	3.19E-03	2.27E-08	1.09E-04	3.47E-03	2.47E-08	1.19E-04
Road 21	21	0100-0200	1.63E-02	7.77E-08	3.75E-04	7.61E-02	3.64E-07	1.75E-03	3.63E-03	1.73E-08	8.37E-05	3.94E-03	1.88E-08	9.08E-05
Road 21	21	0200-0300	1.82E-02	6.58E-08	3.18E-04	8.03E-02	2.90E-07	1.40E-03	4.05E-03	1.46E-08	7.06E-05	4.40E-03	1.59E-08	7.68E-05
Road 21	21	0300-0400	2.01E-02	5.93E-08	2.86E-04	8.48E-02	2.49E-07	1.20E-03	4.45E-03	1.31E-08	6.32E-05	4.83E-03	1.42E-08	6.86E-05
Road 21	21	0400-0500	2.05E-02	6.65E-08	3.21E-04	8.63E-02	2.80E-07	1.35E-03	4.56E-03	1.48E-08	7.14E-05	4.95E-03	1.61E-08	7.75E-05
Road 21	21	0500-0600	1.94E-02	1.02E-07	4.91E-04	8.17E-02	4.31E-07	2.08E-03	4.27E-03	2.24E-08	1.08E-04	4.63E-03	2.43E-08	1.17E-04
Road 21	21	0600-0700	1.89E-02	2.22E-07	1.07E-03	8.79E-02	1.03E-06	4.97E-03	4.32E-03	5.07E-08	2.44E-04	4.69E-03	5.50E-08	2.65E-04
Road 21	21	0700-0800	2.24E-02	5.49E-07	2.65E-03	9.72E-02	2.38E-06	1.15E-02	4.82E-03	1.18E-07	5.70E-04	5.24E-03	1.29E-07	6.20E-04
Road 21	21	0800-0900	2.45E-02	6.59E-07	3.37E-03	1.03E-01	2.82E-06	1.44E-02	4.26E-03	1.07E-07	2.58E-03	4.63E-03	1.16E-07	2.81E-03
Road 21	21	0900-1000	2.67E-02	6.87E-07	3.32E-03	1.10E-01	2.84E-06	1.37E-02	5.56E-03	1.44E-07	6.96E-04	6.02E-03	1.56E-07	7.52E-04
Road 21	21	1000-1100	2.83E-02	6.64E-07	3.20E-03	1.12E-01	2.62E-06	1.26E-02	6.09E-03	1.43E-07	6.88E-04	6.62E-03	1.55E-07	7.48E-04
Road 21	21	1100-1200	2.65E-02	5.87E-07	2.83E-03	1.07E-01	2.37E-06	1.14E-02	5.73E-03	1.31E-07	6.28E-04	6.40E-03	1.42E-07	6.83E-04
Road 21	21	1200-1300	3.27E-02	6.67E-07	3.22E-03	1.21E-01	2.46E-06	1.19E-02	7.24E-03	1.48E-07	7.12E-04	7.87E-03	1.60E-07	7.71E-04
Road 21	21	1300-1400	3.41E-02	7.46E-07	3.60E-03	1.30E-01	2.84E-06	1.37E-02	7.34E-03	1.60E-07	7.74E-04	7.98E-03	1.74E-07	8.41E-04
Road 21	21	1400-1500	3.51E-02	7.85E-07	3.79E-03	1.30E-01	2.92E-06	1.41E-02	7.38E-03	1.65E-07	7.97E-04	8.04E-03	1.79E-07	8.64E-04
Road 21	21	1500-1600	3.22E-02	7.49E-07	3.61E-03	1.19E-01	2.77E-06	1.34E-02	6.75E-03	1.57E-07	7.58E-04	7.37E-03	1.71E-07	8.26E-04
Road 21	21	1600-1700	3.33E-02	7.86E-07	3.68E-03	1.25E-01	2.87E-06	1.39E-02	7.06E-03	1.62E-07	7.81E-04	7.65E-03	1.76E-07	8.47E-04
Road 21	21	1700-1800	2.62E-02	6.14E-07	2.96E-03	1.12E-01	2.62E-06	1.26E-02	5.74E-03	1.35E-07	6.49E-04	6.24E-03	1.46E-07	7.06E-04
Road 21	21	1800-1900	2.22E-02	5.49E-07	3.61E-03	9.50E-02	2.35E-06	1.54E-02	4.79E-03	1.18E-07	7.79E-04	5.21E-03	1.29E-07	8.44E-04
Road 21	21	1900-2000	1.55E-02	2.45E-07	1.18E-03	7.43E-02	1.18E-06	5.68E-03	3.61E-03	5.72E-08	2.76E-04	3.93E-03	6.23E-08	3.00E-04
Road 21	21	2000-2100	1.55E-02	9.30E-08	7.89E-04	9.84E-02	5.90E-07	3.63E-03	4.48E-03	2.68E-08	2.16E-04	3.91E-03	4.88E-08	2.35E-04
Road 21	21	2100-2200	1.52E-02	1.90E-07	9.15E-04	7.89E-02	9.87E-07	4.76E-03	3.52E-03	4.40E-08	2.12E-04	3.83E-03	4.79E-08	2.31E-04
Road 21	21	2200-2300	1.54E-02	1.82E-07	8.79E-04	7.64E-02	9.03E-07	4.36E-03	3.47E-03	4.11E-08	1.98E-04	3.77E-03	4.45E-08	2.15E-04
Road 21	21	2300-0000	1.69E-02	1.54E-07	7.43E-04	7.98E-02	7.29E-07	3.52E-03	3.77E-03	3.50E-08	1.69E-04	4.15E-03	3.79E-08	1.83E-04
Road 22	22	0000-0100	1.33E-01	1.13E-07	7.35E-04	4.85E-01	4.13E-07	2.69E-03	1.29E-02	1.10E-08	7.15E-05	1.40E-02	1.19E-08	7.75E-05
Road 22	22	0100-0200	1.29E-01	8.58E-08	5.59E-04	4.73E-01	3.14E-07	2.05E-03	1.28E-02	8.54E-09	5.56E-05	1.40E-02	9.29E-09	6.04E-05
Road 22	22	0200-0300	1.32E-01	7.36E-08	4.79E-04	4.81E-01	2.69E-07	1.75E-03	1.30E-02	7.30E-09	4.75E-05	1.42E-02	7.93E-09	5.16E-05
Road 22	22	0300-0400	1.35E-01	7.66E-08	5.66E-04	4.87E-01	2.76E-07	2.04E-03	1.31E-02	7.42E-09	5.48E-05	1.44E-02	8.06E-09	5.95E-05
Road 22	22	0400-0500	1.49E-01	7.78E-08	5.74E-04	5.37E-01	2.80E-07	2.07E-03	1.45E-02	7.54E-09	5.56E-05	1.58E-02	8.19E-09	6.04E-05
Road 22	22	0500-0600	1.41E-01	1.06E-07	7.26E-04	5.08E-01	3.82E-07	2.62E-03	1.37E-02	1.03E-08	7.04E-05	1.49E-02	1.12E-08	7.67E-05
Road 22	22	0600-0700	1.43E-01	2.43E-07	1.66E-03	5.16E-01	8.79E-07	6.03E-03	1.39E-02	2.36E-08	1.62E-04	1.51E-02	2.56E-08	1.76E-04
Road 22	22	0700-0800	1.73E-01	5.49E-07	3.76E-03	6.24E-01	1.98E-06	1.36E-02	1.68E-02	5.33E-08	3.65E-04	1.82E-02	5.77E-08	3.96E-04
Road 22	22	0800-0900	1.70E-01	6.66E-07	4.56E-03	6.14E-01	2.40E-06	1.64E-02	1.65E-02	6.47E-08	4.43E-04	1.79E-02	7.00E-08	4.80E-04
Road 22	22	0900-1000	1.96E-01	6.96E-07	4.77E-03	7.08E-01	2.51E-06	1.72E-02	1.90E-02	6.76E-08	4.63E-04	2.06E-02	7.32E-08	5.01E-04
Road 22	22	1000-1100	2.16E-01	7.13E-07	4.88E-03	7.80E-01	2.57E-06	1.76E-02	2.09E-02	6.92E-08	4.74E-04	2.27E-02	7.50E-08	5.13E-04
Road 22	22	1100-1200	2.09E-01	6.14E-07	4.20E-03	7.54E-01	2.21E-06	1.51E-02	2.02E-02	5.96E-08	4.08E-04	2.19E-02	6.46E-08	4.42E-04
Road 22	22	1200-1300	2.15E-01	1.54E-06	1.00E-02	7.24E-01	5.16E-06	3.36E-02	1.72E-02	1.22E-07	7.97E-04	1.87E-02	1.33E-07	8.66E-04
Road 22	22	1300-1400	2.08E-01	1.54E-06	1.00E-02	7.00E-01	5.17E-06	3.37E-02	1.66E-02	1.22E-07	7.97E-04	1.81E-02	1.34E-07	8.76E-04
Road 22	22	1400-1500	2.11E-01	1.68E-06	1.09E-02	7.23E-01	5.75E-06	3.74E-02	1.70E-02	1.35E-07	8.80E-04	1.85E-02	1.47E-07	9.56E-04
Road 22	22	1500-1600	1.89E-01	1.57E-06	1.02E-02	7.14E-01	5.92E-06	3.85E-02	1.59E-02	1.32E-07	8.57E-04	1.72E-02	1.43E-07	9.31E-04
Road 22	22	1600-1700	1.84E-01	1.52E-06	9.88E-03	6.94E-01	5.75E-06	3.74E-02	1.54E-02	1.28E-07	8.32E-04	1.67E-02	1.39E-07	9.04E-04
Road 22	22	1700-1800	1.72E-01	1.23E-06	8.03E-03	6.77E-01	4.85E-06	3.16E-02	1.47E-02	1.05E-07	6.85E-04	1.59E-02	1.14E-07	7.44E-04
Road 22	22	1800-1900	1.35E-01	7.12E-07	4.64E-03	5.53E-01	2.92E-06	1.90E-02	1.24E-02	6.54E-08	4.26E-04	1.35E-02	7.11E-08	4.63E-04
Road 22	22	1900-2000	1.26E-01	1.51E-07	9.84E-04	5.16E-01	6.20E-07	4.04E-03	1.16E-02	1.39E-08	9.06E-05	1.26E-02	1.51E-08	9.84E-05
Road 22	22	2000-2100	1.23E-01	1.36E-07	8.85E-04	5.04E-01	5.57E-07	3.63E-03	1.13E-02	1.25E-08	8.14E-05	1.23E-02	1.36E-08	8.85E-05
Road 22	22	2100-2200	1.25E-01	1.63E-07	1.06E-03	5.08E-01	6.68E-07	4.35E-03	1.14E-02	1.50E-08	9.75E-05	1.24E-02	1.63E-08	1.06E-04
Road 22	22	2200-2300	1.38E-01	1.35E-07	8.77E-04	5.58E-01	5.52E-07	3.59E-03	1.25E-02	1.24E-08	8.06E-05	1.36E-02	1.35E-08	8.77E-05
Road 22	22	2300-0000	1.36E-01	1.01E-07	6.57E-04	5.50E-01	4.14E-07	2.69E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — **Year 2038**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 40	40	1600-1700	1.10E-01	6.06E-07	1.08E-03	3.43E-01	1.89E-06	3.36E-03	1.13E-02	6.24E-08	1.11E-04	1.23E-02	6.77E-08	1.20E-04
Road 40	40	1700-1800	1.00E-01	5.61E-07	9.95E-04	3.36E-01	1.88E-06	3.34E-03	1.14E-02	6.41E-08	1.14E-04	1.24E-02	6.97E-08	1.24E-04
Road 40	40	1800-1900	7.95E-02	4.17E-07	7.40E-04	2.68E-01	1.40E-06	2.49E-03	9.87E-03	5.17E-08	9.18E-05	1.07E-02	5.63E-08	9.99E-05
Road 40	40	1900-2000	5.87E-02	2.02E-07	5.47E-04	2.31E-01	7.95E-07	2.14E-03	7.65E-03	2.63E-08	4.68E-05	8.32E-03	2.87E-08	5.09E-05
Road 40	40	2000-2100	6.01E-02	1.65E-07	2.93E-04	2.41E-01	6.63E-07	1.18E-03	7.65E-03	2.10E-08	3.74E-05	8.31E-03	2.29E-08	4.06E-05
Road 40	40	2100-2200	5.99E-02	1.66E-07	2.95E-04	2.44E-01	6.76E-07	1.20E-03	7.81E-03	2.16E-08	3.84E-05	8.48E-03	2.35E-08	4.17E-05
Road 40	40	2200-2300	5.87E-02	1.63E-07	2.90E-04	2.40E-01	6.67E-07	1.19E-03	7.58E-03	2.10E-08	3.72E-05	8.24E-03	2.28E-08	4.04E-05
Road 40	40	2300-0000	6.03E-02	1.25E-07	2.22E-04	2.37E-01	4.91E-07	8.72E-04	8.22E-03	1.70E-08	3.02E-05	8.94E-03	1.85E-08	3.29E-05
Road 41	41	0000-0100	1.58E-02	2.82E-08	9.66E-05	6.96E-02	1.24E-07	4.25E-04	3.39E-03	6.04E-09	2.07E-05	3.68E-03	6.56E-09	2.25E-05
Road 41	41	0100-0200	2.01E-02	3.52E-08	1.23E-04	8.54E-02	1.50E-07	5.20E-04	4.63E-03	8.13E-09	2.82E-05	5.02E-03	8.81E-09	3.07E-05
Road 41	41	0200-0300	2.43E-02	2.34E-08	8.01E-05	8.48E-02	8.18E-08	2.80E-04	5.11E-03	4.93E-09	1.69E-05	5.54E-03	5.34E-09	1.83E-05
Road 41	41	0300-0400	2.78E-02	2.25E-08	7.70E-05	9.09E-02	7.35E-08	2.52E-04	5.83E-03	4.71E-09	1.61E-05	6.32E-03	5.11E-09	1.75E-05
Road 41	41	0400-0500	2.91E-02	2.31E-08	7.91E-05	9.03E-02	7.82E-08	2.68E-04	5.71E-03	4.94E-09	1.69E-05	6.19E-03	5.36E-09	1.84E-05
Road 41	41	0500-0600	2.16E-02	2.89E-08	9.91E-05	8.25E-02	1.11E-07	3.79E-04	4.64E-03	6.23E-09	2.13E-05	5.04E-03	6.76E-09	2.31E-05
Road 41	41	0600-0700	1.69E-02	4.44E-08	1.52E-04	7.66E-02	2.01E-07	6.88E-04	3.74E-03	9.80E-09	3.36E-05	4.06E-03	1.07E-08	3.65E-05
Road 41	41	0700-0800	2.17E-02	1.24E-07	4.24E-04	8.38E-02	4.79E-07	1.64E-03	4.72E-03	2.70E-08	9.24E-05	5.13E-03	2.93E-08	1.00E-04
Road 41	41	0800-0900	2.00E-02	1.30E-07	4.45E-04	7.88E-02	5.12E-07	1.75E-03	4.44E-03	2.88E-08	9.87E-05	4.82E-03	3.13E-08	1.07E-04
Road 41	41	0900-1000	2.29E-02	1.27E-07	4.34E-04	8.39E-02	4.63E-07	1.59E-03	5.10E-03	2.81E-08	9.64E-05	5.54E-03	3.06E-08	1.05E-04
Road 41	41	1000-1100	2.56E-02	1.25E-07	4.29E-04	8.85E-02	4.34E-07	1.49E-03	5.66E-03	2.77E-08	9.50E-05	6.14E-03	3.01E-08	1.03E-04
Road 41	41	1100-1200	3.20E-02	1.58E-07	5.41E-04	1.03E-01	5.25E-07	1.80E-03	6.91E-03	3.52E-08	1.20E-04	7.50E-03	3.82E-08	1.31E-04
Road 41	41	1200-1300	3.10E-02	1.58E-07	5.41E-04	1.03E-01	5.25E-07	1.80E-03	6.91E-03	3.52E-08	1.20E-04	7.50E-03	3.82E-08	1.31E-04
Road 41	41	1300-1400	3.07E-02	1.63E-07	5.57E-04	1.05E-01	5.58E-07	1.91E-03	6.91E-03	3.66E-08	1.25E-04	7.51E-03	3.98E-08	1.36E-04
Road 41	41	1400-1500	2.91E-02	1.54E-07	5.26E-04	9.98E-02	5.30E-07	1.81E-03	6.84E-03	3.62E-08	1.24E-04	7.42E-03	3.94E-08	1.35E-04
Road 41	41	1500-1600	2.88E-02	1.62E-07	5.56E-04	1.03E-01	5.82E-07	1.99E-03	6.57E-03	3.71E-08	1.27E-04	7.14E-03	4.03E-08	1.38E-04
Road 41	41	1600-1700	2.92E-02	1.68E-07	5.76E-04	9.96E-02	5.74E-07	1.96E-03	6.59E-03	3.80E-08	1.30E-04	7.16E-03	4.13E-08	1.41E-04
Road 41	41	1700-1800	2.40E-02	1.48E-07	5.08E-04	9.80E-02	6.04E-07	2.07E-03	5.41E-03	3.34E-08	1.14E-04	5.91E-03	3.64E-08	1.25E-04
Road 41	41	1800-1900	2.00E-02	1.25E-07	4.28E-04	7.33E-02	4.57E-07	1.56E-03	4.50E-03	2.81E-08	9.61E-05	4.89E-03	3.05E-08	1.04E-04
Road 41	41	1900-2000	1.32E-02	6.21E-08	2.72E-04	9.32E-02	3.03E-07	1.33E-03	4.58E-03	1.44E-08	6.31E-05	5.02E-03	1.58E-08	6.91E-05
Road 41	41	2000-2100	1.32E-02	5.77E-08	1.97E-04	6.21E-02	2.72E-07	9.32E-04	3.03E-03	1.33E-08	4.56E-05	3.32E-03	1.46E-08	4.99E-05
Road 41	41	2100-2200	1.32E-02	4.61E-08	1.58E-04	6.75E-02	2.35E-07	8.04E-04	2.98E-03	1.03E-08	3.54E-05	3.24E-03	1.13E-08	3.86E-05
Road 41	41	2200-2300	1.34E-02	4.47E-08	1.53E-04	6.73E-02	2.25E-07	7.70E-04	2.93E-03	9.80E-09	3.36E-05	3.19E-03	1.07E-08	3.65E-05
Road 41	41	2300-0000	1.55E-02	4.00E-08	1.37E-04	7.15E-02	1.84E-07	6.32E-04	3.41E-03	8.79E-09	3.01E-05	3.70E-03	9.55E-09	3.27E-05
Road 42	42	0000-0100	2.62E-02	2.81E-08	9.62E-05	1.21E-01	1.30E-07	4.45E-04	5.73E-03	6.24E-09	2.13E-05	6.24E-03	6.73E-09	2.30E-05
Road 42	42	0100-0200	3.36E-02	4.29E-08	1.47E-04	1.55E-01	1.98E-07	6.82E-04	7.42E-03	9.57E-09	3.29E-05	8.07E-03	1.04E-08	3.57E-05
Road 42	42	0200-0300	3.92E-02	4.22E-08	3.90E-04	1.24E-01	1.34E-07	1.24E-03	5.78E-03	6.21E-09	5.75E-05	6.29E-03	6.76E-09	6.26E-05
Road 42	42	0300-0400	3.22E-02	4.25E-08	2.96E-04	1.02E-01	1.35E-07	9.42E-04	4.75E-03	6.27E-09	4.37E-05	5.17E-03	6.82E-09	4.75E-05
Road 42	42	0400-0500	4.38E-02	4.23E-08	3.92E-04	1.34E-01	1.29E-07	1.20E-03	6.45E-03	6.23E-09	5.77E-05	7.02E-03	6.78E-09	6.28E-05
Road 42	42	0500-0600	3.57E-02	5.36E-08	4.96E-04	1.23E-01	1.84E-07	1.70E-03	5.38E-03	8.07E-09	7.47E-05	5.85E-03	8.77E-09	8.12E-05
Road 42	42	0600-0700	2.91E-02	5.61E-08	5.19E-04	1.01E-01	1.93E-07	1.78E-03	4.46E-03	8.45E-09	7.82E-05	4.85E-03	9.18E-09	8.49E-05
Road 42	42	0700-0800	4.24E-02	2.72E-07	2.52E-03	1.43E-01	9.17E-07	8.49E-03	5.83E-03	3.73E-08	3.45E-04	6.31E-03	4.05E-08	3.75E-04
Road 42	42	0800-0900	4.07E-02	2.96E-07	2.74E-03	1.36E-01	9.90E-07	9.16E-03	5.54E-03	4.03E-08	3.73E-04	6.02E-03	4.39E-08	4.06E-04
Road 42	42	0900-1000	4.24E-02	2.83E-07	2.62E-03	1.42E-01	9.51E-07	8.81E-03	5.77E-03	3.86E-08	3.57E-04	6.26E-03	4.19E-08	3.88E-04
Road 42	42	1000-1100	5.10E-02	2.82E-07	2.61E-03	1.61E-01	8.89E-07	8.23E-03	6.97E-03	3.85E-08	3.57E-04	7.57E-03	4.19E-08	3.88E-04
Road 42	42	1100-1200	5.11E-02	2.70E-07	2.50E-03	1.62E-01	8.57E-07	7.94E-03	6.90E-03	3.65E-08	3.37E-04	7.50E-03	3.96E-08	3.67E-04
Road 42	42	1200-1300	5.07E-02	2.74E-07	2.54E-03	1.61E-01	8.68E-07	8.04E-03	6.85E-03	3.70E-08	3.43E-04	7.44E-03	4.02E-08	3.72E-04
Road 42	42	1300-1400	5.18E-02	2.90E-07	2.68E-03	2.17E-01	8.75E-07	8.10E-03	9.88E-03	3.99E-08	3.70E-04	1.07E-02	4.34E-08	4.02E-04
Road 42	42	1400-1500	7.08E-02	2.94E-07	2.72E-03	2.11E-01	8.77E-07	8.11E-03	9.79E-03	4.06E-08	3.76E-04	1.06E-02	4.42E-08	4.09E-04
Road 42	42	1500-1600	7.03E-02	2.87E-07	2.66E-03	2.11E-01	8.59E-07	7.95E-03	9.72E-03	3.97E-08	3.68E-04	1.05E-02	4.32E-08	4.00E-04
Road 42	42	1600-1700	6.81E-02	2.92E-07	2.70E-03	2.04E-01	8.74E-07	8.09E-03	9.47E-03	4.05E-08	3.75E-04	1.03E-02	4.41E-08	4.08E-04
Road 42	42	1700-1800	5.86E-02	2.61E-07	2.42E-03	1.86E-01	8.28E-07	7.67E-03	8.17E-03	3.64E-08	3.37E-04	8.88E-03	3.96E-08	3.66E-04
Road 42	42	1800-1900	5.17E-02	2.25E-07	2.09E-03	1.57E-01	6.85E-07	6.34E-03	7.09E-03	3.09E-08	2.86E-04	7.71E-03	3.36E-08	3.11E-04
Road 42	42	1900-2000	3.53E-02	1.72E-07	1.60E-03	1.28E-01	5.24E-07	4.85E-03	5.42E-03	2.36E-08	2.19E-04	5.90E-03	2.57E-08	2.38E-04
Road 42	42	2000-2100	3.15E-02	7.18E-08	6.65E-04	1.21E-01	2.77E-07	2.56E-03	4.81E-03	1.10E-08	1.02E-04	5.22E-03	1.19E-08	1.10E-04
Road 42	42	2100-2200	3.08E-02	7.06E-08	6.53E-04	1.20E-01	2.76E-07	2.56E-03	4.67E-03	1.07E-08	9.90E-05	5.06E-03	1.16E-08	1.07E-04
Road 42	42	2200-2300	3.08E-02	7.06E-08	6.53E-04	1.20E-01	2.76E-07	2.56E-03	4.67E-03	1.07E-08	9.90E-05	5.06E-03	1.16E-08	1.07E-04
Road 42	42	2300-0000	3.53E-02	6.09E-08	5.63E-04	1.25E-01	2.16E-07	2.00E-03	5.30E-03	9.14E-09	8.46E-05	5.76E-03	9.94E-09	9.20E-05
Road 43	43	0000-0100	1.53E-02	4.49E-09	1.68E-05	6.66E-02	1.95E-08	7.28E-05	9.23E-03	2.45E-09	9.12E-06	9.32E-03	2.47E-09	9.19E-06
Road 43	43	0100-0200	1.20E-02	4.31E-09	1.61E-05	5.20E-02	1.87E-08	6.98E-05	7.23E-03	2.35E-09	8.75E-06	7.30E-03	2.37E-09	8.82E-06
Road 43	43	0200-0300	2.49E-02	4.00E-09	1.49E-05	8.35E-02	1.34E-08	5.01E-05	5.10E-03	8.19E-10	3.06E-06	5.53E-03	8.87E-10	3.32E-06
Road 43	43	0300-0400	2.88E-02	3.90E-09	1.46E-05	9.03E-02	1.22E-08	4.56E-05	5.91E-03	7.99E-10	2.99E-06	6.40E-03	8.66E-10	3.23E-06
Road 43	43	0400-0500	2.98E-02	3.90E-09	1.46E-05	9.31E-02	1.22E-08	4.56E-05	6.11E-03	7.99E-10	2.99E-06	6.62E-03	8.66E-10	3.23E-06
Road 43	43	0500-0600	2.13E-02	4.62E-09	1.73E-05	7.91E-02	2.12E-08	7.93E-05	4.35E-03	9.37E-10	3.50E-06	4.72E-03	1.02E-09	3.81E-06
Road 43	43	0600-0700	1.69E-02	6.54E-09	2.44E-05	6.26E-02	3.01E-08	1.13E-04	3.44E-03	1.33E-09	4.96E-06	3.74E-03	1.44E-09	5.39E-06
Road 43	43	0700-0800	2.17E-02	1.24E-08	4.64E-05	8.04E-02	5.72E-08	2.14E-04	4.41E-03	2.52E-09	9.43E-06	4.80E-03	2.74E-09	1.03E-05
Road 43	43	0800-0900	2.00E-02	1.30E-08	4.85E-05	7.54E-02	5.47E-08	2.04E-04	4.24E-03	2.76E-09	1.03E-05	4.61E-03	3.00E-09	1.12E-05
Road 43	43	0900-1000	2.29E-02	1.27E-08	4.74E-05	8.47E-02	5.25E-08	1.96E-04	4.78E-03	2.65E-09	9.91E-06	5.20E-03	2.94E-09	1.10E-05
Road 43	43	1000-1100	2.56E-02	1.25E-08	4.69E-05	8.93E-02	4.93E-08	1.84E-04	5.32E-03	2.61E-09	9.77E-06	5.79E-03	2.90E-09	1.08E-05
Road 43	43	1100-1200	3.20E-02	1.58E-08	5.91E-05	1.03E-01	5.25E-08	1.96E-04	6.47E-03	3.52E-09	1.32E-05	7.03E-03	3.82E-09	1.43E-05
Road 43	43	1200-1300	3.10E-02	1.58E-08	5.91E-05	1.03E-01	5.25E-08	1.96E-04	6.47E-03	3.52E-09	1.32E-05	7.03E-03	3.82E-09	1.43E-05
Road 43	43	1300-1400	3.07E-02	1.63E-08	6.09E-05	1.05E-01	5.58E-08	2.09E-04	6.47E-03	3.66E-09	1.37E-05	7.04E-03	3.98E-09	1.49E-05
Road 43	43	1400-1500	2.91E-02	1.54E-08	5.75E-05	9.98E-02	5.30E-08	1.98E-04	6.41E-03	3.62E-09	1.35E-05	6.95E-03	3.94E-09	1.47E-05
Road 43	43	1500-1600	2.88E-02	1.62E-08	6.08E-05	1.03E-01	5.82E-08	2.18E-04	6.15E-03	3.71E-09	1.39E-05	6.68E-03	4.03E-09	1.51E-05
Road 43	43	1600-1700	2.92E-02	1.68E-08	6.29E-05	9.96E-02	5.74E-08	2.15E-04	6.17E-03	3.80E-09	1.42E-05	6.70E-03	4.13E-09	1.54E-05
Road 43	43	1700-1800	2.40E-02	1.48E-08	5.55E-05	9.80E-02	6.04E-08	2.26E-04	5.06E-03	3.34E-09	1.25E-05	5.53E-03	3.64E-09	1.36E-05
Road 43	43	1800-1900	2.00E-02	1.25E-08	4.68E-05	7.33E-02	4.57E-08	1.71E-04	4.21E-03	2.81E-09	1.05E-05	4.58E-03	3.05E-09	1.14E-05
Road 43	43	1900-2000	1.32E-02	6.21E-09	2.98E-05	9.32E-02	3.03E-08	1.46E-04	4.29E-03	1.44E-09	6.91E-06	4.70E-03	1.58E-09	7.57E-06
Road 43	43	2000-2100	1.32E-02	5.77E-09	2.16E-05	6.21E-02	2.72E-08	1.02E-04	2.84E-03	1.33E-09	4.99E-06	3.11E-03	1.46E-09	5.47E-06
Road 43	43	2100-2200	1.32E-02	4.61E-09	1.73E-05	6.75E-02	2.35E-08	8.81E-05	2.79E-03	1.03E-09	3.87E-06	3.04E-03	1.13E-09	4.23E-06
Road 43	43	2200-2300	1.34E-02	4.47E-09	1.68E-05	6.73E-02	2.25E-08	8.44E-05	2.74E-03	9.80E-10	3.68E-06	2.99E-03	1.07E-09	4.00E-06
Road 43	43	2300-0000	1.55E-02	4.00E-09	1.50E-05	7.15E-02	1.84E-08	6.92E-05	3.34E-03	8.79E-10	3.30E-06	3.63E-03	9.55E-10	3.58E-06
Road 44	44	0000-0100	2.62E-02	2.81E-08	1.05E-04	1.21E-01	1.30E-07	4.87E-04	5.62E-03	6.24E-09	2.33E-05	6.12E-03	6.73E-09	2.51E-05
Road 44	44	0100-0200	3.36E-02	4.29E-08	1.61E-04	1.55E-01	1.98E-07	7.46E-04	7.28E-03	9.57E-09	3.60E-05	7.91E-03	1.04E-08	3.91E-05
Road 44	44	0200-0300	3.92E-02	4.22E-08	4.27E-04	1.24E-01	1.34E-07	1.36E-03	5.67E-03	6.21E-09	6.29E-05	6.17E-03	6.76E-09	6.85E-05
Road 44	44	0300-0400	3.22E-02	4.25E-08	3.24E-04	1.02E-01	1.35E-07	1.03E-03	4.66E-03	6.27E-09	4.78E-05	5.07E-03	6.82E-09	5.20E-05
Road 44	44	0400-0500	4.38E-02	4.23E-08	4.29E-04	1.34E-01	1.29E-07	1.31E-03	6.33E-03	6.23E-09	6.31E-05	6.89E-03	6.78E-09	6.87E-05
Road 44	44	0500-0600	3.57E-02	5.36E-08	5.43E-04	1.23E-01	1.84E-07	1.86E-03	5.28E-03	8.07E-09	8.17E-05	5.74E-03	8.77E-09	8.89E-05
Road 44	44	0600-0700	2.91E-02	5.61E-08	5.68E-04	1.01E-01	1.93E-07	1.95E-03	4.38E-03	8.45E-09	8.56E-05	4.76E-03	9.18E-09	9.30E-05
Road 44	44	0700-0800	4.24E-02	2.72E-07	2.76E-03	1.43E-01	9.17E-07	9.29E-03	5.72E-03	3.73E-08	3.78E-04	6.20E-03	4.05E-08	4.10E-04
Road 44	44	0800-0900	4.07E-02	2.96E-07	2.99E-03	1.36E-01	9.90E-07	1.00E-02	5.44E-03	4.03E-08	4.08E-04	5.91E-03	4.39E-08	4.44E-04
Road 44	44	0900-1000	4.24E-02	2.83E-07	2.87E-03	1.42E-01	9.51E-07	9.64E-03	5.66E-03	3.86E-08	3.91E-04	6.14E-03	4.19E-08	4.25E-04
Road 44	44	1000-1100	5.10E-02	2.82E-07	2.86E-03	1.61E-01	8.89E-07	9.01E-03	6.84E-03	3.85E-08	3.91E-04	7.43E-03	4.19E-08	4.25E-04
Road 44	44	1100-1200	5.11E-02	2.70E-07	2.74E-03	1.62E-01	8.57E-07	8.69E-03	6.77E-03	3.65E-08	3.69E-04	7.36E-03	3.96E-08	4.02E-04
Road 44	44	1200-1300	5.07E-02	2.74E-07	2.78E-03	1.61E-01	8.68E-07	8.80E-03	6.72E-03	3.70E-08	3.75E-04	7.30E-03	4.02E-08	4.07E-04
Road 44	44	1300-1400	5.18E-02	2.90E-07	2.94E-03	2.17E-01	8.75E-07	8.87E-03	9.69E-03	3.99E-08	4.05E-04	1.05E-02	4.34E-08	4.40E-04
Road 44	44	1400-1500	7.08E-02	2.94E-07	2.98E-03	2.11E-01	8.77E-07	8.88E-03	9.60E-03	4.06E-08	4.11E-04	1.04E-02	4.42E-08	4.48E-04
Road 44	44	1500-1600	7.03E-02	2.87E-07	2.91E-03	2.11E-01	8.59E-07	8.70E-03	9.53E-03	3.97E-08	4.03E-04	1.03E-02	4.32E-08	4.38E-04
Road 44	44	1600-1700	6.81E-02	2.92E-07	2.96E-03	2.04E-01	8.74E-07	8.86E-03	9.28E-03	4.05E-08	4.10E-04	1.01E-02	4.41E-08	4.47E-04
Road 44	44	1700-1800	5.86E-02	2.61E-07	2.65E-03	1.86E-01	8.28E-07	8.39E-03	8.01E-03	3.64E-08	3.69E-04	8.71E-03	3.96E-08	4.01E-04
Road 44	44	1800-1900	5.17E-02	2.25E-07	2.29E-03	1.57E-01	6.85E-07	6.94E-03	6.95E-03	3.09E-08	3.13E-04	7.57E-03	3.36E-08	3.41E-04
Road 44	44	1900-2000	3.53E-02	1.72E-07	1.75E-03	1.28E-01	5.24E-07	5.31E-03	5.32E-03	2.36E-08	2.40E-04	5.79E-03	2.57E-08	2.61E-04
Road 44	44	2000-2100	3.15E-02	7.18E-08	7.28E-04	1.21E-01	2.77E-07	2.80E-03	4.72E-03	1.10E-08	1.12E-04	5.12E-03	1.19E-08	1.21E-04
Road 44	44	2100-2200	3.08E-02	7.06E-08	7.15E-04	1.20E-01	2.76E-07	2.80E-03	4.58E-03	1.07E-08	1.08E-04	4.97E-03	1.16E-08	1.17E-04
Road 44	44	2200-2300	3.08E-02	7.06E-08	7.15E-04	1.20E-01	2.76E-07	2.80E-03	4.58E-03	1.07E-08	1.08E-04	4.97E-03	1.16E-08	1.17E-04
Road 44	44	2300-0000	3.53E-02	6.09E-08	6.17E-04	1.25E-01	2.16E-07	2.19E-03	5.20E-03	9.14E-09	9.26E-05	5.65E-03	9.94E-09	1.01E-04
Road 45	45	0000-0100	1.53E-02	4.49E-09	1.84E-05	6.66E-02	1.95E-08	7.97E-05	9.06E-03	2.45E-09	9.98E-06	9.15E-03	2.47E-09	1.01E-05
Road 45	45	0100-0200	1.20E-02	4.31E-09	1.76E-05	5.20E-02	1.87E-08	7.64E-05	7.09E-03	2.35E-09	9.58E-06	7.17E-03	2.37E-09	9.66E-06
Road 45	45	0200-0300	2.49E-02	4.00E-09	1.63E-05	8.35E-02	1.34E-08	5.48E-05	5.01E-03	8.19E-10	3.35E-06	5.43E-03	8.87E-10	3.63E-06
Road 45	45	0300-0400	2.88E-02	3.90E-09	1.60E-05	9.03E-02	1.22E-08	4.99E-05	5.80E-03	7.99E-10	3.27E-06	6.29E-03	8.66E-10	3.54E-06
Road 45	45	0400-0500	2.98E-02	3.90E-09	1.60E-05	9.31E-02	1.22E-08	4.99E-05	6.00E-03	7.99E-10	3.27E-06	6.50E-03	8.66E-10	3.54E-06
Road 45	45	0500-0600	2.13E-02	4.62E-09	1.89E-05	7.91E-02	2.12E-08	8.68E-05	4.27E-03	9.37E-10	3.84E-06	4.64E-03	1.02E-09	4.17E-06
Road 45	45	0600-0700	1.69E-02	6.54E-09	2.67E-05	6.26E-02	3.01E-08	1.23E-04	3.38E-03	1.33E-09	5.43E-06	3.67E-03	1.44E-09	5.90E-06
Road 45	45	0700-0800	2.17E-02	1.24E-08	5.08E-05	8.04E-02	5.72E-08	2.34E-04	4.33E-03	2.52E-09	1.03E-05	4.71E-03	2.74E-09	1.13E-05
Road 45	45	0800-0900	2.00E-02	1.30E-08	5.31E-05	7.54E-02	5.47E-08	2.23E-04	4.16E-03	2.76E-09	1.13E-05	4.52E-03	3.00E-09	1.23E-05
Road 45	45	0900-1000	2.29E-02	1.27E-08	5.19E-05	8.47E-02	5.25E-08	2.15E-04	4.69E-03	2.65E-09	1.08E-05	5.10E-03	2.94E-09	1.20E-05
Road 45	45	1000-1100	2.56E-02	1.25E-08	5.13E-05	8.93E-02	4.93E-08	2.01E-04	5.22E-03	2.61E-09	1.07E-05	5.68E-03	2.90E-09	1.18E-05
Road 45	45	1100-1200	3.20E-02	1.58E-08	6.47E-05	1.03E-01	5.25E-08	2.15E-04	6.35E-03	3.52E-09	1.45E-05	6.90E-03	3.82E-09	1.56E-05
Road 45	45	1200-1300	3.10E-02	1.58E-08	6.47E-05	1.03E-01	5.25E-08	2.15E-04	6.35E-03	3.52E-09	1.45E-05	6.90E-03	3.82E-09	1.56E-05
Road 45	45	1300-1400	3.07E-02	1.63E-08	6.66E-05	1.05E-01	5.58E-08	2.29E-04	6.35E-03	3.66E-09	1.50E-05	6.91E-03	3.98E-09	1.62E-05
Road 45	45	1400-1500	2.91E-02	1.54E-08	6.30E-05	9.98E-02	5.30E-08	2.17E-04	6.29E-03	3.62E-09	1.48E-05	6.82E-03	3.94E-09	1.61E-05
Road 45	45	1500-1600	2.88E-02	1.62E-08	6.65E-05	1.03E-01	5.82E-08	2.39E-04	6.03E-03	3.71E-09	1.52E-05	6.55E-03	4.03E-09	1.65E-05
Road 45	45	1600-1700	2.92E-02	1.68E-08	6.88E-05	9.96E-02	5.74E-08	2.35E-04	6.05E-03	3.80E-09	1.56E-05	6.57E-03	4.13E-09	1.69E-05
Road 45	45	1700-1800	2.40E-02	1.48E-08	6.07E-05	9.80E-02	6.04E-08	2.47E-04	4.96E-03	3.34E-09	1.37E-05	5.42E-03	3.64E-09	1.49E-05
Road 45	45	1800-1900	2.00E-02	1.25E-08	5.12E-05	7.33E-02	4.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	4.28E-03	4.75E-06	4.27E-06	4.45E-03	4.12E-06	3.70E-06	3.85E-02	4.27E-05	3.84E-05	4.00E-02	3.71E-05	3.33E-05
Road 1	1	0100-0200	6.87E-03	6.19E-08	3.41E-06	6.03E-03	5.43E-08	2.99E-06	5.10E-02	4.60E-07	2.53E-05	4.51E-02	4.06E-07	2.24E-05
Road 1	1	0200-0300	7.43E-03	4.89E-08	2.69E-06	6.58E-03	4.33E-08	2.38E-06	5.25E-02	3.45E-07	1.90E-05	4.64E-02	3.05E-07	1.68E-05
Road 1	1	0300-0400	8.06E-03	1.18E-08	6.49E-07	7.17E-03	1.05E-08	5.77E-07	5.41E-02	7.91E-08	4.36E-06	4.81E-02	7.04E-08	3.87E-06
Road 1	1	0400-0500	8.66E-03	4.93E-08	2.71E-06	7.65E-03	4.35E-08	2.40E-06	5.57E-02	3.17E-07	1.75E-05	4.92E-02	2.79E-07	1.54E-05
Road 1	1	0500-0600	9.21E-03	9.08E-08	5.00E-06	8.09E-03	8.00E-08	4.40E-06	5.68E-02	5.60E-07	3.09E-05	4.99E-02	4.93E-07	2.72E-05
Road 1	1	0600-0700	9.82E-03	2.07E-07	1.14E-05	8.87E-03	1.87E-07	1.03E-05	5.87E-02	1.24E-06	6.83E-05	5.30E-02	1.12E-06	6.17E-05
Road 1	1	0700-0800	1.03E-02	4.41E-07	2.43E-05	9.34E-03	3.99E-07	2.20E-05	5.90E-02	2.52E-06	1.39E-04	5.05E-02	2.16E-06	1.19E-04
Road 1	1	0800-0900	1.07E-02	3.77E-07	2.08E-05	9.68E-03	3.41E-07	1.88E-05	5.22E-02	1.84E-06	1.01E-04	4.46E-02	1.57E-06	8.67E-05
Road 1	1	0900-1000	1.11E-02	4.50E-07	2.48E-05	1.01E-02	4.11E-07	2.26E-05	5.72E-02	2.31E-06	1.27E-04	5.00E-02	2.02E-06	1.11E-04
Road 1	1	1000-1100	1.14E-02	4.40E-07	2.43E-05	1.04E-02	4.02E-07	2.21E-05	5.85E-02	2.26E-06	1.24E-04	5.12E-02	1.98E-06	1.09E-04
Road 1	1	1100-1200	1.20E-02	5.96E-07	3.28E-05	1.08E-02	5.43E-07	2.99E-05	6.03E-02	2.99E-06	1.65E-04	5.29E-02	2.68E-06	1.47E-04
Road 1	1	1200-1300	6.90E-02	1.47E-06	2.51E-05	6.26E-02	1.33E-06	2.27E-05	2.34E-01	4.98E-06	8.50E-05	2.10E-01	4.48E-06	7.63E-05
Road 1	1	1300-1400	6.89E-02	1.54E-06	2.63E-05	6.26E-02	1.40E-06	2.39E-05	2.43E-01	5.44E-06	9.29E-05	2.21E-01	4.93E-06	8.36E-05
Road 1	1	1400-1500	7.19E-02	1.67E-06	2.85E-05	6.52E-02	1.51E-06	2.58E-05	2.48E-01	5.77E-06	9.84E-05	2.25E-01	5.22E-06	8.80E-05
Road 1	1	1500-1600	6.68E-02	1.60E-06	2.73E-05	6.02E-02	1.44E-06	2.45E-05	2.48E-01	5.94E-06	1.01E-04	2.22E-01	5.30E-06	9.04E-05
Road 1	1	1600-1700	6.85E-02	1.64E-06	2.80E-05	6.17E-02	1.48E-06	2.52E-05	2.46E-01	5.88E-06	1.00E-04	2.21E-01	5.29E-06	9.02E-05
Road 1	1	1700-1800	9.23E-02	1.36E-06	2.32E-05	8.09E-02	1.19E-06	2.03E-05	3.27E-01	4.83E-06	8.24E-05	2.86E-01	4.21E-06	7.19E-05
Road 1	1	1800-1900	8.10E-03	3.55E-07	2.95E-05	7.18E-03	4.75E-07	2.61E-05	4.50E-02	2.97E-06	1.64E-04	3.82E-02	2.52E-06	1.39E-04
Road 1	1	1900-2000	7.08E-03	3.72E-07	2.05E-05	6.31E-03	3.32E-07	1.83E-05	4.35E-02	2.29E-06	1.26E-04	3.69E-02	1.94E-06	1.07E-04
Road 1	1	2000-2100	5.84E-03	2.48E-07	1.37E-05	5.47E-03	2.32E-07	1.28E-05	3.88E-02	1.65E-06	9.09E-05	3.63E-02	1.54E-06	8.47E-05
Road 1	1	2100-2200	5.93E-03	2.42E-07	1.33E-05	5.27E-03	2.15E-07	1.18E-05	4.52E-02	1.84E-06	1.02E-04	3.82E-02	1.56E-06	8.56E-05
Road 1	1	2200-2300	6.60E-03	2.86E-07	1.73E-05	5.51E-03	2.39E-07	1.44E-05	4.65E-02	2.02E-06	1.22E-04	3.88E-02	1.68E-06	1.01E-04
Road 1	1	2300-0000	6.60E-03	1.98E-07	1.08E-05	5.84E-03	1.73E-07	9.54E-06	4.84E-02	1.44E-06	7.91E-05	4.04E-02	1.20E-06	6.60E-05
Road 2	2	0000-0100	8.57E-03	1.17E-07	5.94E-06	7.52E-03	1.03E-07	5.21E-06	5.46E-02	7.47E-07	3.78E-05	4.47E-02	6.12E-07	3.10E-05
Road 2	2	0100-0200	8.61E-03	1.30E-07	6.59E-06	7.56E-03	1.14E-07	5.78E-06	5.47E-02	8.29E-07	4.21E-05	4.48E-02	6.79E-07	3.45E-05
Road 2	2	0200-0300	1.01E-02	6.68E-08	3.38E-06	9.03E-03	5.95E-08	3.01E-06	5.88E-02	3.88E-07	1.96E-05	4.93E-02	3.25E-07	1.65E-05
Road 2	2	0300-0400	1.01E-02	1.61E-08	8.16E-07	9.03E-03	1.44E-08	7.25E-07	5.88E-02	9.36E-08	4.74E-06	4.93E-02	7.84E-08	3.97E-06
Road 2	2	0400-0500	1.16E-02	6.73E-08	3.41E-06	1.03E-02	5.98E-08	3.03E-06	6.28E-02	3.63E-07	1.84E-05	5.27E-02	3.05E-07	1.54E-05
Road 2	2	0500-0600	1.22E-02	1.22E-07	6.20E-06	1.09E-02	1.09E-07	5.54E-06	6.39E-02	6.34E-07	3.22E-05	5.42E-02	5.46E-07	2.76E-05
Road 2	2	0600-0700	1.29E-02	2.77E-07	1.52E-05	1.15E-02	2.47E-07	1.36E-05	6.50E-02	1.40E-06	7.70E-05	5.51E-02	1.19E-06	6.52E-05
Road 2	2	0700-0800	1.35E-02	5.94E-07	3.01E-05	1.22E-02	5.38E-07	2.73E-05	6.70E-02	2.96E-06	1.50E-04	5.80E-02	2.56E-06	1.30E-04
Road 2	2	0800-0900	1.40E-02	5.07E-07	2.70E-05	1.26E-02	4.59E-07	2.44E-05	6.91E-02	2.50E-06	1.33E-04	5.98E-02	2.17E-06	1.15E-04
Road 2	2	0900-1000	1.45E-02	6.56E-07	3.32E-05	1.37E-02	6.00E-07	3.04E-05	6.84E-02	3.00E-06	1.52E-04	6.08E-02	2.66E-06	1.35E-04
Road 2	2	1000-1100	1.48E-02	6.63E-07	3.36E-05	1.34E-02	6.04E-07	3.06E-05	7.14E-02	3.19E-06	1.62E-04	6.46E-02	2.89E-06	1.46E-04
Road 2	2	1100-1200	1.63E-02	5.97E-07	3.03E-05	1.49E-02	5.44E-07	2.75E-05	7.16E-02	2.62E-06	1.33E-04	6.34E-02	2.32E-06	1.17E-04
Road 2	2	1200-1300	1.77E-02	7.95E-07	4.03E-05	1.62E-02	7.26E-07	3.68E-05	7.36E-02	3.30E-06	1.67E-04	6.51E-02	2.94E-06	1.49E-04
Road 2	2	1300-1400	1.82E-02	8.17E-07	4.14E-05	1.66E-02	7.46E-07	3.78E-05	7.56E-02	3.39E-06	1.72E-04	6.69E-02	3.02E-06	1.53E-04
Road 2	2	1400-1500	1.82E-02	8.91E-07	4.51E-05	1.63E-02	7.99E-07	4.04E-05	7.68E-02	3.76E-06	1.91E-04	6.71E-02	3.29E-06	1.67E-04
Road 2	2	1500-1600	1.76E-02	7.62E-07	3.86E-05	1.58E-02	6.84E-07	3.46E-05	7.56E-02	3.27E-06	1.66E-04	6.71E-02	2.90E-06	1.47E-04
Road 2	2	1600-1700	1.76E-02	9.27E-07	4.69E-05	1.59E-02	8.33E-07	4.22E-05	7.40E-02	3.89E-06	1.97E-04	6.49E-02	3.41E-06	1.73E-04
Road 2	2	1700-1800	1.29E-02	7.52E-07	3.81E-05	1.15E-02	6.71E-07	3.40E-05	6.49E-02	3.78E-06	1.91E-04	5.63E-02	3.27E-06	1.66E-04
Road 2	2	1800-1900	1.29E-02	7.05E-07	3.57E-05	1.15E-02	6.29E-07	3.19E-05	6.50E-02	3.55E-06	1.80E-04	5.64E-02	3.07E-06	1.56E-04
Road 2	2	1900-2000	1.26E-02	6.88E-07	3.48E-05	1.12E-02	6.14E-07	3.11E-05	6.34E-02	3.46E-06	1.75E-04	5.50E-02	3.00E-06	1.52E-04
Road 2	2	2000-2100	1.26E-02	6.66E-07	3.37E-05	1.12E-02	5.94E-07	3.01E-05	6.34E-02	3.36E-06	1.70E-04	5.50E-02	2.90E-06	1.47E-04
Road 2	2	2100-2200	1.26E-02	6.66E-07	3.37E-05	1.12E-02	5.94E-07	3.01E-05	6.34E-02	3.36E-06	1.70E-04	5.50E-02	2.90E-06	1.47E-04
Road 2	2	2200-2300	1.26E-02	6.66E-07	3.37E-05	1.12E-02	5.94E-07	3.01E-05	6.34E-02	3.36E-06	1.70E-04	5.50E-02	2.90E-06	1.47E-04
Road 2	2	2300-0000	1.26E-02	6.66E-07	3.37E-05	1.12E-02	5.94E-07	3.01E-05	6.34E-02	3.36E-06	1.70E-04	5.50E-02	2.90E-06	1.47E-04
Road 3	3	0000-0100	3.99E-03	3.35E-08	2.06E-07	6.09E-03	2.92E-08	1.79E-07	3.55E-02	2.98E-07	1.83E-06	5.42E-02	2.65E-07	1.63E-06
Road 3	3	0100-0200	3.99E-03	2.09E-08	1.29E-07	6.09E-03	1.82E-08	1.12E-07	3.55E-02	1.86E-07	1.14E-06	5.42E-02	1.65E-07	1.02E-06
Road 3	3	0200-0300	8.19E-03	1.87E-08	1.15E-07	8.37E-03	1.66E-08	1.02E-07	7.87E-02	7.12E-07	4.87E-06	9.63E-02	6.38E-07	5.91E-07
Road 3	3	0300-0400	9.46E-03	1.87E-08	1.15E-07	8.37E-03	1.66E-08	1.02E-07	7.87E-02	7.12E-07	4.87E-06	9.63E-02	6.38E-07	5.91E-07
Road 3	3	0400-0500	9.46E-03	1.87E-08	1.15E-07	8.37E-03	1.66E-08	1.02E-07	7.87E-02	7.12E-07	4.87E-06	9.63E-02	6.38E-07	5.91E-07
Road 3	3	0500-0600	1.00E-02	3.66E-08	2.25E-07	8.84E-03	3.25E-08	1.99E-07	8.31E-02	3.06E-07	1.88E-06	7.34E-02	2.70E-07	1.66E-06
Road 3	3	0600-0700	1.00E-02	1.16E-07	7.12E-07	8.87E-03	1.02E-07	6.29E-07	8.31E-02	9.68E-07	5.94E-06	7.34E-02	8.54E-07	5.24E-06
Road 3	3	0700-0800	1.12E-02	1.67E-07	1.02E-06	9.31E-03	1.38E-07	8.48E-07	8.31E-02	1.24E-06	7.59E-06	6.91E-02	1.03E-06	6.31E-06
Road 3	3	0800-0900	1.20E-02	1.66E-07	1.02E-06	9.67E-03	1.34E-07	8.23E-07	8.31E-02	1.15E-06	7.06E-06	6.69E-02	9.26E-07	5.68E-06
Road 3	3	0900-1000	1.23E-02	1.75E-07	1.07E-06	9.75E-03	1.39E-07	8.52E-07	8.31E-02	1.18E-06	7.24E-06	6.60E-02	9.38E-07	5.75E-06
Road 3	3	1000-1100	1.38E-02	1.70E-07	1.04E-06	1.25E-02	1.54E-07	9.46E-07	8.61E-02	1.06E-06	6.51E-06	7.81E-02	9.66E-07	5.93E-06
Road 3	3	1100-1200	1.44E-02	2.47E-07	1.51E-06	1.29E-02	2.21E-07	1.36E-06	8.97E-02	1.54E-06	9.43E-06	8.06E-02	1.38E-06	8.47E-06
Road 3	3	1200-1300	3.40E-02	6.99E-07	2.14E-06	3.08E-02	6.35E-07	1.94E-06	2.12E-01	4.36E-06	1.33E-05	1.92E-01	3.96E-06	1.21E-05
Road 3	3	1300-1400	3.40E-02	7.26E-07	2.22E-06	3.08E-02	6.59E-07	2.02E-06	2.12E-01	4.53E-06	1.38E-05	1.92E-01	4.11E-06	1.26E-05
Road 3	3	1400-1500	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 3	3	1500-1600	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 3	3	1600-1700	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 3	3	1700-1800	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 3	3	1800-1900	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 3	3	1900-2000	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 3	3	2000-2100	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 3	3	2100-2200	3.37E-02	3.50E-07	5.98E-06	3.03E-02	3.15E-07	5.37E-06	2.12E-01	2.20E-06	3.76E-05	1.90E-01	1.98E-06	3.38E-05
Road 3	3	2200-2300	2.46E-02	3.75E-07	6.41E-06	2.21E-02	3.37E-07	5.76E-06	1.54E-01	2.35E-06	4.02E-05	1.39E-01	2.12E-06	3.62E-05
Road 3	3	2300-0000	2.46E-02	3.75E-07	6.41E-06	2.21E-02	3.37E-07	5.76E-06	1.54E-01	2.35E-06	4.02E-05	1.39E-01	2.12E-06	3.62E-05
Road 4	4	0000-0100	3.82E-03	2.98E-08	1.83E-07	5.42E-03	2.60E-08	1.59E-07	3.16E-02	2.66E-07	1.63E-06	4.82E-02	2.36E-07	1.45E-06
Road 4	4	0100-0200	3.82E-03	1.86E-08	1.14E-07	5.42E-03	1.62E-08	9.96E-08	3.16E-02	1.66E-07	1.02E-06	4.82E-02	1.47E-07	9.03E-07
Road 4	4	0200-0300	7.29E-03	1.66E-08	1.02E-07	7.46E-03	1.45E-08	8.90E-08	7.01E-02	6.34E-07	4.34E-06	8.58E-02	5.68E-07	5.26E-06
Road 4	4	0300-0400	8.43E-03	1.66E-08	1.02E-07	7.46E-03	1.45E-08	8.90E-08	7.01E-02	6.34E-07	4.34E-06	8.58E-02	5.68E-07	5.26E-06
Road 4	4	0400-0500	8.43E-03	1.66E-08	1.02E-07	7.46E-03	1.45E-08	8.90E-08	7.01E-02	6.34E-07	4.34E-06	8.58E-02	5.68E-07	5.26E-06
Road 4	4	0500-0600	8.89E-03	3.26E-08	2.00E-07	7.86E-03	2.89E-08	1.77E-07	7.39E-02	2.71E-07	1.67E-06	6.53E-02	2.40E-07	1.48E-06
Road 4	4	0600-0700	8.89E-03	1.03E-07	6.33E-07	7.86E-03	9.08E-08	5.59E-07	7.39E-02	8.61E-07	5.28E-06	6.53E-02	7.59E-07	4.66E-06
Road 4	4	0700-0800	9.99E-03	1.48E-07	9.08E-07	8.83E-03	1.31E-07	8.03E-07	7.39E-02	1.10E-06	6.76E-06	6.53E-02	9.68E-07	5.94E-06
Road 4	4	0800-0900	1.06E-02	1.48E-07	9.08E-07	9.38E-03	1.31E-07	8.03E-07	7.39E-02	1.03E-06	6.32E-06	6.53E-02	9.07E-07	5.56E-06
Road 4	4	0900-1000	1.09E-02	1.56E-07	9.56E-07	9.55E-03	1.37E-07	8.41E-07	7.39E-02	1.06E-06	6.50E-06	6.53E-02	9.33E-07	5.72E-06
Road 4	4	1000-1100	1.13E-02	1.55E-07	9.51E-07	9.86E-03	1.35E-07	8.29E-07	7.39E-02	1.01E-06	6.20E-06	6.53E-02	8.94E-07	5.48E-06
Road 4	4	1100-1200	1.24E-02	1.79E-07	1.10E-06	1.08E-02	1.56E-07	9.58E-07	8.03E-02	1.16E-06	7.13E-06	7.03E-02	1.02E-06	6.25E-06
Road 4	4	1200-1300	3.40E-02	6.99E-07	2.14E-06	3.08E-02	6.35E-07	1.94E-06	2.12E-01	4.36E-06	1.33E-05	1.92E-01	3.96E-06	1.21E-05
Road 4	4	1300-1400	3.40E-02	7.26E-07	2.22E-06	3.08E-02	6.59E-07	2.02E-06	2.12E-01	4.53E-06	1.38E-05	1.92E-01	4.11E-06	1.26E-05
Road 4	4	1400-1500	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 4	4	1500-1600	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 4	4	1600-1700	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 4	4	1700-1800	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 4	4	1800-1900	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 4	4	1900-2000	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 4	4	2000-2100	3.40E-02	7.62E-07	2.33E-06	3.06E-02	6.85E-07	2.09E-06	2.12E-01	4.75E-06	1.45E-05	1.92E-01	4.27E-06	1.30E-05
Road 4	4	2100-2200	3.37E-02	3.50E-07	5.98E-06	3.03E-02	3.15E-07	5.37E-06	2.12E-01	2.20E-06	3.76E-05	1.90E-01	1.98E-06	3.38E-05
Road 4	4	2200-2300	2.46E-02	3.75E-07	6.41E-06	2.21E-02	3.37E-07	5.76E-06	1.54E-01	2.35E-06	4.02E-05	1.39E-01	2.12E-06	3.62E-05
Road 4	4	2300-0000	2.46E-02	3.75E-07	6.41E-06	2.21E-02	3.37E-07	5.76E-06	1.54E-01	2.35E-06	4.02E-05	1.39E-01	2.12E-06	3.62E-05
Road 5	5	0000-0100	8.89E-03	6.29E-08	5.26E-07	7.74E-03	5.48E-08	4.58E-07	6.50E-02	4.60E-07	3.84E-06	5.24E-02	3.71E-07	3.10E-06
Road 5	5	0100-0200	1.00E-02	3.35E-08	2.80E-07	8.89E-03	2.97E-08	2.49E-07	6.73E-02	2.25E-07	1.88E-06	5.57E-02	1.86E-07	1.56E-06
Road 5	5	0200-0300	1.00E-02	3.35E-08	2.80E-07	8.89E-03	2.97E-08	2.49E-07	6.73E-02	2.25E-07	1.88E-06	5.57E-02	1.86E-07	1.56E-06
Road 5	5	0300-0400	1.09E-02	2.82E-08	2.40E-07	9.64E-03	2.54E-08	2.12E-07	7.44E-02	2.16E-07	1.80E-06	5.77E-02	1.52E-07	1.27E-06
Road 5	5	0400-0500	1.09E-02	1.17E-02	3.88E-06	9.64E-03	1.03E-02	3.42E-06	7.44E-02	7.96E-05	2.64E-07	5.77E-02	6.14E-05	2.04E-07
Road 5	5	0500-0600	1.25E-02	1.29E-07	8.34E-07	1.10E-02	1.13E-07	7.32E-07	8.56E-02	8.84E-07	5.71E-06	7.54E-02	7.79E-07	5.03E-06
Road 5	5	0600-0700	1.56E-02	2.19E-07	6.40E-06	1.41E-02	1.98E-07	5.78E-06	1.07E-01	1.50E-06	4.37E-05	9.68E-02	1.36E-06	3.97E-05
Road 5	5	0700-0800	1.68E-02	2.19E-06	6.40E-06	1.52E-02	1.98E-06	5.78E-06	1.15E-01	1.50E-05	4.37E-05	1.04E-01	1.36E-05	3.97E-05
Road 5	5	0800-0900	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	0900-1000	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1000-1100	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1100-1200	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1200-1300	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1300-1400	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1400-1500	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1500-1600	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1600-1700	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1700-1800	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1800-1900	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	1900-2000	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	2000-2100	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	2100-2200	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	2200-2300	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 5	5	2300-0000	1.68E-02	6.57E-07	2.19E-06	1.52E-02	5.95E-07	1.98E-06	1.15E-01	4.50E-06	1.50E-05	1.04E-01	4.08E-06	1.36E-05
Road 6	6	0000-0100	1.28E-02	1.01E-07	6.91E-07	1.46E-02	8.77E-08	6.00E-07	1.06E-01	8.98E-07	6.14E-06	1.44E-01	7.14E-07	4.88E-06
Road 6	6	0100-0200	1.28E-02	6.28E-08	3.44E-07	1.46E-02	5.44E-08	2.98E-07	1.06E-01	5.56E-07	3.04E-06	1.44E-01	4.42E-07	2.42E-06
Road 6	6	0200-0300	2.43E-02	5.58E-08	3.06E-07	2.68E-02	4.83E-08	2.65E-07	2.11E-01	1.85E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/Km/veh	g/s/m	tonne/hour	g/Km/veh	g/s/m	tonne/hour	g/Km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.78E-01	4.95E-02	1.40E-01	4.09E-01	1.26E-01	6.34E-01	1.82E+00	4.98E-01	2.52E+00
Road 27	27	1700-1800	1.56E-01	3.80E-02	1.11E-01	1.40E-01	3.23E-02	9.94E-02	6.23E-01	1.43E-01	4.41E-01
Road 27	27	1800-1900	1.38E-01	2.18E-02	6.72E-02	1.23E-01	1.95E-02	6.00E-02	5.70E-01	9.01E-02	2.77E-01
Road 27	27	1900-2000	1.27E-01	2.20E-02	7.05E-02	1.16E-01	1.99E-02	6.37E-02	5.07E-01	8.77E-02	2.81E-01
Road 27	27	2000-2100	1.24E-01	1.02E-02	3.14E-02	1.12E-01	9.16E-03	2.82E-02	5.08E-01	4.17E-02	1.28E-01
Road 27	27	2100-2200	1.05E-01	1.45E-02	4.47E-02	9.52E-02	1.31E-02	4.04E-02	4.32E-01	5.94E-02	1.83E-01
Road 27	27	2200-2300	1.34E-01	9.83E-03	3.03E-02	1.21E-01	8.89E-03	2.74E-02	4.85E-01	3.57E-02	1.10E-01
Road 27	27	2300-0000	1.36E-01	8.19E-03	2.52E-02	1.23E-01	7.38E-03	2.27E-02	4.91E-01	2.97E-02	9.13E-02
Road 28	28	0000-0100	1.36E-01	3.54E-02	1.09E-01	1.23E-01	3.20E-02	9.86E-02	4.91E-01	1.28E-01	3.94E-01
Road 28	28	0100-0200	1.16E-02	8.08E-03	4.58E-06	1.03E-02	7.20E-03	4.08E-06	6.15E-02	4.29E-02	2.43E-05
Road 28	28	0200-0300	1.16E-02	8.08E-03	4.58E-06	1.03E-02	7.20E-03	4.08E-06	6.15E-02	4.29E-02	2.43E-05
Road 28	28	0300-0400	1.31E-02	5.40E-03	3.06E-06	1.17E-02	4.81E-03	2.73E-06	6.56E-02	2.69E-02	1.52E-05
Road 28	28	0400-0500	1.28E-02	1.60E-02	9.06E-06	1.14E-02	1.42E-02	8.06E-06	6.41E-02	8.01E-02	4.54E-05
Road 28	28	0500-0600	1.46E-02	3.17E-02	1.80E-05	1.30E-02	2.82E-02	1.60E-05	7.31E-02	1.59E-01	9.00E-05
Road 28	28	0600-0700	1.53E-02	2.64E-02	1.50E-05	1.38E-02	2.38E-02	1.35E-05	7.11E-02	1.23E-01	6.97E-05
Road 28	28	0700-0800	1.54E-02	6.28E-02	3.56E-05	1.37E-02	5.59E-02	3.17E-05	7.70E-02	3.14E-01	1.78E-04
Road 28	28	0800-0900	1.54E-02	6.28E-02	3.56E-05	1.37E-02	5.59E-02	3.17E-05	7.70E-02	3.14E-01	1.78E-04
Road 28	28	0900-1000	1.54E-02	6.28E-02	3.56E-05	1.37E-02	5.59E-02	3.17E-05	7.70E-02	3.14E-01	1.78E-04
Road 28	28	1000-1100	1.99E-02	6.44E-02	3.65E-05	1.81E-02	5.87E-02	3.33E-05	7.95E-02	2.57E-01	1.46E-04
Road 28	28	1100-1200	1.94E-02	5.93E-02	3.37E-05	1.75E-02	5.36E-02	3.04E-05	7.95E-02	2.43E-01	1.38E-04
Road 28	28	1200-1300	1.77E-02	6.44E-02	3.65E-05	1.60E-02	5.87E-02	3.33E-05	7.26E-02	2.62E-01	1.49E-04
Road 28	28	1300-1400	1.78E-02	4.30E-02	2.44E-05	1.62E-02	3.90E-02	2.21E-05	7.50E-02	1.81E-01	1.03E-04
Road 28	28	1400-1500	1.44E-02	4.30E-02	2.44E-05	1.30E-02	3.90E-02	2.21E-05	6.07E-02	1.81E-01	1.03E-04
Road 28	28	1500-1600	1.68E-02	4.39E-02	2.49E-05	1.51E-02	3.95E-02	2.24E-05	7.06E-02	1.84E-01	1.04E-04
Road 28	28	1600-1700	1.74E-02	4.77E-02	2.71E-05	1.56E-02	4.28E-02	2.43E-05	7.26E-02	1.99E-01	1.13E-04
Road 28	28	1700-1800	1.90E-02	4.56E-02	2.59E-05	1.71E-02	4.10E-02	2.33E-05	7.94E-02	1.91E-01	1.08E-04
Road 28	28	1800-1900	9.45E-03	3.03E-02	1.72E-05	8.37E-03	2.68E-02	1.52E-05	4.82E-02	1.54E-01	8.75E-05
Road 28	28	1900-2000	1.27E-02	3.03E-02	1.72E-05	1.12E-02	2.68E-02	1.52E-05	6.47E-02	1.54E-01	8.75E-05
Road 28	28	2000-2100	8.30E-03	1.64E-02	9.29E-06	7.39E-03	1.46E-02	8.27E-06	5.15E-02	1.02E-01	5.77E-05
Road 28	28	2100-2200	7.45E-03	1.46E-02	8.30E-06	6.65E-03	1.31E-02	7.41E-06	4.95E-02	9.71E-02	5.51E-05
Road 28	28	2200-2300	8.21E-03	1.61E-02	9.09E-06	7.31E-03	1.44E-02	8.13E-06	5.44E-02	1.07E-01	6.04E-05
Road 28	28	2300-0000	8.25E-03	1.18E-02	6.69E-06	7.35E-03	1.05E-02	5.96E-06	5.25E-02	7.49E-02	4.25E-05
Road 29	29	0000-0100	5.96E-03	1.13E-02	6.41E-06	5.31E-03	1.01E-02	5.71E-06	4.24E-02	8.06E-02	4.56E-05
Road 29	29	0100-0200	8.64E-03	5.13E-03	3.54E-06	7.64E-03	4.54E-03	3.13E-06	4.32E-02	2.56E-02	1.77E-05
Road 29	29	0200-0300	1.01E-02	5.13E-03	3.54E-06	8.94E-03	4.54E-03	3.13E-06	5.05E-02	2.56E-02	1.77E-05
Road 29	29	0300-0400	1.09E-02	3.79E-03	2.62E-06	9.68E-03	3.37E-03	2.33E-06	5.46E-02	1.90E-02	1.31E-05
Road 29	29	0400-0500	1.31E-02	5.40E-03	3.73E-06	1.17E-02	4.81E-03	3.32E-06	6.56E-02	2.69E-02	1.86E-05
Road 29	29	0500-0600	1.46E-02	1.17E-02	8.10E-06	1.29E-02	1.04E-02	7.17E-06	7.31E-02	5.87E-02	4.05E-05
Road 29	29	0600-0700	1.53E-02	2.64E-02	1.82E-05	1.36E-02	2.35E-02	1.62E-05	7.66E-02	1.32E-01	9.12E-05
Road 29	29	0700-0800	1.54E-02	6.28E-02	4.34E-05	1.37E-02	5.59E-02	3.86E-05	7.70E-02	3.14E-01	2.17E-04
Road 29	29	0800-0900	1.54E-02	6.28E-02	4.34E-05	1.37E-02	5.59E-02	3.86E-05	7.70E-02	3.14E-01	2.17E-04
Road 29	29	0900-1000	1.54E-02	6.28E-02	4.34E-05	1.37E-02	5.59E-02	3.86E-05	7.70E-02	3.14E-01	2.17E-04
Road 29	29	1000-1100	1.99E-02	6.44E-02	4.45E-05	1.77E-02	5.73E-02	3.96E-05	9.95E-02	3.22E-01	2.22E-04
Road 29	29	1100-1200	1.94E-02	5.93E-02	4.10E-05	1.72E-02	5.28E-02	3.65E-05	9.68E-02	2.97E-01	2.05E-04
Road 29	29	1200-1300	1.77E-02	6.44E-02	4.45E-05	1.57E-02	5.73E-02	3.96E-05	8.85E-02	3.22E-01	2.22E-04
Road 29	29	1300-1400	1.78E-02	4.30E-02	2.97E-05	1.58E-02	3.82E-02	2.64E-05	8.91E-02	2.15E-01	1.49E-04
Road 29	29	1400-1500	1.44E-02	4.30E-02	2.97E-05	1.28E-02	3.82E-02	2.64E-05	7.21E-02	2.15E-01	1.49E-04
Road 29	29	1500-1600	1.68E-02	4.39E-02	3.03E-05	1.49E-02	3.91E-02	2.70E-05	8.39E-02	2.20E-01	1.52E-04
Road 29	29	1600-1700	1.74E-02	4.77E-02	3.29E-05	1.54E-02	4.24E-02	2.93E-05	8.62E-02	2.39E-01	1.65E-04
Road 29	29	1700-1800	1.90E-02	4.56E-02	3.15E-05	1.69E-02	4.05E-02	2.80E-05	9.43E-02	2.28E-01	1.58E-04
Road 29	29	1800-1900	9.45E-03	3.03E-02	2.09E-05	8.37E-03	2.68E-02	1.85E-05	5.72E-02	1.84E-01	1.27E-04
Road 29	29	1900-2000	1.27E-02	3.03E-02	2.09E-05	1.12E-02	2.68E-02	1.85E-05	7.69E-02	1.84E-01	1.27E-04
Road 29	29	2000-2100	8.30E-03	1.64E-02	1.13E-05	7.39E-03	1.46E-02	1.01E-05	6.12E-02	1.21E-01	8.39E-05
Road 29	29	2100-2200	7.45E-03	1.46E-02	1.01E-05	6.65E-03	1.31E-02	9.04E-06	5.88E-02	1.16E-01	8.01E-05
Road 29	29	2200-2300	8.21E-03	1.61E-02	1.11E-05	7.31E-03	1.44E-02	9.92E-06	6.47E-02	1.27E-01	8.78E-05
Road 29	29	2300-0000	8.25E-03	1.18E-02	8.16E-06	7.35E-03	1.05E-02	7.27E-06	6.24E-02	8.91E-02	6.17E-05
Road 30	30	0000-0100	5.96E-03	1.13E-02	7.82E-06	5.31E-03	1.01E-02	6.97E-06	5.04E-02	9.58E-02	6.62E-05
Road 30	30	0100-0200	8.64E-03	5.13E-03	4.32E-06	7.64E-03	4.54E-03	3.82E-06	5.13E-02	3.04E-02	2.57E-05
Road 30	30	0200-0300	1.01E-02	5.13E-03	4.32E-06	8.94E-03	4.54E-03	3.82E-06	6.00E-02	3.04E-02	2.57E-05
Road 30	30	0300-0400	1.09E-02	3.79E-03	3.20E-06	9.68E-03	3.37E-03	2.84E-06	6.49E-02	2.26E-02	1.91E-05
Road 30	30	0400-0500	1.31E-02	5.40E-03	4.55E-06	1.17E-02	4.81E-03	4.05E-06	7.79E-02	3.21E-02	2.71E-05
Road 30	30	0500-0600	1.46E-02	1.17E-02	9.88E-06	1.29E-02	1.04E-02	8.75E-06	8.69E-02	6.97E-02	5.88E-05
Road 30	30	0600-0700	1.53E-02	2.64E-02	2.22E-05	1.36E-02	2.35E-02	1.98E-05	9.10E-02	1.57E-01	1.32E-04
Road 30	30	0700-0800	1.54E-02	6.28E-02	5.30E-05	1.37E-02	5.59E-02	4.72E-05	9.15E-02	3.73E-01	3.15E-04
Road 30	30	0800-0900	1.54E-02	6.28E-02	5.30E-05	1.37E-02	5.59E-02	4.72E-05	9.15E-02	3.73E-01	3.15E-04
Road 30	30	0900-1000	1.54E-02	6.28E-02	5.30E-05	1.37E-02	5.59E-02	4.72E-05	9.15E-02	3.73E-01	3.15E-04
Road 30	30	1000-1100	1.99E-02	6.44E-02	5.44E-05	1.77E-02	5.73E-02	4.84E-05	1.18E-01	3.82E-01	3.23E-04
Road 30	30	1100-1200	1.94E-02	5.93E-02	5.01E-05	1.72E-02	5.28E-02	4.46E-05	1.15E-01	3.53E-01	2.98E-04
Road 30	30	1200-1300	1.77E-02	6.44E-02	5.44E-05	1.57E-02	5.73E-02	4.84E-05	1.05E-01	3.82E-01	3.23E-04
Road 30	30	1300-1400	1.78E-02	4.30E-02	3.63E-05	1.58E-02	3.82E-02	3.23E-05	1.06E-01	2.55E-01	2.16E-04
Road 30	30	1400-1500	1.44E-02	4.30E-02	3.63E-05	1.28E-02	3.82E-02	3.23E-05	8.56E-02	2.55E-01	2.16E-04
Road 30	30	1500-1600	1.68E-02	4.39E-02	3.71E-05	1.49E-02	3.91E-02	3.30E-05	9.95E-02	2.61E-01	2.20E-04
Road 30	30	1600-1700	1.74E-02	4.77E-02	4.03E-05	1.54E-02	4.24E-02	3.58E-05	1.02E-01	2.83E-01	2.39E-04
Road 30	30	1700-1800	1.90E-02	4.56E-02	3.85E-05	1.69E-02	4.05E-02	3.42E-05	1.12E-01	2.70E-01	2.28E-04
Road 30	30	1800-1900	9.45E-03	3.03E-02	2.56E-05	8.37E-03	2.68E-02	2.27E-05	5.57E-02	1.78E-01	1.51E-04
Road 30	30	1900-2000	1.27E-02	3.03E-02	2.56E-05	1.12E-02	2.68E-02	2.27E-05	7.48E-02	1.78E-01	1.51E-04
Road 30	30	2000-2100	8.30E-03	1.64E-02	1.38E-05	7.39E-03	1.46E-02	1.23E-05	5.96E-02	1.18E-01	9.98E-05
Road 30	30	2100-2200	7.45E-03	1.46E-02	1.23E-05	6.65E-03	1.31E-02	1.10E-05	5.72E-02	1.13E-01	9.53E-05
Road 30	30	2200-2300	8.21E-03	1.61E-02	1.36E-05	7.31E-03	1.44E-02	1.21E-05	6.29E-02	1.24E-01	1.04E-04
Road 30	30	2300-0000	8.25E-03	1.18E-02	9.96E-06	7.35E-03	1.05E-02	8.87E-06	6.07E-02	8.67E-02	7.34E-05

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/Km/veh	g/s/m	tonne/hour	g/Km/veh	g/s/m	tonne/hour	g/Km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.38E-02	2.52E-03	2.25E-02	1.15E-01	2.31E-03	1.99E-02	4.44E-02	1.22E-01	1.07E-01
Road 31	31	0100-0200	1.38E-02	1.78E-03	1.59E-02	1.24E-02	1.59E-03	1.42E-02	6.66E-02	8.54E-02	7.63E-02
Road 31	31	0200-0300	1.47E-02	1.40E-03	1.25E-02	1.32E-02	1.25E-03	1.12E-02	6.00E-02	5.68E-02	5.08E-02
Road 31	31	0300-0400	1.59E-02	1.19E-03	1.06E-02	1.43E-02	1.07E-03	9.51E-03	7.58E-02	5.68E-02	5.07E-02
Road 31	31	0400-0500	1.64E-02	1.40E-03	1.25E-02	1.46E-02	1.25E-03	1.12E-02	7.37E-02	6.29E-02	5.62E-02
Road 31	31	0500-0600	1.79E-02	2.57E-03	2.30E-02	1.61E-02	2.31E-03	2.06E-02	7.72E-02	1.11E-02	9.91E-02
Road 31	31	0600-0700	1.78E-02	5.84E-03	5.22E-02	1.60E-02	5.24E-03	4.68E-02	7.27E-02	2.37E-02	2.12E-01
Road 31	31	0700-0800	1.84E-02	1.24E-02	1.11E-01	1.65E-02	1.11E-02	9.98E-02	7.38E-02	4.96E-02	4.44E-01
Road 31	31	0800-0900	1.78E-02	1.39E-02	1.24E-01	1.60E-02	1.25E-02	1.12E-01	7.13E-02	5.56E-02	4.97E-01
Road 31	31	0900-1000	2.01E-02	1.64E-02	1.47E-01	1.81E-02	1.47E-02	1.32E-01	8.27E-02	6.75E-02	6.04E-01
Road 31	31	1000-1100	2.24E-02	1.37E-02	1.23E-01	2.02E-02	1.24E-02	1.11E-01	8.73E-02	5.37E-02	4.80E-01
Road 31	31	1100-1200	2.24E-02	1.37E-02	1.23E-01	2.02E-02	1.24E-02	1.11E-01	8.73E-02	5.37E-02	4.80E-01
Road 31	31	1200-1300	1.91E-02	9.16E-03	8.25E-02	1.72E-02	8.25E-03	7.41E-02	7.43E-02	3.56E-02	3.20E-01
Road 31	31	1300-1400	1.94E-02	1.02E-02	9.08E-02	1.74E-02	9.16E-03	8.17E-02	7.74E-02	4.06E-02	3.63E-01
Road 31	31	1400-1500	1.94E-02	1.02E-02	9.08E-02	1.74E-02	9.15E-03	8.16E-02	7.74E-02	4.06E-02	3.63E-01
Road 31	31	1500-1600	1.97E-02	5.89E-03	5.26E-02	1.77E-02	5.30E-03	4.73E-02	7.87E-02	2.35E-02	2.10E-01
Road 31	31	1600-1700	1.97E-02	5.89E-03	5.26E-02	1.77E-02	5.30E-03	4.73E-02	7.87E-02	2.35E-02	2.10E-01
Road 31	31	1700-1800	2.05E-02	1.29E-02	1.15E-01	1.84E-02	1.16E-02	1.03E-01	8.21E-02	5.16E-02	4.60E-01
Road 31	31	1800-1900	1.38E-02	1.39E-02	1.24E-01	1.24E-02	1.25E-02	1.12E-01	5.54E-02	5.56E-02	4.97E-01
Road 31	31	1900-2000	9.03E-03	1.30E-02	1.16E-01	8.13E-03	1.17E-02	1.04E-01	3.62E-02	5.21E-02	4.65E-01
Road 31	31	2000-2100	8.24E-03	3.21E-03	2.87E-02	7.38E-03	2.87E-03	2.57E-02	5.03E-02	1.96E-02	1.75E-01
Road 31	31	2100-2200	8.24E-03	3.21E-03	2.87E-02	7.38E-03	2.87E-03	2.57E-02	5.03E-02	1.96E-02	1.75E-01
Road 31	31	2200-2300	9.17E-03	2.61E-03	2.33E-02	8.16E-03	2.32E-03	2.08E-02	5.60E-02	1.59E-02	1.42E-01
Road 31	31	2300-0000	9.17E-03	2.61E-03	2.33E-02	8.16E-03	2.32E-03	2.07E-02	5.53E-02	1.57E-02	1.40E-01
Road 32	32	0000-0100	1.05E-02	1.04E-07	6.87E-06	9.22E-03	9.10E-08	6.04E-06	5.83E-02	5.75E-07	3.82E-05
Road 32	32	0100-0200	1.05E-02	1.04E-07	6.87E-06	9.22E-03	9.10E-08	6.04E-06	5.83E-02	5.75E-07	3.82E-05
Road 32	32	0200-0300	1.20E-02	1.73E-08	1.15E-06	1.05E-02	1.52E-08	1.00E-06	6.66E-02	9.58E-08	6.37E-06
Road 32	32	0300-0400	1.35E-02	5.72E-08	3.79E-06	1.21E-02	5.09E-08	3.38E-06	6.66E-02	2.81E-07	1.87E-05
Road 32	32	0400-0500	1.35E-02	5.72E-08	3.79E-06	1.21E-02	5.09E-08	3.38E-06	6.66E-02	2.81E-07	1.87E-05
Road 32	32	0500-0600	1.42E-02	6.97E-06	4.63E-04	1.27E-02	6.20E-06	4.12E-04	6.82E-02	3.35E-05	2.22E-03
Road 32	32	0600-0700	1.54E-02	1.41E-05	9.35E-04	1.38E-02	1.25E-05	8.32E-04	7.44E-02	6.81E-05	4.52E-03
Road 32	32	0700-0800	1.54E-02	1.41E-05	9.35E-04	1.38E-02	1.25E-05	8.32E-04	7.44E-02	6.81E-05	4.52E-03
Road 32	32	0800-0900	1.54E-02	1.41E-05	9.35E-04	1.38E-02	1.25E-05	8.32E-04	7.44E-02	6.81E-05	4.52E-03
Road 32	32	0900-1000	1.54E-02	1.41E-05	9.35E-04	1.38E-02	1.25E-05	8.32E-04	7.44E-02	6.81E-05	4.52E-03
Road 32	32	1000-1100	1.99E-02	1.44E-05	9.56E-04	1.81E-02	1.31E-05	8.69E-04	9.61E-02	6.97E-05	4.62E-03
Road 32	32	1100-1200	1.94E-02	1.33E-05	8.84E-04	1.75E-02	1.20E-05	8.01E-04	9.36E-02	6.41E-05	4.27E-03
Road 32	32	1200-1300	1.77E-02	1.44E-05	9.56E-04	1.60E-02	1.31E-05	8.69E-04	8.57E-02	6.97E-05	4.62E-03
Road 32	32	1300-1400	1.78E-02	9.63E-06	6.39E-04	1.62E-02	8.74E-06	5.80E-04	8.63E-02	4.67E-05	3.10E-03
Road 32	32	1400-1500	1.44E-02	9.63E-06	6.39E-04	1.30E-02	8.74E-06	5.80E-04	6.91E-02	4.67E-05	3.10E-03
Road 32	32	1500-1600	1.68E-02	9.83E-06	6.52E-04	1.51E-02	8.92E-06	5.92E-04	8.05E-02	4.77E-05	3.16E-03
Road 32	32	1600-1700	1.74E-02	1.07E-05	7.09E-04	1.56E-02	9.68E-06	6.42E-04	8.34E-02	5.17E-05	3.43E-03
Road 32	32	1700-1800	1.90E-02	1.02E-05	6.77E-04	1.71E-02	9.27E-06	6.15E-04	9.13E-02	4.95E-05	3.28E-03
Road 32	32	1800-1900	9.45E-03	6.78E-06	4.50E-04	8.37E-03	6.11E-06	4.05E-04	5.59E-02	4.07E-05	2.70E-03
Road 32	32	1900-2000	1.27E-02	6.78E-06	4.50E-04	1.12E-02	6.11E-06	4.05E-04	7.51E-02	4.07E-05	2.70E-03
Road 32	32	2000-2100	8.30E-03	3.67E-06	2.44E-04	7.39E-03	3.31E-06	2.19E-04	4.98E-02	2.20E-05	1.46E-03
Road 32	32	2100-2200	7.45E-03	3.29E-06	2.18E-04	6.65E-03	2.97E-06	1.97E-04	4.78E-02	2.12E-05	1.40E-03
Road 32	32	2200-2300	8.21E-03	3.63E-06	2.41E-04	7.31E-03	3.27E-06	2.17E-04	5.26E-02	2.33E-05	1.54E-03
Road 32	32	2300-0000	8.25E-03	2.65E-06	1.76E-04	7.35E-03	2.38E-06	1.58E-04	5.08E-02	1.64E-05	1.09E-03
Road 33	33	0000-0100	1.19E-02	1.22E-07	1.69E-06	1.04E-02	9.89E-08	1.49E-06	6.42E-02	6.08E-07	9.16E-06
Road 33	33	0100-0200	1.19E-02	1.22E-07	1.69E-06	1.04E-02	9.89E-08	1.49E-06	6.42E-02	6.08E-07	9.16E-06
Road 33	33	0200-0300	1.49E-02	2.02E-07	2.80E-06	1.33E-02	1.64E-07	2.26E-06	8.26E-02	1.12E-06	1.55E-05
Road 33	33	0300-0400	1.49E-02	2.02E-07	2.80E-06	1.33E-02	1.64E-07	2.26E-06	8.26E-02	1.12E-06	1.55E-05
Road 33	33	0400-0500	1.69E-02	7.08E-08	1.07E-06	1.50E-02	6.32E-08	9.50E-07	7.62E-02	3.20E-07	4.81E-06
Road 33	33	0500-0600	1.62E-02	1.17E-07	1.76E-06	1.46E-02	1.05E-07	1.58E-06	7.58E-02	5.45E-07	8.20E-06
Road 33	33	0600-0700	1.73E-02	1.44E-07	2.16E-06	1.56E-02	1.29E-07	1.94E-06	8.09E-02	6.72E-07	1.01E-05
Road 33	33	0700-0800	1.73E-02	5.49E-07	8.27E-06	1.56E-02	5.02E-07	7.55E-06	7.81E-02	2.48E-06	3.73E-05
Road 33	33	0800-0900	1.73E-02	5.49E-07	8.27E-06	1.56E-02	5.02E-07	7.55E-06	7.81E-02	2.48E-06	3.73E-05
Road 33	33	0900-1000	1.91E-02	6.02E-07	9.07E-06	1.72E-02	5.51E-07	8.29E-06	8.59E-02	2.70E-06	4.06E-05
Road 33	33	1000-1100	2.13E-02	1.28E-06	1.93E-05	1.92E-02	1.17E-06	1.76E-05	9.59E-02	5.76E-06	8.67E-05
Road 33	33	1100-1200	2.13E-02	1.28E-06	1.93E-05	1.92E-02	1.17E-06	1.76E-05	9.59E-02	5.76E-06	8.67E-05
Road 33	33	1200-1300	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	1300-1400	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	1400-1500	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	1500-1600	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	1600-1700	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	1700-1800	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	1800-1900	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	1900-2000	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	2000-2100	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	2100-2200	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	2200-2300	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 33	33	2300-0000	1.91E-02	1.44E-06	2.16E-05	1.72E-02	1.32E-06	1.98E-05	8.59E-02	6.47E-06	9.74E-05
Road 34	34	0000-0100	1.38E-02	2.52E-03	2.25E-02	1.15E-01	2.31E-03	1.99E-02	4.44

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 54	54	0800-0900	1.02E-01	3.98E-02	5.67E-04	3.44E-01	1.23E-01	3.44E-03	2.29E-01	8.19E-02	2.29E-03
Road 54	54	0900-1000	1.16E-01	4.17E-07	9.50E-06	1.06E-01	3.81E-07	8.69E-06	4.34E-01	1.56E-06	3.56E-05
Road 54	54	1000-1100	1.29E-01	4.27E-07	9.74E-06	1.17E-01	3.89E-07	8.87E-06	4.60E-01	1.53E-06	3.49E-05
Road 54	54	1100-1200	1.27E-01	3.98E-07	9.09E-06	1.14E-01	3.59E-07	8.18E-06	4.57E-01	1.43E-06	3.27E-05
Road 54	54	1200-1300	1.58E-01	3.41E-07	7.78E-06	1.43E-01	3.09E-07	7.05E-06	5.38E-01	1.17E-06	2.66E-05
Road 54	54	1300-1400	1.56E-01	3.56E-07	8.12E-06	1.41E-01	3.21E-07	7.32E-06	5.32E-01	1.21E-06	2.76E-05
Road 54	54	1400-1500	1.56E-01	3.75E-07	8.55E-06	1.41E-01	3.38E-07	7.71E-06	5.44E-01	1.30E-06	2.97E-05
Road 54	54	1500-1600	1.42E-01	3.53E-07	8.04E-06	1.28E-01	3.17E-07	7.24E-06	5.44E-01	1.35E-06	3.07E-05
Road 54	54	1600-1700	1.53E-01	3.53E-07	8.04E-06	1.38E-01	3.18E-07	7.24E-06	5.20E-01	1.20E-06	2.74E-05
Road 54	54	1700-1800	1.23E-01	2.84E-07	6.47E-06	1.11E-01	2.56E-07	5.82E-06	4.90E-01	1.13E-06	2.57E-05
Road 54	54	1800-1900	1.02E-01	2.36E-07	5.37E-06	9.19E-02	2.12E-07	4.83E-06	4.31E-01	9.97E-07	2.27E-05
Road 54	54	1900-2000	9.30E-02	1.26E-07	2.88E-06	8.40E-02	1.14E-07	2.60E-06	4.06E-01	5.48E-07	1.25E-05
Road 54	54	2000-2200	8.81E-02	2.15E-07	9.81E-06	7.95E-02	1.94E-07	8.85E-06	3.42E-01	8.34E-07	3.80E-05
Road 54	54	2200-2300	9.28E-02	2.09E-07	4.76E-06	8.38E-02	1.88E-07	4.29E-06	3.60E-01	8.11E-07	1.85E-05
Road 54	54	2300-2400	9.28E-02	2.09E-07	4.76E-06	8.38E-02	1.88E-07	4.29E-06	3.60E-01	8.11E-07	1.85E-05
Road 101	101	0000-0100	1.04E-01	3.98E-02	5.67E-04	3.50E-01	1.23E-01	3.44E-03	2.33E-01	8.19E-02	2.29E-03
Road 101	101	0100-0200	8.73E-03	4.78E-08	1.89E-06	7.75E-03	4.25E-08	1.68E-06	5.71E-02	3.13E-07	1.24E-05
Road 101	101	0200-0300	9.48E-03	4.11E-08	1.63E-06	8.39E-03	3.64E-08	1.44E-06	6.19E-02	2.68E-07	1.06E-05
Road 101	101	0300-0400	1.08E-02	3.91E-08	1.55E-06	9.58E-03	3.47E-08	1.37E-06	7.06E-02	2.55E-07	1.01E-05
Road 101	101	0400-0500	1.08E-02	9.01E-08	3.57E-06	9.66E-03	8.04E-08	3.18E-06	6.23E-02	5.18E-07	2.05E-05
Road 101	101	0500-0600	1.08E-02	9.01E-08	3.57E-06	9.66E-03	8.04E-08	3.18E-06	6.23E-02	5.18E-07	2.05E-05
Road 101	101	0600-0700	1.42E-02	1.85E-07	7.33E-06	1.26E-02	1.65E-07	6.53E-06	8.22E-02	1.07E-06	4.24E-05
Road 101	101	0700-0800	1.21E-02	4.40E-07	1.74E-05	1.08E-02	3.92E-07	1.55E-05	6.32E-02	2.04E-06	8.08E-05
Road 101	101	0800-0900	1.16E-02	4.92E-07	1.95E-05	1.06E-02	4.48E-07	1.77E-05	5.82E-02	2.46E-06	9.75E-05
Road 101	101	0900-1000	1.15E-02	4.83E-07	1.91E-05	1.04E-02	4.37E-07	1.73E-05	5.82E-02	2.44E-06	9.66E-05
Road 101	101	1000-1100	1.55E-02	4.41E-07	3.49E-06	1.37E-02	3.90E-07	3.09E-06	7.74E-02	2.20E-06	1.74E-05
Road 101	101	1100-1200	1.97E-02	4.09E-07	3.24E-06	1.74E-02	3.61E-07	2.86E-06	9.83E-02	2.04E-06	1.62E-05
Road 101	101	1200-1300	1.77E-02	5.32E-07	2.11E-06	1.62E-02	2.22E-06	8.79E-06	6.57E-02	1.97E-06	7.80E-05
Road 101	101	1300-1400	1.78E-02	5.33E-07	2.19E-06	1.63E-02	2.50E-06	1.03E-05	6.57E-02	1.97E-06	8.09E-05
Road 101	101	1400-1500	1.67E-02	5.63E-07	2.23E-06	1.51E-02	2.55E-06	1.01E-05	6.65E-02	2.24E-06	8.88E-05
Road 101	101	1500-1600	1.67E-02	5.63E-07	2.23E-06	1.51E-02	2.55E-06	1.01E-05	6.65E-02	2.24E-06	8.88E-05
Road 101	101	1600-1700	1.80E-02	5.46E-07	2.17E-06	1.64E-02	2.47E-06	9.82E-06	6.32E-02	1.91E-06	7.59E-05
Road 101	101	1700-1800	1.25E-02	4.86E-07	1.93E-06	1.12E-02	4.39E-07	1.74E-06	5.47E-02	2.12E-06	8.41E-05
Road 101	101	1800-1900	1.03E-02	4.01E-07	1.59E-06	9.31E-03	3.62E-07	1.44E-06	4.51E-02	1.75E-06	6.95E-05
Road 101	101	1900-2000	7.82E-03	2.50E-07	9.92E-06	7.00E-03	2.24E-07	8.88E-06	4.69E-02	1.50E-06	5.95E-05
Road 101	101	2000-2100	7.61E-03	1.90E-07	7.51E-06	6.77E-03	1.68E-07	6.67E-06	5.16E-02	1.29E-06	5.09E-05
Road 101	101	2100-2200	7.75E-03	1.94E-07	7.65E-06	6.89E-03	1.72E-07	6.80E-06	5.25E-02	1.31E-06	5.18E-05
Road 101	101	2200-2300	6.86E-03	1.65E-07	6.54E-06	6.09E-03	1.47E-07	5.80E-06	5.07E-02	1.22E-06	4.83E-05
Road 101	101	2300-2400	6.86E-03	1.65E-07	6.54E-06	6.09E-03	1.47E-07	5.80E-06	5.07E-02	1.22E-06	4.83E-05
Road 102	102	0000-0100	1.06E-02	9.73E-08	3.61E-06	9.30E-03	8.58E-08	3.19E-06	6.10E-02	5.62E-07	2.09E-05
Road 102	102	0100-0200	1.14E-02	6.95E-08	2.58E-06	1.02E-02	6.17E-08	2.29E-06	6.35E-02	3.86E-07	1.43E-05
Road 102	102	0200-0300	1.53E-02	6.63E-08	2.46E-06	1.37E-02	5.89E-08	2.18E-06	8.54E-02	3.70E-07	1.37E-05
Road 102	102	0300-0400	1.32E-02	4.76E-08	1.77E-06	1.18E-02	4.24E-08	1.58E-06	7.35E-02	2.65E-07	9.83E-06
Road 102	102	0400-0500	1.32E-02	1.10E-07	4.08E-06	1.18E-02	9.78E-08	3.63E-06	7.35E-02	6.12E-07	2.27E-05
Road 102	102	0500-0600	1.48E-02	1.04E-07	3.87E-06	1.33E-02	9.35E-08	3.47E-06	7.23E-02	5.09E-07	1.89E-05
Road 102	102	0600-0700	1.56E-02	2.38E-07	8.85E-06	1.40E-02	2.14E-07	7.96E-06	8.69E-02	1.32E-06	4.92E-05
Road 102	102	0700-0800	1.27E-02	4.63E-07	1.72E-05	1.14E-02	4.16E-07	1.54E-05	7.09E-02	2.59E-06	9.61E-05
Road 102	102	0800-0900	1.56E-02	5.71E-07	2.12E-05	1.42E-02	5.21E-07	1.93E-05	8.93E-02	3.26E-06	1.21E-04
Road 102	102	0900-1000	1.56E-02	5.62E-07	2.09E-05	1.40E-02	5.04E-07	1.87E-05	8.93E-02	3.21E-06	1.19E-04
Road 102	102	1000-1100	2.06E-02	6.08E-07	2.26E-05	1.87E-02	5.52E-07	2.05E-05	1.18E-01	3.48E-06	1.29E-04
Road 102	102	1100-1200	1.97E-02	5.74E-07	2.13E-05	1.79E-02	5.21E-07	1.93E-05	1.13E-01	3.29E-06	1.22E-04
Road 102	102	1200-1300	1.69E-02	4.74E-07	1.76E-05	1.54E-02	4.29E-07	1.59E-05	7.15E-02	2.00E-06	7.42E-05
Road 102	102	1300-1400	1.70E-02	4.91E-07	1.82E-05	1.55E-02	4.45E-07	1.65E-05	7.15E-02	2.06E-06	7.65E-05
Road 102	102	1400-1500	1.61E-02	5.05E-07	1.88E-05	1.45E-02	4.58E-07	1.69E-05	6.73E-02	2.11E-06	7.85E-05
Road 102	102	1500-1600	1.61E-02	5.05E-07	1.88E-05	1.45E-02	4.58E-07	1.69E-05	6.73E-02	2.11E-06	7.85E-05
Road 102	102	1600-1700	1.51E-02	4.59E-07	1.70E-05	1.37E-02	4.16E-07	1.54E-05	6.32E-02	1.92E-06	7.13E-05
Road 102	102	1700-1800	1.20E-02	4.38E-07	1.63E-05	1.08E-02	3.98E-07	1.48E-05	5.31E-02	1.94E-06	7.19E-05
Road 102	102	1800-1900	8.60E-03	3.13E-07	1.24E-05	7.82E-03	2.85E-07	1.13E-05	4.25E-02	1.55E-06	6.15E-05
Road 102	102	1900-2000	6.52E-03	1.49E-07	5.53E-06	5.78E-03	1.32E-07	4.89E-06	4.12E-02	9.41E-07	3.50E-05
Road 102	102	2000-2100	7.30E-03	1.25E-07	4.65E-06	6.47E-03	1.11E-07	4.12E-06	5.37E-02	9.21E-07	3.42E-05
Road 102	102	2100-2200	7.32E-03	1.73E-07	6.41E-06	6.50E-03	1.53E-07	5.68E-06	5.41E-02	1.28E-06	4.73E-05
Road 102	102	2200-2300	6.52E-03	1.49E-07	5.53E-06	5.78E-03	1.32E-07	4.89E-06	5.24E-02	1.20E-06	4.43E-05
Road 102	102	2300-2400	7.30E-03	1.25E-07	4.65E-06	6.47E-03	1.11E-07	4.12E-06	5.37E-02	9.21E-07	3.42E-05
Road 103	103	0000-0100	7.80E-03	6.35E-08	2.53E-06	6.92E-03	5.63E-08	2.24E-06	4.53E-02	3.69E-07	1.47E-05
Road 103	103	0100-0200	8.39E-03	5.10E-08	1.89E-06	7.44E-03	4.52E-08	1.68E-06	4.87E-02	2.96E-07	1.10E-05
Road 103	103	0200-0300	9.22E-03	4.36E-08	1.61E-06	8.17E-03	3.87E-08	1.43E-06	5.35E-02	2.53E-07	9.36E-06
Road 103	103	0300-0400	9.22E-03	3.98E-08	1.47E-06	8.17E-03	3.53E-08	1.30E-06	5.35E-02	2.31E-07	8.54E-06
Road 103	103	0400-0500	9.22E-03	9.55E-08	3.78E-06	8.17E-03	8.46E-08	3.35E-06	5.35E-02	5.54E-07	2.19E-05
Road 103	103	0500-0600	9.22E-03	9.55E-08	3.78E-06	8.17E-03	8.46E-08	3.35E-06	5.35E-02	5.54E-07	2.19E-05
Road 103	103	0600-0700	1.21E-02	1.96E-07	7.77E-06	1.07E-02	1.74E-07	6.89E-06	7.06E-02	1.14E-06	4.52E-05
Road 103	103	0700-0800	1.03E-02	4.66E-07	1.85E-05	9.16E-03	4.13E-07	1.64E-05	5.43E-02	2.45E-06	9.71E-05
Road 103	103	0800-0900	9.86E-03	5.21E-07	2.06E-05	8.74E-03	4.62E-07	1.83E-05	4.99E-02	2.64E-06	1.04E-04
Road 103	103	0900-1000	9.86E-03	5.12E-07	2.03E-05	8.74E-03	4.54E-07	1.80E-05	4.99E-02	2.59E-06	1.03E-04
Road 103	103	1000-1100	1.33E-02	4.67E-07	3.70E-06	1.18E-02	4.14E-07	3.28E-06	6.66E-02	2.34E-06	1.85E-05
Road 103	103	1100-1200	1.69E-02	4.34E-07	3.44E-06	1.50E-02	3.84E-07	3.04E-06	8.44E-02	2.17E-06	1.72E-05
Road 103	103	1200-1300	1.52E-02	5.64E-07	2.24E-06	1.35E-02	2.36E-06	9.33E-06	5.63E-02	2.09E-06	8.27E-05
Road 103	103	1300-1400	1.53E-02	5.65E-07	2.32E-06	1.35E-02	2.65E-06	1.09E-05	5.63E-02	2.09E-06	8.59E-05
Road 103	103	1400-1500	1.44E-02	5.97E-07	2.37E-06	1.27E-02	2.71E-06	1.07E-05	5.70E-02	2.37E-06	9.41E-05
Road 103	103	1500-1600	1.44E-02	5.97E-07	2.37E-06	1.27E-02	2.71E-06	1.07E-05	5.70E-02	2.37E-06	9.41E-05
Road 103	103	1600-1700	1.55E-02	5.79E-07	2.30E-06	1.41E-02	2.62E-06	1.04E-05	5.42E-02	2.03E-06	8.05E-05
Road 103	103	1700-1800	1.08E-02	5.15E-07	2.05E-06	9.66E-03	2.34E-06	9.29E-06	4.64E-02	2.21E-06	8.92E-05
Road 103	103	1800-1900	8.86E-03	3.32E-07	1.32E-06	8.06E-03	1.51E-06	5.98E-06	3.87E-02	1.45E-06	5.75E-05
Road 103	103	1900-2000	5.86E-03	1.58E-07	5.87E-06	5.19E-03	1.40E-07	5.20E-06	3.70E-02	9.98E-07	3.71E-05
Road 103	103	2000-2100	6.56E-03	1.33E-07	4.93E-06	5.81E-03	1.18E-07	4.37E-06	4.82E-02	9.77E-07	3.63E-05
Road 103	103	2100-2200	6.58E-03	1.84E-07	6.80E-06	5.83E-03	1.63E-07	6.03E-06	4.86E-02	1.36E-06	5.02E-05
Road 103	103	2200-2300	5.86E-03	1.58E-07	5.87E-06	5.19E-03	1.40E-07	5.20E-06	4.71E-02	1.27E-06	4.70E-05
Road 103	103	2300-2400	6.56E-03	1.33E-07	4.93E-06	5.81E-03	1.18E-07	4.37E-06	4.82E-02	9.77E-07	3.63E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 103	103	1600-1700	1.55E-02	5.08E-07	1.97E-05	1.35E-02	2.30E-06	8.91E-06	5.40E-02	1.61E-06	6.24E-05
Road 103	103	1700-1800	1.10E-02	4.57E-07	1.77E-05	9.82E-03	4.07E-07	9.80E-06	5.98E-02	2.48E-06	9.59E-05
Road 103	103	1800-1900	7.90E-03	3.56E-07	8.58E-06	6.99E-03	3.15E-07	7.58E-06	4.85E-02	2.18E-06	5.26E-05
Road 103	103	1900-2000	5.80E-03	2.42E-07	5.82E-06	6.07E-03	2.16E-07	5.20E-06	4.98E-02	1.56E-06	3.75E-05
Road 103	103	2000-2100	6.58E-03	1.82E-07	4.37E-06	5.83E-03	1.61E-07	3.87E-06	4.06E-02	1.12E-06	2.70E-05
Road 103	103	2100-2200	6.60E-03	2.52E-07	1.09E-05	5.85E-03	2.23E-07	9.61E-06	4.06E-02	1.55E-06	6.68E-05
Road 103	103	2200-2300	5.80E-03	2.42E-07	5.82E-06	6.07E-03	2.16E-07	5.20E-06	4.98E-02	1.56E-06	3.75E-05
Road 103	103	2300-2400	6.58E-03	1.82E-07	4.37E-06	5.83E-03	1.61E-07	3.87E-06	4.06E-02	1.12E-06	2.70E-05
Road 104	104	0000-0100	1.32E-02	5.88E-07	2.54E-06	1.17E-02	5.21E-07	2.25E-06	8.22E-02	3.66E-06	1.58E-05
Road 104	104	0100-0200	2.67E-02	1.09E-07	4.17E-07	2.53E-02	1.03E-07	3.96E-07	1.68E-01	6.83E-07	2.62E-06
Road 104	104	0200-0300	2.86E-02	8.55E-08	3.28E-07	2.72E-02	8.12E-08	3.12E-07	1.74E-01	5.19E-07	1.99E-06
Road 104	104	0300-0400	3.35E-02	8.75E-08	3.36E-07	3.16E-02	8.24E-08	3.16E-07	1.91E-01	5.00E-07	1.92E-06
Road 104	104	0400-0500	3.35E-02	8.75E-08	3.36E-07	3.16E-02	8.24E-08	3.16E-07	1.91E-01	5.00E-07	1.92E-06
Road 104	104	0500-0600	3.44E-02	2.05E-07	7.87E-07	3.25E-02	1.94E-07	7.45E-07	1.96E-01	1.17E-06	4.49E-06
Road 104	104	0600-0700	1.64E-02	2.45E-07	4.99E-06	1.47E-02	2.20E-07	4.48E-06	7.66E-02	1.15E-06	2.33E-05
Road 104	104	0700-0800	1.76E-02	3.22E-07	6.57E-06	1.58E-02	2.89E-07	5.91E-06	8.23E-02	1.51E-06	3.08E-05
Road 104	104	0800-0900	1.65E-02	5.93E-07	1.21E-05	1.50E-02	5.41E-07	1.10E-05	7.72E-02	2.77E-06	5.65E-05
Road 104	104	0900-1000	1.64E-02	6.34E-07	1.29E-05	1.96E-02	5.76E-07	1.17E-05	8.59E-02	2.53E-06	5.14E-05
Road 104	104	1000-1100	2.16E-02	6.34E-07	1.29E-05	1.96E-02	5.76E-07	1.17E-05	8.59E-02	2.53E-06	5.14E-05
Road 104	104	1100-1200	2.10E-02	5.83E-07	1.19E-05	1.90E-02	5.26E-07	1.07E-05	8.58E-02	2.38E-06	4.85E-05
Road 104	104	1200-1300	1.91E-02	6.20E-07	2.46E-06	1.73E-02	3.72E-07	1.47E-06	8.31E-02	2.68E-06	1.06E-05
Road 104	104	1300-1400	1.91E-02	6.39E-07	2.53E-06	1.73E-02	3.90E-07	1.54E-06	8.31E-02	2.68E-06	1.06E-05
Road 104	104	1400-1500	1.91E-02	6.52E-07	2.58E-06	1.73E-02	3.97E-07	1.57E-06	8.31E-02	2.68E-06	1.06E-05
Road 104	104	1500-1600	1.91E-02	6.52E-07	2.58E-06	1.73E-02	3.97E-07	1.57E-06	8.31E-02	2.68E-06	1.06E-05
Road 104	104	1600-1700	1.79E-02	6.39E-07	2.53E-06	1.62E-02	3.90E-07	1.54E-06	7.79E-02	2.68E-06	1.06E-05
Road 104	104	1700-1800	1.79E-02	6.39E-07	2.53E-06	1.62E-02	3.90E-07	1.54E-06	7.79E-02	2.68E-06	1.06E-05
Road 104	104	1800-1900	7.04E-02	2.42E-07	9.59E-06	6.38E-02	1.47E-07	5.82E-06	3.06E-01	1.05E-06	4.16E-05
Road 104	104	1900-2000	5.96E-03	1.26E-07	2.57E-06	5.28E-03	1.12E-07	2.27E-06	4.67E-02	9.87E-07	2.01E-05
Road 104	104	2000-2100	5.01E-03	1.06E-07	2.16E-06	4.45E-03	9.41E-08	1.92E-06	4.30E-02	9.09E-07	1.85E-05
Road 104	104	2100-2200	5.01E-03	1.06E-07	2.16E-06	4.45E-03	9.41E-08	1.92E-06	4.30E-02	9.09E-07	1.85E-05
Road 104	104	2200-2300	5.01E-03	1.06E-07	2.16E-06	4.45E-03	9.41E-08	1.92E-06	4.30E-02	9.09E-07	1.85E-05
Road 104	104	2300-2400	5.61E-03	8.60E-08	1.75E-06	4.94E-03	7.58E-08	1.54E-06	4.75E-02	7.29E-07	1.48E-05
Road 105	105	0000-0100	1.06E-02	9.73E-08	3.61E-06	9.30E-03	8.58E-08	3.19E-06	6.10E-02	5.62E-07	2.09E-05
Road 105	105	0100-0200	1.79E-02	1.26E-07	4.45E-06	9.41E-03	6.62E-08	2.80E-06	7.99E-02	5.78E-07	2.44E-05
Road 105	105	0200-0300	1.79E-02	1.26E-07	4.45E-06	9.41E-03	6.62E-08	2.80E-06	7.99E-02	5.78E-07	2.44E-05
Road 105	105	0300-0400	2.08E-02	8.90E-09	3.71E-07	1.85E-02	7.94E-09	3.31E-07	1.02E-01	4.36E-08	1.82E-06
Road 105	105	0400-0500	2.21E-02	1.05E-08	4.39E-07	1.98E-02	9.39E-09	3.91E-07	1.06E-01	5.02E-08	2.09E-06
Road 105	105	0500-0600	2.54E-02	4.60E-08	1.92E-06	2.29E-02	4.14E-08	1.73E-06	1.16E-01	2.09E-07	8.72E-06
Road 105	105	0600-0700	2.54E-02	4.60E-08	1.92E-06	2.29E-02	4.14E-08	1.73E-06	1.16E-01	2.09E-07	8.72E-06
Road 105	105	0700-0800	2.82E-02	1.23E-07	5.11E-06	2.58E-02	1.12E-07	4.67E-06	1.32E-01	5.75E-07	2.39E-05
Road 105	105	0800-0900	2.82E-02	1.23E-07	5.11E-06	2.58E-02	1.12E-07	4.67E-06	1.32E-01	5.75E-07	2.39E-05
Road 105	105	0900-1000	3.35E-02	1.29E-07	5.39E-06	3.06E-02	1.18E-07	4.91E-06	1.56E-01	6.02E-07	2.51E-05
Road 105	105	1000-1100	3.35E-02	1.18E-07	4.90E-06	3.06E-02	1.08E-07	4.48E-06	1.56E-01	5.50E-07	2.29E-05
Road 105	105	1100-1200	3.59E-02	1.18E-07	4.90E-06	3.28E-02	1.08E-07	4.48E-06	1.67E-01	5.50E-07	2.29E-05
Road 105	105	1200-1300	3.14E-02	1.32E-07	5.51E-06	2.87E-02	1.21E-07	5.04E-06	1.46E-01	6.17E-07	2.57E-05
Road 105	105	1300-1400	3.14E-02	1.32E-07	5.51E-06	2.87E-02	1.21E-07	5.04E-06	1.46E-01	6.17E-07	2.57E-05
Road 105	105	1400-1500	3.18E-02	1.46E-07	6.07E-06	2.91E-02	1.33E-07	5.55E-06	1.48E-01	6.79E-07	2.83E-05
Road 105	105	1500-1600	3.18E-02	1.46E-07	6.07E-06	2.91E-02	1.33E-07	5.55E-06	1.48E-01	6.79E-07	2.83E-05
Road 105	105	1600-1700	2.78E-02	1.23E-07	5.11E-06	2.54E-02	1.12E-07	4.67E-06	1.29E-01	5.75E-07	2.39E-05
Road 105	105	1700-1800	2.78E-02	1.23E-07	5.11E-06	2.54E-02	1.12E-07	4.67E-06	1.29E-01	5.75E-07	2.39E-05
Road 105	105	1800-1900	3.35E-02	1.29E-07	5.39E-06	3.06E-02	1.18E-07	4.91E-06	1.56E-01	6.02E-07	2.51E-05
Road 105	105	1900-2000	2.08E-02	8.90E-09	3.71E-07	1.85E-02	7.94E-09	3.31E-07	1.02E-01	4.36E-08	1.82E-06
Road 105	105	2000-2100	2.21E-02	1.05E-08	4.39E-07	1.98E-02	9.39E-09	3.91E-07	1.06E-01	5.02E-08	2.09E-06
Road 105	105	2100-2200	2.54E-02	4.60E-08	1.92E-06	2.29E-02	4.14E-08	1.73E-06	1.16E-01	2.09E-07	8.72E-06
Road 105	105	2200-2300	2.54E-02	4.60E-08	1.92E-06	2.29E-02	4.14E-08	1.73E-06	1.16E-01	2.09E-07	8.72E-06
Road 105	105	2300-2400	2.82E-02	1.23E-07	5.11E-06	2.58E-02	1.12E-07	4.67E-06	1.32E-01	5.75E-07	2.39E-05
Road 106	106	0000-0100	3.51E-02	1.57E-07	6.01E-07	2.28E-02	1.48E-07	5.69E-07	1.61E-01	7.22E-07	2.76E-06
Road 106	106	0100-0200	2.67E-02	1.09E-07	4.17E-07	2.53E-02	1.03E-07	3.96E-07	1.68E-01	6.83E-07	2.62E-06
Road 106	106	0200-0300	2.86E-02	8.55E-08	3.28E-07	2.72E-02	8.12E-08	3.12E-07	1.74E-01	5.19E-07	1.99E-06
Road 106	106	0300-0400	3.35E-02	8.75E-08	3.36E-07	3.16E-02	8.24E-08	3.16E-07	1.91E-01	5.00E-07	1.92E-06
Road 106	106	0400-0500	3.35E-02	8.75E-08	3.36E-07	3.16E-02	8.24E-08	3.16E-07	1.91E-01	5.00E-07	1.92E-06
Road 106	106	0500-0600	3.44E-02	2.05E-07	7.87E-07	3.25E-02	1.94E-07	7.45E-07	1.96E-01	1.17E-06	4.49E-06
Road 106	106	0600-0700	2.77E-02	1.86E-07	5.88E-06	2.49E-02	1.68E-07	5.29E-06	1.26E-01	8.46E-07	2.67E-05
Road 106	106	0700-0800	3.47E-02	4.76E-07	1.50E-05	3.27E-02	4.49E-07	1.42E-05	1.98E-01	2.71E-06	8.56E-05
Road 106	106	0800-0900	3.47E-02	4.76E-07	1.50E-05	3.27E-02	4.49E-07	1.42E-05	1.98E-01	2.71E-06	8.56E-05
Road 106	106	0900-1000	4.20E-02	5.87E-07	1.85E-05	3.83E-02	5.36E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2038**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Max			Monthly Hour Min			Monthly Hour Max		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.32E-02	3.24E-06	1.22E-05	4.38E-02	1.31E-05	4.93E-05	5.54E-02	1.39E-05	5.20E-05	1.84E-01	5.52E-05	2.07E-04
Road 21	21	0100-0200	1.48E-02	7.06E-06	9.33E-07	1.34E-02	6.38E-06	8.43E-07	6.64E-02	3.17E-05	4.20E-06	5.84E-02	2.79E-05	3.69E-06
Road 21	21	0200-0300	1.66E-02	5.99E-06	7.92E-07	1.50E-02	5.40E-06	7.14E-07	7.04E-02	2.54E-05	3.36E-06	6.19E-02	2.23E-05	2.95E-06
Road 21	21	0300-0400	1.83E-02	5.38E-06	7.11E-07	1.65E-02	4.85E-06	6.40E-07	7.41E-02	2.18E-05	2.88E-06	6.52E-02	1.92E-05	2.53E-06
Road 21	21	0400-0500	1.88E-02	6.10E-06	8.07E-07	1.67E-02	5.44E-06	7.18E-07	7.67E-02	2.49E-05	3.29E-06	6.65E-02	2.16E-05	2.85E-06
Road 21	21	0500-0600	1.79E-02	8.83E-06	1.30E-06	1.58E-02	7.81E-06	1.14E-06	7.64E-02	3.23E-05	4.76E-06	6.68E-02	2.84E-05	4.16E-06
Road 21	21	0600-0700	1.72E-02	2.02E-07	2.67E-06	1.56E-02	1.83E-07	2.42E-06	7.71E-02	9.04E-07	1.19E-05	6.83E-02	8.01E-07	1.06E-05
Road 21	21	0700-0800	2.01E-02	4.94E-07	6.53E-06	1.85E-02	4.53E-07	5.99E-06	8.45E-02	2.07E-06	2.74E-05	7.63E-02	1.87E-06	2.47E-05
Road 21	21	0800-0900	2.43E-02	6.28E-07	8.30E-06	2.23E-02	5.76E-07	7.61E-06	9.09E-02	2.35E-06	3.10E-05	8.21E-02	2.12E-06	2.80E-05
Road 21	21	0900-1000	2.43E-02	6.28E-07	8.30E-06	2.23E-02	5.76E-07	7.61E-06	8.99E-02	2.32E-06	3.06E-05	8.12E-02	2.10E-06	2.77E-05
Road 21	21	1000-1100	2.43E-02	5.38E-07	7.10E-06	2.22E-02	4.92E-07	6.51E-06	9.66E-02	2.14E-06	2.83E-05	8.77E-02	1.94E-06	2.57E-05
Road 21	21	1100-1200	2.43E-02	8.04E-07	1.06E-05	2.22E-02	7.35E-07	9.71E-06	9.66E-02	3.20E-06	4.23E-05	8.77E-02	2.90E-06	3.84E-05
Road 21	21	1200-1300	2.43E-02	6.28E-07	8.30E-06	2.23E-02	5.76E-07	7.61E-06	9.09E-02	2.35E-06	3.10E-05	8.21E-02	2.12E-06	2.80E-05
Road 21	21	1300-1400	2.43E-02	6.83E-07	9.03E-06	2.23E-02	6.26E-07	8.27E-06	9.66E-02	2.71E-06	3.58E-05	8.77E-02	2.45E-06	3.24E-05
Road 21	21	1400-1500	3.21E-02	7.20E-07	9.52E-06	2.94E-02	6.59E-07	8.71E-06	1.18E-01	2.65E-06	3.51E-05	1.08E-01	2.42E-06	3.19E-05
Road 21	21	1500-1600	2.96E-02	8.04E-07	1.06E-05	2.72E-02	7.35E-07	9.71E-06	1.09E-01	2.96E-06	3.91E-05	9.99E-02	2.71E-06	3.58E-05
Road 21	21	1600-1700	3.03E-02	6.95E-07	9.18E-06	2.79E-02	6.39E-07	8.45E-06	1.13E-01	2.59E-06	3.42E-05	1.03E-01	2.37E-06	3.13E-05
Road 21	21	1700-1800	2.77E-02	5.57E-07	7.36E-06	2.55E-02	5.08E-07	6.72E-06	9.99E-02	2.34E-06	3.10E-05	9.16E-02	2.14E-06	2.83E-05
Road 21	21	1800-1900	1.73E-02	3.75E-07	4.96E-06	1.58E-02	3.44E-07	4.54E-06	7.42E-02	1.61E-06	2.13E-05	6.75E-02	1.46E-06	1.93E-05
Road 21	21	1900-2000	1.38E-02	2.19E-07	2.89E-06	1.28E-02	2.03E-07	2.68E-06	6.48E-02	1.03E-06	1.35E-05	6.04E-02	9.59E-07	1.26E-05
Road 21	21	2000-2100	1.37E-02	1.71E-07	2.26E-06	1.27E-02	1.58E-07	2.08E-06	6.44E-02	8.04E-07	1.06E-05	6.00E-02	7.49E-07	9.87E-06
Road 21	21	2100-2200	1.33E-02	1.66E-07	2.20E-06	1.24E-02	1.55E-07	2.05E-06	6.66E-02	8.34E-07	1.10E-05	6.21E-02	7.78E-07	1.02E-05
Road 21	21	2200-2300	1.34E-02	1.66E-07	2.20E-06	1.24E-02	1.55E-07	2.05E-06	6.66E-02	8.34E-07	1.10E-05	6.21E-02	7.78E-07	1.02E-05
Road 21	21	2300-0000	1.47E-02	3.24E-06	1.22E-05	4.02E-02	1.31E-05	4.93E-05	6.09E-02	1.39E-05	5.20E-05	1.69E-01	5.52E-05	2.07E-04
Road 22	22	0000-0100	1.25E-01	1.52E-07	2.72E-06	1.14E-01	1.39E-07	2.47E-06	4.35E-01	5.31E-07	9.47E-06	3.97E-01	4.85E-07	8.64E-06
Road 22	22	0100-0200	1.29E-01	1.52E-07	2.72E-06	1.17E-01	1.39E-07	2.47E-06	4.35E-01	5.31E-07	9.47E-06	3.97E-01	4.85E-07	8.64E-06
Road 22	22	0200-0300	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	0300-0400	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	0400-0500	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	0500-0600	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	0600-0700	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	0700-0800	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	0800-0900	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	0900-1000	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1000-1100	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1100-1200	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1200-1300	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1300-1400	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1400-1500	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1500-1600	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1600-1700	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1700-1800	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1800-1900	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	1900-2000	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	2000-2100	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	2100-2200	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	2200-2300	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 22	22	2300-0000	1.37E-02	1.30E-08	1.16E-07	1.23E-02	1.17E-08	1.04E-07	4.35E-01	4.12E-07	3.67E-06	3.97E-01	3.76E-07	3.35E-06
Road 23	23	0000-0100	1.19E-01	3.28E-08	6.06E-07	1.08E-01	2.98E-08	5.51E-07	4.33E-01	1.19E-07	2.21E-06	3.93E-01	1.08E-07	2.00E-06
Road 23	23	0100-0200	1.23E-01	3.28E-08	6.06E-07	1.12E-01	2.98E-08	5.51E-07	4.33E-01	1.19E-07	2.21E-06	3.93E-01	1.08E-07	2.00E-06
Road 23	23	0200-0300	1.22E-01	1.86E-08	3.44E-07	1.10E-01	1.68E-08	3.11E-07	4.33E-01	6.57E-08	1.21E-06	4.01E-01	6.12E-08	1.13E-06
Road 23	23	0300-0400	1.26E-01	1.91E-08	3.52E-07	1.14E-01	1.72E-08	3.18E-07	4.33E-01	6.57E-08	1.21E-06	4.01E-01	6.12E-08	1.13E-06
Road 23	23	0400-0500	1.26E-01	1.91E-08	3.52E-07	1.14E-01	1.72E-08	3.18E-07	4.33E-01	6.57E-08	1.21E-06	4.01E-01	6.12E-08	1.13E-06
Road 23	23	0500-0600	1.26E-01	3.53E-08	6.51E-07	1.13E-01	3.16E-08	5.83E-07	4.33E-01	1.21E-07	2.23E-06	3.93E-01	1.10E-07	2.03E-06
Road 23	23	0600-0700	1.26E-01	3.53E-08	6.51E-07	1.13E-01	3.16E-08	5.83E-07	4.33E-01	1.21E-07	2.23E-06	3.93E-01	1.10E-07	2.03E-06
Road 23	23	0700-0800	1.52E-01	2.08E-07	3.84E-06	1.40E-01	1.91E-07	3.53E-06	4.45E-01	6.09E-07	1.12E-05	4.09E-01	5.60E-07	1.03E-05
Road 23	23	0800-0900	1.49E-01	4.94E-06	1.46E-05	1.37E-01	4.55E-06	1.34E-05	4.45E-01	1.47E-05	4.34E-05	4.09E-01	1.35E-05	3.99E-05
Road 23	23	0900-1000	1.49E-01	2.72E-07	5.03E-06	1.37E-01	2.50E-07	4.62E-06	4.45E-01	8.14E-07	1.50E-05	4.09E-01	7.48E-07	1.38E-05
Road 23	23	1000-1100	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1100-1200	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1200-1300	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1300-1400	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1400-1500	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1500-1600	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1600-1700	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1700-1800	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1800-1900	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	1900-2000	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	2000-2100	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	2100-2200	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	2200-2300	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 23	23	2300-0000	1.66E-01	2.62E-07	4.85E-06	1.52E-01	2.41E-07	4.45E-06	4.45E-01	7.02E-07	1.30E-05	4.09E-01	6.45E-07	1.19E-05
Road 24	24	0000-0100	1.50E-03	3.27E-07	8.20E-07	1.38E-03	3.01E-07	7.53E-07	5.64E-03	1.23E-06	3.07E-06	5.18E-03	1.13E-06	2.82E-06
Road 24	24	0100-0200	1.62E-03	3.46E-07	8.68E-07	1.47E-03	3.15E-07	7.89E-07	5.75E-03	1.23E-06	3.08E-06	5.22E-03	1.12E-06	2.80E-06
Road 24	24	0200-0300	1.32E-03	3.22E-07	8.06E-07	1.47E-03	3.58E-07	8.96E-07	2.91E-03	7.09E-07	1.77E-06	3.23E-03	7.87E-07	1.97E-06
Road 24	24	0300-0400	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	0400-0500	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	0500-0600	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	0600-0700	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	0700-0800	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	0800-0900	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	0900-1000	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1000-1100	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1100-1200	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1200-1300	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1300-1400	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1400-1500	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1500-1600	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1600-1700	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1700-1800	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1800-1900	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	1900-2000	1.20E-03	3.22E-07	8.06E-07	1.47E-03	3.95E-07	9.89E-07	2.91E-03	7.82E-07	1.96E-06	3.23E-03	8.68E-07	2.17E-06
Road 24	24	2000-2100	1.07E-03	1.38E-07	3.59E-07	1.07E-03	1.38E-07	3.59E-07	4.82E-03	6.24E-07	1.62E-06	4.82E-03	6.24E-07	1.62E-06
Road 24	24	2100-2200	1.07E-03	1.38E-07	3.59E-07	1.07E-03	1.38E-07	3.59E-07	4.82E-03	6.24E-07	1.62E-06	4.82E-03	6.24E-07	1.62E-06
Road 24	24	2200-2300	1.07E-03	1.38E-07	3.59E-07	1.07E-03	1.38E-07	3.59E-07	4.82E-03	6.24E-07	1.62E-06	4.82E-03	6.24E-07	1.62E-06
Road 24	24	2300-0000	1.07E-03	1.38E-07	3.59E-07	1.07E-03	1.38E-07	3.59E-07	4.82E-03	6.24E-07	1.62E-06	4.82E-03	6.24E-07	1.62E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2038**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Max			Monthly Hour Min			Monthly Hour Max		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.47E-01	4.26E-07	1.31E-06	1.53E-01	4.43E-07	1.37E-06	5.52E-01	1.07E-06	2.68E-06	5.58E-01	1.08E-06	2.71E-06
Road 27	27	1700-1800	1.45E-01	3.34E-07	1.03E-06	1.33E-01	3.05E-07	9.40E-07	5.79E-01	1.33E-06	4.10E-06	5.28E-01	1.22E-06	3.74E-06
Road 27	27	1800-1900	1.27E-01	2.01E-07	6.18E-07	1.18E-01	1.86E-07	5.71E-07	5.25E-01	8.28E-07	2.55E-06	4.84E-01	7.65E-07	2.35E-06
Road 27	27	1900-2000	1.18E-01	1.22E-07	3.75E-07	1.10E-01	1.13E-07	3.48E-07	4.69E-01	4.83E-07	1.49E-06	4.36E-01	4.49E-07	1.38E-06
Road 27	27	2000-2100	1.15E-01	9.48E-08	2.92E-07	1.06E-01	8.70E-08	2.68E-07	4.72E-01	3.88E-07	1.19E-06	4.33E-01	3.56E-07	1.10E-06
Road 27	27	2100-2200	1.15E-01	9.48E-08	2.92E-07	1.06E-01	8.70E-08	2.68E-07	4.63E-01	3.81E-07	1.17E-06	4.25E-01	3.50E-07	1.08E-06
Road 27	27	2200-2300	1.20E-01	9.48E-08	2.92E-07	1.15E-01	8.44E-08	2.60E-07	4.36E-01	3.20E-07	9.86E-07	4.16E-01	3.06E-07	9.41E-07
Road 27	27	2300-0000	1.22E-01	7.35E-08	2.26E-07	1.16E-01	6.99E-08	2.15E-07	4.40E-01	2.66E-07	8.18E-07	4.19E-01	2.53E-07	7.78E-07
Road 28	28	0000-0100	1.83E-01	4.63E-07	1.78E-06	2.14E-01	5.41E-07	2.08E-06	7.67E-01	1.94E-06	7.46E-06	8.97E-01	2.27E-06	8.72E-06
Road 28	28	0100-0200	1.07E-02	7.48E-08	4.24E-06	9.66E-03	6.73E-08	3.82E-06	5.44E-02	3.79E-07	2.15E-05	4.75E-02	3.31E-07	1.88E-05
Road 28	28	0200-0300	1.23E-02	5.05E-08	2.87E-06	1.10E-02	4.50E-08	2.56E-06	5.93E-02	2.43E-07	1.38E-05	5.10E-02	2.09E-07	1.19E-05
Road 28	28	0300-0400	1.23E-02	5.05E-08	2.87E-06	1.10E-02	4.50E-08	2.56E-06	5.93E-02	2.43E-07	1.38E-05	5.10E-02	2.09E-07	1.19E-05
Road 28	28	0400-0500	1.23E-02	5.05E-08	2.87E-06	1.10E-02	4.50E-08	2.56E-06	5.93E-02	2.43E-07	1.38E-05	5.10E-02	2.09E-07	1.19E-05
Road 28	28	0500-0600	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	0600-0700	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	0700-0800	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	0800-0900	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	0900-1000	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	1000-1100	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	1100-1200	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	1200-1300	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	1300-1400	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	1400-1500	1.23E-02	5.09E-08	2.89E-06	1.10E-02	4.54E-08	2.58E-06	5.93E-02	2.45E-07	1.39E-05	5.10E-02	2.11E-07	1.20E-05
Road 28	28	1500-1600	1.23E-02	5.09E-08	2.89E-06	1.10E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2038**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	1.56E-02	4.91E-03	1.51E-05	4.50E-02	1.41E-02	1.04E-04	1.25E-01	3.91E-02	1.15E-04
Road 47	47	1700-1800	1.81E-02	4.03E-03	1.26E-05	1.68E-02	3.73E-03	1.17E-05	8.85E-02	1.97E-02	6.14E-05
Road 47	47	1800-1900	1.31E-02	3.30E-03	1.03E-05	1.21E-02	3.03E-03	9.47E-06	6.43E-02	1.61E-02	5.04E-05
Road 47	47	1900-2000	7.43E-03	1.98E-03	6.18E-06	6.92E-03	1.84E-03	5.74E-06	3.95E-02	1.05E-02	3.28E-05
Road 47	47	2000-2100	9.76E-03	1.52E-03	4.74E-06	8.91E-03	1.38E-03	4.32E-06	6.40E-02	9.95E-03	3.11E-05
Road 47	47	2100-2200	1.25E-02	1.56E-03	4.86E-06	1.14E-02	1.42E-03	4.43E-06	8.20E-02	1.02E-02	3.19E-05
Road 47	47	2200-2300	7.32E-03	1.11E-03	3.46E-06	6.92E-03	1.05E-03	3.27E-06	5.59E-02	8.46E-03	2.64E-05
Road 47	47	2300-0000	7.73E-03	8.72E-04	2.72E-06	7.32E-03	8.26E-04	2.58E-06	5.56E-02	6.28E-03	1.96E-05
Road 48	48	0000-0100	1.56E-02	4.33E-03	1.35E-05	1.47E-02	4.09E-03	1.27E-05	1.12E-01	3.11E-02	9.70E-05
Road 48	48	0100-0200	6.47E-03	3.65E-03	5.51E-06	6.12E-03	3.45E-03	5.21E-06	4.65E-02	2.62E-02	3.96E-05
Road 48	48	0200-0300	6.47E-03	3.65E-03	5.51E-06	6.12E-03	3.45E-03	5.21E-06	4.65E-02	2.62E-02	3.96E-05
Road 48	48	0300-0400	7.58E-03	2.46E-03	3.72E-06	7.18E-03	2.33E-03	3.52E-06	5.45E-02	1.77E-02	2.67E-05
Road 48	48	0400-0500	9.24E-03	2.94E-03	4.44E-06	8.74E-03	2.78E-03	4.21E-06	6.64E-02	2.11E-02	3.19E-05
Road 48	48	0500-0600	8.81E-03	5.44E-03	8.21E-06	7.75E-03	4.79E-03	7.22E-06	5.68E-02	3.51E-02	5.29E-05
Road 48	48	0600-0700	9.34E-03	1.24E-02	1.86E-05	8.41E-03	1.11E-02	1.68E-05	6.30E-02	8.35E-02	1.26E-04
Road 48	48	0700-0800	9.24E-03	2.59E-02	3.91E-05	8.32E-03	2.33E-02	3.52E-05	6.23E-02	1.75E-01	2.64E-04
Road 48	48	0800-0900	9.36E-03	2.89E-02	4.36E-05	8.48E-03	2.62E-02	3.95E-05	6.80E-02	2.10E-01	3.17E-04
Road 48	48	0900-1000	1.04E-02	2.68E-02	4.04E-05	9.67E-03	2.50E-02	3.77E-05	8.00E-02	2.06E-01	3.11E-04
Road 48	48	1000-1100	1.21E-02	2.84E-02	3.98E-05	1.07E-02	2.51E-02	3.52E-05	1.03E-01	2.42E-01	3.39E-04
Road 48	48	1100-1200	1.14E-02	2.36E-02	3.57E-05	1.04E-02	2.14E-02	3.23E-05	1.03E-01	2.12E-01	3.20E-04
Road 48	48	1200-1300	2.05E-02	2.41E-02	3.51E-05	1.87E-02	2.20E-02	3.20E-05	1.86E-01	2.18E-01	3.18E-04
Road 48	48	1300-1400	2.05E-02	3.57E-02	5.39E-05	1.88E-02	3.27E-02	4.94E-05	1.73E-01	3.01E-01	4.55E-04
Road 48	48	1400-1500	1.94E-02	3.74E-02	5.64E-05	1.78E-02	3.43E-02	5.18E-05	1.79E-01	3.45E-01	5.21E-04
Road 48	48	1500-1600	1.89E-02	3.52E-02	5.31E-05	1.74E-02	3.25E-02	4.91E-05	1.75E-01	3.26E-01	4.92E-04
Road 48	48	1600-1700	1.94E-02	3.74E-02	5.64E-05	1.78E-02	3.43E-02	5.18E-05	2.19E-01	4.22E-01	6.37E-04
Road 48	48	1700-1800	1.94E-02	3.31E-02	4.99E-05	1.78E-02	3.04E-02	4.58E-05	2.19E-01	3.74E-01	5.64E-04
Road 48	48	1800-1900	1.14E-02	2.39E-02	3.60E-05	1.05E-02	2.20E-02	3.32E-05	1.29E-01	2.70E-01	4.07E-04
Road 48	48	1900-2000	1.06E-02	1.37E-02	2.07E-05	9.71E-03	1.26E-02	1.90E-05	1.20E-01	1.55E-01	2.34E-04
Road 48	48	2000-2100	1.06E-02	1.37E-02	2.07E-05	9.71E-03	1.26E-02	1.90E-05	1.20E-01	1.55E-01	2.34E-04
Road 48	48	2100-2200	9.86E-03	1.25E-02	1.89E-05	9.03E-03	1.15E-02	1.73E-05	1.11E-01	1.41E-01	2.13E-04
Road 48	48	2200-2300	9.86E-03	1.25E-02	1.89E-05	9.03E-03	1.15E-02	1.73E-05	1.11E-01	1.41E-01	2.13E-04
Road 48	48	2300-0000	1.05E-02	9.79E-03	1.48E-05	9.99E-03	9.32E-03	1.41E-05	4.85E-02	4.52E-02	6.82E-05
Road 49	49	0000-0100	4.27E-03	1.30E-03	4.01E-06	4.04E-03	1.23E-03	3.79E-06	3.07E-02	9.34E-03	2.88E-05
Road 49	49	0100-0200	2.81E-03	2.78E-03	4.20E-06	2.65E-03	2.62E-03	3.97E-06	2.02E-02	2.00E-02	3.02E-05
Road 49	49	0200-0300	2.81E-03	2.78E-03	4.20E-06	2.65E-03	2.62E-03	3.97E-06	2.02E-02	2.00E-02	3.02E-05
Road 49	49	0300-0400	4.63E-03	1.50E-03	2.27E-06	4.38E-03	1.42E-03	2.15E-06	3.33E-02	1.08E-02	1.63E-05
Road 49	49	0400-0500	5.64E-03	1.79E-03	2.71E-06	5.33E-03	1.69E-03	2.56E-06	4.05E-02	1.29E-02	1.95E-05
Road 49	49	0500-0600	5.38E-03	3.32E-03	5.01E-06	4.73E-03	2.92E-03	4.41E-06	3.47E-02	2.14E-02	3.23E-05
Road 49	49	0600-0700	5.70E-03	7.57E-03	1.14E-05	5.13E-03	6.81E-03	1.03E-05	3.84E-02	5.10E-02	7.71E-05
Road 49	49	0700-0800	5.64E-03	1.58E-02	2.39E-05	5.08E-03	1.42E-02	2.15E-05	3.80E-02	1.07E-01	1.61E-04
Road 49	49	0800-0900	5.71E-03	1.76E-02	2.66E-05	5.17E-03	1.60E-02	2.41E-05	4.15E-02	1.28E-01	1.93E-04
Road 49	49	0900-1000	6.37E-03	1.64E-02	2.47E-05	5.90E-03	1.52E-02	2.30E-05	4.88E-02	1.26E-01	1.90E-04
Road 49	49	1000-1100	7.38E-03	1.73E-02	2.43E-05	6.53E-03	1.53E-02	2.15E-05	6.29E-02	1.47E-01	2.07E-04
Road 49	49	1100-1200	6.96E-03	1.44E-02	2.18E-05	6.35E-03	1.31E-02	1.98E-05	6.31E-02	1.30E-01	1.96E-04
Road 49	49	1200-1300	1.25E-02	1.47E-02	2.14E-05	1.14E-02	1.34E-02	1.95E-05	1.14E-01	1.33E-01	1.94E-04
Road 49	49	1300-1400	1.25E-02	2.18E-02	3.29E-05	1.15E-02	2.00E-02	3.02E-05	1.06E-01	1.84E-01	2.78E-04
Road 49	49	1400-1500	1.18E-02	2.28E-02	3.44E-05	1.09E-02	2.10E-02	3.16E-05	1.09E-01	2.11E-01	3.18E-04
Road 49	49	1500-1600	1.15E-02	2.15E-02	3.24E-05	1.06E-02	1.98E-02	2.99E-05	1.07E-01	1.99E-01	3.00E-04
Road 49	49	1600-1700	1.18E-02	2.28E-02	3.44E-05	1.09E-02	2.10E-02	3.16E-05	1.34E-01	2.57E-01	3.88E-04
Road 49	49	1700-1800	1.18E-02	2.02E-02	3.04E-05	1.09E-02	1.86E-02	2.80E-05	1.34E-01	2.29E-01	3.45E-04
Road 49	49	1800-1900	6.96E-03	1.46E-02	2.20E-05	6.42E-03	1.34E-02	2.03E-05	7.88E-02	1.65E-01	2.49E-04
Road 49	49	1900-2000	6.47E-03	8.35E-03	1.26E-05	5.93E-03	7.69E-03	1.16E-05	7.34E-02	9.47E-02	1.43E-04
Road 49	49	2000-2100	6.47E-03	8.35E-03	1.26E-05	5.93E-03	7.69E-03	1.16E-05	7.34E-02	9.47E-02	1.43E-04
Road 49	49	2100-2200	6.02E-03	7.63E-03	1.15E-05	5.51E-03	7.02E-03	1.06E-05	6.83E-02	8.65E-02	1.30E-04
Road 49	49	2200-2300	6.02E-03	7.63E-03	1.15E-05	5.51E-03	7.02E-03	1.06E-05	6.83E-02	8.65E-02	1.30E-04
Road 49	49	2300-0000	6.41E-03	5.97E-03	9.03E-06	5.87E-03	5.47E-03	8.28E-06	2.96E-02	2.76E-02	4.17E-05
Road 50	50	0000-0100	3.40E-03	1.04E-03	3.19E-06	3.22E-03	9.83E-04	3.02E-06	2.45E-02	7.44E-03	2.29E-05
Road 50	50	0100-0200	2.24E-03	2.21E-03	3.34E-06	2.11E-03	2.09E-03	3.16E-06	1.61E-02	1.59E-02	2.40E-05
Road 50	50	0200-0300	2.24E-03	2.21E-03	3.34E-06	2.11E-03	2.09E-03	3.16E-06	1.61E-02	1.59E-02	2.40E-05
Road 50	50	0300-0400	3.69E-03	1.19E-03	1.81E-06	3.49E-03	1.13E-03	1.71E-06	2.65E-02	8.61E-03	1.30E-05
Road 50	50	0400-0500	4.49E-03	1.43E-03	2.16E-06	4.25E-03	1.35E-03	2.04E-06	3.23E-02	1.03E-02	1.55E-05
Road 50	50	0500-0600	4.29E-03	2.65E-03	3.99E-06	4.06E-03	2.51E-03	3.78E-06	2.77E-02	1.71E-02	2.57E-05
Road 50	50	0600-0700	4.54E-03	6.03E-03	9.09E-06	4.29E-03	5.71E-03	8.61E-06	3.06E-02	4.07E-02	6.14E-05
Road 50	50	0700-0800	4.49E-03	1.26E-02	1.90E-05	4.25E-03	1.19E-02	1.80E-05	3.03E-02	8.51E-02	1.28E-04
Road 50	50	0800-0900	4.55E-03	1.40E-02	2.12E-05	4.31E-03	1.33E-02	2.01E-05	3.31E-02	1.02E-01	1.54E-04
Road 50	50	0900-1000	4.76E-03	1.04E-02	1.57E-05	4.36E-03	9.56E-03	1.44E-05	3.27E-02	7.16E-02	1.08E-04
Road 50	50	1000-1100	5.17E-03	1.21E-02	1.70E-05	4.57E-03	1.07E-02	1.50E-05	4.41E-02	1.03E-01	1.45E-04
Road 50	50	1100-1200	4.87E-03	1.01E-02	1.53E-05	4.44E-03	9.21E-03	1.39E-05	4.42E-02	9.17E-02	1.38E-04
Road 50	50	1200-1300	8.76E-03	1.03E-02	1.50E-05	7.98E-03	9.38E-03	1.36E-05	7.98E-02	9.38E-02	1.36E-04
Road 50	50	1300-1400	8.76E-03	1.53E-02	2.30E-05	8.04E-03	1.40E-02	2.11E-05	7.42E-02	1.29E-01	1.95E-04
Road 50	50	1400-1500	8.29E-03	1.59E-02	2.41E-05	7.62E-03	1.46E-02	2.21E-05	7.63E-02	1.47E-01	2.23E-04
Road 50	50	1500-1600	8.07E-03	1.50E-02	2.27E-05	7.42E-03	1.38E-02	2.09E-05	7.49E-02	1.39E-01	2.10E-04
Road 50	50	1600-1700	8.29E-03	1.59E-02	2.41E-05	7.62E-03	1.46E-02	2.21E-05	9.38E-02	1.80E-01	2.72E-04
Road 50	50	1700-1800	8.29E-03	1.41E-02	2.13E-05	7.62E-03	1.30E-02	1.96E-05	9.38E-02	1.60E-01	2.41E-04
Road 50	50	1800-1900	4.87E-03	1.02E-02	1.54E-05	4.49E-03	9.41E-03	1.42E-05	5.51E-02	1.16E-01	1.74E-04
Road 50	50	1900-2000	4.15E-02	1.64E-02	2.34E-05	3.81E-02	1.51E-02	2.16E-05	1.57E-01	6.21E-02	8.86E-05
Road 50	50	2000-2100	4.53E-02	1.26E-02	1.77E-05	4.17E-02	1.16E-02	1.63E-05	1.71E-01	4.76E-02	6.67E-05
Road 50	50	2100-2200	3.89E-02	1.08E-02	1.52E-05	3.58E-02	9.96E-03	1.40E-05	1.47E-01	4.08E-02	5.73E-05
Road 50	50	2200-2300	4.20E-02	1.05E-02	1.47E-05	3.86E-02	9.66E-03	1.35E-05	1.58E-01	3.96E-02	5.55E-05
Road 50	50	2300-0000	4.30E-02	9.91E-03	1.41E-05	4.11E-02	9.46E-03	1.35E-05	1.55E-01	3.57E-02	5.09E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2038.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March) **Year 2038**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	5.60E-03	4.03E-03	8.62E-07	4.09E-03	2.62E-03	2.80E-07	5.82E-02	3.80E-02	4.08E-06
Road 51	51	0100-0200	6.11E-03	3.28E-03	6.10E-07	5.45E-03	2.92E-03	5.45E-07	4.38E-02	2.35E-02	4.38E-06
Road 51	51	0200-0300	6.62E-03	2.59E-03	4.83E-07	5.92E-03	2.32E-03	4.32E-07	4.25E-02	1.77E-02	3.29E-06
Road 51	51	0300-0400	7.56E-03	2.21E-03	4.12E-07	6.38E-03	1.97E-03	3.67E-07	4.67E-02	1.44E-02	2.68E-06
Road 51	51	0400-0500	7.79E-03	2.63E-03	4.90E-07	6.86E-03	2.32E-03	4.32E-07	4.92E-02	1.66E-02	3.09E-06
Road 51	51	0500-0600	7.34E-03	4.87E-03	9.08E-07	6.29E-03	4.17E-03	7.78E-07	7.56E-02	2.91E-02	5.51E-06
Road 51	51	0600-0700	8.85E-03	1.11E-02	2.06E-06	7.96E-03	9.95E-03	1.85E-06	5.17E-02	6.46E-02	1.20E-05
Road 51	51	0700-0800	9.35E-03	2.36E-02	4.39E-06	8.42E-03	2.12E-02	3.96E-06	5.26E-02	1.32E-01	2.47E-05
Road 51	51	0800-0900	8.86E-03	2.58E-02	4.80E-06	8.02E-03	2.34E-02	4.35E-06	4.61E-02	1.35E-01	2.50E-05
Road 51	51	0900-1000	9.93E-03	2.35E-02	4.38E-06	9.06E-03	2.14E-02	3.99E-06	5.02E-02	1.20E-01	2.24E-05
Road 51	51	1000-1100	1.06E-02	2.05E-02	3.82E-06	9.63E-03	1.85E-02	3.46E-06	5.39E-02	1.04E-01	1.93E-05
Road 51	51	1100-1200	1.06E-02	2.05E-02	3.82E-06	9.63E-03	1.85E-02	3.46E-06	5.39E-02	1.04E-01	1.93E-05
Road 51	51	1200-1300	2.05E-02	2.41E-02	4.49E-06	1.87E-02	2.20E-02	4.09E-06	1.04E-01	1.22E-01	2.27E-05
Road 51	51	1300-1400	2.05E-02	3.57E-02	6.66E-06	1.88E-02	3.27E-02	6.10E-06	1.04E-01	1.81E-01	3.37E-05
Road 51	51	1400-1500	2.06E-02	3.58E-02	6.67E-06	1.89E-02	3.29E-02	6.14E-06	7.62E-02	1.32E-01	2.47E-05
Road 51	51	1500-1600	1.94E-02	3.74E-02	6.96E-06	1.78E-02	3.43E-02	6.39E-06	7.20E-02	1.39E-01	2.58E-05
Road 51	51	1600-1700	1.94E-02	3.74E-02	6.96E-06	1.78E-02	3.43E-02	6.39E-06	7.20E-02	1.39E-01	2.58E-05
Road 51	51	1700-1800	1.94E-02	3.31E-02	6.17E-06	1.78E-02	3.04E-02	5.66E-06	7.20E-02	1.23E-01	2.29E-05
Road 51	51	1800-1900	1.14E-02	2.39E-02	4.45E-06	1.05E-02	2.20E-02	4.10E-06	4.25E-02	8.90E-02	1.65E-05
Road 51	51	1900-2000	1.06E-02	1.37E-02	2.55E-06	9.71E-03	1.26E-02	2.34E-06	3.95E-02	5.11E-02	9.49E-06
Road 51	51	2000-2100	1.06E-02	1.37E-02	2.55E-06	9.71E-03	1.26E-02	2.34E-06	3.95E-02	5.11E-02	9.49E-06
Road 51	51	2100-2200	9.86E-03	1.25E-02	2.33E-06	9.03E-03	1.15E-02	2.13E-06	3.67E-02	4.66E-02	8.66E-06
Road 51	51	2200-2300	9.86E-03	1.25E-02	2.33E-06	9.03E-03	1.15E-02	2.13E-06	3.67E-02	4.66E-02	8.66E-06
Road 51	51	2300-0000	1.05E-02	9.79E-03	1.82E-06	9.99E-03	9.32E-03	1.73E-06	1.60E-02	1.49E-02	2.77E-06
Road 52	52	0000-0100	1.56E-02	4.33E-03	1.66E-06	1.47E-02	4.09E-03	1.57E-06	3.70E-02	1.03E-02	3.95E-06
Road 52	52	0100-0200	6.47E-03	3.65E-03	6.79E-07	6.12E-03	3.45E-03	6.42E-07	1.54E-02	8.68E-03	1.61E-06
Road 52	52	0200-0300	6.47E-03	3.65E-03	6.79E-07	6.12E-03	3.45E-03	6.42E-07	1.54E-02	8.68E-03	1.61E-06
Road 52	52	0300-0400	7.58E-03	2.46E-03	4.58E-07	7.18E-03	2.33E-03	4.34E-07	1.80E-02	5.87E-03	1.09E-06
Road 52	52	0400-0500	9.24E-03	2.94E-03	5.47E-07	8.74E-03	2.78E-03	5.18E-07	2.20E-02	6.99E-03	1.30E-06
Road 52	52	0500-0600	8.81E-03	5.44E-03	1.01E-06	7.75E-03	4.79E-03	8.90E-07	1.88E-02	1.16E-02	2.16E-06
Road 52	52	0600-0700	9.34E-03	1.24E-02	2.30E-06	8.41E-03	1.11E-02	2.07E-06	2.09E-02	2.77E-02	5.14E-06
Road 52	52	0700-0800	9.24E-03	2.59E-02	4.82E-06	8.32E-03	2.33E-02	4.34E-06	2.06E-02	5.79E-02	1.08E-05
Road 52	52	0800-0900	9.36E-03	2.89E-02	5.38E-06	8.48E-03	2.62E-02	4.87E-06	2.25E-02	6.96E-02	1.29E-05
Road 52	52	0900-1000	1.04E-02	2.68E-02	4.98E-06	9.67E-03	2.50E-02	4.65E-06	2.66E-02	6.84E-02	1.27E-05
Road 52	52	1000-1100	1.21E-02	2.84E-02	4.91E-06	1.07E-02	2.51E-02	4.34E-06	3.42E-02	8.03E-02	1.39E-05
Road 52	52	1100-1200	1.14E-02	2.36E-02	4.40E-06	1.04E-02	2.14E-02	3.98E-06	3.42E-02	7.04E-02	1.31E-05
Road 52	52	1200-1300	2.05E-02	2.41E-02	4.33E-06	1.87E-02	2.20E-02	3.95E-06	6.17E-02	7.25E-02	1.30E-05
Road 52	52	1300-1400	2.05E-02	3.57E-02	6.64E-06	1.88E-02	3.27E-02	6.09E-06	5.74E-02	9.99E-02	1.86E-05
Road 52	52	1400-1500	1.94E-02	3.74E-02	6.96E-06	1.78E-02	3.43E-02	6.39E-06	5.94E-02	1.15E-01	2.14E-05
Road 52	52	1500-1600	1.89E-02	3.52E-02	6.55E-06	1.74E-02	3.25E-02	6.04E-06	5.79E-02	1.08E-01	2.01E-05
Road 52	52	1600-1700	1.94E-02	3.74E-02	6.96E-06	1.78E-02	3.43E-02	6.39E-06	7.26E-02	1.40E-01	2.60E-05
Road 52	52	1700-1800	1.94E-02	3.31E-02	6.17E-06	1.78E-02	3.04E-02	5.66E-06	7.26E-02	1.24E-01	2.31E-05
Road 52	52	1800-1900	1.14E-02	2.39E-02	4.45E-06	1.05E-02	2.20E-02	4.10E-06	4.29E-02	8.98E-02	1.67E-05
Road 52	52	1900-2000	1.06E-02	1.37E-02	2.55E-06	9.71E-03	1.26E-02	2.34E-06	3.98E-02	5.15E-02	9.57E-06
Road 52	52	2000-2100	1.06E-02	1.37E-02	2.55E-06	9.71E-03	1.26E-02	2.34E-06	3.98E-02	5.15E-02	9.57E-06
Road 52	52	2100-2200	9.86E-03	1.25E-02	2.33E-06	9.03E-03	1.15E-02	2.13E-06	3.70E-02	4.70E-02	8.73E-06
Road 52	52	2200-2300	9.86E-03	1.25E-02	2.33E-06	9.03E-03	1.15E-02	2.13E-06	3.70E-02	4.70E-02	8.73E-06
Road 52	52	2300-0000	1.05E-02	9.79E-03	1.82E-06	9.99E-03	9.32E-03	1.73E-06	1.61E-02	1.50E-02	2.79E-06
Road 53	53	0000-0100	1.56E-02	4.33E-03	1.66E-06	1.47E-02	4.09E-03	1.57E-06	3.70E-02	1.03E-02	3.95E-06
Road 53	53	0100-0200	6.47E-03	3.65E-03	6.79E-07	6.12E-03	3.45E-03	6.42E-07	1.54E-02	8.68E-03	1.61E-06
Road 53	53	0200-0300	6.47E-03	3.65E-03	6.79E-07	6.12E-03	3.45E-03	6.42E-07	1.54E-02	8.68E-03	1.61E-06
Road 53	53	0300-0400	7.58E-03	2.46E-03	4.58E-07	7.18E-03	2.33E-03	4.34E-07	1.80E-02	5.87E-03	1.09E-06
Road 53	53	0400-0500	9.24E-03	2.94E-03	5.47E-07	8.74E-03	2.78E-03	5.18E-07	2.20E-02	6.99E-03	1.30E-06
Road 53	53	0500-0600	8.81E-03	5.44E-03	1.01E-06	7.75E-03	4.79E-03	8.90E-07	1.88E-02	1.16E-02	2.16E-06
Road 53	53	0600-0700	9.34E-03	1.24E-02	2.30E-06	8.41E-03	1.11E-02	2.07E-06	2.09E-02	2.77E-02	5.14E-06
Road 53	53	0700-0800	9.24E-03	2.59E-02	4.82E-06	8.32E-03	2.33E-02	4.34E-06	2.06E-02	5.79E-02	1.08E-05
Road 53	53	0800-0900	9.36E-03	2.89E-02	5.38E-06	8.48E-03	2.62E-02	4.87E-06	2.25E-02	6.96E-02	1.29E-05
Road 53	53	0900-1000	1.04E-02	2.68E-02	4.98E-06	9.67E-03	2.50E-02	4.65E-06	2.66E-02	6.84E-02	1.27E-05
Road 53	53	1000-1100	1.21E-02	2.84E-02	4.91E-06	1.07E-02	2.51E-02	4.34E-06	3.42E-02	8.03E-02	1.39E-05
Road 53	53	1100-1200	1.14E-02	2.36E-02	4.40E-06	1.04E-02	2.14E-02	3.98E-06	3.42E-02	7.04E-02	1.31E-05
Road 53	53	1200-1300	2.05E-02	2.41E-02	4.33E-06	1.87E-02	2.20E-02	3.95E-06	6.17E-02	7.25E-02	1.30E-05
Road 53	53	1300-1400	2.05E-02	3.57E-02	6.64E-06	1.88E-02	3.27E-02	6.09E-06	5.74E-02	9.99E-02	1.86E-05
Road 53	53	1400-1500	1.94E-02	3.74E-02	6.96E-06	1.78E-02	3.43E-02	6.39E-06	5.94E-02	1.15E-01	2.14E-05
Road 53	53	1500-1600	1.89E-02	3.52E-02	6.55E-06	1.74E-02	3.25E-02	6.04E-06	5.79E-02	1.08E-01	2.01E-05
Road 53	53	1600-1700	1.94E-02	3.74E-02	6.96E-06	1.78E-02	3.43E-02	6.39E-06	7.26E-02	1.40E-01	2.60E-05
Road 53	53	1700-1800	1.94E-02	3.31E-02	6.17E-06	1.78E-02	3.04E-02	5.66E-06	7.26E-02	1.24E-01	2.31E-05
Road 53	53	1800-1900	1.14E-02	2.39E-02	4.45E-06	1.05E-02	2.20E-02	4.10E-06	4.29E-02	8.98E-02	1.67E-05
Road 53	53	1900-2000	1.06E-02	1.37E-02	2.55E-06	9.71E-03	1.26E-02	2.34E-06	3.98E-02	5.15E-02	9.57E-06
Road 53	53	2000-2100	1.06E-02	1.37E-02	2.55E-06	9.71E-03	1.26E-02	2.34E-06	3.98E-02	5.15E-02	9.57E-06
Road 53	53	2100-2200	9.86E-03	1.25E-02	2.33E-06	9.03E-03	1.15E-02	2.13E-06	3.70E-02	4.70E-02	8.73E-06
Road 53	53	2200-2300	9.86E-03	1.25E-02	2.33E-06	9.03E-03	1.15E-02	2.13E-06	3.70E-02	4.70E-02	8.73E-06
Road 53	53	2300-0000	1.05E-02	9.79E-03	1.82E-06	9.99E-03	9.32E-03	1.73E-06	1.61E-02	1.50E-02	2.79E-06
Road 54	54	0000-0100	1.56E-02	4.33E-03	1.66E-06	1.47E-02	4.09E-03	1.57E-06	3.70E-02	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	3.79E-02	1.04E-02	1.54E-03	7.81E-02	1.33E-03	5.73E-05	3.19E-01	2.83E-04	4.83E-05
Road 14	14	0900-1000	4.25E-02	8.85E-03	1.47E-03	3.72E-02	7.57E-03	1.29E-05	1.57E-01	3.19E-06	5.44E-05
Road 14	14	1000-1100	4.67E-02	8.38E-03	1.43E-03	4.10E-02	7.37E-03	1.26E-05	1.65E-01	2.97E-06	5.08E-05
Road 14	14	1100-1200	4.58E-02	8.21E-03	1.40E-03	3.86E-02	1.17E-05	1.61E-01	2.81E-06	8.79E-05	1.43E-01
Road 14	14	1200-1300	6.78E-02	1.44E-06	2.46E-05	5.89E-02	1.25E-06	2.14E-05	2.29E-01	4.88E-06	8.32E-05
Road 14	14	1300-1400	6.70E-02	1.50E-06	2.56E-05	5.88E-02	1.32E-06	2.24E-05	2.36E-01	5.27E-06	9.00E-05
Road 14	14	1400-1500	6.97E-02	1.62E-06	2.77E-05	6.54E-02	1.52E-06	2.59E-05	2.63E-01	6.11E-06	1.04E-04
Road 14	14	1500-1600	6.39E-02	1.53E-06	2.61E-05	5.68E-02	1.36E-06	2.32E-05	2.36E-01	5.65E-06	9.64E-05
Road 14	14	1600-1700	6.70E-02	1.56E-06	2.66E-05	5.98E-02	1.39E-06	2.37E-05	2.41E-01	5.60E-06	9.56E-05
Road 14	14	1700-1800	4.95E-02	1.29E-06	2.20E-05	4.43E-02	1.15E-06	1.97E-05	1.68E-01	4.39E-06	7.49E-05
Road 14	14	1800-1900	4.47E-02	1.04E-06	1.77E-05	3.98E-02	9.26E-07	1.58E-05	1.51E-01	3.52E-06	6.00E-05
Road 14	14	1900-2000	4.47E-02	6.84E-07	8.26E-06	2.22E-02	4.35E-07	7.42E-06	1.08E-01	2.12E-06	3.61E-05
Road 14	14	2000-2100	2.29E-02	3.52E-07	4.25E-06	1.14E-02	2.24E-07	3.82E-06	5.47E-02	1.07E-06	1.82E-05
Road 14	14	2100-2200	2.18E-02	3.35E-07	4.05E-06	1.03E-02	1.98E-07	3.38E-06	5.47E-02	1.05E-06	1.79E-05
Road 14	14	2200-2300	2.20E-02	3.24E-07	1.59E-06	9.92E-03	1.46E-06	2.50E-05	8.74E-02	1.29E-06	2.20E-05
Road 14	14	2300-2400	2.29E-02	2.13E-07	4.78E-07	7.75E-03	7.21E-07	1.62E-06	9.93E-02	9.24E-06	2.07E-05
Road 15	15	0000-0100	1.86E-02	5.06E-08	4.68E-07	2.61E-02	7.10E-08	6.56E-07	4.62E-02	1.25E-07	1.16E-06
Road 15	15	0100-0200	1.70E-02	4.64E-08	4.30E-07	2.39E-02	6.51E-08	6.02E-07	4.21E-02	1.15E-07	1.06E-06
Road 15	15	0200-0300	4.31E-02	4.30E-08	3.98E-07	3.87E-02	3.59E-07	1.22E-07	1.13E-06	1.08E-01	1.08E-07
Road 15	15	0300-0400	4.98E-02	4.24E-08	3.93E-07	4.44E-02	3.78E-08	3.50E-07	1.15E-01	1.05E-07	9.37E-07
Road 15	15	0400-0500	4.89E-02	4.11E-08	3.81E-07	4.36E-02	3.66E-08	3.39E-07	1.13E-01	1.02E-07	9.06E-07
Road 15	15	0500-0600	3.98E-02	5.43E-08	5.03E-07	3.53E-02	4.81E-08	4.45E-07	2.23E-01	1.67E-07	1.55E-06
Road 15	15	0600-0700	1.42E-02	6.00E-08	5.56E-07	1.26E-02	5.32E-08	4.93E-07	1.62E-01	1.85E-07	1.71E-06
Road 15	15	0700-0800	4.97E-02	2.88E-07	2.67E-06	4.31E-02	2.50E-07	8.14E-06	1.29E-01	7.46E-07	6.91E-06
Road 15	15	0800-0900	4.78E-02	3.14E-07	2.90E-06	4.14E-02	2.71E-07	2.51E-06	1.46E-01	9.56E-07	8.86E-06
Road 15	15	0900-1000	2.96E-02	2.94E-07	2.72E-06	2.56E-02	2.54E-07	2.35E-06	1.09E-01	1.08E-06	1.00E-05
Road 15	15	1000-1100	5.66E-02	2.90E-07	2.68E-06	4.94E-02	2.55E-07	2.36E-06	1.67E-01	8.53E-07	7.90E-06
Road 15	15	1100-1200	2.43E-02	2.61E-07	2.42E-06	2.11E-02	2.26E-07	2.09E-06	1.07E-01	1.15E-06	1.06E-05
Road 15	15	1200-1300	6.74E-02	4.98E-07	4.61E-06	5.89E-02	4.35E-07	4.02E-06	2.07E-01	1.53E-06	1.42E-05
Road 15	15	1300-1400	6.89E-02	5.33E-07	4.94E-06	6.05E-02	4.68E-07	4.34E-06	2.19E-01	1.70E-06	1.57E-05
Road 15	15	1400-1500	5.84E-02	5.44E-07	5.04E-06	5.12E-02	4.77E-07	4.42E-06	1.86E-01	1.73E-06	1.60E-05
Road 15	15	1500-1600	6.36E-02	5.22E-07	4.83E-06	4.65E-02	4.30E-06	2.11E-01	1.74E-06	1.61E-05	1.87E-01
Road 15	15	1600-1700	6.14E-02	5.03E-07	4.66E-06	4.47E-02	4.13E-06	2.03E-01	1.68E-06	1.55E-05	1.80E-01
Road 15	15	1700-1800	1.22E-02	4.59E-07	4.25E-06	4.68E-02	3.81E-06	1.77E-01	1.55E-06	1.38E-05	1.28E-01
Road 15	15	1800-1900	1.14E-02	4.29E-07	3.97E-06	4.37E-02	3.56E-06	1.65E-01	1.44E-06	1.29E-05	1.19E-01
Road 15	15	1900-2000	2.47E-02	1.51E-07	1.40E-06	2.22E-02	1.36E-07	2.26E-06	9.61E-02	5.87E-07	9.75E-06
Road 15	15	2000-2100	2.49E-02	1.20E-07	1.11E-06	2.25E-02	1.09E-07	1.01E-06	9.25E-02	4.43E-07	4.10E-06
Road 15	15	2100-2200	2.49E-02	1.20E-07	1.11E-06	2.25E-02	1.09E-07	1.01E-06	9.25E-02	4.43E-07	4.10E-06
Road 15	15	2200-2300	2.34E-02	1.09E-07	1.01E-06	2.13E-02	9.91E-08	9.53E-07	4.43E-07	4.11E-06	8.47E-02
Road 15	15	2300-2400	2.34E-02	9.57E-08	3.63E-07	2.13E-02	8.72E-08	4.03E-07	4.43E-07	1.81E-06	3.74E-06
Road 16	16	0000-0100	7.95E-03	5.32E-08	1.63E-06	7.21E-03	4.83E-08	1.48E-06	4.29E-02	2.86E-07	8.78E-06
Road 16	16	0100-0200	8.96E-03	3.94E-08	1.21E-06	8.08E-03	3.55E-08	1.09E-06	5.18E-02	2.28E-07	6.98E-06
Road 16	16	0200-0300	1.11E-02	2.87E-08	8.80E-07	9.82E-03	2.54E-08	7.79E-07	5.73E-02	1.48E-07	4.54E-06
Road 16	16	0300-0400	1.11E-02	2.87E-08	8.80E-07	9.82E-03	2.54E-08	7.79E-07	5.73E-02	1.48E-07	4.54E-06
Road 16	16	0400-0500	1.11E-02	2.87E-08	8.80E-07	9.82E-03	2.54E-08	7.79E-07	5.73E-02	1.48E-07	4.54E-06
Road 16	16	0500-0600	1.19E-02	5.84E-08	1.79E-06	1.05E-02	5.16E-08	1.58E-06	6.21E-02	3.04E-07	9.31E-06
Road 16	16	0600-0700	1.24E-02	1.30E-07	3.99E-06	1.09E-02	1.15E-07	3.54E-06	6.46E-02	6.79E-07	2.08E-05
Road 16	16	0700-0800	2.04E-02	4.49E-07	1.38E-05	1.80E-02	3.97E-07	1.22E-05	1.06E-01	2.34E-06	7.19E-05
Road 16	16	0800-0900	1.92E-02	4.76E-07	1.46E-05	1.70E-02	4.21E-07	1.29E-05	9.98E-02	2.47E-06	7.59E-05
Road 16	16	0900-1000	1.98E-02	4.91E-07	1.51E-05	1.75E-02	4.34E-07	1.33E-05	1.03E-01	2.55E-06	7.84E-05
Road 16	16	1000-1100	1.98E-02	5.65E-07	1.73E-05	1.75E-02	4.99E-07	1.53E-05	1.03E-01	2.93E-06	9.02E-05
Road 16	16	1100-1200	1.33E-02	6.84E-07	2.10E-05	1.17E-02	6.04E-07	1.86E-05	6.91E-02	3.56E-06	1.09E-04
Road 16	16	1200-1300	1.33E-02	6.84E-07	2.10E-05	1.17E-02	6.04E-07	1.86E-05	6.91E-02	3.56E-06	1.09E-04
Road 16	16	1300-1400	1.53E-02	7.65E-07	2.34E-05	1.35E-02	6.76E-07	2.07E-05	7.94E-02	3.97E-06	1.22E-04
Road 16	16	1400-1500	1.53E-02	8.51E-07	2.61E-05	1.35E-02	7.52E-07	2.31E-05	7.94E-02	4.42E-06	1.35E-04
Road 16	16	1500-1600	1.56E-02	8.26E-07	2.53E-05	1.38E-02	7.30E-07	2.24E-05	8.09E-02	4.28E-06	1.31E-04
Road 16	16	1600-1700	1.78E-02	9.30E-07	2.85E-05	1.57E-02	8.22E-07	2.52E-05	9.22E-02	4.83E-06	1.48E-04
Road 16	16	1700-1800	1.79E-02	9.11E-07	2.79E-05	1.58E-02	8.05E-07	2.47E-05	9.28E-02	4.73E-06	1.45E-04
Road 16	16	1800-1900	1.85E-02	4.72E-07	1.45E-05	1.63E-02	4.17E-07	1.28E-05	9.58E-02	2.45E-06	7.51E-05
Road 16	16	1900-2000	6.17E-03	6.24E-07	1.92E-05	5.46E-03	5.52E-07	1.69E-05	3.58E-02	3.24E-06	9.94E-05
Road 16	16	2000-2100	2.02E-02	1.56E-07	4.78E-06	9.11E-03	7.04E-08	2.16E-06	4.26E-02	3.29E-07	1.01E-05
Road 16	16	2100-2200	1.92E-02	1.48E-07	4.54E-06	8.65E-03	6.68E-08	2.05E-06	4.04E-02	3.12E-07	9.58E-06
Road 16	16	2200-2300	9.50E-03	1.40E-07	4.28E-06	8.83E-03	1.27E-07	3.89E-06	4.86E-02	7.06E-07	2.16E-05
Road 16	16	2300-0000	1.01E-02	1.13E-07	3.46E-06	9.23E-03	1.03E-07	3.15E-06	4.91E-02	5.48E-07	1.68E-05
Road 17	17	0000-0100	1.01E-02	5.70E-08	1.67E-06	9.12E-03	5.14E-08	1.50E-06	5.67E-02	3.20E-07	9.36E-06
Road 17	17	0100-0200	1.01E-02	5.70E-08	1.67E-06	9.12E-03	5.14E-08	1.50E-06	5.67E-02	3.20E-07	9.36E-06
Road 17	17	0200-0300	1.18E-02	4.09E-08	1.20E-06	1.06E-02	3.68E-08	1.08E-06	6.62E-02	2.29E-07	6.72E-06
Road 17	17	0300-0400	1.18E-02	3.94E-08	1.15E-06	1.06E-02	3.55E-08	1.04E-06	6.62E-02	2.21E-07	6.47E-06
Road 17	17	0400-0500	1.18E-02	3.94E-08	1.15E-06	1.06E-02	3.55E-08	1.04E-06	6.62E-02	2.21E-07	6.47E-06
Road 17	17	0500-0600	1.26E-02	5.99E-08	1.76E-06	1.13E-02	5.39E-08	1.58E-06	7.06E-02	3.36E-07	9.87E-06
Road 17	17	0600-0700	1.32E-02	1.33E-07	3.90E-06	1.18E-02	1.20E-07	3.51E-06	7.38E-02	7.46E-07	2.19E-05
Road 17	17	0700-0800	2.17E-02	4.61E-07	1.35E-05	1.95E-02	4.15E-07	1.21E-05	1.22E-01	2.59E-06	7.59E-05
Road 17	17	0800-0900	2.04E-02	4.88E-07	1.43E-05	1.83E-02	4.39E-07	1.29E-05	1.14E-01	2.74E-06	8.04E-05
Road 17	17	0900-1000	2.11E-02	5.04E-07	1.48E-05	1.89E-02	4.53E-07	1.33E-05	1.18E-01	2.83E-06	8.30E-05
Road 17	17	1000-1100	2.11E-02	5.80E-07	1.70E-05	1.89E-02	5.21E-07	1.53E-05	1.18E-01	3.26E-06	9.56E-05
Road 17	17	1100-1200	1.42E-02	7.02E-07	2.06E-05	1.27E-02	6.31E-07	1.85E-05	7.94E-02	3.94E-06	1.16E-04
Road 17	17	1200-1300	1.42E-02	7.02E-07	2.06E-05	1.27E-02	6.31E-07	1.85E-05	7.94E-02	3.94E-06	1.16E-04
Road 17	17	1300-1400	1.63E-02	7.85E-07	2.30E-05	1.46E-02	7.06E-07	2.07E-05	9.13E-02	4.41E-06	1.29E-04
Road 17	17	1400-1500	1.63E-02	8.73E-07	2.56E-05	1.46E-02	7.85E-07	2.30E-05	9.13E-02	4.90E-06	1.44E-04
Road 17	17	1500-1600	1.66E-02	8.48E-07	2.48E-05	1.49E-02	7.62E-07	2.23E-05	9.30E-02	4.76E-06	1.40E-04
Road 17	17	1600-1700	1.89E-02	9.54E-07	2.80E-05	1.70E-02	8.58E-07	2.51E-05	1.06E-01	5.36E-06	1.57E-04
Road 17	17	1700-1800	1.90E-02	9.35E-07	2.74E-05	1.71E-02	8.41E-07	2.46E-05	1.07E-01	5.25E-06	1.54E-04
Road 17	17	1800-1900	1.97E-02	4.84E-07	1.42E-05	1.77E-02	4.35E-07	1.28E-05	1.10E-01	2.72E-06	7.97E-05
Road 17	17	1900-2000	6.57E-03	6.40E-07	1.88E-05	5.91E-03	5.76E-07	1.69E-05	3.68E-02	3.60E-06	1.06E-04
Road 17	17	2000-2100	2.15E-02	1.60E-07	4.69E-06	9.68E-03	7.20E-08	2.11E-06	4.38E-02	3.65E-07	1.07E-05
Road 17	17	2100-2200	2.04E-02	1.52E-07	4.45E-06	9.19E-03	6.84E-08	2.00E-06	4.15E-02	3.47E-07	1.01E-05
Road 17	17	2200-2300	1.01E-02	1.16E-07	3.39E-06	9.81E-03	1.30E-07	3.81E-06	5.00E-02	7.29E-07	2.13E-05
Road 17	17	2300-2400	1.07E-02	9.66E-08	3.55E-07	8.24E-03	7.41E-07	1.59E-06	5.31E-02	4.78E-06	1.02E-05
Road 17	17	0000-0100	1.07E-02	5.70E-08	1.67E-06	9.68E-03	5.46E-08	1.60E-06	6.02E-02	3.39E-07	9.94E-06
Road 17	17	0100-0200	1.07E-02	5.70E-08	1.67E-06	9.68E-03	5.46E-08	1.60E-06	6.02E-02	3.39E-07	9.94E-06
Road 17	17	0200-0300	1.37E-02	4.75E-08	1.39E-06	1.23E-02	4.27E-08	1.25E-06	7.65E-02	2.65E-07	7.78E-06
Road 17	17	0300-0400	1.37E-02	4.57E-08	1.34E-06	1.23E-02	4.11E-08	1.21E-06	7.65E-02	2.56E-07	7.50E-06
Road 17	17	0400-0500	1.37E-02	4.57E-08	1.34E-06	1.23E-02	4.11E-08	1.21E-06	7.65E-02	2.56E-07	7.50E-06
Road 17	17	0500-0600	1.37E-02	6.96E-08	2.04E-06	1.23E-02	6.26E-08	1.84E-06	7.65E-02	3.90E-07	1.14E-05
Road 17	17	0600-0700	1.53E-02	1.54E-07	4.53E-06	1.37E-02	1.39E-07	4.08E-06	8.54E-02	8.65E-07	2.54E-05
Road 17	17	0700-0800	2.52E-02	5.35E-07	1.57E-05	2.26E-02	4.81E-07	1.41E-05	1.41E-01	3.00E-06	8.80E-05
Road 17	17	0800-0900	2.37E-02	5.66E-07	1.66E-05	2.13E-02	5.09E-07	1.49E-05	1.32E-01	3.17E-06	9.31E-05
Road 17	17	0900-1000	2.45E-02	5.85E-07	1.72E-05	2.20E-02	5.26E-07	1.54E-05	1.37E-01	3.28E-06	9.62E-05
Road 17	17	1000-1100	2.45E-02	6.73E-07	1.98E-05	2.20E-02	6.05E-07	1.78E-05	1.37E-01	3.77E-06	1.11E-04
Road 17	17	1100-1200	1.65E-02	8.15E-07	2.39E-05	1.48E-02	7.33E-07	2.15E-05	9.21E-02	4.57E-06	1.34E-04
Road 17	17	1200-1300	1.65E-02	8.15E-07	2.39E-05	1.48E-02	7.33E-07	2.15E-05	9.21E-02	4.57E-06	1.34E-04
Road 17	17	1300-1400	1.89E-02	9.11E-07	2.68E-05	1.70E-02	8.19E-07	2.41E-05	1.06E-01	5.10E-06	1.50E-04
Road 17	17	1400-1500	1.89E-02	1.01E-06	2.98E-05	1.70E-02	9.09E-07	2.67E-05	1.06E-01	5.66E-06	1.66E-04
Road 17	17	1500-1600	1.93E-02	9.84E-07	2.89E-05	1.73E-02	8.85E-07	2.60E-05	1.08E-01	5.52E-06	1.62E-04
Road 17	17	1600-1700	2.19E-02	1.08E-06	3.25E-05	1.97E-02	9.73E-07	2.92E-05	1.23E-01	6.07E-06	1.82E-04
Road 17	17	1700-1800	2.20E-02	1.06E-06	3.18E-05	1.98E-02	9.55E-07	2.86E-05	1.24E-01	5.96E-06	1.79E-04
Road 17	17	1800-1900	2.29E-02	5.62E-07	1.65E-05	2.06E-02	5.06E-07	1.49E-05	1.28E-01	3.16E-06	9.26E-05
Road 17	17	1900-2000	7.62E-03	7.42E-07	2.18E-05	6.86E-03	6.68E-07	1.96E-05	4.27E-02	4.17E-06	1.23E-04
Road 17	17	2000-2100	2.50E-02	1.86E-07	5.44E-06	1.12E-02	8.36E-08	2.45E-06	5.08E-02	4.24E-07	1.24E-05
Road 17	17	2100-2200	2.37E-02	1.76E-07	5.16E-06	1.07E-02	7.92E-08	2.32E-06	4.81E-02	4.03E-07	1.18E-05
Road 17	17	2200-2300	1.17E-02	1.34E-07	3.93E-06	1.14E-02	1.51E-07	4.42E-06	5.79E-02	8.44E-07	2.47E-05
Road 17	17	2300-2400	1.24E-02	1.12E-07	4.11E-07	9.56E-03	8.59E-07	1.84E-06	6.15E-02	5.54E-06	1.19E-05
Road 17	17	0000-0100	1.24E-02	6.61E-08	1.94E-06	1.12E-02	5.96E-08	1.74E-06	6.99E-02	3.92E-07	1.15E-05
Road 17	17	0100-0200	1.24E-02	6.61E-08	1.94E-06	1.12E-02	5.96E-08	1.74E-06	6.99E-02	3.92E-07	1.15E-05
Road 17	17	0200-0300	1.62E-02	5.61E-08	1.64E-06	1.46E-02	5.05E-08	1.48E-06	9.06E-02	3.14E-07	9.21E-06
Road 17	17	0300-0400	1.62E-02	5.40E-08	1.58E-06	1.46E-02	4.86E-08	1.43E-06	9.06E-02	3.02E-07	8.87E-06
Road 17	17	0400-0500	1.62E-02	5.40E-08	1.58E-06	1.46E-02	4.86E-08	1.43E-06	9.06E-02	3.02E-07	8.87E-06
Road 17	17	0500-0600	1.37E-02	8.87E-08	2.59E-06	1.21E-02	7.98E-08	2.34E-06	7.53E-02	4.96E-07	1.45E-05
Road 17	17	0600-0700	1.52E-02	2.13E-07	6.22E-06	1.35E-02	1.85E-07	5.41E-06	8.33E-02	1.15E-06	3.38E-05
Road 17	17	0700-0800	2.52E-02	5.31E-07	1.56E-05	2.24E-02	4.78E-07	1.40E-05	1.40E-01	2.97E-06	8.72E-05
Road 17	17	0800-0900	2.37E-02	5.62E-07	1.64E-05	2.11E-02	5.06E-07	1.48E-05	1.31E-01	3.15E-06	9.23E-05
Road 17	17	0900-1000	2.45E-02	5.81E-07	1.70E-05	2.18E-02	5.23E-07	1.53E-05	1.36E-01	3.25E-06	9.54E-05
Road 17	17	1000-1100	2.45E-02	6.68E-07	1.96E-05	2.18E-02	6.01E-07	1.76E-05	1.36E-01	3.74E-06	1.10E-04
Road 17	17	1100-1200	1.64E-02	8.09E-07	2.37E-05	1.47E-02	7.28E-07	2.13E-05	9.14E-02	4.53E-06	1.33E-04
Road 17	17	1200-1300	1.64E-02	8.09E-07	2.37E-05	1.47E-02	7.28E-07	2.13E-05	9.14E-02	4.53E-06	1.33E-04
Road 17	17	1300-1400	1.88E-02	9.04E-07	2.66E-05	1.68E-02	8.13E-07	2.39E-05	1.05E-01	5.06E-06	1.49E-04
Road 17	17	1400-1500	1.88E-02	1.00E-06	2.96E-05	1.68E-02	9.03E-07	2.65E-05	1.05E-01	5.62E-06	1.65E-04
Road 17	17	1500-1600	1.92E-02	9.77E-07	2.87E-05	1.72E-02	8.79E-07	2.58E-05	1.07E-01	5.48E-06	1.61E-04
Road 17	17	1600-1700	2.17E-02	1.08E-06	3.22E-05	1.94E-02	9.66E-07	2.89E-05	1.22E-01	6.02E-06	1.80E-04
Road 17	17	1700-1800	2.18E-02	1.05E-06	3.16E-05	1.96E-02	9.48E-07	2.84E-05	1.23E-01	5.92E-06	1.78E-04
Road 17	17	1800-1900	2.27E-02	5.58E-07	1.64E-05	2.04E-02	5.02E-07	1.48E-05	1.27E-01	3.13E-06	9.19E-05
Road 17	17	1900-2000	7.56E-03	7.36E-07	2.16E-05	6.80E-03	6.62E-07	1.94E-05	4.24E-02	4.13E-06	1.22E-04
Road 17	17	2000-2100	2.48E-02	1.85E-07	5.40E-06	1.11E-02	8.30E-08	2.43E-06	5.04E-02	4.21E-07	1.23E-05
Road 17	17	2100-2200	2.35E-02	1.74E-07	5.12E-06	1.06E-02	7.86E-08	2.31E-06	4.78E-02	4.00E-07	1.17E-05
Road 17	17	2200-2300	1.16E-02	1.33E-07	3.90E-06	1.13E-02	1.50E-07	4.39E-06	5.75E-02	8.38E-07	2.45E-05
Road 17	17	2300-2400	1.23E-02	1.11E-07	4.08E-07	9.49E-03	8.53E-07	1.83E-06	6.11E-02	5.50E-06	1.18E-05
Road 17	17	0000-0100	1.23E-02	6.56E-08	1.92E-06	1.11E-02	5.92E-08	1.73E-06	6.94E-02	3.89E-07	1.14E-05
Road 17	17	0100-0200	1.23E-02	6.56E-08	1.92E-06	1.11E-02	5.92E-08	1.73E-06	6.94E-02	3.89E-07	1.14E-05
Road 17	17	0200-0300	1.61E-02	5.57E-08	1.63E-06	1.45E-02	5.02E-08	1.47E-06	9.00E-02	3.12E-07	9.15E-06
Road 17	17	0300-0400	1.61E-02	5.36E-08	1.57E-06	1.45E-02	4.83E-08	1.42E-06	9.00E-02	3.00E-07	8.81E-06
Road 17	17	0400-0500	1.61E-02	5.36E-08	1.57E-06	1.45E-02	4.83E-08	1.42E-06	9.00E-02	3.00E-07	8.81E-06
Road 17	17	0500-0600	1.36E-02	8.82E-08	2.58E-06	1.21E-02	7.94E-08	2.33E-06	7.48E-02	4.93E-07	1.44E-05
Road 17	17	0600-0700	1.51E-02	2.12E-07	6.18E-06	1.34E-02	1.84E-07	5.38E-06	8.28E-02	1.15E-06	3.36E-05
Road 17	17	0700-0800	2.51E-02	5.31E-07	1.56E-05	2.23E-02	4.78E-07	1.40E-05	1.39E-01	2.97E-06	8.72E-05
Road 17	17	0800-0900	2.36E-02	5.62E-07	1.64E-05	2.10E-02	5.06E-07	1.48E-05	1.31E-01	3.15E-06	9.23E-05
Road 17	17	0900-1000	2.44E-02	5.81E-07	1.70E-05	2.17E-02	5.23E-07	1.53E-05	1.35E-01	3.25E-06	9.54E-05
Road 17	17	1000-1100	2.44E-02	6.68E-07	1.96E-05	2.17E-02	6.01E-07	1.76E-05	1.35E-01	3.74E-06	1.10E-04
Road 17	17	1100-1200	1.64E-02	8.09E-07	2.37E-05	1.46E-02	7.28E-07	2.13E-05	9.13E-02	4.53E-06	1.33E-04
Road 17	17	1200-1300	1.64E-02	8.09E-07	2.37E-05	1.46E-02	7.28E-07	2.13E-05	9.13E-02	4.53E-06	1.33E-04
Road 17	17	1300-1400	1.88E-02	9.04E-07	2.66E-05	1.67E-02	8.13E-07	2.39E-05	1.05E-01	5.06E-06	1.49E-04
Road 17	17	1400-1500	1.88E-02	1.00E-06	2.96E-05	1.67E-02	9.03E-07	2.65E-05	1.05E-01	5.62E-06	1.65E-04
Road 17	17	1500-1600	1.92E-02	9.77E-07	2.87E-05	1.71E-02	8.79E-07	2.58E-05	1.07E-01	5.48E-06	1.61E-04
Road 17	17	1600-1700	2.17E-02	1.08E-06	3.22E-05	1.93E-02	9.66E-07	2.89E-05	1.21E-01	6.02E-06	1.80E-04
Road 17	17	1700-1800	2.18E-02	1.05E-06	3.16E-05	1.94E-02	9.48E-07	2.84E-05	1.22E-01	5.92E-06	1.78E-04
Road 17	17	1800-1900	2.27E-02	5.58E-07	1.64E-05	2.02E-02	5.02E-07	1.48E-05	1.27E-01	3.13E-06	9.19E-05
Road 17	17	1900-2000	7.56E-03	7.36E-07	2.16E-05	6.74E-03	6.62E-07	1.94E-05	4.24E-02	4

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	1.41E-02	2.35E-07	2.27E-08	3.23E-02	5.38E-07	5.76E-08	5.13E-02	8.54E-07	8.37E-07
Road 41	41	0100-0200	1.81E-02	2.24E-08	2.10E-07	1.83E-02	2.02E-08	1.89E-07	6.63E-02	8.20E-08	7.70E-07
Road 41	41	0200-0300	2.20E-02	2.12E-08	1.99E-07	1.86E-02	1.79E-08	1.68E-07	7.36E-02	7.10E-08	6.66E-07
Road 41	41	0300-0400	2.54E-02	2.06E-08	1.93E-07	2.28E-02	1.85E-08	1.73E-07	8.03E-02	6.49E-08	6.09E-07
Road 41	41	0400-0500	2.49E-02	2.16E-08	2.03E-07	2.22E-02	1.93E-08	1.81E-07	8.05E-02	6.97E-08	6.54E-07
Road 41	41	0500-0600	2.50E-02	2.68E-08	2.51E-07	2.37E-02	2.54E-08	2.38E-07	8.31E-02	8.91E-08	8.36E-07
Road 41	41	0600-0700	1.58E-02	4.16E-08	3.90E-07	1.38E-02	3.62E-08	3.40E-07	5.86E-02	1.80E-07	1.69E-06
Road 41	41	0700-0800	2.06E-02	1.18E-07	1.11E-06	1.78E-02	1.01E-07	9.52E-07	7.73E-02	4.42E-07	4.15E-06
Road 41	41	0800-0900	1.62E-02	1.07E-07	1.00E-06	1.39E-02	9.17E-08	8.61E-07	6.38E-02	4.21E-07	3.95E-06
Road 41	41	0900-1000	1.27E-02	1.22E-07	1.14E-06	1.89E-02	1.81E-07	1.70E-06	6.57E-02	6.31E-07	5.92E-06
Road 41	41	1000-1100	1.22E-02	1.12E-07	1.05E-06	1.89E-02	1.74E-07	1.63E-06	6.57E-02	6.03E-07	5.66E-06
Road 41	41	1100-1200	1.24E-02	1.14E-07	1.07E-06	1.91E-02	1.75E-07	1.65E-06	6.63E-02	6.09E-07	5.71E-06
Road 41	41	1200-1300	1.24E-02	1.14E-07	1.07E-06	1.91E-02	1.75E-07	1.65E-06	6.63E-02	6.09E-07	5.71E-06
Road 41	41	1300-1400	1.24E-02	1.14E-07	1.07E-06	1.91E-02	1.75E-07	1.65E-06	6.63E-02	6.09E-07	5.71E-06
Road 41	41	1400-1500	1.52E-02	3.63E-07	3.40E-06	1.86E-02	4.44E-07	4.17E-06	7.29E-02	1.74E-06	1.63E-05
Road 41	41	1500-1600	1.36E-02	3.37E-07	7.68E-06	1.21E-02	3.01E-07	6.85E-06	6.39E-02	1.59E-06	3.61E-05
Road 41	41	1600-1700	1.52E-02	3.77E-07	8.58E-06	1.35E-02	3.35E-07	7.62E-06	7.13E-02	1.77E-06	4.03E-05
Road 41	41	1700-1800	1.17E-02	2.69E-07	6.13E-06	1.05E-02	2.43E-07	5.51E-06	5.47E-02	1.26E-06	2.87E-05
Road 41	41	1800-1900	1.83E-02	1.14E-07	1.07E-06	1.64E-02	1.02E-07	9.61E-07	8.60E-02	5.34E-07	5.03E-06
Road 41	41	1900-2000	1.20E-02	5.24E-08	4.92E-07	1.07E-02	4.68E-08	4.40E-07	5.49E-02	2.41E-07	2.26E-06
Road 41	41	2000-2100	1.19E-02	4.13E-08	3.84E-07	1.06E-02	3.67E-08	3.42E-07	5.47E-02	1.89E-07	1.76E-06
Road 41	41	2100-2200	1.19E-02	4.12E-08	3.87E-07	1.08E-02	3.75E-08	3.52E-07	5.49E-02	1.90E-07	1.78E-06
Road 41	41	2200-2300	1.19E-02	3.76E-08	3.53E-07	1.08E-02	3.42E-08	3.21E-07	5.49E-02	1.73E-07	1.63E-06
Road 41	41	2300-0000	1.39E-02	3.58E-08	3.36E-07	1.26E-02	3.25E-08	3.05E-07	6.32E-02	1.63E-07	1.53E-06
Road 42	42	0000-0100	2.33E-02	4.64E-08	1.18E-06	2.12E-02	4.22E-08	1.07E-06	8.55E-02	1.70E-07	4.33E-06
Road 42	42	0100-0200	2.31E-02	4.71E-08	1.19E-06	2.10E-02	4.28E-08	1.08E-06	8.47E-02	1.73E-07	4.37E-06
Road 42	42	0200-0300	3.55E-02	3.82E-08	9.69E-07	3.17E-02	3.41E-08	8.65E-07	1.09E-01	1.17E-07	2.97E-06
Road 42	42	0300-0400	3.44E-02	3.34E-08	8.47E-07	3.20E-02	3.11E-08	7.89E-07	1.06E-01	1.03E-07	2.61E-06
Road 42	42	0400-0500	4.04E-02	3.90E-08	9.89E-07	3.60E-02	3.48E-08	8.82E-07	1.20E-01	1.16E-07	2.93E-06
Road 42	42	0500-0600	3.31E-02	4.97E-08	1.26E-06	3.02E-02	4.53E-08	1.15E-06	1.02E-01	1.53E-07	3.89E-06
Road 42	42	0600-0700	7.88E-02	4.08E-08	1.04E-06	7.26E-02	3.76E-08	9.53E-07	2.43E-01	1.26E-07	3.19E-06
Road 42	42	0700-0800	4.04E-02	2.59E-07	6.57E-06	3.49E-02	2.23E-07	5.66E-06	1.33E-01	8.54E-07	2.17E-05
Road 42	42	0800-0900	3.31E-02	2.35E-07	5.96E-06	2.87E-02	2.04E-07	5.17E-06	1.09E-01	7.74E-07	1.96E-05
Road 42	42	0900-1000	4.30E-02	2.67E-07	6.78E-06	3.74E-02	2.32E-07	5.92E-06	1.39E-01	8.63E-07	2.19E-05
Road 42	42	1000-1100	4.35E-02	2.66E-07	6.75E-06	3.77E-02	2.31E-07	5.86E-06	1.41E-01	8.63E-07	2.19E-05
Road 42	42	1100-1200	4.85E-02	2.56E-07	6.49E-06	4.26E-02	2.25E-07	5.70E-06	1.58E-01	8.35E-07	2.12E-05
Road 42	42	1200-1300	6.93E-02	2.67E-07	6.78E-06	6.02E-02	2.32E-07	5.89E-06	2.26E-01	8.71E-07	2.21E-05
Road 42	42	1300-1400	6.34E-02	2.67E-07	6.78E-06	5.51E-02	2.32E-07	5.89E-06	2.07E-01	8.71E-07	2.21E-05
Road 42	42	1400-1500	6.70E-02	2.78E-07	7.06E-06	5.90E-02	2.45E-07	6.21E-06	1.99E-01	8.25E-07	2.09E-05
Road 42	42	1500-1600	6.17E-02	2.56E-07	6.50E-06	5.43E-02	2.25E-07	5.72E-06	1.83E-01	7.60E-07	1.93E-05
Road 42	42	1600-1700	6.34E-02	2.72E-07	6.89E-06	5.58E-02	2.39E-07	6.06E-06	1.88E-01	8.06E-07	2.04E-05
Road 42	42	1700-1800	5.99E-02	2.69E-07	6.83E-06	5.27E-02	2.37E-07	6.01E-06	1.77E-01	7.97E-07	2.02E-05
Road 42	42	1800-1900	7.88E-02	2.40E-07	6.10E-06	7.26E-02	2.21E-07	5.62E-06	2.43E-01	7.40E-07	1.88E-05
Road 42	42	1900-2000	2.67E-02	7.63E-08	1.93E-06	2.40E-02	6.85E-08	1.74E-06	8.82E-02	2.52E-07	6.38E-06
Road 42	42	2000-2100	2.59E-02	7.63E-08	1.93E-06	2.34E-02	6.90E-08	1.75E-06	8.56E-02	2.52E-07	6.38E-06
Road 42	42	2100-2200	2.77E-02	6.34E-08	1.61E-06	2.52E-02	5.79E-08	1.47E-06	1.06E-01	2.42E-07	6.14E-06
Road 42	42	2200-2300	2.61E-02	6.00E-08	1.52E-06	2.38E-02	5.47E-08	1.38E-06	1.01E-01	2.32E-07	5.87E-06
Road 42	42	2300-0000	3.16E-02	4.87E-08	1.23E-06	2.96E-02	4.57E-08	1.16E-06	1.21E-01	1.87E-07	4.73E-06
Road 43	43	0000-0100	1.36E-02	3.99E-09	4.09E-08	1.24E-02	3.62E-09	3.70E-08	5.55E-02	1.62E-08	1.66E-07
Road 43	43	0100-0200	1.34E-02	3.96E-09	4.06E-08	1.22E-02	3.59E-09	3.68E-08	5.46E-02	1.61E-08	1.65E-07
Road 43	43	0200-0300	2.25E-02	3.62E-09	3.70E-08	1.55E-02	2.50E-09	2.55E-08	9.17E-02	1.48E-08	1.51E-07
Road 43	43	0300-0400	2.15E-02	3.46E-09	3.54E-08	1.48E-02	2.38E-09	2.44E-08	8.77E-02	1.41E-08	1.44E-07
Road 43	43	0400-0500	2.57E-02	3.70E-09	3.79E-08	2.29E-02	3.29E-09	3.37E-08	7.94E-02	1.14E-08	1.17E-07
Road 43	43	0500-0600	1.97E-02	4.28E-09	4.38E-08	1.74E-02	3.78E-09	3.87E-08	7.02E-02	1.52E-08	1.56E-07
Road 43	43	0600-0700	2.00E-02	1.83E-08	1.87E-07	1.72E-02	1.57E-08	1.61E-07	7.13E-02	6.52E-08	6.67E-07
Road 43	43	0700-0800	2.00E-02	1.83E-08	1.87E-07	1.57E-02	1.44E-08	1.47E-07	7.13E-02	6.52E-08	6.67E-07
Road 43	43	0800-0900	1.62E-02	1.49E-08	1.52E-07	1.26E-02	1.16E-08	1.19E-07	5.77E-02	5.31E-08	5.43E-07
Road 43	43	0900-1000	2.08E-02	1.92E-08	1.96E-07	1.63E-02	1.50E-08	1.54E-07	7.41E-02	6.83E-08	6.99E-07
Road 43	43	1000-1100	2.11E-02	1.94E-08	1.99E-07	1.66E-02	1.53E-08	1.56E-07	7.52E-02	6.92E-08	7.08E-07
Road 43	43	1100-1200	2.11E-02	1.94E-08	1.99E-07	1.66E-02	1.53E-08	1.56E-07	7.52E-02	6.92E-08	7.08E-07
Road 43	43	1200-1300	2.11E-02	1.94E-08	1.99E-07	1.66E-02	1.53E-08	1.56E-07	7.52E-02	6.92E-08	7.08E-07
Road 43	43	1300-1400	2.11E-02	1.94E-08	1.99E-07	1.66E-02	1.53E-08	1.56E-07	7.52E-02	6.92E-08	7.08E-07
Road 43	43	1400-1500	2.58E-02	6.17E-08	6.31E-07	1.58E-02	3.77E-08	3.86E-07	9.21E-02	2.20E-07	2.25E-06
Road 43	43	1500-1600	2.30E-02	5.73E-08	5.86E-07	1.35E-02	3.36E-08	3.44E-07	8.22E-02	2.05E-07	2.09E-06
Road 43	43	1600-1700	2.58E-02	6.41E-08	6.56E-07	1.52E-02	3.77E-08	3.86E-07	9.21E-02	2.29E-07	2.34E-06
Road 43	43	1700-1800	1.99E-02	4.57E-08	4.68E-07	1.19E-02	2.74E-08	2.80E-07	7.10E-02	1.63E-07	1.67E-06
Road 43	43	1800-1900	3.11E-02	1.94E-08	1.99E-07	2.79E-02	1.74E-08	1.78E-07	1.11E-01	6.92E-08	7.08E-07
Road 43	43	1900-2000	4.54E-02	8.91E-08	2.29E-06	4.08E-02	8.00E-08	2.06E-06	1.62E-01	3.18E-07	8.18E-06
Road 43	43	2000-2100	4.41E-02	7.03E-08	1.81E-06	3.96E-02	6.32E-08	1.62E-06	1.58E-01	2.52E-07	6.47E-06
Road 43	43	2100-2200	4.71E-02	7.03E-08	1.81E-06	4.22E-02	6.32E-08	1.62E-06	1.68E-01	2.52E-07	6.47E-06
Road 43	43	2200-2300	4.44E-02	6.66E-08	1.71E-06	3.98E-02	5.98E-08	1.54E-06	1.58E-01	2.38E-07	6.12E-06
Road 43	43	2300-0000	5.38E-02	5.41E-08	1.39E-06	4.83E-02	4.86E-08	1.25E-06	1.92E-01	1.93E-07	4.96E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 44	44	0800-0900	1.47E-02	2.88E-07	1.77E-06	8.46E-03	1.65E-07	1.52E-06	5.23E-02	1.02E-06	9.37E-06
Road 44	44	0900-1000	1.09E-02	2.58E-07	1.59E-06	9.50E-03	2.25E-07	1.39E-06	5.53E-02	1.31E-06	8.07E-06
Road 44	44	1000-1100	1.23E-02	2.50E-07	1.55E-06	1.08E-02	2.19E-07	1.35E-06	5.82E-02	1.19E-06	7.32E-06
Road 44	44	1100-1200	1.17E-02	2.26E-07	1.39E-06	1.02E-02	1.97E-07	1.22E-06	5.82E-02	1.12E-06	6.93E-06
Road 44	44	1200-1300	1.47E-02	3.71E-07	2.29E-06	1.28E-02	3.21E-07	1.98E-06	6.57E-02	1.65E-06	1.02E-05
Road 44	44	1300-1400	1.48E-02	3.79E-07	2.34E-06	1.29E-02	3.29E-07	2.03E-06	6.61E-02	1.69E-06	1.04E-05
Road 44	44	1400-1500	1.50E-02	4.12E-07	2.55E-06	1.32E-02	3.62E-07	2.23E-06	6.87E-02	1.88E-06	1.16E-05
Road 44	44	1500-1600	1.41E-02	3.96E-07	2.45E-06	1.25E-02	3.51E-07	2.17E-06	6.89E-02	1.93E-06	1.19E-05
Road 44	44	1600-1700	1.88E-02	5.63E-07	3.48E-06	1.67E-02	5.01E-07	3.11E-06	7.98E-02	2.39E-06	1.48E-05
Road 44	44	1700-1800	1.97E-02	6.68E-07	4.13E-06	1.76E-02	5.95E-07	3.68E-06	9.22E-02	3.12E-06	1.93E-05
Road 44	44	1800-1900	1.47E-02	3.67E-07	2.27E-06	1.30E-02	3.25E-07	2.01E-06	6.65E-02	1.66E-06	1.03E-05
Road 44	44	1900-2000	6.58E-03	1.94E-07	1.20E-06	5.87E-03	1.73E-07	1.07E-06	4.05E-02	1.20E-06	7.38E-06
Road 44	44	2000-2100	6.31E-03	1.45E-07	8.94E-07	5.70E-03	1.31E-07	8.08E-07	4.15E-02	9.56E-07	5.90E-06
Road 44	44	2100-2200	5.45E-03	1.25E-07	7.70E-07	4.91E-03	1.13E-07	6.96E-07	4.14E-02	9.56E-07	5.90E-06
Road 44	44	2200-2300	5.37E-03	1.19E-07	7.37E-07	4.79E-03	1.06E-07	6.58E-07	4.13E-02	9.19E-07	5.68E-06
Road 44	44	2300-0000	5.38E-03	1.06E-07	6.54E-07	4.96E-03	9.81E-08	6.04E-07	4.29E-02	8.47E-07	5.22E-06
Road 45	45	0000-0100	5.38E-03	4.06E-08	4.99E-07	4.84E-03	3.65E-08	4.49E-07	4.09E-02	3.09E-07	3.80E-06
Road 45	45	0100-0200	5.96E-03	2.35E-08	2.89E-07	5.78E-03	2.07E-08	2.55E-07	4.52E-02	1.62E-07	1.99E-06
Road 45	45	0200-0300	6.56E-03	2.35E-08	2.89E-07	5.78E-03	2.07E-08	2.55E-07	4.52E-02	1.62E-07	1.99E-06
Road 45	45	0300-0400	7.18E-03	2.32E-08	2.85E-07	6.49E-03	2.09E-08	2.57E-07	4.96E-02	1.60E-07	1.96E-06
Road 45	45	0400-0500	7.79E-03	2.41E-08	2.96E-07	7.03E-03	2.17E-08	2.67E-07	5.38E-02	1.66E-07	2.04E-06
Road 45	45	0500-0600	8.42E-03	4.50E-08	5.54E-07	7.37E-03	3.94E-08	4.85E-07	5.12E-02	2.74E-07	3.37E-06
Road 45	45	0600-0700	8.91E-03	7.93E-08	9.75E-07	7.80E-03	6.94E-08	8.53E-07	5.42E-02	4.82E-07	5.93E-06
Road 45	45	0700-0800	9.95E-03	2.30E-07	2.83E-06	8.50E-03	1.96E-07	2.42E-06	5.72E-02	1.32E-06	1.63E-05
Road 45	45	0800-0900	9.59E-03	2.57E-07	3.16E-06	8.22E-03	2.20E-07	2.71E-06	5.16E-02	1.38E-06	1.70E-05
Road 45	45	0900-1000	9.93E-03	2.67E-07	3.29E-06	8.72E-03	2.34E-07	2.87E-06	5.34E-02	1.43E-06	1.76E-05
Road 45	45	1000-1100	1.20E-02	2.25E-07	2.76E-06	1.06E-02	1.98E-07	2.42E-06	6.45E-02	1.20E-06	1.47E-05
Road 45	45	1100-1200	1.41E-02	3.07E-07	3.78E-06	1.22E-02	2.66E-07	3.27E-06	6.37E-02	1.39E-06	1.71E-05
Road 45	45	1200-1300	1.41E-02	3.07E-07	3.78E-06	1.22E-02	2.66E-07	3.27E-06	6.37E-02	1.39E-06	1.71E-05
Road 45	45	1300-1400	1.41E-02	3.07E-07	3.78E-06	1.22E-02	2.66E-07	3.27E-06	6.37E-02	1.39E-06	1.71E-05
Road 45	45	1400-1500	1.41E-02	3.41E-07	4.20E-06	1.21E-02	2.93E-07	3.60E-06	6.51E-02	1.58E-06	1.94E-05
Road 45	45	1500-1600	1.34E-02	3.25E-07	3.99E-06	1.19E-02	2.88E-07	3.54E-06	6.50E-02	1.58E-06	1.94E-05
Road 45	45	1600-1700	1.34E-02	3.66E-07	4.50E-06	1.19E-02	3.24E-07	3.97E-06	6.50E-02	1.77E-06	2.18E-05
Road 45	45	1700-1800	1.14E-02	3.34E-07	4.12E-06	1.01E-02	2.98E-07	3.67E-06	6.02E-02	1.77E-06	2.18E-05
Road 45	45	1800-1900	1.20E-02	1.31E-07	1.61E-06	1.07E-02	1.17E-07	1.43E-06	6.57E-02	7.18E-07	8.83E-06
Road 45	45	1900-2000	6.42E-03	1.66E-07	2.04E-06	5.72E-03	1.48E-07	1.82E-06	3.97E-02	1.02E-06	1.26E-05
Road 45	45	2000-2100	6.16E-03	1.23E-07	1.51E-06	5.54E-03	1.11E-07	1.37E-06	4.05E-02	8.11E-07	1.00E-05
Road 45	45	2100-2200	5.32E-03	1.06E-07	1.31E-06	4.78E-03	9.53E-08	1.17E-06	4.04E-02	8.11E-07	1.00E-05
Road 45	45	2200-2300	5.18E-03	1.01E-07	1.24E-06	4.63E-03	9.06E-08	1.11E-06	4.07E-02	7.96E-07	9.77E-06
Road 45	45	2300-0000	5.25E-03	9.03E-08	1.11E-06	4.72E-03	8.12E-08	1.00E-06	4.13E-02	7.10E-07	8.74E-06
Road 46	46	0000-0100	1.94E-02	8.29E-09	3.46E-07	1.74E-02	7.44E-09	3.10E-07	9.23E-02	3.95E-08	1.65E-06
Road 46	46	0100-0200	2.08E-02	8.90E-09	3.71E-07	1.87E-02	7.99E-09	3.33E-07	9.90E-02	4.23E-08	1.76E-06
Road 46	46	0200-0300	2.26E-02	8.66E-09	3.61E-07	2.03E-02	7.78E-09	3.24E-07	1.07E-01	4.11E-08	1.71E-06
Road 46	46	0300-0400	2.43E-02	8.32E-09	3.47E-07	2.18E-02	7.48E-09	3.12E-07	1.15E-01	3.95E-08	1.65E-06
Road 46	46	0400-0500	2.49E-02	8.66E-09	3.61E-07	2.24E-02	7.78E-09	3.24E-07	1.18E-01	4.11E-08	1.71E-06
Road 46	46	0500-0600	2.46E-02	1.23E-08	5.13E-07	2.21E-02	1.11E-08	4.61E-07	1.17E-01	5.85E-08	2.44E-06
Road 46	46	0600-0700	2.46E-02	5.63E-08	2.35E-06	2.21E-02	5.06E-08	2.11E-06	1.17E-01	2.67E-07	1.11E-05
Road 46	46	0700-0800	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	0800-0900	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	0900-1000	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1000-1100	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1100-1200	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1200-1300	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1300-1400	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1400-1500	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1500-1600	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1600-1700	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1700-1800	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1800-1900	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	1900-2000	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	2000-2100	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	2100-2200	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	2200-2300	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05
Road 46	46	2300-0000	2.46E-02	1.44E-07	6.00E-06	2.21E-02	1.29E-07	5.39E-06	1.17E-01	6.82E-07	2.84E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 103	103	1600-1700	1.48E-02	5.43E-07	1.31E-05	1.02E-02	4.85E-07	1.17E-05	6.43E-02	2.37E-06	5.68E-05
Road 103	103	1700-1800	1.04E-02	4.31E-07	1.04E-05	9.25E-03	3.84E-07	9.23E-06	5.53E-02	2.30E-06	5.52E-05
Road 103	103	1800-1900	7.41E-03	1.34E-07	8.04E-06	6.66E-03	3.00E-07	7.22E-06	4.15E-02	1.87E-06	4.50E-05
Road 103	103	1900-2000	3.67E-03	2.27E-07	5.45E-06	5.66E-03	2.02E-07	4.85E-06	4.01E-02	1.43E-06	3.43E-05
Road 103	103	2000-2100	6.11E-03	1.69E-07	4.07E-06	5.52E-03	1.53E-07	3.67E-06	4.38E-02	1.21E-06	2.91E-05
Road 103	103	2100-2200	5.28E-03	1.47E-07	3.52E-06	4.76E-03	1.32E-07	3.18E-06	4.15E-02	1.15E-06	2.78E-05
Road 103	103	2200-2300	5.21E-03	1.40E-07	3.36E-06	4.65E-03	1.25E-07	3.00E-06	4.19E-02	1.12E-06	2.70E-05
Road 103	103	2300-0000	5.78E-03	1.16E-07	2.79E-06	5.21E-03	1.05E-07	2.52E-06	4.31E-02	8.66E-07	2.08E-05
Road 104	104	0000-0100	1.02E-02	9.07E-08	1.85E-06	9.21E-03	8.21E-08	1.67E-06	5.45E-02	4.87E-07	9.92E-06
Road 104	104	0100-0200	1.11E-02	6.54E-08	1.33E-06	9.97E-03	5.88E-08	1.20E-06	5.76E-02	3.40E-07	6.92E-06
Road 104	104	0200-0300	1.20E-02	6.07E-08	1.24E-06	1.08E-02	5.46E-08	1.11E-06	6.02E-02	3.04E-07	6.20E-06
Road 104	104	0300-0400	1.30E-02	4.56E-08	9.29E-07	1.16E-02	4.08E-08	8.31E-07	6.35E-02	2.23E-07	4.54E-06
Road 104	104	0400-0500	1.39E-02	5.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0600-0700	1.66E-03	3.46E-07	4.51E-06	1.45E-02	3.37E-07	3.95E-06	6.08E-02	1.41E-06	1.65E-05
Road 1	1	0700-0800	1.26E-02	3.25E-07	3.81E-06	1.09E-02	2.81E-07	3.30E-06	6.34E-02	1.63E-06	1.91E-05
Road 1	1	0800-0900	9.01E-03	2.47E-07	2.89E-06	7.76E-03	2.12E-07	2.49E-06	4.65E-02	1.27E-06	1.49E-05
Road 1	1	0900-1000	3.70E-03	1.03E-07	1.20E-06	3.17E-03	8.83E-08	1.03E-06	1.90E-02	5.30E-07	6.17E-06
Road 1	1	1000-1100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1100-1200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1200-1300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1300-1400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1400-1500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1500-1600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1600-1700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1700-1800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1800-1900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	1900-2000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	2000-2100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	2100-2200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	2200-2300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 1	1	2300-2400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0000-0100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0100-0200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0200-0300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0300-0400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0400-0500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0500-0600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0600-0700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0700-0800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0800-0900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	0900-1000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1000-1100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1100-1200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1200-1300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1300-1400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1400-1500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1500-1600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1600-1700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1700-1800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1800-1900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	1900-2000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	2000-2100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	2100-2200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	2200-2300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 2	2	2300-2400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0000-0100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0100-0200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0200-0300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0300-0400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0400-0500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0500-0600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0600-0700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0700-0800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0800-0900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	0900-1000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1000-1100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1100-1200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1200-1300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1300-1400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1400-1500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1500-1600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1600-1700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1700-1800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1800-1900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	1900-2000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	2000-2100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	2100-2200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	2200-2300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 3	3	2300-2400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0000-0100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0100-0200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0200-0300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0300-0400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0400-0500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0500-0600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0600-0700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0700-0800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0800-0900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	0900-1000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1000-1100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1100-1200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1200-1300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1300-1400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1400-1500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1500-1600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1600-1700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1700-1800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1800-1900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	1900-2000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	2000-2100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	2100-2200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	2200-2300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 4	4	2300-2400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0000-0100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0100-0200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0200-0300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0300-0400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0400-0500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0500-0600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0600-0700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0700-0800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0800-0900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	0900-1000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1000-1100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1100-1200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1200-1300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1300-1400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1400-1500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1500-1600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1600-1700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1700-1800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1800-1900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	1900-2000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	2000-2100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	2100-2200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	2200-2300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 5	5	2300-2400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0000-0100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0100-0200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0200-0300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0300-0400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0400-0500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0500-0600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0600-0700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0700-0800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0800-0900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	0900-1000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1000-1100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1100-1200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1200-1300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1300-1400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1400-1500	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1500-1600	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1600-1700	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1700-1800	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1800-1900	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	1900-2000	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	2000-2100	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	2100-2200	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	2200-2300	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06
Road 6	6	2300-2400	1.26E-03	3.51E-08	4.09E-07	1.08E-03	3.01E-08	3.51E-07	6.47E-03	1.80E-07	2.10E-06

L:\Secure\Environment_Projects\60733229\L01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2038.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	1.42E-02	3.51E-07	3.79E-06	2.26E-02	5.41E-07	5.82E-06	3.58E-01	8.58E-06	9.18E-05
Road 11	11	0100-0200	2.58E-02	1.05E-07	4.03E-07	2.42E-02	9.85E-08	3.78E-07	1.58E-01	6.45E-07	2.47E-06
Road 11	11	0200-0300	2.76E-02	8.26E-08	3.17E-07	2.62E-02	7.84E-08	3.01E-07	1.58E-01	4.90E-07	1.88E-06
Road 11	11	0300-0400	2.98E-02	7.06E-08	2.71E-07	2.83E-02	6.72E-08	2.58E-07	1.71E-01	4.05E-07	1.55E-06
Road 11	11	0400-0500	3.21E-02	8.37E-08	3.21E-07	3.05E-02	7.96E-08	3.05E-07	1.78E-01	4.66E-07	1.79E-06
Road 11	11	0500-0600	3.37E-02	1.59E-07	6.11E-07	3.35E-02	1.58E-07	6.07E-07	1.94E-01	9.16E-07	3.51E-06
Road 11	11	0600-0700	4.03E-02	3.94E-07	1.51E-06	3.80E-02	3.71E-07	1.42E-06	2.07E-01	2.02E-06	7.76E-06
Road 11	11	0700-0800	4.73E-02	9.40E-07	3.61E-06	4.41E-02	8.74E-07	3.36E-06	2.32E-01	4.60E-06	1.77E-05
Road 11	11	0800-0900	4.81E-02	1.11E-06	4.26E-06	4.48E-02	1.03E-06	3.96E-06	2.15E-01	4.95E-06	1.90E-05
Road 11	11	0900-1000	5.68E-02	1.31E-06	5.04E-06	5.27E-02	1.21E-06	4.67E-06	1.75E-01	4.04E-06	1.55E-05
Road 11	11	1000-1100	6.11E-02	1.41E-06	5.42E-06	5.72E-02	1.32E-06	5.07E-06	1.50E-01	3.47E-06	1.33E-05
Road 11	11	1100-1200	6.11E-02	1.41E-06	5.42E-06	5.72E-02	1.32E-06	5.07E-06	1.50E-01	3.47E-06	1.33E-05
Road 11	11	1200-1300	8.86E-02	2.05E-06	7.87E-06	8.69E-02	2.01E-06	7.71E-06	2.24E-01	5.18E-06	1.99E-05
Road 11	11	1300-1400	9.31E-02	2.15E-06	8.27E-06	9.12E-02	2.11E-06	8.09E-06	2.35E-01	5.44E-06	2.08E-05
Road 11	11	1400-1500	9.31E-02	2.15E-06	8.27E-06	9.12E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	1.731E-03	2.57E-07	6.72E-05	3.58E-03	5.28E-07	1.51E-04	3.16E-03	3.88E-02	2.03E-04
Road 34	34	0900-1000	1.12E-02	2.42E-07	6.33E-06	9.70E-03	2.10E-07	5.48E-06	5.14E-02	1.11E-06	2.90E-05
Road 34	34	1000-1100	1.26E-02	2.36E-07	6.18E-06	1.10E-02	2.06E-07	5.40E-06	5.50E-02	1.03E-06	2.69E-05
Road 34	34	1100-1200	1.05E-02	2.20E-07	6.67E-06	9.20E-03	1.94E-07	5.90E-06	4.57E-02	9.62E-07	2.92E-05
Road 34	34	1200-1300	2.12E-02	3.06E-07	8.01E-06	1.86E-02	2.68E-07	7.01E-06	9.29E-02	1.34E-06	3.50E-05
Road 34	34	1300-1400	2.12E-02	3.18E-07	8.33E-06	1.85E-02	2.78E-07	7.28E-06	9.26E-02	1.39E-06	3.64E-05
Road 34	34	1400-1500	2.12E-02	3.33E-07	8.71E-06	1.86E-02	2.92E-07	7.65E-06	9.27E-02	1.46E-06	3.82E-05
Road 34	34	1500-1600	1.98E-02	3.18E-07	8.31E-06	1.74E-02	2.79E-07	7.30E-06	8.73E-02	1.21E-06	3.17E-05
Road 34	34	1600-1700	1.92E-02	3.15E-07	8.24E-06	1.68E-02	2.76E-07	7.23E-06	8.42E-02	1.38E-06	3.62E-05
Road 34	34	1700-1800	1.60E-02	2.86E-07	7.48E-06	1.39E-02	2.48E-07	6.50E-06	6.42E-02	1.15E-06	3.00E-05
Road 34	34	1800-1900	1.06E-02	2.41E-07	6.30E-06	9.20E-03	2.09E-07	5.47E-06	4.57E-02	1.04E-06	2.72E-05
Road 34	34	1900-2000	1.06E-02	1.48E-07	3.87E-06	9.31E-03	1.30E-07	3.41E-06	4.63E-02	6.47E-07	1.69E-05
Road 34	34	2000-2100	1.15E-02	1.06E-07	2.78E-06	9.81E-03	9.02E-08	2.36E-06	4.87E-02	4.48E-07	1.17E-05
Road 34	34	2100-2200	1.01E-02	1.06E-07	2.78E-06	9.01E-03	9.47E-08	2.48E-06	4.47E-02	4.70E-07	1.23E-05
Road 34	34	2200-2300	1.01E-02	1.06E-07	2.78E-06	9.01E-03	9.47E-08	2.48E-06	4.47E-02	4.70E-07	1.23E-05
Road 34	34	2300-2400	1.01E-02	1.06E-07	2.78E-06	9.01E-03	9.47E-08	2.48E-06	4.47E-02	4.70E-07	1.23E-05
Road 35	35	0000-0100	1.33E-02	3.91E-08	9.52E-06	2.94E-02	3.46E-08	8.41E-06	1.03E-01	1.21E-07	2.95E-05
Road 35	35	0100-0200	4.19E-02	3.59E-08	8.74E-06	3.77E-02	3.23E-08	7.86E-06	1.32E-01	1.13E-07	2.76E-05
Road 35	35	0200-0300	4.90E-02	3.41E-08	8.30E-06	4.43E-02	3.09E-08	7.51E-06	1.31E-01	9.14E-08	2.22E-05
Road 35	35	0300-0400	5.44E-02	3.30E-08	8.02E-06	4.93E-02	2.99E-08	7.27E-06	1.27E-01	7.68E-08	1.87E-05
Road 35	35	0400-0500	5.30E-02	3.41E-08	8.30E-06	4.78E-02	3.09E-08	7.51E-06	1.23E-01	8.05E-08	1.96E-05
Road 35	35	0500-0600	4.31E-02	4.05E-08	9.84E-06	3.82E-02	3.58E-08	8.71E-06	1.25E-01	1.17E-07	2.86E-05
Road 35	35	0600-0700	2.44E-02	5.04E-08	1.42E-05	2.20E-02	4.54E-08	1.28E-05	1.11E-01	2.29E-07	6.45E-05
Road 35	35	0700-0800	4.90E-02	1.96E-07	4.76E-05	4.32E-02	1.73E-07	4.20E-05	1.42E-01	5.72E-07	1.39E-04
Road 35	35	0800-0900	4.71E-02	2.12E-07	5.16E-05	4.54E-02	1.39E-07	6.25E-05	1.52E-01	5.46E-07	1.33E-04
Road 35	35	0900-1000	2.50E-02	2.50E-07	6.07E-05	2.41E-02	2.21E-07	5.36E-05	8.07E-02	7.26E-07	1.76E-04
Road 35	35	1000-1100	1.71E-02	2.11E-07	5.13E-05	9.00E-03	1.85E-07	4.49E-05	3.02E-02	6.09E-07	1.48E-04
Road 35	35	1100-1200	1.47E-02	2.11E-07	5.13E-05	7.91E-03	1.85E-07	4.49E-05	2.65E-02	6.09E-07	1.48E-04
Road 35	35	1200-1300	1.47E-02	1.52E-07	3.70E-05	7.96E-03	1.44E-07	3.49E-05	2.67E-02	4.73E-07	1.15E-04
Road 35	35	1300-1400	1.47E-02	1.52E-07	3.70E-05	7.96E-03	1.44E-07	3.49E-05	2.67E-02	4.73E-07	1.15E-04
Road 35	35	1400-1500	1.47E-02	1.54E-07	3.76E-05	7.96E-03	1.46E-07	3.55E-05	2.67E-02	4.80E-07	1.17E-04
Road 35	35	1500-1600	1.37E-02	1.60E-07	3.89E-05	5.58E-03	1.41E-07	3.42E-05	2.67E-02	4.26E-07	1.04E-04
Road 35	35	1600-1700	1.54E-02	1.56E-07	3.79E-05	8.42E-03	1.35E-07	3.29E-05	2.82E-02	4.43E-07	1.08E-04
Road 35	35	1700-1800	1.54E-02	1.56E-07	3.79E-05	8.42E-03	1.35E-07	3.29E-05	2.82E-02	4.43E-07	1.08E-04
Road 35	35	1800-1900	2.42E-02	4.43E-08	1.08E-05	9.49E-03	8.80E-08	2.14E-05	2.66E-02	3.07E-07	7.47E-05
Road 35	35	1900-2000	2.42E-02	4.43E-08	1.08E-05	2.14E-02	3.90E-08	9.49E-06	8.00E-02	1.26E-07	3.07E-05
Road 35	35	2000-2100	2.74E-02	4.04E-08	9.83E-06	2.45E-02	3.61E-08	8.79E-06	9.04E-02	1.33E-07	3.23E-05
Road 35	35	2100-2200	2.66E-02	3.82E-08	9.29E-06	2.38E-02	3.41E-08	8.31E-06	8.77E-02	1.26E-07	3.06E-05
Road 35	35	2200-2300	2.66E-02	3.82E-08	9.29E-06	2.38E-02	3.41E-08	8.31E-06	8.77E-02	1.26E-07	3.06E-05
Road 35	35	2300-2400	2.66E-02	3.82E-08	9.29E-06	2.38E-02	3.41E-08	8.31E-06	8.77E-02	1.26E-07	3.06E-05
Road 36	36	0000-0100	4.22E-02	6.43E-08	1.62E-05	3.85E-02	5.87E-08	1.48E-05	1.39E-01	2.12E-07	5.35E-05
Road 36	36	0100-0200	4.91E-02	5.36E-08	1.35E-05	4.46E-02	4.87E-08	1.23E-05	1.83E-01	2.00E-07	5.04E-05
Road 36	36	0200-0300	5.47E-02	5.13E-08	1.29E-05	4.97E-02	4.66E-08	1.17E-05	1.82E-01	1.71E-07	4.31E-05
Road 36	36	0300-0400	6.10E-02	4.58E-08	1.15E-05	5.63E-02	4.23E-08	1.06E-05	1.84E-01	1.39E-07	3.50E-05
Road 36	36	0400-0500	5.94E-02	4.29E-08	1.08E-05	5.44E-02	3.93E-08	9.89E-06	1.79E-01	1.29E-07	3.26E-05
Road 36	36	0500-0600	5.52E-02	6.61E-08	1.66E-05	5.07E-02	6.06E-08	1.52E-05	1.90E-01	2.28E-07	5.73E-05
Road 36	36	0600-0700	3.13E-02	1.28E-07	3.22E-05	2.68E-02	1.09E-07	2.75E-05	1.37E-01	5.60E-07	1.41E-04
Road 36	36	0700-0800	6.28E-02	3.63E-07	9.14E-05	5.76E-02	3.33E-07	8.38E-05	1.89E-01	1.09E-06	2.75E-04
Road 36	36	0800-0900	6.28E-02	3.63E-07	9.14E-05	5.76E-02	3.33E-07	8.38E-05	1.89E-01	1.09E-06	2.75E-04
Road 36	36	0900-1000	3.21E-02	3.20E-07	8.06E-05	2.95E-02	2.94E-07	7.40E-05	9.66E-02	9.62E-07	2.42E-04
Road 36	36	1000-1100	7.84E-02	3.64E-07	9.17E-05	7.19E-02	3.33E-07	8.39E-05	2.36E-01	1.09E-06	2.75E-04
Road 36	36	1100-1200	1.31E-02	3.64E-07	9.17E-05	1.20E-02	3.33E-07	8.39E-05	3.94E-02	1.09E-06	2.75E-04
Road 36	36	1200-1300	9.14E-02	3.25E-07	8.32E-05	2.96E-02	7.46E-07	2.69E-05	2.44E-01	8.68E-07	2.19E-04
Road 36	36	1300-1400	9.42E-02	3.48E-07	8.77E-05	8.61E-02	3.18E-07	8.02E-05	2.80E-01	1.03E-06	2.61E-04
Road 36	36	1400-1500	9.42E-02	3.48E-07	8.77E-05	8.61E-02	3.18E-07	8.02E-05	2.80E-01	1.03E-06	2.61E-04
Road 36	36	1500-1600	9.30E-02	3.62E-07	9.12E-05	8.39E-02	2.84E-05	1.11E-06	2.79E-01	2.61E-06	2.61E-04
Road 36	36	1600-1700	9.30E-02	3.62E-07	9.12E-05	8.39E-02	3.18E-07	8.02E-05	2.79E-01	1.03E-06	2.61E-04
Road 36	36	1700-1800	8.05E-02	3.33E-07	8.40E-05	7.35E-02	3.04E-07	7.66E-05	2.65E-01	1.05E-06	2.64E-04
Road 36	36	1800-1900	6.50E-02	2.68E-07	6.76E-05	5.85E-02	2.42E-07	6.09E-05	2.11E-01	9.88E-07	2.49E-04
Road 36	36	1900-2000	4.10E-02	8.39E-08	2.11E-05	3.81E-02	7.79E-08	1.96E-05	1.74E-01	3.56E-07	8.96E-05
Road 36	36	2000-2100	4.27E-02	7.63E-08	1.92E-05	4.31E-02	6.96E-08	1.75E-05	1.87E-01	3.34E-07	8.41E-05
Road 36	36	2100-2200	4.27E-02	9.48E-08	2.39E-05	4.31E-02	8.65E-08	2.18E-05	1.87E-01	4.15E-07	1.04E-04
Road 36	36	2200-2300	4.10E-02	8.39E-08	2.11E-05	3.79E-02	1.96E-07	1.74E-05	1.68E-01	8.26E-07	2.08E-04
Road 36	36	2300-0000	4.27E-02	7.63E-08	1.92E-05	4.31E-02	6.96E-08	1.75E-05	1.87E-01	3.34E-07	8.41E-05
Road 37	37	0000-0100	3.86E-02	1.12E-09	2.58E-06	2.64E-02	1.88E-01	1.48E-06	1.74E-01	5.08E-09	1.17E-05
Road 37	37	0100-0200	4.57E-02	1.07E-09	2.47E-06	3.51E-02	1.79E-09	4.13E-06	2.42E-01	4.84E-09	1.12E-05
Road 37	37	0200-0300	4.22E-02	7.67E-10	1.76E-06	4.23E-02	7.33E-10	1.68E-06	2.79E-01	4.84E-09	1.11E-05
Road 37	37	0300-0400	4.22E-02	7.67E-10	1.76E-06	4.23E-02	7.33E-10	1.68E-06	2.79E-01	4.84E-09	1.11E-05
Road 37	37	0400-0500	4.22E-02	7.67E-10	1.76E-06	4.23E-02	7.33E-10	1.68E-06	2.79E-01	4.84E-09	1.11E-05
Road 37	37	0500-0600	5.02E-02	1.71E-09	3.92E-06	4.75E-02	1.62E-09	3.71E-06	2.23E-01	7.59E-09	1.74E-05
Road 37	37	0600-0700	5.27E-02	3.90E-09	8.95E-06	5.02E-02	3.71E-09	8.52E-06	2.29E-01	1.70E-08	3.90E-05
Road 37	37	0700-0800	4.61E-02	3.90E-09	8.95E-06	4.39E-02	3.71E-09	8.52E-06	2.00E-01	1.70E-08	3.90E-05
Road 37	37	0800-0900	5.63E-02	1.00E-08	2.30E-06	5.34E-02	9.51E-09	2.18E-06	2.24E-01	3.99E-08	9.16E-06
Road 37	37	0900-1000	6.71E-02	1.08E-08	2.48E-06	6.37E-02	1.03E-08	2.36E-06	2.67E-01	4.31E-08	9.89E-06
Road 37	37	1000-1100	7.16E-02	1.04E-08	2.39E-06	6.79E-02	9.84E-09	2.26E-06	2.54E-01	3.70E-08	8.50E-06
Road 37	37	1100-1200	7.19E-02	9.86E-09	2.26E-06	6.82E-02	9.36E-09	2.15E-06	2.57E-01	3.53E-08	8.10E-06
Road 37	37	1200-1300	6.81E-02	9.95E-09	2.28E-06	6.46E-02	9.44E-09	2.17E-06	2.43E-01	3.56E-08	8.17E-06
Road 37	37	1300-1400	7.28E-02	1.12E-08	2.57E-06	6.89E-02	1.06E-08	2.43E-06	2.60E-01	4.00E-08	9.18E-06
Road 37	37	1400-1500	7.28E-02	1.12E-08	2.57E-06	6.89E-02	1.06E-08	2.43E-06	2.60E-01	4.00E-08	9.18E-06
Road 37	37	1500-1600	7.27E-02	1.20E-08	2.76E-06	6.91E-02	1.14E-08	2.62E-06	2.60E-01	4.30E-08	9.87E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	7.75E-02	1.34E-08	3.08E-06	7.35E-02	1.27E-08	2.92E-06	2.76E-01	4.80E-08	1.10E-05
Road 37	37	1700-1800	5.83E-02	1.05E-08	2.41E-06	5.53E-02	9.96E-09	2.28E-06	2.43E-01	4.37E-08	1.00E-05
Road 37	37	1800-1900	3.91E-02	7.04E-09	1.62E-06	3.68E-02	6.63E-09	1.52E-06	1.70E-01	3.27E-08	7.52E-06
Road 37	37	1900-2000	3.24E-02	4.49E-09	1.03E-06	3.07E-02	4.25E-09	9.75E-07	1.59E-01	2.20E-08	5.05E-06
Road 37	37	2000-2100	3.31E-02	3.57E-09	8.20E-07	3.16E-02	3.41E-09	7.82E-07	1.72E-01	1.85E-08	4.24E-06
Road 37	37	2100-2200	3.24E-02	3.53E-09	8.10E-07	3.09E-02	3.37E-09	7.73E-07	1.68E-01	1.74E-08	3.99E-06
Road 37	37	2200-2300	2.86E-02	2.96E-09	6.80E-07	2.72E-02	2.81E-09	6.46E-07	1.59E-01	1.65E-08	3.78E-06
Road 37	37	2300-0000	3.19E-02	2.51E-09	5.75E-07	3.00E-02	2.35E-09	5.40E-07	1.71E-01	1.34E-08	3.07E-06
Road 38	38	0000-0100	3.71E-02	4.46E-08	1.07E-05	3.52E-02	4.21E-08	1.01E-05	1.82E-01	2.18E-07	5.24E-05
Road 38	38	0100-0200	4.01E-02	2.46E-08	5.91E-06	3.79E-02	2.32E-08	5.57E-06	1.96E-01	1.14E-07	2.73E-05
Road 38	38	0200-0300	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	0300-0400	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	0400-0500	4.87E-02	2.52E-08	6.05E-06	4.60E-02	2.38E-08	5.72E-06	2.38E-01	1.17E-07	2.80E-05
Road 38	38	0500-0600	5.13E-02	1.12E-07	2.69E-05	4.84E-02	1.06E-07	2.54E-05	2.51E-01	5.49E-07	1.32E-04
Road 38	38	0600-0700	5.52E-02	1.21E-07	2.90E-05	5.21E-02	1.14E-07	2.74E-05	2.70E-01	5.91E-07	1.42E-04
Road 38	38	0700-0800	4.60E-02	1.01E-07	2.41E-05	4.34E-02	9.51E-08	2.28E-05	2.25E-01	4.92E-07	1.18E-04
Road 38	38	0800-0900	4.60E-02	1.01E-07	2.41E-05	4.34E-02	9.51E-08	2.28E-05	2.25E-01	4.92E-07	1.18E-04
Road 38	38	0900-1000	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1000-1100	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1100-1200	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1200-1300	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1300-1400	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1400-1500	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1500-1600	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1600-1700	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1700-1800	4.52E-02	2.34E-08	5.62E-06	4.27E-02	2.21E-08	5.31E-06	2.21E-01	1.08E-07	2.60E-05
Road 38	38	1800-1900	8.52E-02	1.28E-07	3.04E-06	8.05E-02	1.21E-07	2.87E-06	4.17E-01	6.27E-07	1.49E-05
Road 38	38	1900-2000	8.52E-02	1.28E-07	3.04E-06	8.05E-02	1.21E-07	2.87E-06	4.17E-01	6.27E-07	1.49E-05
Road 38	38	2000-2100	8.52E-02	1.28E-07	3.04E-06	8.05E-02	1.21E-07	2.87E-06	4.17E-01	6.27E-07	1.49E-05
Road 38	38	2100-2200	8.52E-02	1.28E-07	3.04E-06	8.05E-02	1.21E-07	2.87E-06	4.17E-01	6.27E-07	1.49E-05
Road 38	38	2200-2300	8.52E-02	1.28E-07	3.04E-06	8.05E-02	1.21E-07	2.87E-06	4.17E-01	6.27E-07	1.49E-05
Road 38	38	2300-2400	8.52E-02	1.28E-07	3.04E-06	8.05E-02	1.21E-07	2.87E-06	4.17E-01	6.27E-07	1.49E-05
Road 51	51	0000-0100	5.32E-03	3.20E-03	4.39E-03	3.75E-03	4.99E-07	3.81E-02	3.15E-02	5.86E-06	3.18E-02
Road 51	51	0100-0200	5.69E-03	3.05E-08	5.69E-07	4.96E-03	2.66E-08	4.96E-07	3.95E-02	2.12E-07	3.95E-06
Road 51	51	0200-0300	6.16E-03	2.41E-08	4.49E-07	5.52E-03	2.16E-08	4.03E-07	4.35E-02	1.59E-07	2.96E-06
Road 51	51	0300-0400	6.61E-03	2.04E-08	3.80E-07	5.93E-03	1.83E-08	3.41E-07	4.15E-02	1.28E-07	2.39E-06
Road 51	51	0400-0500	7.13E-03	2.41E-08	4.48E-07	6.39E-03	2.16E-08	4.02E-07	4.30E-02	1.45E-07	2.71E-06
Road 51	51	0500-0600	7.82E-03	1.20E-07	2.23E-06	7.00E-03	1.07E-07	2.00E-06	4.72E-02	7.22E-07	1.34E-05
Road 51	51	0600-0700	8.23E-03	2.06E-09	3.83E-08	7.37E-03	1.85E-09	3.44E-08	4.97E-02	1.24E-08	2.32E-07
Road 51	51	0700-0800	8.89E-03	2.24E-07	4.18E-06	7.96E-03	2.00E-07	3.72E-06	5.37E-02	1.35E-06	2.51E-05
Road 51	51	0800-0900	8.45E-03	2.46E-07	4.58E-06	7.56E-03	2.20E-07	4.10E-06	5.10E-02	1.48E-06	2.76E-05
Road 51	51	0900-1000	9.60E-03	2.37E-07	4.42E-06	8.60E-03	2.12E-07	3.96E-06	5.80E-02	1.43E-06	2.67E-05
Road 51	51	1000-1100	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1100-1200	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1200-1300	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1300-1400	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1400-1500	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1500-1600	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1600-1700	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1700-1800	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1800-1900	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	1900-2000	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	2000-2100	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	2100-2200	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	2200-2300	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 51	51	2300-2400	1.09E-02	2.32E-07	4.31E-06	9.77E-03	2.07E-07	3.86E-06	6.59E-02	1.40E-06	2.60E-05
Road 52	52	0000-0100	1.33E-02	4.20E-08	8.01E-07	4.54E-03	3.75E-08	4.99E-07	3.81E-02	3.15E-07	4.19E-06
Road 52	52	0100-0200	5.69E-03	3.05E-08	5.69E-07	4.96E-03	2.66E-08	4.96E-07	3.95E-02	2.12E-07	3.95E-06
Road 52	52	0200-0300	6.16E-03	2.41E-08	4.49E-07	5.52E-03	2.16E-08	4.03E-07	4.35E-02	1.59E-07	2.96E-06
Road 52	52	0300-0400	6.61E-03	2.04E-08	3.80E-07	5.93E-03	1.83E-08	3.41E-07	4.15E-02	1.28E-07	2.39E-06
Road 52	52	0400-0500	7.13E-03	2.41E-08	4.48E-07	6.39E-03	2.16E-08	4.02E-07	4.30E-02	1.45E-07	2.71E-06
Road 52	52	0500-0600	7.49E-03	2.21E-07	4.12E-06	6.71E-03	1.98E-07	3.68E-06	4.52E-02	1.33E-06	2.48E-05
Road 52	52	0600-0700	7.89E-03	2.06E-09	3.83E-08	7.07E-03	1.85E-09	3.44E-08	4.76E-02	1.24E-08	2.32E-07
Road 52	52	0700-0800	8.52E-03	2.24E-07	4.18E-06	7.63E-03	2.00E-07	3.72E-06	5.14E-02	1.35E-06	2.51E-05
Road 52	52	0800-0900	8.10E-03	2.46E-07	4.58E-06	7.25E-03	2.20E-07	4.10E-06	4.89E-02	1.48E-06	2.76E-05
Road 52	52	0900-1000	9.20E-03	2.37E-07	4.42E-06	8.24E-03	2.12E-07	3.96E-06	5.56E-02	1.43E-06	2.67E-05
Road 52	52	1000-1100	1.04E-02	2.32E-07	4.31E-06	9.37E-03	2.07E-07	3.86E-06	6.32E-02	1.40E-06	2.60E-05
Road 52	52	1100-1200	1.04E-02	2.32E-07	4.31E-06	9.37E-03	2.07E-07	3.86E-06	6.32E-02	1.40E-06	2.60E-05
Road 52	52	1200-1300	1.04E-02	2.32E-07	4.31E-06	9.37E-03	2.07E-07	3.86E-06	6.32E-02	1.40E-06	2.60E-05
Road 52	52	1300-1400	1.04E-02	2.32E-07	4.31E-06	9.37E-03	2.07E-07	3.86E-06	6.32E-02	1.40E-06	2.60E-05
Road 52	52	1400-1500	1.04E-02	2.32E-07	4.31E-06	9.37E-03	2.07E-07	3.86E-06	6.32E-02	1.40E-06	2.60E-05
Road 52	52	1500-1600	1.04E-02	2.32E-07	4.31E-06	9.37E-03	2.07E-07	3.86E-06	6.32E-02	1.40E-06	2.60E-05
Road 52	52	1600-1700	1.04E-02	2.32E-07	4.31E-06	9.37E-03	2.07E-07	3.86E-06	6.32E-02	1.40E-06	2.60E-05
Road 52	52	1700-1800	1.04E-02	2.32E-07	4.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	5.36E-03	4.43E-08	4.05E-06	4.59E-06	3.82E-11	3.48E-09	3.92E-06	3.11E-02	2.38E-05
Road 1	1	0100-0200	5.84E-03	5.26E-08	2.90E-06	5.00E-03	4.51E-08	2.48E-06	1.94E-02	2.58E-03	1.59E-05
Road 1	1	0200-0300	6.42E-03	4.22E-08	2.32E-06	5.57E-03	3.66E-08	2.02E-06	4.13E-02	2.72E-07	1.24E-05
Road 1	1	0300-0400	9.96E-03	1.91E-08	1.99E-06	8.65E-03	3.12E-08	1.72E-06	4.28E-02	1.23E-07	1.01E-05
Road 1	1	0400-0500	7.60E-03	4.33E-08	2.38E-06	6.49E-03	3.70E-08	2.04E-06	4.15E-02	2.09E-07	1.15E-05
Road 1	1	0500-0600	8.24E-03	4.53E-08	4.47E-06	6.96E-03	3.82E-08	3.78E-06	3.98E-02	2.19E-07	2.16E-05
Road 1	1	0600-0700	8.75E-03	1.83E-07	1.02E-05	7.42E-03	1.55E-07	8.63E-06	3.02E-02	6.32E-07	3.51E-05
Road 1	1	0700-0800	9.40E-03	4.01E-07	2.21E-05	7.88E-03	3.36E-07	1.85E-05	5.04E-02	2.15E-06	1.18E-04
Road 1	1	0800-0900	8.47E-03	2.87E-07	2.32E-05	7.13E-03	2.42E-07	1.95E-05	4.63E-02	1.57E-06	1.26E-04
Road 1	1	0900-1000	1.01E-02	4.08E-07	2.25E-05	8.63E-03	3.48E-07	1.92E-05	4.95E-02	2.00E-06	1.10E-04
Road 1	1	1000-1100	9.42E-03	3.84E-07	2.12E-05	8.02E-03	3.27E-07	1.80E-05	4.66E-02	1.90E-06	1.05E-04
Road 1	1	1100-1200	1.09E-02	5.82E-07	1.99E-05	9.35E-03	5.00E-07	1.71E-05	4.68E-02	2.50E-06	8.60E-05
Road 1	1	1200-1300	1.20E-02	6.26E-07	2.14E-05	1.03E-02	5.37E-07	1.84E-05	5.03E-02	2.62E-06	8.97E-05
Road 1	1	1300-1400	1.43E-02	7.01E-07	1.86E-05	1.19E-02	5.79E-07	1.54E-05	4.20E-02	2.06E-06	5.46E-05
Road 1	1	1400-1500	1.42E-02	7.01E-07	1.87E-05	1.23E-02	6.23E-07	1.67E-05	5.09E-02	2.51E-06	1.38E-04
Road 1	1	1500-1600	1.42E-02	7.01E-07	1.87E-05	1.23E-02	6.23E-07	1.67E-05	5.09E-02	2.51E-06	1.38E-04
Road 1	1	1600-1700	1.42E-02	7.59E-07	4.18E-05	1.23E-02	6.74E-07	3.72E-05	4.90E-02	2.63E-06	1.45E-04
Road 1	1	1700-1800	1.42E-02	7.59E-07	4.18E-05	1.23E-02	6.74E-07	3.72E-05	4.90E-02	2.63E-06	1.45E-04
Road 1	1	1800-1900	7.27E-03	4.81E-07	2.65E-05	6.13E-03	4.06E-07	2.23E-05	3.88E-02	2.57E-06	1.41E-04
Road 1	1	1900-2000	6.33E-03	3.33E-07	1.83E-05	5.34E-03	2.81E-07	1.55E-05	3.70E-02	1.95E-06	1.07E-04
Road 1	1	2000-2100	5.60E-03	3.45E-07	1.31E-05	4.72E-03	2.91E-07	1.10E-05	3.46E-02	2.13E-06	8.06E-05
Road 1	1	2100-2200	5.17E-03	2.11E-07	1.16E-05	4.50E-03	1.83E-07	1.01E-05	3.71E-02	1.51E-06	8.33E-05
Road 1	1	2200-2300	5.06E-03	2.24E-07	1.11E-05	4.75E-03	2.10E-07	1.04E-05	3.72E-02	1.65E-06	8.17E-05
Road 1	1	2300-0000	5.68E-03	1.69E-07	9.28E-06	4.91E-03	1.46E-07	8.01E-06	3.88E-02	1.15E-06	6.33E-05
Road 2	2	0000-0100	7.38E-03	1.01E-07	5.11E-06	6.35E-03	8.69E-08	4.40E-06	4.31E-02	5.91E-07	2.99E-05
Road 2	2	0100-0200	8.08E-03	7.21E-08	3.98E-06	6.95E-03	6.21E-08	3.43E-06	4.72E-02	4.21E-07	2.33E-05
Road 2	2	0200-0300	8.82E-03	5.82E-08	2.95E-06	7.67E-03	5.06E-08	2.56E-06	4.74E-02	3.13E-07	1.58E-05
Road 2	2	0300-0400	1.37E-02	2.64E-08	2.75E-06	1.19E-02	2.29E-08	2.39E-06	4.93E-02	9.51E-08	9.91E-06
Road 2	2	0400-0500	1.03E-02	5.94E-08	3.01E-06	8.82E-03	5.10E-08	2.58E-06	5.18E-02	2.99E-07	1.51E-05
Road 2	2	0500-0600	1.09E-02	6.22E-08	6.13E-06	9.28E-03	5.30E-08	5.22E-06	4.73E-02	2.70E-07	2.66E-05
Road 2	2	0600-0700	1.20E-02	2.51E-07	1.40E-05	1.02E-02	2.14E-07	1.19E-05	4.13E-02	8.64E-07	4.81E-05
Road 2	2	0700-0800	1.23E-02	5.42E-07	2.74E-05	1.03E-02	4.55E-07	2.30E-05	5.80E-02	2.56E-06	1.30E-04
Road 2	2	0800-0900	1.09E-02	3.87E-07	3.12E-05	9.20E-03	3.27E-07	2.64E-05	5.33E-02	1.89E-06	1.53E-04
Road 2	2	0900-1000	1.35E-02	5.93E-07	3.00E-05	1.17E-02	5.11E-07	2.59E-05	5.98E-02	2.62E-06	1.33E-04
Road 2	2	1000-1100	1.49E-02	5.45E-07	2.76E-05	1.28E-02	4.70E-07	2.38E-05	6.36E-02	2.33E-06	1.18E-04
Road 2	2	1100-1200	1.49E-02	8.45E-07	2.76E-05	1.28E-02	7.27E-07	2.38E-05	6.36E-02	3.60E-06	1.18E-04
Road 2	2	1200-1300	1.62E-02	7.26E-07	3.68E-05	1.40E-02	6.28E-07	3.18E-05	6.91E-02	3.09E-06	1.57E-04
Road 2	2	1300-1400	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 2	2	1400-1500	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 2	2	1500-1600	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 2	2	1600-1700	1.64E-02	8.59E-07	4.35E-05	1.35E-02	7.12E-07	3.61E-05	6.72E-02	3.52E-06	1.78E-04
Road 2	2	1700-1800	1.18E-02	6.85E-07	3.47E-05	9.95E-03	5.79E-07	2.93E-05	5.45E-02	3.17E-06	1.60E-04
Road 2	2	1800-1900	1.20E-02	2.21E-07	1.12E-05	1.03E-02	1.90E-07	9.64E-06	5.43E-02	1.00E-06	5.08E-05
Road 2	2	1900-2000	2.29E-02	3.31E-07	1.78E-05	1.96E-02	2.84E-07	1.53E-05	6.72E-02	9.71E-07	5.23E-05
Road 2	2	2000-2100	2.33E-02	3.48E-07	2.33E-05	2.00E-02	2.98E-07	2.00E-05	6.85E-02	1.02E-06	6.86E-05
Road 2	2	2100-2200	2.33E-02	1.38E-07	1.40E-05	2.00E-02	1.18E-07	1.20E-05	6.85E-02	4.06E-07	4.12E-05
Road 2	2	2200-2300	2.29E-02	1.47E-07	1.37E-05	1.96E-02	1.26E-07	1.17E-05	6.72E-02	4.32E-07	4.03E-05
Road 2	2	2300-0000	2.29E-02	1.11E-07	9.13E-06	1.96E-02	9.50E-08	7.83E-06	6.72E-02	3.26E-07	2.68E-05
Road 3	3	0000-0100	5.99E-03	2.87E-08	1.76E-07	5.13E-03	2.46E-08	1.51E-07	4.05E-02	1.94E-07	1.19E-06
Road 3	3	0100-0200	6.22E-03	2.74E-08	1.81E-07	5.32E-03	2.34E-08	1.55E-07	4.18E-02	1.84E-07	1.22E-06
Road 3	3	0200-0300	7.08E-03	1.61E-08	9.91E-08	6.08E-03	1.38E-08	8.50E-08	4.37E-02	9.96E-08	6.13E-07
Road 3	3	0300-0400	1.14E-02	1.61E-08	1.59E-07	9.77E-03	1.38E-08	1.37E-07	4.44E-02	6.27E-08	6.20E-07
Road 3	3	0400-0500	8.37E-03	1.85E-08	1.02E-07	7.31E-03	1.61E-08	8.85E-08	4.81E-02	9.50E-08	5.83E-07
Road 3	3	0500-0600	9.04E-03	3.10E-08	1.90E-07	7.62E-03	2.61E-08	1.60E-07	4.06E-02	1.39E-07	8.51E-07
Road 3	3	0600-0700	1.00E-02	1.88E-08	1.03E-07	8.42E-03	1.58E-08	8.65E-08	4.09E-02	7.68E-08	4.21E-07
Road 3	3	0700-0800	1.03E-02	1.53E-07	9.39E-07	8.67E-03	1.29E-07	7.91E-07	5.66E-02	8.41E-07	5.15E-06
Road 3	3	0800-0900	9.03E-03	1.45E-07	1.19E-06	7.61E-03	1.22E-07	1.00E-06	5.20E-02	8.34E-07	6.85E-06
Road 3	3	0900-1000	1.13E-02	1.80E-07	9.82E-07	9.52E-03	1.51E-07	8.28E-07	5.45E-02	8.69E-07	4.74E-06
Road 3	3	1000-1100	1.27E-02	5.57E-07	9.60E-07	1.07E-02	4.69E-07	8.09E-07	5.45E-02	2.39E-06	4.12E-06
Road 3	3	1100-1200	1.27E-02	7.96E-07	1.37E-06	1.07E-02	6.71E-07	1.15E-06	5.45E-02	3.42E-06	5.89E-06
Road 3	3	1200-1300	1.39E-02	6.95E-07	1.20E-06	1.17E-02	5.86E-07	1.01E-06	5.97E-02	2.99E-06	5.15E-06
Road 3	3	1300-1400	1.43E-02	7.03E-07	1.21E-06	1.20E-02	5.92E-07	1.02E-06	6.14E-02	3.02E-06	5.20E-06
Road 3	3	1400-1500	1.43E-02	7.03E-07	1.21E-06	1.20E-02	5.92E-07	1.02E-06	6.14E-02	3.02E-06	5.20E-06
Road 3	3	1500-1600	1.43E-02	7.03E-07	1.21E-06	1.20E-02	5.92E-07	1.02E-06	6.14E-02	3.02E-06	5.20E-06
Road 3	3	1600-1700	1.43E-02	7.61E-07	1.31E-06	1.20E-02	6.41E-07	1.10E-06	6.14E-02	3.27E-06	5.63E-06
Road 3	3	1700-1800	1.43E-02	7.61E-07	1.31E-06	1.20E-02	6.41E-07	1.10E-06	6.14E-02	3.27E-06	5.63E-06
Road 3	3	1800-1900	1.41E-02	9.66E-07	1.66E-06	1.18E-02	8.14E-07	1.40E-06	6.04E-02	4.13E-06	7.11E-06
Road 3	3	1900-2000	1.41E-02	9.66E-07	1.66E-06	1.18E-02	8.14E-07	1.40E-06	6.04E-02	4.13E-06	7.11E-06
Road 3	3	2000-2100	1.41E-02	9.66E-07	1.66E-06	1.18E-02	8.14E-07	1.40E-06	6.04E-02	4.13E-06	7.11E-06
Road 3	3	2100-2200	1.41E-02	9.66E-07	1.66E-06	1.18E-02	8.14E-07	1.40E-06	6.04E-02	4.13E-06	7.11E-06
Road 3	3	2200-2300	1.41E-02	9.66E-07	1.66E-06	1.18E-02	8.14E-07	1.40E-06	6.04E-02	4.13E-06	7.11E-06
Road 3	3	2300-0000	1.41E-02	9.66E-07	1.66E-06	1.18E-02	8.14E-07	1.40E-06	6.04E-02	4.13E-06	7.11E-06
Road 4	4	0000-0100	5.36E-03	4.43E-08	4.05E-06	4.59E-06	3.82E-11	3.48E-09	3.92E-06	3.11E-02	2.38E-05
Road 4	4	0100-0200	5.84E-03	5.26E-08	2.90E-06	5.00E-03	4.51E-08	2.48E-06	1.94E-02	2.58E-03	1.59E-05
Road 4	4	0200-0300	6.42E-03	4.22E-08	2.32E-06	5.57E-03	3.66E-08	2.02E-06	4.13E-02	2.72E-07	1.24E-05
Road 4	4	0300-0400	9.96E-03	1.91E-08	1.99E-06	8.65E-03	3.12E-08	1.72E-06	4.28E-02	1.23E-07	1.01E-05
Road 4	4	0400-0500	7.60E-03	4.33E-08	2.38E-06	6.49E-03	3.70E-08	2.04E-06	4.15E-02	2.09E-07	1.15E-05
Road 4	4	0500-0600	8.24E-03	4.53E-08	4.47E-06	6.96E-03	3.82E-08	3.78E-06	3.98E-02	2.19E-07	2.16E-05
Road 4	4	0600-0700	8.75E-03	1.83E-07	1.02E-05	7.42E-03	1.55E-07	8.63E-06	3.02E-02	6.32E-07	3.51E-05
Road 4	4	0700-0800	9.40E-03	4.01E-07	2.21E-05	7.88E-03	3.36E-07	1.85E-05	5.04E-02	2.15E-06	1.18E-04
Road 4	4	0800-0900	8.47E-03	2.87E-07	2.32E-05	7.13E-03	2.42E-07	1.95E-05	4.63E-02	1.57E-06	1.26E-04
Road 4	4	0900-1000	1.01E-02	4.08E-07	2.25E-05	8.63E-03	3.48E-07	1.92E-05	4.95E-02	2.00E-06	1.10E-04
Road 4	4	1000-1100	9.42E-03	3.84E-07	2.12E-05	8.02E-03	3.27E-07	1.80E-05	4.66E-02	1.90E-06	1.05E-04
Road 4	4	1100-1200	1.09E-02	5.82E-07	1.99E-05	9.35E-03	5.00E-07	1.71E-05	4.68E-02	2.50E-06	8.60E-05
Road 4	4	1200-1300	1.20E-02	6.26E-07	2.14E-05	1.03E-02	5.37E-07	1.84E-05	5.03E-02	2.62E-06	8.97E-05
Road 4	4	1300-1400	1.43E-02	7.01E-07	1.86E-05	1.19E-02	5.79E-07	1.54E-05	4.20E-02	2.06E-06	5.46E-05
Road 4	4	1400-1500	1.42E-02	7.01E-07	1.87E-05	1.23E-02	6.23E-07	1.67E-05	5.09E-02	2.51E-06	1.38E-04
Road 4	4	1500-1600	1.42E-02	7.01E-07	1.87E-05	1.23E-02	6.23E-07	1.67E-05	5.09E-02	2.51E-06	1.38E-04
Road 4	4	1600-1700	1.42E-02	7.59E-07	4.18E-05	1.23E-02	6.74E-07	3.72E-05	4.90E-02	2.63E-06	1.45E-04
Road 4	4	1700-1800	1.42E-02	7.59E-07	4.18E-05	1.23E-02	6.74E-07	3.72E-05	4.90E-02	2.63E-06	1.45E-04
Road 4	4	1800-1900	7.27E-03	4.81E-07	2.65E-05	6.13E-03	4.06E-07	2.23E-05	3.88E-02	2.57E-06	1.41E-04
Road 4	4	1900-2000	6.33E-03	3.33E-07	1.83E-05	5.34E-03	2.81E-07	1.55E-05	3.70E-02	1.95E-06	1.07E-04
Road 4	4	2000-2100	5.60E-03	3.45E-07	1.31E-05	4.72E-03	2.91E-07	1.10E-05	3.46E-02	2.13E-06	8.06E-05
Road 4	4	2100-2200	5.17E-03	2.11E-07	1.16E-05	4.50E-03	1.83E-07	1.01E-05	3.71E-02	1.51E-06	8.33E-05
Road 4	4	2200-2300	5.06E-03	2.24E-07	1.11E-05	4.75E-03	2.10E-07	1.04E-05	3.72E-02	1.65E-06	8.17E-05
Road 4	4	2300-0000	5.68E-03	1.69E-07	9.28E-06	4.91E-03	1.46E-07	8.01E-06	3.88E-02	1.15E-06	6.33E-05
Road 5	5	0000-0100	7.38E-03	1.01E-07	5.11E-06	6.35E-03	8.69E-08	4.40E-06	4.31E-02	5.91E-07	2.99E-05
Road 5	5	0100-0200	8.08E-03	7.21E-08	3.98E-06	6.95E-03	6.21E-08	3.43E-06	4.72E-02	4.21E-07	2.33E-05
Road 5	5	0200-0300	8.82E-03	5.82E-08	2.95E-06	7.67E-03	5.06E-08	2.56E-06	4.74E-02	3.13E-07	1.58E-05
Road 5	5	0300-0400	1.37E-02	2.64E-08	2.75E-06	1.19E-02	2.29E-08	2.39E-06	4.93E-02	9.51E-08	9.91E-06
Road 5	5	0400-0500	1.03E-02	5.94E-08	3.01E-06	8.82E-03	5.10E-08	2.58E-06	5.18E-02	2.99E-07	1.51E-05
Road 5	5	0500-0600	1.09E-02	6.22E-08	6.13E-06	9.28E-03	5.30E-08	5.22E-06	4.73E-02	2.70E-07	2.66E-05
Road 5	5	0600-0700	1.20E-02	2.51E-07	1.40E-05	1.02E-02	2.14E-07	1.19E-05	4.13E-02	8.64E-07	4.81E-05
Road 5	5	0700-0800	1.23E-02	5.42E-07	2.74E-05	1.03E-02	4.55E-07	2.30E-05	5.80E-02	2.56E-06	1.30E-04
Road 5	5	0800-0900	1.09E-02	3.87E-07	3.12E-05	9.20E-03	3.27E-07	2.64E-05	5.33E-02	1.89E-06	1.53E-04
Road 5	5	0900-1000	1.35E-02	5.93E-07	3.00E-05	1.17E-02	5.11E-07	2.59E-05	5.98E-02	2.62E-06	1.33E-04
Road 5	5	1000-1100	1.49E-02	5.45E-07	2.76E-05	1.28E-02	4.70E-07	2.38E-05	6.36E-02	2.33E-06	1.18E-04
Road 5	5	1100-1200	1.49E-02	8.45E-07	2.76E-05	1.28E-02	7.27E-07	2.38E-05	6.36E-02	3.60E-06	1.18E-04
Road 5	5	1200-1300	1.62E-02	7.26E-07	3.68E-05	1.40E-02	6.28E-07	3.18E-05	6.91E-02	3.09E-06	1.57E-04
Road 5	5	1300-1400	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 5	5	1400-1500	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 5	5	1500-1600	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 5	5	1600-1700	1.64E-02	8.59E-07	4.35E-05	1.35E-02	7.12E-07	3.61E-05	6.72E-02	3.52E-06	1.78E-04
Road 5	5	1700-1800	1.18E-02	6.85E-07	3.47E-05	9.95E-03	5.79E-07	2.93E-05	5.45E-02	3.17E-06	1.60E-04
Road 5	5	1800-1900	1.20E-02	2.21E-07	1.12E-05	1.03E-02	1.90E-07	9.64E-06	5.43E-02	1.00E-06	5.08E-05
Road 5	5	1900-2000	2.29E-02	3.31E-07	1.78E-05	1.96E-02	2.84E-07	1.53E-05	6.72E-02	9.71E-07	5.23E-05
Road 5	5	2000-2100	2.33E-02	3.48E-07	2.33E-05	2.00E-02	2.98E-07	2.00E-05	6.85E-02	1.02E-06	6.86E-05
Road 5	5	2100-2200	2.33E-02	1.38E-07	1.40E-05	2.00E-02	1.18E-07	1.20E-05	6.85E-02	4.06E-07	4.12E-05
Road 5	5	2200-2300	2.29E-02	1.47E-07	1.37E-05	1.96E-02	1.26E-07	1.17E-05	6.72E-02	4.32E-07	4.03E-05
Road 5	5	2300-0000	2.29E-02	1.11E-07	9.13E-06	1.96E-02	9.50E-08	7.83E-06	6.72E-02	3.26E-07	2.68E-05
Road 6	6	0000-0100	7.38E-03	1.01E-07	5.11E-06	6.35E-03	8.69E-08	4.40E-06	4.31E-02	5.91E-07	2.99E-05
Road 6	6	0100-0200	8.08E-03	7.21E-08	3.98E-06	6.95E-03	6.21E-08	3.43E-06	4.72E-02	4.21E-07	2.33E-05
Road 6	6	0200-0300	8.82E-03	5.82E-08	2.95E-06	7.67E-03	5.06E-08	2.56E-06	4.74E-02	3.13E-07	1.58E-05
Road 6	6	0300-0400	1.37E-02	2.64E-08	2.75E-06	1.19E-02	2.29E-08	2.39E-06	4.93E-02	9.51E-08	9.91E-06
Road 6	6	0400-0500	1.03E-02	5.94E-08	3.01E-06	8.82E-03	5.10E-08	2.58E-06	5.18E-02	2.99E-07	1.51E-05
Road 6	6	0500-0600	1.09E-02	6.22E-08	6.13E-06	9.28E-03	5.30E-08	5.22E-06	4.73E-02	2.70E-07	2.66E-05
Road 6	6	0600-0700	1.20E-02	2.51E-07	1.40E-05	1.02E-02	2.14E-07	1.19E-05	4.13E-02	8.64E-07	4.81E-05
Road 6	6	0700-0800	1.23E-02	5.42E-07	2.74E-05	1.03E-02	4.55E-07	2.30E-05	5.80E-02	2.56E-06	1.30E-04
Road 6	6	0800-0900	1.09E-02	3.87E-07	3.12E-05	9.20E-03	3.27E-07	2.64E-05	5.33E-02	1.89E-06	1.53E-04
Road 6	6	0900-1000	1.35E-02	5.93E-07	3.00E-05	1.17E-02	5.11E-07	2.59E-05	5.98E-02	2.62E-06	1.33E-04
Road 6	6	1000-1100	1.49E-02	5.45E-07	2.76E-05	1.28E-02	4.70E-07	2.38E-05	6.36E-02	2.33E-06	1.18E-04
Road 6	6	1100-1200	1.49E-02	8.45E-07	2.76E-05	1.28E-02	7.27E-07	2.38E-05	6.36E-02	3.60E-06	1.18E-04
Road 6	6	1200-1300	1.62E-02	7.26E-07	3.68E-05	1.40E-02	6.28E-07	3.18E-05	6.91E-02	3.09E-06	1.57E-04
Road 6	6	1300-1400	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 6	6	1400-1500	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 6	6	1500-1600	1.66E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04
Road 6	6	1600-1700	1.64E-02	8.59E-07	4.35E-05	1.35E-02	7.12E-07	3.61E-05	6.72E-02	3.52E-06	1.78E-04
Road 6	6	1700-1800	1.18E-02	6.85E-07	3.47E-05	9.95E-03	5.79E-07	2.93E-05	5.45E-02	3.17E-06	1.60E-04
Road 6	6	1800-1900	1.20E-02	2.21E-07	1.12E-05	1.03E-02	1.90E-07	9.64E-06	5.43E-02	1.00E-06	5.08E-05
Road 6	6	1900-2000	2.29E-02	3.31E-07	1.78E-05	1.96E-02	2.84E-07	1.53E-05	6.72E-02	9.71E-07	5.23E-05
Road 6	6	2000-2100	2.33E-02	3.48E-07	2.33E-05	2.00E-02	2.98E-07	2.00E-05	6.85E-02	1.02E-06	6.86E-05
Road 6	6	2100-2200	2.33E-02	1.38E-07	1.40E-05	2.00E-02	1.18E-07	1.20E-05	6.85E-02	4.06E-07	4.12E-05
Road 6	6	2200-2300	2.29E-02	1.47E-07	1.37E-05	1.96E-02	1.26E-07	1.17E-05	6.72E-02	4.32E-07	4.03E-05
Road 6	6	2300-0000	2.29E-02	1.11E-07	9.13E-06	1.96E-02	9.50E-08	7.83E-06	6.72E-02	3.26E-07	2.68E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 7	7	1600-1700	1.72E-02	9.18E-07	4.67E-05	1.48E-02	8.21E-07	4.16E-05	5.31E-02	3.38E-06	1.62E-04
Road 7	7	1700-1800	1.26E-02	3.25E-07	3.81E-06	1.05E-02	2.70E-07	3.17E-06	6.34E-02	1.63E-06	1.91E-05
Road 7	7	1800-1900	8.91E-03	2.44E-07	2.86E-06	7.58E-03	2.07E-07	2.43E-06	4.60E-02	1.26E-06	1.48E-05
Road 7	7	1900-2000	7.36E-03	1.59E-07	1.86E-06	6.22E-03	1.34E-07	1.57E-06	4.18E-02	9.02E-07	1.06E-05
Road 7	7	2000-2100	7.04E-03	1.18E-07	1.39E-06	6.09E-03	1.02E-07	1.20E-06	4.41E-02	7.41E-07	8.69E-06
Road 7	7	2100-2200	6.87E-03	1.04E-07	1.22E-06	6.04E-03	9.15E-08	1.07E-06	4.18E-02	6.32E-07	7.45E-06
Road 7	7	2200-2300	6.17E-03	1.00E-07	1.17E-06	5.34E-03	8.68E-08	1.02E-06	4.13E-02	6.70E-07	7.85E-06
Road 7	7	2300-0000	6.83E-03	8.33E-08	9.76E-07	5.90E-03	7.19E-08	8.44E-07	4.32E-02	5.27E-07	6.18E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.67E-01	4.27E-03	1.51E-01	4.41E-01	1.51E-02	5.35E-01	1.32E-01	3.37E-03	4.67E-01
Road 27	27	1700-1800	1.45E-01	3.33E-03	1.02E-01	1.20E-01	2.77E-02	8.51E-02	4.08E-02	9.39E-04	2.88E-02
Road 27	27	1800-1900	1.25E-01	1.97E-03	6.06E-02	1.07E-01	1.69E-02	5.19E-02	3.51E-02	5.55E-04	1.71E-02
Road 27	27	1900-2000	1.11E-01	1.67E-03	5.07E-02	9.38E-02	1.42E-02	4.33E-02	3.08E-02	4.68E-04	1.42E-02
Road 27	27	2000-2100	1.11E-01	9.14E-04	2.81E-02	9.74E-02	8.00E-03	2.46E-02	3.27E-02	2.69E-04	8.27E-03
Road 27	27	2100-2200	1.11E-01	5.41E-04	1.66E-02	9.74E-02	4.74E-03	1.46E-02	3.27E-02	1.59E-04	4.89E-03
Road 27	27	2200-2300	1.17E-01	8.63E-04	2.66E-02	1.03E-01	7.59E-03	2.34E-02	3.45E-02	2.55E-04	7.84E-03
Road 27	27	2300-0000	1.19E-01	7.21E-04	2.22E-02	1.05E-01	6.32E-03	1.94E-02	4.32E-02	2.61E-04	8.02E-03
Road 28	28	0000-0100	1.01E-02	7.00E-04	3.97E-03	8.67E-03	6.04E-03	3.43E-03	4.97E-03	3.46E-03	1.96E-03
Road 28	28	0100-0200	1.01E-02	7.00E-04	3.97E-03	8.67E-03	6.04E-03	3.43E-03	4.97E-03	3.46E-03	1.96E-03
Road 28	28	0200-0300	1.01E-02	7.00E-04	3.97E-03	8.67E-03	6.04E-03	3.43E-03	4.97E-03	3.46E-03	1.96E-03
Road 28	28	0300-0400	1.15E-02	6.74E-04	3.82E-03	1.00E-02	5.86E-03	3.32E-03	5.32E-03	3.12E-03	1.77E-03
Road 28	28	0400-0500	1.15E-02	6.74E-04	3.82E-03	1.00E-02	5.86E-03	3.32E-03	5.32E-03	3.12E-03	1.77E-03
Road 28	28	0500-0600	1.32E-02	1.19E-03	6.75E-03	1.15E-02	1.03E-02	5.84E-03	6.12E-03	5.49E-03	3.11E-03
Road 28	28	0600-0700	1.38E-02	2.39E-03	1.36E-02	1.16E-02	2.00E-02	1.14E-02	5.11E-03	8.85E-03	5.04E-03
Road 28	28	0700-0800	1.38E-02	2.39E-03	1.36E-02	1.16E-02	2.00E-02	1.14E-02	5.11E-03	8.85E-03	5.04E-03
Road 28	28	0800-0900	1.43E-02	5.86E-03	3.32E-02	1.21E-02	4.95E-02	2.81E-02	6.14E-02	2.51E-02	1.42E-02
Road 28	28	0900-1000	1.43E-02	5.87E-03	3.33E-02	1.20E-02	4.92E-02	2.79E-02	6.04E-02	2.48E-02	1.40E-02
Road 28	28	1000-1100	1.84E-02	5.94E-03	3.37E-02	1.56E-02	5.04E-02	2.86E-02	7.21E-02	2.33E-02	1.32E-02
Road 28	28	1100-1200	1.80E-02	5.49E-03	3.12E-02	1.52E-02	4.64E-02	2.63E-02	6.97E-02	2.12E-02	1.20E-02
Road 28	28	1200-1300	1.80E-02	4.88E-03	2.77E-02	1.52E-02	4.12E-02	2.34E-02	6.97E-02	1.89E-02	1.07E-02
Road 28	28	1300-1400	1.66E-02	4.01E-03	2.28E-02	1.39E-02	3.34E-02	1.90E-02	6.87E-02	1.66E-02	9.40E-03
Road 28	28	1400-1500	1.66E-02	4.01E-03	2.28E-02	1.39E-02	3.34E-02	1.90E-02	6.87E-02	1.66E-02	9.40E-03
Road 28	28	1500-1600	1.57E-02	4.10E-03	2.33E-02	1.30E-02	3.40E-02	1.93E-02	6.54E-02	1.70E-02	9.68E-03
Road 28	28	1600-1700	1.63E-02	4.46E-03	2.53E-02	1.37E-02	3.74E-02	2.12E-02	6.56E-02	1.79E-02	1.02E-02
Road 28	28	1700-1800	1.63E-02	3.56E-03	2.02E-02	1.37E-02	2.98E-02	1.69E-02	6.56E-02	1.43E-02	8.13E-03
Road 28	28	1800-1900	8.46E-03	2.71E-03	1.54E-02	7.20E-03	2.31E-02	1.31E-02	3.44E-02	1.10E-02	6.25E-03
Road 28	28	1900-2000	7.36E-03	1.45E-03	8.24E-03	6.39E-03	1.26E-02	7.16E-03	3.06E-02	6.04E-03	3.43E-03
Road 28	28	2000-2100	7.36E-03	1.45E-03	8.24E-03	6.39E-03	1.26E-02	7.16E-03	3.06E-02	6.04E-03	3.43E-03
Road 28	28	2100-2200	6.57E-03	1.29E-03	7.32E-03	5.70E-03	1.12E-02	6.36E-03	2.73E-02	5.36E-03	3.04E-03
Road 28	28	2200-2300	7.29E-03	1.43E-03	8.13E-03	6.32E-03	1.24E-02	7.06E-03	3.02E-02	5.95E-03	3.38E-03
Road 28	28	2300-0000	7.15E-03	1.02E-03	5.80E-03	6.20E-03	8.84E-03	5.02E-03	2.96E-02	4.23E-03	2.40E-03
Road 29	29	0000-0100	7.42E-03	4.41E-04	3.04E-03	6.28E-03	3.73E-03	2.57E-03	3.60E-03	2.14E-03	1.48E-03
Road 29	29	0100-0200	7.42E-03	4.41E-04	3.04E-03	6.28E-03	3.73E-03	2.57E-03	3.60E-03	2.14E-03	1.48E-03
Road 29	29	0200-0300	7.42E-03	4.41E-04	3.04E-03	6.28E-03	3.73E-03	2.57E-03	3.60E-03	2.14E-03	1.48E-03
Road 29	29	0300-0400	9.51E-03	3.31E-04	2.28E-03	8.04E-03	2.80E-03	1.93E-03	4.61E-03	1.60E-03	1.11E-03
Road 29	29	0400-0500	9.94E-03	3.78E-04	2.61E-03	8.41E-03	3.20E-03	2.21E-03	4.82E-03	1.83E-03	1.27E-03
Road 29	29	0500-0600	9.50E-03	7.93E-04	5.09E-03	7.51E-03	6.99E-03	4.72E-03	3.96E-03	5.44E-03	3.75E-03
Road 29	29	0600-0700	9.50E-03	1.30E-03	8.99E-03	7.51E-03	1.15E-02	7.79E-03	3.96E-03	8.97E-03	6.19E-03
Road 29	29	0700-0800	1.02E-02	2.52E-03	1.74E-02	8.03E-03	2.22E-02	1.50E-02	4.22E-03	1.73E-02	1.19E-02
Road 29	29	0800-0900	1.02E-02	3.27E-03	2.26E-02	8.55E-03	2.75E-02	1.90E-02	4.78E-02	1.54E-02	1.06E-02
Road 29	29	0900-1000	1.14E-02	3.02E-03	2.08E-02	9.73E-03	2.57E-02	1.77E-02	5.22E-02	1.38E-02	9.53E-03
Road 29	29	1000-1100	1.14E-02	3.02E-03	2.08E-02	9.73E-03	2.57E-02	1.77E-02	5.22E-02	1.38E-02	9.53E-03
Road 29	29	1100-1200	1.25E-02	2.71E-03	1.87E-02	1.05E-02	2.28E-02	1.57E-02	5.64E-02	1.22E-02	8.44E-03
Road 29	29	1200-1300	1.41E-02	2.49E-03	1.72E-02	1.18E-02	2.09E-02	1.44E-02	6.34E-02	1.12E-02	7.75E-03
Road 29	29	1300-1400	1.41E-02	2.49E-03	1.72E-02	1.18E-02	2.09E-02	1.44E-02	6.34E-02	1.12E-02	7.75E-03
Road 29	29	1400-1500	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	1500-1600	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	1600-1700	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	1700-1800	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	1800-1900	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	1900-2000	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	2000-2100	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	2100-2200	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	2200-2300	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 29	29	2300-0000	1.24E-02	2.46E-03	1.70E-02	1.04E-02	2.06E-02	1.42E-02	5.58E-02	1.11E-02	7.65E-03
Road 30	30	0000-0100	1.24E-02	7.35E-04	5.07E-03	1.04E-02	6.22E-03	4.28E-03	6.00E-03	3.57E-03	2.46E-03
Road 30	30	0100-0200	1.24E-02	7.35E-04	5.07E-03	1.04E-02	6.22E-03	4.28E-03	6.00E-03	3.57E-03	2.46E-03
Road 30	30	0200-0300	1.24E-02	7.35E-04	5.07E-03	1.04E-02	6.22E-03	4.28E-03	6.00E-03	3.57E-03	2.46E-03
Road 30	30	0300-0400	1.58E-02	5.52E-04	3.80E-03	1.34E-02	4.67E-03	3.22E-03	7.68E-03	2.68E-03	1.85E-03
Road 30	30	0400-0500	1.66E-02	6.30E-04	4.35E-03	1.41E-02	5.33E-03	3.68E-03	8.06E-03	3.05E-03	2.11E-03
Road 30	30	0500-0600	1.58E-02	1.32E-03	9.12E-03	1.25E-02	1.04E-02	7.19E-03	6.60E-03	5.51E-03	3.80E-03
Road 30	30	0600-0700	1.58E-02	2.17E-03	1.50E-02	1.25E-02	1.72E-02	1.19E-02	6.60E-03	9.08E-03	6.27E-03
Road 30	30	0700-0800	1.71E-02	4.20E-03	2.90E-02	1.39E-02	3.42E-02	2.36E-02	7.30E-03	1.79E-02	1.24E-02
Road 30	30	0800-0900	1.71E-02	5.45E-03	3.77E-02	1.45E-02	4.62E-02	3.19E-02	8.27E-03	2.63E-02	1.82E-02
Road 30	30	0900-1000	1.74E-02	5.03E-03	3.47E-02	1.47E-02	4.26E-02	2.94E-02	9.03E-03	2.61E-02	1.80E-02
Road 30	30	1000-1100	1.94E-02	4.94E-03	3.41E-02	1.64E-02	4.18E-02	2.89E-02	1.01E-02	2.57E-02	1.77E-02
Road 30	30	1100-1200	1.90E-02	4.57E-03	3.16E-02	1.61E-02	3.87E-02	2.67E-02	9.84E-03	2.37E-02	1.64E-02
Road 30	30	1200-1300	2.51E-02	7.91E-03	7.74E-02	2.07E-02	6.52E-02	6.38E-02	1.30E-02	4.09E-02	4.00E-02
Road 30	30	1300-1400	2.51E-02	7.91E-03	7.74E-02	2.07E-02	6.52E-02	6.38E-02	1.30E-02	4.09E-02	4.00E-02
Road 30	30	1400-1500	2.53E-02	8.21E-03	8.04E-02	2.09E-02	6.76E-02	6.61E-02	1.32E-02	4.24E-02	4.15E-02
Road 30	30	1500-1600	2.41E-02	8.11E-03	7.94E-02	1.99E-02	6.68E-02	6.53E-02	1.26E-02	4.19E-02	4.10E-02
Road 30	30	1600-1700	2.41E-02	8.11E-03	7.94E-02	2.01E-02	6.75E-02	6.61E-02	1.26E-02	4.23E-02	4.14E-02
Road 30	30	1700-1800	2.41E-02	6.36E-03	5.42E-02	1.98E-02	5.38E-02	4.59E-02	1.26E-02	3.38E-02	2.88E-02
Road 30	30	1800-1900	1.99E-02	4.66E-03	4.57E-02	1.39E-02	3.98E-02	3.90E-02	8.72E-03	2.50E-02	2.45E-02
Road 30	30	1900-2000	2.16E-02	2.89E-03	2.83E-02	9.81E-03	2.45E-02	2.40E-02	5.52E-03	1.54E-02	1.51E-02
Road 30	30	2000-2100	2.24E-02	2.27E-03	2.22E-02	9.91E-03	1.94E-02	1.90E-02	5.64E-03	1.21E-02	1.19E-02
Road 30	30	2100-2200	1.08E-02	2.12E-03	2.08E-02	4.61E-03	1.81E-02	1.77E-02	2.52E-03	1.13E-02	1.11E-02
Road 30	30	2200-2300	1.05E-02	2.01E-03	1.97E-02	4.56E-03	1.72E-02	1.68E-02	2.47E-03	1.08E-02	1.05E-02
Road 30	30	2300-0000	1.22E-02	1.74E-03	1.70E-02	1.06E-02	1.51E-02	1.48E-02	5.79E-03	9.29E-03	9.09E-03

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.31E-02	2.29E-03	1.96E-02	5.78E-03	1.00E-03	1.69E-03	9.12E-03	4.44E-03	8.60E-03
Road 31	31	0100-0200	1.20E-02	1.54E-03	1.38E-02	1.04E-02	1.33E-03	1.19E-02	5.48E-02	7.03E-03	6.28E-02
Road 31	31	0200-0300	1.29E-02	1.23E-03	1.13E-02	1.13E-02	1.08E-03	9.61E-03	5.75E-02	5.47E-03	4.88E-02
Road 31	31	0300-0400	1.30E-02	1.04E-03	9.33E-03	1.19E-02	9.09E-04	8.12E-03	6.91E-02	4.56E-03	4.07E-02
Road 31	31	0400-0500	1.46E-02	1.25E-03	1.12E-02	1.26E-02	1.07E-03	9.58E-03	6.29E-02	5.37E-03	4.80E-02
Road 31	31	0500-0600	1.64E-02	2.34E-03	2.09E-02	1.13E-02	1.98E-03	1.77E-02	5.17E-02	9.89E-03	8.84E-02
Road 31	31	0600-0700	1.61E-02	5.28E-03	4.72E-02	1.36E-02	4.45E-03	3.98E-02	6.71E-02	2.20E-02	1.96E-01
Road 31	31	0700-0800	1.69E-02	1.14E-02	1.02E-01	1.44E-02	9.67E-03	8.64E-02	6.97E-02	4.69E-02	4.19E-01
Road 31	31	0800-0900	1.65E-02	1.29E-02	1.15E-01	1.37E-02	1.06E-02	9.74E-02	8.71E-02	6.80E-02	6.08E-01
Road 31	31	0900-1000	1.87E-02	1.34E-02	1.20E-01	1.59E-02	1.14E-02	1.02E-01	7.47E-02	5.34E-02	4.78E-01
Road 31	31	1000-1100	2.07E-02	1.27E-02	1.14E-01	1.73E-02	1.06E-02	9.52E-02	7.98E-02	4.90E-02	4.39E-01
Road 31	31	1100-1200	2.07E-02	1.27E-02	1.14E-01	1.73E-02	1.07E-02	9.52E-02	7.98E-02	4.90E-02	4.39E-01
Road 31	31	1200-1300	1.78E-02	9.58E-03	8.58E-02	1.49E-02	8.01E-03	7.17E-02	6.85E-02	3.69E-02	3.30E-01
Road 31	31	1300-1400	1.81E-02	9.50E-03	8.48E-02	1.49E-02	7.84E-03	7.01E-02	7.11E-02	3.74E-02	3.34E-01
Road 31	31	1400-1500	1.81E-02	9.50E-03	8.48E-02	1.49E-02	7.84E-03	7.01E-02	7.11E-02	3.74E-02	3.34E-01
Road 31	31	1500-1600	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	1600-1700	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	1700-1800	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	1800-1900	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	1900-2000	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	2000-2100	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	2100-2200	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	2200-2300	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 31	31	2300-0000	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 32	32	0000-0100	9.09E-03	8.97E-04	5.96E-03	7.84E-03	7.74E-03	5.14E-03	4.71E-02	4.65E-03	3.09E-02
Road 32	32	0100-0200	9.09E-03	8.97E-04	5.96E-03	7.84E-03	7.74E-03	5.14E-03	4.71E-02	4.65E-03	3.09E-02
Road 32	32	0200-0300	1.05E-02	9.28E-04	6.16E-03	9.04E-03	8.00E-03	5.31E-03	5.43E-02	4.80E-03	3.19E-02
Road 32	32	0300-0400	1.21E-02	5.09E-04	3.38E-03	1.04E-02	4.38E-03	2.91E-03	6.27E-02	2.63E-03	1.75E-02
Road 32	32	0400-0500	1.21E-02	5.09E-04	3.38E-03	1.04E-02	4.38E-03	2.91E-03	6.27E-02	2.63E-03	1.75E-02
Road 32	32	0500-0600	1.29E-02	9.51E-04	6.32E-03	1.09E-02	8.04E-03	5.34E-03	6.59E-02	4.85E-03	3.22E-02
Road 32	32	0600-0700	1.42E-02	2.61E-03	1.73E-02	1.22E-02	2.24E-02	1.49E-02	7.34E-02	1.35E-02	8.97E-02
Road 32	32	0700-0800	1.42E-02	6.12E-03	4.07E-02	1.22E-02	5.26E-02	3.50E-02	7.34E-02	3.16E-02	2.11E-01
Road 32	32	0800-0900	1.58E-02	1.08E-02	7.19E-02	1.36E-02	9.29E-02	6.18E-02	8.18E-02	5.59E-02	3.72E-01
Road 32	32	0900-1000	1.58E-02	1.08E-02	7.19E-02	1.36E-02	9.29E-02	6.18E-02	8.18E-02	5.59E-02	3.72E-01
Road 32	32	1000-1100	1.75E-02	9.52E-03	6.33E-02	1.50E-02	8.17E-02	5.43E-02	9.03E-02	4.91E-02	3.27E-01
Road 32	32	1100-1200	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1200-1300	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1300-1400	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1400-1500	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1500-1600	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1600-1700	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1700-1800	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1800-1900	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	1900-2000	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	2000-2100	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	2100-2200	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	2200-2300	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 32	32	2300-0000	1.64E-02	7.91E-03	5.26E-02	1.41E-02	6.79E-02	4.52E-02	8.47E-02	4.08E-02	2.72E-01
Road 33	33	0000-0100	1.20E-02	2.28E-03	1.96E-02	7.58E-03	1.43E-03	1.23E-03	8.12E-03	3.84E-03	6.61E-03
Road 33	33	0100-0200	1.20E-02	1.54E-03	1.38E-02	1.04E-02	1.33E-03	1.19E-02	5.48E-02	7.03E-03	6.28E-02
Road 33	33	0200-0300	1.29E-02	1.23E-03	1.13E-02	1.13E-02	1.08E-03	9.61E-03	5.75E-02	5.47E-03	4.88E-02
Road 33	33	0300-0400	1.30E-02	1.04E-03	9.33E-03	1.19E-02	9.09E-04	8.12E-03	6.91E-02	4.56E-03	4.07E-02
Road 33	33	0400-0500	1.46E-02	1.25E-03	1.12E-02	1.26E-02	1.07E-03	9.58E-03	6.29E-02	5.37E-03	4.80E-02
Road 33	33	0500-0600	1.64E-02	2.34E-03	2.09E-02	1.13E-02	1.98E-03	1.77E-02	5.17E-02	9.89E-03	8.84E-02
Road 33	33	0600-0700	1.61E-02	5.28E-03	4.72E-02	1.36E-02	4.45E-03	3.98E-02	6.71E-02	2.20E-02	1.96E-01
Road 33	33	0700-0800	1.69E-02	1.14E-02	1.02E-01	1.44E-02	9.67E-03	8.64E-02	6.97E-02	4.69E-02	4.19E-01
Road 33	33	0800-0900	1.65E-02	1.29E-02	1.15E-01	1.37E-02	1.06E-02	9.74E-02	8.71E-02	6.80E-02	6.08E-01
Road 33	33	0900-1000	1.87E-02	1.34E-02	1.20E-01	1.59E-02	1.14E-02	1.02E-01	7.47E-02	5.34E-02	4.78E-01
Road 33	33	1000-1100	2.07E-02	1.27E-02	1.14E-01	1.73E-02	1.06E-02	9.52E-02	7.98E-02	4.90E-02	4.39E-01
Road 33	33	1100-1200	2.07E-02	1.27E-02	1.14E-01	1.73E-02	1.07E-02	9.52E-02	7.98E-02	4.90E-02	4.39E-01
Road 33	33	1200-1300	1.78E-02	9.58E-03	8.58E-02	1.49E-02	8.01E-03	7.17E-02	6.85E-02	3.69E-02	3.30E-01
Road 33	33	1300-1400	1.81E-02	9.50E-03	8.48E-02	1.49E-02	7.84E-03	7.01E-02	7.11E-02	3.74E-02	3.34E-01
Road 33	33	1400-1500	1.81E-02	9.50E-03	8.48E-02	1.49E-02	7.84E-03	7.01E-02	7.11E-02	3.74E-02	3.34E-01
Road 33	33	1500-1600	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	1600-1700	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	1700-1800	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	1800-1900	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	1900-2000	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	2000-2100	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	2100-2200	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	2200-2300	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01
Road 33	33	2300-0000	1.76E-02	9.04E-03	8.08E-02	1.44E-02	7.46E-03	6.67E-02	6.88E-02	3.53E-02	3.16E-01

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 54	54	0800-0900	1.52E-02	1.55E-07	8.21E-06	3.00E-07	6.84E-06	3.52E-01	3.69E-04	7.30E-06
Road 54	54	0900-1000	1.07E-01	3.84E-07	8.75E-06	9.05E-02	3.25E-07	7.42E-06	3.98E-01	4.48E-06
Road 54	54	1000-1100	1.19E-01	3.95E-07	9.00E-06	1.02E-01	3.38E-07	7.72E-06	4.23E-01	1.40E-06
Road 54	54	1100-1200	1.18E-01	3.89E-07	8.87E-06	9.95E-02	3.09E-07	7.04E-06	4.22E-01	1.32E-06
Road 54	54	1200-1300	1.48E-01	3.20E-07	7.29E-06	1.23E-01	2.67E-07	6.08E-06	5.03E-01	1.09E-06
Road 54	54	1300-1400	1.44E-01	3.41E-07	7.78E-06	1.19E-01	2.81E-07	6.42E-06	5.14E-01	1.22E-06
Road 54	54	1400-1500	1.46E-01	3.51E-07	8.00E-06	1.24E-01	2.98E-07	6.79E-06	5.09E-01	1.22E-06
Road 54	54	1500-1600	1.34E-01	3.31E-07	7.54E-06	1.10E-01	2.72E-07	6.19E-06	5.09E-01	1.26E-06
Road 54	54	1600-1700	1.44E-01	3.47E-07	7.91E-06	1.21E-01	2.92E-07	6.65E-06	5.38E-01	1.30E-06
Road 54	54	1700-1800	1.14E-01	2.61E-07	5.95E-06	9.49E-02	2.18E-07	4.97E-06	4.49E-01	1.03E-06
Road 54	54	1800-1900	1.27E-01	2.80E-07	6.38E-06	1.05E-01	2.31E-07	5.27E-06	4.44E-01	9.79E-07
Road 54	54	1900-2000	8.41E-02	1.44E-07	2.61E-06	7.16E-02	1.22E-07	2.21E-06	3.44E-01	5.90E-07
Road 54	54	2000-2100	7.71E-02	1.28E-07	2.32E-06	6.45E-02	1.07E-07	1.94E-06	3.24E-01	5.38E-07
Road 54	54	2100-2200	7.71E-02	1.28E-07	2.32E-06	6.45E-02	1.07E-07	1.94E-06	3.24E-01	5.38E-07
Road 54	54	2200-2300	8.13E-02	8.04E-08	1.83E-06	7.12E-02	7.04E-08	1.60E-06	3.00E-01	2.96E-07
Road 54	54	2300-2400	7.71E-02	8.40E-08	1.91E-06	6.74E-02	7.35E-08	1.67E-06	2.85E-01	3.10E-07
Road 101	101	0000-0100	6.30E-03	7.21E-08	2.85E-06	5.41E-03	6.18E-08	4.20E-02	4.80E-07	1.90E-05
Road 101	101	0100-0200	5.88E-03	5.14E-08	2.04E-06	5.97E-03	4.67E-08	3.94E-02	3.34E-07	1.33E-05
Road 101	101	0200-0300	7.56E-03	4.14E-08	1.64E-06	6.59E-03	3.61E-08	1.43E-06	4.55E-02	2.49E-07
Road 101	101	0300-0400	8.21E-03	3.56E-08	1.41E-06	7.11E-03	3.09E-08	1.22E-06	4.73E-02	2.05E-07
Road 101	101	0400-0500	9.01E-03	4.31E-08	1.71E-06	7.88E-03	3.77E-08	1.49E-06	5.02E-02	2.40E-07
Road 101	101	0500-0600	9.77E-03	8.13E-08	3.22E-06	8.24E-03	6.86E-08	2.72E-06	5.26E-02	4.38E-07
Road 101	101	0600-0700	1.15E-02	1.52E-07	6.03E-06	9.51E-03	1.26E-07	5.00E-06	6.07E-02	8.04E-07
Road 101	101	0700-0800	1.11E-02	4.03E-07	1.60E-05	9.44E-03	3.43E-07	1.36E-05	5.87E-02	2.13E-06
Road 101	101	0800-0900	1.08E-02	4.56E-07	1.81E-05	9.15E-03	3.87E-07	1.53E-05	5.19E-02	2.20E-06
Road 101	101	0900-1000	1.04E-02	4.41E-07	1.75E-05	8.76E-03	3.71E-07	1.47E-05	4.84E-02	2.05E-06
Road 101	101	1000-1100	1.43E-02	4.45E-07	1.76E-05	1.23E-02	3.83E-07	1.52E-05	6.24E-02	1.95E-06
Road 101	101	1100-1200	1.44E-02	4.37E-07	1.73E-05	1.24E-02	3.76E-07	1.49E-05	6.29E-02	1.91E-06
Road 101	101	1200-1300	1.66E-02	4.98E-07	1.97E-05	1.40E-02	4.20E-07	1.67E-05	6.79E-02	2.03E-06
Road 101	101	1300-1400	1.67E-02	5.18E-07	2.05E-05	1.39E-02	4.32E-07	1.71E-05	7.04E-02	2.18E-06
Road 101	101	1400-1500	1.55E-02	4.91E-07	1.95E-05	1.29E-02	4.09E-07	1.62E-05	6.55E-02	2.07E-06
Road 101	101	1500-1600	1.56E-02	5.27E-07	2.09E-05	1.29E-02	4.35E-07	1.73E-05	6.95E-02	2.34E-06
Road 101	101	1600-1700	1.47E-02	5.17E-07	2.05E-05	1.22E-02	4.30E-07	1.70E-05	6.66E-02	2.34E-06
Road 101	101	1700-1800	1.15E-02	4.45E-07	1.76E-05	9.62E-03	3.70E-07	1.46E-05	5.26E-02	2.03E-06
Road 101	101	1800-1900	1.27E-02	4.89E-07	1.94E-05	1.06E-02	4.07E-07	1.61E-05	5.80E-02	2.24E-06
Road 101	101	1900-2000	7.01E-03	2.25E-07	8.89E-06	5.92E-03	1.90E-07	7.51E-06	4.01E-02	1.28E-06
Road 101	101	2000-2100	6.72E-03	1.67E-07	6.63E-06	5.82E-03	1.45E-07	5.74E-06	4.32E-02	1.08E-06
Road 101	101	2100-2200	9.12E-03	1.98E-07	7.85E-06	7.90E-03	1.72E-07	6.81E-06	5.86E-02	1.27E-06
Road 101	101	2200-2300	5.91E-03	1.42E-07	5.63E-06	5.12E-03	1.23E-07	4.88E-06	4.06E-02	9.75E-07
Road 101	101	2300-2400	6.30E-03	1.51E-07	5.99E-06	5.46E-03	1.31E-07	5.20E-06	4.32E-02	1.04E-06
Road 102	102	0000-0100	9.12E-03	8.41E-08	3.12E-06	7.87E-03	7.25E-08	2.69E-06	4.93E-02	4.55E-07
Road 102	102	0100-0200	9.87E-03	6.00E-08	2.23E-06	8.51E-03	5.17E-08	1.92E-06	5.13E-02	3.11E-07
Road 102	102	0200-0300	1.04E-02	5.17E-07	1.92E-05	8.98E-03	4.46E-07	1.65E-05	5.42E-02	2.69E-06
Road 102	102	0300-0400	1.15E-02	4.16E-08	1.54E-06	1.00E-02	3.61E-08	1.34E-06	6.02E-02	2.02E-07
Road 102	102	0400-0500	1.27E-02	4.96E-08	1.84E-06	1.10E-02	4.28E-08	1.59E-06	6.63E-02	2.40E-07
Road 102	102	0500-0600	1.33E-02	9.39E-08	3.49E-06	1.13E-02	7.98E-08	2.96E-06	6.19E-02	4.35E-07
Road 102	102	0600-0700	1.40E-02	2.14E-07	7.95E-06	1.19E-02	1.82E-07	6.76E-06	6.54E-02	9.97E-07
Road 102	102	0700-0800	1.43E-02	5.49E-07	2.04E-05	1.22E-02	4.67E-07	1.73E-05	6.70E-02	2.56E-06
Road 102	102	0800-0900	1.43E-02	5.25E-07	1.95E-05	1.22E-02	4.46E-07	1.65E-05	6.88E-02	2.52E-06
Road 102	102	0900-1000	1.38E-02	5.07E-07	1.88E-05	1.17E-02	4.31E-07	1.60E-05	6.64E-02	2.44E-06
Road 102	102	1000-1100	1.87E-02	5.13E-07	2.05E-05	1.61E-02	4.35E-07	1.74E-05	8.13E-02	2.23E-06
Road 102	102	1100-1200	1.88E-02	5.03E-07	2.01E-05	1.62E-02	4.27E-07	1.71E-05	8.19E-02	2.19E-06
Road 102	102	1200-1300	2.16E-02	5.73E-07	2.29E-05	1.82E-02	4.84E-07	1.93E-05	8.84E-02	2.34E-06
Road 102	102	1300-1400	2.17E-02	5.96E-07	2.38E-05	1.81E-02	4.97E-07	1.98E-05	9.16E-02	2.51E-06
Road 102	102	1400-1500	2.01E-02	5.65E-07	2.26E-05	1.68E-02	4.71E-07	1.88E-05	8.46E-02	2.38E-06
Road 102	102	1500-1600	2.03E-02	6.06E-07	2.42E-05	1.68E-02	5.00E-07	2.00E-05	8.99E-02	2.68E-06
Road 102	102	1600-1700	1.91E-02	5.95E-07	2.38E-05	1.58E-02	4.95E-07	1.97E-05	8.64E-02	2.69E-06
Road 102	102	1700-1800	1.49E-02	5.12E-07	2.04E-05	1.25E-02	4.26E-07	1.70E-05	6.82E-02	2.34E-06
Road 102	102	1800-1900	1.65E-02	5.63E-07	2.24E-05	1.38E-02	4.68E-07	1.86E-05	7.52E-02	2.58E-06
Road 102	102	1900-2000	9.12E-03	2.59E-07	1.02E-05	7.70E-03	2.19E-07	8.64E-06	5.21E-02	1.48E-06
Road 102	102	2000-2100	8.74E-03	1.92E-07	7.63E-06	7.53E-03	1.66E-07	6.58E-06	5.61E-02	1.24E-06
Road 102	102	2100-2200	1.19E-02	2.28E-07	9.03E-06	1.03E-02	1.98E-07	7.83E-06	7.61E-02	1.46E-06
Road 102	102	2200-2300	7.68E-03	1.63E-07	6.48E-06	6.65E-03	1.41E-07	5.61E-06	5.27E-02	1.12E-06
Road 102	102	2300-2400	8.19E-03	1.74E-07	6.91E-06	7.09E-03	1.51E-07	5.99E-06	5.61E-02	1.19E-06
Road 103	103	0000-0100	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	0100-0200	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	0200-0300	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	0300-0400	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	0400-0500	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	0500-0600	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	0600-0700	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	0700-0800	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	0800-0900	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	0900-1000	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	1000-1100	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	1100-1200	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	1200-1300	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	1300-1400	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	1400-1500	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	1500-1600	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	1600-1700	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	1700-1800	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	1800-1900	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	1900-2000	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	2000-2100	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	2100-2200	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06
Road 103	103	2200-2300	1.37E-02	4.78E-07	1.15E-05	1.12E-02	3.91E-07	9.40E-06	5.46E-02	1.90E-06
Road 103	103	2300-2400	1.43E-02	4.78E-07	1.15E-05	1.17E-02	3.91E-07	9.40E-06	5.70E-02	1.90E-06

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 1	1	0000-0100	4.92E-03	4.82E-08	3.75E-06	4.30E-03	4.21E-08	3.27E-06	4.38E-02	1.20E-06
Road 1	1	0100-0200	5.37E-03	4.84E-08	2.66E-06	4.68E-03	4.22E-08	2.32E-06	3.53E-02	3.18E-07
Road 1	1	0200-0300	5.84E-03	3.84E-08	2.12E-06	5.07E-03	3.34E-08	1.84E-06	3.66E-02	2.41E-07
Road 1	1	0300-0400	6.27E-03	3.26E-08	1.79E-06	5.49E-03	2.85E-08	1.57E-06	3.76E-02	1.95E-07
Road 1	1	0400-0500	6.89E-03	3.92E-08	2.16E-06	5.92E-03	3.37E-08	1.85E-06	3.98E-02	2.26E-07
Road 1	1	0500-0600	7.39E-03	7.20E-08	3.96E-06	6.23E-03	6.07E-08	3.34E-06	4.04E-02	3.95E-07
Road 1	1	0600-0700	7.87E-03	1.66E-07	9.15E-06	6.81E-03	1.44E-07	7.92E-06	4.22E-02	8.92E-07
Road 1	1	0700-0800	8.63E-03	3.68E-07	2.03E-05	7.36E-03	3.14E-07	1.73E-05	4.52E-02	1.93E-06
Road 1	1	0800-0900	8.66E-03	4.11E-07	2.26E-05	7.36E-03	3.49E-07	1.92E-05	4.52E-02	2.15E-06
Road 1	1	0900-1000	6.63E-03	3.90E-07	2.15E-05	8.09E-03	3.27E-07	1.80E-05	4.60E-02	1.90E-06
Road 1	1	1000-1100	6.63E-03	3.90E-07	2.15E-05	8.09E-03	3.27E-07	1.80E-05	4.60E-02	1.90E-06
Road 1	1	1100-1200	1.02E-02	3.38E-07	1.86E-05	8.78E-03	2.91E-07	1.60E-05	4.90E-02	1.67E-06
Road 1	1	1200-1300	1.27E-02	5.37E-07	2.95E-05	1.09E-02	4.63E-07	2.55E-05	6.08E-02	2.58E-06
Road 1	1	1300-1400	1.29E-02	5.38E-07	2.96E-05	1.11E-02	4.63E-07	2.55E-05	6.19E-02	2.58E-06
Road 1	1	1400-1500	1.31E-02	5.38E-07	2.96E-05	1.12E-02	4.63E-07	2.55E-05	6.29E-02	2.58E-06
Road 1	1	1500-1600	1.32E-02	6.52E-07	3.59E-05	1.12E-02	5.50E-07	3.03E-05	5.74E-02	2.83E-06
Road 1	1	1600-1700	1.30E-02	6.64E-07	3.82E-05	1.11E-02	5.52E-07	3.17E-05	5.68E-02	2.94E-06
Road 1	1	1700-1800	1.29E-02	5.38E-07	2.96E-05	1.10E-02	4.47E-07	2.46E-05	5.66E-02	2.35E-06
Road 1	1	1800-1900	6.66E-03	4.41E-07	2.43E-05	5.82E-03	3.85E-07	2.12E-05	3.50E-02	2.08E-06
Road 1	1	1900-2000	5.82E-03	3.06E-07	1.68E-05	5.09E-03	2.67E-07	1.47E-05	3.34E-02	1.76E-06
Road 1	1	2000-2100	5.16E-03	3.06E-07	1.68E-05	4.51E-03	2.67E-07	1.47E-05	3.34E-02	1.76E-06
Road 1	1	2100-2200	4.87E-03	1.98E-07	1.09E-05	4.16E-03	1.70E-07	9.34E-06	3.45E-02	1.41E-06
Road 1	1	2200-2300	4.87E-03	1.98E-07	1.09E-05	4.16E-03	1.70E-07	9.34E-06	3.45E-02	1.41E-06
Road 1	1	2300-0000	5.16E-03	1.53E-07	8.43E-06	4.60E-03	1.36E-07	7.50E-06	3.42E-02	1.02E-06
Road 2	2	0000-0100	6.81E-03	9.32E-08	4.72E-06	5.97E-03	8.18E-08	4.14E-06	3.93E-02	5.37E-07
Road 2	2	0100-0200	6.94E-03	6.04E-08	3.06E-06	6.08E-03	5.29E-08	2.68E-06	4.01E-02	3.48E-07
Road 2	2	0200-0300	8.02E-03	5.29E-08	2.68E-06	7.01E-03	4.62E-08	2.34E-06	4.21E-02	2.78E-07
Road 2	2	0300-0400	8.52E-03	4.62E-08	2.34E-06	7.46E-03	4.04E-08	2.05E-06	4.36E-02	2.37E-07
Road 2	2	0400-0500	9.35E-03	5.40E-08	2.74E-06	8.05E-03	2.36E-06	4.61E-02	2.67E-07	1.35E-05
Road 2	2	0500-0600	9.72E-03	9.79E-08	4.96E-06	8.44E-03	8.49E-08	4.30E-06	4.69E-02	4.72E-07
Road 2	2	0600-0700	1.07E-02	2.23E-07	1.13E-05	9.31E-03	1.94E-07	9.84E-06	5.16E-02	1.07E-06
Road 2	2	0700-0800	1.12E-02	4.96E-07	2.51E-05	9.63E-03	4.25E-07	2.15E-05	5.21E-02	2.30E-06
Road 2	2	0800-0900	1.08E-02	5.10E-07	2.58E-05	9.31E-03	4.38E-07	2.22E-05	4.78E-02	2.25E-06
Road 2	2	0900-1000	1.30E-02	5.68E-07	2.87E-05	1.09E-02	4.77E-07	2.42E-05	5.70E-02	2.50E-06
Road 2	2	1000-1100	1.30E-02	5.68E-07	2.87E-05	1.09E-02	4.77E-07	2.42E-05	5.70E-02	2.50E-06
Road 2	2	1100-1200	1.56E-02	7.66E-07	3.88E-05	1.28E-02	6.72E-07	3.40E-05	6.72E-02	3.40E-06
Road 2	2	1200-1300	1.70E-02	6.84E-07	3.46E-05	1.41E-02	5.77E-07	2.92E-05	7.34E-02	2.96E-06
Road 2	2	1300-1400	1.70E-02	6.84E-07	3.46E-05	1.41E-02	5.77E-07	2.92E-05	7.34E-02	2.96E-06
Road 2	2	1400-1500	1.70E-02	6.84E-07	3.46E-05	1.41E-02	5.77E-07	2.92E-05	7.34E-02	2.96E-06
Road 2	2	1500-1600	1.70E-02	7.66E-07	3.88E-05	1.41E-02	6.72E-07	3.40E-05	7.34E-02	3.40E-06
Road 2	2	1600-1700	1.70E-02	7.66E-07	3.88E-05	1.41E-02	6.72E-07	3.40E-05	7.34E-02	3.40E-06
Road 2	2	1700-1800	1.70E-02	6.84E-07	3.46E-05	1.41E-02	5.77E-07	2.92E-05	7.34E-02	2.96E-06
Road 2	2	1800-1900	1.70E-02	6.84E-07	3.46E-05	1.41E-02	5.77E-07	2.92E-05	7.34E-02	2.96E-06
Road 2	2	1900-2000	1.14E-02	3.97E-07	3.32E-06	9.88E-03	3.46E-07	2.89E-06	5.83E-02	2.04E-06
Road 2	2	2000-2100	2.62E-02	2.19E-06	9.24E-06	2.27E-02	1.90E-06	8.02E-06	1.34E-01	1.12E-05
Road 2	2	2100-2200	1.79E-02	2.16E-07	2.69E-06	1.55E-02	1.87E-07	2.33E-06	9.14E-02	1.10E-06
Road 2	2	2200-2300	7.46E-03	1.97E-07	1.65E-06	6.49E-03	1.72E-07	1.43E-06	5.14E-02	1.36E-06
Road 2	2	2300-2400	7.59E-03	1.97E-07	1.65E-06	6.60E-03	1.72E-07	1.43E-06	5.22E-02	1.36E-06
Road 3	3	0000-0100	1.61E-02	1.03E-07	2.89E-06	1.45E-02	9.01E-08	2.54E-06	7.49E-02	4.67E-07
Road 3	3	0100-0200	1.44E-02	8.61E-08	2.42E-06	1.30E-02	7.52E-08	2.12E-06	6.70E-02	3.90E-07
Road 3	3	0200-0300	1.85E-02	6.82E-08	1.92E-06	1.63E-02	6.03E-08	1.70E-06	7.09E-02	2.95E-07
Road 3	3	0300-0400	1.85E-02	6.82E-08	1.92E-06	1.63E-02	6.03E-08	1.70E-06	7.09E-02	2.95E-07
Road 3	3	0400-0500	1.85E-02	6.82E-08	1.92E-06	1.63E-02	6.03E-08	1.70E-06	7.09E-02	2.95E-07
Road 3	3	0500-0600	2.18E-02	1.56E-07	4.41E-06	1.90E-02	1.37E-07	3.85E-06	6.79E-02	7.96E-07
Road 3	3	0600-0700	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	0700-0800	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	0800-0900	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	0900-1000	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1000-1100	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1100-1200	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1200-1300	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1300-1400	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1400-1500	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1500-1600	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1600-1700	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1700-1800	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1800-1900	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	1900-2000	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	2000-2100	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	2100-2200	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	2200-2300	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06
Road 3	3	2300-2400	2.84E-02	2.41E-07	6.79E-06	2.47E-02	2.09E-07	5.89E-06	8.84E-02	1.24E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 7	7	1600-1700	1.18E-02	3.04E-07	3.56E-06	9.92E-03	2.55E-07	2.99E-06	4.81E-02	1.24E-06
Road 7	7	1700-1800	1.18E-02	3.04E-07	3.56E-06	9.92E-03	2.55E-07	2.99E-06	4.81E-02	1.45E-05
Road 7	7	1800-1900	8.30E-03	2.27E-07	2.66E-06	7.20E-03	1.97E-07	2.31E-06	4.23E-02	1.16E-06
Road 7	7	1900-2000	8.82E-03	1.47E-07	1.72E-06	5.93E-03	1.28E-07	1.50E-06	3.82E-02	6.47E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.12E-02	3.98E-06	1.05E-06	1.92E-02	7.06E-06	5.33E-07	5.23E-02	1.85E-05	4.91E-06	3.95E-02	1.40E-05	3.71E-06
Road 21	21	0100-0200	1.28E-02	6.11E-06	8.08E-07	1.32E-02	9.37E-06	7.10E-07	5.55E-02	2.65E-05	3.51E-06	4.76E-02	2.28E-05	1.01E-06
Road 21	21	0200-0300	1.42E-02	6.14E-06	6.80E-07	1.26E-02	4.55E-06	6.01E-07	5.85E-02	2.11E-05	2.79E-06	5.06E-02	1.83E-05	2.42E-06
Road 21	21	0300-0400	1.58E-02	4.64E-06	6.13E-07	1.39E-02	4.08E-06	5.40E-07	6.13E-02	1.82E-05	2.41E-06	5.34E-02	1.57E-05	2.08E-06
Road 21	21	0400-0500	1.59E-02	5.18E-06	6.84E-07	1.41E-02	4.58E-06	6.06E-07	6.28E-02	2.04E-05	2.70E-06	5.46E-02	1.77E-05	2.34E-06
Road 21	21	0500-0600	1.52E-02	8.40E-06	1.11E-06	1.34E-02	7.38E-06	9.76E-07	6.13E-02	3.38E-05	4.47E-06	5.24E-02	2.89E-05	3.82E-06
Road 21	21	0600-0700	1.49E-02	1.75E-05	2.32E-06	1.30E-02	1.53E-05	2.02E-06	6.49E-02	7.61E-05	1.00E-05	5.55E-02	6.51E-05	8.60E-06
Road 21	21	0700-0800	1.83E-02	4.48E-05	5.92E-06	1.55E-02	3.79E-05	5.02E-06	7.52E-02	1.84E-04	2.44E-05	6.25E-02	1.53E-04	2.02E-05
Road 21	21	0800-0900	1.91E-02	4.67E-05	6.17E-06	1.62E-02	3.96E-05	5.23E-06	7.85E-02	1.92E-04	2.54E-05	6.53E-02	1.59E-04	2.11E-05
Road 21	21	0900-1000	2.27E-02	5.86E-07	7.75E-06	1.89E-02	4.87E-07	6.44E-06	9.17E-02	2.37E-04	3.13E-05	7.55E-02	1.95E-04	2.57E-05
Road 21	21	1000-1100	2.44E-02	6.95E-07	8.55E-06	2.03E-02	5.78E-07	7.11E-06	9.85E-02	2.81E-04	3.45E-05	8.11E-02	2.31E-04	2.84E-05
Road 21	21	1100-1200	2.24E-02	4.95E-07	6.55E-06	1.88E-02	4.17E-07	5.51E-06	9.84E-02	2.17E-04	2.88E-05	8.27E-02	1.83E-04	2.42E-05
Road 21	21	1200-1300	2.77E-02	5.95E-07	7.47E-06	2.32E-02	4.97E-07	6.24E-06	1.21E-01	2.60E-04	3.26E-05	1.02E-01	2.19E-04	2.74E-05
Road 21	21	1300-1400	2.92E-02	6.24E-07	7.83E-06	2.45E-02	5.24E-07	6.57E-06	1.28E-01	2.74E-04	3.44E-05	1.07E-01	2.30E-04	2.89E-05
Road 21	21	1400-1500	3.05E-02	6.84E-07	9.04E-06	2.53E-02	5.67E-07	7.49E-06	6.12E-01	2.51E-06	3.32E-05	9.24E-02	2.07E-06	2.74E-05
Road 21	21	1500-1600	3.27E-02	5.85E-07	7.47E-06	2.72E-02	4.87E-07	6.21E-06	1.34E-01	2.40E-04	3.06E-05	1.13E-01	2.02E-04	2.58E-05
Road 21	21	1600-1700	2.83E-02	6.49E-07	8.58E-06	2.36E-02	5.41E-07	7.16E-06	1.05E-01	2.41E-04	3.19E-05	8.71E-02	2.00E-04	2.64E-05
Road 21	21	1700-1800	2.23E-02	5.20E-07	6.87E-06	1.86E-02	4.33E-07	5.72E-06	7.98E-02	1.86E-04	2.46E-05	6.72E-02	1.81E-04	2.39E-05
Road 21	21	1800-1900	1.55E-02	3.36E-07	4.44E-06	1.37E-02	2.96E-07	3.92E-06	6.58E-02	1.43E-06	1.89E-05	5.75E-02	1.25E-06	1.65E-05
Road 21	21	1900-2000	1.25E-02	1.99E-07	2.63E-06	1.10E-02	1.74E-07	2.30E-06	5.80E-02	9.19E-07	1.21E-05	5.06E-02	8.02E-07	1.06E-05
Road 21	21	2000-2100	1.25E-02	1.55E-07	1.99E-06	1.10E-02	1.36E-07	1.74E-06	5.80E-02	7.17E-07	9.21E-06	5.06E-02	6.26E-07	8.04E-06
Road 21	21	2100-2200	1.20E-02	1.51E-07	1.99E-06	1.05E-02	1.32E-07	1.74E-06	5.94E-02	7.44E-07	9.83E-06	5.09E-02	6.37E-07	8.41E-06
Road 21	21	2200-2300	1.21E-02	1.55E-07	1.88E-06	1.06E-02	1.36E-07	1.65E-06	5.98E-02	7.67E-07	9.28E-06	5.12E-02	6.57E-07	7.95E-06
Road 21	21	2300-0000	1.31E-02	1.20E-07	1.58E-06	1.16E-02	1.06E-07	1.40E-06	5.84E-02	5.33E-07	7.03E-06	5.06E-02	4.62E-07	6.10E-06
Road 22	22	0000-0100	1.09E-01	1.32E-07	2.36E-06	9.64E-02	1.18E-07	2.10E-06	3.94E-01	4.80E-07	8.56E-06	3.49E-01	4.26E-07	7.59E-06
Road 22	22	0100-0200	1.27E-01	1.88E-07	2.34E-06	1.13E-01	1.67E-07	2.08E-06	4.61E-01	6.84E-07	8.51E-06	4.09E-01	6.07E-07	7.55E-06
Road 22	22	0200-0300	1.02E-01	6.77E-08	1.21E-06	9.03E-02	6.01E-08	1.07E-06	3.71E-01	2.47E-07	4.40E-06	3.29E-01	2.19E-07	3.89E-06
Road 22	22	0300-0400	1.13E-01	1.14E-07	1.91E-06	1.00E-01	1.01E-07	1.70E-06	4.11E-01	4.14E-07	6.96E-06	3.65E-01	3.68E-07	6.18E-06
Road 22	22	0400-0500	1.05E-01	6.84E-08	1.22E-06	9.30E-02	6.07E-08	1.08E-06	3.81E-01	2.48E-07	4.43E-06	3.38E-01	2.20E-07	3.93E-06
Road 22	22	0500-0600	1.18E-01	1.41E-07	2.52E-06	1.04E-01	5.24E-07	2.22E-06	4.25E-01	5.09E-07	9.08E-06	3.75E-01	4.48E-07	8.00E-06
Road 22	22	0600-0700	1.54E-01	8.90E-07	1.59E-05	1.31E-01	7.57E-07	1.35E-05	5.54E-01	3.21E-06	5.73E-05	4.72E-01	2.73E-06	4.87E-05
Road 22	22	0700-0800	1.54E-01	8.90E-07	1.59E-05	1.31E-01	7.57E-07	1.35E-05	5.54E-01	3.21E-06	5.73E-05	4.72E-01	2.73E-06	4.87E-05
Road 22	22	0800-0900	1.67E-01	1.26E-06	2.25E-05	1.39E-01	1.05E-06	1.88E-05	5.98E-01	4.52E-06	8.07E-05	4.98E-01	3.76E-06	6.72E-05
Road 22	22	0900-1000	1.67E-01	1.26E-06	2.25E-05	1.39E-01	1.05E-06	1.88E-05	5.98E-01	4.52E-06	8.07E-05	4.98E-01	3.76E-06	6.72E-05
Road 22	22	1000-1100	1.77E-01	1.23E-06	2.36E-05	1.47E-01	1.02E-06	1.96E-05	6.34E-01	4.41E-06	8.46E-05	5.28E-01	3.67E-06	7.04E-05
Road 22	22	1100-1200	1.77E-01	1.23E-06	2.36E-05	1.47E-01	1.02E-06	1.96E-05	6.34E-01	4.41E-06	8.46E-05	5.28E-01	3.67E-06	7.04E-05
Road 22	22	1200-1300	1.84E-01	1.28E-06	2.45E-05	1.53E-01	1.06E-06	2.04E-05	6.59E-01	4.58E-06	8.79E-05	5.49E-01	3.82E-06	7.32E-05
Road 22	22	1300-1400	1.84E-01	1.28E-06	2.45E-05	1.53E-01	1.06E-06	2.04E-05	6.59E-01	4.58E-06	8.79E-05	5.49E-01	3.82E-06	7.32E-05
Road 22	22	1400-1500	1.84E-01	1.46E-06	2.61E-05	1.53E-01	1.21E-06	2.16E-05	6.29E-01	5.00E-06	8.91E-05	5.21E-01	4.14E-06	7.39E-05
Road 22	22	1500-1600	2.00E-01	1.22E-06	2.52E-05	1.66E-01	1.01E-06	2.09E-05	6.84E-01	4.18E-06	8.64E-05	5.67E-01	3.46E-06	7.16E-05
Road 22	22	1600-1700	1.72E-01	1.33E-06	2.38E-05	1.44E-01	1.11E-06	1.98E-05	6.03E-01	4.67E-06	8.33E-05	5.03E-01	3.89E-06	6.94E-05
Road 22	22	1700-1800	1.46E-01	1.05E-06	1.87E-05	1.23E-01	8.81E-07	1.57E-05	5.73E-01	4.11E-06	7.33E-05	4.81E-01	3.45E-06	6.16E-05
Road 22	22	1800-1900	1.46E-01	1.05E-06	1.87E-05	1.23E-01	8.81E-07	1.57E-05	5.73E-01	4.11E-06	7.33E-05	4.81E-01	3.45E-06	6.16E-05
Road 22	22	1900-2000	1.46E-01	1.05E-06	1.87E-05	1.23E-01	8.81E-07	1.57E-05	5.73E-01	4.11E-06	7.33E-05	4.81E-01	3.45E-06	6.16E-05
Road 22	22	2000-2100	1.00E-01	2.91E-07	5.19E-06	8.77E-02	2.55E-07	4.54E-06	4.05E-01	1.17E-06	2.10E-05	3.54E-01	1.03E-06	1.83E-05
Road 22	22	2100-2200	1.07E-01	2.78E-07	4.95E-06	9.41E-02	2.43E-07	4.33E-06	3.90E-01	1.01E-06	1.80E-05	3.43E-01	8.86E-07	1.58E-05
Road 22	22	2200-2300	1.07E-01	2.78E-07	4.95E-06	9.41E-02	2.43E-07	4.33E-06	3.90E-01	1.01E-06	1.80E-05	3.43E-01	8.86E-07	1.58E-05
Road 22	22	2300-0000	1.03E-01	2.85E-08	5.26E-07	9.17E-02	2.53E-08	4.67E-07	3.75E-01	1.03E-07	1.91E-06	3.33E-01	9.18E-08	1.70E-06
Road 23	23	0000-0100	1.03E-01	2.85E-08	5.26E-07	9.17E-02	2.53E-08	4.67E-07	3.75E-01	1.03E-07	1.91E-06	3.33E-01	9.18E-08	1.70E-06
Road 23	23	0100-0200	1.05E-01	2.79E-08	5.15E-07	9.33E-02	2.48E-08	4.58E-07	3.80E-01	1.01E-07	1.87E-06	3.38E-01	8.99E-08	1.66E-06
Road 23	23	0200-0300	1.05E-01	1.65E-08	2.97E-07	9.33E-02	1.47E-08	2.64E-07	3.80E-01	5.97E-08	1.08E-06	3.38E-01	5.32E-08	9.58E-07
Road 23	23	0300-0400	1.07E-01	1.82E-08	3.07E-07	9.49E-02	1.62E-08	2.73E-07	3.86E-01	6.57E-08	1.11E-06	3.44E-01	5.86E-08	9.88E-07
Road 23	23	0400-0500	1.07E-01	1.82E-08	3.07E-07	9.49E-02	1.62E-08	2.73E-07	3.86E-01	6.57E-08	1.11E-06	3.44E-01	5.86E-08	9.88E-07
Road 23	23	0500-0600	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	0600-0700	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	0700-0800	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	0800-0900	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	0900-1000	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1000-1100	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1100-1200	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1200-1300	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1300-1400	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1400-1500	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1500-1600	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1600-1700	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1700-1800	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1800-1900	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	1900-2000	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	2000-2100	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	2100-2200	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	2200-2300	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 23	23	2300-0000	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0000-0100	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0100-0200	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0200-0300	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0300-0400	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0400-0500	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0500-0600	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0600-0700	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07
Road 24	24	0700-0800	1.09E-01	1.82E-08	3.07E-07	9.64E-02	1.62E-08	2.73E-07	3.92E-01	6.57E-08	1.11E-06	3.49E-01	5.86E-08	9.88E-07

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.56E-01	1.97E-07	2.22E-06	1.33E-01	1.68E-07	1.89E-06	7.68E-01	9.84E-07	2.47E-06	6.55E-01	8.39E-07	2.10E-06
Road 27	27	1700-1800	1.36E-01	3.12E-07	9.61E-07	1.14E-01	2.62E-07	8.07E-07	5.40E-01	1.24E-06	3.83E-06	4.53E-01	1.04E-06	3.21E-06
Road 27	27	1800-1900	1.14E-01	1.80E-07	5.54E-07	1.02E-01	1.60E-07	4.94E-07	4.60E-01	7.23E-07	2.23E-06	4.13E-01	6.61E-07	2.04E-06
Road 27	27	1900-2000	1.05E-01	1.09E-07	3.34E-07	9.45E-02	9.74E-08	3.00E-07	4.18E-01	4.33E-07	1.33E-06	3.75E-01	3.86E-07	1.19E-06
Road 27	27	2000-2100	1.04E-01	8.54E-08	2.63E-07	9.04E-02	7.42E-08	2.29E-07	4.25E-01	3.49E-07	1.07E-06	3.69E-01	3.03E-07	9.34E-07
Road 27	27	2100-2200	1.04E-01	8.61E-08	2.71E-07	9.04E-02	7.72E-08	2.37E-07	4.21E-01	3.51E-07	1.09E-06	3.66E-01	3.17E-07	9.57E-07
Road 27	27	2200-2300	1.08E-01	7.96E-08	2.45E-07	9.60E-02	7.05E-08	2.17E-07	3.92E-01	2.88E-07	8.87E-07	3.47E-01	2.55E-07	7.85E-07
Road 27	27	2300-0000	1.09E-01	6.58E-08	2.02E-07	9.95E-02	6.01E-08	1.85E-07	3.94E-01	2.38E-07	7.32E-07	3.59E-01	2.17E-07	6.68E-07
Road 28	28	0000-0100	1.56E-01	1.97E-07	2.22E-06	1.33E-01	1.68E-07	1.89E-06	7.68E-01	9.84E-07	2.47E-06	6.55E-01	8.39E-07	2.10E-06
Road 28	28	0100-0200	9.26E-02	6.45E-08	3.66E-06	8.13E-02	5.66E-08	3.21E-06	4.52E-01	3.15E-07	1.78E-06	3.83E-01	2.67E-07	1.51E-06
Road 28	28	0200-0300	1.05E-01	1.39E-08	5.38E-06	9.29E-02	1.23E-08	4.76E-06	5.13E-01	6.79E-08	2.63E-06	4.35E-01	5.76E-08	2.23E-06
Road 28	28	0300-0400	1.05E-02	4.30E-08	2.44E-06	9.23E-03	3.79E-08	2.15E-06	4.83E-02	1.98E-07	1.13E-05	4.13E-02	1.70E-07	9.63E-06
Road 28	28	0400-0500	1.05E-02	4.30E-08	2.44E-06	9.23E-03	3.79E-08	2.15E-06	4.83E-02	1.98E-07	1.13E-05	4.13E-02	1.70E-07	9.63E-06
Road 28	28	0500-0600	1.18E-02	2.86E-08	9.73E-06	1.04E-02	2.51E-08	8.53E-06	5.44E-02	1.32E-07	4.48E-05	4.78E-02	1.16E-07	3.94E-05
Road 28	28	0600-0700	1.23E-02	2.12E-07	1.20E-05	1.09E-02	1.88E-07	1.07E-05	5.32E-02	9.19E-07	5.19E-05	4.67E-02	8.07E-07	4.56E-05
Road 28	28	0700-0800	1.23E-02	2.12E-07	1.20E-05	1.09E-02	1.88E-07	1.07E-05	5.32E-02	9.19E-07	5.19E-05	4.67E-02	8.07E-07	4.56E-05
Road 28	28	0800-0900	1.32E-02	2.12E-07	1.20E-05	1.16E-02	1.88E-07	1.07E-05	5.70E-02	9.19E-07	5.19E-05	5.00E-02	8.07E-07	4.56E-05
Road 28	28	0900-1000	1.76E-02	5.71E-07	3.24E-05	1.47E-02	4.77E-07	2.71E-05	6.89E-02	2.23E-06	1.27E-04	5.68E-02	1.84E-06	1.04E-04
Road 28	28	1000-1100	1.69E-02	5.15E-07	2.92E-05	1.41E-02	4.29E-07	2.43E-05	6.72E-02	2.04E-06	1.17E-04	5.54E-02	1.69E-06	9.61E-05
Road 28	28	1100-1200	1.66E-02	3.80E-07	2.07E-05	1.38E-02	3.16E-07	1.72E-05	6.60E-02	1.51E-06	8.24E-05	5.44E-02	1.24E-06	6.77E-05
Road 28	28	1200-1300	1.51E-02	3.42E-07	1.86E-05	1.26E-02	2.85E-07	1.55E-05	6.01E-02	1.36E-06	7.41E-05	4.95E-02	1.12E-06	6.09E-05
Road 28	28	1300-1400	1.58E-02	3.82E-07	2.07E-05	1.31E-02	3.18E-07	1.72E-05	6.29E-02	1.52E-06	8.24E-05	5.18E-02	1.25E-06	6.77E-05
Road 28	28	1400-1500	1.66E-02	3.26E-07	1.77E-05	1.38E-02	2.71E-07	1.47E-05	6.60E-02	1.30E-06	7.04E-05	5.44E-02	1.07E-06	5.78E-05
Road 28	28	1500-1600	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	1600-1700	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	1700-1800	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	1800-1900	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	1900-2000	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	2000-2100	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	2100-2200	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	2200-2300	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 28	28	2300-0000	1.70E-02	3.25E-07	1.77E-05	1.41E-02	2.70E-07	1.47E-05	6.76E-02	1.29E-06	7.04E-05	5.57E-02	1.06E-06	5.78E-05
Road 29	29	0000-0100	1.24E-02	2.07E-07	1.08E-06	1.02E-02	1.70E-07	9.89E-07	5.12E-02	8.54E-07	2.46E-06	4.22E-02	7.03E-07	2.03E-06
Road 29	29	0100-0200	1.24E-02	2.07E-07	1.08E-06	1.02E-02	1.70E-07	9.89E-07	5.12E-02	8.54E-07	2.46E-06	4.22E-02	7.03E-07	2.03E-06
Road 29	29	0200-0300	1.24E-02	2.07E-07	1.08E-06	1.02E-02	1.70E-07	9.89E-07	5.12E-02	8.54E-07	2.46E-06	4.22E-02	7.03E-07	2.03E-06
Road 29	29	0300-0400	1.63E-02	3.00E-08	2.07E-06	7.57E-03	2.64E-08	1.82E-06	6.72E-02	1.24E-07	8.53E-06	3.12E-02	1.09E-07	7.51E-06
Road 29	29	0400-0500	8.91E-03	3.38E-08	2.34E-06	7.75E-03	2.94E-08	2.04E-06	4.29E-02	1.63E-07	1.13E-05	3.73E-02	1.41E-07	9.78E-06
Road 29	29	0500-0600	8.60E-03	5.37E-08	3.55E-06	8.43E-03	5.26E-08	3.48E-06	4.14E-02	2.59E-07	1.71E-05	4.06E-02	2.53E-07	1.67E-05
Road 29	29	0600-0700	8.43E-03	1.16E-07	7.98E-06	7.43E-03	1.02E-07	7.03E-06	4.30E-02	5.90E-07	4.07E-05	3.66E-02	5.02E-07	3.46E-05
Road 29	29	0700-0800	8.73E-03	2.72E-07	1.88E-05	7.69E-03	2.39E-07	1.66E-05	4.45E-02	1.38E-06	9.57E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	2.36E-02	4.55E-02	1.42E-05	3.87E-02	1.21E-05	9.54E-06	3.72E-02	7.56E-02	4.37E-05
Road 47	47	1700-1800	1.68E-02	3.73E-07	1.16E-05	1.41E-02	3.13E-07	9.78E-06	8.08E-02	1.80E-06	5.63E-05
Road 47	47	1800-1900	1.19E-02	3.00E-07	9.36E-06	1.04E-02	2.62E-07	8.12E-06	5.74E-02	1.44E-06	4.47E-05
Road 47	47	1900-2000	9.85E-03	1.97E-07	6.16E-06	9.58E-03	1.72E-07	5.37E-06	5.35E-02	1.07E-06	2.92E-05
Road 47	47	2000-2100	8.70E-03	1.35E-07	4.22E-06	7.48E-03	1.16E-07	3.63E-06	8.54E-02	1.32E-06	4.13E-05
Road 47	47	2100-2200	8.23E-03	1.12E-07	3.51E-06	8.53E-03	1.16E-07	3.63E-06	1.14E-01	1.55E-06	4.84E-05
Road 47	47	2200-2300	8.51E-03	9.86E-08	3.08E-06	5.67E-03	8.59E-08	2.68E-06	4.79E-02	7.26E-07	2.27E-05
Road 47	47	2300-0000	6.85E-03	7.73E-08	2.41E-06	6.18E-03	6.97E-08	2.18E-06	4.75E-02	5.36E-07	1.67E-05
Road 48	48	0000-0100	6.88E-03	6.08E-08	1.90E-06	4.67E-03	4.13E-08	1.29E-06	3.59E-02	3.17E-07	9.92E-06
Road 48	48	0100-0200	5.51E-03	3.11E-08	4.69E-07	4.80E-03	2.71E-08	4.08E-07	3.59E-02	2.03E-07	3.06E-06
Road 48	48	0200-0300	4.43E-03	2.50E-08	3.77E-07	3.88E-03	2.19E-08	3.30E-07	2.90E-02	1.64E-07	2.47E-06
Road 48	48	0300-0400	6.41E-03	2.08E-08	3.14E-07	5.63E-03	1.83E-08	2.76E-07	4.21E-02	1.37E-07	2.06E-06
Road 48	48	0400-0500	2.53E-08	1.73E-08	2.61E-07	2.22E-08	1.52E-08	2.29E-07	1.66E-07	1.14E-07	1.72E-06
Road 48	48	0500-0600	7.43E-03	4.34E-08	6.55E-07	4.09E-02	2.39E-07	3.60E-06	4.87E-02	2.85E-07	4.30E-06
Road 48	48	0600-0700	8.03E-03	1.06E-07	1.60E-06	6.97E-03	9.21E-08	1.39E-06	4.29E-02	5.67E-07	8.56E-06
Road 48	48	0700-0800	2.50E-08	1.73E-08	2.61E-07	2.20E-08	1.52E-08	2.29E-07	1.64E-07	1.14E-07	1.72E-06
Road 48	48	0800-0900	8.44E-03	2.61E-07	3.93E-06	7.18E-03	2.22E-07	3.34E-06	4.42E-02	1.37E-06	2.06E-05
Road 48	48	0900-1000	1.12E-02	2.44E-07	3.68E-06	9.28E-03	2.02E-07	3.05E-06	5.14E-02	1.12E-06	1.69E-05
Road 48	48	1000-1100	1.12E-02	2.44E-07	3.68E-06	9.28E-03	2.02E-07	3.05E-06	5.14E-02	1.12E-06	1.69E-05
Road 48	48	1100-1200	1.05E-02	2.16E-07	3.26E-06	8.84E-03	1.83E-07	2.76E-06	4.91E-02	1.02E-06	1.53E-05
Road 48	48	1200-1300	1.13E-02	4.72E-07	7.12E-06	9.32E-03	3.89E-07	5.87E-06	5.14E-02	2.14E-06	3.23E-05
Road 48	48	1300-1400	1.89E-02	3.29E-07	4.96E-06	1.61E-02	2.80E-07	4.23E-06	7.07E-02	1.23E-06	1.86E-05
Road 48	48	1400-1500	1.25E-02	2.16E-07	3.26E-06	1.02E-02	1.76E-07	2.65E-06	5.62E-02	9.71E-07	1.46E-05
Road 48	48	1500-1600	1.75E-02	3.26E-07	4.93E-06	1.51E-02	2.81E-07	4.24E-06	6.94E-02	1.29E-06	1.95E-05
Road 48	48	1600-1700	1.79E-02	3.45E-07	5.21E-06	1.53E-02	2.95E-07	4.45E-06	6.61E-02	1.27E-06	1.92E-05
Road 48	48	1700-1800	1.79E-02	3.45E-07	5.21E-06	1.53E-02	2.95E-07	4.45E-06	6.61E-02	1.27E-06	1.92E-05
Road 48	48	1800-1900	1.04E-02	2.17E-07	3.28E-06	9.07E-03	1.89E-07	2.85E-06	4.39E-02	9.15E-07	1.38E-05
Road 48	48	1900-2000	9.67E-03	1.94E-07	6.07E-06	8.41E-03	1.69E-07	5.28E-06	4.07E-02	8.17E-07	2.56E-05
Road 48	48	2000-2100	9.48E-03	1.23E-07	3.86E-06	8.20E-03	1.06E-07	3.31E-06	4.78E-02	7.22E-07	2.26E-05
Road 48	48	2100-2200	9.06E-03	1.15E-07	7.74E-03	9.84E-03	1.49E-06	4.35E-02	5.04E-07	6.93E-06	2.02E-04
Road 48	48	2200-2300	8.77E-03	1.01E-07	6.59E-03	7.77E-03	8.98E-07	2.62E-02	4.51E-07	5.20E-06	1.52E-04
Road 48	48	2300-0000	9.39E-03	8.76E-08	1.32E-06	8.49E-03	7.92E-08	1.20E-06	4.22E-02	3.94E-07	5.97E-06
Road 49	49	0000-0100	6.65E-03	6.31E-08	1.97E-06	4.52E-03	4.29E-08	1.34E-06	3.47E-02	3.29E-07	1.03E-05
Road 49	49	0100-0200	6.65E-03	2.37E-08	5.99E-07	5.79E-03	2.06E-08	5.21E-07	4.37E-02	1.56E-07	3.93E-06
Road 49	49	0200-0300	4.28E-03	1.53E-08	3.86E-07	3.73E-03	1.33E-08	3.36E-07	2.81E-02	1.00E-07	2.53E-06
Road 49	49	0300-0400	7.61E-03	1.55E-08	3.91E-07	6.68E-03	1.36E-08	3.43E-07	4.57E-02	9.30E-08	2.35E-06
Road 49	49	0400-0500	8.38E-03	1.86E-08	4.70E-07	7.22E-03	1.60E-08	4.05E-07	4.84E-02	1.08E-07	2.72E-06
Road 49	49	0500-0600	5.32E-03	1.83E-08	4.61E-07	4.67E-03	1.61E-08	4.05E-07	3.47E-02	1.19E-07	3.00E-06
Road 49	49	0600-0700	1.19E-02	9.73E-08	2.46E-06	1.03E-02	8.44E-08	2.13E-06	6.05E-02	4.92E-07	1.24E-05
Road 49	49	0700-0800	1.44E-02	2.88E-07	7.26E-06	1.24E-02	2.48E-07	6.25E-06	7.32E-02	1.46E-06	3.69E-05
Road 49	49	0800-0900	1.68E-02	3.20E-07	8.07E-06	1.44E-02	2.75E-07	6.92E-06	1.19E-06	2.26E-11	5.70E-10
Road 49	49	0900-1000	1.72E-02	2.58E-07	6.51E-06	1.45E-02	2.17E-07	5.46E-06	2.95E-02	4.42E-07	1.11E-05
Road 49	49	1000-1100	1.72E-02	2.58E-07	6.51E-06	1.45E-02	2.17E-07	5.46E-06	2.95E-02	4.42E-07	1.11E-05
Road 49	49	1100-1200	1.63E-02	2.29E-07	5.79E-06	1.37E-02	1.93E-07	4.86E-06	2.79E-02	3.92E-07	9.90E-06
Road 49	49	1200-1300	1.75E-02	5.00E-07	1.26E-05	1.47E-02	4.20E-07	1.06E-05	2.99E-02	8.54E-07	2.16E-05
Road 49	49	1300-1400	2.93E-02	3.49E-07	8.80E-06	2.46E-02	2.93E-07	7.39E-06	5.00E-02	5.96E-07	1.50E-05
Road 49	49	1400-1500	1.94E-02	2.29E-07	5.79E-06	1.63E-02	1.92E-07	4.86E-06	3.98E-02	4.69E-07	1.19E-05
Road 49	49	1500-1600	2.71E-02	3.45E-07	8.71E-06	2.28E-02	2.90E-07	7.32E-06	5.56E-02	7.08E-07	1.79E-05
Road 49	49	1600-1700	2.26E-02	2.73E-07	6.89E-06	1.90E-02	2.30E-07	5.79E-06	4.64E-02	5.60E-07	1.41E-05
Road 49	49	1700-1800	2.26E-02	2.73E-07	6.89E-06	1.90E-02	2.30E-07	5.79E-06	4.64E-02	5.60E-07	1.41E-05
Road 49	49	1800-1900	1.28E-02	2.66E-07	6.71E-06	1.08E-02	2.24E-07	5.65E-06	2.62E-02	5.46E-07	1.38E-05
Road 49	49	1900-2000	9.25E-03	9.38E-08	2.37E-06	7.97E-03	8.07E-08	2.04E-06	4.43E-02	4.49E-07	1.13E-05
Road 49	49	2000-2100	7.39E-03	7.47E-08	2.07E-06	6.44E-03	6.51E-08	1.80E-06	4.02E-02	4.06E-07	1.12E-05
Road 49	49	2100-2200	7.39E-03	7.47E-08	1.88E-06	6.44E-03	6.51E-08	1.64E-06	4.02E-02	4.06E-07	1.02E-05
Road 49	49	2200-2300	7.72E-03	7.47E-08	1.88E-06	6.73E-03	6.51E-08	1.64E-06	4.20E-02	4.06E-07	1.02E-05
Road 49	49	2300-0000	7.72E-03	7.47E-08	1.88E-06	6.73E-03	6.51E-08	1.64E-06	4.20E-02	4.06E-07	1.02E-05
Road 50	50	0000-0100	5.51E-03	5.23E-08	1.63E-06	3.89E-03	3.69E-08	1.15E-06	3.47E-02	3.29E-07	1.03E-05
Road 50	50	0100-0200	5.51E-03	1.96E-08	4.96E-07	4.80E-03	1.71E-08	4.32E-07	3.47E-02	1.23E-07	3.11E-06
Road 50	50	0200-0300	3.54E-03	1.27E-08	3.19E-07	3.09E-03	1.10E-08	2.78E-07	2.23E-02	7.98E-08	2.01E-06
Road 50	50	0300-0400	6.31E-03	1.28E-08	3.24E-07	5.54E-03	1.13E-08	2.84E-07	3.72E-02	7.56E-08	1.91E-06
Road 50	50	0400-0500	6.95E-03	1.54E-08	3.89E-07	5.99E-03	1.33E-08	3.35E-07	4.01E-02	8.89E-08	2.24E-06
Road 50	50	0500-0600	4.41E-03	1.52E-08	3.82E-07	3.87E-03	1.33E-08	3.35E-07	2.87E-02	9.88E-08	2.49E-06
Road 50	50	0600-0700	9.86E-03	8.06E-08	2.04E-06	8.53E-03	6.97E-08	1.76E-06	5.01E-02	4.08E-07	1.03E-05
Road 50	50	0700-0800	1.19E-02	2.39E-07	6.02E-06	1.03E-02	2.06E-07	5.19E-06	6.07E-02	1.21E-06	3.06E-05
Road 50	50	0800-0900	1.39E-02	2.65E-07	6.69E-06	1.19E-02	2.28E-07	5.74E-06	9.86E-07	1.88E-11	4.73E-10
Road 50	50	0900-1000	1.42E-02	2.13E-07	5.38E-06	1.20E-02	1.80E-07	4.53E-06	2.44E-02	3.66E-07	9.23E-06
Road 50	50	1000-1100	1.42E-02	2.13E-07	5.38E-06	1.20E-02	1.80E-07	4.53E-06	2.44E-02	3.66E-07	9.23E-06
Road 50	50	1100-1200	1.35E-02	1.89E-07	4.78E-06	1.13E-02	1.59E-07	4.02E-06	2.31E-02	3.24E-07	8.18E-06
Road 50	50	1200-1300	1.44E-02	4.13E-07	1.04E-05	1.22E-02	3.48E-07	8.78E-06	2.47E-02	7.08E-07	1.79E-05
Road 50	50	1300-1400	2.42E-02	2.88E-07	7.27E-06	2.03E-02	2.42E-07	6.11E-06	4.13E-02	4.92E-07	1.24E-05
Road 50	50	1400-1500	1.60E-02	1.89E-07	4.78E-06	1.35E-02	1.59E-07	4.02E-06	3.29E-02	3.88E-07	9.81E-06
Road 50	50	1500-1600	2.24E-02	2.85E-07	7.20E-06	1.88E-02	2.40E-07	6.06E-06	4.59E-02	5.85E-07	1.48E-05
Road 50	50	1600-1700	1.87E-02	2.26E-07	5.69E-06	1.57E-02	1.90E-07	4.79E-06	3.84E-02	4.63E-07	1.17E-05
Road 50	50	1700-1800	1.87E-02	2.26E-07	5.69E-06	1.57E-02	1.90E-07	4.79E-06	3.84E-02	4.63E-07	1.17E-05
Road 50	50	1800-1900	1.07E-02	2.20E-07	5.55E-06	8.97E-03	1.85E-07	4.67E-06	2.17E-02	4.51E-07	1.14E-05
Road 50	50	1900-2000	7.95E-03	8.06E-08	2.04E-06	6.85E-03	6.94E-08	1.75E-06	3.81E-02	3.86E-07	9.74E-06
Road 50	50	2000-2100	6.36E-03	6.42E-08	1.78E-06	5.54E-03	5.59E-08	1.55E-06	3.46E-02	3.49E-07	9.66E-06
Road 50	50	2100-2200	6.36E-03	6.42E-08	1.62E-06	5.54E-03	5.59E-08	1.41E-06	3.46E-02	3.49E-07	8.81E-06
Road 50	50	2200-2300	6.64E-03	6.42E-08	1.62E-06	5.79E-03	5.59E-08	1.41E-06	3.61E-02	3.49E-07	8.81E-06
Road 50	50	2300-0000	6.64E-03	6.42E-08	1.62E-06	5.79E-03	5.59E-08	1.41E-06	3.61E-02	3.49E-07	8.81E-06

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2038.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	4.75E-03	3.32E-08	2.31E-07	4.16E-03	1.44E-08	4.40E-07	3.39E-02	2.80E-07	5.22E-06
Road 51	51	0100-0200	5.19E-03	2.78E-08	5.19E-07	4.52E-03	2.42E-08	4.51E-07	3.50E-02	1.88E-07	3.50E-06
Road 51	51	0200-0300	5.69E-03	2.22E-08	4.15E-07	4.91E-03	1.92E-08	3.58E-07	3.66E-02	1.43E-07	2.67E-06
Road 51	51	0300-0400	4.05E-03	1.87E-08	3.48E-07	5.31E-03	1.64E-08	3.05E-07	3.71E-02	1.14E-07	2.13E-06
Road 51	51	0400-0500	6.64E-03	2.24E-08	4.18E-07	5.71E-03	1.93E-08	3.59E-07	3.92E-02	1.32E-07	2.47E-06
Road 51	51	0500-0600	7.75E-03	1.31E-08	4.10E-08	7.88E-03	1.33E-08	4.16E-08	5.94E-02	1.00E-07	3.14E-07
Road 51	51	0600-0700	7.60E-03	9.40E-08	1.77E-06	6.59E-03	8.23E-08	1.53E-06	4.17E-02	5.21E-07	9.71E-06
Road 51	51	0700-0800	8.40E-03	2.12E-07	3.95E-06	7.14E-03	1.80E-07	3.35E-06	4.51E-02	1.14E-06	2.12E-05
Road 51	51	0800-0900	7.98E-03	2.32E-07	4.33E-06	6.78E-03	1.97E-07	3.68E-06	4.02E-02	1.17E-06	2.18E-05
Road 51	51	0900-1000	9.23E-03	2.01E-07	4.07E-06	7.74E-03	1.69E-07	3.42E-06	1.86E-06	3.74E-11	7.56E-10
Road 51	51	1000-1100	9.23E-03	2.01E-07	4.07E-06	7.74E-03	1.69E-07	3.42E-06	4.82E-02	1.05E-06	2.12E-05
Road 51	51	1100-1200	9.72E-03	1.87E-07	3.49E-06	8.21E-03	1.58E-07	2.95E-06	4.82E-02	9.28E-07	1.73E-05
Road 51	51	1200-1300	1.88E-02	3.00E-07	5.59E-06	1.60E-02	2.56E-07	4.76E-06	6.81E-02	1.09E-06	2.03E-05
Road 51	51	1300-1400	1.89E-02	3.15E-07	5.88E-06	1.61E-02	2.68E-07	5.00E-06	7.08E-02	1.18E-06	2.20E-05
Road 51	51	1400-1500	1.89E-02	3.29E-07	6.14E-06	1.59E-02	2.76E-07	5.15E-06	6.98E-02	1.21E-06	2.26E-05
Road 51	51	1500-1600	1.89E-02	3.44E-07	6.41E-06	1.59E-02	2.89E-07	5.39E-06	6.94E-02	1.26E-06	2.35E-05
Road 51	51	1600-1700	1.79E-02	3.32E-07	6.17E-06	1.53E-02	2.83E-07	5.27E-06	6.61E-02	1.22E-06	2.27E-05
Road 51	51	1700-1800	1.79E-02	3.32E-07	6.17E-06	1.53E-02	2.83E-07	5.27E-06	6.61E-02	1.22E-06	2.27E-05
Road 51	51	1800-1900	1.05E-02	2.09E-07	3.89E-06	9.10E-03	1.81E-07	3.38E-06	4.40E-02	8.77E-07	1.63E-05
Road 51	51	1900-2000	9.71E-03	1.53E-07	2.85E-06	8.48E-03	1.34E-07	2.49E-06	4.19E-02	6.60E-07	1.23E-05
Road 51	51	2000-2100	9.52E-03	1.38E-07	2.57E-06	8.28E-03	1.20E-07	2.23E-06	4.39E-02	6.35E-07	1.18E-05
Road 51	51	2100-2200	9.10E-03	1.11E-07	2.06E-06	7.78E-03	9.45E-08	1.76E-06	4.36E-02	5.30E-07	9.88E-06
Road 51	51	2200-2300	9.67E-03	1.05E-07	1.95E-06	8.27E-03	8.98E-08	1.67E-06	4.64E-02	5.04E-07	9.38E-06
Road 51	51	2300-0000	9.43E-03	8.41E-08	1.56E-06	8.53E-03	7.61E-08	1.42E-06	4.32E-02	3.77E-07	7.03E-06
Road 52	52	0000-0100	4.93E-02	2.48E-08	1.27E-07	4.38E-02	2.20E-08	1.13E-07	1.80E-01	9.06E-08	4.65E-07
Road 52	52	0100-0200	4.82E-02	2.78E-08	1.42E-07	4.28E-02	2.47E-08	1.26E-07	1.76E-01	1.01E-07	5.18E-07
Road 52	52	0200-0300	4.79E-02	1.35E-08	6.94E-08	4.25E-02	1.20E-08	6.16E-08	1.75E-01	4.96E-08	2.54E-07
Road 52	52	0300-0400	4.79E-02	1.35E-08	6.94E-08	4.25E-02	1.20E-08	6.16E-08	1.75E-01	4.96E-08	2.54E-07
Road 52	52	0400-0500	4.82E-02	1.37E-08	7.00E-08	4.28E-02	1.21E-08	6.22E-08	1.77E-01	5.01E-08	2.57E-07
Road 52	52	0500-0600	5.03E-02	2.64E-08	1.35E-07	4.43E-02	2.33E-08	1.19E-07	1.84E-01	9.66E-08	4.95E-07
Road 52	52	0600-0700	5.13E-02	6.95E-08	3.56E-07	4.55E-02	6.16E-08	3.15E-07	1.89E-01	2.56E-07	1.31E-06
Road 52	52	0700-0800	5.78E-02	1.49E-07	7.64E-07	4.92E-02	1.27E-07	6.50E-07	2.10E-01	5.41E-07	2.77E-06
Road 52	52	0800-0900	5.73E-02	1.80E-07	9.21E-07	4.88E-02	1.53E-07	7.85E-07	2.08E-01	6.54E-07	3.35E-06
Road 52	52	0900-1000	6.14E-02	1.66E-07	8.51E-07	5.22E-02	1.41E-07	7.24E-07	2.22E-01	6.01E-07	3.08E-06
Road 52	52	1000-1100	6.14E-02	1.66E-07	8.51E-07	5.22E-02	1.41E-07	7.24E-07	2.22E-01	6.01E-07	3.08E-06
Road 52	52	1100-1200	6.44E-02	2.09E-07	1.07E-06	5.42E-02	1.76E-07	9.03E-07	2.31E-01	7.49E-07	3.84E-06
Road 52	52	1200-1300	6.58E-02	2.23E-07	1.14E-06	5.56E-02	1.88E-07	9.61E-07	2.37E-01	7.98E-07	4.09E-06
Road 52	52	1300-1400	6.87E-02	2.59E-07	1.32E-06	5.70E-02	2.15E-07	1.10E-06	2.42E-01	9.10E-07	4.66E-06
Road 52	52	1400-1500	6.87E-02	2.59E-07	1.32E-06	5.70E-02	2.14E-07	1.10E-06	2.42E-01	9.10E-07	4.66E-06
Road 52	52	1500-1600	6.87E-02	2.59E-07	1.32E-06	5.70E-02	2.14E-07	1.10E-06	2.42E-01	9.10E-07	4.66E-06
Road 52	52	1600-1700	6.25E-02	2.27E-07	1.16E-06	5.22E-02	1.90E-07	9.72E-07	2.24E-01	8.22E-07	4.21E-06
Road 52	52	1700-1800	5.25E-02	1.73E-07	8.87E-07	4.41E-02	1.46E-07	7.46E-07	2.14E-01	7.04E-07	3.61E-06
Road 52	52	1800-1900	5.44E-02	1.02E-07	5.24E-07	4.54E-02	8.53E-08	4.37E-07	2.18E-01	4.09E-07	2.10E-06
Road 52	52	1900-2000	4.47E-02	6.46E-08	3.31E-07	3.75E-02	5.67E-08	2.91E-07	1.87E-01	2.70E-07	1.38E-06
Road 52	52	2000-2100	4.13E-02	5.32E-08	2.62E-07	4.48E-08	2.30E-07	1.71E-01	2.11E-07	1.08E-06	1.49E-01	1.85E-07	9.46E-07
Road 52	52	2100-2200	4.55E-02	4.92E-08	2.42E-07	3.96E-02	4.29E-08	2.11E-07	1.67E-01	1.81E-07	8.92E-07
Road 52	52	2200-2300	4.58E-02	4.02E-08	1.98E-07	3.99E-02	3.50E-08	1.72E-07	1.68E-01	1.48E-07	7.28E-07
Road 52	52	2300-0000	4.58E-02	3.35E-08	1.65E-07	3.99E-02	2.92E-08	1.44E-07	1.68E-01	1.23E-07	6.07E-07
Road 53	53	0000-0100	6.33E-03	4.43E-08	3.08E-07	5.54E-03	1.92E-08	5.87E-07	4.52E-02	3.16E-07	6.96E-06
Road 53	53	0100-0200	6.91E-03	3.70E-08	6.92E-07	6.03E-03	3.22E-08	6.01E-07	4.67E-02	2.50E-07	4.67E-06
Road 53	53	0200-0300	7.58E-03	2.96E-08	5.53E-07	6.55E-03	2.56E-08	4.78E-07	4.87E-02	1.90E-07	3.55E-06
Road 53	53	0300-0400	5.41E-03	2.50E-08	4.67E-07	7.09E-03	2.19E-08	4.09E-07	4.95E-02	1.53E-07	2.86E-06
Road 53	53	0400-0500	8.85E-03	2.98E-08	5.57E-07	7.62E-03	2.57E-08	4.80E-07	5.23E-02	1.76E-07	3.29E-06
Road 53	53	0500-0600	5.90E-03	2.43E-08	4.54E-07	5.17E-03	2.14E-08	3.99E-07	3.85E-02	1.59E-07	2.97E-06
Road 53	53	0600-0700	1.32E-02	1.08E-07	2.73E-06	1.14E-02	9.36E-08	2.36E-06	6.72E-02	5.47E-07	1.38E-05
Road 53	53	0700-0800	1.60E-02	3.20E-07	8.07E-06	1.38E-02	2.75E-07	6.92E-06	8.13E-02	1.62E-06	4.09E-05
Road 53	53	0800-0900	1.87E-02	3.56E-07	8.97E-06	1.61E-02	3.06E-07	7.70E-06	1.33E-06	2.53E-11	6.37E-10
Road 53	53	0900-1000	1.92E-02	2.88E-07	7.26E-06	1.62E-02	2.43E-07	6.12E-06	3.29E-02	4.94E-07	1.24E-05
Road 53	53	1000-1100	1.92E-02	2.88E-07	7.26E-06	1.62E-02	2.43E-07	6.12E-06	3.29E-02	4.94E-07	1.24E-05
Road 53	53	1100-1200	1.82E-02	2.56E-07	6.45E-06	1.53E-02	2.16E-07	5.44E-06	3.11E-02	4.38E-07	1.10E-05
Road 53	53	1200-1300	1.95E-02	5.57E-07	1.40E-05	1.64E-02	4.68E-07	1.18E-05	3.33E-02	9.51E-07	2.40E-05
Road 53	53	1300-1400	3.26E-02	3.89E-07	9.80E-06	2.74E-02	3.27E-07	8.24E-06	5.57E-02	6.64E-07	1.67E-05
Road 53	53	1400-1500	2.16E-02	2.55E-07	6.44E-06	1.82E-02	2.15E-07	5.42E-06	3.69E-02	4.36E-07	1.10E-05
Road 53	53	1500-1600	3.02E-02	3.84E-07	9.70E-06	2.54E-02	3.23E-07	8.16E-06	5.16E-02	6.57E-07	1.66E-05
Road 53	53	1600-1700	2.52E-02	3.04E-07	7.68E-06	2.12E-02	2.56E-07	6.46E-06	4.30E-02	5.19E-07	1.31E-05
Road 53	53	1700-1800	2.52E-02	3.04E-07	7.68E-06	2.12E-02	2.56E-07	6.46E-06	4.30E-02	5.19E-07	1.31E-05
Road 53	53	1800-1900	1.44E-02	2.98E-07	7.53E-06	1.21E-02	2.51E-07	6.34E-06	2.45E-02	5.07E-07	1.28E-05
Road 53	53	1900-2000	1.07E-02	1.05E-07	2.66E-06	8.94E-03	8.81E-08	2.23E-06	2.13E-02	2.09E-07	5.29E-06
Road 53	53	2000-2100	8.30E-03	8.36E-08	2.32E-06	6.94E-03	7.00E-08	1.95E-06	1.98E-02	1.99E-07	5.54E-06
Road 53	53	2100-2200	8.30E-03	8.36E-08	2.11E-06	6.94E-03	7.00E-08	1.77E-06	1.98E-02	1.99E-07	5.04E-06
Road 53	53	2200-2300	8.67E-03	8.36E-08	2.11E-06	7.25E-03	7.00E-08	1.77E-06	2.07E-02	1.99E-07	5.04E-06
Road 53	53	2300-0000	8.67E-03	8.36E-08	2.11E-06	7.25E-03	7.00E-08	1.77E-06	2.07E-02	1.99E-07	5.04E-06
Road 54	54	0000-0100	4.75E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	1.28E-02	3.43E-03	1.31E-05	6.71E-02	1.34E-05	1.29E-04	8.86E-05	1.25E-01	4.49E-04
Road 14	14	0900-1000	3.75E-02	7.64E-03	1.30E-05	3.26E-02	6.62E-03	1.13E-05	1.37E-01	2.79E-06	4.76E-05
Road 14	14	1000-1100	4.16E-02	7.47E-03	1.27E-05	3.52E-02	6.32E-03	1.08E-05	1.46E-01	2.62E-06	4.48E-05
Road 14	14	1100-1200	4.05E-02	9.91E-03	1.68E-05	3.90E-02	1.01E-05	1.71E-04	1.42E-01	2.46E-06	4.20E-05
Road 14	14	1200-1300	6.00E-02	1.28E-06	2.18E-05	5.13E-02	1.09E-06	1.86E-05	2.02E-01	4.30E-06	7.32E-05
Road 14	14	1300-1400	6.01E-02	1.35E-06	2.30E-05	5.19E-02	1.16E-06	1.98E-05	2.11E-01	4.74E-06	8.04E-05
Road 14	14	1400-1500	6.31E-02	1.47E-06	2.50E-05	5.39E-02	1.25E-06	2.14E-05	2.15E-01	5.01E-06	8.55E-05
Road 14	14	1500-1600	5.91E-02	1.41E-06	2.41E-05	4.97E-02	1.19E-06	2.03E-05	2.18E-01	5.21E-06	8.88E-05
Road 14	14	1600-1700	6.31E-02	1.47E-06	2.50E-05	5.39E-02	1.25E-06	2.14E-05	2.06E-01	4.80E-06	8.19E-05
Road 14	14	1700-1800	4.51E-02	1.18E-06	2.01E-05	1.72E-02	1.72E-01	4.48E-06	7.65E-05	1.99E-01	5.18E-06
Road 14	14	1800-1900	2.17E-02	4.26E-03	2.26E-06	1.91E-02	3.74E-06	1.98E-06	1.46E-01	2.86E-05	1.52E-05
Road 14	14	1900-2000	2.17E-02	4.26E-03	2.26E-06	1.91E-02	3.74E-06	1.98E-06	1.46E-01	2.86E-05	1.52E-05
Road 14	14	2000-2100	1.99E-02	3.87E-03	2.05E-06	1.75E-02	3.40E-06	1.80E-06	1.34E-01	2.60E-05	1.38E-05
Road 14	14	2100-2200	1.97E-02	3.97E-03	2.06E-06	1.73E-02	3.48E-06	1.81E-06	1.32E-01	2.66E-05	1.38E-05
Road 14	14	2200-2300	1.97E-02	2.93E-03	1.52E-06	1.73E-02	2.57E-06	1.34E-06	1.32E-01	1.97E-05	1.02E-05
Road 14	14	2300-0000	1.97E-02	2.93E-03	1.52E-06	1.73E-02	2.57E-06	1.34E-06	1.32E-01	1.97E-05	1.02E-05
Road 15	15	0200-0300	1.52E-02	3.52E-03	3.26E-07	3.32E-02	3.31E-08	3.07E-07	9.72E-02	9.70E-08	8.99E-07
Road 15	15	0300-0400	4.09E-02	3.48E-08	3.23E-07	3.76E-02	3.20E-08	2.96E-07	9.09E-02	7.74E-08	7.17E-07
Road 15	15	0400-0500	4.01E-02	3.44E-08	3.18E-07	3.69E-02	3.16E-08	2.93E-07	8.92E-02	7.65E-08	7.08E-07
Road 15	15	0500-0600	3.27E-02	4.45E-08	4.12E-07	3.03E-02	4.14E-08	3.83E-07	9.76E-02	1.33E-07	1.23E-06
Road 15	15	0600-0700	4.01E-02	5.46E-08	5.06E-07	3.70E-02	5.07E-08	4.69E-07	1.20E-01	1.63E-07	1.51E-06
Road 15	15	0700-0800	4.20E-02	2.44E-07	2.26E-06	3.89E-02	2.24E-07	2.08E-06	1.25E-01	7.27E-07	6.73E-06
Road 15	15	0800-0900	4.14E-02	2.71E-07	2.51E-06	3.56E-02	2.34E-07	2.16E-06	1.24E-01	8.14E-07	7.54E-06
Road 15	15	0900-1000	3.75E-02	2.61E-07	2.42E-06	3.23E-02	2.25E-07	2.08E-06	1.12E-01	7.82E-07	7.24E-06
Road 15	15	1000-1100	5.04E-02	2.58E-07	2.39E-06	4.30E-02	2.20E-07	2.04E-06	1.47E-01	7.54E-07	6.98E-06
Road 15	15	1100-1200	5.04E-02	2.58E-07	2.39E-06	4.30E-02	2.20E-07	2.04E-06	1.47E-01	7.54E-07	6.98E-06
Road 15	15	1200-1300	6.01E-02	4.43E-07	4.10E-06	5.19E-02	3.83E-07	3.55E-06	1.84E-01	1.36E-06	1.26E-05
Road 15	15	1300-1400	6.20E-02	4.80E-07	4.44E-06	5.29E-02	4.09E-07	3.79E-06	1.97E-01	1.52E-06	1.41E-05
Road 15	15	1400-1500	5.87E-02	4.82E-07	4.46E-06	4.91E-02	4.03E-07	3.73E-06	1.95E-01	1.60E-06	1.48E-05
Road 15	15	1500-1600	5.87E-02	4.82E-07	4.46E-06	4.91E-02	4.03E-07	3.73E-06	1.95E-01	1.60E-06	1.48E-05
Road 15	15	1600-1700	6.22E-02	4.11E-07	3.81E-06	5.29E-02	3.50E-07	3.24E-06	1.97E-01	1.30E-06	1.21E-05
Road 15	15	1700-1800	4.72E-02	4.15E-07	3.84E-06	4.02E-02	3.54E-07	3.27E-06	1.59E-01	1.39E-06	1.28E-05
Road 15	15	1800-1900	2.18E-02	2.31E-07	2.14E-06	1.91E-02	2.02E-07	1.87E-06	1.46E-01	1.55E-06	1.43E-05
Road 15	15	1900-2000	2.18E-02	2.31E-07	2.14E-06	1.91E-02	2.02E-07	1.87E-06	1.46E-01	1.55E-06	1.43E-05
Road 15	15	2000-2100	2.00E-02	2.12E-07	1.96E-06	1.75E-02	1.86E-07	1.72E-06	1.34E-01	1.42E-06	1.32E-05
Road 15	15	2100-2200	1.98E-02	2.17E-07	2.01E-06	1.73E-02	1.90E-07	1.76E-06	1.32E-01	1.45E-06	1.35E-05
Road 15	15	2200-2300	1.98E-02	1.60E-07	1.48E-06	1.73E-02	1.40E-07	1.30E-06	1.32E-01	1.08E-06	9.97E-06
Road 15	15	2300-0000	1.98E-02	1.60E-07	1.48E-06	1.73E-02	1.40E-07	1.30E-06	1.32E-01	1.08E-06	9.97E-06
Road 16	16	0200-0300	1.52E-02	3.52E-03	3.26E-07	3.32E-02	3.31E-08	3.07E-07	9.72E-02	9.70E-08	8.99E-07
Road 16	16	0300-0400	4.09E-02	3.48E-08	3.23E-07	3.76E-02	3.20E-08	2.96E-07	9.09E-02	7.74E-08	7.17E-07
Road 16	16	0400-0500	4.01E-02	3.44E-08	3.18E-07	3.69E-02	3.16E-08	2.93E-07	8.92E-02	7.65E-08	7.08E-07
Road 16	16	0500-0600	3.27E-02	4.45E-08	4.12E-07	3.03E-02	4.14E-08	3.83E-07	9.76E-02	1.33E-07	1.23E-06
Road 16	16	0600-0700	4.01E-02	5.46E-08	5.06E-07	3.70E-02	5.07E-08	4.69E-07	1.20E-01	1.63E-07	1.51E-06
Road 16	16	0700-0800	4.20E-02	2.44E-07	2.26E-06	3.89E-02	2.24E-07	2.08E-06	1.25E-01	7.27E-07	6.73E-06
Road 16	16	0800-0900	4.14E-02	2.71E-07	2.51E-06	3.56E-02	2.34E-07	2.16E-06	1.24E-01	8.14E-07	7.54E-06
Road 16	16	0900-1000	3.75E-02	2.61E-07	2.42E-06	3.23E-02	2.25E-07	2.08E-06	1.12E-01	7.82E-07	7.24E-06
Road 16	16	1000-1100	5.04E-02	2.58E-07	2.39E-06	4.30E-02	2.20E-07	2.04E-06	1.47E-01	7.54E-07	6.98E-06
Road 16	16	1100-1200	5.04E-02	2.58E-07	2.39E-06	4.30E-02	2.20E-07	2.04E-06	1.47E-01	7.54E-07	6.98E-06
Road 16	16	1200-1300	6.01E-02	4.43E-07	4.10E-06	5.19E-02	3.83E-07	3.55E-06	1.84E-01	1.36E-06	1.26E-05
Road 16	16	1300-1400	6.20E-02	4.80E-07	4.44E-06	5.29E-02	4.09E-07	3.79E-06	1.97E-01	1.52E-06	1.41E-05
Road 16	16	1400-1500	5.87E-02	4.82E-07	4.46E-06	4.91E-02	4.03E-07	3.73E-06	1.95E-01	1.60E-06	1.48E-05
Road 16	16	1500-1600	5.87E-02	4.82E-07	4.46E-06	4.91E-02	4.03E-07	3.73E-06	1.95E-01	1.60E-06	1.48E-05
Road 16	16	1600-1700	6.22E-02	4.11E-07	3.81E-06	5.29E-02	3.50E-07	3.24E-06	1.97E-01	1.30E-06	1.21E-05
Road 16	16	1700-1800	4.72E-02	4.15E-07	3.84E-06	4.02E-02	3.54E-07	3.27E-06	1.59E-01	1.39E-06	1.28E-05
Road 16	16	1800-1900	2.18E-02	2.31E-07	2.14E-06	1.91E-02	2.02E-07	1.87E-06	1.46E-01	1.55E-06	1.43E-05
Road 16	16	1900-2000	2.18E-02	2.31E-07	2.14E-06	1.91E-02	2.02E-07	1.87E-06	1.46E-01	1.55E-06	1.43E-05
Road 16	16	2000-2100	2.00E-02	2.12E-07	1.96E-06	1.75E-02	1.86E-07	1.72E-06	1.34E-01	1.42E-06	1.32E-05
Road 16	16	2100-2200	1.98E-02	2.17E-07	2.01E-06	1.73E-02	1.90E-07	1.76E-06	1.32E-01	1.45E-06	1.35E-05
Road 16	16	2200-2300	1.98E-02	1.60E-07	1.48E-06	1.73E-02	1.40E-07	1.30E-06	1.32E-01	1.08E-06	9.97E-06
Road 16	16	2300-0000	1.98E-02	1.60E-07	1.48E-06	1.73E-02	1.40E-07	1.30E-06	1.32E-01	1.08E-06	9.97E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 17	17	1600-1700	3.73E-02	1.34E-02	1.37E-05	4.02E-05	4.57E-02	1.17E-06	1.43E-01	5.01E-06	1.47E-04
Road 17	17	1700-1800	3.73E-02	9.95E-07	2.91E-05	1.17E-02	8.46E-07	2.47E-05	1.56E-01	4.16E-06	1.22E-04
Road 17	17	1800-1900	2.05E-02	1.15E-02	1.51E-05	1.77E-02	4.46E-07	1.31E-05	1.79E-02	2.30E-06	6.71E-05
Road 17	17	1900-2000	1.57E-02	8.92E-09	7.97E-08	1.35E-02	7.46E-08	4.97E-02	1.80E-08	4.60E-02	3.52E-08
Road 17	17	2000-2100	1.05E-02	1.58E-07	4.63E-06	9.34E-03	1.40E-07	4.10E-06	5.58E-02	8.36E-07	2.45E-05
Road 17	17	2100-2200	1.05E-02	1.55E-07	4.55E-06	9.37E-03	1.37E-07	4.03E-06	5.58E-02	8.25E-07	2.42E-05
Road 17	17	2200-2300	1.07E-02	1.52E-07	4.45E-06	9.23E-03	1.32E-07	3.85E-06	5.53E-02	7.89E-07	2.31E-05
Road 17	17	2300-0000	1.09E-02	1.19E-07	3.48E-06	9.73E-03	1.06E-07	3.10E-06	5.47E-02	5.97E-07	1.74E-05
Road 18	18	0000-0100	8.85E-03	4.53E-03	1.27E-06	8.17E-03	4.07E-06	1.59E-06	4.00E-02	2.61E-07	1.05E-05
Road 18	18	0100-0200	7.43E-03	3.22E-08	1.26E-06	6.89E-03	2.99E-08	1.17E-06	4.93E-02	6.52E-06	1.28E-05
Road 18	18	0200-0300	3.31E-03	3.28E-08	1.28E-06	3.06E-03	2.96E-08	1.16E-06	4.93E-02	6.52E-06	1.28E-05
Road 18	18	0300-0400	8.90E-03	2.27E-08	8.87E-07	8.31E-03	2.12E-08	8.29E-07	4.32E-02	1.10E-07	4.31E-06
Road 18	18	0400-0500	9.40E-03	2.66E-08	1.04E-06	8.73E-03	2.45E-08	9.57E-07	4.56E-02	1.28E-07	5.00E-06
Road 18	18	0500-0600	9.70E-03	4.68E-08	1.83E-06	8.97E-03	4.32E-08	1.69E-06	4.77E-02	2.29E-07	8.97E-06
Road 18	18	0600-0700	1.00E-02	1.04E-07	4.05E-06	9.04E-03	9.33E-08	3.65E-06	4.95E-02	5.10E-07	1.99E-05
Road 18	18	0700-0800	1.12E-02	2.75E-07	1.07E-05	9.70E-03	2.37E-07	9.28E-06	5.28E-02	1.29E-06	5.03E-05
Road 18	18	0800-0900	1.13E-02	2.75E-07	1.07E-05	9.70E-03	2.37E-07	9.25E-06	5.28E-02	1.29E-06	5.03E-05
Road 18	18	0900-1000	1.51E-02	2.75E-07	1.07E-05	1.29E-02	2.35E-07	9.18E-06	6.58E-02	1.20E-06	4.67E-05
Road 18	18	1000-1100	1.46E-02	2.51E-07	9.81E-06	1.24E-02	2.13E-07	8.33E-06	6.54E-02	1.12E-06	4.40E-05
Road 18	18	1100-1200	1.46E-02	2.51E-07	9.81E-06	1.24E-02	2.13E-07	8.33E-06	6.54E-02	1.12E-06	4.40E-05
Road 18	18	1200-1300	2.03E-02	4.33E-07	1.69E-05	1.72E-02	3.67E-07	1.44E-05	8.35E-02	1.79E-06	6.97E-05
Road 18	18	1300-1400	2.03E-02	4.33E-07	1.69E-05	1.72E-02	3.67E-07	1.44E-05	8.35E-02	1.79E-06	6.97E-05
Road 18	18	1400-1500	1.91E-02	4.38E-07	1.71E-05	1.59E-02	3.65E-07	1.43E-05	8.36E-02	1.92E-06	7.49E-05
Road 18	18	1500-1600	1.91E-02	4.38E-07	1.71E-05	1.59E-02	3.65E-07	1.43E-05	8.36E-02	1.92E-06	7.49E-05
Road 18	18	1600-1700	1.92E-02	4.50E-07	1.76E-05	1.64E-02	3.84E-07	1.50E-05	7.76E-02	1.82E-06	7.10E-05
Road 18	18	1700-1800	1.92E-02	4.45E-07	1.74E-05	1.64E-02	3.80E-07	1.48E-05	7.76E-02	1.80E-06	7.03E-05
Road 18	18	1800-1900	1.06E-02	2.66E-07	1.04E-05	9.13E-03	2.30E-07	8.98E-06	5.04E-02	1.27E-06	4.96E-05
Road 18	18	1900-2000	1.06E-02	2.66E-07	1.04E-05	9.13E-03	2.30E-07	8.98E-06	5.04E-02	1.27E-06	4.96E-05
Road 18	18	2000-2100	8.57E-03	1.30E-07	5.07E-06	7.55E-03	1.14E-07	4.47E-06	4.71E-02	7.13E-07	2.79E-05
Road 18	18	2100-2200	8.59E-03	1.24E-07	4.84E-06	7.29E-03	1.05E-07	4.31E-06	4.70E-02	7.11E-07	2.78E-05
Road 18	18	2200-2300	8.59E-03	1.24E-07	4.84E-06	7.29E-03	1.05E-07	4.31E-06	4.70E-02	6.83E-07	2.67E-05
Road 18	18	2300-0000	8.87E-03	9.77E-08	3.82E-06	7.90E-03	8.69E-08	3.40E-06	4.68E-02	5.15E-07	2.01E-05
Road 19	19	0000-0100	8.38E-03	4.76E-08	1.37E-06	7.78E-03	4.42E-08	1.27E-06	4.46E-02	2.53E-07	7.30E-06
Road 19	19	0100-0200	8.38E-03	4.76E-08	1.37E-06	7.78E-03	4.42E-08	1.27E-06	4.46E-02	2.53E-07	7.30E-06
Road 19	19	0200-0300	3.20E-08	9.22E-09	2.65E-07	2.98E-08	8.58E-09	2.47E-07	4.75E-02	1.37E-07	3.95E-06
Road 19	19	0300-0400	9.55E-03	3.20E-08	9.22E-07	8.89E-03	2.98E-08	8.58E-07	4.75E-02	1.59E-07	4.59E-06
Road 19	19	0400-0500	1.03E-02	1.84E-08	1.11E-06	9.51E-03	5.31E-08	1.02E-06	5.07E-02	1.87E-07	5.38E-06
Road 19	19	0500-0600	1.03E-02	1.84E-08	1.11E-06	9.51E-03	5.31E-08	1.02E-06	5.07E-02	1.87E-07	5.38E-06
Road 19	19	0600-0700	1.20E-02	1.69E-07	4.88E-06	1.08E-02	1.53E-07	4.40E-06	5.66E-02	7.99E-07	2.30E-05
Road 19	19	0700-0800	1.20E-02	1.69E-07	4.88E-06	1.08E-02	1.53E-07	4.40E-06	5.66E-02	7.99E-07	2.30E-05
Road 19	19	0800-0900	1.38E-02	3.43E-07	1.19E-05	4.00E-07	1.15E-05	2.11E-06	6.08E-05	2.01E-06	6.09E-05
Road 19	19	0900-1000	1.58E-02	4.67E-07	1.34E-05	1.36E-02	4.02E-07	1.16E-05	7.14E-02	2.11E-06	6.08E-05
Road 19	19	1000-1100	1.72E-02	4.30E-07	1.24E-05	1.47E-02	3.67E-07	1.06E-05	7.57E-02	1.89E-06	5.45E-05
Road 19	19	1100-1200	1.72E-02	4.30E-07	1.24E-05	1.47E-02	3.67E-07	1.06E-05	7.57E-02	1.89E-06	5.45E-05
Road 19	19	1200-1300	2.35E-02	5.71E-07	1.65E-05	1.99E-02	4.84E-07	1.40E-05	9.54E-02	2.32E-06	6.69E-05
Road 19	19	1300-1400	2.35E-02	5.71E-07	1.65E-05	1.99E-02	4.84E-07	1.40E-05	9.54E-02	2.32E-06	6.69E-05
Road 19	19	1400-1500	2.37E-02	5.95E-07	1.71E-05	2.00E-02	5.02E-07	1.44E-05	9.40E-02	2.36E-06	6.79E-05
Road 19	19	1500-1600	2.37E-02	5.95E-07	1.71E-05	2.00E-02	5.02E-07	1.44E-05	9.40E-02	2.36E-06	6.79E-05
Road 19	19	1600-1700	2.22E-02	5.75E-07	1.66E-05	1.90E-02	4.92E-07	1.42E-05	8.89E-02	2.30E-06	6.64E-05
Road 19	19	1700-1800	2.22E-02	5.75E-07	1.66E-05	1.90E-02	4.92E-07	1.42E-05	8.89E-02	2.30E-06	6.64E-05
Road 19	19	1800-1900	1.22E-02	5.15E-07	1.48E-05	1.05E-02	4.44E-07	1.28E-05	4.98E-02	2.10E-06	6.05E-05
Road 19	19	1900-2000	1.22E-02	5.15E-07	1.48E-05	1.05E-02	4.44E-07	1.28E-05	4.98E-02	2.10E-06	6.05E-05
Road 19	19	2000-2100	1.15E-02	4.84E-07	1.39E-05	9.84E-03	4.17E-07	1.20E-05	4.68E-02	1.97E-06	5.68E-05
Road 19	19	2100-2200	1.15E-02	4.84E-07	1.39E-05	9.84E-03	4.17E-07	1.20E-05	4.68E-02	1.97E-06	5.68E-05
Road 19	19	2200-2300	1.15E-02	3.62E-07	1.04E-05	9.84E-03	3.12E-07	8.99E-06	4.68E-02	1.48E-06	4.26E-05
Road 19	19	2300-0000	1.15E-02	3.62E-07	1.04E-05	9.84E-03	3.12E-07	8.99E-06	4.68E-02	1.48E-06	4.26E-05
Road 20	20	0200-0300	6.38E-02	6.31E-08	1.19E-06	1.59E-02	6.15E-08	1.19E-06	1.66E-01	1.92E-07	3.58E-06
Road 20	20	0300-0400	6.42E-02	5.74E-08	1.08E-06	1.60E-02	5.44E-08	1.05E-06	1.68E-01	1.50E-07	2.81E-06
Road 20	20	0400-0500	5.57E-02	5.47E-08	2.70E-06	5.03E-02	1.33E-07	2.45E-06	1.78E-01	4.70E-07	8.66E-06
Road 20	20	0500-0600	5.55E-02	1.47E-07	2.70E-06	5.03E-02	1.33E-07	2.45E-06	1.78E-01	4.70E-07	8.66E-06
Road 20	20	0600-0700	7.81E-02	4.95E-07	9.12E-06	6.80E-02	4.31E-07	7.94E-06	2.30E-01	1.45E-06	2.68E-05
Road 20	20	0700-0800	7.81E-02	4.95E-07	9.12E-06	6.80E-02	4.31E-07	7.94E-06	2.30E-01	1.45E-06	2.68E-05
Road 20	20	0800-0900	8.39E-02	6.36E-07	1.17E-05	7.21E-02	5.47E-07	1.01E-05	2.61E-01	1.98E-06	3.65E-05
Road 20	20	0900-1000	8.39E-02	6.36E-07	1.17E-05	7.21E-02	5.47E-07	1.01E-05	2.61E-01	1.98E-06	3.65E-05
Road 20	20	1000-1100	8.66E-02	6.40E-07	1.17E-05	7.36E-02	5.43E-07	9.97E-06	2.62E-01	1.93E-06	3.54E-05
Road 20	20	1100-1200	8.66E-02	6.09E-07	1.12E-05	7.36E-02	5.17E-07	9.47E-06	2.62E-01	1.83E-06	3.37E-05
Road 20	20	1200-1300	8.52E-02	6.16E-07	1.14E-05	7.28E-02	5.26E-07	9.70E-06	2.56E-01	1.85E-06	3.41E-05
Road 20	20	1300-1400	8.52E-02	6.16E-07	1.14E-05	7.28E-02	5.26E-07	9.70E-06	2.56E-01	1.85E-06	3.41E-05
Road 20	20	1400-1500	8.80E-02	6.96E-07	1.28E-05	7.47E-02	5.91E-07	1.09E-05	2.64E-01	2.09E-06	3.85E-05
Road 20	20	1500-1600	8.80E-02	6.96E-07	1.28E-05	7.47E-02	5.91E-07	1.09E-05	2.64E-01	2.09E-06	3.85E-05
Road 20	20	1600-1700	4.51E-02	1.46E-07	2.69E-06	4.00E-02	1.29E-07	2.38E-06	1.56E-01	5.05E-07	9.31E-06
Road 20	20	1700-1800	4.51E-02	1.46E-07	2.69E-06	4.00E-02	1.29E-07	2.38E-06	1.56E-01	5.05E-07	9.31E-06
Road 20	20	1800-1900	6.96E-02	1.96E-07	3.61E-06	6.25E-02	1.76E-07	3.24E-06	2.42E-01	6.80E-07	1.25E-05
Road 20	20	1900-2000	4.51E-02	1.46E-07	2.69E-06	4.00E-02	1.29E-07	2.38E-06	1.56E-01	5.05E-07	9.31E-06
Road 20	20	2000-2100	4.45E-02	1.21E-07	2.24E-06	4.03E-02	1.08E-07	2.00E-06	1.54E-01	4.19E-07	7.72E-06
Road 20	20	2100-2200	4.52E-02	1.21E-07	2.24E-06	4.03E-02	1.08E-07	2.00E-06	1.54E-01	4.19E-07	7.72E-06
Road 20	20	2200-2300	4.52E-02	1.21E-07	2.24E-06	4.03E-02	1.08E-07	2.00E-06	1.54E-01	4.19E-07	7.72E-06
Road 20	20	2300-0000	5.14E-02	1.05E-07	1.94E-06	4.59E-02	9.42E-08	1.74E-06	1.59E-01	3.26E-07	6.00E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.10E-02	1.85E-08	1.04E-06	9.98E-03	1.13E-08	3.38E-07	5.17E-02	3.14E-07	9.24E-06
Road 21	21	0100-0200	1.22E-02	5.83E-08	7.70E-07	1.13E-02	5.40E-08	7.14E-07	5.27E-02	2.52E-07	3.33E-06
Road 21	21	0200-0300	1.34E-02	4.85E-08	6.41E-07	1.26E-02	4.55E-08	6.01E-07	5.48E-02	1.98E-07	2.62E-06
Road 21	21	0300-0400	1.46E-02	4.31E-08	5.70E-07	1.39E-02	4.08E-08	5.40E-07	5.70E-02	1.68E-07	2.22E-06
Road 21	21	0400-0500	1.51E-02	4.91E-08	6.50E-07	1.41E-02	4.58E-08	6.05E-07	5.93E-02	1.93E-07	2.55E-06
Road 21	21	0500-0600	1.47E-02	8.14E-08	1.08E-06	1.37E-02	7.58E-08	1.00E-06	5.98E-02	3.31E-07	4.38E-06
Road 21	21	0600-0700	1.45E-02	1.70E-07	2.25E-06	1.31E-02	1.54E-07	2.03E-06	6.29E-02	7.37E-07	9.74E-06
Road 21	21	0700-0800	1.80E-02	4.41E-07	5.83E-06	1.56E-02	3.83E-07	5.06E-06	7.40E-02	1.81E-06	2.40E-05
Road 21	21	0800-0900	2.23E-02	4.95E-07	6.54E-06	1.88E-02	4.17E-07	5.52E-06	8.84E-02	1.96E-06	2.59E-05
Road 21	21	0900-1000	2.23E-02	4.95E-07	6.54E-06	1.88E-02	4.17E-07	5.52E-06	8.84E-02	1.96E-06	2.59E-05
Road 21	21	1000-1100	2.23E-02	4.95E-07	6.54E-06	1.88E-02	4.17E-07	5.52E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	1.22E-02	2.27E-06	2.04E-07	1.35E-02	1.96E-06	1.84E-07	4.32E-02	6.26E-06	7.15E-07
Road 42	42	0100-0200	1.51E-02	1.87E-06	1.75E-07	1.40E-02	1.73E-06	1.62E-07	5.28E-02	6.53E-06	6.13E-07
Road 43	43	0200-0300	1.77E-02	1.71E-06	1.60E-07	1.61E-02	1.55E-06	1.45E-07	6.19E-02	5.98E-06	5.61E-07
Road 44	44	0300-0400	2.04E-02	1.95E-06	1.83E-07	1.85E-02	1.77E-06	1.66E-07	7.12E-02	6.82E-06	6.40E-07
Road 45	45	0400-0500	2.01E-02	1.74E-06	1.63E-07	1.86E-02	1.61E-06	1.51E-07	6.23E-02	5.40E-06	5.06E-07
Road 46	46	0500-0600	2.44E-02	2.20E-06	2.06E-07	1.52E-02	1.37E-06	1.29E-07	8.44E-02	7.60E-06	7.13E-07
Road 47	47	0600-0700	1.30E-02	3.40E-06	3.19E-07	1.36E-02	3.55E-06	3.33E-07	4.50E-02	1.17E-05	1.10E-06
Road 48	48	0700-0800	1.74E-02	9.92E-06	9.31E-07	1.54E-02	8.81E-06	8.26E-07	6.25E-02	3.57E-05	3.35E-06
Road 49	49	0800-0900	1.44E-02	8.18E-06	7.67E-07	1.27E-02	7.23E-06	6.78E-07	5.17E-02	2.94E-05	2.76E-06
Road 50	50	0900-1000	9.91E-03	1.05E-06	9.86E-08	8.77E-03	9.28E-07	8.72E-08	3.56E-02	3.77E-06	3.54E-07
Road 51	51	1000-1100	1.25E-02	1.32E-06	1.24E-07	1.11E-02	1.17E-06	1.10E-07	4.50E-02	4.76E-06	4.47E-07
Road 52	52	1100-1200	1.25E-02	1.01E-07	9.44E-09	1.11E-02	8.97E-08	8.39E-09	4.50E-02	3.64E-07	3.40E-08
Road 53	53	1200-1300	1.53E-02	4.60E-07	1.82E-07	1.32E-02	3.95E-07	1.57E-07	5.22E-02	1.57E-06	6.25E-07
Road 54	54	1300-1400	1.55E-02	4.81E-07	1.91E-07	1.34E-02	4.17E-07	1.65E-07	5.30E-02	1.65E-06	6.53E-07
Road 55	55	1400-1500	1.47E-02	4.96E-07	1.97E-07	1.25E-02	4.20E-07	1.66E-07	5.42E-02	1.83E-06	7.23E-07
Road 56	56	1500-1600	1.47E-02	4.96E-07	1.97E-07	1.25E-02	4.20E-07	1.66E-07	5.42E-02	1.83E-06	7.23E-07
Road 57	57	1600-1700	1.44E-02	5.09E-07	2.02E-07	1.22E-02	4.31E-07	1.71E-07	5.30E-02	1.87E-06	7.43E-07
Road 58	58	1700-1800	1.07E-02	1.08E-06	8.58E-08	9.06E-03	9.14E-07	7.26E-08	3.94E-02	3.97E-06	3.15E-07
Road 59	59	1800-1900	1.65E-02	2.03E-07	8.07E-08	1.40E-02	1.72E-07	6.84E-08	6.07E-02	7.47E-07	2.97E-07
Road 60	60	1900-2000	1.05E-02	4.59E-08	4.31E-09	8.89E-03	3.89E-08	3.65E-09	3.86E-02	1.69E-07	1.59E-08
Road 61	61	2000-2100	1.05E-02	3.64E-08	3.42E-09	8.89E-03	3.08E-08	2.90E-09	3.86E-02	1.34E-07	1.26E-08
Road 62	62	2100-2200	1.05E-02	3.64E-08	3.42E-09	8.89E-03	3.08E-08	2.90E-09	3.86E-02	1.34E-07	1.26E-08
Road 63	63	2200-2300	1.21E-02	3.13E-08	2.94E-09	1.02E-02	2.65E-08	2.49E-09	4.45E-02	1.16E-07	1.09E-08
Road 64	64	2300-2400	1.21E-02	3.13E-08	2.94E-09	1.02E-02	2.65E-08	2.49E-09	4.45E-02	1.16E-07	1.09E-08
Road 65	65	0000-0100	2.02E-02	4.02E-08	1.02E-06	1.83E-02	3.64E-08	9.22E-07	2.17E-02	4.32E-08	1.09E-06
Road 66	66	0100-0200	2.87E-02	3.38E-08	8.56E-07	2.60E-02	3.06E-08	7.75E-07	3.08E-02	3.63E-08	9.19E-07
Road 67	67	0200-0300	2.87E-02	3.09E-08	7.83E-07	2.59E-02	2.79E-08	7.09E-07	3.08E-02	3.31E-08	8.41E-07
Road 68	68	0300-0400	2.87E-02	2.85E-08	7.23E-07	2.59E-02	2.58E-08	6.54E-07	3.08E-02	3.06E-08	7.76E-07
Road 69	69	0400-0500	3.26E-02	3.15E-08	7.98E-07	2.93E-02	2.83E-08	7.18E-07	3.48E-02	3.36E-08	8.52E-07
Road 70	70	0500-0600	2.72E-02	4.09E-08	1.04E-06	2.53E-02	3.79E-08	9.62E-07	3.01E-02	4.52E-08	1.14E-06
Road 71	71	0600-0700	3.41E-02	2.18E-07	5.54E-06	3.03E-02	1.94E-07	4.92E-06	3.09E-02	1.97E-07	5.02E-06
Road 72	72	0700-0800	3.41E-02	2.18E-07	5.54E-06	3.03E-02	1.94E-07	4.92E-06	3.09E-02	1.97E-07	5.02E-06
Road 73	73	0800-0900	1.08E-02	4.18E-07	1.06E-06	9.35E-03	3.66E-07	9.31E-07	1.74E-02	6.81E-07	1.73E-06
Road 74	74	0900-1000	1.08E-02	4.18E-07	1.06E-06	9.35E-03	3.66E-07	9.31E-07	1.74E-02	6.81E-07	1.73E-06
Road 75	75	1000-1100	1.08E-02	2.63E-07	6.68E-07	9.35E-03	2.31E-07	5.86E-07	1.74E-02	4.29E-07	1.09E-06
Road 76	76	1100-1200	4.29E-02	2.26E-07	5.74E-06	3.65E-02	1.93E-07	4.89E-06	1.33E-01	7.03E-07	1.78E-05
Road 77	77	1200-1300	6.14E-02	2.17E-07	6.00E-06	5.23E-02	2.02E-07	5.11E-06	1.77E-01	8.84E-07	2.45E-05
Road 78	78	1300-1400	5.07E-02	2.95E-07	8.16E-06	4.31E-02	2.74E-07	6.94E-06	1.46E-01	1.20E-06	3.32E-05
Road 79	79	1400-1500	6.07E-02	2.52E-07	6.39E-06	5.17E-02	2.15E-07	5.44E-06	1.79E-01	1.05E-06	2.65E-05
Road 80	80	1500-1600	5.07E-02	2.95E-07	8.16E-06	4.31E-02	2.74E-07	6.94E-06	1.46E-01	1.20E-06	3.32E-05
Road 81	81	1600-1700	5.72E-02	2.45E-07	6.21E-06	4.86E-02	2.08E-07	5.28E-06	1.68E-01	1.02E-06	2.58E-05
Road 82	82	1700-1800	4.92E-02	2.19E-07	5.56E-06	4.21E-02	1.88E-07	4.76E-06	1.51E-01	8.21E-07	2.08E-05
Road 83	83	1800-1900	2.01E-02	2.11E-07	5.35E-06	1.71E-02	1.80E-07	4.55E-06	6.04E-02	6.34E-07	1.61E-05
Road 84	84	1900-2000	2.35E-02	6.71E-08	1.70E-06	2.00E-02	5.71E-08	1.45E-06	7.04E-02	2.01E-07	5.09E-06
Road 85	85	2000-2100	2.35E-02	6.71E-08	1.70E-06	2.00E-02	5.71E-08	1.45E-06	7.04E-02	2.01E-07	5.09E-06
Road 86	86	2100-2200	2.45E-02	5.62E-08	1.43E-06	2.09E-02	4.78E-08	1.22E-06	7.34E-02	1.68E-07	4.28E-06
Road 87	87	2200-2300	2.45E-02	5.62E-08	1.43E-06	2.09E-02	4.78E-08	1.22E-06	7.34E-02	1.68E-07	4.28E-06
Road 88	88	2300-2400	2.86E-02	4.86E-08	1.81E-06	2.43E-02	4.13E-08	1.54E-06	8.56E-02	1.45E-07	5.42E-06
Road 89	89	0000-0100	1.18E-02	3.45E-09	3.53E-08	1.07E-02	3.12E-09	3.19E-08	4.60E-02	1.35E-08	1.38E-07
Road 90	90	0100-0200	1.68E-02	3.13E-09	3.20E-08	1.52E-02	2.83E-09	2.90E-08	6.54E-02	1.22E-08	1.24E-07
Road 91	91	0200-0300	1.82E-02	2.92E-09	2.99E-08	1.65E-02	2.65E-09	2.70E-08	7.09E-02	1.14E-08	1.16E-07
Road 92	92	0300-0400	2.20E-02	3.15E-09	3.22E-08	1.99E-02	2.85E-09	2.91E-08	8.56E-02	1.23E-08	1.25E-07
Road 93	93	0400-0500	2.07E-02	2.98E-09	3.05E-08	1.92E-02	2.76E-09	2.82E-08	8.13E-02	1.17E-08	1.19E-07
Road 94	94	0500-0600	1.62E-02	3.51E-09	3.59E-08	1.52E-02	3.29E-09	3.35E-08	6.47E-02	1.40E-08	1.43E-07
Road 95	95	0600-0700	1.71E-02	8.74E-09	8.93E-08	1.61E-02	8.23E-09	8.41E-08	6.84E-02	3.49E-08	3.57E-07
Road 96	96	0700-0800	1.68E-02	1.54E-08	1.57E-07	1.49E-02	1.36E-08	1.39E-07	6.72E-02	6.15E-08	6.28E-07
Road 97	97	0800-0900	1.46E-02	1.49E-08	1.52E-07	1.37E-02	1.40E-08	1.43E-07	5.84E-02	5.96E-08	6.09E-07
Road 98	98	0900-1000	1.46E-02	1.49E-08	1.52E-07	1.37E-02	1.40E-08	1.43E-07	5.84E-02	5.96E-08	6.09E-07
Road 99	99	1000-1100	1.46E-02	1.49E-08	1.52E-07	1.37E-02	1.40E-08	1.43E-07	5.84E-02	5.96E-08	6.09E-07
Road 100	100	1100-1200	1.46E-02	1.49E-08	1.52E-07	1.37E-02	1.40E-08	1.43E-07	5.84E-02	5.96E-08	6.09E-07
Road 101	101	1200-1300	1.53E-02	4.60E-07	1.82E-07	1.32E-02	3.95E-07	1.57E-07	5.22E-02	1.57E-06	6.25E-07
Road 102	102	1300-1400	1.55E-02	4.81E-07	1.91E-07	1.34E-02	4.17E-07	1.65E-07	5.30E-02	1.65E-06	6.53E-07
Road 103	103	1400-1500	1.47E-02	4.96E-07	1.97E-07	1.25E-02	4.20E-07	1.66E-07	5.42E-02	1.83E-06	7.23E-07
Road 104	104	1500-1600	1.47E-02	4.96E-07	1.97E-07	1.25E-02	4.20E-07	1.66E-07	5.42E-02	1.83E-06	7.23E-07
Road 105	105	1600-1700	1.44E-02	5.09E-07	2.02E-07	1.22E-02	4.31E-07	1.71E-07	5.30E-02	1.87E-06	7.43E-07
Road 106	106	1700-1800	1.07E-02	1.08E-06	8.58E-08	9.06E-03	9.14E-07	7.26E-08	3.94E-02	3.97E-06	3.15E-07
Road 107	107	1800-1900	1.65E-02	2.03E-07	8.07E-08	1.40E-02	1.72E-07	6.84E-08	6.07E-02	7.47E-07	2.97E-07
Road 108	108	1900-2000	1.05E-02	4.59E-08	4.31E-09	8.89E-03	3.89E-08	3.65E-09	3.86E-02	1.69E-07	1.59E-08
Road 109	109	2000-2100	1.05E-02	3.64E-08	3.42E-09	8.89E-03	3.08E-08	2.90E-09	3.86E-02	1.34E-07	1.26E-08
Road 110	110	2100-2200	1.05E-02	3.64E-08	3.42E-09	8.89E-03	3.08E-08	2.90E-09	3.86E-02	1.34E-07	1.26E-08
Road 111	111	2200-2300	1.21E-02	3.13E-08	2.94E-09	1.02E-02	2.65E-08	2.49E-09	4.45E-02	1.16E-07	1.09E-08
Road 112	112	2300-2400	1.21E-02	3.13E-08	2.94E-09	1.02E-02	2.65E-08	2.49E-09	4.45E-02	1.16E-07	1.09E-08

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 44	44	0800-0900	9.49E-03	2.46E-07	1.52E-06	7.23E-03	1.50E-07	1.32E-06	4.32E-02	1.25E-06	7.74E-06
Road 44	44	0900-1000	9.60E-03	2.27E-07	1.40E-06	8.27E-03	1.96E-07	1.21E-06	4.75E-02	1.12E-06	6.94E-06
Road 44	44	1000-1100	1.09E-02	2.23E-07	1.38E-06	9.18E-03	1.87E-07	1.15E-06	5.08E-02	1.03E-06	6.39E-06
Road 44	44	1100-1200	1.03E-02	1.99E-07	1.23E-06	8.75E-03	1.69E-07	1.04E-06	5.01E-02	9.67E-07	5.97E-06
Road 44	44	1200-1300	1.30E-02	3.27E-07	2.02E-06	1.11E-02	2.78E-07	1.72E-06	5.68E-02	1.43E-06	8.83E-06
Road 44	44	1300-1400	1.30E-02	3.27E-07	2.02E-06	1.11E-02	2.78E-07	1.72E-06	5.68E-02	1.43E-06	8.83E-06
Road 44	44	1400-1500	1.36E-02	3.73E-07	2.30E-06	1.15E-02	3.16E-07	1.95E-06	6.07E-02	1.66E-06	1.03E-05
Road 44	44	1500-1600	1.36E-02	3.66E-07	2.26E-06	1.09E-02	3.06E-07	1.89E-06	6.28E-02	1.76E-06	1.09E-05
Road 44	44	1600-1700	1.76E-02	5.07E-07	3.13E-06	1.48E-02	4.26E-07	2.64E-06	7.08E-02	2.04E-06	1.26E-05
Road 44	44	1700-1800	1.79E-02	2.08E-07	1.29E-06	1.53E-02	1.78E-07	1.10E-06	8.24E-02	2.79E-06	1.73E-05
Road 44	44	1800-1900	1.79E-02	2.08E-07	1.29E-06	1.53E-02	1.78E-07	1.10E-06	8.24E-02	2.79E-06	1.73E-05
Road 44	44	1900-2000	5.74E-03	1.69E-07	1.05E-06	5.02E-03	1.48E-07	9.13E-07	3.39E-02	9.98E-07	6.17E-06
Road 44	44	2000-2100	5.44E-03	1.25E-07	7.70E-07	4.89E-03	1.12E-07	6.93E-07	3.56E-02	8.18E-07	5.05E-06
Road 44	44	2100-2200	4.75E-03	1.06E-07	6.53E-07	4.11E-03	9.13E-08	5.64E-07	3.52E-02	7.82E-07	4.83E-06
Road 44	44	2200-2300	4.75E-03	1.06E-07	6.53E-07	4.11E-03	9.13E-08	5.64E-07	3.52E-02	7.82E-07	4.83E-06
Road 44	44	2300-2400	4.37E-03	1.03E-07	6.34E-07	3.78E-03	8.91E-08	5.48E-07	3.24E-02	7.64E-07	4.70E-06
Road 45	45	0000-0100	4.61E-03	3.48E-08	4.28E-07	4.12E-03	3.11E-08	3.83E-07	3.31E-02	2.50E-07	3.07E-06
Road 45	45	0100-0200	3.21E-03	1.86E-08	2.29E-07	2.88E-03	1.75E-08	2.15E-07	3.30E-02	1.88E-07	2.31E-06
Road 45	45	0200-0300	5.21E-03	1.86E-08	2.29E-07	4.88E-03	1.75E-08	2.15E-07	3.30E-02	1.18E-07	1.45E-06
Road 45	45	0300-0400	5.67E-03	1.60E-08	1.97E-07	5.29E-03	1.49E-08	1.84E-07	3.42E-02	9.69E-08	1.19E-06
Road 45	45	0400-0500	6.38E-03	1.91E-08	2.35E-07	5.71E-03	1.71E-08	2.11E-07	3.24E-02	9.72E-08	1.20E-06
Road 45	45	0500-0600	6.83E-03	3.65E-08	4.50E-07	6.31E-03	3.38E-08	4.15E-07	3.85E-02	2.06E-07	2.54E-06
Road 45	45	0600-0700	6.48E-03	2.70E-08	3.32E-07	6.13E-03	2.56E-08	3.15E-07	3.47E-02	1.44E-07	1.77E-06
Road 45	45	0700-0800	8.32E-03	2.92E-07	3.60E-06	7.74E-03	2.71E-07	3.35E-06	4.49E-02	1.04E-06	1.28E-05
Road 45	45	0800-0900	8.25E-03	2.21E-07	2.72E-06	7.03E-03	1.88E-07	2.31E-06	4.27E-02	1.14E-06	1.41E-05
Road 45	45	0900-1000	8.36E-03	2.31E-07	2.85E-06	6.63E-03	1.83E-07	2.26E-06	4.65E-02	1.02E-06	1.26E-05
Road 45	45	1000-1100	1.06E-02	2.92E-07	3.60E-06	8.34E-03	2.30E-07	2.84E-06	5.45E-02	1.26E-06	1.55E-05
Road 45	45	1100-1200	1.25E-02	2.71E-07	3.34E-06	1.06E-02	2.30E-07	2.84E-06	5.50E-02	1.20E-06	1.47E-05
Road 45	45	1200-1300	1.25E-02	2.71E-07	3.34E-06	1.06E-02	2.30E-07	2.84E-06	5.50E-02	1.20E-06	1.47E-05
Road 45	45	1300-1400	1.26E-02	2.80E-07	3.44E-06	1.08E-02	2.40E-07	2.95E-06	5.73E-02	1.27E-06	1.57E-05
Road 45	45	1400-1500	1.26E-02	2.80E-07	3.44E-06	1.08E-02	2.40E-07	2.95E-06	5.73E-02	1.27E-06	1.57E-05
Road 45	45	1500-1600	1.24E-02	3.00E-07	3.69E-06	1.03E-02	2.51E-07	3.09E-06	5.93E-02	1.44E-06	1.77E-05
Road 45	45	1600-1700	1.24E-02	3.00E-07	3.69E-06	1.03E-02	2.51E-07	3.09E-06	5.93E-02	1.44E-06	1.77E-05
Road 45	45	1700-1800	1.03E-02	1.24E-07	3.74E-06	8.78E-03	2.59E-07	3.18E-06	5.95E-02	1.44E-06	1.90E-05
Road 45	45	1800-1900	1.03E-02	1.24E-07	3.74E-06	8.78E-03	2.59E-07	3.18E-06	5.95E-02	1.44E-06	1.90E-05
Road 45	45	1900-2000	5.60E-03	1.44E-07	1.78E-06	4.89E-03	1.26E-07	1.55E-06	3.31E-02	8.55E-07	1.05E-05
Road 45	45	2000-2100	5.28E-03	1.06E-07	1.31E-06	4.74E-03	9.52E-08	1.17E-06	3.50E-02	7.02E-07	8.64E-06
Road 45	45	2100-2200	4.60E-03	9.35E-08	1.15E-06	3.98E-03	8.11E-08	9.98E-07	3.41E-02	6.93E-07	8.53E-06
Road 45	45	2200-2300	4.59E-03	8.92E-08	1.10E-06	3.96E-03	7.71E-08	9.49E-07	3.46E-02	6.73E-07	8.28E-06
Road 45	45	2300-2400	4.23E-03	8.85E-08	1.09E-06	3.65E-03	7.64E-08	9.40E-07	3.19E-02	6.67E-07	8.21E-06
Road 46	46	0000-0100	4.84E-03	1.23E-08	2.29E-07	4.45E-03	1.13E-08	2.11E-07	3.31E-02	8.43E-08	1.57E-06
Road 46	46	0100-0200	3.37E-03	9.81E-09	1.82E-07	3.30E-03	9.61E-09	1.79E-07	3.31E-02	9.64E-08	1.79E-06
Road 46	46	0200-0300	5.47E-03	9.81E-09	1.82E-07	5.02E-03	9.01E-09	1.67E-07	3.31E-02	5.94E-08	1.10E-06
Road 46	46	0300-0400	5.95E-03	8.47E-09	1.57E-07	5.46E-03	7.77E-09	1.44E-07	3.42E-02	4.87E-08	9.04E-07
Road 46	46	0400-0500	6.70E-03	1.01E-08	1.87E-07	6.15E-03	9.25E-09	1.72E-07	3.24E-02	4.88E-08	9.06E-07
Road 46	46	0500-0600	6.83E-03	1.90E-08	3.53E-07	6.31E-03	1.76E-08	3.26E-07	3.89E-02	1.08E-07	2.01E-06
Road 46	46	0600-0700	7.47E-03	4.42E-08	8.21E-07	6.64E-03	3.96E-08	7.34E-07	3.56E-02	2.12E-07	3.94E-06
Road 46	46	0700-0800	8.10E-03	1.13E-07	2.10E-06	6.91E-03	9.64E-08	1.79E-06	4.13E-02	5.76E-07	1.07E-05
Road 46	46	0800-0900	8.10E-03	1.13E-07	2.10E-06	6.91E-03	9.64E-08	1.79E-06	4.13E-02	5.76E-07	1.07E-05
Road 46	46	0900-1000	1.07E-02	1.95E-06	8.96E-03	8.79E-03	1.58E-06	4.12E-06	4.04E-02	7.38E-06	1.92E-05
Road 46	46	1000-1100	1.07E-02	1.95E-06	8.96E-03	8.79E-03	1.58E-06	4.12E-06	4.04E-02	7.38E-06	1.92E-05
Road 46	46	1100-1200	1.54E-02	1.23E-07	2.28E-06	1.30E-02	2.03E-07	6.54E-08	2.73E-06	1.69E-01	3.01E-07
Road 46	46	1200-1300	9.54E-03	1.23E-07	2.28E-06	8.03E-03	1.04E-07	1.93E-06	4.61E-02	5.94E-07	1.10E-05
Road 46	46	1300-1400	9.56E-03	1.24E-07	2.30E-06	8.17E-03	1.06E-07	1.97E-06	4.75E-02	6.17E-07	1.15E-05
Road 46	46	1400-1500	1.00E-02	1.40E-07	2.60E-06	8.54E-03	1.19E-07	2.21E-06	4.96E-02	6.92E-07	1.28E-05
Road 46	46	1500-1600	9.61E-03	1.37E-07	2.55E-06	8.03E-03	1.15E-07	2.13E-06	4.92E-02	7.02E-07	1.30E-05
Road 46	46	1600-1700	1.24E-02	1.28E-07	3.80E-06	1.04E-02	1.07E-07	3.17E-06	6.41E-02	6.61E-07	1.96E-05
Road 46	46	1700-1800	7.12E-03	1.28E-07	3.80E-06	5.97E-03	1.07E-07	3.17E-06	6.41E-02	1.15E-06	3.42E-05
Road 46	46	1800-1900	7.12E-03	1.28E-07	3.80E-06	5.97E-03	1.07E-07	3.17E-06	6.41E-02	1.15E-06	3.42E-05
Road 46	46	1900-2000	3.71E-03	1.46E-08	2.09E-07	3.26E-03	1.29E-08	1.84E-07	3.52E-02	1.39E-07	1.97E-06
Road 46	46	2000-2100	3.50E-03	1.08E-08	1.53E-07	3.13E-03	9.81E-09	1.40E-07	3.47E-02	1.07E-07	1.52E-06
Road 46	46	2100-2200	3.04E-03	1.08E-08	1.53E-07	2.68E-03	9.81E-09	1.40E-07	3.47E-02	1.24E-07	1.76E-06
Road 46	46	2200-2300	3.04E-03	1.08E-08	1.53E-07	2.68E-03	9.81E-09	1.40E-07	3.47E-02	1.24E-07	1.76E-06
Road 46	46	2300-2400	2.80E-03	1.08E-08	1.53E-07	2.47E-03	9.81E-09	1.40E-07	3.47E-02	1.24E-07	1.76E-06
Road 47	47	0000-0100	9.66E-03	2.27E-07	1.40E-06	8.27E-03	1.96E-07	1.21E-06	4.75E-02	1.12E-06	6.94E-06
Road 47	47	0100-0200	5.33E-03	4.80E-08	2.64E-06	4.80E-03	4.33E-08	2.38E-06	3.52E-02	3.17E-07	1.74E-05
Road 47	47	0200-0300	5.73E-03	3.77E-08	2.08E-06	5.24E-03	3.45E-08	1.90E-06	3.58E-02	2.36E-07	1.30E-05
Road 47	47	0300-0400	9.73E-03	3.95E-07	6.09E-06	8.49E-03	3.70E-07	5.31E-06	5.28E-02	2.30E-06	3.29E-05
Road 47	47	0400-0500	6.68E-03	3.80E-08	2.09E-06	6.07E-03	3.45E-08	1.90E-06	3.82E-02	2.18E-07	1.20E-05
Road 47	47	0500-0600	6.74E-03	1.14E-07	3.43E-06	6.44E-03	1.09E-07	3.28E-06	3.78E-02	6.39E-07	1.92E-05
Road 47	47	0600-0700	7.55E-03	1.59E-07	8.78E-06	7.03E-03	1.48E-07	8.17E-06	4.01E-02	8.48E-07	4.67E-05
Road 47	47	0700-0800	8.21E-03	3.50E-07	1.93E-05	7.45E-03	3.18E-07	1.75E-05	4.26E-02	1.82E-06	1.00E-04
Road 47	47	0800-0900	8.21E-03	3.50E-07	1.93E-05	7.45E-03	3.18E-07	1.75E-05	4.26E-02	1.82E-06	1.00E-04
Road 47	47	0900-1000	9.25E-03	3.34E-07	2.06E-05	8.22E-03	3.33E-07	1.85E-05	4.50E-02	1.82E-06	1.00E-04
Road 47	47	1000-1100	1.09E-02	3.34E-07	2.06E-05	9.68E-03	3.33E-07	1.85E-05	5.30E-02	1.82E-06	1.00E-04
Road 47	47	1100-1200	1.09E-02	3.34E-07	2.06E-05	9.68E-03	3.33E-07	1.85E-05	5.30E-02	1.82E-06	1.00E-04
Road 47	47	1200-1300	1.09E-02	3.34E-07	2.06E-05	9.68E-03	3.33E-07	1.85E-05	5.30E-02	1.82E-06	1.00E-04
Road 47	47	1300-1400	1.09E-02	3.34E-07	2.06E-05	9.68E-03	3.33E-07	1.85E-05	5.30E-02	1.82E-06	1.00E-04
Road 47	47	1400-1500	1.09E-02	3.34E-07	2.06E-05	9.68E-03	3.33E-07	1.85E-05	5.30E-02	1.82E-06	1.00E-04
Road 47	47	1500-1600	1.09E-02	3.34E-07	2.06E-05	9.68E-03	3.33E-07	1.85E-05	5.30E-02	1.82E-06	1.00E-04
Road 47	47	1600-1700	1.09E-02	3.34E-07	2.06E-05	9.68E-03	3.33E-07	1.85E-05	5.30E-02	1.82E-06	1.00E-04
Road 47	47	1700-1800	1.09E-02	3.34E-07	2.06E-05	9.68E-03

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.64E-03	3.90E-03	4.45E-06	1.36E-03	3.23E-03	3.68E-06	3.90E-03	9.28E-03	1.06E-05	3.23E-03	7.68E-03	8.77E-06
Road 1	1	0100-0200	1.26E-03	3.08E-03	3.61E-06	9.97E-04	2.57E-03	3.01E-06	3.00E-03	7.33E-03	8.59E-06	2.37E-03	6.11E-03	7.14E-06
Road 1	1	0200-0300	1.40E-03	5.06E-03	6.09E-06	1.29E-03	4.67E-03	5.61E-06	3.32E-03	1.20E-02	1.45E-05	3.07E-03	1.11E-02	1.33E-05
Road 1	1	0300-0400	1.56E-03	4.59E-03	5.67E-06	1.48E-03	4.38E-03	5.41E-06	3.70E-03	1.09E-02	1.34E-05	3.51E-03	1.04E-02	1.28E-05
Road 1	1	0400-0500	1.58E-03	5.13E-03	6.78E-07	1.44E-03	4.68E-03	6.19E-07	6.22E-03	2.02E-02	2.67E-06	5.60E-03	1.82E-02	2.41E-06
Road 1	1	0500-0600	1.61E-03	5.23E-03	1.18E-06	1.57E-03	5.11E-03	1.15E-06	6.33E-03	2.06E-02	4.65E-06	6.19E-03	2.01E-02	4.55E-06
Road 1	1	0600-0700	1.44E-02	1.69E-02	2.23E-06	1.30E-02	1.53E-02	2.02E-06	5.72E-02	6.72E-02	8.87E-06	5.16E-02	6.07E-02	8.01E-06
Road 1	1	0700-0800	1.74E-02	4.27E-02	5.64E-06	1.61E-02	3.93E-02	5.20E-06	6.91E-02	1.69E-01	2.24E-05	6.40E-02	1.56E-01	2.06E-05
Road 1	1	0800-0900	1.54E-02	3.86E-02	5.10E-06	1.42E-02	3.56E-02	4.70E-06	6.12E-02	1.53E-01	2.02E-05	5.65E-02	1.41E-01	1.86E-05
Road 1	1	0900-1000	1.25E-02	3.14E-02	4.15E-06	1.15E-02	2.90E-02	3.83E-06	4.97E-02	1.24E-01	1.64E-05	4.58E-02	1.15E-01	1.51E-05
Road 1	1	1000-1100	1.13E-02	2.84E-02	3.75E-06	1.04E-02	2.62E-02	3.46E-06	4.49E-02	1.12E-01	1.48E-05	4.14E-02	1.04E-01	1.37E-05
Road 1	1	1100-1200	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1200-1300	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1300-1400	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1400-1500	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1500-1600	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1600-1700	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1700-1800	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1800-1900	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	1900-2000	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	2000-2100	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	2100-2200	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	2200-2300	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05
Road 1	1	2300-2400	1.03E-02	2.58E-02	3.41E-06	9.50E-03	2.38E-02	3.15E-06	4.09E-02	1.02E-01	1.35E-05	3.77E-02	9.45E-02	1.25E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	2.30E-02	1.44E-02	1.52E-05	2.19E-02	1.36E-02	1.44E-05	8.57E-02	5.24E-02	5.54E-05	8.15E-02	4.98E-02	5.26E-05
Road 11	11	0100-0200	2.45E-02	9.99E-03	3.84E-07	2.36E-02	9.61E-03	3.69E-07	1.48E-01	6.03E-02	2.31E-06	1.42E-01	5.77E-02	2.21E-06
Road 11	11	0200-0300	2.62E-02	7.84E-03	3.01E-07	2.53E-02	7.56E-03	2.90E-07	1.58E-01	4.57E-02	1.76E-06	1.47E-01	4.39E-02	1.69E-06
Road 11	11	0300-0400	2.81E-02	6.75E-03	2.59E-07	2.73E-02	6.47E-03	2.48E-07	1.61E-01	3.81E-02	1.46E-06	1.53E-01	3.63E-02	1.40E-06
Road 11	11	0400-0500	3.06E-02	8.00E-03	3.07E-07	2.94E-02	7.67E-03	2.94E-07	1.68E-01	4.38E-02	1.68E-06	1.60E-01	4.18E-02	1.61E-06
Road 11	11	0500-0600	3.29E-02	1.49E-02	5.75E-07	3.16E-02	1.43E-02	5.51E-07	1.74E-01	7.92E-02	3.04E-06	1.67E-01	7.58E-02	2.91E-06
Road 11	11	0600-0700	3.79E-02	3.70E-02	1.42E-06	3.67E-02	3.58E-02	1.38E-06	1.92E-01	1.88E-01	7.21E-06	1.86E-01	1.81E-01	6.96E-06
Road 11	11	0700-0800	4.45E-02	8.84E-02	3.39E-06	4.25E-02	8.43E-02	3.24E-06	2.16E-01	4.28E-01	1.64E-05	2.06E-01	4.09E-01	1.57E-05
Road 11	11	0800-0900	4.64E-02	1.07E-01	4.10E-06	4.43E-02	1.02E-01	3.91E-06	2.25E-01	5.17E-01	1.98E-05	2.15E-01	4.92E-01	1.89E-05
Road 11	11	0900-1000	5.45E-02	1.19E-01	4.57E-06	5.20E-02	1.14E-01	4.36E-06	2.64E-01	5.77E-01	2.21E-05	2.52E-01	5.49E-01	2.11E-05
Road 11	11	1000-1100	6.02E-02	9.72E-02	3.73E-06	5.51E-02	8.90E-02	3.42E-06	2.38E-01	3.85E-01	1.48E-05	2.16E-01	3.49E-01	1.34E-05
Road 11	11	1100-1200	6.75E-02	7.73E-02	2.97E-06	6.19E-02	7.09E-02	2.72E-06	2.67E-01	3.06E-01	1.17E-05	2.42E-01	2.77E-01	1.06E-05
Road 11	11	1200-1300	8.75E-02	7.38E-02	2.83E-06	8.02E-02	6.76E-02	2.59E-06	3.46E-01	2.92E-01	1.12E-05	3.14E-01	2.65E-01	1.01E-05
Road 11	11	1300-1400	1.13E-01	7.04E-02	2.70E-06	1.04E-01	6.45E-02	2.47E-06	4.48E-01	2.79E-01	1.07E-05	4.07E-01	2.53E-01	9.71E-06
Road 11	11	1400-1500	1.46E-01	6.71E-02	2.57E-06	1.34E-01	6.15E-02	2.36E-06	5.79E-01	2.66E-01	1.02E-05	5.26E-01	2.41E-01	9.25E-06
Road 11	11	1500-1600	1.89E-01	6.39E-02	2.45E-06	1.73E-01	5.86E-02	2.25E-06	7.49E-01	2.53E-01	9.71E-06	6.80E-01	2.30E-01	8.82E-06
Road 11	11	1600-1700	2.45E-01	6.08E-02	2.33E-06	2.24E-01	5.58E-02	2.14E-06	9.70E-01	2.41E-01	9.24E-06	8.81E-01	2.19E-01	8.40E-06
Road 11	11	1700-1800	3.17E-01	5.79E-02	2.22E-06	2.91E-01	5.31E-02	2.04E-06	1.26E+00	2.29E-01	8.80E-06	1.14E+00	2.09E-01	8.00E-06
Road 11	11	1800-1900	4.77E-01	1.22E-01	4.67E-06	4.46E-01	1.14E-01	4.37E-06	2.05E-01	5.22E-02	2.00E-05	1.90E-01	4.85E-02	1.86E-05
Road 11	11	1900-2000	3.80E-01	7.51E-02	2.88E-06	3.52E-01	6.95E-02	2.67E-06	1.75E-01	3.46E-02	1.33E-05	1.62E-01	3.18E-02	1.22E-05
Road 11	11	2000-2100	3.66E-01	5.64E-02	2.16E-06	3.42E-02	5.27E-02	2.02E-06	1.83E-01	2.82E-02	1.08E-05	1.69E-01	2.61E-02	1.00E-05
Road 11	11	2100-2200	3.54E-01	4.41E-02	1.69E-06	3.04E-01	3.78E-02	1.45E-06	1.77E-01	2.20E-02	8.43E-06	1.52E-01	1.89E-02	7.24E-06
Road 11	11	2200-2300	3.46E-02	3.68E-02	1.41E-06	2.96E-02	3.15E-02	1.21E-06	1.73E-01	1.84E-01	7.04E-06	1.48E-01	1.57E-01	6.03E-06
Road 11	11	2300-0000	3.46E-02	3.68E-02	1.41E-06	2.96E-02	3.15E-02	1.21E-06	1.73E-01	1.84E-01	7.04E-06	1.48E-01	1.57E-01	6.03E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	1.25E-02	2.79E-02	1.32E-05	1.24E-02	2.84E-02	1.35E-05	4.78E-02	1.06E-01	5.04E-05	4.81E-02	1.07E-01	5.09E-05
Road 14	14	0900-1000	3.68E-02	7.49E-03	1.28E-05	3.23E-02	8.57E-03	1.12E-05	1.35E-01	2.74E-02	4.67E-05	1.17E-01	2.38E-02	4.06E-05
Road 14	14	1000-1100	4.26E-02	7.84E-07	1.30E-05	3.25E-02	7.29E-07	1.21E-05	1.56E-01	2.87E-06	4.76E-05	1.19E-01	2.67E-06	3.85E-05
Road 14	14	1100-1200	4.16E-02	7.29E-07	1.21E-05	3.49E-02	5.95E-07	1.01E-05	1.49E-01	2.54E-06	4.32E-05	1.23E-01	2.10E-06	3.59E-05
Road 14	14	1200-1300	6.13E-02	1.31E-06	2.23E-05	5.28E-02	1.12E-06	1.92E-05	2.06E-01	4.40E-06	7.50E-05	1.77E-01	3.76E-06	6.42E-05
Road 14	14	1300-1400	6.08E-02	1.36E-06	2.32E-05	5.25E-02	1.17E-06	2.00E-05	2.04E-01	4.57E-06	7.80E-05	1.76E-01	3.94E-06	6.68E-05
Road 14	14	1400-1500	6.88E-02	1.43E-06	2.53E-05	5.36E-02	1.25E-06	2.13E-05	2.08E-01	5.08E-06	8.66E-05	1.82E-01	4.24E-06	7.23E-05
Road 14	14	1500-1600	5.91E-02	1.42E-06	2.41E-05	5.01E-02	1.20E-06	2.04E-05	2.18E-01	5.22E-06	8.89E-05	1.83E-01	4.39E-06	7.48E-05
Road 14	14	1600-1700	5.46E-02	1.31E-06	2.23E-05	4.62E-02	1.11E-06	1.89E-05	2.08E-01	4.98E-06	8.48E-05	1.76E-01	4.22E-06	7.16E-05
Road 14	14	1700-1800	4.55E-02	1.09E-06	2.02E-05	3.81E-02	9.13E-07	1.69E-05	1.96E-01	4.69E-06	8.01E-05	1.64E-01	3.92E-06	6.68E-05
Road 14	14	1800-1900	3.79E-02	9.08E-07	1.68E-05	3.17E-02	7.61E-07	1.41E-05	1.84E-01	4.41E-06	7.52E-05	1.54E-01	3.69E-06	6.29E-05
Road 14	14	1900-2000	2.22E-02	4.36E-03	7.43E-06	1.86E-02	4.95E-03	6.47E-06	1.08E-01	2.12E-02	3.61E-05	9.04E-02	2.40E-02	3.14E-05
Road 14	14	2000-2100	2.05E-02	3.02E-07	5.15E-06	1.72E-02	2.55E-07	4.34E-06	9.97E-02	1.47E-06	2.50E-05	8.37E-02	1.24E-06	2.11E-05
Road 14	14	2100-2200	2.05E-02	3.02E-07	5.15E-06	1.72E-02	2.55E-07	4.34E-06	9.97E-02	1.47E-06	2.50E-05	8.37E-02	1.24E-06	2.11E-05
Road 14	14	2200-2300	2.05E-02	3.02E-07	5.15E-06	1.72E-02	2.55E-07	4.34E-06	9.97E-02	1.47E-06	2.50E-05	8.37E-02	1.24E-06	2.11E-05
Road 14	14	2300-2400	2.05E-02	3.02E-07	5.15E-06	1.72E-02	2.55E-07	4.34E-06	9.97E-02	1.47E-06	2.50E-05	8.37E-02	1.24E-06	2.11E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 15	15	0000-0100	1.25E-02	2.52E-02	4.45E-06	1.24E-02	2.51E-02	4.43E-06	4.78E-02	9.65E-02	1.70E-05	4.81E-02	9.71E-02	1.71E-05
Road 15	15	0100-0200	3.68E-02	7.49E-03	1.28E-05	3.23E-02	8.57E-03	1.12E-05	1.35E-01	2.74E-02	4.67E-05	1.17E-01	2.38E-02	4.06E-05
Road 15	15	0200-0300	4.26E-02	7.84E-07	1.30E-05	3.25E-02	7.29E-07	1.21E-05	1.56E-01	2.87E-06	4.76E-05	1.19E-01	2.67E-06	3.85E-05
Road 15	15	0300-0400	4.16E-02	7.29E-07	1.21E-05	3.49E-02	5.95E-07	1.01E-05	1.49E-01	2.54E-06	4.32E-05	1.23E-01	2.10E-06	3.59E-05
Road 15	15	0400-0500	6.13E-02	1.31E-06	2.23E-05	5.28E-02	1.12E-06	1.92E-05	2.06E-01	4.40E-06	7.50E-05	1.77E-01	3.76E-06	6.42E-05
Road 15	15	0500-0600	6.08E-02	1.36E-06	2.32E-05	5.25E-02	1.17E-06	2.00E-05	2.04E-01	4.57E-06	7.80E-05	1.76E-01	3.94E-06	6.68E-05
Road 15	15	0600-0700	6.88E-02	1.43E-06	2.53E-05	5.36E-02	1.25E-06	2.13E-05	2.08E-01	5.08E-06	8.66E-05	1.82E-01	4.24E-06	7.23E-05
Road 15	15	0700-0800	4.06E-02	2.33E-07	2.18E-06	3.76E-02	2.20E-07	2.06E-06	1.22E-01	7.00E-07	6.55E-06	1.13E-01	6.48E-07	6.07E-06
Road 15	15	0800-0900	4.09E-02	2.68E-07	2.48E-06	3.61E-02	2.37E-07	2.19E-06	1.23E-01	8.04E-07	7.44E-06	1.07E-01	7.03E-07	6.51E-06
Road 15	15	0900-1000	4.26E-02	2.86E-07	2.64E-06	3.77E-02	2.53E-07	2.34E-06	1.28E-01	8.58E-07	7.92E-06	1.12E-01	7.50E-07	6.94E-06
Road 15	15	1000-1100	5.16E-02	2.64E-07	2.44E-06	4.41E-02	2.26E-07	2.09E-06	1.54E-01	7.91E-07	7.32E-06	1.32E-01	6.78E-07	6.26E-06
Road 15	15	1100-1200	5.32E-02	2.54E-07	2.34E-06	4.54E-02	2.17E-07	2.01E-06	1.59E-01	7.62E-07	7.04E-06	1.36E-01	6.52E-07	6.03E-06
Road 15	15	1200-1300	6.17E-02	4.55E-07	4.21E-06	5.31E-02	3.85E-07	3.56E-06	1.89E-01	1.40E-06	1.29E-05	1.59E-01	1.17E-06	1.09E-05
Road 15	15	1300-1400	6.23E-02	4.82E-07	4.46E-06	5.36E-02	4.14E-07	3.83E-06	1.98E-01	1.53E-06	1.42E-05	1.69E-01	1.31E-06	1.21E-05
Road 15	15	1400-1500	6.89E-02	4.84E-07	4.48E-06	4.94E-02	4.06E-07	3.76E-06	1.95E-01	1.60E-06	1.49E-05	1.63E-01	1.34E-06	1.24E-05
Road 15	15	1500-1600	6.89E-02	4.84E-07	4.48E-06	4.94E-02	4.06E-07	3.76E-06	1.95E-01	1.60E-06	1.49E-05	1.63E-01	1.34E-06	1.24E-05
Road 15	15	1600-1700	6.89E-02	4.84E-07	4.48E-06	4.94E-02	4.06E-07	3.76E-06	1.95E-01	1.60E-06	1.49E-05	1.63E-01	1.34E-06	1.24E-05
Road 15	15	1700-1800	4.81E-02	4.23E-07	3.92E-06	4.04E-02	3.55E-07	3.29E-06	1.62E-01	1.43E-06	1.32E-05	1.36E-01	1.20E-06	1.11E-05
Road 15	15	1800-1900	2.23E-02	1.37E-07	1.26E-06	1.91E-02	1.17E-07	1.09E-06	8.80E-02	5.39E-07	4.99E-06	7.43E-02	4.55E-07	4.21E-06
Road 15	15	1900-2000	2.23E-02	1.37E-07	1.26E-06	1.91E-02	1.17E-07	1.09E-06	8.80E-02	5.39E-07	4.99E-06	7.43E-02	4.55E-07	4.21E-06
Road 15	15	2000-2100	2.16E-02	1.32E-07	1.22E-06	1.85E-02	1.13E-07	1.05E-06	8.52E-02	5.22E-07	4.83E-06	7.19E-02	4.40E-07	4.08E-06
Road 15	15	2100-2200	2.08E-02	1.27E-07	1.18E-06	1.78E-02	1.09E-07	1.01E-06	8.23E-02	5.04E-07	4.66E-06	6.95E-02	4.25E-07	3.94E-06
Road 15	15	2200-2300	2.01E-02	1.23E-07	1.14E-06	1.72E-02	1.05E-07	9.76E-07	7.95E-02	4.87E-07	4.51E-06	6.71E-02	4.11E-07	3.81E-06
Road 15	15	2300-0000	2.01E-02	1.23E-07	1.14E-06	1.72E-02	1.05E-07	9.76E-07	7.95E-02	4.87E-07	4.51E-06	6.71E-02	4.11E-07	3.81E-06

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 17	17	1600-1700	3.82E-02	1.02E-06	2.98E-05	3.20E-02	8.54E-07	2.50E-05	1.60E-01	4.27E-06	1.25E-04	1.33E-01	3.55E-06	1.04E-04
Road 17	17	1700-1800	2.01E-02	3.08E-07	1.49E-05	1.78E-02	4.49E-07	1.31E-05	8.92E-02	2.25E-06	6.59E-05	7.80E-02	1.97E-06	5.76E-05
Road 17	17	1800-1900	1.52E-02	2.48E-07	7.26E-06	1.11E-02	2.13E-07	6.24E-06	6.23E-02	1.02E-06	2.98E-05	5.22E-02	9.99E-07	2.92E-05
Road 17	17	2000-2100	1.06E-02	1.59E-07	4.65E-06	9.37E-03	1.40E-07	4.11E-06	5.62E-02	8.43E-07	2.47E-05	4.87E-02	7.30E-07	2.13E-05
Road 17	17	2100-2200	1.06E-02	1.60E-07	4.67E-06	9.37E-03	1.41E-07	4.12E-06	5.62E-02	8.46E-07	2.48E-05	4.87E-02	7.32E-07	2.13E-05
Road 17	17	2200-2300	1.16E-02	1.74E-07	5.08E-06	9.23E-03	1.32E-07	3.85E-06	6.06E-02	8.67E-07	2.53E-05	4.82E-02	6.91E-07	2.01E-05
Road 17	17	2300-0000	1.12E-02	1.23E-07	3.58E-06	9.74E-03	1.06E-07	3.10E-06	5.64E-02	6.15E-07	1.80E-05	4.78E-02	5.21E-07	1.52E-05
Road 18	18	0000-0100	6.92E-03	4.57E-03	1.79E-06	6.13E-03	4.05E-03	1.58E-06	4.06E-02	2.68E-02	1.05E-05	3.48E-02	2.30E-02	9.00E-06
Road 18	18	0100-0200	7.72E-03	2.13E-03	1.10E-06	7.01E-03	3.08E-08	1.20E-06	4.53E-02	1.25E-02	6.44E-06	4.02E-02	1.84E-07	7.18E-06
Road 18	18	0200-0300	9.48E-03	2.42E-08	9.46E-07	8.31E-03	2.17E-08	8.49E-07	4.66E-02	1.19E-07	4.65E-06	4.08E-02	1.04E-07	4.06E-06
Road 18	18	0300-0400	9.48E-03	2.42E-08	9.46E-07	8.31E-03	2.17E-08	8.49E-07	4.66E-02	1.19E-07	4.65E-06	4.08E-02	1.04E-07	4.06E-06
Road 18	18	0400-0500	9.82E-03	2.75E-08	1.08E-06	8.62E-03	2.41E-08	9.47E-07	4.83E-02	1.35E-07	5.29E-06	4.24E-02	1.18E-07	4.63E-06
Road 18	18	0500-0600	9.51E-03	4.65E-03	1.82E-06	8.34E-03	4.07E-03	1.60E-06	4.67E-02	2.28E-02	8.94E-06	4.09E-02	2.00E-02	7.84E-06
Road 18	18	0600-0700	9.95E-03	1.03E-07	4.01E-06	9.12E-03	9.41E-08	3.67E-06	4.89E-02	5.04E-07	1.97E-05	4.39E-02	4.53E-07	1.77E-05
Road 18	18	0700-0800	1.50E-02	1.91E-07	7.43E-06	1.31E-02	1.67E-07	6.48E-06	7.35E-02	9.35E-07	3.64E-05	6.44E-02	8.19E-07	3.19E-05
Road 18	18	0800-0900	1.12E-02	2.62E-07	8.29E-06	1.47E-02	7.71E-08	6.89E-07	5.50E-02	1.28E-06	4.95E-05	7.20E-02	3.77E-07	3.37E-06
Road 18	18	0900-1000	1.54E-02	2.80E-07	1.09E-05	1.31E-02	2.38E-07	9.29E-06	6.74E-02	1.22E-06	4.78E-05	5.63E-02	1.02E-06	4.00E-05
Road 18	18	1000-1100	1.49E-02	2.56E-07	1.00E-05	1.27E-02	2.19E-07	8.57E-06	6.51E-02	1.12E-06	4.37E-05	5.44E-02	9.33E-07	3.65E-05
Road 18	18	1100-1200	1.49E-02	2.56E-07	1.00E-05	1.27E-02	2.19E-07	8.57E-06	6.51E-02	1.12E-06	4.37E-05	5.44E-02	9.33E-07	3.65E-05
Road 18	18	1200-1300	1.49E-02	2.56E-07	1.00E-05	1.27E-02	2.19E-07	8.57E-06	6.51E-02	1.12E-06	4.37E-05	5.44E-02	9.33E-07	3.65E-05
Road 18	18	1300-1400	2.05E-02	4.38E-07	1.71E-05	1.75E-02	3.74E-07	1.46E-05	8.48E-02	1.81E-06	7.08E-05	7.16E-02	1.53E-06	5.98E-05
Road 18	18	1400-1500	2.04E-02	4.64E-07	1.74E-05	1.75E-02	3.97E-07	1.49E-05	8.44E-02	1.92E-06	7.20E-05	7.12E-02	1.62E-06	6.08E-05
Road 18	18	1500-1600	1.93E-02	4.62E-07	1.61E-05	1.66E-02	3.97E-07	1.38E-05	8.00E-02	1.91E-06	6.66E-05	6.75E-02	1.61E-06	5.62E-05
Road 18	18	1600-1700	1.97E-02	4.62E-07	1.81E-05	1.64E-02	3.83E-07	1.50E-05	7.98E-02	1.87E-06	7.31E-05	6.54E-02	1.53E-06	5.99E-05
Road 18	18	1700-1800	1.97E-02	4.62E-07	1.81E-05	1.64E-02	3.83E-07	1.50E-05	7.98E-02	1.87E-06	7.31E-05	6.54E-02	1.53E-06	5.99E-05
Road 18	18	1800-1900	1.04E-02	2.61E-07	1.02E-05	9.15E-03	2.30E-07	9.00E-06	4.30E-02	1.08E-06	4.23E-05	4.50E-02	1.13E-06	4.43E-05
Road 18	18	1900-2000	8.62E-03	1.31E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	1.710E-02	4.750E-03	1.539E-03	1.710E-02	4.750E-03	1.539E-03	2.946E-02	8.183E-03	2.651E-03	2.946E-02	8.183E-03	2.651E-03
Road 37	37	1700-1800	1.708E-02	4.744E-03	1.537E-03	1.708E-02	4.744E-03	1.537E-03	2.942E-02	8.172E-03	2.648E-03	2.942E-02	8.172E-03	2.648E-03
Road 37	37	1800-1900	1.706E-02	4.739E-03	1.535E-03	1.706E-02	4.739E-03	1.535E-03	2.938E-02	8.161E-03	2.645E-03	2.938E-02	8.161E-03	2.645E-03
Road 37	37	1900-2000	1.704E-02	4.733E-03	1.533E-03	1.704E-02	4.733E-03	1.533E-03	2.934E-02	8.150E-03	2.642E-03	2.934E-02	8.150E-03	2.642E-03
Road 37	37	2000-2100	1.702E-02	4.728E-03	1.531E-03	1.702E-02	4.728E-03	1.531E-03	2.930E-02	8.139E-03	2.638E-03	2.930E-02	8.139E-03	2.638E-03
Road 37	37	2100-2200	1.700E-02	4.722E-03	1.529E-03	1.700E-02	4.722E-03	1.529E-03	2.926E-02	8.128E-03	2.635E-03	2.926E-02	8.128E-03	2.635E-03
Road 37	37	2200-2300	1.698E-02	4.717E-03	1.527E-03	1.698E-02	4.717E-03	1.527E-03	2.922E-02	8.117E-03	2.632E-03	2.922E-02	8.117E-03	2.632E-03
Road 37	37	2300-0000	1.696E-02	4.711E-03	1.525E-03	1.696E-02	4.711E-03	1.525E-03	2.918E-02	8.106E-03	2.629E-03	2.918E-02	8.106E-03	2.629E-03
Road 38	38	0000-0100	1.694E-02	4.706E-03	1.523E-03	1.694E-02	4.706E-03	1.523E-03	2.914E-02	8.095E-03	2.626E-03	2.914E-02	8.095E-03	2.626E-03
Road 38	38	0100-0200	3.844E-02	1.068E-02	3.460E-03	3.844E-02	1.068E-02	3.460E-03	1.806E-01	5.017E-02	1.626E-02	1.806E-01	5.017E-02	1.626E-02
Road 38	38	0200-0300	3.844E-02	1.068E-02	3.460E-03	3.844E-02	1.068E-02	3.460E-03	1.806E-01	5.017E-02	1.626E-02	1.806E-01	5.017E-02	1.626E-02
Road 38	38	0300-0400	4.344E-02	2.055E-03	1.688E-03	4.175E-02	1.986E-03	1.626E-03	1.945E-01	9.159E-03	7.535E-03	1.866E-01	8.798E-03	7.239E-03
Road 38	38	0400-0500	4.657E-02	2.464E-03	2.019E-03	4.479E-02	2.370E-03	1.944E-03	2.086E-01	1.098E-02	9.012E-03	2.001E-01	1.054E-02	8.654E-03
Road 38	38	0500-0600	4.344E-02	2.055E-03	1.688E-03	4.175E-02	1.986E-03	1.626E-03	1.945E-01	9.159E-03	7.535E-03	1.866E-01	8.798E-03	7.239E-03
Road 38	38	0600-0700	5.238E-02	1.066E-02	8.666E-03	5.088E-02	1.035E-02	8.416E-03	2.204E-01	4.466E-02	3.655E-02	2.131E-01	4.320E-02	3.535E-02
Road 38	38	0700-0800	5.238E-02	1.066E-02	8.666E-03	5.088E-02	1.035E-02	8.416E-03	2.204E-01	4.466E-02	3.655E-02	2.131E-01	4.320E-02	3.535E-02
Road 38	38	0800-0900	5.960E-02	2.896E-03	2.379E-03	5.663E-02	2.751E-03	2.260E-03	2.314E-01	1.124E-02	9.230E-03	2.240E-01	1.088E-02	8.937E-03
Road 38	38	0900-1000	7.683E-02	3.732E-03	3.066E-03	7.299E-02	3.545E-03	2.913E-03	2.314E-01	1.124E-02	9.230E-03	2.240E-01	1.088E-02	8.937E-03
Road 38	38	1000-1100	7.738E-02	3.099E-03	2.535E-03	7.164E-02	2.868E-03	2.344E-03	2.731E-01	1.088E-02	8.888E-03	2.495E-01	9.936E-03	8.131E-03
Road 38	38	1100-1200	7.671E-02	2.287E-03	2.355E-03	7.044E-02	2.165E-03	2.217E-03	2.691E-01	1.051E-02	8.360E-03	2.466E-01	9.288E-03	7.387E-03
Road 38	38	1200-1300	1.107E-01	3.299E-03	3.398E-03	1.071E-01	3.181E-03	3.233E-03	4.356E-01	1.298E-02	1.337E-02	4.216E-01	1.252E-02	1.272E-02
Road 38	38	1300-1400	1.121E-01	2.159E-03	1.795E-03	1.056E-01	2.055E-03	1.688E-03	3.545E-01	6.951E-03	5.668E-03	3.295E-01	6.414E-03	5.252E-03
Road 38	38	1400-1500	1.121E-01	2.159E-03	1.795E-03	1.056E-01	2.055E-03	1.688E-03	3.545E-01	6.951E-03	5.668E-03	3.295E-01	6.414E-03	5.252E-03
Road 38	38	1500-1600	1.138E-01	2.191E-03	1.821E-03	1.066E-01	2.055E-03	1.708E-03	3.588E-01	6.913E-03	5.744E-03	3.366E-01	6.486E-03	5.390E-03
Road 38	38	1600-1700	1.098E-01	1.101E-03	1.759E-03	1.098E-01	1.101E-03	1.759E-03	3.488E-01	6.753E-03	5.518E-03	3.317E-01	6.153E-03	5.046E-03
Road 38	38	1700-1800	1.098E-01	2.196E-03	1.756E-03	1.098E-01	2.196E-03	1.756E-03	3.488E-01	6.753E-03	5.518E-03	3.317E-01	6.153E-03	5.046E-03
Road 38	38	1800-1900	8.264E-02	1.240E-03	1.101E-03	7.888E-02	1.183E-03	1.051E-03	4.296E-01	3.551E-03	4.296E-03	3.310E-01	2.735E-03	3.309E-03
Road 38	38	1900-2000	7.366E-02	6.130E-03	5.052E-03	7.056E-02	5.880E-03	4.851E-03	2.655E-01	2.211E-02	1.851E-02	2.551E-01	2.098E-02	1.751E-02
Road 38	38	2100-2200	7.488E-02	6.944E-03	5.196E-03	7.110E-02	6.602E-03	4.941E-03	2.771E-01	2.308E-02	1.888E-02	2.659E-01	2.215E-02	1.766E-02
Road 38	38	2200-2300	7.488E-02	6.944E-03	5.196E-03	7.110E-02	6.602E-03	4.941E-03	2.771E-01	2.308E-02	1.888E-02	2.659E-01	2.215E-02	1.766E-02
Road 38	38	2300-0000	7.188E-02	4.385E-03	3.588E-03	6.782E-02	4.140E-03	3.390E-03	2.566E-01	1.566E-02	1.280E-02	2.422E-01	1.478E-02	1.209E-02
Road 39	39	0000-0100	9.313E-02	2.144E-03	2.328E-03	8.787E-02	2.023E-03	2.197E-03	3.326E-01	7.657E-03	8.314E-03	3.138E-01	7.225E-03	7.844E-03
Road 39	39	0100-0200	9.366E-02	1.533E-03	2.340E-03	9.056E-02	1.477E-03	2.264E-03	4.956E-01	8.212E-03	1.239E-02	4.791E-01	7.939E-03	1.198E-02
Road 39	39	0200-0300	9.366E-02	1.533E-03	2.340E-03	9.056E-02	1.477E-03	2.264E-03	4.956E-01	8.212E-03	1.239E-02	4.791E-01	7.939E-03	1.198E-02
Road 39	39	0300-0400	9.771E-02	1.040E-03	2.884E-03	9.410E-02	1.000E-03	2.777E-03	5.161E-01	3.141E-03	8.488E-03	4.970E-01	3.025E-03	8.171E-03
Road 39	39	0400-0500	9.955E-02	1.232E-03	2.986E-03	9.596E-02	1.188E-03	2.877E-03	5.260E-01	3.791E-03	8.788E-03	5.068E-01	3.652E-03	8.466E-03
Road 39	39	0500-0600	1.008E-01	2.264E-03	3.024E-03	9.717E-02	2.183E-03	2.914E-03	5.326E-01	6.966E-03	8.896E-03	5.133E-01	6.713E-03	8.572E-03
Road 39	39	0600-0700	1.018E-01	5.272E-03	4.488E-03	1.008E-01	5.122E-03	4.366E-03	3.282E-01	1.677E-02	1.428E-02	3.186E-01	1.622E-02	1.381E-02
Road 39	39	0700-0800	1.018E-01	5.272E-03	4.488E-03	1.008E-01	5.122E-03	4.366E-03	3.282E-01	1.677E-02	1.428E-02	3.186E-01	1.622E-02	1.381E-02
Road 39	39	0800-0900	1.160E-01	1.438E-03	1.226E-03	1.054E-01	1.307E-03	1.115E-03	3.642E-01	3.687E-03	3.144E-03	3.310E-01	3.352E-03	2.858E-03
Road 39	39	0900-1000	1.160E-01	1.438E-03	1.226E-03	1.054E-01	1.307E-03	1.115E-03	3.642E-01	3.687E-03	3.144E-03	3.310E-01	3.352E-03	2.858E-03
Road 39	39	1000-1100	1.159E-01	1.526E-03	1.300E-03	1.054E-01	1.388E-03	1.182E-03	3.639E-01	3.914E-03	3.336E-03	3.309E-01	3.559E-03	3.033E-03
Road 39	39	1100-1200	1.159E-01	1.526E-03	1.300E-03	1.054E-01	1.388E-03	1.182E-03	3.639E-01	3.914E-03	3.336E-03	3.309E-01	3.559E-03	3.033E-03
Road 39	39	1200-1300	1.855E-01	1.811E-03	1.545E-03	1.705E-01	1.665E-03	1.419E-03	5.824E-01	5.685E-03	4.849E-03	5.354E-01	5.227E-03	4.457E-03
Road 39	39	1300-1400	1.855E-01	1.811E-03	1.545E-03	1.705E-01	1.665E-03	1.419E-03	5.824E-01	5.685E-03	4.849E-03	5.354E-01	5.227E-03	4.457E-03
Road 39	39	1400-1500	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	1500-1600	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	1600-1700	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	1700-1800	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	1800-1900	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	1900-2000	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	2000-2100	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	2100-2200	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	2200-2300	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 39	39	2300-0000	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0000-0100	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0100-0200	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0200-0300	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0300-0400	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0400-0500	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0500-0600	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0600-0700	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0700-0800	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0800-0900	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	0900-1000	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1000-1100	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1100-1200	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1200-1300	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1300-1400	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1400-1500	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1500-1600	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1600-1700	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1700-1800	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1800-1900	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	1900-2000	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	2000-2100	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	2100-2200	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	2200-2300	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03
Road 40	40	2300-0000	1.824E-01	1.782E-03	1.520E-03	1.677E-01	1.638E-03	1.397E-03	5.727E-01	5.593E-03	4.770E-03	5.266E-01	5.142E-03	4.385E-03

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	1.548E-02	3.528E-03	1.393E-03	1.548E-02	3.528E-03	1.393E-03	2.668E-02	6.081E-03	2.401E-03	2.668E-02	6.081E-03	2.401E-03
Road 51	51	0100-0200	5.166E-03	2.768E-03	5.155E-04	4.698E-03	2.516E-03	4.688E-04	3.495E-02	1.879E-02	3.486E-03	3.065E-02	1.646E-02	3.066E-03
Road 51	51	0200-0300	5.54E-03	2.17E-03	4.04E-04	5.05E-03	1.98E-03	3.68E-04	3.357E-02	1.315E-02	2.449E-03	3.059E-02	1.198E-02	2.232E-03
Road 51	51	0300-0400	1.86E-03	3.46E-03	1.44E-04	1.68E-03	3.12E-03	1.30E-04	1.12E-02	2.09E-02	8.714E-04	1.01E-02	1.88E-02	7.853E-04
Road 51	51	0400-0500	6.48E-03	2.19E-03	4.08E-04	5.85E-03	1.98E-03	3.68E-04	3.80E-02	1.28E-02	2.39E-03	3.433E-02	1.12E-02	2.10E-03
Road 51	51	0500-0600	6.65E-03	3.95E-03	7.38E-04	5.98E-03	3.56E-03	6.647E-04	3.90E-02	2.32E-02	4.33E-03	3.516E-02	2.09E-02	3.78E-03
Road 51	51	0600-0700	7.29E-03	9.11E-03	1.70E-03	6.78E-03	8.47E-03	1.58E-03	3.97E-02	4.96E-02	9.24E-03	3.61E-02	4.51E-02	8.40E-03
Road 51	51	0700-0800	7.96E-03	2.01E-03	3.74E-04	7.23E-03	1.82E-03	3.40E-04	4.23E-02	1.07E-02	1.99E-03	3.75E-02	9.44E-03	1.76E-03
Road 51	51	0800-0900	7.95E-03	2.31E-03	4.30E-04	7.30E-03	2.12E-03	3.95E-04	4.08E-02	1.18E-02	2.21E-03	3.74E-02	1.08E-02	2.03E-03
Road 51	51	0900-1000	8.89E-03	2.10E-03	3.76E-04	8.04E-03	1.85E-03	3.42E-04	4.64E-02	1.05E-02	1.96E-03	4.20E-02	9.32E-03	1.73E-03
Road 51	51	1000-1100	1.00E-02	1.93E-03	3.59E-04	9.06E-03	1.66E-03	3.26E-04	5.03E-02	9.69E-03	1.81E-03	4.07E-02	7.83E-03	1.46E-03
Road 51	51	1100-1200	1.91E-02	1.59E-03	3.56E-04	1.73E-02	1.44E-03	3.23E-04	9.61E-02	8.00E-03	1.79E-03	7.78E-02	6.48E-03	1.45E-03
Road 51	51	1200-1300	1.94E-02	1.38E-03	3.09E-04	1.76E-02	1.25E-03	2.80E-04	9.76E-02	6.93E-03	1.55E-03	7.91E-02	5.62E-03	1.26E-03
Road 51	51	1300-1400	1.94E-02	1.38E-03	3.09E-04	1.76E-02	1.25E-03	2.80E-04	9.76E-02	6.93E-03	1.55E-03	7.91E-02	5.62E-03	1.26E-03
Road 51	51	1400-1500	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	1500-1600	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	1600-1700	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	1700-1800	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	1800-1900	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	1900-2000	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	2000-2100	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	2100-2200	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	2200-2300	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 51	51	2300-0000	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0000-0100	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0100-0200	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0200-0300	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0300-0400	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0400-0500	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0500-0600	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0600-0700	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0700-0800	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0800-0900	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	0900-1000	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	1000-1100	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	1100-1200	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	1200-1300	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	1300-1400	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	1400-1500	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	1500-1600	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03	7.99E-02	5.62E-03	1.27E-03
Road 52	52	1600-1700	1.96E-02	1.38E-03	3.12E-04	1.78E-02	1.25E-03	2.83E-04	9.86E-02	6.93E-03	1.57E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	1.76E-03	3.98E-06	4.19E-06	4.75E-03	1.01E-05	1.06E-05	1.22E-02	2.58E-05	2.72E-05
Road 1	1	0100-0200	6.26E-03	5.84E-06	3.10E-06	5.25E-03	4.73E-06	2.61E-06	4.33E-02	3.90E-05	2.15E-05
Road 1	1	0200-0300	6.81E-03	4.48E-06	2.47E-06	5.74E-03	3.78E-06	2.08E-06	4.77E-02	3.14E-05	1.73E-05
Road 1	1	0300-0400	7.40E-03	3.94E-06	2.17E-06	6.17E-03	3.29E-06	1.81E-06	5.14E-02	2.73E-05	1.50E-05
Road 1	1	0400-0500	8.01E-03	4.56E-06	2.51E-06	6.64E-03	3.78E-06	2.08E-06	4.83E-02	2.75E-05	1.51E-05
Road 1	1	0500-0600	8.55E-03	4.43E-06	4.64E-06	7.12E-03	3.69E-06	3.87E-06	5.27E-02	2.73E-05	2.86E-05
Road 1	1	0600-0700	9.06E-03	1.91E-06	1.05E-06	7.58E-03	1.61E-06	8.88E-07	5.67E-02	1.19E-05	6.56E-06
Road 1	1	0700-0800	9.71E-03	4.14E-07	2.28E-07	8.21E-03	3.50E-07	1.93E-07	5.25E-02	2.24E-06	1.23E-06
Road 1	1	0800-0900	9.56E-03	4.43E-06	2.44E-06	8.08E-03	3.74E-06	2.06E-06	5.27E-02	2.44E-05	1.34E-05
Road 1	1	0900-1000	1.07E-02	4.31E-07	2.37E-07	9.08E-03	3.66E-07	2.02E-07	5.30E-02	2.15E-06	1.18E-06
Road 1	1	1000-1100	1.14E-02	4.31E-07	2.37E-07	9.64E-03	3.66E-07	2.02E-07	5.41E-02	2.05E-06	1.13E-06
Road 1	1	1100-1200	1.15E-02	5.79E-07	2.09E-07	9.76E-03	5.62E-07	1.87E-07	5.44E-02	2.74E-06	9.89E-07
Road 1	1	1200-1300	1.47E-02	7.22E-07	3.98E-07	1.25E-02	6.15E-07	3.19E-06	5.40E-02	2.66E-06	1.47E-06
Road 1	1	1300-1400	1.47E-02	7.22E-07	3.98E-07	1.25E-02	6.15E-07	3.19E-06	5.40E-02	2.66E-06	1.47E-06
Road 1	1	1400-1500	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 1	1	1500-1600	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 1	1	1600-1700	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 1	1	1700-1800	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 1	1	1800-1900	1.76E-02	5.13E-07	2.83E-06	1.49E-02	4.36E-07	2.40E-06	6.43E-02	1.88E-06	1.03E-05
Road 1	1	1900-2000	6.79E-03	3.57E-07	1.97E-06	5.58E-03	2.94E-07	1.62E-06	1.68E-02	8.85E-07	4.88E-06
Road 1	1	2000-2100	5.53E-03	3.47E-07	1.91E-06	4.54E-03	2.85E-07	1.57E-06	1.37E-02	8.59E-07	4.73E-06
Road 1	1	2100-2200	5.71E-03	2.33E-07	1.28E-06	4.67E-03	1.91E-07	1.05E-06	1.41E-02	5.77E-07	3.18E-06
Road 1	1	2200-2300	6.26E-03	1.22E-07	6.73E-07	5.12E-03	1.00E-07	5.52E-07	1.54E-02	3.02E-07	1.66E-06
Road 1	1	2300-2400	6.19E-03	1.84E-07	1.01E-06	5.06E-03	1.51E-07	8.30E-07	1.53E-02	4.56E-07	2.50E-06
Road 2	2	0000-0100	7.89E-03	1.08E-07	5.47E-06	6.54E-03	8.95E-08	4.74E-06	6.49E-07	2.29E-05	3.75E-02
Road 2	2	0100-0200	7.89E-03	1.08E-07	5.47E-06	6.54E-03	8.95E-08	4.74E-06	6.49E-07	2.29E-05	3.75E-02
Road 2	2	0200-0300	9.32E-03	6.14E-08	3.11E-06	7.90E-03	5.21E-08	2.64E-06	5.09E-02	3.35E-07	1.70E-05
Road 2	2	0300-0400	1.08E-02	6.25E-08	3.17E-06	9.02E-03	5.21E-08	2.64E-06	5.52E-02	3.19E-07	1.62E-05
Road 2	2	0400-0500	1.08E-02	6.25E-08	3.17E-06	9.02E-03	5.21E-08	2.64E-06	5.52E-02	3.19E-07	1.62E-05
Road 2	2	0500-0600	1.13E-02	1.14E-07	5.77E-06	9.48E-03	9.54E-08	4.83E-06	5.65E-02	5.68E-07	2.88E-05
Road 2	2	0600-0700	1.20E-02	2.56E-07	1.87E-06	1.00E-02	2.14E-07	1.56E-06	5.98E-02	1.27E-06	9.29E-06
Road 2	2	0700-0800	1.27E-02	5.59E-07	2.83E-06	1.08E-02	4.75E-07	2.41E-06	6.02E-02	2.66E-06	1.35E-05
Road 2	2	0800-0900	1.27E-02	5.41E-07	2.74E-06	1.07E-02	4.60E-07	2.33E-06	6.02E-02	2.56E-06	1.30E-05
Road 2	2	0900-1000	1.43E-02	6.28E-07	3.18E-06	1.22E-02	5.37E-07	2.72E-06	6.79E-02	2.98E-06	1.51E-05
Road 2	2	1000-1100	1.56E-02	5.72E-07	2.90E-06	1.33E-02	4.87E-07	2.47E-06	7.42E-02	2.72E-06	1.38E-05
Road 2	2	1100-1200	1.56E-02	5.72E-07	2.90E-06	1.33E-02	4.87E-07	2.47E-06	7.42E-02	2.72E-06	1.38E-05
Road 2	2	1200-1300	1.73E-02	6.63E-07	3.36E-06	1.47E-02	5.64E-07	2.86E-06	8.11E-02	3.11E-06	1.58E-05
Road 2	2	1300-1400	1.73E-02	8.48E-07	4.29E-06	1.47E-02	7.22E-07	3.65E-06	8.11E-02	3.97E-06	2.01E-05
Road 2	2	1400-1500	1.73E-02	8.48E-07	4.29E-06	1.47E-02	7.22E-07	3.65E-06	6.04E-02	2.96E-06	1.50E-05
Road 2	2	1500-1600	1.73E-02	8.48E-07	4.29E-06	1.47E-02	7.22E-07	3.65E-06	6.04E-02	2.96E-06	1.50E-05
Road 2	2	1600-1700	1.73E-02	8.94E-07	4.53E-06	1.47E-02	7.07E-07	3.71E-06	6.04E-02	3.02E-06	1.53E-05
Road 2	2	1700-1800	1.25E-02	7.29E-07	3.69E-06	1.02E-02	9.91E-07	2.99E-06	6.23E-02	2.84E-06	1.44E-05
Road 2	2	1800-1900	1.97E-02	3.61E-07	1.83E-06	1.67E-02	3.07E-07	1.55E-06	6.87E-02	1.26E-06	6.37E-06
Road 2	2	1900-2000	7.81E-03	3.77E-07	1.91E-06	6.42E-03	3.10E-07	1.57E-06	1.93E-02	9.32E-07	4.72E-06
Road 2	2	2000-2100	6.36E-03	3.66E-07	1.85E-06	5.22E-03	3.01E-07	1.52E-06	1.57E-02	9.04E-07	4.58E-06
Road 2	2	2100-2200	6.56E-03	2.46E-07	1.24E-06	5.39E-03	2.02E-07	1.02E-06	1.62E-02	6.08E-07	3.08E-06
Road 2	2	2200-2300	7.20E-03	1.29E-07	6.53E-07	5.91E-03	1.06E-07	5.35E-07	1.78E-02	3.19E-07	1.61E-06
Road 2	2	2300-2400	7.12E-03	1.94E-07	9.81E-07	5.84E-03	1.59E-07	8.05E-07	1.76E-02	4.81E-07	2.43E-06
Road 3	3	0000-0100	6.47E-03	3.10E-08	1.90E-07	5.29E-03	2.53E-08	1.56E-07	4.48E-02	2.15E-07	1.32E-06
Road 3	3	0100-0200	6.47E-03	3.10E-08	1.90E-07	5.29E-03	2.53E-08	1.56E-07	4.48E-02	2.15E-07	1.32E-06
Road 3	3	0200-0300	7.55E-03	1.72E-08	1.06E-07	6.34E-03	1.45E-08	8.87E-08	4.75E-02	1.08E-07	6.64E-07
Road 3	3	0300-0400	8.80E-03	1.74E-08	1.07E-07	7.29E-03	1.44E-08	8.84E-08	5.13E-02	1.02E-07	6.25E-07
Road 3	3	0400-0500	8.80E-03	1.74E-08	1.07E-07	7.29E-03	1.44E-08	8.84E-08	5.13E-02	1.02E-07	6.25E-07
Road 3	3	0500-0600	9.36E-03	3.21E-08	1.97E-07	7.78E-03	2.67E-08	1.64E-07	5.27E-02	1.81E-07	1.11E-06
Road 3	3	0600-0700	9.77E-03	7.26E-08	1.64E-07	8.13E-03	6.04E-08	1.37E-07	5.27E-02	3.91E-07	8.85E-07
Road 3	3	0700-0800	1.07E-02	1.58E-07	9.71E-07	8.90E-03	1.32E-07	8.11E-07	5.69E-02	8.41E-07	5.18E-06
Road 3	3	0800-0900	1.05E-02	1.56E-07	9.58E-07	8.73E-03	1.29E-07	7.93E-07	5.68E-02	8.41E-07	5.16E-06
Road 3	3	0900-1000	1.18E-02	1.68E-07	1.03E-06	9.82E-03	1.39E-07	8.55E-07	6.31E-02	8.97E-07	5.50E-06
Road 3	3	1000-1100	1.35E-02	1.66E-07	1.02E-06	1.14E-02	1.40E-07	8.60E-07	7.32E-02	9.00E-07	5.52E-06
Road 3	3	1100-1200	1.35E-02	1.66E-07	1.02E-06	1.14E-02	1.40E-07	8.60E-07	7.32E-02	9.00E-07	5.52E-06
Road 3	3	1200-1300	1.79E-02	2.05E-07	2.82E-07	1.48E-02	1.23E-07	7.75E-07	1.06E-01	2.17E-06	6.67E-06
Road 3	3	1300-1400	1.47E-02	7.51E-07	2.30E-06	1.24E-02	6.35E-07	1.95E-06	1.06E-01	5.41E-06	1.66E-05
Road 3	3	1400-1500	1.47E-02	7.77E-07	2.67E-06	1.64E-02	5.27E-07	2.81E-07	1.11E-01	4.19E-06	2.56E-05
Road 3	3	1500-1600	1.47E-02	7.77E-07	2.67E-06	1.64E-02	5.27E-07	2.81E-07	1.11E-01	4.19E-06	2.56E-05
Road 3	3	1600-1700	1.47E-02	7.77E-07	2.67E-06	1.64E-02	5.27E-07	2.81E-07	1.11E-01	4.19E-06	2.56E-05
Road 3	3	1700-1800	1.87E-02	7.30E-07	2.24E-06	6.00E-02	1.84E-05	6.32E-06	1.06E-01	4.14E-06	2.56E-05
Road 3	3	1800-1900	1.90E-02	1.68E-07	1.37E-06	1.67E-02	1.47E-07	1.20E-06	1.06E-01	9.34E-07	7.62E-06
Road 3	3	1900-2000	1.90E-02	1.68E-07	1.37E-06	1.67E-02	1.47E-07	1.20E-06	1.06E-01	9.34E-07	7.62E-06
Road 3	3	2000-2100	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 3	3	2100-2200	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 3	3	2200-2300	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 3	3	2300-2400	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 4	4	0000-0100	1.76E-03	1.98E-06	4.19E-06	4.75E-03	5.34E-06	1.06E-05	1.22E-02	1.37E-05	2.72E-05
Road 4	4	0100-0200	6.26E-03	5.84E-06	3.10E-06	5.25E-03	4.73E-06	2.61E-06	4.33E-02	3.90E-05	2.15E-05
Road 4	4	0200-0300	6.81E-03	4.48E-06	2.47E-06	5.74E-03	3.78E-06	2.08E-06	4.77E-02	3.14E-05	1.73E-05
Road 4	4	0300-0400	7.40E-03	3.94E-06	2.17E-06	6.17E-03	3.29E-06	1.81E-06	5.14E-02	2.73E-05	1.50E-05
Road 4	4	0400-0500	8.01E-03	4.56E-06	2.51E-06	6.64E-03	3.78E-06	2.08E-06	4.83E-02	2.75E-05	1.51E-05
Road 4	4	0500-0600	8.55E-03	4.43E-06	4.64E-06	7.12E-03	3.69E-06	3.87E-06	5.27E-02	2.73E-05	2.86E-05
Road 4	4	0600-0700	9.06E-03	1.91E-06	1.05E-06	7.58E-03	1.61E-06	8.88E-07	5.67E-02	1.19E-05	6.56E-06
Road 4	4	0700-0800	9.71E-03	4.14E-07	2.28E-07	8.21E-03	3.50E-07	1.93E-07	5.25E-02	2.24E-06	1.23E-06
Road 4	4	0800-0900	9.56E-03	4.43E-06	2.44E-06	8.08E-03	3.74E-06	2.06E-06	5.27E-02	2.44E-05	1.34E-05
Road 4	4	0900-1000	1.07E-02	4.31E-07	2.37E-07	9.08E-03	3.66E-07	2.02E-07	5.30E-02	2.15E-06	1.18E-06
Road 4	4	1000-1100	1.14E-02	4.31E-07	2.37E-07	9.64E-03	3.66E-07	2.02E-07	5.41E-02	2.05E-06	1.13E-06
Road 4	4	1100-1200	1.15E-02	5.79E-07	2.09E-07	9.76E-03	5.62E-07	1.87E-07	5.44E-02	2.74E-06	9.89E-07
Road 4	4	1200-1300	1.47E-02	7.22E-07	3.98E-07	1.25E-02	6.15E-07	3.19E-06	5.40E-02	2.66E-06	1.47E-06
Road 4	4	1300-1400	1.47E-02	7.22E-07	3.98E-07	1.25E-02	6.15E-07	3.19E-06	5.40E-02	2.66E-06	1.47E-06
Road 4	4	1400-1500	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 4	4	1500-1600	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 4	4	1600-1700	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 4	4	1700-1800	1.76E-02	5.13E-07	2.83E-06	1.49E-02	4.36E-07	2.40E-06	6.43E-02	1.88E-06	1.03E-05
Road 4	4	1800-1900	6.79E-03	3.57E-07	1.97E-06	5.58E-03	2.94E-07	1.62E-06	1.68E-02	8.85E-07	4.88E-06
Road 4	4	1900-2000	5.53E-03	3.47E-07	1.91E-06	4.54E-03	2.85E-07	1.57E-06	1.37E-02	8.59E-07	4.73E-06
Road 4	4	2000-2100	5.71E-03	2.33E-07	1.28E-06	4.67E-03	1.91E-07	1.05E-06	1.41E-02	5.77E-07	3.18E-06
Road 4	4	2100-2200	6.26E-03	1.22E-07	6.73E-07	5.12E-03	1.00E-07	5.52E-07	1.54E-02	3.02E-07	1.66E-06
Road 4	4	2200-2300	6.19E-03	1.84E-07	1.01E-06	5.06E-03	1.51E-07	8.30E-07	1.53E-02	4.56E-07	2.50E-06
Road 4	4	2300-2400	6.19E-03	1.84E-07	1.01E-06	5.06E-03	1.51E-07	8.30E-07	1.53E-02	4.56E-07	2.50E-06
Road 5	5	0000-0100	8.23E-03	5.83E-08	4.87E-07	6.74E-03	4.77E-08	3.98E-07	5.65E-02	4.00E-07	3.34E-06
Road 5	5	0100-0200	8.23E-03	5.83E-08	4.87E-07	6.74E-03	4.77E-08	3.98E-07	5.65E-02	4.00E-07	3.34E-06
Road 5	5	0200-0300	9.25E-03	3.09E-08	2.59E-07	7.75E-03	2.59E-08	2.17E-07	5.79E-02	1.94E-07	1.62E-06
Road 5	5	0300-0400	1.01E-02	2.96E-08	2.48E-07	8.49E-03	2.48E-08	2.08E-07	6.22E-02	1.82E-07	1.52E-06
Road 5	5	0400-0500	1.01E-02	2.96E-08	2.48E-07	8.49E-03	2.48E-08	2.08E-07	6.22E-02	1.82E-07	1.52E-06
Road 5	5	0500-0600	1.06E-02	2.22E-07	8.37E-07	8.93E-03	1.86E-07	7.03E-07	6.55E-02	1.37E-06	5.16E-06
Road 5	5	0600-0700	1.13E-02	2.96E-07	2.16E-06	9.51E-03	2.49E-07	1.81E-06	6.59E-02	1.72E-06	1.25E-05
Road 5	5	0700-0800	1.19E-02	6.47E-07	3.27E-06	1.00E-02	5.44E-07	2.75E-06	6.63E-02	3.61E-06	1.82E-05
Road 5	5	0800-0900	1.19E-02	6.26E-07	3.16E-06	1.00E-02	5.26E-07	2.66E-06	6.63E-02	3.49E-06	1.76E-05
Road 5	5	0900-1000	1.34E-02	7.26E-07	3.68E-06	1.13E-02	6.10E-07	3.09E-06	7.48E-02	4.05E-06	2.05E-05
Road 5	5	1000-1100	1.46E-02	6.62E-07	3.36E-06	1.23E-02	5.56E-07	2.82E-06	8.13E-02	3.69E-06	1.87E-05
Road 5	5	1100-1200	1.46E-02	6.62E-07	3.36E-06	1.23E-02	5.56E-07	2.82E-06	8.13E-02	3.69E-06	1.87E-05
Road 5	5	1200-1300	1.79E-02	2.05E-07	2.82E-07	1.48E-02	1.23E-07	7.75E-07	1.06E-01	2.17E-06	6.67E-06
Road 5	5	1300-1400	1.47E-02	7.51E-07	2.30E-06	1.24E-02	6.35E-07	1.95E-06	1.06E-01	5.41E-06	1.66E-05
Road 5	5	1400-1500	1.47E-02	7.77E-07	2.67E-06	1.64E-02	5.27E-07	2.81E-07	1.11E-01	4.19E-06	2.56E-05
Road 5	5	1500-1600	1.47E-02	7.77E-07	2.67E-06	1.64E-02	5.27E-07	2.81E-07	1.11E-01	4.19E-06	2.56E-05
Road 5	5	1600-1700	1.47E-02	7.77E-07	2.67E-06	1.64E-02	5.27E-07	2.81E-07	1.11E-01	4.19E-06	2.56E-05
Road 5	5	1700-1800	1.87E-02	7.30E-07	2.24E-06	6.00E-02	1.84E-05	6.32E-06	1.06E-01	4.14E-06	2.56E-05
Road 5	5	1800-1900	1.90E-02	1.68E-07	1.37E-06	1.67E-02	1.47E-07	1.20E-06	1.06E-01	9.34E-07	7.62E-06
Road 5	5	1900-2000	1.90E-02	1.68E-07	1.37E-06	1.67E-02	1.47E-07	1.20E-06	1.06E-01	9.34E-07	7.62E-06
Road 5	5	2000-2100	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 5	5	2100-2200	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 5	5	2200-2300	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 5	5	2300-2400	1.44E-02	1.68E-07	1.37E-06	1.26E-02	1.47E-07	1.20E-06	8.02E-02	9.34E-07	7.62E-06
Road 6	6	0000-0100	1.76E-03	1.98E-06	4.19E-06	4.75E-03	5.34E-06	1.06E-05	1.22E-02	1.37E-05	2.72E-05
Road 6	6	0100-0200	6.26E-03	5.84E-06	3.10E-06	5.25E-03	4.73E-06	2.61E-06	4.33E-02	3.90E-05	2.15E-05
Road 6	6	0200-0300	6.81E-03	4.48E-06	2.47E-06	5.74E-03	3.78E-06	2.08E-06	4.77E-02	3.14E-05	1.73E-05
Road 6	6	0300-0400	7.40E-03	3.94E-06	2.17E-06	6.17E-03	3.29E-06	1.81E-06	5.14E-02	2.73E-05	1.50E-05
Road 6	6	0400-0500	8.01E-03	4.56E-06	2.51E-06	6.64E-03	3.78E-06	2.08E-06	4.83E-02	2.75E-05	1.51E-05
Road 6	6	0500-0600	8.55E-03	4.43E-06	4.64E-06	7.12E-03	3.69E-06	3.87E-06	5.27E-02	2.73E-05	2.86E-05
Road 6	6	0600-0700	9.06E-03	1.91E-06	1.05E-06	7.58E-03	1.61E-06	8.88E-07	5.67E-02	1.19E-05	6.56E-06
Road 6	6	0700-0800	9.71E-03	4.14E-07	2.28E-07	8.21E-03	3.50E-07	1.93E-07	5.25E-02	2.24E-06	1.23E-06
Road 6	6	0800-0900	9.56E-03	4.43E-06	2.44E-06	8.08E-03	3.74E-06	2.06E-06	5.27E-02	2.44E-05	1.34E-05
Road 6	6	0900-1000	1.07E-02	4.31E-07	2.37E-07	9.08E-03	3.66E-07	2.02E-07	5.30E-02	2.15E-06	1.18E-06
Road 6	6	1000-1100	1.14E-02	4.31E-07	2.37E-07	9.64E-03	3.66E-07	2.02E-07	5.41E-02	2.05E-06	1.13E-06
Road 6	6	1100-1200	1.15E-02	5.79E-07	2.09E-07	9.76E-03	5.62E-07	1.87E-07	5.44E-02	2.74E-06	9.89E-07
Road 6	6	1200-1300	1.47E-02	7.22E-07	3.98E-07	1.25E-02	6.15E-07	3.19E-06	5.40E-02	2.66E-06	1.47E-06
Road 6	6	1300-1400	1.47E-02	7.22E-07	3.98E-07	1.25E-02	6.15E-07	3.19E-06	5.40E-02	2.66E-06	1.47E-06
Road 6	6	1400-1500	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 6	6	1500-1600	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 6	6	1600-1700	1.47E-02	7.90E-07	4.35E-07	1.25E-02	6.72E-07	3.48E-06	5.40E-02	2.90E-06	1.50E-06
Road 6	6	1700-1800	1.76E-02	5.13E-07	2.83E-06	1.49E-02	4.36E-07	2.40E-06	6.43E-02	1.88E-06	1.03E-05
Road 6	6	1800-1900	6.79E-03	3.57E-07	1.97E-06	5.58E-03	2.94E-07	1.62E-06	1.68E-02	8.85E-07	4.88E-06
Road 6	6	1900-2000	5.53E-03	3.47E-07	1.91E-06	4.54E-03	2.85E-07	1.57E-06	1.37E-02	8.59E-07	4.73E-06
Road 6	6	2000-2100	5.71E-03	2.33E-07	1.28E-06	4.67E-03	1.91E-07	1.05E-06	1.41E-02	5.77E-07	3.18E-06
Road 6	6	2100-2200	6.26E-03	1.22E-07	6.73E-07	5.12E-03	1.00E-07	5.52E-07	1.54E-02	3.02E-07	1.66E-06
Road 6	6	2200-2300	6.19E-03	1.84E-07	1.01E-06	5.06E-03	1.51E-07	8.30E-07	1.53E-02	4.56E-07	2.50E-06
Road 6	6	2300-2400	6.19E-03	1.84E-07	1.01E-06	5.06E-03	1.51E-07	8.30E-07	1.53E-02	4.56E-07	2.50E-06
Road 7	7	0000-0100	1.76E-03	1.98E-06	4.19E-06	4.75E-03	5.34E-06	1.06E-05	1.22E-02	1.37E-05	2.72E-05
Road 7	7	0100-0200	6.26E-03	5.84E-06	3.10E-06	5.25E-03	4.73E-06	2.61E-06	4.33E-02	3.90E-05	2.15E-05
Road 7	7	0200-0300	6.81E-03	4.48E-06	2.47E-06	5.74E-03	3.78E-06	2.08E-06	4.77E-02	3.14E-05	1.73E-05
Road 7	7	0300-0400	7.40E-03	3.94E-06	2.17E-06	6.17E-03	3.29E-06	1.81E-06	5.14E-02	2.73E-05	1.50E-05
Road 7	7	0400-0500	8.01E-03	4.56E-06	2.51E-06	6.64E-03	3.78E-06	2.08E-06	4.83E-02	2.75E-05	1.51E-05
Road 7	7	0500-0600	8.55E-03	4.43E-06	4.64E-06	7.12E-03	3.69E-06	3.87E-06	5.27E-02	2.73E-05	2.86E-05
Road 7	7	0600-0700	9.06E-03	1.91E-06	1.05E-06	7.58E-03	1.61E-06	8.88E-07	5.67E-02	1.19E-05	6.56E-06
Road 7	7	0700-0800	9.71E-03	4.14E-07	2.28E-07	8.21E-03	3.50E-07	1.93E-07	5.25E-02	2.24E-06	1.23E-06
Road 7	7	0800-0900	9.56E-03	4.43E-06	2.44E-06	8.08E-03	3.74E-06	2.06E-06	5.27E-02	2.44E-05	1.34E-05
Road 7	7	0900-1000	1.07E-02	4.31E-07	2.37E-07	9.08E-03	3.66E-07	2.02E-07	5.30E-02	2.15E-06	1.18E-06
Road 7	7	1000-1100	1.14E-02	4.31E-07	2.37E-07	9.64E-03	3.66E-07	2.02E-07	5.41E-02	2.05E-06	1.13E-06
Road 7	7	1100-1200	1.15E-02	5.79E-07	2.09E-07	9.76E-03	5.62E-07	1.87E-07	5.44E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2038**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.72E-01	4.61E-01	1.36E-06	1.45E-01	3.65E-02	1.12E-06	5.13E-01	1.43E-01	5.08E-01	3.30E-01	9.17E-02	3.99E-06
Road 27	27	1700-1800	1.52E-01	3.49E-07	1.07E-06	1.25E-01	2.88E-07	8.85E-07	6.04E-01	1.39E-06	4.28E-06	4.98E-01	1.15E-06	3.52E-06
Road 27	27	1800-1900	1.33E-01	2.10E-07	6.48E-07	1.11E-01	1.75E-07	5.39E-07	5.49E-01	8.68E-07	2.67E-06	4.57E-01	7.21E-07	2.22E-06
Road 27	27	1900-2000	1.27E-01	1.91E-07	5.23E-07	1.06E-01	3.25E-07	4.95E-01	5.05E-07	1.55E-06	4.07E-01	4.35E-06	2.29E-06	4.94E-07
Road 27	27	2000-2100	1.19E-01	9.79E-08	3.01E-07	9.92E-02	8.15E-08	2.51E-07	4.88E-01	4.01E-07	1.23E-06	4.06E-01	3.33E-07	1.03E-06
Road 27	27	2100-2200	1.12E-01	1.03E-07	3.17E-07	9.32E-02	8.60E-08	2.65E-07	4.92E-01	4.54E-07	1.39E-06	4.11E-01	3.79E-07	1.16E-06
Road 27	27	2200-2300	1.27E-01	9.37E-08	2.88E-07	1.07E-01	7.88E-08	2.42E-07	4.62E-01	3.39E-07	1.04E-06	3.86E-01	2.83E-07	8.72E-07
Road 27	27	2300-2400	1.30E-01	7.83E-08	2.41E-07	1.07E-01	6.49E-08	2.00E-07	4.69E-01	2.83E-07	8.72E-07	3.89E-01	2.35E-07	7.22E-07
Road 28	28	0000-0100	1.37E-01	3.97E-07	1.22E-06	1.15E-01	3.33E-07	1.02E-06	5.16E-01	1.49E-06	4.58E-06	4.33E-01	1.25E-06	3.85E-06
Road 28	28	0100-0200	1.07E-01	7.47E-08	2.44E-06	9.10E-03	6.34E-08	2.07E-06	4.02E-01	2.80E-06	9.17E-06	3.41E-02	2.38E-07	7.75E-06
Road 28	28	0200-0300	1.04E-01	7.13E-08	2.33E-06	8.84E-03	6.05E-08	1.98E-06	3.91E-01	2.67E-06	8.75E-06	3.32E-02	2.27E-07	7.40E-06
Road 28	28	0300-0400	1.23E-02	5.03E-08	2.86E-06	1.03E-02	4.22E-08	2.40E-06	3.83E-02	2.39E-07	1.36E-05	4.73E-02	1.94E-07	1.10E-05
Road 28	28	0400-0500	1.23E-02	5.92E-08	3.36E-06	1.03E-02	4.96E-08	2.82E-06	3.83E-02	2.81E-07	1.60E-05	4.73E-02	2.22E-07	1.26E-05
Road 28	28	0500-0600	1.37E-02	1.09E-06	9.15E-06	1.15E-02	9.20E-07	7.68E-06	4.26E-02	3.40E-06	2.84E-05	5.26E-02	4.19E-06	3.50E-05
Road 28	28	0600-0700	1.44E-02	2.48E-07	1.41E-05	1.21E-02	2.09E-07	1.19E-05	4.48E-02	7.72E-07	4.39E-05	5.53E-02	9.52E-07	5.41E-05
Road 28	28	0700-0800	1.44E-02	2.48E-07	1.41E-05	1.21E-02	2.09E-07	1.19E-05	4.48E-02	7.72E-07	4.39E-05	5.53E-02	9.52E-07	5.41E-05
Road 28	28	0800-0900	1.44E-02	6.04E-07	3.43E-05	1.21E-02	5.09E-07	2.89E-05	4.48E-02	1.88E-06	1.07E-04	5.53E-02	2.32E-06	1.32E-04
Road 28	28	0900-1000	1.94E-02	6.28E-07	3.57E-05	1.65E-02	5.35E-07	3.04E-05	5.67E-02	1.84E-06	1.04E-04	6.99E-02	2.26E-06	1.28E-04
Road 28	28	1000-1100	1.87E-02	5.72E-07	3.25E-05	1.60E-02	4.89E-07	2.77E-05	7.56E-02	2.31E-06	1.31E-04	6.39E-02	1.95E-06	1.11E-04
Road 28	28	1200-1300	1.87E-02	1.36E-07	7.21E-06	1.60E-02	1.16E-07	6.17E-06	4.47E-02	3.25E-07	1.72E-05	5.88E-02	4.27E-07	2.26E-05
Road 28	28	1300-1400	1.70E-02	4.11E-07	2.33E-05	1.45E-02	3.50E-07	1.99E-05	7.10E-02	1.72E-06	9.71E-05	5.98E-02	1.44E-06	8.11E-05
Road 28	28	1400-1500	1.62E-02	4.22E-07	2.39E-05	1.38E-02	3.59E-07	2.03E-05	7.11E-02	1.84E-06	1.04E-04	5.98E-02	1.55E-06	8.76E-05
Road 28	28	1600-1700	1.69E-02	4.62E-07	2.62E-05	1.39E-02	3.81E-07	2.16E-05	6.87E-02	1.88E-06	1.07E-04	5.55E-02	1.52E-06	8.62E-05
Road 28	28	1700-1800	1.78E-02	3.78E-07	2.14E-05	1.47E-02	3.12E-07	1.77E-05	6.49E-02	1.38E-06	7.82E-05	5.24E-02	1.11E-06	6.29E-05
Road 28	28	1800-1900	9.07E-03	2.91E-07	1.65E-05	7.49E-03	2.40E-07	1.36E-05	4.52E-02	1.45E-06	8.21E-05	3.99E-02	1.28E-06	7.23E-05
Road 28	28	1900-2000	9.15E-03	2.19E-07	1.24E-05	7.56E-03	1.81E-07	1.02E-05	4.56E-02	1.09E-06	6.18E-05	4.02E-02	9.62E-07	5.44E-05
Road 28	28	2000-2100	7.94E-03	1.57E-07	8.89E-06	6.53E-03	1.29E-07	7.31E-06	4.81E-02	9.49E-07	5.38E-05	3.76E-02	7.47E-07	4.24E-05
Road 28	28	2100-2200	7.24E-03	1.42E-07	8.07E-06	5.98E-03	1.17E-07	6.64E-06	4.70E-02	9.22E-07	5.23E-05	3.70E-02	7.27E-07	4.13E-05
Road 28	28	2200-2300	7.24E-03	1.42E-07	8.07E-06	5.98E-03	1.17E-07	6.64E-06	4.70E-02	9.22E-07	5.23E-05	3.70E-02	7.27E-07	4.13E-05
Road 28	28	2300-2400	7.82E-03	1.12E-07	6.34E-06	6.41E-03	9.15E-08	5.19E-06	4.78E-02	6.82E-07	3.87E-05	3.74E-02	5.33E-07	3.03E-05
Road 29	29	0000-0100	1.01E-01	2.93E-07	9.00E-07	8.26E-02	2.40E-07	7.36E-07	4.47E-01	1.30E-06	3.99E-06	3.66E-01	1.06E-06	3.26E-06
Road 29	29	0100-0200	7.93E-03	4.71E-08	3.25E-06	7.98E-03	4.65E-08	2.76E-06	3.97E-02	2.35E-07	1.62E-05	3.99E-02	2.33E-07	1.61E-05
Road 29	29	0200-0300	7.94E-03	4.71E-08	3.25E-06	7.98E-03	4.65E-08	2.76E-06	3.97E-02	2.35E-07	1.62E-05	3.99E-02	2.33E-07	1.61E-05
Road 29	29	0300-0400	1.43E-02	6.43E-08	4.43E-06	1.44E-02	6.49E-08	4.47E-06	7.14E-02	3.21E-07	2.21E-05	7.19E-02	3.24E-07	2.23E-05
Road 29	29	0400-0500	1.05E-02	3.97E-08	2.74E-06	8.73E-03	3.32E-08	2.29E-06	5.26E-02	2.00E-07	1.38E-05	4.37E-02	1.66E-07	1.15E-05
Road 29	29	0500-0600	1.50E-02	1.50E-06	1.04E-05	1.24E-02	1.24E-06	8.62E-06	7.49E-02	7.49E-06	5.19E-05	6.21E-02	6.21E-06	4.31E-05
Road 29	29	0600-0700	9.87E-03	1.35E-07	9.34E-06	8.20E-03	1.14E-07	7.85E-06	5.24E-02	7.19E-07	4.96E-05	4.22E-02	5.79E-07	4.00E-05
Road 29	29	0700-0800	1.25E-02	2.56E-07	1.78E-05	1.04E-02	2.13E-07	1.48E-05	6.66E-02	1.36E-06	9.47E-05	5.36E-02	1.10E-06	7.63E-05
Road 29	29	0800-0900	1.05E-02	3.38E-07	2.33E-05	8.67E-03	2.79E-07	1.92E-05	5.59E-02	1.80E-06	1.24E-04	4.44E-02	1.43E-06	9.85E-05
Road 29	29	0900-1000	1.20E-02	3.16E-07	2.18E-05	1.01E-02	2.68E-07	1.85E-05	5.55E-02	1.47E-06	1.01E-04	4.59E-02	1.21E-06	8.37E-05
Road 29	29	1000-1100	1.20E-02	2.56E-07	1.77E-05	1.01E-02	2.16E-07	1.49E-05	5.55E-02	1.18E-06	8.16E-05	4.59E-02	9.79E-07	6.76E-05
Road 29	29	1100-1200	1.30E-02	2.83E-07	1.95E-05	1.11E-02	2.41E-07	1.66E-05	5.95E-02	1.29E-06	8.90E-05	4.98E-02	1.08E-06	7.45E-05
Road 29	29	1200-1300	1.30E-02	2.83E-07	1.95E-05	1.11E-02	2.41E-07	1.66E-05	5.95E-02	1.29E-06	8.90E-05	4.98E-02	1.08E-06	7.45E-05
Road 29	29	1300-1400	1.18E-02	4.49E-07	3.10E-05	1.01E-02	3.85E-07	2.65E-05	8.22E-02	3.12E-06	2.15E-04	7.03E-02	2.67E-06	1.84E-04
Road 29	29	1400-1500	1.49E-02	4.68E-07	3.23E-05	1.28E-02	4.01E-07	2.77E-05	8.22E-02	2.58E-06	1.78E-04	7.03E-02	2.21E-06	1.52E-04
Road 29	29	1500-1600	1.49E-02	4.68E-07	3.23E-05	1.28E-02	4.01E-07	2.77E-05	8.22E-02	2.58E-06	1.78E-04	7.03E-02	2.21E-06	1.52E-04
Road 29	29	1600-1700	1.26E-02	4.62E-07	3.19E-05	1.08E-02	3.96E-07	2.73E-05	8.22E-02	3.01E-06	2.08E-04	7.03E-02	2.57E-06	1.78E-04
Road 29	29	1700-1800	1.26E-02	3.78E-07	2.61E-05	1.08E-02	3.24E-07	2.24E-05	8.22E-02	2.46E-06	1.70E-04	7.03E-02	2.11E-06	1.45E-04
Road 29	29	1800-1900	1.26E-02	2.10E-07	1.45E-05	1.08E-02	1.80E-07	1.24E-05	8.22E-02	1.37E-06	9.44E-05	7.03E-02	1.17E-06	8.08E-05
Road 29	29	1900-2000	1.26E-02	1.91E-07	1.32E-05	1.08E-02	1.64E-07	1.13E-05	8.22E-02	1.25E-06	8.60E-05	7.03E-02	1.07E-06	7.36E-05
Road 29	29	2000-2100	1.12E-02	1.70E-07	1.17E-05	9.60E-03	1.46E-07	1.00E-05	8.22E-02	1.25E-06	8.60E-05	7.03E-02	1.07E-06	7.36E-05
Road 29	29	2100-2200	1.12E-02	1.70E-07	1.17E-05	9.60E-03	1.46E-07	1.00E-05	8.22E-02	1.25E-06	8.60E-05	7.03E-02	1.07E-06	7.36E-05
Road 29	29	2200-2300	1.12E-02	1.70E-07	1.17E-05	9.60E-03	1.46E-07	1.00E-05	8.22E-02	1.25E-06	8.60E-05	7.03E-02	1.07E-06	7.36E-05
Road 29	29	2300-2400	1.12E-02	1.70E-07	1.17E-05	9.60E-03	1.46E-07	1.00E-05	8.22E-02	1.25E-06	8.60E-05	7.03E-02	1.07E-06	7.36E-05
Road 30	30	0000-0100	1.43E-01	3.99E-08	2.43E-07	2.13E-01	2.08E-07	6.31E-07	5.16E-01	1.43E-06	4.83E-06	5.08E-01	1.30E-06	3.99E-06
Road 30	30	0100-0200	1.84E-02	2.27E-08	2.13E-07	1.56E-02	1.94E-08	1.82E-07	1.05E-01	1.29E-07	1.20E-06	1.01E-01	1.25E-07	1.17E-06
Road 30	30	0200-0300	2.21E-02	2.13E-08	2.00E-07	1.87E-02	1.80E-08	1.69E-07	1.05E-01	1.01E-07	9.48E-07	1.01E-01	9.74E-08	9.14E-07
Road 30	30	0300-0400	2.55E-02	2.06E-08	1.93E-07	2.16E-02	1.74E-08	1.63E-07	1.05E-01	8.47E-08	7.95E-07	1.01E-01	8.15E-08	7.65E-07
Road 30	30	0400-0500	2.55E-02	2.06E-08	1.93E-07	2.16E-02	1.74E-08	1.63E-07	1.05E-01	8.47E-08	7.95E-07	1.01E-01	8.15E-08	7.65E-07
Road 30	30	0500-0600	2.55E-02	2.06E-08	1.93E-07	2.16E-02	1.74E-08	1.63E-07	1.05E-01	8.47E-08	7.95E-07	1.01E-01	8.15E-08	7.65E-07
Road 30	30	0600-0700	1.44E-02	2.48E-07	1.41E-05	1.21E-02	2.09E-07	1.19E-05	4.48E-02	7.72E-07	4.39E-05	5.53E-02	9.52E-07	5.41E-05
Road 30	30	0700-0800	1.44E-02	2.48E-07	1.41E-05	1.21E-02	2.09E-07	1.19E-05	4.48E-02	7.72E-07	4.39E-05	5.53E-02	9.52E-07	5.41E-05
Road 30	30	0800-0900	1.44E-02	6.04E-07	3.43E-05	1.21E-02	5.09E-07	2.89E-05	4.48E-02	1.88E-06	1.07E-04	5.53E-02	2.32E-06	1.32E-04
Road 30	30	0900-1000	1.83E-02	6.35E-07	3.61E-05	1.56E-02	5.40E-07	3.07E-05	8.42E-02	2.65E-06	1.51E-04	6.51E-02	2.27E-06	1.29E-04
Road 30	30	1000-1100	2.02E-02	5.95E-07	5.82E-06	1.71E-02	5.05E-07	4.95E-06	8.42E-02	2.04E-06	2.00E-05	7.19E-02	2.04E-06	1.99E-05
Road 30	30	1100-1200	1.88E-02	5.95E-07	5.82E-06	1.60E-02	5.05E-07	4.95E-06	8.42E-02	2.04E-06	2.00E-05	7.19E-02	2.04E-06	1.99E-05
Road 30	30	1200-1300	1.88E-02	1.36E-07	7.21E-06	1.60E-02	1.16E-07	6.17E-06	4.47E-02	3.25E-07	1.72E-05	5.88E-02	4.27E-07	2.26E-05
Road 30	30	1300-1400	2.58E-02	8.14E-07	7.97E-06	2.20E-02	6.93E-07	6.79E-06	9.55E-02	3.14E-06	3.07E-05	8.42E-02	2.65E-06	2.60E-05
Road 30	30	1400-1500	2.58E-02	8.39E-07	8.22E-06	2.19E-02	7.13E-07	6.98E-06	9.76E-02	3.17E-06	3.11E-05	8.24E-02	2.68E-06	2.62E-05
Road 30	30	1500-1600	2.51E-02	8.43E-07	8.25E-06	2.08E-02	7.01E-07	6.87E-06	9.62E-02	3.24E-06	3.17E-05	7.92E-02	2.67E-06	2.61E-05
Road 30	30	1600-1700	2.51E-02	8.43E-07	8.25E-06	2.08E-02	7.01E-07	6.87E-06	9.62E-02	3.24E-06	3.17E-05	7.92E-02	2.67E-06	2.61E-05
Road 30	30	1700-1800	1.97E-02	6.77E-07	6.63E-06	1.51E-02	5.19E-07	5.09E-06	9.55E-02	3.01E-06	2.95E-05	7.37E-02	2.33E-06	2.28E-05
Road 30	30	1800-1900	1.49E-02	5.01E-07	4.91E-06	1.23E-02	4.14E-07	4.05E-06	6.58E-02	2.21E-06	2.16E-05	5.32E-02	1.78E-06	1.75E-05
Road 30	30	1900-2000	1.24E-02	3.10E-07	3.04E-06	1.03E-02	2.56E-07	2.51E-06	6.01E-02	1.50E-06	1.47E-05	4.84E-02	1.21E-06	1.18E-05
Road 30	30	2000-2100	1.23E-02	2.42E-07	2.37E-06	1.02E-02	2.00E-07	1.96E-06	5.96E-02	1.17E-06	1.15E-05	4.80E-02	9.43E-07	9.23E-06
Road 30	30	2100-2200	1.19E-02	2.31E-07	2.26E-06	9.89E-03	1.91E-07	1.87E-06	5.76E-02	1.12E-06	1.09E-05	4.64E-02	9.00E-07	8.81E-06
Road 30	30	2200-2300	1.23E-02	2.31E-07	2.26E-06	1.02E-02	1.91E-07	1.87E-06	5.96E-02	1.12E-06	1.09E-05	4.80E-02	9.00E-07	8.81E-06
Road 30	30	2300-2400	1.32E-02	1.90E-07	1.86E-06	1.09E-02	1.57E-07	1.53E-06	6.42E-02	9.19E-07	9.00E-06	5.12E-02	7.34E-07	7.19E-06

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2038**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.22E-02	2.36E-08	2.11E-07	1.01E-02	1.95E-08	1.74E-07	1.38E-02	2.62E-08	2.34E-07	1.02E-02	1.97E-08	1.76E-07
Road 31	31	0100-0200	1.29E-02	1.65E-08	1.48E-07	1.09E-02	1.40E-08	1.25E-07	5.95E-02	7.64E-08	6.82E-07	4.92E-02	6.30E-08	5.63E-07
Road 31	31	0200-0300	1.37E-02	1.30E-08	1.17E-07	1.16E-02	1.10E-08	9.86E-08	6.17E-02	5.88E-08	5.25E-07	5.07E-02	4.83E-08	4.32E-07
Road 31	31	0300-0400	1.46E-02	1.11E-08	9.95E-08	1.22E-02	9.31E-09	8.31E-08	6.43E-02	4.92E-08	4.40E-07	5.22E-02	4.00E-08	3.57E-07
Road 31	31	0400-0500	1.54E-02	1.31E-08	1.17E-07	1.28E-02	1.09E-08	9.76E-08	6.66E-02	5.68E-08	5.08E-07	5.40E-02	4.61E-08	4.12E-07
Road 31	31	0500-0600	1.54E-02	2.42E-08	2.16E-07	1.28E-02	2.01E-08	1.79E-07	6.66E-02	1.05E-07	9.38E-07	5.40E-02	8.47E-08	7.49E-07
Road 31	31	0600-0700	1.67E-02	5.47E-08	4.88E-07	1.41E-02	4.63E-08	4.14E-07	6.98E-02	2.29E-07	2.04E-06	5.77E-02	1.89E-07	1.69E-06
Road 31	31	0700-0800	1.75E-02	1.18E-07	1.05E-06	1.47E-02	9.91E-08	8.85E-07	7.23E-02	4.87E-07	4.35E-06	5.95E-02	4.00E-07	3.58E-06
Road 31	31	0800-0900	1.71E-02	1.34E-07	1.19E-06	1.44E-02	1.12E-07	1.00E-06	8.57E-02	6.71E-07	5.99E-06	7.03E-02	5.51E-07	4.92E-06
Road 31	31	0900-1000	1.96E-02	1.25E-07	1.12E-06	1.66E-02	1.06E-07	9.46E-07	7.03E-02	4.49E-07	4.01E-06	5.77E-02	3.68E-07	3.29E-06
Road 31	31	1000-1100	1.96E-02	1.53E-07	1.37E-06	1.66E-02	1.29E-07	1.16E-06	7.03E-02	5.51E-07	4.92E-06	5.77E-02	4.52E-07	4.04E-06
Road 31	31	1100-1200	2.16E-02	1.33E-07	1.18E-06	1.83E-02	1.13E-07	1.01E-06	8.35E-02	5.13E-07	4.58E-06	7.03E-02	4.32E-07	3.86E-06
Road 31	31	1200-1300	1.84E-02	8.83E-08	7.89E-07	1.56E-02	7.51E-08	6.71E-07	7.15E-02	3.43E-07	3.07E-06	6.03E-02	2.90E-07	2.59E-06
Road 31	31	1300-1400	1.84E-02	9.29E-08	8.23E-07	1.57E-02	7.90E-08	8.20E-07	6.45E-02	4.33E-07	3.84E-06	6.03E-02	3.66E-07	3.24E-06
Road 31	31	1400-1500	1.85E-02	9.71E-08	8.68E-07	1.57E-02	8.24E-08	7.36E-07	7.32E-02	3.84E-07	3.43E-06	6.13E-02	3.22E-07	2.88E-06
Road 31	31	1500-1600	1.85E-02	9.35E-08	8.35E-07	1.57E-02	7.93E-08	7.08E-07	7.32E-02	3.70E-07	3.31E-06	6.13E-02	3.10E-07	2.77E-06
Road 31	31	1600-1700	1.80E-02	1.02E-07	9.05E-07	1.50E-02	8.42E-08	7.52E-07	7.12E-02	4.00E-07	3.57E-06	5.81E-02	3.26E-07	2.91E-06
Road 31	31	1700-1800	1.35E-02	8.28E-08	7.39E-07	1.09E-02	6.71E-08	6.01E-07	6.24E-02	3.83E-07	3.42E-06	5.01E-02	3.08E-07	2.75E-06
Road 31	31	1800-1900	9.84E-03	6.27E-08	5.61E-07	8.09E-03	5.16E-08	4.61E-07	4.69E-02	2.99E-07	2.67E-06	3.74E-02	2.38E-07	2.13E-06
Road 31	31	1900-2000	8.87E-03	4.86E-08	3.98E-07	7.32E-03	3.68E-08	3.29E-07	4.55E-02	2.29E-07	2.04E-06	3.61E-02	1.82E-07	1.62E-06
Road 31	31	2000-2100	8.68E-03	3.41E-08	2.79E-07	7.16E-03	2.70E-08	2.49E-07	4.51E-02	1.93E-07	1.72E-06	3.84E-02	1.52E-07	1.36E-06
Road 31	31	2100-2200	8.02E-03	3.13E-08	2.79E-07	6.60E-03	2.57E-08	2.30E-07	4.80E-02	1.87E-07	1.67E-06	3.78E-02	1.47E-07	1.32E-06
Road 31	31	2200-2300	8.02E-03	3.13E-08	2.79E-07	6.60E-03	2.57E-08	2.30E-07	4.80E-02	1.87E-07	1.67E-06	3.78E-02	1.47E-07	1.32E-06
Road 31	31	2300-2400	8.71E-03	2.47E-08	2.21E-07	7.15E-03	2.03E-08	1.81E-07	4.88E-02	1.39E-07	1.24E-06	3.84E-02	1.09E-07	9.74E-07
Road 32	32	0000-0100	9.78E-03	9.65E-08	6.41E-06	8.06E-03	7.96E-08	5.28E-06	5.17E-02	5.10E-07	3.39E-05	4.09E-02	4.04E-07	2.68E-05
Road 32	32	0100-0200	9.78E-03	6.56E-08	4.36E-06	8.06E-03	5.41E-08	3.59E-06	5.17E-02	3.47E-07	2.30E-05	4.09E-02	2.75E-07	1.82E-05
Road 32	32	0200-0300	1.11E-02	5.32E-08	3.53E-06	9.40E-03	4.50E-08	2.98E-06	5.51E-02	2.63E-07	1.75E-05	4.49E-02	2.15E-07	1.42E-05
Road 32	32	0300-0400	1.19E-02	4.94E-08	3.28E-06	1.01E-02	4.18E-08	2.77E-06	5.84E-02	2.43E-07	1.61E-05	4.76E-02	1.98E-07	1.31E-05
Road 32	32	0400-0500	1.27E-02	5.35E-08	3.55E-06	1.05E-02	4.45E-08	2.95E-06	5.95E-02	2.51E-07	1.67E-05	4.78E-02	2.02E-07	1.34E-05
Road 32	32	0500-0600	1.33E-02	9.85E-08	6.54E-06	1.11E-02	8.22E-08	5.46E-06	6.12E-02	4.52E-07	3.00E-05	4.94E-02	3.65E-07	2.42E-05
Road 32	32	0600-0700	1.47E-02	2.23E-07	1.48E-05	1.23E-02	1.86E-07	1.24E-05	6.82E-02	1.03E-06	6.85E-05	5.51E-02	8.60E-07	5.71E-05
Road 32	32	0700-0800	1.47E-02	4.80E-07	3.19E-05	1.23E-02	4.03E-07	2.67E-05	6.48E-02	2.12E-06	1.41E-04	5.29E-02	1.73E-06	1.15E-04
Road 32	32	0800-0900	1.44E-02	5.41E-07	3.59E-05	1.21E-02	4.54E-07	3.01E-05	6.48E-02	2.43E-06	1.61E-04	5.29E-02	1.98E-06	1.31E-04
Road 32	32	0900-1000	1.66E-02	5.51E-07	3.66E-05	1.41E-02	4.68E-07	3.11E-05	6.97E-02	2.32E-06	1.54E-04	5.83E-02	1.94E-06	1.29E-04
Road 32	32	1000-1100	1.66E-02	5.51E-07	3.66E-05	1.41E-02	4.68E-07	3.11E-05	6.97E-02	2.32E-06	1.54E-04	5.83E-02	1.94E-06	1.29E-04
Road 32	32	1100-1200	1.82E-02	5.12E-07	3.40E-05	1.55E-02	4.35E-07	2.89E-05	7.44E-02	2.09E-06	1.39E-04	6.24E-02	1.75E-06	1.16E-04
Road 32	32	1200-1300	1.69E-02	2.34E-07	1.55E-05	1.44E-02	1.99E-07	1.32E-05	6.91E-02	9.57E-07	6.36E-05	5.76E-02	8.00E-07	5.31E-05
Road 32	32	1300-1400	1.70E-02	1.97E-07	2.64E-05	1.45E-02	2.24E-07	7.03E-02	1.64E-06	1.09E-04	5.87E-02	1.37E-06	9.08E-05	
Road 32	32	1400-1500	1.70E-02	1.97E-07	2.64E-05	1.45E-02	2.24E-07	7.03E-02	1.64E-06	1.09E-04	5.87E-02	1.37E-06	9.08E-05	
Road 32	32	1500-1600	1.70E-02	1.97E-07	2.64E-05	1.45E-02	2.24E-07	7.03E-02	1.64E-06	1.09E-04	5.87E-02	1.37E-06	9.08E-05	
Road 32	32	1600-1700	1.68E-02	2.70E-07	2.79E-05	1.39E-02	2.35E-07	7.32E-02	1.72E-06	1.14E-04	6.15E-02	1.44E-06	9.54E-05	
Road 32	32	1700-1800	1.23E-02	3.43E-07	2.28E-05	1.00E-02	2.78E-07	1.85E-05	6.00E-02	1.67E-06	1.11E-04	4.71E-02	1.31E-06	8.68E-05
Road 32	32	1800-1900	8.56E-03	2.25E-07	1.49E-05	6.97E-03	1.83E-07	1.21E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 54	54	0800-0900	3.83E-02	1.67E-02	3.31E-06	3.11E-02	7.08E-06	1.64E-02	1.32E-06	3.00E-06	2.61E-05
Road 54	54	0900-1000	1.12E-01	4.02E-07	9.16E-06	9.50E-02	3.42E-07	7.79E-06	4.17E-01	1.50E-06	3.39E-05
Road 54	54	1000-1100	1.26E-01	4.17E-07	9.52E-06	1.07E-01	3.54E-07	8.07E-06	4.48E-01	1.49E-06	3.39E-05
Road 54	54	1100-1200	1.22E-01	3.84E-07	8.71E-06	1.04E-01	3.26E-07	7.44E-06	4.40E-01	1.38E-06	3.15E-05
Road 54	54	1200-1300	1.52E-01	3.29E-07	7.50E-06	1.29E-01	2.80E-07	6.39E-06	5.18E-01	1.12E-06	2.56E-05
Road 54	54	1300-1400	1.43E-01	3.15E-07	7.19E-06	1.21E-01	2.67E-07	6.09E-06	4.91E-01	1.08E-06	2.46E-05
Road 54	54	1400-1500	1.50E-01	3.58E-07	8.17E-06	1.27E-01	3.05E-07	6.95E-06	5.20E-01	1.25E-06	2.84E-05
Road 54	54	1500-1600	1.38E-01	3.41E-07	7.78E-06	1.14E-01	2.84E-07	6.47E-06	5.26E-01	1.30E-06	2.97E-05
Road 54	54	1600-1700	1.34E-01	3.44E-07	7.85E-06	1.13E-01	2.86E-07	6.53E-06	5.14E-01	1.32E-06	3.01E-05
Road 54	54	1700-1800	1.21E-01	2.77E-07	6.32E-06	9.85E-02	2.26E-07	5.16E-06	4.78E-01	1.10E-06	2.50E-05
Road 54	54	1800-1900	8.24E-01	3.19E-07	1.18E-05	6.76E-01	2.62E-07	9.72E-06	4.36E-02	1.69E-06	6.27E-05
Road 54	54	1900-2000	9.50E-02	1.22E-07	2.79E-06	7.47E-02	1.02E-07	2.32E-06	1.51E-01	1.93E-07	4.41E-06
Road 54	54	2000-2100	2.85E-02	9.29E-08	2.12E-06	2.34E-02	7.62E-08	1.74E-06	1.13E-01	3.68E-07	8.41E-06
Road 54	54	2100-2200	2.49E-02	9.25E-08	2.11E-06	2.05E-02	7.59E-08	1.73E-06	9.87E-02	3.66E-07	8.37E-06
Road 54	54	2200-2300	8.83E-02	8.73E-08	1.99E-06	7.35E-02	7.26E-08	1.66E-06	1.27E-01	1.25E-07	2.86E-06
Road 54	54	2300-2400	2.49E-02	9.25E-08	2.11E-06	2.05E-02	7.59E-08	1.73E-06	9.87E-02	3.66E-07	8.37E-06
Road 101	101	0000-0100	8.80E-03	7.77E-08	3.08E-06	6.52E-03	5.76E-08	2.28E-06	3.61E-02	4.13E-07	1.64E-05
Road 101	101	0100-0200	7.39E-03	5.52E-08	2.18E-06	6.44E-03	4.81E-08	1.90E-06	4.77E-02	3.56E-07	1.41E-05
Road 101	101	0200-0300	8.06E-03	4.41E-08	1.75E-06	6.78E-03	3.71E-08	1.47E-06	4.94E-02	2.70E-07	1.07E-05
Road 101	101	0300-0400	8.78E-03	3.81E-08	1.51E-06	7.29E-03	3.16E-08	1.25E-06	5.15E-02	2.24E-07	8.86E-06
Road 101	101	0400-0500	9.47E-03	4.53E-08	1.79E-06	8.05E-03	3.85E-08	1.52E-06	5.50E-02	2.63E-07	1.04E-05
Road 101	101	0500-0600	1.01E-02	8.42E-08	3.33E-06	8.41E-03	7.00E-08	2.77E-06	6.50E-02	4.58E-07	1.81E-05
Road 101	101	0600-0700	1.15E-02	1.62E-07	6.41E-06	9.56E-03	1.34E-07	5.31E-06	7.34E-02	1.03E-06	4.07E-05
Road 101	101	0700-0800	1.15E-02	4.17E-07	1.65E-05	9.87E-03	3.51E-07	1.39E-05	7.46E-02	2.65E-06	1.05E-04
Road 101	101	0800-0900	1.12E-02	4.74E-07	1.88E-05	9.47E-03	4.01E-07	1.59E-05	5.43E-02	2.30E-06	9.11E-05
Road 101	101	0900-1000	1.71E-02	5.12E-07	2.03E-05	1.47E-02	4.41E-07	1.75E-05	7.04E-02	2.11E-06	8.36E-05
Road 101	101	1000-1100	1.50E-02	4.70E-07	1.86E-05	1.27E-02	3.97E-07	1.57E-05	6.03E-02	1.89E-06	7.48E-05
Road 101	101	1100-1200	1.53E-02	4.64E-07	1.84E-05	1.30E-02	3.93E-07	1.56E-05	6.15E-02	1.86E-06	7.38E-05
Road 101	101	1200-1300	1.71E-02	5.12E-07	2.03E-05	1.47E-02	4.41E-07	1.75E-05	7.04E-02	2.11E-06	8.36E-05
Road 101	101	1300-1400	1.72E-02	5.33E-07	2.11E-05	1.47E-02	4.56E-07	1.80E-05	6.97E-02	2.16E-06	8.55E-05
Road 101	101	1400-1500	1.72E-02	5.33E-07	2.11E-05	1.47E-02	4.56E-07	1.80E-05	6.97E-02	2.16E-06	8.55E-05
Road 101	101	1500-1600	1.62E-02	5.46E-07	2.16E-05	1.35E-02	4.54E-07	1.80E-05	7.26E-02	2.44E-06	9.68E-05
Road 101	101	1600-1700	1.52E-02	5.24E-07	2.08E-05	1.24E-02	4.27E-07	1.69E-05	7.04E-02	2.42E-06	9.59E-05
Road 101	101	1700-1800	1.22E-02	4.74E-07	1.88E-05	9.91E-03	3.85E-07	1.52E-05	6.09E-02	2.37E-06	9.40E-05
Road 101	101	1800-1900	1.07E-02	3.57E-07	1.41E-05	8.66E-03	2.90E-07	1.15E-05	5.39E-02	1.80E-06	7.13E-05
Road 101	101	1900-2000	7.54E-03	2.41E-07	9.56E-06	6.20E-03	1.99E-07	7.87E-06	4.43E-02	1.42E-06	5.61E-05
Road 102	102	0000-0100	1.70E-02	2.83E-07	1.12E-05	1.39E-02	2.31E-07	9.16E-06	1.02E-01	1.70E-06	6.73E-05
Road 102	102	0100-0200	1.05E-02	6.41E-08	2.38E-06	8.89E-03	5.40E-08	2.01E-06	5.57E-02	3.39E-07	1.26E-05
Road 102	102	0200-0300	1.22E-02	4.41E-08	1.64E-06	1.03E-02	3.70E-08	1.38E-06	6.44E-02	2.32E-07	8.64E-06
Road 102	102	0300-0400	1.22E-02	4.41E-08	1.64E-06	1.03E-02	3.70E-08	1.38E-06	6.44E-02	2.32E-07	8.64E-06
Road 102	102	0400-0500	1.31E-02	5.24E-08	1.94E-06	1.11E-02	4.41E-08	1.64E-06	6.91E-02	2.76E-07	1.03E-05
Road 102	102	0500-0600	1.38E-02	9.74E-08	3.62E-06	1.16E-02	8.17E-08	3.03E-06	6.47E-02	4.57E-07	1.69E-05
Road 102	102	0600-0700	1.45E-02	2.21E-07	8.23E-06	1.23E-02	1.88E-07	6.98E-06	6.61E-02	1.01E-06	3.75E-05
Road 102	102	0700-0800	1.50E-02	6.98E-07	2.59E-05	1.27E-02	5.91E-07	2.19E-05	6.87E-02	3.19E-06	1.18E-04
Road 102	102	0800-0900	1.50E-02	5.50E-07	2.04E-05	1.27E-02	4.64E-07	1.72E-05	6.53E-02	2.39E-06	8.89E-05
Road 102	102	0900-1000	2.29E-02	6.87E-07	2.55E-05	1.97E-02	5.91E-07	2.19E-05	8.45E-02	2.54E-06	9.41E-05
Road 102	102	1000-1100	2.00E-02	5.90E-07	2.19E-05	1.69E-02	4.97E-07	1.84E-05	7.24E-02	2.13E-06	7.91E-05
Road 102	102	1100-1200	2.04E-02	6.19E-07	2.30E-05	1.73E-02	5.23E-07	1.94E-05	7.38E-02	2.24E-06	8.31E-05
Road 102	102	1200-1300	1.62E-02	6.53E-07	2.68E-05	1.39E-02	5.61E-07	2.30E-05	6.95E-02	2.80E-06	1.15E-04
Road 102	102	1300-1400	1.63E-02	4.72E-07	1.75E-05	1.44E-02	4.17E-07	1.55E-05	6.91E-02	2.00E-06	7.42E-05
Road 102	102	1400-1500	1.63E-02	4.72E-07	1.75E-05	1.44E-02	4.17E-07	1.55E-05	6.91E-02	2.00E-06	7.42E-05
Road 102	102	1500-1600	1.54E-02	4.84E-07	1.80E-05	1.28E-02	4.02E-07	1.49E-05	6.97E-02	2.19E-06	8.12E-05
Road 102	102	1600-1700	1.45E-02	4.65E-07	1.72E-05	1.18E-02	3.78E-07	1.40E-05	6.74E-02	2.16E-06	8.02E-05
Road 102	102	1700-1800	1.17E-02	4.26E-07	1.58E-05	9.49E-03	3.46E-07	1.28E-05	5.89E-02	2.15E-06	7.97E-05
Road 102	102	1800-1900	8.24E-03	3.19E-07	1.18E-05	6.76E-03	2.62E-07	9.72E-06	4.36E-02	1.69E-06	6.27E-05
Road 102	102	1900-2000	7.54E-03	2.41E-07	8.95E-06	6.20E-03	1.99E-07	7.37E-06	4.43E-02	1.42E-06	5.25E-05
Road 102	102	2000-2100	9.99E-03	1.65E-07	6.12E-06	5.69E-03	9.41E-08	3.49E-06	6.53E-02	1.08E-06	4.00E-05
Road 102	102	2100-2200	1.00E-02	1.65E-07	6.12E-06	5.70E-03	9.41E-08	3.49E-06	6.53E-02	1.08E-06	4.00E-05
Road 102	102	2200-2300	8.11E-03	1.34E-07	4.96E-06	4.62E-03	7.63E-08	2.83E-06	5.30E-02	8.74E-07	3.24E-05
Road 102	102	2300-2400	9.99E-03	1.65E-07	6.12E-06	5.69E-03	9.41E-08	3.49E-06	6.53E-02	1.08E-06	4.00E-05
Road 103	103	0000-0100	7.18E-03	5.84E-08	1.40E-06	6.06E-03	4.93E-08	1.19E-06	4.71E-02	3.84E-07	9.22E-06
Road 103	103	0100-0200	4.25E-03	2.61E-08	6.26E-07	3.59E-03	2.20E-08	5.29E-07	2.79E-02	1.71E-07	4.11E-06
Road 103	103	0200-0300	4.54E-03	1.76E-08	4.22E-07	3.83E-03	1.48E-08	3.56E-07	2.98E-02	1.15E-07	2.77E-06
Road 103	103	0300-0400	4.54E-03	1.76E-08	4.22E-07	3.83E-03	1.48E-08	3.56E-07	2.98E-02	1.15E-07	2.77E-06
Road 103	103	0400-0500	4.87E-03	2.09E-08	5.02E-07	4.11E-03	1.76E-08	4.24E-07	3.20E-02	1.37E-07	3.30E-06
Road 103	103	0500-0600	5.13E-03	3.49E-08	8.38E-07	4.32E-03	2.94E-08	7.06E-07	3.37E-02	2.29E-07	5.50E-06
Road 103	103	0600-0700	5.72E-03	8.99E-08	2.16E-06	4.82E-03	7.58E-08	1.82E-06	3.75E-02	5.89E-07	1.41E-05
Road 103	103	0700-0800	5.72E-03	3.46E-07	8.31E-06	4.91E-03	2.97E-07	7.13E-06	3.71E-02	2.24E-06	5.38E-05
Road 103	103	0800-0900	5.57E-03	3.93E-07	9.43E-06	4.71E-03	3.32E-07	7.98E-06	2.70E-02	1.91E-06	4.58E-05
Road 103	103	0900-1000	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1000-1100	7.46E-03	3.91E-07	9.38E-06	6.42E-03	3.36E-07	8.07E-06	3.18E-02	1.67E-06	4.00E-05
Road 103	103	1100-1200	7.58E-03	3.84E-07	9.22E-06	6.52E-03	3.30E-07	7.92E-06	3.23E-02	1.64E-06	3.93E-05
Road 103	103	1200-1300	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1300-1400	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1400-1500	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1500-1600	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1600-1700	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1700-1800	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1800-1900	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1900-2000	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	2000-2100	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	2100-2200	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	2200-2300	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	2300-2400	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	0000-0100	7.18E-03	5.84E-08	1.40E-06	6.06E-03	4.93E-08	1.19E-06	4.71E-02	3.84E-07	9.22E-06
Road 103	103	0100-0200	4.25E-03	2.61E-08	6.26E-07	3.59E-03	2.20E-08	5.29E-07	2.79E-02	1.71E-07	4.11E-06
Road 103	103	0200-0300	4.54E-03	1.76E-08	4.22E-07	3.83E-03	1.48E-08	3.56E-07	2.98E-02	1.15E-07	2.77E-06
Road 103	103	0300-0400	4.54E-03	1.76E-08	4.22E-07	3.83E-03	1.48E-08	3.56E-07	2.98E-02	1.15E-07	2.77E-06
Road 103	103	0400-0500	4.87E-03	2.09E-08	5.02E-07	4.11E-03	1.76E-08	4.24E-07	3.20E-02	1.37E-07	3.30E-06
Road 103	103	0500-0600	5.13E-03	3.49E-08	8.38E-07	4.32E-03	2.94E-08	7.06E-07	3.37E-02	2.29E-07	5.50E-06
Road 103	103	0600-0700	5.72E-03	8.99E-08	2.16E-06	4.82E-03	7.58E-08	1.82E-06	3.75E-02	5.89E-07	1.41E-05
Road 103	103	0700-0800	5.72E-03	3.46E-07	8.31E-06	4.91E-03	2.97E-07	7.13E-06	3.71E-02	2.24E-06	5.38E-05
Road 103	103	0800-0900	5.57E-03	3.93E-07	9.43E-06	4.71E-03	3.32E-07	7.98E-06	2.70E-02	1.91E-06	4.58E-05
Road 103	103	0900-1000	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1000-1100	7.46E-03	3.91E-07	9.38E-06	6.42E-03	3.36E-07	8.07E-06	3.18E-02	1.67E-06	4.00E-05
Road 103	103	1100-1200	7.58E-03	3.84E-07	9.22E-06	6.52E-03	3.30E-07	7.92E-06	3.23E-02	1.64E-06	3.93E-05
Road 103	103	1200-1300	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1300-1400	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1400-1500	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05
Road 103	103	1500-1600	8.50E-03	4.25E-07	1.02E-05	7.31E-03	3.65E-07	8.77E-06	3.62E-02	1.81E-06	4.34E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 103	103	1600-1700	1.32E-02	5.32E-07	2.11E-05	1.08E-02	4.58E-07	1.81E-05	5.72E-02	2.42E-06	9.58E-05
Road 103	103	1700-1800	1.07E-02	4.45E-07	1.76E-05	8.68E-03	3.60E-07	8.66E-06	5.75E-02	2.38E-06	9.43E-05
Road 103	103	1800-1900	7.60E-03	3.43E-07	8.24E-06	6.23E-03	2.81E-07	6.76E-06	4.26E-02	1.92E-06	4.62E-05
Road 103	103	1900-2000	5.54E-03	2.33E-07	5.60E-06	5.37E-03	1.91E-07	4.60E-06	4.12E-02	1.47E-06	3.53E-05
Road 103	103	2000-2100	6.30E-03	1.74E-07	4.19E-06	5.12E-03	1.42E-07	3.41E-06	4.53E-02	1.25E-06	3.01E-05
Road 103	103	2100-2200	5.51E-03	1.53E-07	3.67E-06	4.50E-03	1.25E-07	2.99E-06	3.96E-02	1.10E-06	2.64E-05
Road 103	103	2200-2300	5.35E-03	1.43E-07	3.46E-06	4.36E-03	1.17E-07	2.81E-06	4.29E-02	1.15E-06	2.77E-05
Road 103	103	2300-0000	6.01E-03	1.21E-07	2.90E-06	4.89E-03	9.83E-08	2.36E-06	4.46E-02	8.97E-07	2.16E-05
Road 104	104	0000-0100	1.05E-02	9.36E-08	3.71E-06	8.58E-03	7.62E-08	3.02E-06	5.61E-02	5.01E-07	1.98E-05
Road 104	104	0100-0200	1.12E-02	6.63E-08	2.63E-06	9.15E-03	5.40E-08	2.14E-06	5.98E-02	3.53E-07	1.40E-05
Road 104	104	0200-0300	1.30E-02	4.57E-08	1.81E-06	1.06E-02	3.72E-08	1.48E-06	6.93E-02	2.43E-07	9.65E-06
Road 104	104	0300-0400	1.30E-02	4.57E-08	1.81E-06	1.06E-02	3.72E-08	1.48E-06	6.93E-02	2.43E-07	9.65E-06
Road 104	104	0400-0500	1.39E-02	5.43E-08	2.15E-06	1.14E-02	4.42E-08	1.75E-06	7.41E-02	2.89E-07	1.15E-05
Road 104	104	0500-0600	1.46E-02	1.01E-07	4.00E-06	1.19E-02	8.22E-08	3.26E-06	6.95E-02	4.80E-07	1.90E-05
Road 104	104	0600-0700	1.53E-02	2.29E-07	9.08E-06	1.25E-02	1.87E-07	7.41E-06	7.11E-02	1.06E-06	4.21E-05
Road 104	104	0700-0800	1.58E-02	7.35E-07	2.91E-05	1.29E-02	6.00E-07	2.38E-05	7.37E-02	3.42E-06	1.36E-04
Road 104	104	0800-0900	1.58E-02	5.80E-07	2.30E-05	1.29E-02	4.73E-07	1.87E-05	6.99E-02	2.56E-06	1.02E-04
Road 104	104	0900-1000	2.42E-02	7.25E-07	2.87E-05	1.98E-02	5.94E-07	2.35E-05	9.06E-02	2.72E-06	1.08E-04
Road 104	104	1000-1100	2.10E-02	6.19E-07	2.26E-05	1.78E-02	5.24E-07	1.07E-05	8.29E-02	2.44E-06	4.96E-05
Road 104	104	1100-1200	2.03E-02	6.15E-07	2.44E-05	1.72E-02	5.21E-07	2.06E-05	8.09E-02	2.45E-06	9.72E-05
Road 104	104	1200-1300	2.03E-02	6.15E-07	2.44E-05	1.72E-02	5.21E-07	2.06E-05	8.09E-02	2.45E-06	9.72E-05
Road 104	104	1300-1400	2.10E-02	6.51E-07	2.58E-05	1.78E-02	5.51E-07	2.18E-05	8.29E-02	2.57E-06	1.02E-04
Road 104	104	1400-1500	2.10E-02	6.51E-07	2.58E-05	1.78E-02	5.51E-07	2.18E-05	8.29E-02	2.57E-06	1.02E-04
Road 104	104	1500-1600	1.96E-02	6.61E-07	2.62E-05	1.66E-02	5.49E-07	2.18E-05	8.79E-02	2.96E-06	1.17E-04
Road 104	104	1600-1700	1.83E-02	6.30E-07	2.50E-05	1.55E-02	5.33E-07	2.11E-05	8.47E-02	2.91E-06	1.15E-04
Road 104	104	1700-1800	1.47E-02	5.72E-07	2.27E-05	1.24E-02	4.84E-07	1.92E-05	7.34E-02	2.86E-06	1.13E-04
Road 104	104	1800-1900	1.03E-02	4.31E-07	1.71E-05	8.72E-03	3.65E-07	1.44E-05	6.52E-02	2.73E-06	1.08E-04
Road 104	104	1900-2000	9.50E-03	2.92E-07	1.16E-05	8.04E-03	2.47E-07	9.79E-06	5.57E-02	1.71E-06	6.78E-05
Road 104	104	2000-2100	3.42E-02	1.12E-07	4.44E-06	2.81E-02	9.22E-08	2.13E-06	1.36E-01	4.46E-07	1.03E-05
Road 104	104	2100-2200	3.00E-02	1.11E-07	4.40E-06	2.47E-02	9.14E-08	2.11E-06	1.19E-01	4.40E-07	1.01E-05
Road 104	104	2200-2300	1.06E-01	1.05E-07	2.39E-06	8.98E-02	8.91E-08	2.03E-06	1.53E-01	1.51E-07	3.44E-06
Road 104	104	2300-2400	3.00E-02	1.11E-07	4.40E-06	2.47E-02	9.14E-08	2.11E-06	1.19E-01	4.40E-07	1.01E-05
Road 105	105	0000-0100	1.70E-02	2.83E-07	1.12E-05	1.39E-02	2.31E-07	9.16E-06	1.02E-01	1.70E-06	6.73E-05
Road 105	105	0100-0200	1.05E-02	6.41E-08	2.38E-06	8.89E-03	5.40E-08	2.01E-06	5.57E-02	3.39E-07	1.26E-05
Road 105	105	0200-0300	1.22E-02	4.41E-08	1.64E-06	1.03E-02	3.70E-08	1.38E-06	6.44E-02	2.32E-07	8.64E-06
Road 105	105	0300-0400	1.22E-02	4.41E-08	1.64E-06	1.03E-02	3.70E-08	1.38E-06	6.44E-02	2.32E-07	8.64E-06
Road 105	105	0400-0500	1.31E-02	5.24E-08	1.94E-06	1.11E-02	4.41E-08	1.64E-06	6.91E-02	2.76E-07	1.03E-05
Road 105	105	0500-0600	1.38E-02	9.74E-08	3.62E-06	1.16E-02	8.17E-08	3.03E-06	6.47E-02	4.57E-07	1.69E-05
Road 105	105	0600-0700	1.45E-02	2.21E-07	8.23E-06	1.23E-02	1.88E-07	6.98E-06	6.61E-02	1.01E-06	3.75E-05
Road 105	105	0700-0800	1.50E-02	6.98E-07	2.59E-05	1.27E-02	5.91E-07	2.19E-05	6.87E-02	3.19E-06	1.18E-04
Road 105	105	0800-0900	1.50E-02	5.50E-07	2.04E-05	1.27E-02	4.64E-07	1.72E-05	6.53E-02	2.39E-06	8.89E-05
Road 105	105	0900-1000	3.21E-02	1.25E-07	5.19E-06	2.74E-02	1.06E-07	4.41E-06	1.35E-01	5.21E-07	2.17E-05
Road 105	105	1000-1100	3.21E-02	1.25E-07	5.19E-06	2.74E-02	1.06E-07	4.41E-06	1.35E-01	5.21E-07	2.17E-05
Road 105	105	1100-1200	3.46E-02	1.41E-07	4.73E-06	2.94E-02	9.64E-08	4.02E-06	1.46E-01	4.59E-07	1.91E-05
Road 105	105	1200-1300	7.64E-02	4.20E-07	1.75E-05	6.51E-02	3.58E-07	1.49E-05	2.76E-01	1.52E-06	6.33E-05
Road 105	105	1300-1400	7.64E-02	4.20E-07	1.75E-05	6.51E-02	3.58E-07	1.49E-05	2.76E-01	1.52E-06	6.33E-05
Road 105	105	1400-1500	7.82E-02	4.27E-07	1.78E-05	6.63E-02	3.63E-07	1.51E-05	3.44E-01	3.84E-07	9.47E-06
Road 105	105	1500-1600	7.67E-02	4.05E-07	1.69E-05	6.39E-02	3.38E-07	1.41E-05	2.76E-01	1.46E-06	6.08E-05
Road 105	105	1600-1700	7.67E-02	4.05E-07	1.69E-05	6.39E-02	3.38E-07	1.41E-05	2.76E-01	1.46E-06	6.08E-05
Road 105	105	1700-1800	5.91E-02	3.21E-07	1.77E-05	7.36E-03	4.31E-07	3.46E-07	6.09E-02	2.19E-01	7.43E-06
Road 105	105	1800-1900	5.21E-02	2.77E-07	7.36E-06	4.31E-02	3.46E-07	6.09E-06	2.25E-01	1.79E-06	7.47E-05
Road 105	105	1900-2000	4.76E-02	2.54E-07	6.73E-06	3.94E-02	3.16E-07	5.56E-06	2.06E-01	1.64E-06	6.83E-05
Road 105	105	2000-2100	4.76E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	1.31E-02	9.30E-08	1.23E-06	8.18E-03	1.08E-06	2.26E-01	4.37E-02	5.91E-06	5.48E-02	2.84E-02	3.84E-06	5.07E-06
Road 21	21	0100-0200	1.45E-02	6.94E-08	9.17E-07	1.31E-02	6.24E-08	8.24E-07	6.44E-02	3.08E-07	4.07E-06	5.69E-02	2.72E-07	3.60E-06
Road 21	21	0200-0300	1.62E-02	5.85E-08	7.74E-07	1.46E-02	5.26E-08	6.95E-07	6.79E-02	2.45E-07	3.24E-06	6.00E-02	2.17E-07	2.86E-06
Road 21	21	0300-0400	1.79E-02	5.27E-08	6.96E-07	1.60E-02	4.72E-08	6.24E-07	7.17E-02	2.11E-07	2.79E-06	6.32E-02	1.86E-07	2.46E-06
Road 21	21	0400-0500	1.82E-02	5.92E-08	7.83E-07	1.66E-02	5.41E-08	7.15E-07	7.34E-02	2.38E-07	3.15E-06	6.60E-02	2.14E-07	2.83E-06
Road 21	21	0500-0600	1.75E-02	9.70E-08	1.28E-06	1.58E-02	8.75E-08	1.16E-06	7.17E-02	3.97E-07	5.26E-06	6.03E-02	3.34E-07	4.44E-06
Road 21	21	0600-0700	1.73E-02	2.03E-07	2.68E-06	1.54E-02	1.80E-07	2.38E-06	8.09E-02	9.49E-07	1.25E-05	6.70E-02	7.86E-07	1.04E-05
Road 21	21	0700-0800	2.06E-02	5.04E-07	6.67E-06	1.83E-02	4.48E-07	5.92E-06	8.60E-02	2.11E-06	2.78E-05	7.52E-02	1.84E-06	2.44E-05
Road 21	21	0800-0900	1.87E-02	4.57E-07	6.05E-06	1.66E-02	4.06E-07	5.37E-06	8.14E-02	1.99E-06	2.63E-05	7.12E-02	1.74E-06	2.31E-05
Road 21	21	0900-1000	1.94E-02	6.35E-07	8.39E-06	2.22E-02	5.72E-07	7.56E-06	1.00E-01	2.58E-06	3.41E-05	8.95E-02	2.31E-06	3.05E-05
Road 21	21	1000-1100	2.31E-02	6.31E-07	8.34E-06	2.07E-02	5.65E-07	7.47E-06	1.01E-01	2.57E-06	3.40E-05	8.99E-02	2.29E-06	3.02E-05
Road 21	21	1100-1200	2.43E-02	5.37E-07	7.10E-06	2.18E-02	4.83E-07	6.39E-06	9.64E-02	2.14E-06	2.82E-05	8.63E-02	1.91E-06	2.52E-05
Road 21	21	1200-1300	2.97E-02	6.06E-07	8.00E-06	2.67E-02	5.39E-07	7.12E-06	1.04E-01	2.12E-06	2.80E-05	9.34E-02	1.89E-06	2.49E-05
Road 21	21	1300-1400	3.18E-02	7.12E-07	9.41E-06	2.92E-02	6.55E-07	8.65E-06	1.17E-01	2.62E-06	3.47E-05	1.07E-01	2.41E-06	3.18E-05
Road 21	21	1400-1500	3.18E-02	7.12E-07	9.41E-06	2.92E-02	6.55E-07	8.65E-06	1.17E-01	2.62E-06	3.47E-05	1.07E-01	2.41E-06	3.18E-05
Road 21	21	1500-1600	3.29E-02	6.26E-07	8.26E-06	3.02E-02	5.75E-07	7.59E-06	1.18E-01	2.25E-06	2.97E-05	1.08E-01	2.06E-06	2.72E-05
Road 21	21	1600-1700	2.99E-02	6.86E-07	9.07E-06	2.77E-02	6.34E-07	8.38E-06	1.11E-01	2.56E-06	3.38E-05	1.03E-01	2.36E-06	3.12E-05
Road 21	21	1700-1800	2.94E-02	5.49E-07	7.26E-06	2.13E-02	3.99E-07	5.26E-06	1.09E-01	2.04E-06	2.70E-05	7.90E-02	1.48E-06	1.95E-05
Road 21	21	1800-1900	1.70E-02	3.89E-07	4.88E-06	1.55E-02	3.37E-07	4.46E-06	7.29E-02	1.58E-06	2.09E-05	6.62E-02	1.44E-06	1.90E-05
Road 21	21	1900-2000	1.35E-02	2.14E-07	2.83E-06	1.25E-02	1.95E-07	2.58E-06	6.29E-02	9.96E-07	1.32E-05	5.70E-02	9.02E-07	1.19E-05
Road 21	21	2000-2100	1.32E-02	1.66E-07	2.19E-06	1.21E-02	1.51E-07	2.00E-06	6.62E-02	8.28E-07	1.09E-05	5.98E-02	7.48E-07	9.88E-06
Road 21	21	2100-2200	1.32E-02	1.66E-07	2.19E-06	1.21E-02	1.51E-07	2.00E-06	6.62E-02	8.28E-07	1.09E-05	5.98E-02	7.48E-07	9.88E-06
Road 21	21	2200-0000	1.54E-02	1.41E-07	1.86E-06	1.36E-02	1.24E-07	1.64E-06	7.02E-02	6.41E-07	8.47E-06	6.20E-02	5.66E-07	7.35E-06
Road 22	22	0000-0100	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 22	22	0100-0200	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 22	22	0200-0300	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 22	22	0300-0400	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 22	22	0400-0500	1.20E-01	7.80E-08	1.39E-06	1.07E-01	7.13E-08	1.27E-06	4.36E-01	2.84E-07	5.06E-06	3.98E-01	2.59E-07	4.63E-06
Road 22	22	0500-0600	1.36E-01	1.62E-07	2.90E-06	1.21E-01	1.47E-07	2.62E-06	4.93E-01	5.87E-07	1.05E-05	4.34E-01	5.18E-07	9.25E-06
Road 22	22	0600-0700	1.73E-01	1.00E-06	1.78E-05	1.54E-01	8.92E-07	1.59E-05	6.12E-01	3.54E-06	6.31E-05	5.44E-01	3.15E-06	5.61E-05
Road 22	22	0700-0800	1.73E-01	1.00E-06	1.78E-05	1.54E-01	8.92E-07	1.59E-05	6.12E-01	3.54E-06	6.31E-05	5.44E-01	3.15E-06	5.61E-05
Road 22	22	0800-0900	1.81E-01	1.37E-06	2.44E-05	1.61E-01	1.23E-06	2.20E-05	6.64E-01	5.03E-06	8.97E-05	5.98E-01	4.53E-06	8.08E-05
Road 22	22	0900-1000	1.81E-01	1.37E-06	2.44E-05	1.61E-01	1.23E-06	2.20E-05	6.64E-01	5.03E-06	8.97E-05	5.98E-01	4.53E-06	8.08E-05
Road 22	22	1000-1100	1.92E-01	1.33E-06	2.37E-05	1.72E-01	1.19E-06	2.13E-05	6.62E-01	4.68E-06	8.35E-05	6.04E-01	4.19E-06	7.48E-05
Road 22	22	1100-1200	1.96E-01	1.40E-06	2.49E-05	1.75E-01	1.28E-06	2.28E-05	6.75E-01	4.83E-06	8.61E-05	6.15E-01	4.40E-06	7.85E-05
Road 22	22	1200-1300	1.96E-01	1.40E-06	2.49E-05	1.75E-01	1.28E-06	2.28E-05	6.75E-01	4.83E-06	8.61E-05	6.15E-01	4.40E-06	7.85E-05
Road 22	22	1300-1400	1.92E-01	1.53E-06	2.72E-05	1.76E-01	1.40E-06	2.50E-05	6.55E-01	5.21E-06	9.28E-05	6.02E-01	4.79E-06	8.54E-05
Road 22	22	1400-1500	1.96E-01	1.56E-06	2.78E-05	1.80E-01	1.43E-06	2.55E-05	6.68E-01	5.32E-06	9.48E-05	6.14E-01	4.89E-06	8.72E-05
Road 22	22	1500-1600	1.82E-01	1.44E-06	2.56E-05	1.67E-01	1.32E-06	2.35E-05	6.31E-01	4.98E-06	8.88E-05	5.80E-01	4.57E-06	8.14E-05
Road 22	22	1600-1700	1.82E-01	1.41E-06	2.51E-05	1.68E-01	1.30E-06	2.32E-05	6.31E-01	4.89E-06	8.72E-05	5.80E-01	4.49E-06	8.00E-05
Road 22	22	1700-1800	1.54E-01	1.10E-06	1.97E-05	1.40E-01	1.00E-06	1.79E-05	6.05E-01	4.34E-06	7.74E-05	5.50E-01	3.94E-06	7.03E-05
Road 22	22	1800-1900	1.43E-01	1.03E-06	1.83E-05	1.30E-01	9.35E-07	1.67E-05	5.62E-01	4.04E-06	7.20E-05	5.11E-01	3.67E-06	6.54E-05
Road 22	22	1900-2000	1.31E-01	1.98E-07	3.53E-06	1.19E-01	1.80E-07	3.21E-06	5.48E-01	8.29E-07	1.48E-05	4.98E-01	7.53E-07	1.34E-05
Road 22	22	2000-2100	1.04E-01	6.51E-08	1.20E-06	9.56E-02	5.95E-08	1.10E-06	4.24E-01	2.64E-07	4.88E-06	3.85E-01	2.40E-07	4.46E-06
Road 22	22	2100-2200	1.18E-01	6.43E-08	1.19E-06	1.08E-01	5.87E-08	1.09E-06	4.80E-01	2.61E-07	4.83E-06	4.36E-01	2.37E-07	4.42E-06
Road 22	22	2200-0000	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 23	23	0000-0100	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 23	23	0100-0200	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 23	23	0200-0300	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 23	23	0300-0400	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 23	23	0400-0500	1.20E-01	7.80E-08	1.39E-06	1.07E-01	7.13E-08	1.27E-06	4.36E-01	2.84E-07	5.06E-06	3.98E-01	2.59E-07	4.63E-06
Road 23	23	0500-0600	1.36E-01	1.62E-07	2.90E-06	1.21E-01	1.47E-07	2.62E-06	4.93E-01	5.87E-07	1.05E-05	4.34E-01	5.18E-07	9.25E-06
Road 23	23	0600-0700	1.73E-01	1.00E-06	1.78E-05	1.54E-01	8.92E-07	1.59E-05	6.12E-01	3.54E-06	6.31E-05	5.44E-01	3.15E-06	5.61E-05
Road 23	23	0700-0800	1.73E-01	1.00E-06	1.78E-05	1.54E-01	8.92E-07	1.59E-05	6.12E-01	3.54E-06	6.31E-05	5.44E-01	3.15E-06	5.61E-05
Road 23	23	0800-0900	1.81E-01	1.37E-06	2.44E-05	1.61E-01	1.23E-06	2.20E-05	6.64E-01	5.03E-06	8.97E-05	5.98E-01	4.53E-06	8.08E-05
Road 23	23	0900-1000	1.81E-01	1.37E-06	2.44E-05	1.61E-01	1.23E-06	2.20E-05	6.64E-01	5.03E-06	8.97E-05	5.98E-01	4.53E-06	8.08E-05
Road 23	23	1000-1100	1.92E-01	1.33E-06	2.37E-05	1.72E-01	1.19E-06	2.13E-05	6.62E-01	4.68E-06	8.35E-05	6.04E-01	4.19E-06	7.48E-05
Road 23	23	1100-1200	1.96E-01	1.40E-06	2.49E-05	1.75E-01	1.28E-06	2.28E-05	6.75E-01	4.83E-06	8.61E-05	6.15E-01	4.40E-06	7.85E-05
Road 23	23	1200-1300	1.96E-01	1.40E-06	2.49E-05	1.75E-01	1.28E-06	2.28E-05	6.75E-01	4.83E-06	8.61E-05	6.15E-01	4.40E-06	7.85E-05
Road 23	23	1300-1400	1.92E-01	1.53E-06	2.72E-05	1.76E-01	1.40E-06	2.50E-05	6.55E-01	5.21E-06	9.28E-05	6.02E-01	4.79E-06	8.54E-05
Road 23	23	1400-1500	1.96E-01	1.56E-06	2.78E-05	1.80E-01	1.43E-06	2.55E-05	6.68E-01	5.32E-06	9.48E-05	6.14E-01	4.89E-06	8.72E-05
Road 23	23	1500-1600	1.82E-01	1.44E-06	2.56E-05	1.67E-01	1.32E-06	2.35E-05	6.31E-01	4.98E-06	8.88E-05	5.80E-01	4.57E-06	8.14E-05
Road 23	23	1600-1700	1.82E-01	1.41E-06	2.51E-05	1.68E-01	1.30E-06	2.32E-05	6.31E-01	4.89E-06	8.72E-05	5.80E-01	4.49E-06	8.00E-05
Road 23	23	1700-1800	1.54E-01	1.10E-06	1.97E-05	1.40E-01	1.00E-06	1.79E-05	6.05E-01	4.34E-06	7.74E-05	5.50E-01	3.94E-06	7.03E-05
Road 23	23	1800-1900	1.43E-01	1.03E-06	1.83E-05	1.30E-01	9.35E-07	1.67E-05	5.62E-01	4.04E-06	7.20E-05	5.11E-01	3.67E-06	6.54E-05
Road 23	23	1900-2000	1.31E-01	1.98E-07	3.53E-06	1.19E-01	1.80E-07	3.21E-06	5.48E-01	8.29E-07	1.48E-05	4.98E-01	7.53E-07	1.34E-05
Road 23	23	2000-2100	1.04E-01	6.51E-08	1.20E-06	9.56E-02	5.95E-08	1.10E-06	4.24E-01	2.64E-07	4.88E-06	3.85E-01	2.42E-07	4.46E-06
Road 23	23	2100-2200	1.18E-01	6.43E-08	1.19E-06	1.08E-01	5.87E-08	1.09E-06	4.80E-01	2.61E-07	4.83E-06	4.36E-01	2.37E-07	4.42E-06
Road 23	23	2200-0000	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 24	24	0000-0100	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 24	24	0100-0200	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 24	24	0200-0300	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 24	24	0300-0400	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 24	24	0400-0500	1.20E-01	7.80E-08	1.39E-06	1.07E-01	7.13E-08	1.27E-06	4.36E-01	2.84E-07	5.06E-06	3.98E-01	2.59E-07	4.63E-06
Road 24	24	0500-0600	1.36E-01	1.62E-07	2.90E-06	1.21E-01	1.47E-07	2.62E-06	4.93E-01	5.87E-07	1.05E-05	4.34E-01	5.18E-07	9.25E-06
Road 24	24	0600-0700	1.73E-01	1.00E-06	1.78E-05	1.54E-01	8.92E-07	1.59E-05	6.12E-01	3.54E-06	6.31E-05	5.44E-01	3.15E-06	5.61E-05
Road 24	24	0700-0800	1.73E-01	1.00E-06	1.78E-05	1.54E-01	8.92E-07	1.59E-05	6.12E-01	3.54E-06	6.31E-05	5.44E-01	3.15E-06	5.61E-05
Road 24	24	0800-0900	1.81E-01	1.37E-06	2.44E-05	1.61E-01	1.23E-06	2.20E-05	6.64E-01	5.03E-06	8.97E-05	5.98E-01	4.53E-06	8.08E-05
Road 24	24	0900-1000	1.81E-01	1.37E-06	2.44E-05	1.61E-01	1.23E-06	2.20E-05	6.64E-01	5.03E-06	8.97E-05	5.98E-01	4.53E-06	8.08E-05
Road 24	24	1000-1100	1.92E-01	1.33E-06	2.37E-05	1.72E-01	1.19E-06	2.13E-05	6.62E-01	4.68E-06	8.35E-05	6.04E-01	4.19E-06	7.48E-05
Road 24	24	1100-1200	1.96E-01	1.40E-06	2.49E-05	1.75E-01	1.28E-06	2.28E-05	6.75E-01	4.83E-06	8.61E-05	6.15E-01	4.40E-06	7.85E-05
Road 24	24	1200-1300	1.96E-01	1.40E-06	2.49E-05	1.75E-01	1.28E-06	2.28E-05	6.75E-01	4.83E-06	8.61E-05	6.15E-01	4.40E-06	7.85E-05
Road 24	24	1300-1400	1.92E-01	1.53E-06	2.72E-05	1.76E-01	1.40E-06	2.50E-05	6.55E-01	5.21E-06	9.28E-05	6.02E-01	4.79E-06	8.54E-05
Road 24	24	1400-1500	1.96E-01	1.56E-06	2.78E-05	1.80E-01	1.43E-06	2.55E-05	6.68E-01	5.32E-06	9.48E-05	6.14E-01	4.89E-06	8.72E-05
Road 24	24	1500-1600	1.82E-01	1.44E-06	2.56E-05	1.67E-01	1.32E-06	2.35E-05	6.31E-01	4.98E-06	8.88E-05	5.80E-01	4.57E-06	8.14E-05
Road 24	24	1600-1700	1.82E-01	1.41E-06	2.51E-05	1.68E-01	1.30E-06	2.32E-05	6.31E-01	4.89E-06	8.72E-05	5.80E-01	4.49E-06	8.00E-05
Road 24	24	1700-1800	1.54E-01	1.10E-06	1.97E-05	1.40E-01	1.00E-06	1.79E-05	6.05E-01	4.34E-06	7.74E-05	5.50E-01	3.94E-06	7.03E-05
Road 24	24	1800-1900	1.43E-01	1.03E-06	1.83E-05	1.30E-01	9.35E-07	1.67E-05	5.62E-01	4.04E-06	7.20E-05	5.11E-01	3.67E-06	6.54E-05
Road 24	24	1900-2000	1.31E-01	1.98E-07	3.53E-06	1.19E-01	1.80E-07	3.21E-06	5.48E-01	8.29E-07	1.48E-05	4.98E-01	7.53E-07	1.34E-05
Road 24	24	2000-2100	1.04E-01	6.51E-08	1.20E-06	9.56E-02	5.95E-08	1.10E-06	4.24E-01	2.64E-07	4.88E-06	3.85E-01	2.42E-07	4.46E-06
Road 24	24	2100-2200	1.18E-01	6.43E-08	1.19E-06	1.08E-01	5.87E-08	1.09E-06	4.80E-01	2.61E-07	4.83E-06	4.36E-01	2.37E-07	4.42E-06
Road 24	24	2200-0000	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 24	24	0000-0100	1.26E-01	1.54E-07	2.74E-06	1.11E-01	1.36E-07	2.42E-06	4.58E-01	5.59E-07	9.96E-06	4.04E-01	4.93E-07	8.79E-06
Road 24	24	0100-0200	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 24	24	0200-0300	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 24	24	0300-0400	1.16E-01	7.68E-08	1.37E-06	1.04E-01	6.92E-08	1.23E-06	4.22E-01	2.80E-07	4.99E-06	3.78E-01	2.47E-07	4.40E-06
Road 24	24	0400-0500	1.20E-01	7.80E-08	1.39E-06	1.07E-01	7.13E-08	1.27E-06	4.36E-01	2.84E-07	5.06E-06	3.98E-01	2.59E-07	4.63E-06
Road 24	24	0500-0600	1.36E-01	1.62E-07	2.90E-06	1.21E-01	1.47E-07	2.62E-06	4.93E-01	5.87E-07	1.05E-05	4.34E-01	5.18E-07	9.25E-06
Road 24	24	0600-0700	1.73E-01	1.00E-06	1.78E-05	1.54E-01	8.92E-07	1.59E-05	6.12E-01	3.54E-06	6.31E-05	5.44E-01	3.15E-06	5.61E-05
Road 24	24	0700-0800	1.58E-01	2.55E-07	6.39E-07	1.40E-01	2.27E-07	5.68E-07	5.63E-01	9.12E-07	2.29E-06	5.01E-01	8.11E-07	2.03E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	1.65E-02	4.21E-07	5.29E-06	1.38E-02	3.53E-07	4.43E-06	6.01E-02	1.53E-06	2.73E-05	5.04E-02	1.28E-06	4.26E-06
Road 27	27	1700-1800	1.44E-01	3.31E-07	1.02E-06	1.30E-01	3.00E-07	9.22E-07	5.73E-01	1.32E-06	4.06E-06	5.18E-01	1.19E-06	3.67E-06
Road 27	27	1800-1900	1.26E-01	1.99E-07	6.13E-07	1.15E-01	1.82E-07	5.61E-07	5.20E-01	8.22E-07	2.53E-06	4.76E-01	7.51E-07	2.31E-06
Road 27	27	1900-2000	1.16E-01	1.19E-07	3.67E-07	1.05E-01	1.09E-07	3.34E-07	4.95E-01	5.07E-07	1.56E-06	4.46E-01	4.58E-07	1.41E-06
Road 27	27	2000-2100	1.13E-01	9.25E-08	2.85E-07	1.04E-01	8.50E-08	2.62E-07	4.61E-01	3.79E-07	1.17E-06	4.23E-01	3.48E-07	1.07E-06
Road 27	27	2100-2200	1.15E-01	9.70E-08	2.99E-07	1.06E-01	8.93E-08	2.75E-07	4.70E-01	3.97E-07	1.22E-06	4.31E-01	3.65E-07	1.12E-06
Road 27	27	2200-2300	1.24E-01	9.10E-08	2.80E-07	1.14E-01	8.38E-08	2.58E-07	5.07E-01	3.72E-07	1.15E-06	4.65E-01	3.43E-07	1.05E-06
Road 27	27	2300-0000	1.28E-01	7.72E-08	2.38E-07	1.13E-01	6.84E-08	2.10E-07	4.83E-01	3.16E-07	9.73E-07	4.27E-01	2.91E-07	8.96E-07
Road 28	28	0000-0100	1.35E-02	6.92E-08	6.78E-07	1.24E-02	6.35E-08	6.22E-07	6.19E-02	3.17E-07	3.10E-06	5.68E-02	2.91E-07	2.85E-06
Road 28	28	0100-0200	1.05E-02	7.32E-08	4.15E-06	9.46E-03	6.58E-08	3.74E-06	4.81E-02	3.35E-07	1.90E-05	4.33E-02	3.01E-07	1.71E-05
Road 28	28	0200-0300	1.05E-02	4.47E-08	2.54E-06	9.46E-03	4.02E-08	2.29E-06	4.81E-02	2.05E-07	1.16E-05	4.33E-02	1.84E-07	1.05E-05
Road 28	28	0300-0400	1.19E-02	4.90E-08	2.78E-06	1.07E-02	4.49E-08	2.54E-06	5.44E-02	2.24E-07	1.27E-05	4.89E-02	2.05E-07	1.16E-05
Road 28	28	0400-0500	1.19E-02	5.85E-08	3.32E-06	1.07E-02	5.36E-08	3.04E-06	5.44E-02	2.68E-07	1.52E-05	4.89E-02	2.45E-07	1.39E-05
Road 28	28	0500-0600	1.44E-02	5.37E-08	3.05E-06	1.29E-02	4.92E-08	2.79E-06	6.58E-02	2.46E-07	1.39E-05	5.91E-02	2.25E-07	1.28E-05
Road 28	28	0600-0700	1.44E-02	2.19E-07	1.24E-06	1.29E-02	1.97E-07	1.12E-06	6.58E-02	1.00E-06	5.68E-06	5.91E-02	9.02E-07	5.12E-06
Road 28	28	0700-0800	1.44E-02	2.19E-07	1.24E-06	1.29E-02	1.97E-07	1.12E-06	6.58E-02	1.00E-06	5.68E-06	5.91E-02	9.02E-07	5.12E-06
Road 28	28	0800-0900	1.49E-02	2.98E-07	1.69E-06	1.34E-02	2.68E-07	1.52E-06	6.82E-02	1.36E-06	7.74E-06	6.12E-02	1.22E-06	6.95E-06
Road 28	28	0900-1000	1.49E-02	3.29E-07	1.87E-06	1.34E-02	2.96E-07	1.68E-06	6.82E-02	1.50E-06	8.56E-06	6.12E-02	1.35E-06	7.68E-06
Road 28	28	1000-1100	1.89E-02	6.11E-07	3.47E-06	1.71E-02	5.52E-07	3.14E-06	8.72E-02	2.82E-06	1.60E-05	7.90E-02	2.55E-06	1.45E-05
Road 28	28	1100-1200	1.96E-02	6.42E-07	3.65E-06	1.77E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.55E-02	4.90E-03	4.57E-05	3.48E-02	6.68E-03	6.24E-05	8.44E-02	1.62E-02	1.51E-04	1.15E-01	2.21E-02	2.06E-04
Road 47	47	1700-1800	1.80E-02	4.01E-03	1.25E-05	1.85E-02	3.68E-03	1.15E-05	8.78E-02	1.95E-02	6.10E-05	7.95E-02	1.77E-02	5.52E-05
Road 47	47	1800-1900	1.29E-02	3.24E-03	1.01E-05	1.18E-02	2.97E-03	9.29E-06	6.30E-02	1.58E-02	4.94E-05	5.70E-02	1.43E-02	4.46E-05
Road 47	47	1900-2000	1.07E-02	2.64E-03	6.68E-06	9.68E-03	2.39E-03	6.06E-06	5.90E-02	1.46E-02	3.69E-05	5.25E-02	1.30E-02	3.28E-05
Road 47	47	2000-2100	9.45E-03	1.47E-03	4.59E-06	8.70E-03	1.35E-03	4.22E-06	6.08E-02	9.45E-03	2.95E-05	5.48E-02	8.53E-03	2.66E-05
Road 47	47	2100-2200	9.83E-03	1.22E-03	3.55E-06	1.11E-02	1.38E-03	4.01E-06	6.75E-02	8.38E-03	2.43E-05	7.65E-02	9.48E-03	2.75E-05
Road 47	47	2200-2300	7.53E-03	1.14E-03	3.56E-06	6.61E-03	1.00E-03	3.12E-06	5.78E-02	8.74E-03	2.73E-05	4.89E-02	7.40E-03	2.31E-05
Road 47	47	2300-0000	8.15E-03	9.20E-04	2.87E-06	7.15E-03	8.06E-04	2.52E-06	5.94E-02	6.71E-03	2.10E-05	5.02E-02	5.67E-03	1.77E-05
Road 47	47	0000-0100	8.06E-03	6.56E-04	2.05E-06	7.07E-03	5.75E-04	1.80E-06	5.87E-02	4.78E-03	1.50E-05	4.96E-02	4.04E-03	1.26E-05
Road 48	48	0100-0200	6.32E-03	3.57E-04	1.38E-06	4.79E-03	4.30E-04	2.42E-06	3.66E-02	3.70E-03	2.09E-05	3.15E-02	3.19E-03	1.80E-05
Road 48	48	0200-0300	5.24E-03	2.41E-04	1.04E-06	4.46E-03	3.68E-04	2.52E-06	3.03E-02	2.50E-03	1.57E-05	2.93E-02	2.73E-03	1.87E-05
Road 48	48	0300-0400	7.35E-03	2.39E-04	1.60E-06	6.59E-03	2.14E-04	3.23E-07	4.54E-02	1.48E-03	2.73E-06	3.95E-02	1.28E-03	1.94E-06
Road 48	48	0400-0500	2.89E-03	2.81E-04	1.44E-06	7.58E-03	2.51E-04	3.78E-07	2.52E-02	1.74E-03	2.46E-06	4.08E-02	1.50E-03	2.27E-06
Road 48	48	0500-0600	8.63E-03	5.38E-04	2.75E-06	7.22E-03	4.96E-04	2.06E-06	4.47E-02	3.33E-03	1.42E-05	4.26E-02	2.93E-03	1.22E-05
Road 48	48	0600-0700	9.35E-03	1.24E-03	1.86E-06	8.30E-03	1.10E-03	1.65E-06	5.20E-02	6.87E-03	1.04E-05	4.48E-02	5.92E-03	8.93E-06
Road 48	48	0700-0800	1.24E-02	1.86E-03	2.35E-06	1.10E-02	1.65E-03	5.20E-06	6.87E-02	1.04E-02	1.45E-05	6.08E-02	9.16E-03	2.87E-05
Road 48	48	0800-0900	9.47E-03	2.93E-03	4.41E-06	8.44E-03	2.61E-03	3.93E-06	4.80E-02	1.48E-02	2.23E-05	4.18E-02	1.29E-02	1.95E-05
Road 48	48	0900-1000	1.72E-02	2.71E-03	4.10E-06	1.53E-02	2.41E-03	3.88E-06	5.03E-02	7.93E-03	1.20E-05	4.47E-02	7.04E-03	1.07E-05
Road 48	48	1000-1100	1.21E-02	2.83E-03	3.98E-06	1.08E-02	2.37E-03	3.57E-06	5.64E-02	1.23E-02	1.86E-05	4.99E-02	1.09E-02	1.64E-05
Road 48	48	1100-1200	1.15E-02	2.37E-03	3.57E-06	1.04E-02	2.15E-03	3.24E-06	5.60E-02	1.16E-02	1.75E-05	5.01E-02	1.03E-02	1.56E-05
Road 48	48	1200-1300	1.25E-02	2.61E-03	3.94E-06	1.13E-02	2.36E-03	3.56E-06	5.60E-02	1.17E-02	1.76E-05	5.01E-02	1.04E-02	1.57E-05
Road 48	48	1300-1400	2.03E-02	3.54E-03	5.35E-06	1.85E-02	3.22E-03	4.86E-06	7.67E-02	1.34E-02	2.02E-05	6.94E-02	1.21E-02	1.83E-05
Road 48	48	1400-1500	2.49E-02	3.59E-03	5.42E-06	2.26E-02	3.26E-03	4.92E-06	9.22E-02	1.33E-02	2.00E-05	8.35E-02	1.20E-02	1.81E-05
Road 48	48	1500-1600	1.89E-02	3.54E-03	5.34E-06	1.71E-02	3.20E-03	4.83E-06	8.56E-02	1.60E-02	2.42E-05	7.75E-02	1.45E-02	2.19E-05
Road 52	52	1600-1700	1.93E-02	3.73E-03	5.63E-06	1.77E-02	3.42E-03	5.16E-06	7.18E-02	1.38E-02	2.09E-05	6.54E-02	1.26E-02	1.90E-05
Road 52	52	1700-1800	3.09E-02	3.73E-03	5.59E-06	2.83E-02	3.42E-03	5.12E-06	1.15E-01	1.38E-02	2.07E-05	1.05E-01	1.26E-02	1.89E-05
Road 52	52	1800-1900	4.13E-02	2.55E-03	3.54E-06	3.01E-02	2.16E-03	3.25E-06	4.79E-02	9.88E-03	1.37E-05	4.34E-02	9.08E-03	1.37E-05
Road 52	52	1900-2000	2.71E-02	4.01E-03	5.60E-06	2.47E-02	3.66E-03	5.11E-06	4.57E-02	6.76E-03	9.44E-06	4.17E-02	6.17E-03	8.61E-06
Road 52	52	2000-2100	1.03E-02	3.15E-03	2.01E-06	9.48E-03	2.90E-03	1.85E-06	4.38E-02	5.69E-03	2.68E-05	4.03E-02	5.24E-03	2.47E-05
Road 52	52	2100-2200	9.48E-03	2.73E-03	1.74E-06	8.41E-03	2.42E-03	1.54E-06	4.02E-02	5.78E-03	2.72E-05	3.57E-02	5.13E-03	2.41E-05
Road 52	52	2200-2300	9.48E-03	2.64E-03	1.68E-06	8.41E-03	2.34E-03	1.49E-06	4.02E-02	5.59E-03	2.63E-05	3.57E-02	4.96E-03	2.33E-05
Road 52	52	2300-0000	1.11E-02	2.04E-03	1.30E-06	9.84E-03	1.81E-03	1.15E-06	4.80E-02	8.84E-03	5.62E-05	4.26E-02	7.84E-03	4.98E-05
Road 52	52	0000-0100	7.65E-03	2.73E-03	6.88E-07	6.82E-03	2.43E-03	6.12E-07	3.31E-02	1.18E-02	2.98E-06	2.95E-02	1.05E-02	2.65E-06
Road 52	52	0100-0200	6.32E-03	2.68E-03	6.32E-07	5.23E-03	2.22E-03	5.23E-07	2.73E-02	1.16E-02	2.73E-06	2.26E-02	9.60E-03	2.26E-06
Road 52	52	0200-0300	4.31E-03	2.64E-03	6.32E-07	3.46E-03	2.12E-03	5.07E-07	1.86E-02	1.14E-02	2.73E-06	1.49E-02	9.16E-03	2.19E-06
Road 52	52	0300-0400	8.73E-03	1.78E-03	4.49E-07	7.82E-03	1.59E-03	4.02E-07	5.45E-02	1.11E-02	2.80E-06	4.73E-02	9.64E-03	2.43E-06
Road 52	52	0400-0500	9.42E-03	2.09E-03	5.28E-07	8.45E-03	1.88E-03	4.74E-07	5.63E-02	1.25E-02	3.16E-06	4.90E-02	1.09E-02	2.75E-06
Road 52	52	0500-0600	1.39E-02	2.73E-03	6.88E-07	1.30E-02	2.56E-03	6.45E-07	8.30E-02	1.63E-02	4.11E-06	7.74E-02	1.52E-02	3.83E-06
Road 52	52	0600-0700	1.39E-02	2.81E-03	1.23E-02	1.01E-07	2.54E-06	7.32E-02	5.97E-07	1.51E-05	6.31E-02	5.15E-07	1.30E-05	5.44E-02
Road 52	52	0700-0800	2.54E-02	3.09E-03	2.76E-07	2.37E-02	2.88E-03	2.57E-07	1.50E-01	1.82E-02	1.62E-06	1.40E-01	1.70E-02	1.51E-06
Road 52	52	0800-0900	1.90E-02	3.59E-03	9.05E-06	1.68E-02	3.20E-03	8.07E-06	8.60E-02	1.62E-02	4.10E-05	7.61E-02	1.42E-02	3.58E-05
Road 49	49	0900-1000	1.88E-02	2.81E-03	7.09E-06	1.68E-02	2.51E-03	6.35E-06	8.81E-02	1.32E-02	3.33E-05	7.75E-02	1.16E-02	2.93E-05
Road 49	49	1000-1100	1.92E-02	3.20E-03	5.81E-06	1.71E-02	2.85E-03	5.17E-06	8.68E-02	1.45E-02	2.63E-05	7.64E-02	1.27E-02	2.31E-05
Road 49	49	1100-1200	1.79E-02	2.15E-03	5.43E-06	1.62E-02	1.95E-03	4.92E-06	8.69E-02	1.05E-02	2.64E-05	7.76E-02	9.36E-03	2.36E-05
Road 49	49	1200-1300	1.97E-02	2.15E-03	5.43E-06	1.79E-02	1.95E-03	4.92E-06	9.57E-02	1.05E-02	2.64E-05	8.55E-02	9.36E-03	2.36E-05
Road 49	49	1300-1400	2.18E-02	2.19E-03	5.52E-06	1.98E-02	1.99E-03	5.01E-06	9.62E-02	9.64E-03	2.43E-05	8.65E-02	8.67E-03	2.19E-05
Road 49	49	1400-1500	2.51E-02	6.33E-03	2.11E-05	2.29E-02	5.78E-03	9.98E-06	1.07E-01	2.70E-02	9.01E-05	9.65E-02	2.43E-02	8.10E-05
Road 49	49	1500-1600	2.22E-02	4.20E-03	1.40E-05	2.21E-02	3.75E-03	1.25E-05	9.97E-02	1.89E-02	6.29E-05	8.91E-02	1.69E-02	5.62E-05
Road 49	49	1600-1700	2.45E-02	2.95E-03	7.45E-06	2.24E-02	2.70E-03	6.82E-06	9.80E-02	1.18E-02	2.98E-05	8.88E-02	1.07E-02	2.70E-05
Road 49	49	1700-1800	3.09E-02	3.73E-03	9.43E-06	2.83E-02	3.42E-03	8.64E-06	1.15E-01	1.38E-02	3.50E-05	1.05E-01	1.26E-02	3.20E-05
Road 49	49	1800-1900	1.38E-02	2.22E-03	5.61E-06	1.27E-02	2.04E-03	5.15E-06	6.32E-02	1.02E-02	2.57E-05	5.71E-02	9.20E-03	2.32E-05
Road 49	49	1900-2000	1.00E-02	2.01E-03	2.57E-06	9.25E-03	1.86E-03	2.37E-06	5.94E-02	1.07E-02	2.73E-05	5.37E-02	9.64E-03	2.47E-05
Road 49	49	2000-2100	8.03E-03	2.03E-03	7.32E-06	7.85E-03	1.98E-03	5.00E-06	4.88E-02	4.89E-03	2.13E-05	4.77E-02	4.72E-03	2.06E-05
Road 49	49	2100-2200	8.57E-03	6.28E-04	1.59E-06	8.30E-03	6.08E-04	1.54E-06	5.20E-02	3.81E-03	9.66E-06	5.04E-02	3.69E-03	9.35E-06
Road 49	49	2200-2300	8.57E-03	6.28E-04	1.59E-06	8.30E-03	6.08E-04	1.54E-06	5.20E-02	3.81E-03	9.66E-06	5.04E-02	3.69E-03	9.35E-06
Road 50	50	0200-0300	3.48E-02	7.83E-03	1.12E-07	3.13E-02	7.05E-03	1.01E-07	1.38E-01	3.11E-02	4.44E-07	1.23E-01	2.78E-02	3.97E-07
Road 50	50	0300-0400	3.48E-02	7.83E-03	1.12E-07	3.13E-02	7.05E-03	1.01E-07	1.38E-01	3.11E-02	4.44E-07	1.23E-01	2.78E-02	3.97E-07
Road 50	50	0400-0500	3.72E-02	7.89E-03	1.13E-07	3.36E-02	7.13E-03	1.02E-07	1.47E-01	3.13E-02	4.50E-07	1.32E-01	2.82E-02	4.03E-07
Road 50	50	0500-0600	4.20E-02	5.59E-03	5.13E-07	3.76E-02	5.21E-03	4.58E-07	1.62E-01	2.16E-02	1.98E-06	1.44E-01	1.23E-02	1.76E-06
Road 50	50	0600-0700	4.60E-02	8.27E-03	1.18E-06	4.09E-02	7.35E-03	1.04E-06	1.77E-01	3.18E-02	4.55E-06	1.57E-01	2.91E-02	4.16E-06
Road 50	50	0700-0800	5.31E-02	8.44E-03	1.21E-06	4.72E-02	7.50E-03	1.07E-06	2.04E-01	3.25E-02	4.65E-06	1.81E-01	2.97E-02	4.25E-06
Road 50	50	0800-0900	4.82E-02	1.05E-02	1.50E-06	4.33E-02	9.45E-03	1.35E-06	1.85E-01	4.04E-02	5.78E-06	1.66E-01	3.72E-02	5.32E-06
Road 50	50	0900-1000	4.82E-02	1.05E-02	1.50E-06	4.33E-02	9.45E-03	1.35E-06	1.85E-01	4.04E-02	5.78E-06	1.66E-01	3.72E-02	5.32E-06
Road 50	50	1000-1100	5.18E-02	1.01E-02	1.44E-06	4.71E-02	9.19E-03	1.31E-06	1.98E-01	3.86E-02	5.52E-06	1.80E-01	3.51E-02	5.02E-06
Road 50	50	1100-1200	5.18E-02	1.01E-02	1.44E-06	4.71E-02	9.19E-03	1.31E-06	1.98E-01	3.86E-02	5.52E-06	1.80E-01	3.51E-02	5.02E-06
Road 50	50	1200-1300	5.44E-02	1.06E-02	1.51E-06	4.94E-02	9.64E-03	1.37E-06	2.08E-01	4.05E-02	5.79E-06	1.89E-01	3.68E-02	5.26E-06
Road 50	50	1300-1400	5.33E-02	5.09E-03	7.26E-07	5.03E-02	4.63E-03	6.61E-07	2.04E-01	1.87E-02	2.67E-06	1.85E-01	1.71E-02	2.43E-06
Road 50	50	1400-1500	5.64E-02	5.16E-03	7.37E-07	5.16E-02	4.72E-03	6.74E-07	2.02E-01	1.85E-02	2.64E-06	1.85E-01	1.69E-02	2.41E-06
Road 50	50	1500-1600	5.43E-02	4.82E-03	6.88E-07	4.98E-02	4.42E-03	6.31E-07	1.99E-01	1.77E-02	2.53E-06	1.83E-01	1.62E-02	2.32E-06
Road 50	50	1600-1700	5.43E-02	4.82E-03	6.88E-07	4.98E-02	4.42E-03	6.31E-07	1.99E-01	1.77E-02	2.53E-06	1.83E-01	1.62E-02	2.32E-06
Road 50	50	1700-1800	4.65E-02	1.79E-03	5.41E-07	4.27E-02	1.64E-03	4.97E-07	1.92E-01	7.39E-03	2.23E-06	1.76E-01	6.78E-03	2.04E-06
Road 50	50	1800-1900	4.07E-02	2.40E-03	3.42E-07	3.74E-02	2.20E-03	3.14E-07	1.68E-01	9.91E-03	1.41E-06	1.54E-01	9.08E-03	1.29E-06
Road 50	50	1900-2000	4.05E-02	2.60E-03	3.69E-07	3.72E-02	2.39E-03	3.39E-07	1.67E-01	1.07E-02	1.52E-06	1.53E-01	9.85E-03	1.40E-06
Road 50	50	2000-2100	3.78E-02	1.19E-03	1.70E-07	3.47E-02	1.09E-03	1.56E-07	1.56E-01	4.90E-03	7.00E-07	1.43E-01	4.50E-03	6.43E-07
Road 50	50	2100-2200	3.86E-02	1.24E-03	1.77E-07	3.54E-02	1.14E-03	1.62E-07	1.59E-01	5.11E-03	7.29E-07	1.46E-01	4.69E-03	6.69E-07
Road 50	50	2200-2300	4.33E-02	1.23E-03	1.76E-07	3.97E-02	1.13E-03	1.61E-07	1.78E-01	5.08E-03	7.24E-07	1.63E-01	4.66E-03	6.64E-07
Road 50	50	2300-0000	4.54E-02	1.04E-03	1.49E-07	4.02E-02	9.25E-04	1.32E-07	1.87E-01	4.29E-03	6.13E-07	1.65E-01	3.80E-03	5.43E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	5.58E-03	4.05E-03	8.67E-07	4.88E-03	3.54E-03	7.58E-07	4.23E-02	3.40E-02	6.51E-06	3.51E-02	2.92E-02	5.41E-06
Road 51	51	0100-0200	5.96E-03	3.20E-03	5.90E-07	5.30E-03	2.84E-03	5.30E-07	4.20E-02	2.25E-02	4.20E-06	3.61E-02	1.94E-02	3.61E-06
Road 51	51	0200-0300	6.46E-03	2.53E-03	4.71E-07	5.76E-03	2.25E-03	4.20E-07	4.31E-02	1.69E-02	3.14E-06	3.73E-02	1.46E-02	2.72E-06
Road 51	51	0300-0400	7.46E-03	2.52E-03	4.70E-07	6.69E-03	2.26E-03	4.21E-07	4.56E-02	1.54E-02	2.87E-06	3.97E-02	1.34E-02	2.50E-06
Road 51	51	0400-0500	8.59E-03	2.73E-03	5.09E-07	7.66E-03	2.43E-03	4.54E-07	5.25E-02	1.85E-02	3.45E-06	4.57E-02	1.61E-02	3.00E-06
Road 51	51	0500-0600	8.59E-03	4.77E-03	8.89E-07	7.66E-03	4.25E-03	7.92E-07	5.25E-02	2.91E-02	5.43E-06	4.57E-02	2.54E-02	4.73E-06
Road 51	51	0600-0700	8.96E-03	8.31E-03	1.55E-06	7.99E-03	7.41E-03	1.38E-06	5.47E-02	5.07E-02	9.46E-06	4.77E-02	4.42E-02	8.25E-06
Road 51	51	0700-0800	1.13E-02	2.57E-03	4.79E-07	1.00E-02	2.29E-03	4.27E-07	6.91E-02	1.57E-02	2.93E-06	6.02E-02	1.37E-02	2.55E-06
Road 51	51	0800-0900	8.96E-03	2.61E-03	4.87E-07	7.99E-03	2.33E-03	4.34E-07	5.47E-02	1.59E-02	2.97E-06	4.77E-02	1.39E-02	2.59E-06
Road 51	51	0900-1000	1.01E-02	2.62E-03	4.89E-07	9.00E-03	2.34E-03	4.36E-07	6.16E-02	1.60E-02	2.98E-06	5.37E-02	1.39E-02	2.59E-06
Road 51	51	1000-1100	1.08E-02	2.62E-03	4.89E-07	9.62E-03	2.34E-03	4.36E-07	6.59E-02	1.60E-02	2.98E-06	5.74E-02	1.39E-02	2.59E-06
Road 51	51	1100-1200	1.07E-02	2.05E-03	3.83E-06	1.06E-02	1.82E-03	3.40E-06	6.52E-02	1.25E-02	2.33E-05	5.68E-02	1.08E-02	2.02E-05
Road 51	51	1200-1300	1.14E-02	2.04E-03	3.81E-06	1.01E-02	1.81E-03	3.38E-06	6.96E-02	1.24E-02	2.32E-05	6.06E-02	1.08E-02	2.01E-05
Road 51	51	1300-1400	1.54E-02	2.04E-03	3.81E-06	1.37E-02	1.81E-03	3.38E-06	9.39E-02	1.24E-02	2.32E-05	8.18E-02	1.08E-02	2.01E-05
Road 51	51	1400-1500	1.45E-02	3.48E-03	7.94E-06	1.33E-02	3.18E-03	7.26E-06	5.06E-02	1.21E-02	2.76E-05	4.61E-02	1.10E-02	2.52E-05
Road 51	51	1500-1600	1.33E-02	3.29E-03	7.51E-06	1.20E-02	2.98E-03	6.80E-06	5.07E-02	1.25E-02	2.86E-05	4.58E-02	1.13E-02	2.59E-05
Road 51	51	1600-1700	1.32E-02	4.82E-03	1.10E-05	1.19E-02	4.35E-03	9.92E-06	5.03E-02	1.83E-02	4.18E-05	4.56E-02	1.66E-02	3.80E-05
Road 51	51	1700-1800	1.14E-02	2.62E-03	5.97E-06	1.05E-02	2.41E-03	5.49E-06	4.31E-02	9.92E-03	2.26E-05	3.98E-02	9.16E-03	2.09E-05
Road 51	51	1800-1900	1.23E-02	2.84E-03	6.47E-06	1.13E-02	2.61E-03	5.95E-06	4.67E-02	1.07E-02	2.45E-05	4.31E-02	9.94E-03	2.26E-05
Road 51	51	1900-2000	1.05E-02	2.62E-03	5.97E-06	9.66E-03	2.41E-03	5.49E-06	3.98E-02	9.92E-03	2.26E-05	3.68E-02	9.16E-03	2.09E-05
Road 51	51	2000-2100	1.08E-02	2.62E-03	5.97E-06	9.96E-03	2.41E-03	5.49E-06	4.11E-02	9.92E-03	2.26E-05	3.79E-02	9.16E-03	2.09E-05
Road 51	51	2100-2200	1.07E-02	2.62E-03	5.97E-06	9.84E-03	2.41E-03	5.49E-06	4.06E-02	9.92E-03	2.26E-05	3.74E-02	9.16E-03	2.09E-05
Road 51	51	2200-2300	1.07E-02	2.62E-03	5.97E-06	9.84E-03	2.41E-03	5.49E-06	4.06E-02	9.92E-03	2.26E-05	3.74E-02	9.16E-03	2.09E-05
Road 51	51	2300-0000	1.07E-02	2.62E-03	5.97E-06	9.84E-03	2.41E-03	5.49E-06	4.06E-02	9.92E-03	2.26E-05	3.74E-02	9.16E-03	2.09E-05
Road 52	52	0000-0100	5.72E-02	2.88E-04	1.48E-07	1.40E-02	7.06E-05	2.54E-08	1.30E-01	6.55E-04	3.37E-07	3.19E-02	1.61E-04	8.29E-08
Road 52	52	0100-0200	5.72E-02	2.88E-04	1.48E-07	1.40E-02	7.06E-05	2.54E-08	1.30E-01	6.55E-04	3.37E-07	3.19E-02	1.61E-04	8.29E-08
Road 52	52	0200-0300	5.44E-02	2.54E-04	1.31E-07	1.33E-02	6.22E-05	2.24E-08	1.24E-01	5.77E-04	2.98E-07	3.04E-02	1.42E-04	7.32E-08
Road 52	52	0300-0400	5.50E-02	1.56E-04	8.00E-08	5.03E-02	1.43E-04	7.31E-08	2.02E-01	5.72E-04	2.93E-07	1.84E-01	5.23E-04	2.68E-07
Road 52	52	0400-0500	5.50E-02	1.56E-04	8.00E-08	5.03E-02	1.43E-04	7.31E-08	2.02E-01	5.72E-04	2.93E-07	1.84E-01	5.23E-04	2.68E-07
Road 52	52	0500-0600	5.78E-02	2.94E-04	1.56E-07	5.23E-02	2.75E-04	1.41E-07	2.11E-01	1.11E-03	5.70E-07	1.91E-01	1.00E-03	5.15E-07
Road 52	52	0600-0700	6.49E-02	2.79E-04	1.48E-07	5.87E-02	2.52E-04	1.34E-07	2.37E-01	1.02E-03	5.42E-07	2.14E-01	9.21E-04	4.89E-07
Road 52	52	0700-0800	6.49E-02	1.67E-04	8.58E-08	5.78E-02	1.49E-04	7.64E-08	2.36E-01	6.08E-04	3.12E-07	2.10E-01	5.41E-04	2.77E-07
Road 52	52	0800-0900	6.49E-02	1.67E-04	8.58E-08	5.78E-02	1.49E-04	7.64E-08	2.36E-01	6.08E-04	3.12E-07	2.10E-01	5.41E-04	2.77E-07
Road 52	52	0900-1000	6.65E-02	2.34E-04	1.20E-07	6.00E-02	2.11E-04	1.08E-07	2.42E-01	8.85E-04	4.54E-07	2.17E-01	7.88E-04	4.09E-07
Road 52	52	1000-1100	6.96E-02	2.27E-04	1.16E-07	6.36E-02	2.08E-04	1.06E-07	2.52E-01	8.20E-04	4.20E-07	2.27E-01	7.37E-04	3.78E-07
Road 52	52	1100-1200	7.06E-02	2.38E-04	1.22E-07	6.46E-02	2.18E-04	1.12E-07	2.44E-01	8.24E-04	4.22E-07	2.24E-01	7.55E-04	3.87E-07
Road 52	52	1200-1300	7.06E-02	2.38E-04	1.22E-07	6.46E-02	2.18E-04	1.12E-07	2.44E-01	8.24E-04	4.22E-07	2.24E-01	7.55E-04	3.87E-07
Road 52	52	1300-1400	7.15E-02	2.69E-04	1.38E-07	6.58E-02	2.48E-04	1.27E-07	2.52E-01	9.48E-04	4.86E-07	2.32E-01	8.71E-04	4.47E-07
Road 52	52	1400-1500	7.15E-02	2.69E-04	1.38E-07	6.58E-02	2.48E-04	1.27E-07	2.52E-01	9.48E-04	4.86E-07	2.32E-01	8.71E-04	4.47E-07
Road 52	52	1500-1600	7.15E-02	2.69E-04	1.38E-07	6.58E-02	2.48E-04	1.27E-07	2.52E-01	9.48E-04	4.86E-07	2.32E-01	8.71E-04	4.47E-07
Road 52	52	1600-1700	6.60E-02	2.40E-04	1.23E-07	6.07E-02	2.20E-04	1.13E-07	2.33E-01	8.69E-04	4.45E-07	2.14E-01	7.99E-04	4.09E-07
Road 52	52	1700-1800	5.54E-02	2.82E-04	1.45E-07	5.10E-02	2.59E-04	1.33E-07	1.96E-01	9.98E-04	5.12E-07	1.80E-01	9.18E-04	4.71E-07
Road 52	52	1800-1900	5.54E-02	2.82E-04	1.45E-07	5.10E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 14	14	0800-0900	3.82E-02	1.13E-02	1.56E-05	3.51E-02	8.38E-07	1.56E-05	1.60E-01	3.80E-05	1.28E-01	1.07E-01	2.54E-05	5.23E-05
Road 14	14	0900-1000	4.32E-02	8.78E-07	1.50E-05	3.99E-02	8.12E-07	1.38E-05	1.60E-01	3.26E-06	5.55E-05	1.44E-01	2.98E-06	5.08E-05
Road 14	14	1000-1100	4.71E-02	8.47E-07	1.44E-05	4.37E-02	7.84E-07	1.34E-05	1.67E-01	3.00E-06	5.12E-05	1.54E-01	2.76E-06	4.70E-05
Road 14	14	1100-1200	4.60E-02	7.84E-07	1.34E-05	4.27E-02	7.27E-07	1.24E-05	1.62E-01	2.82E-06	4.80E-05	1.52E-01	2.60E-06	4.43E-05
Road 14	14	1200-1300	6.78E-02	1.44E-06	2.46E-05	6.34E-02	1.35E-06	2.30E-05	2.29E-01	4.87E-06	8.30E-05	2.13E-01	4.55E-06	7.75E-05
Road 14	14	1300-1400	6.74E-02	1.51E-06	2.57E-05	6.31E-02	1.41E-06	2.40E-05	2.36E-01	5.29E-06	9.02E-05	2.20E-01	4.93E-06	8.40E-05
Road 14	14	1400-1500	7.04E-02	1.64E-06	2.79E-05	6.52E-02	1.52E-06	2.59E-05	2.41E-01	5.61E-06	9.56E-05	2.23E-01	5.19E-06	8.84E-05
Road 14	14	1500-1600	6.50E-02	1.56E-06	2.65E-05	6.01E-02	1.44E-06	2.45E-05	2.40E-01	5.75E-06	9.80E-05	2.21E-01	5.30E-06	9.03E-05
Road 14	14	1600-1700	5.18E-02	1.50E-06	2.55E-05	4.79E-02	1.38E-06	2.35E-05	2.27E-01	6.57E-06	1.12E-04	2.09E-01	6.05E-06	1.03E-04
Road 14	14	1700-1800	5.12E-02	1.33E-06	2.28E-05	4.67E-02	1.22E-06	2.08E-05	1.97E-01	5.13E-06	8.75E-05	1.80E-01	4.66E-06	7.91E-05
Road 14	14	1800-1900	3.44E-02	1.02E-02	1.41E-05	3.16E-02	7.54E-07	1.40E-05	1.43E-01	3.42E-05	1.15E-01	9.61E-02	2.29E-05	4.71E-05
Road 14	14	1900-2000	2.59E-02	5.08E-07	8.66E-06	2.34E-02	4.59E-07	7.82E-06	1.12E-01	2.19E-06	3.74E-05	9.92E-02	1.95E-06	3.32E-05
Road 14	14	2000-2100	2.24E-02	4.37E-07	6.32E-06	2.03E-02	3.96E-07	5.70E-06	1.07E-01	2.08E-06	3.01E-05	9.52E-02	1.85E-06	2.68E-05
Road 14	14	2100-2200	2.30E-02	4.48E-07	6.32E-06	2.08E-02	4.06E-07	5.72E-06	1.09E-01	2.13E-06	3.00E-05	9.68E-02	1.89E-06	2.66E-05
Road 14	14	2200-2300	2.31E-02	3.41E-07	5.81E-06	2.09E-02	3.09E-07	5.26E-06	1.09E-01	1.62E-06	2.76E-05	9.71E-02	1.44E-06	2.45E-05
Road 14	14	2300-2400	2.31E-02	3.41E-07	5.81E-06	2.09E-02	3.09E-07	5.26E-06	1.09E-01	1.62E-06	2.76E-05	9.71E-02	1.44E-06	2.45E-05
Road 15	15	0000-0100	3.03E-02	5.36E-08	4.97E-07	2.77E-02	4.89E-08	4.52E-07	1.02E-01	1.80E-07	1.60E-06	9.44E-02	1.67E-07	1.54E-06
Road 15	15	0100-0200	3.88E-02	4.50E-07	3.60E-06	3.52E-02	4.08E-07	3.26E-06	1.07E-01	1.24E-06	9.91E-06	9.77E-02	1.13E-06	9.03E-06
Road 15	15	0200-0300	4.48E-02	4.47E-08	4.14E-07	4.16E-02	4.15E-08	3.84E-07	1.27E-01	1.27E-07	1.18E-06	1.17E-01	1.16E-07	1.08E-06
Road 15	15	0300-0400	5.13E-02	4.37E-08	4.05E-07	4.74E-02	4.04E-08	3.74E-07	1.40E-01	1.19E-07	1.10E-06	1.28E-01	1.09E-07	1.01E-06
Road 15	15	0400-0500	4.47E-02	4.51E-08	4.18E-07	4.12E-02	4.16E-08	3.85E-07	1.27E-01	1.28E-07	1.19E-06	1.17E-01	1.18E-07	1.07E-06
Road 15	15	0500-0600	4.06E-02	5.53E-08	5.12E-07	3.77E-02	5.14E-08	4.76E-07	1.25E-01	1.71E-07	1.58E-06	1.14E-01	1.56E-07	1.44E-06
Road 15	15	0600-0700	3.44E-02	6.32E-08	5.85E-07	3.19E-02	5.86E-08	5.42E-07	1.12E-01	2.06E-07	1.91E-06	1.02E-01	1.88E-07	1.74E-06
Road 15	15	0700-0800	4.99E-02	2.89E-07	2.68E-06	4.61E-02	2.67E-07	2.47E-06	1.52E-01	8.84E-07	8.19E-06	1.39E-01	8.06E-07	7.46E-06
Road 15	15	0800-0900	4.80E-02	3.15E-07	2.92E-06	4.44E-02	2.91E-07	2.70E-06	1.47E-01	9.61E-07	8.90E-06	1.34E-01	8.77E-07	8.12E-06
Road 15	15	0900-1000	3.85E-02	3.02E-07	2.80E-06	3.56E-02	2.79E-07	2.59E-06	1.49E-01	1.17E-06	1.08E-05	1.44E-01	1.13E-06	1.04E-05
Road 15	15	1000-1100	3.70E-02	2.92E-07	2.70E-06	3.30E-02	2.71E-07	2.51E-06	1.68E-01	8.61E-07	7.97E-06	1.55E-01	7.94E-07	7.36E-06
Road 15	15	1100-1200	3.76E-02	2.60E-07	2.41E-06	3.35E-02	2.42E-07	2.24E-06	1.49E-01	1.03E-06	9.53E-06	1.44E-01	9.96E-07	9.22E-06
Road 15	15	1200-1300	4.76E-02	4.62E-07	4.26E-06	6.34E-02	4.68E-07	4.33E-06	2.08E-01	1.53E-06	1.42E-05	1.94E-01	1.44E-06	1.33E-05
Road 15	15	1300-1400	6.95E-02	5.37E-07	4.98E-06	6.45E-02	4.99E-07	4.62E-06	2.21E-01	1.71E-06	1.58E-05	2.05E-01	1.58E-06	1.47E-05
Road 15	15	1400-1500	7.34E-02	5.31E-07	4.91E-06	6.81E-02	4.93E-07	4.56E-06	2.21E-01	1.60E-06	1.48E-05	2.05E-01	1.48E-06	1.37E-05
Road 15	15	1500-1600	6.46E-02	5.30E-07	4.91E-06	5.99E-02	4.91E-07	4.55E-06	2.15E-01	1.76E-06	1.63E-05	1.99E-01	1.63E-06	1.51E-05
Road 15	15	1600-1700	5.89E-02	5.30E-07	4.91E-06	5.46E-02	4.91E-07	4.55E-06	2.15E-01	1.93E-06	1.79E-05	1.99E-01	1.79E-06	1.66E-05
Road 15	15	1700-1800	5.40E-02	4.75E-07	4.40E-06	4.94E-02	4.34E-07	4.02E-06	1.83E-01	1.61E-06	1.49E-05	1.67E-01	1.46E-06	1.36E-05
Road 15	15	1800-1900	3.91E-02	1.16E-02	1.60E-05	3.59E-02	8.56E-07	1.59E-05	1.63E-01	3.88E-05	1.31E-01	1.09E-01	2.60E-05	5.34E-05
Road 15	15	1900-2000	2.59E-02	1.39E-07	1.04E-06	2.34E-02	1.43E-07	3.33E-06	1.04E-01	6.39E-07	5.92E-06	9.26E-02	5.67E-07	5.25E-06
Road 15	15	2000-2100	2.62E-02	1.27E-07	1.37E-06	2.36E-02	1.14E-07	3.00E-06	1.09E-01	5.29E-07	9.60E-06	9.68E-02	4.68E-07	4.33E-06
Road 15	15	2100-2200	2.74E-02	1.26E-07	1.06E-06	2.47E-02	1.13E-07	2.87E-06	1.09E-01	5.00E-07	4.23E-06	9.68E-02	4.44E-07	3.76E-06
Road 15	15	2200-2300	2.47E-02	1.15E-07	1.06E-06	2.22E-02	1.03E-07	2.87E-06	9.72E-02	4.51E-07	4.35E-06	9.05E-02	4.21E-07	3.90E-06
Road 15	15	2300-2400	2.59E-02	9.91E-08	9.08E-07	2.34E-02	8.94E-08	2.73E-06	1.09E-01	4.16E-07	3.81E-06	9.68E-02	3.70E-07	3.39E-06
Road 16	16	0000-0100	2.66E-02	5.66E-08	1.74E-06	7.86E-03	5.13E-08	1.67E-06	1.46E-01	2.09E-07	9.47E-06	4.61E-02	2.09E-07	9.47E-06
Road 16	16	0100-0200	9.42E-03	4.14E-08	1.27E-06	8.68E-03	3.82E-08	1.17E-06	5.48E-02	2.41E-07	7.39E-06	4.89E-02	2.15E-07	6.59E-06
Road 16	16	0200-0300	1.07E-02	3.97E-08	1.22E-06	9.86E-03	3.66E-08	1.12E-06	5.58E-02	2.07E-07	6.36E-06	4.98E-02	1.85E-07	5.68E-06
Road 16	16	0300-0400	1.15E-02	2.97E-08	9.81E-07	1.06E-02	2.73E-08	8.98E-07	5.42E-02	1.40E-07	4.62E-06	4.92E-02	1.27E-07	4.19E-06
Road 16	16	0400-0500	1.22E-02	3.33E-08	1.10E-06	1.12E-02	3.07E-08	1.01E-06	5.42E-02	1.48E-07	4.88E-06	4.92E-02	1.34E-07	4.43E-06
Road 16	16	0500-0600	2.22E-02	5.95E-08	1.82E-06	1.13E-02	5.51E-08	1.69E-06	6.35E-02	3.11E-07	9.53E-06	5.69E-02	2.78E-07	8.53E-06
Road 16	16	0600-0700	1.44E-02	1.30E-07	3.97E-06	1.31E-02	1.20E-07	3.68E-06	6.50E-02	6.26E-07	1.92E-05	5.91E-02	5.70E-07	1.75E-05
Road 16	16	0700-0800	1.93E-02	4.77E-07	1.46E-05	1.78E-02	4.41E-07	1.35E-05	8.54E-02	2.11E-06	6.48E-05	7.74E-02	1.91E-06	5.87E-05
Road 16	16	0800-0900	1.93E-02	3.27E-07	2.26E-06	1.78E-02	3.02E-07	2.08E-06	8.54E-02	1.45E-06	9.98E-06	7.74E-02	1.31E-06	9.03E-06
Road 16	16	0900-1000	2.00E-02	5.68E-07	1.13E-05	1.85E-02	5.24E-07	1.04E-05	8.59E-02	2.44E-06	4.84E-05	7.87E-02	2.22E-06	4.41E-05
Road 16	16	1000-1100	2.00E-02	5.68E-07	1.13E-05	1.85E-02	5.24E-07	1.04E-05	8.59E-02	2.44E-06	4.84E-05	7.87E-02	2.22E-06	4.41E-05
Road 16	16	1100-1200	1.33E-02	6.87E-07	2.11E-05	3.13E-02	2.98E-06	2.59E-06	7.92E-02	1.17E-01	2.42E-06	7.41E-02	1.09E-01	2.26E-06
Road 16	16	1200-1300	1.33E-02	6.87E-07	2.11E-05	3.44E-02	2.98E-06	2.59E-06	7.92E-02	1.17E-01	2.42E-06	7.41E-02	1.09E-01	2.26E-06
Road 16	16	1300-1400	1.56E-02	7.71E-07	2.36E-05	3.11E-02	2.98E-06	2.59E-06	7.92E-02	1.17E-01	2.42E-06	7.41E-02	1.09E-01	2.26E-06
Road 16	16	1400-1500	1.61E-02	8.39E-07	2.57E-05	3.35E-02	2.77E-06	2.38E-06	7.92E-02	1.17E-01	2.42E-06	7.41E-02	1.09E-01	2.26E-06
Road 16	16	1500-1600	1.61E-02	8.39E-07	2.57E-05	3.35E-02	2.77E-06	2.38E-06	7.92E-02	1.17E-01	2.42E-06	7.41E-02	1.09E-01	2.26E-06
Road 16	16	1600-1700	1.61E-02	8.39E-07	2.57E-05	3.35E-02	2.77E-06	2.38E-06	7.92E-02	1.17E-01	2.42E-06	7.41E-02	1.09E-01	2.26E-06
Road 16	16	1700-1800	1.89E-02	7.33E-07	2.25E-05	3.78E-02	2.73E-06	2.34E-06	7.92E-02	1.17E-01	2.42E-06	7.41E-02	1.09E-01	2.26E-06
Road 16	16	1800-1900	1.92E-02	4.91E-07	1.50E-05	1.74E-02	4.43E-07	1.36E-05	8.54E-02	2.19E-06	6.73E-05	7.66E-02	1.95E-06	5.99E-05
Road 16	16	1900-2000	2.20E-02	1.21E-07	9.26E-07	2.00E-02	1.10E-07	2.98E-06	9.82E-02	5.41E-07	4.14E-06	8.71E-02	4.80E-07	3.68E-06
Road 16	16	2000-2100	1.07E-02	1.64E-07	5.04E-06	9.63E-03	1.48E-07	4.55E-06	6.44E-02	9.88E-07	3.04E-05	5.77E-02	8.88E-07	2.73E-05
Road 16	16	2100-2200	1.00E-02	1.48E-07	4.52E-06	9.15E-03	1.35E-07	4.13E-06	6.50E-02	9.62E-07	8.54E-06	5.51E-02	7.98E-07	2.32E-05
Road 16	16	2200-2300	1.00E-02	1.48E-07	4.52E-06	9.15E-03	1.35E-07	4.13E-06	6.50E-02	9.62E-07	8.54E-06	5.51E-02	7.98E-07	2.32E-05
Road 16	16	2300-2400	1.07E-02	1.64E-07	5.04E-06	9.63E-03	1.48E-07	4.55E-06	6.44E-02	9.88E-07	3.04E-05	5.77E-02	8.88E-07	2.73E-05
Road 17	17	0000-0100	1.06E-02	1.96E-08	9.76E-08	1.61E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0100-0200	1.06E-02	1.96E-08	9.76E-08	1.61E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0200-0300	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0300-0400	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0400-0500	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0500-0600	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0600-0700	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0700-0800	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0800-0900	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	0900-1000	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	1000-1100	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	1100-1200	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	1200-1300	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	1300-1400	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	1400-1500	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06
Road 17	17	1500-1600	1.23E-02	1.96E-08	9.76E-08	1.52E-02	6.00E-08	2.98E-07	9.89E-02	1.83E-07	9.09E-07	1.50E-01	5.58E-07	2.77E-06

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2038.xlsx

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	4.28E-02	1.54E-06	4.52E-05	3.57E-02	1.28E-06	4.16E-05	1.66E-01	5.97E-06	1.68E-04	2.04E-01	7.32E-06	2.55E-04
Road 17	17	1700-1800	4.28E-02	1.44E-06	3.34E-05	3.92E-02	1.05E-06	3.06E-05	1.81E-01	4.82E-06	1.41E-04	1.64E-01	4.38E-06	1.28E-04
Road 17	17	1800-1900	2.37E-02	5.98E-07	1.75E-05	2.14E-02	5.40E-07	1.58E-05	1.06E-01	2.69E-06	7.86E-05	9.51E-02	2.40E-06	7.02E-05
Road 17	17	1900-2000	1.52E-02	2.89E-07	8.44E-06	1.36E-02	2.61E-07	7.63E-06	1.34E-01	2.41E-06	4.13E-05	6.52E-02	1.25E-06	3.55E-05
Road 17	17	2000-2100	1.28E-02	1.91E-07	5.60E-06	1.15E-02	1.72E-07	5.04E-06	6.98E-02	1.05E-06	3.06E-05	6.14E-02	9.21E-07	2.69E-05
Road 17	17	2100-2200	1.34E-02	1.85E-07	5.45E-06	1.21E-02	1.67E-07	4.91E-06	6.88E-02	1.01E-06	2.98E-05	6.05E-02	8.92E-07	2.63E-05
Road 17	17	2200-2300	1.24E-02	1.77E-07	5.16E-06	1.11E-02	1.62E-07	4.73E-06	6.44E-02	9.43E-07	2.76E-05	5.89E-02	8.60E-07	2.46E-05
Road 17	17	2300-0000	1.31E-02	1.43E-07	4.18E-06	1.20E-02	1.31E-07	3.82E-06	6.81E-02	7.42E-07	2.17E-05	6.08E-02	6.63E-07	1.94E-05
Road 18	18	0000-0100	8.42E-03	5.56E-08	1.27E-06	7.02E-03	5.04E-08	1.97E-06	5.25E-02	3.47E-07	7.92E-06	4.38E-02	2.89E-07	6.60E-06
Road 18	18	0100-0200	9.39E-03	4.07E-08	1.59E-06	8.68E-03	3.76E-08	1.47E-06	5.45E-02	2.37E-07	9.24E-06	4.88E-02	2.11E-07	8.26E-06
Road 18	18	0200-0300	1.04E-02	3.89E-08	1.52E-06	9.64E-03	3.59E-08	1.40E-06	5.58E-02	2.08E-07	8.14E-06	4.98E-02	1.85E-07	7.25E-06
Road 18	18	0300-0400	1.15E-02	2.93E-08	1.15E-06	1.06E-02	2.69E-08	1.05E-06	6.00E-02	1.53E-07	5.98E-06	5.31E-02	1.36E-07	5.29E-06
Road 18	18	0400-0500	1.28E-02	3.17E-08	1.24E-06	1.18E-02	2.93E-08	1.14E-06	6.35E-02	1.57E-07	6.17E-06	5.62E-02	1.39E-07	5.42E-06
Road 18	18	0500-0600	1.42E-02	4.13E-08	1.65E-06	1.30E-02	3.82E-08	1.52E-06	6.74E-02	1.96E-07	7.84E-06	5.97E-02	1.74E-07	6.96E-06
Road 18	18	0600-0700	1.24E-02	1.28E-07	4.99E-06	1.15E-02	1.19E-07	4.64E-06	6.48E-02	6.69E-07	2.61E-05	5.82E-02	6.01E-07	2.35E-05
Road 18	18	0700-0800	1.34E-02	2.87E-07	1.19E-05	1.24E-02	2.67E-07	1.03E-05	6.87E-02	1.45E-06	6.00E-05	6.45E-02	1.35E-06	5.58E-05
Road 18	18	0800-0900	1.31E-02	2.12E-07	8.66E-06	1.22E-02	1.96E-07	7.98E-06	6.87E-02	1.10E-06	4.49E-05	6.45E-02	1.04E-06	4.22E-05
Road 18	18	0900-1000	1.31E-02	2.12E-06	8.66E-06	1.22E-02	1.96E-07	7.98E-06	6.87E-02	1.10E-06	4.49E-05	6.45E-02	1.04E-06	4.22E-05
Road 18	18	1000-1100	1.72E-02	3.12E-07	1.27E-05	1.59E-02	2.89E-07	1.13E-05	7.59E-02	1.38E-06	5.39E-05	6.94E-02	1.26E-06	4.93E-05
Road 18	18	1100-1200	1.65E-02	2.84E-07	1.11E-05	1.54E-02	2.64E-07	1.03E-05	7.51E-02	1.29E-06	5.05E-05	6.94E-02	1.19E-06	4.64E-05
Road 18	18	1200-1300	2.27E-02	4.85E-07	1.89E-05	2.11E-02	4.52E-07	1.77E-05	9.39E-02	2.01E-06	7.84E-05	8.73E-02	1.87E-06	7.29E-05
Road 18	18	1300-1400	2.27E-02	4.85E-07	1.89E-05	2.11E-02	4.52E-07	1.77E-05	9.39E-02	2.01E-06	7.84E-05	8.73E-02	1.87E-06	7.29E-05
Road 18	18	1400-1500	2.41E-02	5.26E-07	2.06E-05	2.24E-02	4.90E-07	1.92E-05	9.39E-02	2.05E-06	8.03E-05	8.73E-02	1.91E-06	7.48E-05
Road 18	18	1500-1600	2.11E-02	4.83E-07	1.89E-05	1.96E-02	4.49E-07	1.75E-05	9.25E-02	2.12E-06	8.30E-05	8.59E-02	1.97E-06	7.68E-05
Road 18	18	1600-1700	2.15E-02	5.05E-07	1.97E-05	2.00E-02	4.68E-07	1.83E-05	8.77E-02	2.05E-06	8.03E-05	8.08E-02	1.89E-06	7.40E-05
Road 18	18	1700-1800	2.15E-02	4.49E-07	1.68E-05	2.00E-02	4.68E-07	1.75E-05	8.77E-02	1.83E-06	6.85E-05	8.08E-02	1.69E-06	6.32E-05
Road 18	18	1800-1900	1.22E-02	3.07E-07	1.20E-05	1.13E-02	2.78E-07	1.09E-05	5.32E-02	1.34E-06	5.26E-05	4.98E-02	1.23E-06	4.83E-05
Road 18	18	1900-2000	1.04E-02	1.58E-07	6.16E-06	9.36E-03	1.42E-07	5.54E-06	5.97E-02	9.04E-07	3.53E-05	5.21E-02	7.89E-07	3.08E-05
Road 18	18	2000-2100	9.78E-03	1.48E-07	5.77E-06	8.88E-03	1.34E-07	5.25E-06	5.83E-02	8.82E-07	3.44E-05	5.09E-02	7.70E-07	3.00E-05
Road 18	18	2100-2200	1.07E-02	1.62E-07	6.32E-06	9.74E-03	1.47E-07	5.74E-06	6.01E-02	9.09E-07	3.55E-05	5.25E-02	7.95E-07	3.10E-05
Road 18	18	2200-2300	1.07E-02	1.62E-07	6.32E-06	9.74E-03	1.47E-07	5.74E-06	6.01E-02	9.09E-07	3.55E-05	5.25E-02	7.95E-07	3.10E-05
Road 18	18	2300-0000	1.18E-02	4.59E-06	1.79E-04	1.07E-02	4.16E-06	1.62E-04	6.44E-02	2.51E-04	9.79E-03	5.26E-02	2.05E-04	7.99E-03
Road 19	19	0000-0100	1.23E-02	1.71E-08	1.52E-07	1.33E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0100-0200	1.33E-02	1.71E-08	1.52E-07	1.44E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0200-0300	1.33E-02	1.71E-08	1.52E-07	1.44E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0300-0400	1.33E-02	1.71E-08	1.52E-07	1.44E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0400-0500	1.33E-02	1.71E-08	1.52E-07	1.44E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0500-0600	1.33E-02	1.71E-08	1.52E-07	1.44E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0600-0700	1.33E-02	1.71E-08	1.52E-07	1.44E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0700-0800	1.33E-02	1.71E-08	1.52E-07	1.44E-02	5.18E-08	4.61E-07	1.02E-01	1.42E-07	1.26E-06	7.88E-02	1.10E-07	9.77E-07
Road 19	19	0800-0900	1.33E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	1.50E-02	2.67E-08	2.50E-07	2.41E-08	1.26E-07	8.33E-08	1.05E-06	5.51E-07	9.21E-07
Road 41	41	0100-0200	1.90E-02	2.35E-08	2.20E-07	1.76E-02	2.17E-08	2.04E-07	6.98E-02	8.63E-08	8.10E-07
Road 41	41	0200-0300	2.28E-02	2.20E-08	2.07E-07	2.11E-02	2.03E-08	1.91E-07	8.72E-02	8.45E-08	7.93E-07
Road 41	41	0300-0400	2.63E-02	2.12E-08	1.99E-07	2.41E-02	1.95E-08	1.83E-07	8.37E-02	6.75E-08	6.33E-07
Road 41	41	0400-0500	2.55E-02	2.21E-08	2.07E-07	2.38E-02	2.06E-08	1.93E-07	8.27E-02	7.16E-08	6.72E-07
Road 41	41	0500-0600	2.54E-02	2.74E-08	2.57E-07	2.36E-02	2.54E-08	2.38E-07	8.15E-02	8.77E-08	8.23E-07
Road 41	41	0600-0700	1.60E-02	4.32E-08	3.94E-07	1.48E-02	3.88E-08	3.54E-07	6.28E-02	1.69E-07	1.54E-06
Road 41	41	0700-0800	2.07E-02	1.18E-07	1.11E-06	1.91E-02	1.09E-07	1.02E-06	7.75E-02	4.43E-07	4.16E-06
Road 41	41	0800-0900	3.25E-02	1.68E-07	1.58E-06	3.00E-02	1.55E-07	1.46E-06	1.22E-01	6.31E-07	5.93E-06
Road 41	41	0900-1000	2.20E-02	1.21E-07	1.14E-06	2.03E-02	1.12E-07	1.05E-06	8.35E-02	4.60E-07	4.32E-06
Road 41	41	1000-1100	1.90E-02	1.04E-07	9.77E-07	1.75E-02	9.61E-08	9.02E-07	7.21E-02	3.96E-07	3.72E-06
Road 41	41	1100-1200	1.44E-02	1.14E-07	1.07E-06	1.32E-02	1.05E-07	9.87E-07	5.44E-02	4.32E-07	4.06E-06
Road 41	41	1200-1300	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 41	41	1300-1400	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 41	41	1400-1500	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 41	41	1500-1600	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 41	41	1600-1700	1.50E-02	1.52E-07	1.43E-06	1.38E-02	1.40E-07	1.31E-06	5.67E-02	5.74E-07	5.39E-06
Road 41	41	1700-1800	2.21E-02	2.78E-07	2.61E-06	2.03E-02	2.55E-07	2.40E-06	8.34E-02	1.05E-06	9.85E-06
Road 41	41	1800-1900	1.90E-02	1.18E-07	1.11E-06	1.72E-02	1.07E-07	1.00E-06	6.81E-02	4.25E-07	3.98E-06
Road 41	41	1900-2000	1.25E-02	5.50E-08	5.16E-07	1.15E-02	4.96E-08	4.65E-07	5.79E-02	2.54E-07	2.38E-06
Road 41	41	2000-2100	1.25E-02	4.47E-08	4.20E-07	1.15E-02	4.03E-08	3.78E-07	5.79E-02	2.07E-07	1.94E-06
Road 41	41	2100-2200	1.25E-02	4.35E-08	4.08E-07	1.14E-02	3.95E-08	3.71E-07	5.68E-02	2.01E-07	1.89E-06
Road 41	41	2200-2300	1.24E-02	3.95E-08	3.71E-07	1.14E-02	3.63E-08	3.41E-07	5.68E-02	1.81E-07	1.70E-06
Road 41	41	2300-0000	1.48E-02	3.80E-08	3.57E-07	1.34E-02	3.45E-08	3.23E-07	6.58E-02	1.70E-07	1.59E-06
Road 42	42	0000-0100	2.48E-02	4.93E-08	2.31E-06	2.25E-02	4.47E-08	2.10E-06	1.61E-01	3.20E-07	1.50E-06
Road 42	42	0100-0200	3.14E-02	4.36E-08	2.04E-06	2.85E-02	3.96E-08	1.86E-06	2.04E-01	2.83E-07	1.33E-06
Road 42	42	0200-0300	3.69E-02	3.97E-08	1.86E-06	3.31E-02	3.56E-08	1.67E-06	2.38E-01	2.56E-07	1.20E-06
Road 42	42	0300-0400	4.13E-02	3.99E-08	1.87E-06	3.72E-02	3.59E-08	1.68E-06	2.67E-01	2.58E-07	1.21E-06
Road 42	42	0400-0500	4.13E-02	3.99E-08	1.87E-06	3.72E-02	3.59E-08	1.68E-06	2.67E-01	2.58E-07	1.21E-06
Road 42	42	0500-0600	3.39E-02	5.08E-08	2.39E-06	3.72E-02	5.08E-08	2.39E-06	2.67E-01	3.65E-07	1.72E-06
Road 42	42	0600-0700	2.76E-02	7.56E-08	3.55E-06	2.48E-02	6.79E-08	3.19E-06	1.78E-01	4.88E-07	2.29E-06
Road 42	42	0700-0800	4.05E-02	2.59E-07	6.58E-06	3.74E-02	2.40E-07	6.08E-06	1.34E-01	8.56E-07	2.17E-05
Road 42	42	0800-0900	4.26E-02	2.61E-07	6.62E-06	3.94E-02	2.41E-07	6.12E-06	1.41E-01	8.63E-07	2.19E-05
Road 42	42	0900-1000	4.36E-02	2.71E-07	6.88E-06	4.03E-02	2.51E-07	6.36E-06	1.42E-01	8.80E-07	2.23E-05
Road 42	42	1000-1100	4.36E-02	2.57E-07	6.52E-06	4.03E-02	2.38E-07	6.03E-06	1.42E-01	8.34E-07	2.11E-05
Road 42	42	1100-1200	4.86E-02	2.57E-07	6.52E-06	4.52E-02	2.39E-07	6.05E-06	1.52E-01	8.04E-07	2.04E-05
Road 42	42	1200-1300	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 42	42	1300-1400	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 42	42	1400-1500	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 42	42	1500-1600	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 42	42	1600-1700	4.66E-02	2.76E-07	7.01E-06	5.97E-02	2.58E-07	6.56E-06	1.77E-01	7.58E-07	1.92E-05
Road 42	42	1700-1800	5.58E-02	2.49E-07	6.31E-06	5.09E-02	2.29E-07	5.79E-06	1.59E-01	7.10E-07	1.80E-05
Road 42	42	1800-1900	4.50E-02	2.67E-07	6.78E-06	4.11E-02	2.45E-07	6.22E-06	1.28E-01	7.58E-07	1.92E-05
Road 42	42	1900-2000	2.80E-02	8.00E-08	2.03E-06	2.56E-02	7.32E-08	1.86E-06	7.97E-02	2.27E-07	5.77E-06
Road 42	42	2000-2100	2.92E-02	6.69E-08	1.70E-06	2.66E-02	6.09E-08	1.54E-06	8.29E-02	1.89E-07	4.81E-06
Road 42	42	2100-2200	2.92E-02	6.31E-08	1.60E-06	2.66E-02	5.74E-08	1.46E-06	8.29E-02	1.79E-07	4.54E-06
Road 42	42	2200-2300	2.89E-02	6.31E-08	1.60E-06	2.63E-02	5.74E-08	1.46E-06	8.20E-02	1.79E-07	4.54E-06
Road 42	42	2300-0000	3.46E-02	6.31E-08	1.60E-06	3.15E-02	5.74E-08	1.46E-06	9.81E-02	1.79E-07	4.54E-06
Road 43	43	0000-0100	1.45E-02	4.24E-09	4.34E-08	1.31E-02	3.84E-09	3.93E-08	6.01E-02	1.76E-08	1.80E-07
Road 43	43	0100-0200	1.83E-02	3.61E-09	3.70E-08	1.66E-02	3.27E-09	3.35E-08	7.59E-02	1.50E-08	1.53E-07
Road 43	43	0200-0300	2.34E-02	3.76E-09	3.85E-08	2.12E-02	3.41E-09	3.50E-08	9.72E-02	1.56E-08	1.60E-07
Road 43	43	0300-0400	2.68E-02	3.78E-09	3.87E-08	2.43E-02	3.42E-09	3.51E-08	1.11E-01	1.57E-08	1.61E-07
Road 43	43	0400-0500	2.63E-02	3.78E-09	3.87E-08	2.45E-02	3.52E-09	3.61E-08	8.15E-02	1.17E-08	1.20E-07
Road 43	43	0500-0600	2.01E-02	4.37E-09	4.48E-08	2.45E-02	4.06E-09	4.15E-08	8.22E-02	1.36E-08	1.40E-07
Road 43	43	0600-0700	1.77E-02	6.50E-09	6.66E-08	2.45E-02	6.00E-09	6.15E-08	8.22E-02	2.01E-08	2.06E-07
Road 43	43	0700-0800	2.01E-02	1.83E-08	1.87E-07	2.33E-02	1.69E-08	6.95E-08	6.54E-02	5.97E-08	6.11E-07
Road 43	43	0800-0900	2.01E-02	1.83E-08	1.87E-07	2.33E-02	1.69E-08	6.95E-08	6.54E-02	5.97E-08	6.11E-07
Road 43	43	0900-1000	2.11E-02	1.80E-08	1.84E-07	1.95E-02	1.67E-08	6.87E-08	5.50E-02	5.88E-08	6.02E-07
Road 43	43	1000-1100	2.36E-02	1.77E-08	1.81E-07	2.18E-02	1.64E-08	6.74E-08	6.15E-02	5.77E-08	5.91E-07
Road 43	43	1100-1200	2.25E-02	1.85E-08	1.89E-07	2.08E-02	1.71E-08	7.04E-08	5.86E-02	6.03E-08	6.17E-07
Road 43	43	1200-1300	2.05E-02	1.69E-08	1.73E-07	1.90E-02	1.57E-08	6.44E-08	5.36E-02	5.52E-08	5.65E-07
Road 43	43	1300-1400	2.05E-02	1.69E-08	1.73E-07	1.90E-02	1.57E-08	6.44E-08	5.36E-02	5.52E-08	5.65E-07
Road 43	43	1400-1500	2.05E-02	1.69E-08	1.73E-07	1.90E-02	1.57E-08	6.44E-08	5.36E-02	5.52E-08	5.65E-07
Road 43	43	1500-1600	1.92E-02	5.90E-08	6.04E-07	1.77E-02	5.45E-08	5.95E-07	5.02E-02	1.54E-07	1.68E-06
Road 43	43	1600-1700	1.76E-02	1.59E-07	1.63E-06	1.62E-02	1.47E-07	6.03E-07	4.60E-02	4.16E-07	1.71E-06
Road 43	43	1700-1800	1.50E-02	5.33E-08	5.46E-07	1.37E-02	4.85E-08	4.97E-07	3.92E-02	1.39E-07	1.42E-06
Road 43	43	1800-1900	1.50E-02	5.33E-08	5.46E-07	1.37E-02	4.85E-08	4.97E-07	3.92E-02	1.39E-07	1.42E-06
Road 43	43	1900-2000	8.60E-03	2.46E-08	2.52E-07	7.74E-03	2.22E-08	2.27E-07	2.41E-02	6.91E-08	7.08E-07
Road 43	43	2000-2100	7.87E-03	1.76E-08	1.81E-07	7.13E-03	1.60E-08	1.64E-07	2.20E-02	4.94E-08	5.06E-07
Road 43	43	2100-2200	7.80E-03	1.69E-08	1.73E-07	7.07E-03	1.53E-08	1.56E-07	2.18E-02	4.72E-08	4.84E-07
Road 43	43	2200-2300	7.80E-03	1.69E-08	1.73E-07	7.07E-03	1.53E-08	1.56E-07	2.18E-02	4.72E-08	4.84E-07
Road 43	43	2300-0000	9.31E-03	1.69E-08	1.73E-07	8.44E-03	1.53E-08	1.56E-07	2.62E-02	4.72E-08	4.84E-07
Road 44	44	0000-0100	1.50E-02	2.67E-08	2.50E-07	2.41E-08	1.26E-07	8.33E-08	1.05E-06	5.51E-07	9.21E-07
Road 44	44	0100-0200	1.90E-02	2.35E-08	2.20E-07	1.76E-02	2.17E-08	2.04E-07	6.98E-02	8.63E-08	8.10E-07
Road 44	44	0200-0300	2.28E-02	2.20E-08	2.07E-07	2.11E-02	2.03E-08	1.91E-07	8.72E-02	8.45E-08	7.93E-07
Road 44	44	0300-0400	2.63E-02	2.12E-08	1.99E-07	2.41E-02	1.95E-08	1.83E-07	8.37E-02	6.75E-08	6.33E-07
Road 44	44	0400-0500	2.55E-02	2.21E-08	2.07E-07	2.38E-02	2.06E-08	1.93E-07	8.27E-02	7.16E-08	6.72E-07
Road 44	44	0500-0600	2.54E-02	2.74E-08	2.57E-07	2.36E-02	2.54E-08	2.38E-07	8.15E-02	8.77E-08	8.23E-07
Road 44	44	0600-0700	1.60E-02	4.32E-08	3.94E-07	1.48E-02	3.88E-08	3.54E-07	6.28E-02	1.69E-07	1.54E-06
Road 44	44	0700-0800	2.07E-02	1.18E-07	1.11E-06	1.91E-02	1.09E-07	1.02E-06	7.75E-02	4.43E-07	4.16E-06
Road 44	44	0800-0900	3.25E-02	1.68E-07	1.58E-06	3.00E-02	1.55E-07	1.46E-06	1.22E-01	6.31E-07	5.93E-06
Road 44	44	0900-1000	2.20E-02	1.21E-07	1.14E-06	2.03E-02	1.12E-07	1.05E-06	8.35E-02	4.60E-07	4.32E-06
Road 44	44	1000-1100	1.90E-02	1.04E-07	9.77E-07	1.75E-02	9.61E-08	9.02E-07	7.21E-02	3.96E-07	3.72E-06
Road 44	44	1100-1200	1.44E-02	1.14E-07	1.07E-06	1.32E-02	1.05E-07	9.87E-07	5.44E-02	4.32E-07	4.06E-06
Road 44	44	1200-1300	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 44	44	1300-1400	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 44	44	1400-1500	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 44	44	1500-1600	1.44E-02	1.07E-07	1.01E-06	1.32E-02	9.87E-08	9.26E-07	5.44E-02	4.06E-07	3.81E-06
Road 44	44	1600-1700	1.50E-02	1.52E-07	1.43E-06	1.38E-02	1.40E-07	1.31E-06	5.67E-02	5.74E-07	5.39E-06
Road 44	44	1700-1800	2.21E-02	2.78E-07	2.61E-06	2.03E-02	2.55E-07	2.40E-06	8.34E-02	1.05E-06	9.85E-06
Road 44	44	1800-1900	1.90E-02	1.18E-07	1.11E-06	1.72E-02	1.07E-07	1.00E-06	6.81E-02	4.25E-07	3.98E-06
Road 44	44	1900-2000	1.25E-02	5.50E-08	5.16E-07	1.15E-02	4.96E-08	4.65E-07	5.79E-02	2.54E-07	2.38E-06
Road 44	44	2000-2100	1.25E-02	4.47E-08	4.20E-07	1.15E-02	4.03E-08	3.78E-07	5.79E-02	2.07E-07	1.94E-06
Road 44	44	2100-2200	1.25E-02	4.35E-08	4.08E-07	1.14E-02	3.95E-08	3.71E-07	5.68E-02	2.01E-07	1.89E-06
Road 44	44	2200-2300	1.24E-02	3.95E-08	3.71E-07	1.14E-02	3.63E-08	3.41E-07	5.68E-02	1.81E-07	1.70E-06
Road 44	44	2300-0000	1.48E-02	3.80E-08	3.57E-07	1.34E-02	3.45E-08	3.23E-07	6.58E-02	1.70E-07	1.59E-06
Road 45	45	0000-0100	2.48E-02	4.93E-08	2.31E-06	2.25E-02	4.47E-08	2.10E-06	1.61E-01	3.20E-07	1.50E-06
Road 45	45	0100-0200	3.14E-02	4.36E-08	2.04E-06	2.85E-02	3.96E-08	1.86E-06	2.04E-01	2.83E-07	1.33E-06
Road 45	45	0200-0300	3.69E-02	3.97E-08	1.86E-06	3.31E-02	3.56E-08	1.67E-06	2.38E-01	2.56E-07	1.20E-06
Road 45	45	0300-0400	4.13E-02	3.99E-08	1.87E-06	3.72E-02	3.59E-08	1.68E-06	2.67E-01	2.58E-07	1.21E-06
Road 45	45	0400-0500	4.13E-02	3.99E-08	1.87E-06	3.72E-02	3.59E-08	1.68E-06	2.67E-01	2.58E-07	1.21E-06
Road 45	45	0500-0600	3.39E-02	5.08E-08	2.39E-06	3.72E-02	5.08E-08	2.39E-06	2.67E-01	3.65E-07	1.72E-06
Road 45	45	0600-0700	2.76E-02	7.56E-08	3.55E-06	2.48E-02	6.79E-08	3.19E-06	1.78E-01	4.88E-07	2.29E-06
Road 45	45	0700-0800	4.05E-02	2.59E-07	6.58E-06	3.74E-02	2.40E-07	6.08E-06	1.34E-01	8.56E-07	2.17E-05
Road 45	45	0800-0900	4.26E-02	2.61E-07	6.62E-06	3.94E-02	2.41E-07	6.12E-06	1.41E-01	8.63E-07	2.19E-05
Road 45	45	0900-1000	4.36E-02	2.71E-07	6.88E-06	4.03E-02	2.51E-07	6.36E-06	1.42E-01	8.80E-07	2.23E-05
Road 45	45	1000-1100	4.36E-02	2.57E-07	6.52E-06	4.03E-02	2.38E-07	6.03E-06	1.42E-01	8.34E-07	2.11E-05
Road 45	45	1100-1200	4.86E-02	2.57E-07	6.52E-06	4.52E-02	2.39E-07	6.05E-06	1.52E-01	8.04E-07	2.04E-05
Road 45	45	1200-1300	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 45	45	1300-1400	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 45	45	1400-1500	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 45	45	1500-1600	4.94E-02	2.67E-07	6.78E-06	4.94E-02	2.50E-07	6.34E-06	2.01E-01	1.08E-06	2.74E-05
Road 45	45	1600-1700	4.66E-02	2.76E-07	7.01E-06	5.97E-02	2.58E-07	6.56E-06	1.77E-01	7.58E-07	1.92E-05
Road 45	45	1700-1800	5.58E-02	2.49E-07	6.31E-06	5.09E-02	2.29E-07	5.79E-06	1.59E-01	7.10E-07	1.80E-05
Road 45	45	1800-1900	4.50E-02	2.67E-07	6.78E-06	4.11E-02	2.45E-07	6.22E-06	1.28E-01	7.58E-07	1.92E-05
Road 45	45	1900-2000	2.80E-02	8.00E-08	2.03E-06	2.56E-02	7.32E-08	1.86E-06	7.97E-02	2.27E-07	5.77E-06
Road 45	45	2000-2100	2.92E-02	6.69E-08	1.70E-06	2.66E-02	6.09E-08	1.54E-06	8.29E-02	1.89E-07	4.81E-06
Road 45	45	2100-2200	2.92E-02	6.31E-08	1.60E-06	2.66E-02	5.74E-08	1.46E-06	8.29E-02	1.79E-07	4.54E-06
Road 45	45	2200-2300	2.89E-02	6.31E-08	1.60E-06	2.63E-02	5.74E-08	1.46E-06	8.20E-02	1.79E-07	4.54E-06
Road 45	45	2300-0000	3.46E-02	6.31E-08	1.60E-06	3.15E-02	5.74E-08	1.46E-06	9.81E-02	1.79E-07	4.54E-06
Road 46	46	0000-0100	1.45E-02	4.24E-09	4.34E-08	1.31E-02	3.84E-09	3.93E-08	6.01E-02	1.76E-08	1.80E-07
Road 46	46	0100-0200	1.83E-02	3.61E-09	3.70E-08	1.66E-02	3.27E-09	3.35E-08	7.59E-02	1.50E-08	1.53E-07
Road 46	46	0200-0300	2.34E-02	3.76E-09	3.85E-08	2.12E-02	3.41E-09	3.50E-08	9.72E-02	1.56E-08	1.60E-07
Road 46	46	0300-0400	2.68E-02	3.78E-09	3.87E-08	2.43E-02	3.42E-09	3.51E-08	1.11E-01	1.57E-08	1.61E-07
Road 46	46	0400-0500	2.63E-02	3.78E-09	3.87E-08	2.45E-02	3.52E-09	3.61E-08	8.15E-02	1.17E-08	1.20E-07
Road 46	46	0500-0600	2.01E-02	4.37E-09	4.48E-08	2.45E-02	4.06E-09	4.15E-08	8.22E-02	1.36E-08	1.40E-07
Road 46	46	0600-0700	1.77E-02	6.50E-09	6.66E-08	2.45E-02	6.00E-09	6.15E-08	8.22E-02	2.01E-08	2.06E-07
Road 46	46	0700-0800	2.01E-02	1.83E-08	1.87E-07	2.33E-02	1.69E-08	6.95E-08	6.54E-02	5.97E-08	6.11E-07
Road 46	46	0800-0900	2.01E-02	1.83E-08	1.87E-07	2.33E-02	1.69E-08	6.95E-08	6.54E-02	5.97E-08	6.11E-07
Road 46	46	0900-1000	2.11E-02	1.80E-08	1.84E-07	1.95E-02	1.67E-08	6.87E-08	5.50E-02	5.88E-08	6.02E-07
Road 46	46	1000-1100	2.36E-02	1.77E-08	1.81E-07	2.18E-02	1.64E-08	6.74E-08	6.15E-02	5.77E-08	5.91E-07
Road 46	46	1100-1200	2.25E-02	1.85E-08	1.89E-07	2.08E-02	1.71E-08	7.04E-08	5.86E-02	6.03E-08	6.17E-07
Road 46	46	1200-1300	2.05E-02	1.69E-08	1.73E-07	1.90E-02	1.57E-08	6.44E-08	5.36E-02	5.52E-08	5.65E-07
Road 46	46	1300-1400	2.05E-02	1.69E-08	1.73E-07	1.90E-02	1.57E-08	6.44E-08	5.36E-02	5.52E-08	5.65E-07
Road 46	46	1400-1500	2.05E-02	1.69E-08	1.73E-07	1.90E-02	1.57E-08	6.44E-08	5.36E-02	5.52E-08	5.65E-07
Road 46	46	1500-1600	1.92E-02	5.90E-08	6.04E-07	1.77E-02	5.45E-08	5.95E-07	5.02E-02	1.54E-07	1.68E-06
Road 46	46	1600-1700	1.76E-02	1.59E-07	1.63E-06	1.62E-02	1.47E-07	6.03E-07	4.60E-02	4.16E-07	1.71E-06
Road 46	46	1700-1800	1.50E-02	5.33E-08	5.46E-07	1.37E-02	4.85E-08	4.97E-07	3.92E-02	1.39E-07	1.42E-06
Road 46	46	1800-1900	1.50E-02	5.33E-08	5.46E-07	1.37E-02	4.85E-08	4.97E-07	3.92E-02	1.39E-07	1.42E-06
Road 46	46	1900-2000	8.60E-03	2.46E-08	2.52E-07	7.74E-03	2.22E-08	2.27E-07	2.41E-02	6.91E-08	7.08E-07
Road 46	46	2000-2100	7.87E-03	1.76E-08	1.81E-07	7.13E-03	1.60E-08	1.64E-07	2.20E-02	4.94E-08	5.06E-07
Road 46	46	2100-2200	7.80E-03	1.69E-08	1.73E-07	7.07E-03	1.53E-08	1.56E-07	2.18E-02	4.72E-08	4.84E-07
Road 46	46	2200-2300	7.80E-03	1.69E-08	1.73E-07	7.07E-03	1.53E-08	1.56E-07	2.18E-02	4.72E-08	4.84E-07
Road 46	46	2300-0000	9.31E-03	1.69E-08	1.73E-07	8.44E-03	1.53E-08	1.56E-07	2.62E-02	4.72E-08	4.84E-07
Road 47	47	0000-0100	1.50E-02	2.67E-08	2.50E-07	2.41E-08	1.26E-07	8.33E-08	1.05E-06	5.51E-07	9.21E-07
Road 47	47	0100-0200	1.90E-02	2.35E-08	2.20E-07	1.76E-02	2.17E-08	2.04E-07	6.98E-02	8.63E-08	8.10E-07
Road 47	47	0200-0300	2.28E-02	2.20E-08	2.07E-07	2.11E-02	2.03E-08	1.91E-07	8.72E-02	8.45E-08	7.93E-07
Road 47	47	0300-0400	2.63E-02	2.12E-08	1.99E-07	2.41E-02	1.95E-08	1.83E-07	8.37E-02	6.75E-08	6.33E-07
Road 47	47	0400-0500	2.55E-02	2.21E-08	2.07E-07	2.38E-02	2.06E-08	1.93E-07	8.27E-02	7.16E-08	6.72E-07
Road 47	47	0500-0600	2.54E-02	2.74E-08	2.57E-07	2.36E-02	2.54E-08	2.38E-07	8.15E-02	8.77E-08	8.23E-07
Road 47	47	0600-0700	1.60E-02	4.32E-08	3.94E-07	1.48E-02	3.88E-08	3.54E-07	6.28E-02	1.69E-07	1.54E-06
Road 47	47	0700-0800	2.07E-02	1.18E-07	1.11E-06	1.91E-02	1.09E-07	1.02E-06	7.75E-02	4.43E-07	4.16E-06
Road 47	47	0800-0900	3.25E-02	1.68E-07	1.58E-06	3.00E-02	1.55E-07	1.46E-06	1.22E-01	6.31E-07	5.93E-06
Road 47	47	0900-1000	2.20E-02	1.21E-07	1.14E-06	2.03E-02	1.12E-07	1.05E-06	8.35E-02	4.60E-07	4.32E-06
Road 47	47	1000-1100	1.90E-02	1.04E-07	9.77E-07	1.75E-02	9.61E-08	9.02E-07	7.21E-02	3.96E-07	3.72E-06
Road 47	47	1100-1200	1.44E-02	1.14E-07	1.07E-06	1.32E-02	1.05E-07	9.87E-07	5.44E-02	4.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	tonne/hour	g/km/veh	g/s/m²	tonne/hour	tonne/hour
Road 1	1	0000-0100	1.28E-02	4.97E-07	5.54E-06	1.70E-03	3.38E-02	2.49E-02	1.56E-05	4.78E-03
Road 1	1	0100-0200	1.63E-02	7.77E-08	1.03E-06	1.46E-02	4.98E-02	2.37E-07	3.15E-06	4.46E-03
Road 1	1	0200-0300	1.82E-02	6.58E-08	8.70E-07	1.64E-02	5.92E-02	2.14E-07	2.83E-06	5.32E-03
Road 1	1	0300-0400	2.01E-02	9.35E-08	1.24E-06	1.81E-02	6.52E-02	3.03E-07	4.02E-06	5.87E-03
Road 1	1	0400-0500	2.05E-02	6.65E-08	8.79E-07	1.86E-02	6.04E-02	1.96E-07	2.59E-06	5.46E-03
Road 1	1	0500-0600	1.94E-02	1.07E-07	1.42E-06	1.76E-02	5.72E-02	3.16E-07	4.18E-06	5.17E-03
Road 1	1	0600-0700	1.89E-02	2.22E-07	2.93E-06	1.71E-02	2.01E-07	2.65E-06	8.79E-02	1.03E-05
Road 1	1	0700-0800	2.24E-02	5.49E-07	7.26E-06	2.03E-02	4.98E-02	1.22E-06	1.61E-05	8.37E-03
Road 1	1	0800-0900	1.99E-02	4.84E-07	6.40E-06	1.80E-02	5.49E-02	1.34E-06	1.77E-05	8.62E-03
Road 1	1	0900-1000	2.07E-02	4.03E-09	8.15E-08	9.80E-03	5.65E-02	2.08E-08	4.21E-07	1.32E-03
Road 1	1	1000-1100	2.22E-02	2.17E-08	4.39E-07	1.05E-02	6.07E-02	1.12E-07	2.27E-06	1.42E-03
Road 1	1	1100-1200	2.65E-02	5.87E-07	7.76E-06	2.40E-02	5.32E-02	7.05E-06	1.07E-04	1.32E-02
Road 1	1	1200-1300	3.03E-02	6.12E-08	1.56E-06	2.74E-02	5.41E-02	1.28E-06	2.58E-05	1.41E-02
Road 1	1	1300-1400	5.52E-02	1.12E-07	4.99E-09	1.01E-07	6.42E-02	2.48E-08	3.55E-06	4.41E-07
Road 1	1	1400-1500	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 1	1	1500-1600	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 1	1	1600-1700	1.33E-02	7.44E-07	1.01E-05	3.05E-02	1.26E-07	1.72E-06	2.34E-05	7.13E-03
Road 1	1	1700-1800	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 1	1	1800-1900	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 1	1	1900-2000	1.55E-02	2.45E-07	3.23E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 1	1	2000-2100	1.55E-02	1.93E-07	2.55E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 1	1	2100-2200	1.52E-02	1.90E-07	2.51E-06	1.36E-02	2.14E-07	2.84E-06	9.87E-07	1.30E-06
Road 1	1	2200-2300	1.44E-02	1.80E-07	2.38E-06	1.28E-02	2.03E-07	2.69E-06	9.34E-07	1.23E-06
Road 1	1	2300-0000	1.69E-02	1.94E-07	2.88E-06	1.51E-02	2.39E-07	3.44E-06	1.11E-06	1.60E-06
Road 2	2	0000-0100	1.37E-01	1.67E-07	2.97E-06	1.24E-01	1.51E-07	2.68E-06	4.58E-07	9.74E-06
Road 2	2	0100-0200	1.29E-01	8.58E-08	1.53E-06	1.17E-01	7.76E-08	1.38E-06	2.62E-07	5.57E-06
Road 2	2	0200-0300	1.29E-01	8.58E-08	1.53E-06	1.17E-01	7.76E-08	1.38E-06	2.62E-07	5.57E-06
Road 2	2	0300-0400	1.34E-01	2.21E-07	3.94E-06	1.21E-01	8.03E-08	1.43E-06	2.71E-07	5.76E-06
Road 2	2	0400-0500	1.33E-01	8.70E-08	1.55E-06	1.22E-01	7.94E-08	1.85E-06	5.14E-02	1.45E-07
Road 2	2	0500-0600	1.49E-01	1.78E-07	3.18E-06	1.36E-01	8.63E-08	2.01E-06	5.59E-02	1.58E-07
Road 2	2	0600-0700	1.87E-01	1.08E-06	1.93E-05	1.71E-01	9.88E-07	1.76E-05	6.64E-01	3.49E-06
Road 2	2	0700-0800	1.87E-01	1.08E-06	1.93E-05	1.71E-01	9.88E-07	1.76E-05	6.64E-01	3.49E-06
Road 2	2	0800-0900	1.95E-01	1.48E-06	2.63E-05	1.78E-01	3.15E-06	2.41E-05	9.77E-01	5.53E-06
Road 2	2	0900-1000	1.95E-01	1.48E-06	2.63E-05	1.78E-01	3.15E-06	2.41E-05	9.77E-01	5.53E-06
Road 2	2	1000-1100	2.09E-01	2.45E-06	2.58E-05	1.90E-01	1.32E-06	2.35E-05	9.07E-05	6.66E-01
Road 2	2	1100-1200	2.15E-01	1.54E-06	2.74E-05	1.96E-01	1.40E-06	2.49E-05	9.61E-05	7.05E-01
Road 2	2	1200-1300	2.07E-01	1.49E-06	2.65E-05	1.89E-01	1.35E-06	2.41E-05	9.29E-05	6.81E-01
Road 2	2	1300-1400	2.11E-01	1.68E-06	1.00E-05	1.52E-06	2.71E-05	7.23E-01	1.02E-04	6.53E-01
Road 2	2	1400-1500	2.11E-01	1.68E-06	1.00E-05	1.52E-06	2.71E-05	7.23E-01	1.02E-04	6.53E-01
Road 2	2	1500-1600	2.20E-01	1.75E-06	1.04E-05	1.59E-06	2.83E-05	7.55E-01	1.06E-04	6.82E-01
Road 2	2	1600-1700	2.02E-01	2.16E-06	1.97E-07	1.46E-06	1.21E-01	1.05E-06	1.57E-05	6.68E-01
Road 2	2	1700-1800	1.72E-01	1.37E-06	2.44E-05	1.64E-01	1.21E-06	2.22E-05	8.97E-05	6.26E-01
Road 2	2	1800-1900	1.72E-01	1.37E-06	2.44E-05	1.64E-01	1.21E-06	2.22E-05	8.97E-05	6.26E-01
Road 2	2	1900-2000	1.39E-01	1.11E-06	1.97E-05	1.32E-01	1.21E-06	1.79E-05	7.23E-05	5.05E-01
Road 2	2	2000-2100	1.39E-01	1.11E-06	1.97E-05	1.32E-01	1.21E-06	1.79E-05	7.23E-05	5.05E-01
Road 2	2	2100-2200	1.36E-01	1.09E-06	1.93E-05	1.30E-01	1.18E-06	1.75E-05	7.08E-05	4.94E-01
Road 2	2	2200-2300	1.29E-01	1.03E-06	1.83E-05	1.23E-01	1.12E-06	1.66E-05	6.72E-05	4.69E-01
Road 2	2	2300-0000	1.51E-01	1.21E-06	2.14E-05	1.44E-01	1.31E-06	1.94E-05	7.85E-05	5.48E-01
Road 3	3	0000-0100	1.43E-02	1.02E-07	1.21E-06	2.15E-02	5.31E-02	8.81E-06	6.26E-02	2.41E-02
Road 3	3	0100-0200	1.63E-02	7.77E-08	1.03E-06	1.46E-02	4.98E-02	2.37E-07	3.15E-06	4.46E-03
Road 3	3	0200-0300	1.82E-02	6.58E-08	8.70E-07	1.64E-02	5.92E-02	2.14E-07	2.83E-06	5.32E-03
Road 3	3	0300-0400	2.01E-02	9.35E-08	1.24E-06	1.81E-02	6.52E-02	3.03E-07	4.02E-06	5.87E-03
Road 3	3	0400-0500	2.05E-02	6.65E-08	8.79E-07	1.86E-02	6.04E-02	1.96E-07	2.59E-06	5.46E-03
Road 3	3	0500-0600	1.94E-02	1.07E-07	1.42E-06	1.76E-02	5.72E-02	3.16E-07	4.18E-06	5.17E-03
Road 3	3	0600-0700	1.89E-02	2.22E-07	2.93E-06	1.71E-02	2.01E-07	2.65E-06	8.79E-02	1.03E-05
Road 3	3	0700-0800	2.24E-02	5.49E-07	7.26E-06	2.03E-02	4.98E-02	1.22E-06	1.61E-05	8.37E-03
Road 3	3	0800-0900	1.99E-02	4.84E-07	6.40E-06	1.80E-02	5.49E-02	1.34E-06	1.77E-05	8.62E-03
Road 3	3	0900-1000	2.07E-02	4.03E-09	8.15E-08	9.80E-03	5.65E-02	2.08E-08	4.21E-07	1.32E-03
Road 3	3	1000-1100	2.22E-02	2.17E-08	4.39E-07	1.05E-02	6.07E-02	1.12E-07	2.27E-06	1.42E-03
Road 3	3	1100-1200	2.65E-02	5.87E-07	7.76E-06	2.40E-02	5.32E-02	7.05E-06	1.07E-04	1.32E-02
Road 3	3	1200-1300	3.03E-02	6.12E-08	1.56E-06	2.74E-02	5.41E-02	1.28E-06	2.58E-05	1.41E-02
Road 3	3	1300-1400	5.52E-02	1.12E-07	4.99E-09	1.01E-07	6.42E-02	2.48E-08	3.55E-06	4.41E-07
Road 3	3	1400-1500	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 3	3	1500-1600	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 3	3	1600-1700	1.33E-02	7.44E-07	1.01E-05	3.05E-02	1.26E-07	1.72E-06	2.34E-05	7.13E-03
Road 3	3	1700-1800	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 3	3	1800-1900	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 3	3	1900-2000	1.55E-02	2.45E-07	3.23E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 3	3	2000-2100	1.55E-02	1.93E-07	2.55E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 3	3	2100-2200	1.52E-02	1.90E-07	2.51E-06	1.36E-02	2.14E-07	2.84E-06	9.87E-07	1.30E-06
Road 3	3	2200-2300	1.44E-02	1.80E-07	2.38E-06	1.28E-02	2.03E-07	2.69E-06	9.34E-07	1.23E-06
Road 3	3	2300-0000	1.69E-02	1.94E-07	2.88E-06	1.51E-02	2.39E-07	3.44E-06	1.11E-06	1.60E-06
Road 4	4	0000-0100	1.37E-01	1.67E-07	2.97E-06	1.24E-01	1.51E-07	2.68E-06	4.58E-07	9.74E-06
Road 4	4	0100-0200	1.29E-01	8.58E-08	1.53E-06	1.17E-01	7.76E-08	1.38E-06	2.62E-07	5.57E-06
Road 4	4	0200-0300	1.29E-01	8.58E-08	1.53E-06	1.17E-01	7.76E-08	1.38E-06	2.62E-07	5.57E-06
Road 4	4	0300-0400	1.34E-01	2.21E-07	3.94E-06	1.21E-01	8.03E-08	1.43E-06	2.71E-07	5.76E-06
Road 4	4	0400-0500	1.33E-01	8.70E-08	1.55E-06	1.22E-01	7.94E-08	1.85E-06	5.14E-02	1.45E-07
Road 4	4	0500-0600	1.49E-01	1.78E-07	3.18E-06	1.36E-01	8.63E-08	2.01E-06	5.59E-02	1.58E-07
Road 4	4	0600-0700	1.87E-01	1.08E-06	1.93E-05	1.71E-01	9.88E-07	1.76E-05	6.64E-01	3.49E-06
Road 4	4	0700-0800	1.87E-01	1.08E-06	1.93E-05	1.71E-01	9.88E-07	1.76E-05	6.64E-01	3.49E-06
Road 4	4	0800-0900	1.95E-01	1.48E-06	2.63E-05	1.78E-01	3.15E-06	2.41E-05	9.77E-01	5.53E-06
Road 4	4	0900-1000	1.95E-01	1.48E-06	2.63E-05	1.78E-01	3.15E-06	2.41E-05	9.77E-01	5.53E-06
Road 4	4	1000-1100	2.09E-01	2.45E-06	2.58E-05	1.90E-01	1.32E-06	2.35E-05	9.07E-05	6.66E-01
Road 4	4	1100-1200	2.15E-01	1.54E-06	2.74E-05	1.96E-01	1.40E-06	2.49E-05	9.61E-05	7.05E-01
Road 4	4	1200-1300	2.07E-01	1.49E-06	2.65E-05	1.89E-01	1.35E-06	2.41E-05	9.29E-05	6.81E-01
Road 4	4	1300-1400	2.11E-01	1.68E-06	1.00E-05	1.52E-06	2.71E-05	7.23E-01	1.02E-04	6.53E-01
Road 4	4	1400-1500	2.11E-01	1.68E-06	1.00E-05	1.52E-06	2.71E-05	7.23E-01	1.02E-04	6.53E-01
Road 4	4	1500-1600	2.20E-01	1.75E-06	1.04E-05	1.59E-06	2.83E-05	7.55E-01	1.06E-04	6.82E-01
Road 4	4	1600-1700	2.02E-01	2.16E-06	1.97E-07	1.46E-06	1.21E-01	1.05E-06	1.57E-05	6.68E-01
Road 4	4	1700-1800	1.72E-01	1.37E-06	2.44E-05	1.64E-01	1.21E-06	2.22E-05	8.97E-05	6.26E-01
Road 4	4	1800-1900	1.72E-01	1.37E-06	2.44E-05	1.64E-01	1.21E-06	2.22E-05	8.97E-05	6.26E-01
Road 4	4	1900-2000	1.39E-01	1.11E-06	1.97E-05	1.32E-01	1.21E-06	1.79E-05	7.23E-05	5.05E-01
Road 4	4	2000-2100	1.39E-01	1.11E-06	1.97E-05	1.32E-01	1.21E-06	1.79E-05	7.23E-05	5.05E-01
Road 4	4	2100-2200	1.36E-01	1.09E-06	1.93E-05	1.30E-01	1.18E-06	1.75E-05	7.08E-05	4.94E-01
Road 4	4	2200-2300	1.29E-01	1.03E-06	1.83E-05	1.23E-01	1.12E-06	1.66E-05	6.72E-05	4.69E-01
Road 4	4	2300-0000	1.51E-01	1.21E-06	2.14E-05	1.44E-01	1.31E-06	1.94E-05	7.85E-05	5.48E-01

L:\Secure\Environment_Projects\60733229\1.0\1\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2038.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	tonne/hour	g/km/veh	g/s/m²	tonne/hour	tonne/hour
Road 5	5	0000-0100	1.28E-02	4.97E-07	5.54E-06	1.70E-03	3.38E-02	2.49E-02	1.56E-05	4.78E-03
Road 5	5	0100-0200	1.63E-02	7.77E-08	1.03E-06	1.46E-02	4.98E-02	2.37E-07	3.15E-06	4.46E-03
Road 5	5	0200-0300	1.82E-02	6.58E-08	8.70E-07	1.64E-02	5.92E-02	2.14E-07	2.83E-06	5.32E-03
Road 5	5	0300-0400	2.01E-02	9.35E-08	1.24E-06	1.81E-02	6.52E-02	3.03E-07	4.02E-06	5.87E-03
Road 5	5	0400-0500	2.05E-02	6.65E-08	8.79E-07	1.86E-02	6.04E-02	1.96E-07	2.59E-06	5.46E-03
Road 5	5	0500-0600	1.94E-02	1.07E-07	1.42E-06	1.76E-02	5.72E-02	3.16E-07	4.18E-06	5.17E-03
Road 5	5	0600-0700	1.89E-02	2.22E-07	2.93E-06	1.71E-02	2.01E-07	2.65E-06	8.79E-02	1.03E-05
Road 5	5	0700-0800	2.24E-02	5.49E-07	7.26E-06	2.03E-02	4.98E-02	1.22E-06	1.61E-05	8.37E-03
Road 5	5	0800-0900	1.99E-02	4.84E-07	6.40E-06	1.80E-02	5.49E-02	1.34E-06	1.77E-05	8.62E-03
Road 5	5	0900-1000	2.07E-02	4.03E-09	8.15E-08	9.80E-03	5.65E-02	2.08E-08	4.21E-07	1.32E-03
Road 5	5	1000-1100	2.22E-02	2.17E-08	4.39E-07	1.05E-02	6.07E-02	1.12E-07	2.27E-06	1.42E-03
Road 5	5	1100-1200	2.65E-02	5.87E-07	7.76E-06	2.40E-02	5.32E-02	7.05E-06	1.07E-04	1.32E-02
Road 5	5	1200-1300	3.03E-02	6.12E-08	1.56E-06	2.74E-02	5.41E-02	1.28E-06	2.58E-05	1.41E-02
Road 5	5	1300-1400	5.52E-02	1.12E-07	4.99E-09	1.01E-07	6.42E-02	2.48E-08	3.55E-06	4.41E-07
Road 5	5	1400-1500	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 5	5	1500-1600	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 5	5	1600-1700	1.33E-02	7.44E-07	1.01E-05	3.05E-02	1.26E-07	1.72E-06	2.34E-05	7.13E-03
Road 5	5	1700-1800	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 5	5	1800-1900	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 5	5	1900-2000	1.55E-02	2.45E-07	3.23E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 5	5	2000-2100	1.55E-02	1.93E-07	2.55E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 5	5	2100-2200	1.52E-02	1.90E-07	2.51E-06	1.36E-02	2.14E-07	2.84E-06	9.87E-07	1.30E-06
Road 5	5	2200-2300	1.44E-02	1.80E-07	2.38E-06	1.28E-02	2.03E-07	2.69E-06	9.34E-07	1.23E-06
Road 5	5	2300-0000	1.69E-02	1.94E-07	2.88E-06	1.51E-02	2.39E-07	3.44E-06	1.11E-06	1.60E-06
Road 6	6	0000-0100	1.37E-01	1.67E-07	2.97E-06	1.24E-01	1.51E-07	2.68E-06	4.58E-07	9.74E-06
Road 6	6	0100-0200	1.29E-01	8.58E-08	1.53E-06	1.17E-01	7.76E-08	1.38E-06	2.62E-07	5.57E-06
Road 6	6	0200-0300	1.29E-01	8.58E-08	1.53E-06	1.17E-01	7.76E-08	1.38E-06	2.62E-07	5.57E-06
Road 6	6	0300-0400	1.34E-01	2.21E-07	3.94E-06	1.21E-01	8.03E-08	1.43E-06	2.71E-07	5.76E-06
Road 6	6	0400-0500	1.33E-01	8.70E-08	1.55E-06	1.22E-01	7.94E-08	1.85E-06	5.14E-02	1.45E-07
Road 6	6	0500-0600	1.49E-01	1.78E-07	3.18E-06	1.36E-01	8.63E-08	2.01E-06	5.59E-02	1.58E-07
Road 6	6	0600-0700	1.87E-01	1.08E-06	1.93E-05	1.71E-01	9.88E-07	1.76E-05	6.64E-01	3.49E-06
Road 6	6	0700-0800	1.87E-01	1.08E-06	1.93E-05	1.71E-01	9.88E-07	1.76E-05	6.64E-01	3.49E-06
Road 6	6	0800-0900	1.95E-01	1.48E-06	2.63E-05	1.78E-01	3.15E-06	2.41E-05	9.77E-01	5.53E-06
Road 6	6	0900-1000	1.95E-01	1.48E-06	2.63E-05	1.78E-01	3.15E-06	2.41E-05	9.77E-01	5.53E-06
Road 6	6	1000-1100	2.09E-01	2.45E-06	2.58E-05	1.90E-01	1.32E-06	2.35E-05	9.07E-05	6.66E-01
Road 6	6	1100-1200	2.15E-01	1.54E-06	2.74E-05	1.96E-01	1.40E-06	2.49E-05	9.61E-05	7.05E-01
Road 6	6	1200-1300	2.07E-01	1.49E-06	2.65E-05	1.89E-01	1.35E-06	2.41E-05	9.29E-05	6.81E-01
Road 6	6	1300-1400	2.11E-01	1.68E-06	1.00E-05	1.52E-06	2.71E-05	7.23E-01	1.02E-04	6.53E-01
Road 6	6	1400-1500	2.11E-01	1.68E-06	1.00E-05	1.52E-06	2.71E-05	7.23E-01	1.02E-04	6.53E-01
Road 6	6	1500-1600	2.20E-01	1.75E-06	1.04E-05	1.59E-06	2.83E-05	7.55E-01	1.06E-04	6.82E-01
Road 6	6	1600-1700	2.02E-01	2.16E-06	1.97E-07	1.46E-06	1.21E-01	1.05E-06	1.57E-05	6.68E-01
Road 6	6	1700-1800	1.72E-01	1.37E-06	2.44E-05	1.64E-01	1.21E-06	2.22E-05	8.97E-05	6.26E-01
Road 6	6	1800-1900	1.72E-01	1.37E-06	2.44E-05	1.64E-01	1.21E-06	2.22E-05	8.97E-05	6.26E-01
Road 6	6	1900-2000	1.39E-01	1.11E-06	1.97E-05	1.32E-01	1.21E-06	1.79E-05	7.23E-05	5.05E-01
Road 6	6	2000-2100	1.39E-01	1.11E-06	1.97E-05	1.32E-01	1.21E-06	1.79E-05	7.23E-05	5.05E-01
Road 6	6	2100-2200	1.36E-01	1.09E-06	1.93E-05	1.30E-01	1.18E-06	1.75E-05	7.08E-05	4.94E-01
Road 6	6	2200-2300	1.29E-01	1.03E-06	1.83E-05	1.23E-01	1.12E-06	1.66E-05	6.72E-05	4.69E-01
Road 6	6	2300-0000	1.51E-01	1.21E-06	2.14E-05	1.44E-01	1.31E-06	1.94E-05	7.85E-05	5.48E-01
Road 7	7	0000-0100	1.28E-02	4.97E-07	5.54E-06	1.70E-03	3.38E-02	2.49E-02	1.56E-05	4.78E-03
Road 7	7	0100-0200	1.63E-02	7.77E-08	1.03E-06	1.46E-02	4.98E-02	2.37E-07	3.15E-06	4.46E-03
Road 7	7	0200-0300	1.82E-02	6.58E-08	8.70E-07	1.64E-02	5.92E-02	2.14E-07	2.83E-06	5.32E-03
Road 7	7	0300-0400	2.01E-02	9.35E-08	1.24E-06	1.81E-02	6.52E-02	3.03E-07	4.02E-06	5.87E-03
Road 7	7	0400-0500	2.05E-02	6.65E-08	8.79E-07	1.86E-02	6.04E-02	1.96E-07	2.59E-06	5.46E-03
Road 7	7	0500-0600	1.94E-02	1.07E-07	1.42E-06	1.76E-02	5.72E-02	3.16E-07	4.18E-06	5.17E-03
Road 7	7	0600-0700	1.89E-02	2.22E-07	2.93E-06	1.71E-02	2.01E-07	2.65E-06	8.79E-02	1.03E-05
Road 7	7	0700-0800	2.24E-02	5.49E-07	7.26E-06	2.03E-02	4.98E-02	1.22E-06	1.61E-05	8.37E-03
Road 7	7	0800-0900	1.99E-02	4.84E-07	6.40E-06	1.80E-02	5.49E-02	1.34E-06	1.77E-05	8.62E-03
Road 7	7	0900-1000	2.07E-02	4.03E-09	8.15E-08	9.80E-03	5.65E-02	2.08E-08	4.21E-07	1.32E-03
Road 7	7	1000-1100	2.22E-02	2.17E-08	4.39E-07	1.05E-02	6.07E-02	1.12E-07	2.27E-06	1.42E-03
Road 7	7	1100-1200	2.65E-02	5.87E-07	7.76E-06	2.40E-02	5.32E-02	7.05E-06	1.07E-04	1.32E-02
Road 7	7	1200-1300	3.03E-02	6.12E-08	1.56E-06	2.74E-02	5.41E-02	1.28E-06	2.58E-05	1.41E-02
Road 7	7	1300-1400	5.52E-02	1.12E-07	4.99E-09	1.01E-07	6.42E-02	2.48E-08	3.55E-06	4.41E-07
Road 7	7	1400-1500	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 7	7	1500-1600	1.51E-02	7.86E-07	1.04E-05	3.17E-02	7.09E-07	9.37E-06	1.30E-04	3.95E-02
Road 7	7	1600-1700	1.33E-02	7.44E-07	1.01E-05	3.05E-02	1.26E-07	1.72E-06	2.34E-05	7.13E-03
Road 7	7	1700-1800	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 7	7	1800-1900	1.92E-02	4.16E-07	5.50E-06	1.73E-02	3.75E-02	4.96E-06	8.39E-02	1.82E-06
Road 7	7	1900-2000	1.55E-02	2.45E-07	3.23E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 7	7	2000-2100	1.55E-02	1.93E-07	2.55E-06	1.38E-02	2.19E-07	2.90E-06	1.08E-02	1.43E-06
Road 7	7	2100-2200	1.52E-02	1.90E-07	2.51E-06	1.36E-02	2.14E-07	2.84E-06	9.87E-07	1.30E-06
Road 7	7	2200-2300	1.44E-02	1.80E-07	2.38E-06	1.28E-02	2.03E-07	2.69E-06	9.34E-07	1.23E-06
Road 7	7	2300-0000	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December)
Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 34	34	0800-0900	1.13E-02	3.98E-07	7.81E-05	2.70E-02	7.08E-06	3.56E-03	1.14E-05	3.04E-01	1.40E-05
Road 34	34	0900-1000	1.28E-02	2.77E-07	7.24E-06	1.15E-02	2.49E-07	6.27E-02	1.35E-06	3.55E-05	1.02E-05
Road 34	34	1000-1100	1.44E-02	2.69E-07	7.03E-06	1.30E-02	2.43E-07	6.36E-06	6.57E-02	1.23E-06	3.21E-05
Road 34	34	1100-1200	1.39E-02	2.46E-07	6.44E-06	1.25E-02	2.22E-07	5.82E-06	6.06E-02	1.07E-06	3.06E-05
Road 34	34	1200-1300	2.40E-02	3.45E-07	9.04E-06	2.17E-02	3.12E-07	8.18E-06	8.58E-02	1.24E-06	3.23E-05
Road 34	34	1300-1400	2.39E-02	3.59E-07	9.39E-06	2.16E-02	3.25E-07	8.50E-06	8.29E-02	1.24E-06	3.24E-05
Road 34	34	1400-1500	2.38E-02	3.73E-07	9.76E-06	2.15E-02	3.40E-07	8.89E-06	8.64E-02	1.35E-06	3.53E-05
Road 34	34	1500-1600	2.22E-02	3.57E-07	9.35E-06	2.01E-02	3.23E-07	8.45E-06	8.61E-02	1.38E-06	3.62E-05
Road 34	34	1600-1700	2.74E-02	3.60E-07	9.41E-06	2.48E-02	3.26E-07	8.52E-06	9.86E-02	1.29E-06	3.38E-05
Road 34	34	1700-1800	1.20E-02	3.21E-07	8.41E-06	1.62E-02	2.88E-07	7.55E-06	6.48E-02	1.16E-06	3.03E-05
Road 34	34	1800-1900	1.27E-02	3.31E-07	8.66E-06	1.72E-02	2.98E-07	7.81E-06	6.86E-02	1.20E-06	3.14E-05
Road 34	34	1900-2000	1.23E-02	1.72E-07	4.50E-06	1.50E-02	1.54E-07	4.03E-06	5.51E-02	7.70E-07	2.02E-05
Road 34	34	2000-2100	1.29E-02	1.34E-07	3.51E-06	1.57E-02	1.20E-07	3.14E-06	5.77E-02	6.00E-07	1.57E-05
Road 34	34	2100-2200	1.27E-02	1.31E-07	3.44E-06	1.54E-02	1.17E-07	3.08E-06	5.66E-02	5.87E-07	1.54E-05
Road 34	34	2200-2300	1.19E-02	1.25E-07	3.27E-06	1.45E-02	1.12E-07	2.93E-06	5.34E-02	5.60E-07	1.47E-05
Road 34	34	2300-0000	1.13E-02	3.98E-07	7.81E-05	2.70E-02	7.08E-06	3.56E-03	1.14E-05	3.04E-01	1.40E-05

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	1.27E-02	2.21E-07	2.77E-06	6.42E-01	1.61E-06	2.63E-06	3.68E-01	4.51E-01	1.04E-07
Road 37	37	1700-1800	6.12E-02	1.10E-06	2.53E-06	5.85E-02	1.05E-06	2.42E-06	2.62E-01	4.72E-06	1.08E-07
Road 37	37	1800-1900	4.13E-02	7.44E-07	1.71E-06	3.94E-02	7.09E-07	1.63E-06	1.92E-01	3.47E-06	7.95E-08
Road 37	37	1900-2000	3.48E-02	4.82E-09	1.11E-06	3.33E-02	4.57E-09	1.05E-06	1.78E-01	2.47E-06	5.65E-08
Road 37	37	2000-2100	3.55E-02	3.83E-09	8.78E-06	3.38E-02	3.65E-09	8.37E-06	1.92E-01	2.07E-06	4.75E-08
Road 37	37	2100-2200	5.44E-02	3.79E-09	8.69E-06	5.20E-02	3.62E-09	8.29E-06	2.95E-01	2.11E-06	4.84E-08
Road 37	37	2200-2300	3.11E-02	3.22E-09	7.44E-06	2.98E-02	3.05E-09	7.00E-06	1.84E-01	1.91E-06	4.38E-08
Road 37	37	2300-0000	3.43E-02	2.69E-09	6.19E-06	3.25E-02	2.55E-09	5.86E-06	1.93E-01	1.52E-06	3.48E-08
Road 38	38	0000-0100	4.03E-02	4.84E-08	1.06E-07	3.81E-02	4.58E-08	1.00E-07	2.07E-01	2.49E-07	5.45E-07
Road 38	38	0100-0200	4.35E-02	2.83E-07	4.22E-07	3.27E-02	2.67E-07	2.19E-01	1.74E-07	1.43E-06	2.00E-01
Road 38	38	0200-0300	4.68E-02	2.76E-07	4.11E-07	3.52E-02	2.60E-07	2.13E-01	1.87E-07	1.39E-06	1.95E-01
Road 38	38	0300-0400	4.92E-02	2.33E-08	1.91E-07	4.68E-02	2.22E-08	1.81E-07	2.37E-01	1.12E-07	9.18E-07
Road 38	38	0400-0500	5.30E-02	2.79E-08	2.29E-07	5.04E-02	2.66E-08	2.18E-07	2.48E-01	1.31E-07	1.07E-06
Road 38	38	0500-0600	5.59E-02	5.20E-08	4.25E-07	5.32E-02	4.94E-08	4.05E-07	2.61E-01	2.43E-07	1.99E-06
Road 38	38	0600-0700	5.98E-02	1.21E-07	9.91E-07	5.68E-02	1.15E-07	9.41E-07	2.70E-01	5.46E-07	4.47E-06
Road 38	38	0700-0800	6.60E-02	3.20E-07	2.62E-06	6.29E-02	3.05E-07	2.50E-06	2.81E-01	1.36E-06	1.12E-05
Road 38	38	0800-0900	6.60E-02	3.20E-07	2.62E-06	6.29E-02	3.05E-07	2.50E-06	2.81E-01	1.36E-06	1.12E-05
Road 38	38	0900-1000	1.07E-01	2.56E-07	2.10E-06	1.02E-01	2.44E-07	2.00E-06	4.57E-01	1.09E-06	8.94E-06
Road 38	38	1000-1100	8.32E-02	3.33E-07	2.72E-06	7.93E-02	3.17E-07	2.59E-06	3.01E-01	1.20E-06	9.84E-06
Road 38	38	1100-1200	8.19E-02	3.29E-07	2.70E-06	7.82E-02	3.14E-07	2.57E-06	2.91E-01	1.16E-06	9.52E-06
Road 38	38	1200-1300	1.31E-01	2.94E-07	2.41E-06	1.25E-01	2.80E-07	2.30E-06	5.60E-01	1.26E-06	1.03E-05
Road 38	38	1300-1400	1.21E-01	2.36E-07	1.93E-06	1.15E-01	2.25E-07	1.84E-06	3.89E-01	7.59E-07	6.21E-06
Road 38	38	1400-1500	1.23E-01	2.47E-07	2.02E-06	1.18E-01	2.36E-07	1.93E-06	3.98E-01	7.99E-07	6.54E-06
Road 38	38	1500-1600	1.21E-01	2.46E-07	2.02E-06	1.16E-01	2.34E-07	1.92E-06	3.88E-01	7.91E-07	6.47E-06
Road 38	38	1600-1700	1.16E-01	2.26E-07	1.85E-06	1.11E-01	2.16E-07	1.76E-06	3.78E-01	7.34E-07	6.00E-06
Road 38	38	1700-1800	1.21E-01	2.36E-07	1.93E-06	1.16E-01	2.25E-07	1.84E-06	3.89E-01	7.59E-07	6.21E-06
Road 38	38	1800-1900	1.29E-01	2.51E-07	2.06E-06	1.24E-01	2.40E-07	1.96E-06	4.15E-01	8.09E-07	6.62E-06
Road 38	38	1900-2000	1.16E-01	1.66E-07	1.11E-06	1.15E-01	1.59E-07	1.06E-06	3.78E-01	5.40E-07	3.60E-06
Road 38	38	2000-2100	1.18E-01	1.54E-07	2.32E-06	1.17E-01	1.52E-07	2.29E-06	3.84E-01	5.02E-07	7.55E-06
Road 38	38	2100-2200	1.18E-01	1.54E-07	2.32E-06	1.17E-01	1.52E-07	2.29E-06	3.84E-01	5.02E-07	7.55E-06
Road 38	38	2200-2300	1.19E-01	1.56E-07	2.34E-06	1.18E-01	1.54E-07	2.31E-06	3.87E-01	5.07E-07	7.63E-06
Road 38	38	2300-0000	1.21E-01	1.58E-07	2.38E-06	1.20E-01	1.56E-07	2.35E-06	3.93E-01	5.15E-07	7.75E-06
Road 39	39	0000-0100	1.14E-01	1.49E-07	1.09E-06	1.13E-01	1.47E-07	1.08E-06	3.73E-01	4.85E-07	3.55E-06
Road 39	39	0100-0200	1.14E-01	1.49E-07	1.09E-06	1.13E-01	1.47E-07	1.08E-06	3.73E-01	4.85E-07	3.55E-06
Road 39	39	0200-0300	1.14E-01	1.49E-07	1.09E-06	1.13E-01	1.47E-07	1.08E-06	3.73E-01	4.85E-07	3.55E-06
Road 39	39	0300-0400	1.09E-01	1.16E-08	9.87E-08	1.04E-01	1.11E-08	9.45E-08	3.62E-01	3.85E-08	3.27E-07
Road 39	39	0400-0500	1.08E-01	1.15E-08	9.78E-08	1.03E-01	1.10E-08	9.36E-08	3.59E-01	3.82E-08	3.24E-07
Road 39	39	0500-0600	1.08E-01	1.15E-08	9.78E-08	1.03E-01	1.10E-08	9.36E-08	3.59E-01	3.82E-08	3.24E-07
Road 39	39	0600-0700	1.16E-01	5.93E-08	5.05E-07	1.11E-01	5.67E-08	4.83E-07	3.82E-01	1.95E-07	1.66E-06
Road 39	39	0700-0800	1.08E-01	1.08E-07	1.85E-06	1.03E-01	1.03E-07	1.77E-06	3.59E-01	3.60E-07	6.17E-06
Road 39	39	0800-0900	1.21E-01	1.56E-07	1.33E-06	1.16E-01	1.50E-07	1.27E-06	4.01E-01	5.16E-07	4.39E-06
Road 39	39	0900-1000	1.26E-01	1.77E-07	1.51E-06	1.21E-01	1.70E-07	1.45E-06	4.07E-01	5.71E-07	4.86E-06
Road 39	39	1000-1100	1.28E-01	1.76E-07	1.50E-06	1.22E-01	1.69E-07	1.44E-06	4.01E-01	5.51E-07	4.69E-06
Road 39	39	1100-1200	1.28E-01	1.63E-07	1.39E-06	1.22E-01	1.57E-07	1.34E-06	4.01E-01	5.15E-07	4.39E-06
Road 39	39	1200-1300	1.31E-01	1.95E-07	1.66E-06	1.25E-01	1.87E-07	1.59E-06	4.07E-01	6.01E-07	5.12E-06
Road 39	39	1300-1400	1.31E-01	1.91E-07	1.63E-06	1.25E-01	1.84E-07	1.56E-06	4.07E-01	5.91E-07	5.03E-06
Road 39	39	1400-1500	1.30E-01	1.91E-07	1.63E-06	1.24E-01	1.84E-07	1.56E-06	4.04E-01	5.91E-07	5.03E-06
Road 39	39	1500-1600	1.30E-01	1.91E-07	1.63E-06	1.24E-01	1.84E-07	1.56E-06	4.04E-01	5.91E-07	5.03E-06
Road 39	39	1600-1700	1.27E-01	1.81E-07	1.54E-06	1.21E-01	1.74E-07	1.48E-06	3.96E-01	5.59E-07	4.76E-06
Road 39	39	1700-1800	1.31E-01	1.91E-07	1.63E-06	1.25E-01	1.84E-07	1.56E-06	4.07E-01	5.91E-07	5.03E-06
Road 39	39	1800-1900	1.33E-01	1.95E-07	1.66E-06	1.27E-01	1.87E-07	1.59E-06	4.13E-01	6.01E-07	5.12E-06
Road 39	39	1900-2000	1.27E-01	1.82E-07	1.22E-06	1.21E-01	1.75E-07	1.17E-06	3.96E-01	5.63E-07	3.77E-06
Road 39	39	2000-2100	1.27E-01	1.68E-07	2.53E-06	1.21E-01	1.62E-07	2.43E-06	3.96E-01	5.19E-07	7.80E-06
Road 39	39	2100-2200	1.27E-01	1.68E-07	2.53E-06	1.21E-01	1.62E-07	2.43E-06	3.96E-01	5.19E-07	7.80E-06
Road 39	39	2200-2300	1.28E-01	1.70E-07	2.56E-06	1.22E-01	1.64E-07	2.46E-06	3.99E-01	5.25E-07	7.89E-06
Road 39	39	2300-0000	1.30E-01	1.72E-07	2.59E-06	1.24E-01	1.66E-07	2.49E-06	4.05E-01	5.32E-07	8.00E-06
Road 40	40	0000-0100	1.27E-01	1.66E-07	1.21E-06	1.21E-01	1.59E-07	1.16E-06	4.15E-01	5.44E-07	3.97E-06
Road 40	40	0100-0200	1.27E-01	1.66E-07	1.21E-06	1.21E-01	1.59E-07	1.16E-06	4.15E-01	5.44E-07	3.97E-06
Road 40	40	0200-0300	1.27E-01	1.66E-07	1.21E-06	1.21E-01	1.59E-07	1.16E-06	4.15E-01	5.44E-07	3.97E-06
Road 40	40	0300-0400	1.21E-01	1.29E-08	1.10E-07	1.16E-01	1.24E-08	1.05E-07	4.03E-01	4.29E-08	3.65E-07
Road 40	40	0400-0500	1.20E-01	1.28E-08	1.09E-07	1.15E-01	1.23E-08	1.04E-07	4.00E-01	4.26E-08	3.62E-07
Road 40	40	0500-0600	1.20E-01	1.28E-08	1.09E-07	1.15E-01	1.23E-08	1.04E-07	4.00E-01	4.26E-08	3.62E-07
Road 40	40	0600-0700	1.29E-01	6.59E-08	5.61E-07	1.23E-01	6.32E-08	5.38E-07	4.26E-01	2.17E-07	1.85E-06
Road 40	40	0700-0800	1.20E-01	1.20E-07	2.05E-06	1.15E-01	1.15E-07	1.97E-06	4.00E-01	4.00E-07	6.85E-06
Road 40	40	0800-0900	1.34E-01	1.74E-07	1.48E-06	1.29E-01	1.67E-07	1.42E-06	4.46E-01	5.74E-07	4.89E-06
Road 40	40	0900-1000	1.40E-01	1.97E-07	1.68E-06	1.35E-01	1.89E-07	1.61E-06	4.53E-01	6.35E-07	5.41E-06
Road 40	40	1000-1100	1.42E-01	1.96E-07	1.67E-06	1.36E-01	1.88E-07	1.60E-06	4.46E-01	6.13E-07	5.22E-06
Road 40	40	1100-1200	1.42E-01	1.81E-07	1.54E-06	1.36E-01	1.74E-07	1.48E-06	4.46E-01	5.72E-07	4.87E-06
Road 40	40	1200-1300	1.45E-01	2.17E-07	1.85E-06	1.39E-01	2.08E-07	1.77E-06	4.53E-01	6.78E-07	5.77E-06
Road 40	40	1300-1400	1.44E-01	2.11E-07	1.80E-06	1.38E-01	2.02E-07	1.72E-06	4.49E-01	6.58E-07	5.60E-06
Road 40	40	1400-1500	1.44E-01	2.11E-07	1.80E-06	1.38E-01	2.02E-07	1.72E-06	4.49E-01	6.58E-07	5.60E-06
Road 40	40	1500-1600	1.44E-01	2.11E-07	1.80E-06	1.38E-01	2.02E-07	1.72E-06	4.49E-01	6.58E-07	5.60E-06
Road 40	40	1600-1700	1.41E-01	2.01E-07	1.71E-06	1.35E-01	1.93E-07	1.64E-06	4.40E-01	6.26E-07	5.33E-06
Road 40	40	1700-1800	1.45E-01	2.08E-07	1.77E-06	1.39E-01	1.99E-07	1.69E-06	4.53E-01	6.48E-07	5.51E-06
Road 40	40	1800-1900	1.47E-01	2.11E-07	1.80E-06	1.41E-01	2.02E-07	1.72E-06	4.59E-01	6.58E-07	5.60E-06
Road 40	40	1900-2000	1.40E-01	1.99E-07	1.33E-06	1.34E-01	1.91E-07	1.27E-06	4.40E-01	6.17E-07	4.13E-06
Road 40	40	2000-2100	1.40E-01	1.85E-07	2.78E-06	1.34E-01	1.77E-07	2.66E-06	4.40E-01	5.72E-07	8.59E-06
Road 40	40	2100-2200	1.40E-01	1.85E-07	2.78E-06	1.34E-01	1.77E-07	2.66E-06	4.40E-01	5.72E-07	8.59E-06
Road 40	40	2200-2300	1.41E-01	1.87E-07	2.81E-06	1.35E-01	1.79E-07	2.69E-06	4.43E-01	5.78E-07	8.68E-06
Road 40	40	2300-0000	1.43E-01	1.89E-07	2.84E-06	1.37E-01	1.81E-07	2.72E-06	4.49E-01	5.86E-07	8.80E-06
Road 44	44	0000-0100	1.58E-02	4.82E-06	2.65E-04	1.42E-02	4.33E-06	2.38E-04	2.53E-01	7.71E-05	4.24E-03
Road 44	44	0100-0200	2.02E-02	2.49E-06	2.34E-07	1.81E-02	2.24E-06	2.10E-07	7.70E-02	9.53E-06	8.94E-07
Road 44	44	0200-0300	2.43E-02	2.34E-06	2.20E-07	2.18E-02	2.10E-06	1.97E-07	9.26E-02	8.88E-06	8.36E-07
Road 44	44	0300-0400	2.78E-02	2.25E-06	2.11E-07	2.53E-02	2.04E-06	1.92E-07	1.06E-01	8.59E-06	8.08E-07
Road 44	44	0400-0500	2.71E-02	2.35E-06	2.20E-07	2.46E-02	2.13E-06	2.00E-07	9.03E-02	7.82E-06	7.34E-07
Road 44	44	0500-0600	2.16E-02	2.89E-06	2.72E-07	1.96E-02	2.62E-06	2.46E-07	8.25E-02	1.11E-05	1.04E-06
Road 44	44	0600-0700	1.69E-02	4.44E-06	4.17E-07	1.53E-02	4.04E-06	3.79E-07	6.46E-02	1.69E-05	1.59E-06
Road 44	44	0700-0800	1.27E-02	2.65E-06	2.49E-07	1.15E-02	2.41E-06	2.26E-07	4.85E-02	1.01E-05	9.51E-07
Road 44	44	0800-0900	1.16E-02	2.75E-06	2.58E-07	1.05E-02	2.50E-06	2.35E-07	4.42E-02	1.05E-05	9.86E-07
Road 44	44	0900-1000	1.16E-02	2.75E-06	1.70E-06	1.05E-02	2.48E-07	1.53E-06	4.42E-02	1.05E-05	6.50E-06
Road 44	44	1000-1100	1.30E-02	2.65E-06	1.64E-06	1.17E-02	2.39E-07	1.48E-06	4.42E-02	9.02E-06	5.58E-06
Road 44	44	1100-1200	1.30E-02	2.39E-06	1.48E-06	1.17E-02	2.15E-07	1.33E-06	4.42E-02	8.12E-06	5.02E-06
Road 44	44	1200-1300	1.56E-02	3.92E-07	2.42E-06	1.40E-02	3.53E-07	2.18E-06	5.30E-02	1.33E-06	8.23E-06
Road 44	44	1300-1400	1.56E-02	3.92E-07	2.42E-06	1.40E-02	3.53E-07	2.18E-06	5.30E-02	1.33E-06	8.23E-06
Road 44	44	1400-1500	1.56E-02	3.92E-07	2.42E-06	1.40E-02	3.53E-07	2.18E-06	5.30E-02	1.33E-06	8.23E-06
Road 44	44	1500-1600	1.52E-02	4.26E-07	2.63E-06	1.37E-02	3.85E-07	2.38E-06	7.56E-02	2.12E-06	1.31E-05
Road 44	44	1600-1700	2.05E-02	3.60E-07	2.23E-06	1.84E-02	3.24E-07	2.01E-06	8.58E-02	1.50E-06	9.32E-06
Road 44	44	1700-1800	2.15E-02	2.78E-07	2.48E-06	1.92E-02	2.50E-07	2.23E-06	8.97E-02	1.16E-06	1.04E-05
Road 44	44	1800-1900	2.15E-02	2.78E-07	2.48E-06	1.92E-02	2.50E-07	2.23E-06	8.97E-02	1.16E-06	1.04E-05
Road 44	44	1900-2000	7.28E-03	2.15E-07	1.33E-06	6.45E-03	1.90E-07	1.18E-06	4.66E-02	1.37E-06	8.49E-06
Road 44	44	2000-2100	7.05E-03	1.52E-07	1.33E-06	6.25E-03	1.35E-07	1.18E-06	4.51E-02	9.71E-07	8.52E-06
Road 44	44	2100-2200	6.06E-03	1.31E-07	1.15E-06	5.43E-03	1.40E-07	1.03E-06	3.88E-02	1.00E-06	7.37E-06
Road 44	44	2200-2300	6.06E-03	1.31E-07	8.32E-07	5.37E-03	1.19E-07	7.37E-07	4.99E-02	1.11E-06	6.86E-06
Road 44	44	2300-0000	6.06E-03	1.31E-07	8.32E-07	5.37E-03	1.19E-07	7.37E-07	4.99E-02	1.11E-06	6.86E-06
Road 45	45	0000-0100	1.58E-02	4.82E-06	2.65E-04	1.42E-02	4.33E-06	2.38E-04	2.53E-01	7.71E-05	4.24E-03
Road 45	45	0100-0200	2.02E-02	2.49E-06	2.34E-07	1.81E-02	2.24E-06	2.10E-07	7.70E-02	9.53E-06	8.94E-07
Road 45	45	0200-0300	2.43E-02	2.34E-06	2.20E-07	2.18E-02	2.10E-06	1.97E-07	9.26E-02	8.88E-06	8.36E-07
Road 45	45	0300-0400	2.78E-02	2.25E-06	2.11E-07	2.53E-02	2.04E-06	1.92E-07	1.06E-01	8.59E-06	8.08E-07
Road 45	45	0400-0500	2.71E-02	2.35E-06	2.20E-07	2.46E-02	2.13E-06	2.00E-07	9.03E-02	7.82E-06	7.34E-07
Road 45	45	0500-0600	2.16E-02	2.89E-06	2.72E-07	1.96E-02	2.62E-06	2.46E-07	8.25E-02	1.11E-05	1.04E-06
Road 45	45	0600-0700	1.69E-02	4.44E-06	4.17E-07	1.53E-02	4.04E-06	3.79E-07	6.46E-02	1.69E-05	1.59E-06
Road 45	45	0700-0800	1.27E-02	2.65E-06	2.49E-07	1.15E-02	2.41E-06	2.26E-07	4.85E-02	1.01E-05	9.51E-07
Road 45	45	0800-0900	1.16E-02	2.75E-06	2.58E-07	1.05E-02	2.50E-06	2.35E-07	4.42E-02	1.05E-05	9.86E-07
Road 45	45	0900-1000	1.16E-02	2.75E-06	1.70E-06	1.05E-02	2.48E-07	1.53E-06	4.42E-02	1.05E-05	6.50E-06
Road 45	45	1000-1100	1.30E-02	2.65E-06	1.64E-06	1.17E-02	2.39E-07	1.48E-06	4.42E-02	9.02E-06	5.58E-06
Road 45	45	1100-1200	1.30E-02	2.39E-06	1.48E-06	1.17E-02	2.15E-07	1.33E-06	4.42E-02	8.12E-06	5.02E-06
Road 45	45	1200-1300	1.56E-02	3.92E-07	2.42E-06	1.40E-02	3.53E-07	2.18E-06	5.30E-02	1.33E-06	8.23E-06
Road 45	45	1300-1400	1.56E-02	3.92E-07	2.42E-06	1.40E-02	3.53E-07	2.18E-06	5.30E-02	1.33E-06	8.23E-06
Road 45	45	1400-1500	1.56E-02	3.92E-07	2.42E-06	1.40E-02	3.53E-07	2.18E-06	5.30E-02	1.33E-06	8.23E-06
Road 45	45	1500-1600	1.52E-02	4.26E-07	2.63E-06	1.37E-02	3.85E-07	2.38E-06	7.56E-02	2.12E-06	1.31E-05
Road 45	45	1600-1700	2.05E-02	3.60E-07	2.23E-06	1.84E-02	3.24E-07	2.01E-06	8.58E-02	1.50E-06	9.32E-06
Road 45	45	1700-1800	2.15E-02	2.78E-07	2.48E-06	1.92E-02	2.50E-07	2.23E-06	8.97E-02	1.16E-06	1.04E-05
Road 45	45	1800-1900	2.15E-02	2.78E-07	2.48E-06	1.92E-02	2.50E-07	2.23E-06	8.97E-02	1.16E-06	1.04E-05
Road 45	45	1900-2000	7.28E-03	2.15E-07	1.33E-06	6.45E-03	1.90E-07	1.18E-06	4.66E-02	1.37E-06	8.49E-06
Road 45	45	2000-2100	7.05E-03	1.52E-07	1.33E-06	6.25E-03	1.35E-07	1.18E-06	4.51E-02	9.71E-07	8.52E-06
Road 45	45	2100-2200	6.06E-03	1.31E-07	1.15E-06	5.43E-03	1.40E-07	1.03E-06	3.88E-02	1.00E-06	7.37E-06
Road 45	45	2200-2300	6.06E-03	1.31E-07	8.32E-07	5.37E-03	1.19E-07	7.37E-07	4.99E-02	1.11E-06	6.86E-06
Road 45	45	2300-0000	6.06E-03	1.31E-07	8.32E-07	5.37E-03	1.19E-07	7.37E-07	4.99E-02	1.11E-06	6.86E-06
Road 46	46	0000-0100	1.58E-02	4.82E-06	2.65E-04	1.42E-02	4.33E-06	2.38E-04	2.53E-01	7.71E-05	4.24E-03
Road 46	46	0100-0200	2.02E-02	2.49E-06	2.34E-07	1.81E-02	2.24E-06	2.10E-07	7.70E-02	9.53E-06	8.94E-07
Road 46	46	0200-0300	2.43E-02	2.34E-06	2.20E-07	2.18E-02	2.10E-06	1.97E-07	9.26E-02	8.88E-06	8.36E-07
Road 46	46	0300-0400	2.78E-02	2.25E-06	2.11E-07	2.53E-02	2.04E-06	1.92E-07	1.06E-01	8.59E-06	8.08E-07
Road 46	46	0400-0500	2.71E-02	2.35E-06	2.20E-07	2.46E-02	2.13E-06	2.00E-07	9.03E-02	7.82E-06	7.34E-07
Road 46	46	0500-0600	2.16E-02	2.89E-06	2.72E-07	1.96E-02	2.62E-06	2.46E-07	8.25E-02	1.11E-05	1.04E-06
Road 46	46	0600-0700	1.69E-02	4.44E-06	4.17E-07	1.53E-02	4.04E-06	3.79E-07	6.46E-02	1.69E-05	1.59E-06
Road 46	46	0700-0800	1.27E-02	2.65E-06	2.49E-07	1.15E-02	2.41E-06	2.26E-07	4.85E-02	1.01E-05	9.51E-07
Road 46	46	0800-0900	1.16E-02	2.75E-06	2.58E-07	1.05E-02	2.50E-06	2.35E-07	4.42E-02	1.05E-05	9.86E-07
Road 46	46	0900-1000	1.16E-02	2.75E-06	1.70E-06	1.05E-02	2.48E-07	1.53E-06	4.42E-02	1.05E-05	6.50E-06
Road 46

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) **Year 2043**

Road Name	Road ID	Hour	NO_x Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 1	1	0000-0100	4.34E-01	6.31E-08	1.27E-03	3.38E-01	4.88E-08	9.81E-04	1.07E-01	1.52E-08	1.16E-04	1.04E-01	2.52E-02	5.48E-04
Road 1	1	0100-0200	4.79E-01	4.52E-08	9.09E-04	3.49E-01	3.29E-07	6.62E-03	1.19E-01	1.13E-08	2.26E-04	1.30E-01	1.23E-08	2.46E-04
Road 1	1	0200-0300	5.26E-01	3.63E-08	7.30E-04	3.65E-01	2.52E-07	5.06E-03	1.31E-01	9.07E-09	1.82E-04	1.43E-01	9.86E-09	1.98E-04
Road 1	1	0300-0400	5.73E-01	3.12E-08	6.27E-04	3.77E-01	2.05E-07	4.12E-03	1.44E-01	7.84E-09	1.57E-04	1.56E-01	8.52E-09	1.71E-04
Road 1	1	0400-0500	6.20E-01	3.70E-08	7.44E-04	3.90E-01	2.33E-07	4.68E-03	1.56E-01	9.35E-09	1.88E-04	1.70E-01	1.02E-08	2.04E-04
Road 1	1	0500-0600	6.66E-01	6.90E-08	1.39E-03	4.02E-01	4.16E-07	8.36E-03	1.69E-01	1.75E-08	3.52E-04	1.84E-01	1.91E-08	3.83E-04
Road 1	1	0600-0700	7.15E-01	1.25E-07	2.51E-03	4.14E-01	7.24E-07	1.46E-02	1.82E-01	3.18E-08	6.40E-04	1.98E-01	3.46E-08	6.97E-04
Road 1	1	0700-0800	7.61E-01	3.41E-07	6.86E-03	4.26E-01	1.91E-06	3.84E-02	1.95E-01	8.75E-08	1.76E-03	2.12E-01	9.52E-08	1.91E-03
Road 1	1	0800-0900	7.35E-01	3.82E-07	7.67E-03	3.86E-01	2.01E-06	4.03E-02	1.92E-01	9.98E-08	2.01E-03	2.09E-01	1.09E-07	2.18E-03
Road 1	1	0900-1000	7.08E-01	3.57E-07	7.18E-03	3.62E-01	2.29E-06	4.61E-02	1.90E-01	1.20E-07	2.41E-03	2.06E-01	1.30E-07	2.61E-03
Road 1	1	1000-1100	9.54E-01	3.52E-07	7.07E-03	4.45E-01	2.64E-06	5.29E-02	2.49E-01	1.47E-07	2.96E-03	2.70E-01	1.60E-07	3.21E-03
Road 1	1	1100-1200	9.06E-01	3.17E-07	6.36E-03	4.43E-01	2.55E-06	5.11E-02	2.46E-01	1.41E-07	2.83E-03	2.66E-01	1.53E-07	3.08E-03
Road 1	1	1200-1300	8.58E-01	3.00E-07	6.02E-03	4.21E-01	2.52E-06	5.06E-02	2.35E-01	1.40E-07	2.66E-03	2.57E-01	1.53E-07	3.08E-03
Road 1	1	1300-1400	1.25E-02	6.25E-07	1.26E-02	5.44E-02	3.46E-03	1.72E-01	3.46E-03	1.73E-07	3.47E-03	3.76E-03	1.88E-07	3.77E-03
Road 1	1	1400-1500	1.26E-02	6.66E-07	1.34E-02	5.38E-02	2.84E-06	5.70E-02	3.43E-03	1.81E-07	3.64E-03	3.74E-03	1.98E-07	3.97E-03
Road 1	1	1500-1600	1.18E-02	6.38E-07	1.28E-02	5.41E-02	2.93E-06	5.88E-02	3.27E-03	1.77E-07	3.56E-03	3.57E-03	1.93E-07	3.88E-03
Road 1	1	1600-1700	1.12E-02	6.26E-07	1.26E-02	5.19E-02	2.90E-06	5.98E-02	3.12E-03	1.74E-07	3.59E-03	3.41E-03	1.90E-07	3.92E-03
Road 1	1	1700-1800	8.78E-03	5.59E-07	1.12E-02	4.54E-02	2.89E-06	5.81E-02	2.39E-03	1.52E-07	3.06E-03	2.61E-03	1.66E-07	3.34E-03
Road 1	1	1800-1900	6.21E-03	4.24E-07	8.53E-03	3.38E-02	2.31E-06	4.64E-02	1.68E-03	1.15E-07	2.30E-03	1.82E-03	1.24E-07	2.50E-03
Road 1	1	1900-2000	5.09E-03	2.14E-07	4.31E-03	3.43E-02	1.44E-06	2.90E-02	1.35E-03	5.67E-08	1.14E-03	1.46E-03	6.16E-08	1.24E-03
Road 1	1	2000-2100	5.09E-03	2.14E-07	4.31E-03	3.43E-02	1.44E-06	2.90E-02	1.35E-03	5.67E-08	1.14E-03	1.46E-03	6.16E-08	1.24E-03
Road 1	1	2100-2200	4.58E-03	1.92E-07	3.86E-03	3.37E-02	1.41E-06	2.84E-02	1.22E-03	5.11E-08	1.03E-03	1.32E-03	5.55E-08	1.12E-03
Road 1	1	2200-2300	3.07E-03	2.75E-07	1.58E-04	5.27E-03	2.52E-07	1.45E-03	1.07E-03	9.58E-08	5.50E-04	1.84E-03	1.65E-07	9.46E-04
Road 1	1	2300-0000	5.05E-03	1.54E-07	3.10E-03	3.51E-02	1.07E-06	2.15E-02	1.30E-03	3.96E-08	7.97E-04	1.41E-03	4.31E-08	8.66E-04
Road 2	2	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	1.63E-03	2.21E-08	4.09E-04	1.77E-03	2.41E-08	4.45E-04
Road 2	2	0100-0200	6.83E-03	6.07E-08	1.12E-03	3.98E-02	3.54E-07	6.55E-03	1.80E-03	1.60E-08	2.96E-04	1.96E-03	1.74E-08	3.22E-04
Road 2	2	0200-0300	7.48E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	1.97E-03	1.29E-08	2.39E-04	2.15E-03	1.40E-08	2.60E-04
Road 2	2	0300-0400	8.10E-03	4.22E-08	7.81E-04	4.33E-02	2.26E-07	4.17E-03	2.14E-03	1.12E-08	2.06E-04	2.33E-03	1.21E-08	2.25E-04
Road 2	2	0400-0500	8.66E-03	4.98E-08	9.22E-04	4.59E-02	2.64E-07	4.88E-03	2.29E-03	1.32E-08	2.44E-04	2.50E-03	1.44E-08	2.66E-04
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	2.43E-03	2.43E-08	4.50E-04	2.64E-03	2.65E-08	4.90E-04
Road 2	2	0600-0700	9.62E-03	2.08E-07	3.84E-03	4.78E-02	1.03E-06	1.91E-02	2.57E-03	5.55E-08	1.03E-03	2.80E-03	6.04E-08	1.12E-03
Road 2	2	0700-0800	1.02E-02	4.50E-07	8.31E-03	4.92E-02	2.16E-06	4.00E-02	2.74E-03	1.20E-07	2.22E-03	2.98E-03	1.31E-07	2.42E-03
Road 2	2	0800-0900	1.08E-02	4.62E-07	8.54E-03	4.87E-02	2.08E-06	3.86E-02	2.91E-03	1.24E-07	2.30E-03	3.17E-03	1.35E-07	2.50E-03
Road 2	2	0900-1000	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	3.26E-03	1.43E-07	2.65E-03	3.55E-03	1.56E-07	2.89E-03
Road 2	2	1000-1100	1.32E-02	5.13E-07	9.48E-03	5.42E-02	2.11E-06	3.90E-02	3.71E-03	1.44E-07	2.67E-03	4.03E-03	1.57E-07	2.90E-03
Road 2	2	1100-1200	1.29E-02	4.96E-07	9.17E-03	5.25E-02	2.02E-06	3.74E-02	3.58E-03	1.38E-07	2.55E-03	3.88E-03	1.49E-07	2.76E-03
Road 2	2	1200-1300	1.32E-02	6.04E-07	1.12E-02	5.38E-02	2.45E-06	4.54E-02	3.62E-03	1.65E-07	3.06E-03	3.94E-03	1.80E-07	3.32E-03
Road 2	2	1300-1400	1.34E-02	6.31E-07	1.17E-02	5.61E-02	2.65E-06	4.90E-02	3.72E-03	1.75E-07	3.24E-03	4.04E-03	1.91E-07	3.53E-03
Road 2	2	1400-1500	1.29E-02	6.25E-07	1.16E-02	5.42E-02	2.62E-06	4.84E-02	3.58E-03	1.73E-07	3.20E-03	3.89E-03	1.88E-07	3.47E-03
Road 2	2	1500-1600	1.25E-02	6.39E-07	1.18E-02	5.61E-02	2.87E-06	5.30E-02	3.52E-03	1.80E-07	3.32E-03	3.82E-03	1.95E-07	3.61E-03
Road 2	2	1600-1700	1.30E-02	6.95E-07	1.29E-02	5.39E-02	2.88E-06	5.33E-02	3.52E-03	1.89E-07	3.49E-03	3.84E-03	2.06E-07	3.80E-03
Road 2	2	1700-1800	9.58E-03	5.51E-07	1.02E-02	4.87E-02	2.80E-06	5.18E-02	2.58E-03	1.48E-07	2.83E-03	2.81E-03	1.62E-07	2.99E-03
Road 2	2	1800-1900	6.62E-03	4.16E-07	7.70E-03	3.47E-02	2.18E-06	4.03E-02	1.81E-03	1.14E-07	2.10E-03	1.97E-03	1.24E-07	2.29E-03
Road 2	2	1900-2000	5.65E-03	2.80E-07	5.17E-03	3.26E-02	1.61E-06	2.99E-02	1.52E-03	7.49E-08	1.39E-03	1.65E-03	8.16E-08	1.51E-03
Road 2	2	2000-2100	5.65E-03	2.80E-07	5.17E-03	3.26E-02	1.61E-06	2.99E-02	1.52E-03	7.49E-08	1.39E-03	1.65E-03	8.16E-08	1.51E-03
Road 2	2	2100-2200	4.97E-03	1.91E-07	3.53E-03	3.49E-02	1.34E-06	2.48E-02	1.34E-03	5.01E-08	9.53E-04	1.46E-03	5.60E-08	1.04E-03
Road 2	2	2200-2300	4.94E-03	1.84E-07	3.40E-03	3.48E-02	1.29E-06	2.39E-02	1.27E-03	4.74E-08	8.76E-04	1.38E-03	5.15E-08	9.52E-04
Road 2	2	2300-0000	5.16E-03	1.57E-07	2.89E-03	3.51E-02	1.07E-06	1.97E-02	1.32E-03	4.02E-08	7.41E-04	1.43E-03	4.35E-08	8.06E-04
Road 3	3	0000-0100	4.59E-03	2.51E-08	4.62E-04	3.58E-02	1.96E-07	3.60E-03	1.13E-03	6.19E-09	1.14E-04	1.10E-03	6.03E-09	1.11E-04
Road 3	3	0100-0200	5.06E-03	2.39E-08	4.41E-04	3.94E-02	1.86E-07	3.43E-03	1.24E-03	5.87E-09	1.08E-04	1.21E-03	5.72E-09	1.05E-04
Road 3	3	0200-0300	5.59E-03	1.73E-08	3.19E-04	4.35E-02	1.35E-07	2.48E-03	1.37E-03	4.25E-09	7.84E-05	1.34E-03	4.14E-09	7.63E-05
Road 3	3	0300-0400	6.12E-03	1.73E-08	3.19E-04	4.76E-02	1.35E-07	2.48E-03	1.50E-03	4.25E-09	7.84E-05	1.47E-03	4.14E-09	7.63E-05
Road 3	3	0400-0500	6.66E-03	2.51E-08	4.62E-04	5.18E-02	1.96E-07	3.60E-03	1.63E-03	6.19E-09	1.14E-04	1.60E-03	6.03E-09	1.11E-04
Road 3	3	0500-0600	6.57E-03	4.27E-08	7.86E-04	5.09E-02	3.33E-07	6.13E-03	1.60E-03	1.05E-08	1.94E-04	1.57E-03	1.03E-08	1.89E-04
Road 3	3	0600-0700	7.06E-03	1.09E-07	2.00E-03	5.50E-02	8.47E-07	1.56E-02	1.73E-03	2.68E-08	4.93E-04	1.69E-03	2.61E-08	4.80E-04
Road 3	3	0700-0800	7.50E-03	2.33E-07	1.71E-03	4.25E-02	1.32E-06	9.67E-03	1.91E-03	5.95E-08	4.35E-04	2.08E-03	6.47E-08	4.73E-04
Road 3	3	0800-0900	7.25E-03	2.50E-07	1.83E-03	3.98E-02	1.37E-06	1.01E-02	1.88E-03	6.77E-08	4.95E-04	2.05E-03	7.38E-08	5.40E-04
Road 3	3	0900-1000	8.21E-03	2.42E-07	1.77E-03	4.19E-02	1.23E-06	9.03E-03	2.23E-03	6.58E-08	4.81E-04	2.38E-03	7.15E-08	5.23E-04
Road 4	4	1000-1100	9.37E-03	2.38E-07	1.74E-03	4.42E-02	1.12E-06	8.22E-03	2.54E-03	6.47E-08	4.73E-04	2.77E-03	7.03E-08	5.15E-04
Road 4	4	1100-1200	8.89E-03	2.14E-07	1.57E-03	4.41E-02	1.06E-06	7.78E-03	2.60E-03	6.27E-08	4.59E-04	2.60E-03	6.27E-08	4.59E-04
Road 4	4	1200-1300	1.09E-02	1.94E-07	1.42E-03	5.39E-02	1.04E-06	7.61E-03	3.07E-03	6.13E-08	4.49E-04	3.20E-03	6.13E-08	4.49E-04
Road 4	4	1300-1400	1.10E-02	3.27E-07	2.39E-03	4.88E-02	1.46E-06	1.07E-02	3.01E-03	8.98E-08	6.57E-04	3.27E-03	9.77E-08	7.15E-04
Road 4	4	1400-1500	1.11E-02	3.53E-07	2.58E-03	4.85E-02	1.54E-06	1.13E-02	3.00E-03	9.55E-08	6.98E-04	3.27E-03	1.04E-07	7.62E-04
Road 4	4	1500-1600	1.04E-02	3.42E-07	2.50E-03	4.48E-02	1.47E-06	1.08E-02	2.87E-03	9.45E-08	6.91E-04	3.08E-03	1.01E-07	7.40E-04
Road 4	4	1600-1700	1.09E-02	3.79E-07	2.77E-03	4.70E-02	1.63E-06	1.19E-02	2.92E-03	1.01E-07	7.41E-04	3.18E-03	1.10E-07	8.06E-04
Road 4	4	1700-1800	7.71E-03	3.03E-07	2.22E-03	4.20E-02	1.65E-06	1.18E-02	2.08E-03	8.20E-08	6.00E-04	2.27E-03	8.94E-08	6.54E-04
Road 4	4	1800-1900	5.51E-03	2.16E-07	1.58E-03	3.01E-02	1.18E-06	8.47E-03	1.49E-03	5.86E-08	4.29E-04	1.62E-03	6.36E-08	4.65E-04
Road 4	4	1900-2000	4.74E-03	1.63E-07	1.19E-03	2.98E-02	1.02E-06	7.49E-03	1.23E-03	4.23E-08	3.09E-04	1.34E-03	4.59E-08	3.36E-04
Road 4	4	2000-2100	4.57E-03	1.22E-07	8.91E-04	3.30E-02	8.81E-07	6.45E-03	1.17E-03	3.13E-08	2.29E-04	1.28E-03	3.41E-08	2.49E-04
Road 4	4	2100-2200	4.00E-03	1.06E-07	7.78E-04	3.23E-02	8.58E-07	6.28E-03	1.03E-03	2.74E-08	2.00E-04	1.12E-03	2.98E-08	2.18E-04
Road 4	4	2200-2300	3.93E-03	1.02E-07	7.44E-04	3.25E-02	8.42E-07	6.16E-03	9.66E-04	2.50E-08	1.83E-04	1.05E-03	2.72E-08	1.99E-04
Road 4	4	2300-0000	4.40E-03	8.51E-08	6.22E-04	3.37E-02	6.51E-07	4.77E-03	1.10E-03	2.12E-08	1.55E-04	1.19E-03	2.31E-08	1.69E-04
Road 5	5	0000-0100	6.14E-03	1.36E-08	2.48E-04	5.44E-02	1.21E-07	2.20E-03	1.28E-03	2.84E-09	5.16E-05	1.46E-03	3.24E-09	5.89E-05
Road 5	5	0100-0200	6.61E-03	3.04E-08	9.27E-05	4.56E-02	2.10E-07	6.40E-04	1.16E-03	5.34E-09	1.63E-05	1.26E-03	5.78E-09	1.76E-05
Road 5	5	0200-0300	7.09E-03	2.38E-08	7.25E-05	4.72E-02	1.58E-07	4.83E-04	1.26E-03	4.24E-09	1.29E-05	1.38E-03	4.62E-09	1.41E-05
Road 5	5	0300-0400	7.74E-03	2.05E-08	6.24E-05	4.90E-02	1.30E-07	3.95E-04	1.39E-03	3.67E-09	1.12E-05	1.51E-03	4.00E-09	1.22E-05
Road 5	5	0400-0500	8.34E-03	2.43E-08	7.40E-05	5.08E-02	1.54E-07	4.67E-04	1.48E-03	4.34E-09	1.32E-05	1.64E-03	4.74E-09	1.44E-05
Road 5	5	0500-0600	9.34E-03	4.67E-08	1.42E-04	5.37E-02	2.68E-07	8.17E-04	1.63E-03	8.36E-09	2.55E-05	1.82E-03	9.07E-09	2.77E-05
Road 5	5	0600-0700	1.14E-02	1.22E-07	3.71E-04	6.15E-02	6.57E-07	2.00E-03	1.90E-03	2.03E-08	6.19E-05	2.07E-03	2.20E-08	6.72E-05
Road 5	5	0700-0800	1.14E-02	1.24E-07	3.78E-04	6.15E-02	6.68E-07	2.03E-03	1.90E-03	2.06E-08	6.29E-05	2.07E-03	2.24E-08	6.83E-05
Road 5	5	0800-0900	1.45E-02	3.56E-07	1.08E-03	7.85E-02	1.91E-06	5.81E-03	2.43E-03	5.96E-08	1.81E-04	2.64E-03	6.47E-08	1.97E-04
Road 5	5	0900-1000	1.45E-02	3.53E-07	1.07E-03	7.85E-02	1.90E-06	5.77E-03	2.43E-03	5.91E-08	1.80E-04	2.64E-03	6.42E-08	1.96E-04
Road 5	5	1000-1100	1.63E-02	3.27E-07	9.96E-04	7.60E-02	1.52E-06	4.65E-03	2.50E-03	5.01E-08	1.53E-04	2.72E-03	5.46E-08	1.66E-04
Road 5	5	1100-1200	1.63E-02	2.65E-07	8.10E-04	7.60E-02	1.24E-06	3.78E-03	2.50E-03	4.07E-08	1.24E-04	2.72E-03	4.44E-08	1.35E-04
Road 5	5	1200-1300	2.05E-02	5.66E-07	1.73E-03	8.60E-02	2.37E-06	7.24E-03	2.94E-03	8.11E-08	2.47E-04	3.19E-03	8.80E-08	2.68E-04
Road 5	5	1300-1400	2.01E-02	5.56E-07	1.70E-03	8.44E-02	2.33E-06	7.10E-03	2.90E-03	8.00E-08	2.43E-04	3.14E-03	8.68E-08	2.64E-04
Road 5	5	1400-1500	2.19E-02	6.57E-07	2.00E-03	9.13E-02	2.74E-06	8.35E-03	3.10E-03	9.29E-08	2.83E-04	3.23E-03	9.37E-08	2.85E-04
Road 5	5	1500-1600	2.15E-02	6.59E-07	2.01E-03	9.54E-02	2.92E-06	8.91E-03	3.05E-03	9.33E-08	2.85E-04	3.31E-03	1.01E-07	3.09E-04
Road 5	5	1600-1700	2.15E-02	6.95E-07	2.12E-03	9.54E-02	3.08E-06	9.40E-03	3.05E-03	9.85E-08	3.01E-04	3.31E-03	1.07E-07	3.26E-04
Road 5	5	1700-1800	1.68E-02	6.49E-07	1.98E-03	7.98E-02	3.08E-06	9.40E-03	2.39E-03	9.21E-08	2.81E-04	2.59E-03	9.95E-08	3.04E-04
Road 5	5	1800-1900	1.28E-02	5.61E-07	1.71E-03	6.02E-02	2.64E-06	8.05E-03	1.75E-03	7.69E-08	2.35E-04	1.90E-03	8.32E-08	2.54E-04
Road 5	5	1900-2000	9.67E-03	3.11E-07	1.04E-03	5.25E-02	1.85E-06	5.63E-03	1.37E-03	4.82E-08	1.47E-04	1.46E-03	5.22E-08	1.60E-04
Road 5	5	2000-2100	8.53E-03	2.23E-07	7.11E-04	5.43E-02	1.48E-06	4.52E-03	1.25E-03	3.40E-08	1.04E-04	1.35E-03	3.68E-08	1.12E-04
Road 5	5	2100-2200	6.83E-03	1.86E-07	5.67E-04	5.07E-02	1.38E-06	4.21E-03	1.01E-03	2.75E-08	8.38E-05	1.09E-03	2.98E-08	9.08E-05
Road 5	5	2200-2300	6.59E-03	1.75E-07	5.34E-04	5.04E-02	1.34E-06	4.09E-03	9.31E-04	2.48E-08	7.55E-05	1.01E-03	2.68E-08	8.18E-05
Road 5	5	2300-0000	7.66E-03	1.57E-07	2.60E-03	5.22E-02	1.07E-06	2.93E-02	1.14E-03	2.33E-08	3.84E-04	1.46E-03	2.99E-08	4.92E-04
Road 6	6	0000-0100	1.06E-02	1.57E-07	2.60E-03	5.94E-02	8.79E-07	1.45E-02	2.62E-03	3.87E-08	6.38E-04	2.76E-03	4.08E-08	6.73E-04
Road 6	6	0100-0200	1.16E-02	1.04E-07	1.72E-03	6.49E-02	5.82E-07	9.61E-03	2.86E-03	2.56E-08	4.22E-04	3.02E-03	2.70E-08	4.45E-04
Road 6	6	0200-0300	1.25E-02	7.23E-08	1.19E-03	6.98E-02	4.04E-07	6.67E-03	3.08E-03	1.78E-08	2.93E-04	3.25E-03	1.88E-08	3.10E-04
Road 6	6	0300-0400	1.34E-02	7.23E-08	1.19E-03	7.48E-02	4.04E-07	6.67E-03	3.30E-03	1.78E-08	2.93E-04	3.48E-03	1.88E-08	3.10E-04
Road 6	6	0400-0500	1.43E-02	1.04E-07	1.72E-03	7.98E-02	5.82E-07	9.61E-03	3.52E-03	2.56E-08	4.22E-04	3.71E-03	2.70E-08	4.45E-04
Road 6	6	0500-0600	1.53E-02	1.49E-07	2.46E-03	8.48E-02	8.33E-07	1.37E-02	3.75E-03	3.67E-08	6.05E-04	3.95E-03	3.87E-08	6.38E-04
Road 6	6	0600-0700	1.63E-02	2.99E-07	4.93E-03	8.98E-02	1.67E-06	2.75E-02	3.98E-03	7.36E-08	1.21E-03	4.19E-03	7.74E-08	1.28E-03
Road 6	6	0700-0800	1.73E-02	4.49E-07	7.41E-03	9.48E-02	2.51E-06	4.14E-02	4.22E-03	1.10E-07	1.82E-03	4.44E-03	1.16E-07	1.92E-03
Road 6	6	0800-0900	1.83E-02	4.62E-07	7.62E-03	9.98E-02	2.58E-06	4.25E-02	4.45E-03	1.13E-07	1.87E-03	4.68E-03	1.19E-07	1.97E-03
Road 6	6	0900-1000	1.93E-02	5.09E-07	8.40E-03	1.05E-01	2.84E-06	4.68E-02	4.69E-03	1.24E-07	2.05E-03	4.93E-03	1.31E-07	2.16E-03
Road 6	6	1000-1100	2.09E-02	5.13E-07	8.47E-03	1.14E-01	2.80E-06	4.62E-02	5.08E-03	1.25E-07	2.06E-03	5.34E-03	1.31E-07	2.17E-03
Road 6	6	1100-1200	2.05E-02	4.96E-07	8.19E-03	1.12E-01	2.71E-06	4.48E-02	4.98E-03	1.21E-07	1.99E-03	5.24E-03	1.27E-07	2.09E-03
Road 6	6	1200-1300	2.11E-02	5.66E-07	9.34E-03	1.16E-01	3.11E-06	5.13E-02	5.13E-03	1.38E-07	2.27E-03	5.39E-03	1.45E-07	2.39E-03
Road 6	6	1300-1400	2.13E-02	5.58E-07	9.21E-03	1.17E-01	3.07E-06	5.06E-02	5.17E-03	1.36E-07	2.24E-03	5.44E-03	1.43E-07	2.36E-03
Road 6	6	1400-1500	2.07E-02	5.76E-07	9.51E-03	1.14E-01	3.17E-06	5.23E-02	5.02E-03	1.40E-07	2.31E-03	5.28E-03	1.47E-07	2.43E-03
Road 6	6	1500-1600	2.26E-02	6.26E-07	1.03E-02	1.24E-01	3.44E-06	5.68E-02	5.48E-03	1.52E-07	2.51E-03	5.76E-03	1.60E-07	2.64E-03
Road 6	6	1600-1700	2.07E-02	5.78E-07	9.54E-03	1.14E-01	3.18E-06	5.25E-02	5.02E-03	1.40E-07	2.31E-03	5.28E-03	1.47E-07	2.43E-03
Road 6	6	1700-1800	1.66E-02	5.51E-07	9.09E-03	9.18E-02	3.04E-06	5.02E-02	4.02E-03	1.33E-07	2.20E-03	4.23E-03	1.40E-07	2.31E-03
Road 6	6	1800-1900	1.28E-02	5.61E-07	9.26E-03	7.08E-02	3.11E-06	5.13E-02	3.10E-03	1.36E-07	2.25E-03	3.26E-03	1.43E-07	2.36E-03
Road 6	6	1900-2000	1.09E-02	4.96E-07	8.19E-03	6.02E-02	2.74E-06	4.52E-02	2.64E-03	1.20E-07	1.98E-03	2.77E-03	1.26E-07	2.08E-03
Road 6	6	2000-2100	1.09E-02	4.96E-07	8.19E-03	6.02E-02	2.74E-06	4.52E-02	2.64E-03	1.20E-07	1.98E-03	2.77E-03	1.26E-07	2.08E-03
Road 6	6	2100-2200	9.57E-03	2.78E-07	4.59E-03	5.29E-02	1.53E-06	2.52E-02	2.32E-03	6.74E-08	1.11E-03	2.43E-03	7.05E-08	1.16E-03
Road 6	6	2200-2300	9.05E-03	2.51E-07	4.15E-03	5.00E-02	1.39E-06	2.29E-02	2.19E-03	6.09E-08	1.01E-03	2.30E-03	6.37E-08	1.05E-03
Road 6	6	2300-0000	1.01E-02	2.51E-07	4.15E-03	5.58E-02	1.39E-06	2.29E-02	2.45E-03	6.09E-08	1.01E-03	2.57E-03	6.37E-08	1.05E-03
Road 7	7	0000-0100	4.58E-03	3.11E-08	1.33E-04	3.53E-02	2.40E-07	1.03E-03	1.11E-03	7.54E-09	3.23E-05	1.21E-03	8.20E-09	3.51E-05
Road 7	7	0100-0200	5.06E-03	2.74E-08	5.53E-04	3.90E-02	2.12E-07	4.27E-03	1.23E-03	6.68E-09	1.35E-04	1.34E-03	5.93E-09	2.54E-05
Road 7	7	0200-0300	5.55E-03	1.79E-08

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) **Year 2043**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 23	23	1600-1700	1.32E-01	2.41E-07	1.63E-03	4.68E-01	8.58E-07	5.78E-03	1.37E-02	2.51E-08	1.69E-04	1.49E-02	2.73E-08	1.84E-04
Road 23	23	1700-1800	1.14E-01	1.90E-07	1.28E-03	4.58E-01	7.59E-07	5.12E-03	1.24E-02	2.05E-08	1.38E-04	1.35E-02	2.23E-08	1.50E-04
Road 23	23	1800-1900	9.96E-02	1.15E-07	7.77E-04	4.13E-01	4.78E-07	3.22E-03	1.12E-02	1.30E-08	8.75E-05	1.22E-02	1.41E-08	9.50E-05
Road 23	23	1900-2000	9.19E-02	7.05E-08	4.72E-04	3.68E-01	2.79E-07	1.88E-03	1.07E-02	8.19E-09	5.52E-05	1.17E-02	8.91E-09	6.01E-05
Road 23	23	2000-2100	8.92E-02	5.41E-08	3.67E-04	2.23E-01	1.50E-03	1.06E-02	6.41E-09	4.32E-05	1.15E-02	6.98E-09	4.70E-05	
Road 23	23	2100-2200	9.08E-02	5.66E-08	3.81E-04	3.69E-01	2.30E-07	1.55E-03	1.07E-02	6.65E-09	4.48E-05	1.16E-02	7.24E-09	4.88E-05
Road 23	23	2200-2300	9.19E-02	5.75E-08	3.87E-04	3.73E-01	2.33E-07	1.57E-03	1.08E-02	6.75E-09	4.55E-05	1.17E-02	7.35E-09	4.95E-05
Road 23	23	2300-0000	9.75E-02	4.35E-08	2.93E-04	3.54E-01	1.58E-07	1.06E-03	1.14E-02	5.06E-09	3.41E-05	1.23E-02	5.50E-09	3.71E-05
Road 24	24	0000-0100	1.02E-01	3.31E-08	3.03E-05	3.69E-01	1.20E-07	1.09E-04	1.19E-02	3.85E-09	3.52E-06	1.29E-02	4.18E-09	3.82E-06
Road 24	24	0100-0200	1.06E-01	2.74E-08	3.72E-05	3.73E-01	9.61E-08	1.31E-04	1.24E-02	3.20E-09	4.35E-06	1.34E-02	3.46E-09	4.70E-06
Road 24	24	0200-0300	1.04E-01	1.88E-08	1.72E-05	3.76E-01	6.79E-08	6.21E-05	1.21E-02	2.18E-09	2.00E-06	1.31E-02	2.37E-09	2.17E-06
Road 24	24	0300-0400	1.05E-01	1.61E-08	1.48E-05	3.81E-01	5.82E-08	5.33E-05	1.22E-02	1.86E-09	1.71E-06	1.32E-02	2.02E-09	1.85E-06
Road 24	24	0400-0500	1.06E-01	1.90E-08	1.74E-05	3.85E-01	6.87E-08	6.29E-05	1.23E-02	2.20E-09	2.02E-06	1.33E-02	2.39E-09	2.19E-06
Road 24	24	0500-0600	1.07E-01	3.54E-08	3.24E-05	3.85E-01	1.28E-07	1.17E-04	1.23E-02	4.10E-09	3.75E-06	1.34E-02	4.45E-09	4.07E-06
Road 24	24	0600-0700	1.19E-01	8.96E-08	8.20E-05	4.25E-01	3.21E-07	2.94E-04	1.29E-02	9.77E-09	8.94E-06	1.41E-02	1.06E-08	9.72E-06
Road 24	24	0700-0800	1.31E-01	2.12E-07	1.94E-04	4.67E-01	7.56E-07	6.92E-04	1.36E-02	2.20E-08	2.01E-05	1.48E-02	2.39E-08	2.19E-05
Road 24	24	0800-0900	1.26E-01	2.47E-07	2.26E-04	4.50E-01	8.82E-07	8.07E-04	1.32E-02	2.58E-08	2.36E-05	1.43E-02	2.79E-08	2.56E-05
Road 24	24	0900-1000	1.26E-01	2.75E-07	2.51E-04	4.72E-01	1.03E-06	9.38E-04	1.34E-02	2.91E-08	2.66E-05	1.45E-02	3.16E-08	2.89E-05
Road 24	24	1000-1100	1.35E-01	2.89E-07	2.65E-04	4.78E-01	1.02E-06	9.36E-04	1.40E-02	3.00E-08	2.74E-05	1.52E-02	3.26E-08	2.98E-05
Road 24	24	1100-1200	1.36E-01	2.66E-07	2.44E-04	4.66E-01	9.12E-07	8.36E-04	1.41E-02	2.77E-08	2.54E-05	1.53E-02	3.00E-08	2.75E-05
Road 24	24	1200-1300	1.41E-01	2.86E-07	2.62E-04	4.80E-01	9.70E-07	8.88E-04	1.44E-02	2.91E-08	2.66E-05	1.56E-02	3.16E-08	2.89E-05
Road 24	24	1300-1400	1.42E-01	3.24E-07	2.96E-04	5.05E-01	1.15E-06	1.05E-03	1.42E-02	3.25E-08	2.97E-05	1.54E-02	3.52E-08	3.24E-05
Road 24	24	1400-1500	1.44E-01	3.31E-07	3.03E-04	5.08E-01	1.17E-06	1.07E-03	1.45E-02	3.32E-08	3.04E-05	1.57E-02	3.60E-08	3.30E-05
Road 24	24	1500-1600	1.30E-01	3.07E-07	2.81E-04	4.96E-01	1.17E-06	1.07E-03	1.35E-02	3.18E-08	2.91E-05	1.47E-02	3.46E-08	3.17E-05
Road 24	24	1600-1700	1.33E-01	2.98E-07	2.65E-04	4.73E-01	1.03E-06	9.43E-04	1.39E-02	3.01E-08	2.68E-05	1.51E-02	3.28E-08	2.92E-05
Road 24	24	1700-1800	1.16E-01	2.28E-07	2.08E-04	4.63E-01	9.11E-07	8.34E-04	1.26E-02	2.48E-08	2.26E-05	1.37E-02	2.70E-08	2.46E-05
Road 24	24	1800-1900	1.02E-01	1.38E-07	1.26E-04	4.21E-01	5.73E-07	5.24E-04	1.14E-02	1.56E-08	1.43E-05	1.24E-02	1.69E-08	1.55E-05
Road 24	24	1900-2000	9.89E-02	8.82E-08	8.07E-05	3.92E-01	3.50E-07	3.20E-04	1.13E-02	1.00E-08	9.18E-06	1.22E-02	1.09E-08	9.98E-06
Road 24	24	2000-2100	9.14E-02	6.49E-08	5.94E-05	3.67E-01	2.60E-07	2.38E-04	1.04E-02	7.38E-09	6.75E-06	1.13E-02	8.02E-09	7.34E-06
Road 24	24	2100-2200	9.31E-02	6.79E-08	6.22E-05	3.77E-01	2.75E-07	2.52E-04	1.09E-02	7.98E-09	7.31E-06	1.19E-02	8.70E-09	7.96E-06
Road 24	24	2200-2300	1.04E-01	6.04E-08	3.74E-05	3.74E-01	2.17E-07	1.34E-04	1.09E-02	6.31E-09	3.90E-06	1.27E-02	8.10E-09	7.41E-06
Road 24	24	2300-0000	1.03E-01	3.20E-08	2.98E-05	3.75E-01	1.16E-07	1.08E-04	1.21E-02	3.74E-09	3.47E-06	1.31E-02	4.05E-09	3.77E-06
Road 25	25	0000-0100	1.04E-01	3.20E-08	2.98E-05	3.75E-01	1.16E-07	1.08E-04	1.21E-02	3.74E-09	3.47E-06	1.31E-02	4.05E-09	3.77E-06
Road 25	25	0100-0200	1.05E-01	2.56E-08	2.38E-05	3.79E-01	9.22E-08	8.58E-05	1.22E-02	2.96E-09	2.76E-06	1.32E-02	3.22E-09	3.00E-06
Road 25	25	0200-0300	1.03E-01	1.50E-08	1.39E-05	3.72E-01	5.41E-08	5.03E-05	1.20E-02	1.74E-09	1.62E-06	1.30E-02	1.89E-09	1.76E-06
Road 25	25	0300-0400	1.04E-01	1.59E-08	1.48E-05	3.76E-01	5.75E-08	5.35E-05	1.21E-02	1.85E-09	1.72E-06	1.31E-02	2.01E-09	1.87E-06
Road 25	25	0400-0500	1.07E-01	2.59E-08	2.41E-05	3.85E-01	8.69E-08	8.09E-05	1.23E-02	2.99E-09	2.79E-06	1.34E-02	3.25E-09	3.03E-06
Road 25	25	0500-0600	1.13E-01	5.01E-08	4.70E-05	4.05E-01	1.82E-07	1.69E-04	1.27E-02	5.67E-09	5.28E-06	1.38E-02	6.18E-09	5.75E-06
Road 25	25	0600-0700	1.21E-01	1.49E-07	1.39E-04	4.37E-01	5.44E-07	5.06E-04	1.36E-02	1.68E-08	1.56E-05	1.48E-02	1.83E-08	1.70E-05
Road 25	25	0700-0800	1.32E-01	2.89E-07	2.69E-04	4.69E-01	1.03E-06	9.57E-04	1.37E-02	2.99E-08	2.78E-05	1.48E-02	3.25E-08	3.02E-05
Road 25	25	0800-0900	1.33E-01	3.49E-07	3.25E-04	4.90E-01	1.29E-06	1.20E-03	1.36E-02	3.56E-08	3.32E-05	1.48E-02	3.88E-08	3.61E-05
Road 25	25	0900-1000	1.33E-01	3.93E-07	3.66E-04	4.98E-01	1.46E-06	1.36E-03	1.36E-02	4.01E-08	3.73E-05	1.48E-02	4.37E-08	4.10E-05
Road 25	25	1000-1100	1.43E-01	4.15E-07	3.86E-04	5.03E-01	1.46E-06	1.36E-03	1.44E-02	4.17E-08	3.88E-05	1.56E-02	4.54E-08	4.23E-05
Road 25	25	1100-1200	1.42E-01	3.87E-07	3.60E-04	5.04E-01	1.37E-06	1.27E-03	1.43E-02	3.89E-08	3.62E-05	1.56E-02	4.23E-08	3.94E-05
Road 25	25	1200-1300	1.43E-01	3.31E-07	3.08E-04	5.06E-01	1.17E-06	1.09E-03	1.44E-02	3.33E-08	3.10E-05	1.56E-02	3.62E-08	3.37E-05
Road 25	25	1300-1400	1.43E-01	4.40E-07	4.10E-04	5.09E-01	1.56E-06	1.45E-03	1.44E-02	4.41E-08	4.11E-05	1.56E-02	4.81E-08	4.47E-05
Road 25	25	1400-1500	1.47E-01	4.47E-07	4.16E-04	5.07E-01	1.54E-06	1.43E-03	1.47E-02	4.45E-08	4.15E-05	1.60E-02	4.85E-08	4.51E-05
Road 25	25	1500-1600	1.41E-01	4.37E-07	4.06E-04	5.01E-01	1.55E-06	1.44E-03	1.46E-02	4.52E-08	4.20E-05	1.59E-02	4.92E-08	4.57E-05
Road 25	25	1600-1700	1.42E-01	3.86E-07	3.58E-04	5.02E-01	1.47E-06	1.37E-03	1.46E-02	3.96E-08	3.68E-05	1.59E-02	4.31E-08	4.00E-05
Road 25	25	1700-1800	1.24E-01	3.01E-07	2.79E-04	4.91E-01	1.29E-06	1.20E-03	1.41E-02	3.42E-08	3.17E-05	1.54E-02	3.73E-08	3.47E-05
Road 25	25	1800-1900	1.07E-01	1.97E-07	1.83E-04	4.52E-01	8.29E-07	7.69E-04	1.21E-02	2.23E-08	2.07E-05	1.32E-02	2.42E-08	2.25E-05
Road 25	25	1900-2000	9.92E-02	9.25E-08	8.61E-05	4.05E-01	3.78E-07	3.52E-04	1.17E-02	1.09E-08	1.01E-05	1.27E-02	1.19E-08	1.10E-05
Road 25	25	2000-2100	9.01E-02	9.68E-08	9.01E-05	4.07E-01	3.90E-07	3.63E-04	1.06E-02	1.14E-08	1.06E-05	1.20E-02	1.20E-08	1.12E-05
Road 25	25	2100-2200	9.14E-02	9.82E-08	9.14E-05	4.13E-01	3.96E-07	3.68E-04	1.08E-02	1.16E-08	1.08E-05	1.22E-02	1.22E-08	1.13E-05
Road 25	25	2200-2300	1.09E-01	7.44E-08	6.92E-05	3.90E-01	2.68E-07	2.49E-04	1.23E-02	8.42E-09	7.83E-06	1.34E-02	9.16E-09	8.53E-06
Road 25	25	2300-0000	1.04E-01	4.15E-08	5.68E-05	3.76E-01	1.50E-07	2.05E-04	1.21E-02	4.82E-09	6.61E-06	1.32E-02	5.24E-09	7.18E-06
Road 26	26	0000-0100	1.04E-01	3.63E-08	3.37E-05	3.76E-01	1.31E-07	1.22E-04	1.21E-02	4.22E-09	3.92E-06	1.32E-02	4.59E-09	4.26E-06
Road 26	26	0100-0200	1.06E-01	2.36E-08	3.23E-05	3.83E-01	8.51E-08	1.17E-04	1.23E-02	2.74E-09	3.75E-06	1.34E-02	2.97E-09	4.07E-06
Road 26	26	0200-0300	1.06E-01	2.36E-08	3.23E-05	3.83E-01	8.51E-08	1.17E-04	1.23E-02	2.74E-09	3.75E-06	1.34E-02	2.97E-09	4.07E-06
Road 26	26	0300-0400	1.07E-01	2.02E-08	2.77E-05	3.86E-01	7.28E-08	9.98E-05	1.24E-02	2.34E-09	3.20E-06	1.35E-02	2.54E-09	3.48E-06
Road 26	26	0400-0500	1.08E-01	1.62E-08	1.48E-05	3.90E-01	5.84E-08	5.34E-05	1.25E-02	1.88E-09	1.72E-06	1.36E-02	2.04E-09	1.86E-06
Road 26	26	0500-0600	1.08E-01	4.44E-08	6.09E-05	3.90E-01	1.60E-07	2.19E-04	1.25E-02	5.14E-09	7.04E-06	1.36E-02	5.58E-09	7.65E-06
Road 26	26	0600-0700	1.20E-01	2.27E-07	3.86E-04	4.32E-01	8.17E-07	1.39E-03	1.39E-02	2.63E-08	4.47E-05	1.51E-02	3.31E-08	5.62E-05
Road 26	26	0700-0800	1.31E-01	2.12E-07	3.60E-04	4.67E-01	7.56E-07	1.29E-03	1.36E-02	2.20E-08	3.74E-05	1.48E-02	2.39E-08	4.06E-05
Road 26	26	0800-0900	1.26E-01	2.47E-07	4.20E-04	4.50E-01	8.82E-07	1.50E-03	1.32E-02	2.58E-08	4.39E-05	1.43E-02	2.79E-08	4.75E-05
Road 26	26	0900-1000	1.26E-01	2.75E-07	4.67E-04	4.72E-01	1.03E-06	1.75E-03	1.34E-02	2.91E-08	4.95E-05	1.45E-02	3.16E-08	5.37E-05
Road 26	26	1000-1100	1.35E-01	2.89E-07	4.92E-04	4.78E-01	1.02E-06	1.74E-03	1.40E-02	3.00E-08	5.10E-05	1.52E-02	3.26E-08	5.54E-05
Road 26	26	1100-1200	1.36E-01	2.66E-07	4.53E-04	4.66E-01	9.12E-07	1.55E-03	1.41E-02	2.77E-08	4.72E-05	1.53E-02	3.00E-08	5.11E-05
Road 26	26	1200-1300	1.41E-01	2.86E-07	4.87E-04	4.80E-01	9.70E-07	1.65E-03	1.44E-02	2.91E-08	4.95E-05	1.56E-02	3.16E-08	5.37E-05
Road 26	26	1300-1400	1.42E-01	3.24E-07	5.51E-04	5.05E-01	1.15E-06	1.96E-03	1.42E-02	3.25E-08	5.53E-05	1.54E-02	3.52E-08	6.03E-05
Road 26	26	1400-1500	1.44E-01	3.31E-07	5.64E-04	5.08E-01	1.17E-06	1.99E-03	1.45E-02	3.32E-08	5.65E-05	1.57E-02	3.60E-08	6.14E-05
Road 26	26	1500-1600	1.30E-01	3.07E-07	5.22E-04	4.96E-01	1.17E-06	1.99E-03	1.35E-02	3.18E-08	5.41E-05	1.47E-02	3.46E-08	5.89E-05
Road 26	26	1600-1700	1.33E-01	2.98E-07	4.93E-04	4.73E-01	1.03E-06	1.75E-03	1.39E-02	3.01E-08	4.98E-05	1.51E-02	3.28E-08	5.43E-05
Road 26	26	1700-1800	1.16E-01	2.28E-07	3.87E-04	4.63E-01	9.11E-07	1.55E-03	1.26E-02	2.48E-08	4.21E-05	1.37E-02	2.70E-08	4.58E-05
Road 26	26	1800-1900	1.02E-01	1.38E-07	2.34E-04	4.21E-01	5.73E-07	9.74E-04	1.14E-02	1.56E-08	2.66E-05	1.24E-02	1.69E-08	2.87E-05
Road 26	26	1900-2000	9.89E-02	8.82E-08	1.50E-04	3.92E-01	3.50E-07	5.95E-04	1.13E-02	1.00E-08	1.71E-05	1.22E-02	1.09E-08	1.85E-05
Road 26	26	2000-2100	9.14E-02	6.49E-08	1.10E-04	3.67E-01	2.60E-07	4.42E-04	1.04E-02	7.38E-09	1.25E-05	1.13E-02	8.02E-09	1.36E-05
Road 26	26	2100-2200	9.31E-02	6.79E-08	1.15E-04	3.77E-01	2.75E-07	4.68E-04	1.09E-02	7.98E-09	1.36E-05	1.19E-02	8.70E-09	1.48E-05
Road 26	26	2200-2300	1.04E-01	6.04E-08	6.96E-05	3.74E-01	2.17E-07	2.50E-04	1.09E-02	6.31E-09	7.26E-06	1.27E-02	8.10E-09	1.38E-05
Road 26	26	2300-0000	1.03E-01	3.20E-08	5.54E-05	3.75E-01	1.16E-07	2.01E-04	1.21E-02	3.74E-09	6.46E-06	1.31E-02	4.05E-09	7.01E-06
Road 27	27	0000-0100	1.04E-01	3.20E-08	5.54E-05	3.75E-01	1.16E-07	2.01E-04	1.21E-02	3.74E-09	6.46E-06	1.31E-02	4.05E-09	7.01E-06
Road 27	27	0100-0200	1.05E-01	2.56E-08	4.43E-05	3.79E-01	9.22E-08	1.59E-04	1.22E-02	2.96E-09	5.13E-06	1.32E-02	3.22E-09	5.58E-06
Road 27	27	0200-0300	1.03E-01	1.50E-08	2.59E-05	3.72E-01	5.41E-08	9.35E-05	1.20E-02	1.74E-09	3.01E-06	1.30E-02	1.89E-09	3.27E-06
Road 27	27	0300-0400	1.04E-01	1.59E-08	2.75E-05	3.76E-01	5.75E-08	9.94E-05	1.21E-02	1.85E-09	3.20E-06	1.31E-02	2.01E-09	3.47E-06
Road 27	27	0400-0500	1.07E-01	2.59E-08	4.48E-05	3.85E-01	8.69E-08	1.50E-04	1.23E-02	2.99E-09	5.18E-06	1.34E-02	3.25E-09	5.62E-06
Road 27	27	0500-0600	1.13E-01	5.01E-08	8.72E-05	4.05E-01	1.82E-07	3.14E-04	1.27E-02	5.67E-09	9.80E-06	1.38E-02	6.18E-09	1.07E-05
Road 27	27	0600-0700	1.21E-01	1.49E-07	2.58E-04	4.37E-01	5.44E-07	9.40E-04	1.36E-02	1.68E-08	2.90E-05	1.48E-02	1.83E-08	3.16E-05
Road 27	27	0700-0800	1.32E-01	2.89E-07	5.00E-04	4.69E-01	1.03E-06	1.78E-03	1.37E-02	2.99E-08	5.17E-05	1.48E-02	3.25E-08	5.62E-05
Road 27	27	0800-0900	1.33E-01	3.49E-07	6.04E-04	4.90E-01	1.29E-06	2.23E-03	1.36E-02	3.56E-08	6.17E-05	1.48E-02	3.88E-08	6.71E-05
Road 27	27	0900-1000	1.33E-01	3.93E-07	6.81E-04	4.98E-01	1.46E-06	2.53E-03	1.36E-02	4.01E-08	6.94E-05	1.48E-02	4.37E-08	7.62E-05
Road 27	27	1000-1100	1.43E-01	4.15E-07	7.18E-04	5.03E-01	1.46E-06	2.53E-03	1.44E-02	4.17E-08	7.22E-05	1.56E-02	4.54E-08	7.86E-05
Road 27	27	1100-1200	1.42E-01	3.87E-07	6.69E-04	5.04E-01	1.37E-06	2.37E-03	1.43E-02	3.89E-08	6.73E-05	1.56E-02	4.23E-08	7.32E-05
Road 27	27	1200-1300	1.43E-01	3.31E-07	5.73E-04	5.06E-01	1.17E-06	2.03E-03	1.44E-02	3.33E-08	5.77E-05	1.56E-02	3.62E-08	6.27E-05
Road 27	27	1300-1400	1.43E-01	4.40E-07	7.62E-04	5.09E-01	1.56E-06	2.70E-03	1.44E-02	4.41E-08	7.64E-05	1.56E-02	4.81E-08	8.32E-05
Road 27	27	1400-1500	1.47E-01	4.47E-07	7.74E-04	5.07E-01	1.54E-06	2.67E-03	1.47E-02	4.45E-08	7.71E-05	1.60E-02	4.85E-08	8.39E-05
Road 27	27	1500-1600	1.41E-01	4.37E-07	7.56E-04	5.01E-01	1.55E-06	2.68E-03	1.46E-02	4.52E-08	7.82E-05	1.59E-02	4.92E-08	8.51E-05
Road 27	27	1600-1700	1.42E-01	3.86E-07	6.67E-04	5.02E-01	1.47E-06	2.55E-03	1.46E-02	3.96E-08	6.85E-05	1.59E-02	4.31E-08	7.45E-05
Road 27	27	1700-1800	1.24E-01	3.01E-07	5.20E-04	4.91E-01	1.29E-06	2.23E-03	1.41E-02	3.42E-08	5.91E-05	1.54E-02	3.73E-08	6.45E-05
Road 27	27	1800-1900	1.07E-01	1.97E-07	3.41E-04	4.52E-01	8.29E-07	1.43E-03	1.21E-02	2.23E-08	3.85E-05	1.32E-02	2.42E-08	4.19E-05
Road 27	27	1900-2000	9.92E-02	9.25E-08	1.60E-04	4.05E-01	3.78E-07	6.54E-04	1.17E-02	1.09E-08	1.88E-05	1.27E-02	1.19E-08	2.06E-05
Road 27	27	2000-2100	9.01E-02	9.68E-08	1.68E-04	4.07E-01	3.90E-07	6.75E-04	1.06E-02	1.14E-08	1.97E-05	1.20E-02	1.20E-08	2.08E-05
Road 27	27	2100-2200	9.14E-02	9.82E-08	1.70E-04	4.13E-01	3.96E-07	6.85E-04	1.08E-02	1.16E-08	2.01E-05	1.22E-02	1.22E-08	2.11E-05
Road 27	27	2200-2300	1.09E-01	7.44E-08	1.29E-04	3.90E-01	2.68E-07	4.63E-04	1.23E-02	8.42E-09	1.46E-05	1.34E-02	9.16E-09	1.59E-05
Road 27	27	2300-0000	1.04E-01	4.15E-08	1.06E-04	3.76E-01	1.50E-07	3.82E-04	1.21E-02	4.82E-09	1.23E-05	1.32E-02	5.24E-09	1.34E-05
Road 28	28	0000-0100	1.04E-01	3.63E-08	6.29E-05	3.76E-01	1.31E-07	2.27E-04	1.21E-02	4.22E-09	7.31E-06	1.32E-02	4.59E-09	7.95E-06
Road 28	28	0100-0200	1.06E-01	2.36E-08	6.03E-05	3.83E-01	8.51E-08	2.17E-04	1.23E-02	2.74E-09	6.99E-06	1.34E-02	2.97E-09	7.59E-06
Road 28	28	0200-0300	1.06E-01	2.36E-08	6.03E-05	3.83E-01	8.51E-08	2.17E-04	1.23E-02	2.74E-09	6.99E-06	1.34E-02	2.97E-09	7.59E-06
Road 28	28	0300-0400	1.07E-01	2.02E-08	5.17E-05	3.86E-01	7.28E-08	1.86E-04	1.24E-02	2.34E-09	5.97E-06	1.35E-02	2.54E-09	6.49E-06
Road 28	28	0400-0500	1.08E-01	1.62E-08	2.76E-05	3.90E-01	5.84E-08	9.96E-05	1.25E-02	1.88E-09	3.20E-06	1.36E-02	2.04E-09	3.47E-06
Road 28	28	0500-0600	1.08E-01	4.44E-08	1.13E-04	3.90E-01	1.60E-07	4.08E-04	1.25E-02	5.14E-09	1.31E-05	1.36E-02	5.58E-09	1.42E-05
Road 28	28	0600-0700	1.20E-01	2.27E-07	7.19E-04	4.32E-01	8.17E-07	2.59E-03	1.39E-02	2.63E-08	8.33E-05	1.51E-02	3.31E-08	1.05E-04
Road 28	28	0700-0800	1.31E-01	2.12E-07	6.71E-04	4.67E-01	7.56E-07	2.40E-03	1.36E-02	2.20E-08	6.97E-05	1.48E-02	2.39E-08	7.56E-05
Road 28	28	0800-0900	1.26E-01	2.47E-07	7.83E-04	4.50E-01	8.82E-07	2.80E-03	1.32E-02	2.58E-08	8.18E-05	1.43E-02	2.79E-08	8.85E-05
Road 28	28	0900-1000	1.26E-01	2.75E-07	8.71E-04	4.72E-01	1.03E-06	3.25E-03	1.34E-02	2.91E-08	9.22E-05	1.45E-02	3.16E-08	1.00E-04
Road 28	28	1000-1100	1.35E-01	2.89E-07	9.17E-04	4.78E-01	1.02E-06	3.24E-03	1.40E-02	3.00E-08	9.51E-05	1.52E-02	3.26E-08	1.03E-04
Road 28	28	1100-1200	1.36E-01	2.66E-07	8.44E-04	4.66E-01	9.12E-07	2.89E-03	1.41E-02	2.77E-08	8.79E-05	1.53E-02	3.00E-08	9.52E-05
Road 28	28	1200-1300	1.41E-01	2.86E-07	9.07E-04	4.80E-01	9.70E-07	3.08E-03	1.44E-02	2.91E-08	9.22E-05	1.56E-02	3.16E-08	1.00E-04
Road 28	28	1300-1400	1.42E-01	3.24E-07	1.03E-03	5.05E-01	1.15E-06	3.65E-03	1.42E-02	3.25E-08	1.03E-04	1.54E-02	3.52E-08	1.12E-04
Road 28	28	1400-1500	1.44E-01	3.31E-07	1.05E-03	5.08E-01	1.17E-06	3.71E-03	1.45E-02	3.32E-08	1.05E-04	1.57E-02	3.60E-08	1.14E-04
Road 28	28	1500-1600	1.30E-01	3.07E-07	9.74E-04	4.96E-01	1.17E-06	3.71E-03	1.35E-02	3.18E-08	1.01E-04	1.47E-02	3.46E-08	1.10E-04
Road 28	28	1600-1700	1.33E-01	2.98E-07	9.19E-04	4.73E-01	1.03E-06	3.27E-03	1.39E-02	3.01E-08	9.29E-05	1.51E-02	3.28E-08	1.01E-04
Road 28	28	1700-1800	1.16E-01	2.28E-07	7.22E-04	4.63E-01	9.11E-07	2.89E-03	1.26E-02	2.48E-08	7.85E-05	1.37E-02	2.70E-08	8.54E-05
Road 28	28	1800-1900	1.02E-01	1.38E-07	4.37E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) **Year 2043**

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 46	46	0800-0900	7.01E-01	8.73E-05	1.92E-04	3.76E-02	4.68E-06	1.17E-05	1.83E-03	2.28E-07	1.54E-06	1.99E-03	2.47E-07	1.68E-06
Road 46	46	0900-1000	7.98E-03	8.09E-08	5.48E-06	4.14E-02	4.19E-07	2.84E-03	2.16E-03	2.19E-08	1.48E-04	2.35E-03	2.38E-08	1.61E-04
Road 46	46	1000-1100	9.09E-03	7.93E-08	5.37E-06	4.36E-02	3.80E-07	2.58E-03	2.46E-03	2.14E-08	1.45E-04	2.67E-03	2.33E-08	1.58E-04
Road 46	46	1100-1200	8.60E-03	7.11E-08	4.82E-06	4.35E-02	3.60E-07	2.44E-03	2.31E-03	1.91E-08	1.29E-04	2.51E-03	2.07E-08	1.40E-04
Road 46	46	1200-1300	1.17E-02	1.28E-07	8.69E-04	4.95E-02	5.42E-07	3.68E-03	3.17E-03	3.48E-08	2.36E-04	3.45E-03	3.78E-08	2.56E-04
Road 46	46	1300-1400	1.18E-02	1.32E-07	8.97E-04	5.11E-02	5.75E-07	3.90E-03	3.26E-03	3.67E-08	2.49E-04	3.55E-03	3.99E-08	2.71E-04
Road 46	46	1400-1500	1.08E-02	1.21E-07	8.20E-04	5.03E-02	5.66E-07	3.84E-03	3.25E-03	3.65E-08	2.48E-04	3.53E-03	3.97E-08	2.69E-04
Road 46	46	1500-1600	1.10E-02	1.35E-07	9.16E-04	5.04E-02	6.18E-07	4.19E-03	3.10E-03	3.80E-08	2.58E-04	3.39E-03	4.16E-08	2.82E-04
Road 46	46	1600-1700	1.16E-02	1.50E-07	1.02E-03	4.86E-02	6.30E-07	4.27E-03	3.14E-03	4.07E-08	2.76E-04	3.41E-03	4.43E-08	3.00E-04
Road 46	46	1700-1800	8.90E-03	1.15E-07	7.80E-04	4.12E-02	5.34E-07	3.62E-03	2.68E-03	3.47E-08	2.35E-04	2.90E-03	3.76E-08	2.43E-04
Road 46	46	1800-1900	5.80E-03	9.19E-08	6.23E-04	3.12E-02	4.95E-07	3.35E-03	1.59E-03	2.51E-08	1.70E-04	2.72E-03	2.73E-08	1.85E-04
Road 46	46	1900-2000	5.06E-03	6.35E-08	4.30E-04	3.09E-02	3.88E-07	2.63E-03	1.33E-03	1.67E-08	1.13E-04	1.45E-03	1.82E-08	1.23E-04
Road 46	46	2000-2100	4.28E-03	4.05E-08	2.74E-04	3.37E-02	3.18E-07	2.16E-03	1.03E-03	9.71E-09	6.58E-05	1.16E-03	1.10E-08	7.44E-05
Road 46	46	2100-2200	4.28E-03	4.05E-08	2.74E-04	3.37E-02	3.18E-07	2.16E-03	1.03E-03	9.71E-09	6.58E-05	1.16E-03	1.10E-08	7.44E-05
Road 46	46	2200-2300	4.78E-03	3.38E-08	2.29E-04	3.49E-02	2.47E-07	1.67E-03	1.21E-03	8.56E-09	5.79E-05	1.32E-03	9.30E-09	6.31E-05
Road 46	46	2300-0000	1.26E-02	5.63E-07	4.18E-03	5.03E-02	2.25E-06	1.67E-02	3.85E-03	1.72E-07	1.27E-05	4.41E-03	1.97E-07	1.46E-05
Road 47	47	0100-0200	8.10E-03	7.63E-09	8.69E-05	5.09E-02	4.79E-08	5.46E-04	1.50E-03	1.41E-09	1.61E-05	1.63E-03	1.54E-09	1.75E-05
Road 47	47	0200-0300	8.65E-03	5.96E-09	6.79E-05	5.26E-02	3.62E-08	4.13E-04	1.60E-03	1.10E-09	1.25E-05	1.78E-03	1.22E-09	1.40E-05
Road 47	47	0300-0400	8.65E-03	5.96E-09	6.79E-05	5.26E-02	3.62E-08	4.13E-04	1.60E-03	1.10E-09	1.25E-05	1.78E-03	1.22E-09	1.40E-05
Road 47	47	0400-0500	1.01E-02	6.07E-09	6.91E-05	5.69E-02	3.40E-08	3.87E-04	1.94E-03	1.16E-09	1.32E-05	2.11E-03	1.26E-09	1.43E-05
Road 47	47	0500-0600	1.12E-02	1.17E-08	1.33E-04	6.02E-02	6.25E-08	7.12E-04	2.11E-03	2.19E-09	2.50E-05	2.30E-03	2.38E-09	2.71E-05
Road 47	47	0600-0700	1.25E-02	1.27E-08	1.44E-04	6.32E-02	6.42E-08	7.31E-04	2.34E-03	2.37E-09	2.70E-05	2.55E-03	2.59E-09	2.94E-05
Road 47	47	0700-0800	1.36E-02	6.13E-08	6.98E-04	6.75E-02	3.04E-07	3.47E-03	2.49E-03	1.12E-08	1.28E-04	2.70E-03	1.22E-08	1.39E-04
Road 47	47	0800-0900	1.36E-02	7.09E-08	8.09E-04	6.40E-02	3.35E-07	3.82E-03	2.47E-03	1.29E-08	1.47E-04	2.68E-03	1.40E-08	1.60E-04
Road 47	47	0900-1000	1.55E-02	6.71E-08	7.65E-04	7.23E-02	3.13E-07	3.56E-03	2.92E-03	1.26E-08	1.44E-04	3.17E-03	1.37E-08	1.56E-04
Road 47	47	1000-1100	1.79E-02	6.70E-08	7.63E-04	7.77E-02	2.91E-07	3.32E-03	3.32E-03	1.25E-08	1.42E-04	3.61E-03	1.35E-08	1.54E-04
Road 47	47	1100-1200	1.70E-02	6.01E-08	6.89E-04	7.71E-02	2.73E-07	3.12E-03	3.15E-03	1.12E-08	1.27E-04	3.42E-03	1.21E-08	1.38E-04
Road 47	47	1200-1300	1.97E-02	3.11E-08	3.55E-04	8.52E-02	1.35E-07	1.54E-03	3.65E-03	5.78E-09	6.59E-05	3.96E-03	6.27E-09	7.15E-05
Road 47	47	1300-1400	2.00E-02	3.18E-07	3.63E-03	8.71E-02	1.39E-06	1.58E-02	3.10E-03	4.94E-08	5.63E-04	3.37E-03	5.37E-08	6.12E-04
Road 47	47	1400-1500	2.02E-02	3.46E-07	3.95E-03	8.52E-02	1.46E-06	1.67E-02	3.13E-03	5.37E-08	6.12E-04	3.41E-03	5.85E-08	6.66E-04
Road 47	47	1500-1600	1.90E-02	3.33E-07	3.80E-03	8.61E-02	1.51E-06	1.72E-02	3.02E-03	5.30E-08	6.04E-04	3.29E-03	5.76E-08	6.57E-04
Road 47	47	1600-1700	1.22E-02	2.17E-08	2.48E-04	5.66E-02	1.83E-07	2.09E-03	1.98E-03	3.48E-09	3.97E-05	3.44E-03	6.04E-09	6.89E-05
Road 47	47	1700-1800	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	2.30E-03	5.04E-08	5.74E-04	2.50E-03	5.48E-08	6.24E-04
Road 47	47	1800-1900	1.07E-02	2.66E-07	3.03E-03	5.26E-02	1.30E-06	1.49E-02	1.67E-03	4.14E-08	4.72E-04	1.81E-03	4.50E-08	5.12E-04
Road 47	47	1900-2000	8.65E-03	1.57E-07	1.79E-03	4.25E-02	7.71E-07	8.78E-03	1.35E-03	2.45E-08	2.79E-04	1.47E-03	2.66E-08	3.03E-04
Road 47	47	2000-2100	7.93E-03	1.22E-07	1.39E-03	5.17E-02	9.05E-07	1.25E-02	1.92E-08	2.19E-04	1.36E-03	2.08E-08	2.37E-04	
Road 47	47	2100-2200	6.63E-03	1.02E-07	1.16E-03	4.95E-02	7.61E-07	8.67E-03	1.04E-03	1.60E-08	1.82E-04	1.12E-03	1.73E-08	1.97E-04
Road 47	47	2200-2300	6.63E-03	1.02E-07	1.16E-03	5.22E-02	8.03E-07	9.15E-03	1.04E-03	1.60E-08	1.82E-04	1.12E-03	1.73E-08	1.97E-04
Road 47	47	2300-0000	6.57E-03	7.33E-08	8.35E-04	4.82E-02	5.38E-07	6.13E-03	1.06E-03	1.18E-08	1.34E-04	1.15E-03	1.28E-08	1.46E-04
Road 48	48	0000-0100	4.52E-03	3.75E-08	2.07E-04	3.42E-02	2.84E-07	1.56E-03	1.13E-03	9.35E-09	5.15E-05	1.23E-03	1.02E-08	5.60E-05
Road 48	48	0100-0200	4.52E-03	3.75E-08	2.07E-04	3.42E-02	2.84E-07	1.56E-03	1.13E-03	9.35E-09	5.15E-05	1.23E-03	1.02E-08	5.60E-05
Road 48	48	0200-0300	5.43E-03	2.14E-08	1.18E-04	3.71E-02	1.46E-07	8.04E-04	1.37E-03	5.39E-09	2.97E-05	1.49E-03	5.86E-09	3.23E-05
Road 48	48	0300-0400	5.89E-03	1.83E-08	1.01E-04	3.83E-02	1.19E-07	6.55E-04	1.49E-03	4.63E-09	2.55E-05	1.62E-03	5.04E-09	2.77E-05
Road 48	48	0400-0500	7.13E-03	1.14E-08	6.29E-05	4.14E-02	6.61E-08	3.64E-04	1.80E-03	2.88E-09	1.59E-05	1.96E-03	3.13E-09	1.72E-05
Road 48	48	0500-0600	6.81E-03	4.02E-08	2.21E-04	4.06E-02	2.40E-07	1.32E-03	1.73E-03	1.03E-08	5.66E-05	1.89E-03	1.12E-08	6.16E-05
Road 48	48	0600-0700	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.34E-07	2.94E-03	1.87E-03	2.36E-08	1.30E-04	2.03E-03	2.57E-08	1.42E-04
Road 48	48	0700-0800	7.73E-03	1.68E-07	9.26E-04	4.47E-02	9.70E-07	5.34E-03	1.98E-03	4.30E-08	2.37E-04	2.15E-03	4.67E-08	2.57E-04
Road 48	48	0800-0900	7.38E-03	2.18E-07	1.20E-03	3.83E-02	1.13E-06	6.24E-03	1.95E-03	5.76E-08	3.18E-04	2.12E-03	6.27E-08	3.45E-04
Road 48	48	0900-1000	8.45E-03	2.05E-07	1.13E-03	4.23E-02	1.03E-06	5.65E-03	2.32E-03	5.61E-08	3.09E-04	2.52E-03	6.10E-08	3.36E-04
Road 48	48	1000-1100	9.61E-03	2.01E-07	1.11E-03	4.46E-02	9.33E-07	5.14E-03	2.63E-03	5.50E-08	3.03E-04	2.86E-03	5.98E-08	3.29E-04
Road 48	48	1100-1200	1.04E-02	1.84E-07	1.02E-03	4.80E-02	8.54E-07	4.71E-03	2.84E-03	5.04E-08	2.78E-04	3.09E-03	5.48E-08	3.02E-04
Road 48	48	1200-1300	1.50E-02	2.89E-07	1.59E-03	5.62E-02	1.08E-06	5.98E-03	4.18E-03	8.07E-08	4.44E-04	4.55E-03	8.78E-08	4.84E-04
Road 48	48	1300-1400	1.50E-02	3.03E-07	1.67E-03	5.84E-02	1.18E-06	6.47E-03	4.29E-03	8.63E-08	4.75E-04	4.66E-03	9.39E-08	5.17E-04
Road 48	48	1400-1500	1.25E-02	2.53E-07	1.39E-03	5.03E-02	1.02E-06	5.56E-03	3.58E-03	7.26E-08	4.00E-04	3.87E-03	7.84E-08	4.32E-04
Road 48	48	1500-1600	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	4.03E-03	8.70E-08	4.79E-04	4.38E-03	9.46E-08	5.21E-04
Road 48	48	1600-1700	1.41E-02	3.16E-07	1.74E-03	5.42E-02	1.21E-06	6.68E-03	3.97E-03	8.89E-08	4.90E-04	4.32E-03	9.67E-08	5.33E-04
Road 48	48	1700-1800	1.04E-02	2.47E-07	1.36E-03	4.88E-02	1.16E-06	6.38E-03	2.66E-03	6.31E-08	3.47E-04	2.90E-03	6.87E-08	3.78E-04
Road 48	48	1800-1900	7.38E-03	1.82E-07	1.00E-03	3.50E-02	8.62E-07	4.75E-03	2.13E-03	5.25E-08	2.89E-04	2.32E-03	5.70E-08	3.14E-04
Road 48	48	1900-2000	6.48E-03	1.26E-07	6.93E-04	3.30E-02	6.41E-07	3.53E-03	1.82E-03	3.54E-08	1.95E-04	1.98E-03	3.85E-08	2.12E-04
Road 48	48	2000-2100	6.48E-03	1.26E-07	6.93E-04	3.30E-02	6.41E-07	3.53E-03	1.82E-03	3.54E-08	1.95E-04	1.98E-03	3.85E-08	2.12E-04
Road 48	48	2100-2200	6.07E-03	9.11E-08	5.02E-04	3.56E-02	5.35E-07	2.95E-03	1.72E-03	2.58E-08	1.42E-04	1.86E-03	2.80E-08	1.54E-04
Road 48	48	2200-2300	6.03E-03	8.78E-08	4.84E-04	3.48E-02	5.08E-07	2.80E-03	1.63E-03	2.38E-08	1.31E-04	1.77E-03	2.58E-08	1.42E-04
Road 48	48	2300-0000	5.62E-03	7.28E-08	4.01E-04	3.56E-02	4.60E-07	2.53E-03	1.52E-03	1.97E-08	1.08E-04	1.65E-03	2.13E-08	1.17E-04
Road 49	49	0000-0100	6.13E-03	3.38E-08	3.12E-04	4.54E-02	2.50E-07	2.31E-03	9.84E-04	5.43E-09	5.00E-05	1.07E-03	5.90E-09	5.44E-05
Road 49	49	0100-0200	6.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	1.06E-03	3.80E-09	3.50E-05	1.15E-03	4.11E-09	3.79E-05
Road 49	49	0200-0300	6.68E-03	1.74E-08	1.60E-04	4.58E-02	1.19E-07	1.10E-03	1.17E-03	3.04E-09	2.80E-05	1.26E-03	3.29E-09	3.03E-05
Road 49	49	0300-0400	7.31E-03	1.50E-08	1.38E-04	4.76E-02	9.77E-08	8.97E-04	1.28E-03	2.62E-09	2.41E-05	1.39E-03	2.85E-09	2.63E-05

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) Year 2043

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			$PM_{2.5}$ Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 49	49	0400-0500	7.94E-03	1.78E-08	1.64E-04	4.93E-02	1.10E-07	1.02E-03	1.31E-03	2.93E-09	2.70E-05	1.44E-03	3.22E-09	2.97E-05
Road 49	49	0500-0600	9.11E-03	3.52E-08	3.24E-04	5.32E-02	2.06E-07	1.89E-03	1.56E-03	6.05E-09	5.57E-05	1.70E-03	6.58E-09	6.06E-05
Road 49	49	0600-0700	1.16E-02	9.54E-08	8.79E-04	6.26E-02	5.16E-07	4.75E-03	1.81E-03	1.50E-08	1.38E-04	1.97E-03	1.62E-08	1.49E-04
Road 49	49	0700-0800	1.54E-02	2.56E-07	2.36E-03	7.57E-02	1.26E-06	1.16E-02	2.15E-03	3.57E-08	3.29E-04	2.34E-03	3.88E-08	3.58E-04
Road 49	49	0800-0900	1.62E-02	3.10E-07	2.86E-03	7.44E-02	1.42E-06	1.31E-02	2.19E-03	4.19E-08	3.86E-04	2.38E-03	4.56E-08	4.20E-04
Road 49	49	0900-1000	1.72E-02	2.65E-07	2.44E-03	8.00E-02	1.23E-06	1.13E-02	2.42E-03	3.71E-08	3.41E-04	2.62E-03	4.03E-08	3.71E-04
Road 49	49	1000-1100	1.82E-02	2.38E-07	2.20E-03	8.05E-02	1.05E-06	9.71E-03	2.64E-03	3.46E-08	3.19E-04	2.87E-03	3.76E-08	3.46E-04
Road 49	49	1100-1200	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	2.44E-03	3.03E-08	2.79E-04	2.65E-03	3.29E-08	3.03E-04
Road 49	49	1200-1300	1.65E-02	1.70E-07	1.57E-03	7.19E-02	7.43E-07	6.84E-03	2.46E-03	2.54E-08	2.34E-04	2.68E-03	2.77E-08	2.55E-04
Road 49	49	1300-1400	1.66E-02	1.72E-07	1.59E-03	7.51E-02	7.78E-07	7.16E-03	2.52E-03	2.60E-08	2.40E-04	2.74E-03	2.83E-08	2.61E-04
Road 49	49	1400-1500	1.77E-02	1.98E-07	1.82E-03	7.64E-02	8.56E-07	7.87E-03	2.62E-03	2.93E-08	2.70E-04	2.84E-03	3.19E-08	2.93E-04
Road 49	49	1500-1600	1.68E-02	1.91E-07	1.76E-03	7.72E-02	8.81E-07	8.11E-03	2.54E-03	2.90E-08	2.67E-04	2.76E-03	3.15E-08	2.90E-04
Road 49	49	1600-1700	1.80E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	2.74E-03	3.42E-08	3.15E-04	2.97E-03	3.71E-08	3.42E-04
Road 49	49	1700-1800	1.31E-02	1.91E-07	1.76E-03	6.49E-02	9.47E-07	8.72E-03	1.95E-03	2.85E-08	2.62E-04	2.12E-03	3.10E-08	2.85E-04
Road 49	49	1800-1900	1.01E-02	1.69E-07	1.56E-03	4.95E-02	8.26E-07	7.61E-03	1.48E-03	2.47E-08	2.27E-04	1.61E-03	2.68E-08	2.47E-04
Road 49	49	1900-2000	7.99E-03	1.39E-07	1.28E-03	3.93E-02	6.81E-07	6.27E-03	1.18E-03	2.06E-08	1.89E-04	1.28E-03	2.23E-08	2.05E-04
Road 49	49	2000-2100	5.75E-03	5.97E-08	5.50E-04	4.53E-02	4.71E-07	4.34E-03	8.55E-04	8.90E-09	8.19E-05	9.34E-04	9.71E-09	8.94E-05
Road 49	49	2100-2200	5.33E-03	5.53E-08	5.10E-04	5.01E-02	5.21E-07	4.80E-03	7.93E-04	8.24E-09	7.59E-05	8.65E-04	8.99E-09	8.28E-05
Road 49	49	2200-2300	5.33E-03	5.53E-08	5.10E-04	5.01E-02	5.21E-07	4.80E-03	7.93E-04	8.24E-09	7.59E-05	8.65E-04	8.99E-09	8.28E-05
Road 49	49	2300-0000	2.79E-02	1.21E-06	8.98E-03	1.12E-01	4.85E-06	2.52E-04	5.48E-03	2.37E-07	1.24E-05	5.95E-03	2.58E-07	1.34E-05
Road 50	50	0100-0200	2.82E-02	8.32E-09	4.34E-05	1.13E-01	3.32E-08	1.73E-04	5.68E-03	1.67E-09	8.72E-06	6.18E-03	1.82E-09	9.48E-06
Road 50	50	0200-0300	2.98E-02	7.12E-09	3.71E-05	1.19E-01	2.84E-08	1.48E-04	5.97E-03	1.43E-09	7.46E-06	6.49E-03	1.55E-09	8.11E-06
Road 50	50	0300-0400	3.07E-02	5.70E-09	2.97E-05	1.21E-01	2.24E-08	1.17E-04	6.15E-03	1.14E-09	5.95E-06	6.68E-03	1.24E-09	6.47E-06
Road 50	50	0400-0500	3.17E-02	6.74E-09	3.51E-05	1.24E-01	2.63E-08	1.37E-04	6.36E-03	1.35E-09	7.03E-06	6.91E-03	1.47E-09	7.65E-06
Road 50	50	0500-0600	3.88E-02	1.33E-08	6.94E-05	1.30E-01	4.99E-08	2.60E-04	6.62E-03	2.54E-09	1.32E-05	7.20E-03	2.76E-09	1.44E-05
Road 50	50	0600-0700	3.48E-02	2.97E-08	1.55E-04	1.33E-01	1.14E-07	5.94E-04	6.81E-03	5.82E-09	3.03E-05	7.40E-03	6.33E-09	3.29E-05
Road 50	50	0700-0800	3.79E-02	6.81E-08	3.55E-04	1.44E-01	2.58E-07	1.34E-03	7.14E-03	1.28E-08	6.68E-05	7.76E-03	1.39E-08	7.26E-05
Road 50	50	0800-0900	3.79E-02	8.66E-08	4.51E-04	1.54E-01	3.37E-07	1.76E-03	7.64E-03	1.67E-08	8.68E-05	8.29E-03	1.81E-08	9.43E-05
Road 50	50	0900-1000	3.97E-02	8.66E-08	4.51E-04	1.54E-01	3.37E-07	1.76E-03	7.64E-03	1.67E-08	8.68E-05	8.29E-03	1.81E-08	9.43E-05
Road 50	50	1000-1100	4.34E-02	9.04E-08	4.71E-04	1.59E-01	3.32E-07	1.73E-03	8.23E-03	1.71E-08	8.92E-05	8.94E-03	1.86E-08	9.68E-05
Road 50	50	1100-1200	4.31E-02	8.42E-08	4.38E-04	1.60E-01	3.12E-07	1.62E-03	8.14E-03	1.59E-08	8.28E-05	8.84E-03	1.73E-08	8.99E-05
Road 50	50	1200-1300	4.26E-02	4.08E-08	2.12E-04	1.70E-01	1.57E-07	8.21E-04	8.48E-03	8.14E-09	4.24E-05	9.21E-03	8.84E-09	4.60E-05
Road 50	50	1300-1400	4.65E-02	4.28E-08	2.23E-04	1.70E-01	1.57E-07	8.21E-04	8.48E-03	7.81E-09	4.07E-05	9.21E-03	8.49E-09	4.42E-05
Road 50	50	1400-1500	4.74E-02	4.34E-08	2.26E-04	1.68E-01	1.54E-07	8.02E-04	9.37E-03	8.57E-09	4.46E-05	1.02E-02	9.31E-09	4.85E-05
Road 50	50	1500-1600	4.62E-02	4.23E-08	2.20E-04	1.68E-01	1.54E-07	8.02E-04	9.13E-03	8.36E-09	4.35E-05	9.96E-03	9.12E-09	4.75E-05
Road 50	50	1600-1700	4.58E-02	4.07E-08	2.12E-04	1.67E-01	1.48E-07	7.72E-04	9.09E-03	8.08E-09	4.21E-05	9.87E-03	8.77E-09	4.57E-05
Road 50	50	1700-1800	3.92E-02	3.20E-08	1.67E-04	1.62E-01	1.32E-07	6.87E-04	8.07E-03	6.59E-09	3.43E-05	8.77E-03	7.16E-09	3.73E-05
Road 50	50	1800-1900	3.66E-02	3.40E-08	1.77E-04	1.62E-01	1.50E-07	7.82E-04	8.27E-03	7.68E-09	4.00E-05	8.98E-03	8.34E-09	4.34E-05
Road 50	50	1900-2000	3.49E-02	3.18E-08	1.65E-04	1.43E-01	1.30E-07	6.74E-04	7.25E-03	6.60E-09	3.44E-05	7.87E-03	7.16E-09	3.73E-05
Road 50	50	2000-2100	3.30E-02	1.03E-08	5.39E-05	1.40E-01	4.40E-08	2.29E-04	6.94E-03	2.18E-09	1.13E-05	7.55E-03	2.37E-09	1.23E-05
Road 50	50	2100-2200	3.30E-02	1.03E-08	5.39E-05	1.40E-01	4.40E-08	2.29E-04	6.94E-03	2.18E-09	1.13E-05	7.55E-03	2.37E-09	1.23E-05
Road 50	50	2200-2300	3.66E-02	1.04E-08	5.42E-05	1.38E-01	3.93E-08	2.05E-04	7.39E-03	2.10E-09	1.10E-05	8.04E-03	2.29E-09	1.19E-05
Road 50	50	2300-0000	3.76E-02	8.66E-09	4.51E-05	1.41E-01	3.25E-08	1.69E-04	7.61E-03	1.75E-09	9.12E-06	8.27E-03	1.91E-09	9.92E-06
Road 51	51	0000-0100	1.66E-03	1.38E-08	7.61E-05	1.87E-02	1.55E-07	8.55E-04	9.38E-03	7.78E-08	4.28E-04	1.02E-02	8.46E-08	4.66E-04
Road 51	51	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	1.55E-03	7.94E-09	5.42E-05	1.68E-03	8.61E-09	5.87E-05
Road 51	51	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	1.27E-03	4.75E-09	3.23E-05	1.38E-03	5.16E-09	3.51E-05
Road 51	51	0300-0400	5.53E-03	1.31E-08	8.93E-05	3.73E-02	9.03E-08	6.12E-04	1.37E-03	3.26E-09	2.22E-05	1.49E-03	3.54E-09	2.41E-05
Road 51	51	0400-0500	5.96E-03	1.93E-08	1.31E-04	3.84E-02	1.24E-07	8.46E-04	1.50E-03	4.85E-09	3.30E-05	1.63E-03	5.28E-09	3.59E-05
Road 51	51	0500-0600	6.40E-03	3.59E-08	2.44E-04	3.95E-02	2.21E-07	1.51E-03	1.62E-03	9.07E-09	6.17E-05	1.76E-03	9.86E-09	6.71E-05
Road 51	51	0600-0700	6.88E-03	8.25E-08	5.61E-04	4.11E-02	4.92E-07	3.35E-03	1.74E-03	2.09E-08	1.42E-04	1.89E-03	2.27E-08	1.54E-04
Road 51	51	0700-0800	7.32E-03	1.01E-07	6.86E-04	4.37E-02	6.04E-07	4.11E-03	1.85E-03	2.56E-08	1.74E-04	2.01E-03	2.78E-08	1.89E-04
Road 51	51	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.70E-02	1.03E-06	7.04E-03	1.82E-03	5.08E-08	3.45E-04	1.97E-03	5.52E-08	3.76E-04
Road 51	51	0900-1000	7.88E-03	1.79E-07	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	4.23E-03
Road 1	1	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	4.15E-03
Road 1	1	0200-0300	1.41E-02	3.91E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	4.65E-03
Road 1	1	0300-0400	1.56E-02	4.33E-03	5.61E-03	1.75E-01	4.52E-06	1.92E-02	1.79E-01	4.96E-02	5.15E-03
Road 1	1	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.57E-06	1.94E-02	1.81E-01	5.02E-02	5.21E-03
Road 1	1	0500-0600	1.49E-02	4.13E-03	5.35E-03	1.67E-01	4.31E-06	1.83E-02	1.71E-01	4.74E-02	4.92E-03
Road 1	1	0600-0700	1.45E-02	4.03E-03	5.22E-03	1.63E-01	4.21E-06	1.79E-02	1.67E-01	4.63E-02	4.80E-03
Road 1	1	0700-0800	1.68E-02	3.97E-03	5.14E-03	1.88E-01	4.14E-06	1.78E-02	1.92E-01	4.60E-02	4.77E-03
Road 1	1	0800-0900	1.66E-02	3.92E-03	5.08E-03	1.86E-01	4.09E-06	1.76E-02	1.90E-01	4.54E-02	4.71E-03
Road 1	1	0900-1000	1.56E-02	3.69E-03	4.78E-03	1.75E-01	3.85E-06	1.65E-02	1.79E-01	4.27E-02	4.43E-03
Road 1	1	1000-1100	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1100-1200	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1200-1300	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1300-1400	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1400-1500	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1500-1600	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1600-1700	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1700-1800	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1800-1900	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	1900-2000	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	2000-2100	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	2100-2200	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	2200-2300	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 1	1	2300-2400	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 2	2	0000-0100	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	4.15E-03
Road 2	2	0100-0200	1.24E-02	3.45E-03	4.47E-03	1.39E-01	3.58E-06	1.53E-02	1.42E-01	3.94E-02	4.09E-03
Road 2	2	0200-0300	1.39E-02	3.86E-03	5.00E-03	1.56E-01	4.03E-06	1.72E-02	1.59E-01	4.42E-02	4.59E-03
Road 2	2	0300-0400	1.54E-02	4.28E-03	5.54E-03	1.73E-01	4.47E-06	1.90E-02	1.77E-01	4.91E-02	5.09E-03
Road 2	2	0400-0500	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.52E-06	1.92E-02	1.79E-01	4.96E-02	5.15E-03
Road 2	2	0500-0600	1.47E-02	4.08E-03	5.28E-03	1.65E-01	4.26E-06	1.81E-02	1.69E-01	4.68E-02	4.86E-03
Road 2	2	0600-0700	1.43E-02	3.98E-03	5.15E-03	1.61E-01	4.16E-06	1.77E-02	1.65E-01	4.57E-02	4.74E-03
Road 2	2	0700-0800	1.66E-02	3.92E-03	5.07E-03	1.86E-01	4.09E-06	1.76E-02	1.90E-01	4.54E-02	4.71E-03
Road 2	2	0800-0900	1.64E-02	3.87E-03	5.01E-03	1.84E-01	4.04E-06	1.74E-02	1.88E-01	4.48E-02	4.65E-03
Road 2	2	0900-1000	1.54E-02	3.64E-03	4.71E-03	1.73E-01	3.80E-06	1.63E-02	1.77E-01	4.21E-02	4.37E-03
Road 2	2	1000-1100	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1100-1200	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1200-1300	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1300-1400	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1400-1500	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1500-1600	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1600-1700	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1700-1800	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1800-1900	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	1900-2000	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	2000-2100	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	2100-2200	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	2200-2300	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 2	2	2300-2400	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 3	3	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	4.23E-03
Road 3	3	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	4.15E-03
Road 3	3	0200-0300	1.41E-02	3.91E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	4.65E-03
Road 3	3	0300-0400	1.56E-02	4.33E-03	5.61E-03	1.75E-01	4.52E-06	1.92E-02	1.79E-01	4.96E-02	5.15E-03
Road 3	3	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.57E-06	1.94E-02	1.81E-01	5.02E-02	5.21E-03
Road 3	3	0500-0600	1.49E-02	4.13E-03	5.35E-03	1.67E-01	4.31E-06	1.83E-02	1.71E-01	4.74E-02	4.92E-03
Road 3	3	0600-0700	1.45E-02	4.03E-03	5.22E-03	1.63E-01	4.21E-06	1.79E-02	1.67E-01	4.63E-02	4.80E-03
Road 3	3	0700-0800	1.68E-02	3.97E-03	5.14E-03	1.88E-01	4.14E-06	1.78E-02	1.92E-01	4.60E-02	4.77E-03
Road 3	3	0800-0900	1.66E-02	3.92E-03	5.08E-03	1.86E-01	4.09E-06	1.76E-02	1.90E-01	4.54E-02	4.71E-03
Road 3	3	0900-1000	1.56E-02	3.69E-03	4.78E-03	1.75E-01	3.85E-06	1.65E-02	1.79E-01	4.27E-02	4.43E-03
Road 3	3	1000-1100	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1100-1200	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1200-1300	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1300-1400	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1400-1500	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1500-1600	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1600-1700	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1700-1800	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1800-1900	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	1900-2000	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	2000-2100	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	2100-2200	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	2200-2300	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 3	3	2300-2400	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 4	4	0000-0100	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	4.15E-03
Road 4	4	0100-0200	1.24E-02	3.45E-03	4.47E-03	1.39E-01	3.58E-06	1.53E-02	1.42E-01	3.94E-02	4.09E-03
Road 4	4	0200-0300	1.39E-02	3.86E-03	5.00E-03	1.56E-01	4.03E-06	1.72E-02	1.59E-01	4.42E-02	4.59E-03
Road 4	4	0300-0400	1.54E-02	4.28E-03	5.54E-03	1.73E-01	4.47E-06	1.90E-02	1.77E-01	4.91E-02	5.09E-03
Road 4	4	0400-0500	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.52E-06	1.92E-02	1.79E-01	4.96E-02	5.15E-03
Road 4	4	0500-0600	1.47E-02	4.08E-03	5.28E-03	1.65E-01	4.26E-06	1.81E-02	1.69E-01	4.68E-02	4.86E-03
Road 4	4	0600-0700	1.43E-02	3.98E-03	5.15E-03	1.61E-01	4.16E-06	1.77E-02	1.65E-01	4.57E-02	4.74E-03
Road 4	4	0700-0800	1.66E-02	3.92E-03	5.07E-03	1.86E-01	4.09E-06	1.76E-02	1.90E-01	4.54E-02	4.71E-03
Road 4	4	0800-0900	1.64E-02	3.87E-03	5.01E-03	1.84E-01	4.04E-06	1.74E-02	1.88E-01	4.48E-02	4.65E-03
Road 4	4	0900-1000	1.54E-02	3.64E-03	4.71E-03	1.73E-01	3.80E-06	1.63E-02	1.77E-01	4.21E-02	4.37E-03
Road 4	4	1000-1100	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1100-1200	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1200-1300	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1300-1400	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1400-1500	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1500-1600	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1600-1700	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1700-1800	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1800-1900	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	1900-2000	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	2000-2100	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	2100-2200	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	2200-2300	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 4	4	2300-2400	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 5	5	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	4.23E-03
Road 5	5	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	4.15E-03
Road 5	5	0200-0300	1.41E-02	3.91E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	4.65E-03
Road 5	5	0300-0400	1.56E-02	4.33E-03	5.61E-03	1.75E-01	4.52E-06	1.92E-02	1.79E-01	4.96E-02	5.15E-03
Road 5	5	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.57E-06	1.94E-02	1.81E-01	5.02E-02	5.21E-03
Road 5	5	0500-0600	1.49E-02	4.13E-03	5.35E-03	1.67E-01	4.31E-06	1.83E-02	1.71E-01	4.74E-02	4.92E-03
Road 5	5	0600-0700	1.45E-02	4.03E-03	5.22E-03	1.63E-01	4.21E-06	1.79E-02	1.67E-01	4.63E-02	4.80E-03
Road 5	5	0700-0800	1.68E-02	3.97E-03	5.14E-03	1.88E-01	4.14E-06	1.78E-02	1.92E-01	4.60E-02	4.77E-03
Road 5	5	0800-0900	1.66E-02	3.92E-03	5.08E-03	1.86E-01	4.09E-06	1.76E-02	1.90E-01	4.54E-02	4.71E-03
Road 5	5	0900-1000	1.56E-02	3.69E-03	4.78E-03	1.75E-01	3.85E-06	1.65E-02	1.79E-01	4.27E-02	4.43E-03
Road 5	5	1000-1100	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1100-1200	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1200-1300	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1300-1400	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1400-1500	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1500-1600	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1600-1700	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1700-1800	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1800-1900	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	1900-2000	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	2000-2100	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	2100-2200	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	2200-2300	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 5	5	2300-2400	1.58E-02	3.74E-03	4.84E-03	1.77E-01	3.90E-06	1.68E-02	1.81E-01	4.33E-02	4.49E-03
Road 6	6	0000-0100	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	4.15E-03
Road 6	6	0100-0200	1.24E-02	3.45E-03	4.47E-03	1.39E-01	3.58E-06	1.53E-02	1.42E-01	3.94E-02	4.09E-03
Road 6	6	0200-0300	1.39E-02	3.86E-03	5.00E-03	1.56E-01	4.03E-06	1.72E-02	1.59E-01	4.42E-02	4.59E-03
Road 6	6	0300-0400	1.54E-02	4.28E-03	5.54E-03	1.73E-01	4.47E-06	1.90E-02	1.77E-01	4.91E-02	5.09E-03
Road 6	6	0400-0500	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.52E-06	1.92E-02	1.79E-01	4.96E-02	5.15E-03
Road 6	6	0500-0600	1.47E-02	4.08E-03	5.28E-03	1.65E-01	4.26E-06	1.81E-02	1.69E-01	4.68E-02	4.86E-03
Road 6	6	0600-0700	1.43E-02	3.98E-03	5.15E-03	1.61E-01	4.16E-06	1.77E-02	1.65E-01	4.57E-02	4.74E-03
Road 6	6	0700-0800	1.66E-02	3.92E-03	5.07E-03	1.86E-01	4.09E-06	1.76E-02	1.90E-01	4.54E-02	4.71E-03
Road 6	6	0800-0900	1.64E-02	3.87E-03	5.01E-03	1.84E-01	4.04E-06	1.74E-02	1.88E-01	4.48E-02	4.65E-03
Road 6	6	0900-1000	1.54E-02	3.64E-03	4.71E-03	1.73E-01	3.80E-06	1.63E-02	1.77E-01	4.21E-02	4.37E-03
Road 6	6	1000-1100	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1100-1200	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1200-1300	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1300-1400	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1400-1500	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1500-1600	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1600-1700	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1700-1800	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1800-1900	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	1900-2000	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	2000-2100	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	2100-2200	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	2200-2300	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03
Road 6	6	2300-2400	1.56E-02	3.69E-03	4.77E-03	1.75E-01	3.85E-06	1.66E-02	1.79E-01	4.27E-02	4.43E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 7	7	1600-1700	3.27E-02	1.02E-06	4.60E-03	3.51E-01	1.08E-05	1.58E-02	3.58E-01	9.93E-02	4.23E-03
Road 7	7	1700-1800	3.27E-02	1.02E-06	4.60E-03	3.51E-01	1.08E-05	1.58E-02	3.58E-01	9.93E-02	4.23E-03
Road 7	7	1800-1900	2.00E-02	2.95E-03	8.87E-02	2.00E-01	2.95E-03	8.87E-02	2.00E-01	2.95E-03	8.87E-02
Road 7	7	1900-2000	5.98E-03	1.26E-07	5.39E-04	6.42E-02	1.35E-06	5.78E-03	6.42E-02	1.35E-06	5.78E-03
Road 7	7	2000-2100	5.98E-03	1.26E-07	5.39E-04	6.42E-02	1.35E-06	5.78E-03	6.42E-02	1.35E-06	5.78E-03
Road 7	7	2100-2200	5.51E-03	1.16E-07	4.96E-04	5.91E-02	1.24E-06	5.32E-03	5.91E-02	1.24E-06	5.32E-03
Road 7	7	2200-2300	5.43E-03	1.14E-07	4.89E-04	5.83E-02	1.23E-06	5.25E-03	5.83E-02	1.23E-06	5.25E-03
Road 7	7	2300-2400	5.99E-03	9.15E-08	3.92E-04	5.97E-02	4.55E-06	2.95E-03	1.53E-01	2.34E-06	1.00E-03
Road

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	9.13E-03	1.27E-02	1.39E-03	9.93E-02	1.02E-06	5.56E-03	4.74E-02	1.15E-02	5.13E-04
Road 34	34	0900-1000	9.32E-03	1.95E-02	1.86E-03	4.33E-02	9.05E-07	5.27E-03	4.58E-02	1.05E-02	4.98E-04
Road 34	34	1000-1100	1.06E-02	1.91E-07	1.82E-03	4.58E-02	8.27E-07	7.90E-03	5.64E-02	1.02E-06	9.72E-03
Road 34	34	1100-1200	1.02E-02	1.75E-07	1.67E-03	4.59E-02	7.86E-07	7.51E-03	5.06E-02	8.61E-07	9.18E-03
Road 34	34	1200-1300	1.61E-02	2.67E-07	2.55E-03	5.79E-02	9.61E-07	9.18E-03	7.41E-02	1.23E-06	1.17E-02
Road 34	34	1300-1400	1.61E-02	2.79E-07	2.66E-03	5.96E-02	1.04E-06	9.88E-03	7.61E-02	1.31E-06	1.25E-02
Road 34	34	1400-1500	1.61E-02	2.90E-07	2.77E-03	5.87E-02	1.06E-06	1.01E-02	7.47E-02	1.35E-06	1.29E-02
Road 34	34	1500-1600	1.49E-02	2.75E-07	2.63E-03	5.85E-02	1.08E-06	1.04E-02	7.34E-02	1.36E-06	1.30E-02
Road 34	34	1600-1700	1.75E-02	3.05E-07	2.91E-03	6.42E-02	1.12E-06	1.07E-02	8.28E-02	1.44E-06	1.38E-02
Road 34	34	1700-1800	1.14E-02	2.17E-07	2.06E-03	4.85E-02	9.21E-07	8.75E-03	6.00E-02	1.14E-06	1.08E-02
Road 34	34	1800-1900	1.14E-02	2.17E-07	2.06E-03	4.85E-02	9.21E-07	8.75E-03	6.00E-02	1.14E-06	1.08E-02
Road 34	34	1900-2000	6.82E-03	1.12E-07	1.07E-03	3.36E-02	5.52E-07	5.25E-03	4.64E-02	7.63E-07	7.26E-03
Road 34	34	2000-2100	6.51E-03	8.29E-08	7.61E-04	3.42E-02	4.36E-07	4.00E-03	4.47E-02	5.69E-07	5.23E-03
Road 34	34	2100-2200	4.49E-03	8.01E-08	6.95E-04	2.42E-02	4.31E-07	3.74E-03	3.17E-02	5.66E-07	4.91E-03
Road 34	34	2200-2300	4.49E-03	8.01E-08	6.95E-04	2.42E-02	4.31E-07	3.74E-03	3.17E-02	5.66E-07	4.91E-03
Road 34	34	2300-2400	4.49E-03	8.01E-08	6.95E-04	2.42E-02	4.31E-07	3.74E-03	3.17E-02	5.66E-07	4.91E-03
Road 35	35	0200-0300	4.32E-02	3.08E-08	2.73E-05	1.14E-01	8.13E-08	7.22E-05	1.57E-01	1.12E-07	9.95E-05
Road 35	35	0300-0400	4.86E-02	3.00E-08	2.66E-05	1.23E-01	7.63E-08	6.77E-05	1.72E-01	1.06E-07	9.43E-05
Road 35	35	0400-0500	1.20E-01	2.89E-07	1.59E-04	3.00E-01	7.26E-07	3.98E-04	4.18E-01	1.01E-06	5.51E-04
Road 35	35	0500-0600	3.74E-02	3.60E-08	1.39E-05	1.07E-01	1.03E-07	3.96E-05	1.45E-01	1.39E-07	5.37E-05
Road 35	35	0600-0700	2.74E-02	4.61E-08	1.74E-05	7.84E-02	1.32E-07	4.98E-05	1.06E-01	1.79E-07	6.75E-05
Road 35	35	0700-0800	4.22E-02	1.72E-07	1.53E-04	1.22E-01	4.99E-07	4.44E-04	1.65E-01	6.71E-07	5.97E-04
Road 35	35	0800-0900	4.05E-02	1.87E-07	1.66E-04	1.38E-01	6.39E-07	5.44E-04	1.86E-01	8.60E-07	7.32E-04
Road 35	35	0900-1000	2.51E-02	1.77E-07	1.57E-04	8.58E-02	6.04E-07	5.36E-04	1.16E-01	8.14E-07	7.22E-04
Road 35	35	1000-1100	4.87E-02	1.83E-07	1.63E-04	1.66E-01	6.25E-07	5.56E-04	2.25E-01	8.45E-07	7.51E-04
Road 35	35	1100-1200	1.65E-02	1.42E-07	1.27E-04	5.63E-02	4.87E-07	4.33E-04	7.61E-02	6.58E-07	5.85E-04
Road 35	35	1200-1300	1.65E-02	1.42E-07	1.27E-04	5.63E-02	4.87E-07	4.33E-04	7.61E-02	6.58E-07	5.85E-04
Road 35	35	1300-1400	1.60E-02	2.44E-07	2.17E-03	5.46E-02	8.33E-07	7.40E-03	7.38E-02	1.13E-06	1.00E-02
Road 35	35	1400-1500	1.31E-02	1.44E-07	1.28E-03	4.45E-02	4.90E-07	4.35E-03	6.02E-02	6.62E-07	5.88E-03
Road 35	35	1500-1600	1.31E-02	1.44E-07	1.28E-03	4.45E-02	4.90E-07	4.35E-03	6.02E-02	6.62E-07	5.88E-03
Road 35	35	1600-1700	1.31E-02	1.44E-07	1.28E-03	4.45E-02	4.90E-07	4.35E-03	6.02E-02	6.62E-07	5.88E-03
Road 35	35	1700-1800	4.60E-02	1.39E-07	1.23E-03	8.71E-02	3.30E-07	4.58E-03	7.23E-02	2.18E-07	1.94E-03
Road 35	35	1800-1900	4.60E-02	1.39E-07	1.23E-03	8.71E-02	3.30E-07	4.58E-03	7.23E-02	2.18E-07	1.94E-03
Road 35	35	1900-2000	2.07E-02	4.11E-08	3.65E-05	6.86E-02	1.36E-07	1.21E-04	8.93E-02	1.77E-07	1.58E-04
Road 35	35	2000-2100	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04
Road 35	35	2100-2200	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.53E-07	1.37E-04
Road 35	35	2200-2300	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.53E-07	1.37E-04
Road 35	35	2300-0000	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.53E-07	1.37E-04
Road 36	36	0000-0100	3.57E-02	5.58E-08	5.13E-05	1.40E-01	2.18E-07	2.00E-04	1.75E-01	2.74E-07	2.52E-04
Road 36	36	0100-0200	4.18E-02	4.66E-08	4.29E-05	1.48E-01	1.65E-07	1.52E-04	1.90E-01	2.12E-07	1.95E-04
Road 36	36	0200-0300	3.79E-02	4.66E-08	4.29E-05	1.34E-01	1.65E-07	1.52E-04	1.72E-01	2.12E-07	1.95E-04
Road 36	36	0300-0400	3.33E-02	4.07E-08	3.74E-05	1.17E-01	1.43E-07	1.31E-04	1.50E-01	1.84E-07	1.69E-04
Road 36	36	0400-0500	9.77E-02	8.98E-08	1.72E-04	3.39E-01	3.12E-07	5.98E-04	4.36E-01	4.01E-07	7.69E-04
Road 36	36	0500-0600	5.47E-02	1.01E-07	1.30E-04	1.89E-01	3.49E-07	4.48E-04	2.43E-01	4.49E-07	5.76E-04
Road 36	36	0600-0700	5.27E-02	3.10E-07	2.85E-04	9.69E-02	2.32E-01	1.36E-06	1.25E-03	7.78E-03	4.58E-06
Road 36	36	0700-0800	2.54E-02	1.79E-07	1.65E-04	4.67E-02	3.29E-07	3.03E-04	6.03E-02	4.25E-07	3.91E-04
Road 36	36	0800-0900	1.01E-02	1.79E-07	1.65E-04	1.85E-02	3.29E-07	3.03E-04	2.39E-02	4.25E-07	3.91E-04
Road 36	36	0900-1000	9.57E-03	3.09E-07	2.84E-04	2.01E-03	6.54E-07	6.01E-04	2.59E-03	8.44E-07	7.76E-04
Road 36	36	1000-1100	1.17E-02	3.09E-07	2.84E-04	2.01E-03	5.31E-07	4.88E-04	2.59E-03	6.86E-07	6.31E-04
Road 36	36	1100-1200	1.17E-02	3.09E-07	2.84E-04	2.01E-03	5.31E-07	4.88E-04	2.59E-03	6.86E-07	6.31E-04
Road 36	36	1200-1300	7.74E-02	2.90E-07	2.66E-04	2.21E-01	8.29E-07	7.62E-04	2.99E-01	1.12E-06	1.03E-03
Road 36	36	1300-1400	7.97E-02	3.10E-07	2.85E-04	2.01E-01	7.80E-07	7.17E-04	2.99E-01	1.16E-06	1.07E-03
Road 36	36	1400-1500	7.97E-02	3.10E-07	2.85E-04	2.01E-01	7.80E-07	7.17E-04	2.99E-01	1.16E-06	1.07E-03
Road 36	36	1500-1600	7.82E-02	3.21E-07	2.95E-04	2.33E-01	9.57E-07	8.80E-04	3.12E-01	1.28E-06	1.18E-03
Road 36	36	1600-1700	6.72E-02	2.94E-07	2.70E-04	3.46E-01	1.51E-06	1.39E-03	3.44E-01	1.50E-06	1.38E-03
Road 36	36	1700-1800	5.44E-02	2.37E-07	2.18E-04	1.70E-01	7.41E-07	6.81E-04	2.82E-01	1.23E-06	1.13E-03
Road 36	36	1800-1900	5.44E-02	2.37E-07	2.18E-04	1.70E-01	7.41E-07	6.81E-04	2.82E-01	1.23E-06	1.13E-03
Road 36	36	1900-2000	6.82E-03	1.12E-07	1.07E-03	3.36E-02	5.52E-07	5.25E-03	4.64E-02	7.63E-07	7.26E-03
Road 36	36	2000-2100	3.77E-02	8.50E-08	7.82E-05	4.49E-02	1.01E-07	9.31E-05	1.27E-01	2.87E-07	2.64E-04
Road 36	36	2100-2200	3.49E-02	8.01E-08	6.95E-04	3.66E-02	8.40E-07	7.29E-03	1.08E-01	2.48E-06	2.15E-02
Road 36	36	2200-2300	3.49E-02	8.01E-08	6.95E-04	3.66E-02	8.40E-07	7.29E-03	1.08E-01	2.48E-06	2.15E-02
Road 36	36	2300-0000	3.49E-02	8.01E-08	6.95E-04	3.66E-02	8.40E-07	7.29E-03	1.08E-01	2.48E-06	2.15E-02
Road 37	37	0100-0200	3.25E-02	9.47E-10	7.93E-07	1.51E-01	4.41E-09	3.69E-06	1.26E-01	3.68E-09	3.08E-06
Road 37	37	0200-0300	3.75E-02	6.81E-08	6.26E-05	1.49E-01	2.56E-07	2.35E-04	1.89E-01	3.43E-07	3.15E-04
Road 37	37	0300-0400	3.75E-02	6.50E-10	5.45E-07	1.67E-01	2.90E-09	2.43E-06	2.09E-01	3.63E-09	3.04E-06
Road 37	37	0400-0500	9.27E-02	1.61E-07	3.37E-04	3.69E-01	6.41E-07	1.34E-03	4.96E-01	8.62E-07	1.80E-03
Road 37	37	0500-0600	4.22E-02	1.44E-09	1.20E-06	1.81E-01	6.16E-09	2.23E-06	1.69E-07	5.76E-09	2.09E-06
Road 37	37	0600-0700	4.46E-02	3.30E-09	2.76E-06	1.89E-01	1.40E-08	1.17E-05	2.34E-01	1.73E-08	1.45E-05
Road 37	37	0700-0800	1.36E-02	3.30E-09	2.76E-06	1.89E-01	1.40E-08	1.17E-05	2.34E-01	1.73E-08	1.45E-05
Road 37	37	0800-0900	4.72E-02	8.41E-09	7.04E-06	1.83E-01	3.26E-08	2.73E-05	3.20E-01	5.71E-08	4.78E-05
Road 37	37	0900-1000	5.63E-02	1.41E-08	1.18E-05	2.18E-01	5.45E-08	4.56E-05	3.82E-01	9.56E-08	8.00E-05
Road 37	37	1000-1100	6.03E-02	8.27E-09	6.93E-06	2.10E-01	2.88E-08	2.41E-05	2.70E-01	3.71E-08	3.11E-05
Road 37	37	1100-1200	5.67E-02	8.33E-09	6.97E-06	1.96E-01	2.88E-08	2.41E-05	2.51E-01	3.69E-08	3.09E-05
Road 37	37	1200-1300	1.03E-02	9.37E-09	7.85E-06	3.55E-02	3.23E-08	2.71E-05	4.58E-02	4.17E-08	3.49E-05
Road 37	37	1300-1400	6.10E-02	1.00E-08	8.39E-06	2.14E-01	3.54E-08	2.97E-05	2.75E-01	4.54E-08	3.80E-05
Road 37	37	1400-1500	6.06E-02	1.00E-08	8.39E-06	2.14E-01	3.54E-08	2.97E-05	2.75E-01	4.54E-08	3.80E-05
Road 37	37	1500-1600	6.06E-02	1.00E-08	8.39E-06	2.14E-01	3.54E-08	2.97E-05	2.75E-01	4.54E-08	3.80E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (January) Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	1.54E-02	9.49E-09	7.95E-06	1.99E-01	8.36E-08	2.81E-05	2.56E-01	3.61E-05	6.54E-03
Road 37	37	1700-1800	4.82E-02	8.68E-09	7.27E-06	1.93E-01	3.47E-08	2.91E-05	2.41E-01	4.34E-08	3.64E-05
Road 37	37	1800-1900	1.24E-02	5.83E-09	4.88E-06	1.38E-01	2.49E-08	2.09E-05	1.71E-01	3.07E-08	2.58E-05
Road 37	37	1900-2000	2.76E-02	3.74E-09	3.14E-06	1.25E-01	1.72E-08	1.44E-05	1.52E-01	2.10E-08	1.76E-05
Road 37	37	2000-2100	2.76E-02	2.98E-09	2.50E-06	1.34E-01	1.44E-08	1.21E-05	1.61E-01	1.74E-08	1.46E-05
Road 37	37	2100-2200	2.75E-02	2.96E-09	2.48E-06	1.33E-01	1.43E-08	1.20E-05	1.60E-01	1.72E-08	1.45E-05
Road 37	37	2200-2300	2.41E-02	2.50E-09	2.09E-06	1.26E-01	1.30E-08	1.09E-05	1.50E-01	1.55E-08	1.30E-05
Road 37	37	2300-0000	2.66E-02	2.09E-09	1.75E-06	1.33E-01	1.05E-08	8.76E-06	1.60E-01	1.26E-08	1.05E-05
Road 38	38	0000-0100	3.04E-02	3.31E-08	2.78E-05	1.31E-01	1.42E-07	1.58E-04	1.75E-01	1.92E-07	1.61E-04
Road 38	38	0100-0200	3.29E-02	2.28E-08	7.11E-05	1.52E-01	1.10E-07	3.28E-04	1.85E-01	1.34E-07	4.00E-04
Road 38	38	0200-0300	3.73E-02	1.61E-08	4.80E-05	1.66E-01	7.14E-08	2.13E-04	2.03E-01	8.75E-08	2.61E-04
Road 38	38	0300-0400	3.73E-02	1.61E-08	4.80E-05	1.66E-01	7.14E-08	2.13E-04	2.03E-01	8.75E-08	2.61E-04
Road 38	38	0400-0500	3.97E-02	1.90E-08	5.68E-05	1.73E-01	8.29E-08	2.48E-04	2.11E-01	1.01E-07	3.04E-04
Road 38	38	0500-0600	1.30E-01	1.51E-07	2.87E-04	5.68E-01	6.59E-07	1.27E-03	6.98E-01	8.10E-07	1.56E-03
Road 38	38	0600-0700	4.56E-02	8.36E-08	2.50E-04	1.92E-01	3.51E-07	1.05E-03	2.38E-01	4.36E-07	1.30E-03
Road 38	38	0700-0800	5.94E-02	2.98E-08	8.91E-05	2.56E-01	1.28E-07	3.84E-04	3.14E-01	1.58E-07	4.72E-04
Road 38	38	0800-0900	7.34E-02	2.28E-07	6.80E-04	2.19E-01	6.77E-07	2.03E-03	2.45E-01	7.58E-07	2.27E-03
Road 38	38	0900-1000	5.91E-02	2.35E-07	7.03E-04	2.14E-01	8.48E-07	2.53E-03	2.58E-01	1.02E-06	3.05E-03
Road 38	38	1000-1100	6.34E-02	2.38E-07	8.80E-04	2.19E-01	8.87E-07	3.03E-03	6.66E-03	2.39E-08	7.15E-05
Road 38	38	1100-1200	6.34E-02	2.15E-07	6.42E-04	2.21E-01	7.49E-07	2.24E-03	2.84E-01	9.64E-07	2.88E-03
Road 38	38	1200-1300	8.74E-02	1.32E-07	3.95E-04	3.05E-01	4.58E-07	1.36E-03	4.17E-01	6.29E-07	1.87E-03
Road 38	38	1300-1400	9.08E-02	1.28E-07	3.81E-04	2.88E-01	4.05E-07	1.21E-03	3.79E-01	5.33E-07	1.59E-03
Road 38	38	1400-1500	9.08E-02	1.28E-07	3.81E-04	2.88E-01	4.05E-07	1.21E-03	3.79E-01	5.33E-07	1.59E-03
Road 38	38	1500-1600	9.08E-02	1.28E-07	3.81E-04	2.88E-01	4.05E-07	1.21E-03	3.79E-01	5.33E-07	1.59E-03
Road 38	38	1600-1700	8.66E-02	1.23E-07	3.67E-04	2.75E-01	3.91E-07	1.17E-03	3.64E-01	5.16E-07	1.54E-03
Road 38	38	1700-1800	8.66E-02	1.23E-07	3.67E-04	2.75E-01	3.91E-07	1.17E-03	3.64E-01	5.16E-07	1.54E-03
Road 38	38	1800-1900	6.36E-02	2.31E-08	2.29E-05	2.59E-01	7.73E-08	2.31E-04	3.42E-01	1.02E-07	3.05E-04
Road 38	38	1900-2000	5.72E-02	3.72E-08	1.11E-04	2.12E-01	1.38E-07	4.12E-04	2.69E-01	1.75E-07	5.23E-04
Road 38	38	2000-2100	5.72E-02	3.79E-08	1.13E-04	2.13E-01	1.41E-07	4.21E-04	2.71E-01	1.79E-07	5.34E-04
Road 38	38	2100-2200	5.64E-02	3.79E-08	1.13E-04	2.10E-01	1.41E-07	4.21E-04	2.67E-01	1.79E-07	5.34E-04
Road 38	38	2200-2300	5.58E-02	2.65E-08	7.92E-05	2.04E-01	9.69E-08	2.90E-04	2.60E-01	1.23E-07	3.69E-04
Road 38	38	2300-0000	5.58E-02	2.65E-08	7.92E-05	2.04E-01	9.69E-08	2.90E-04	2.60E-01	1.23E-07	3.69E-04
Road 39	39	0000-0100	9.28E-02	1.28E-08	3.99E-05	2.93E-01	4.05E-08	1.26E-04	3.85E-01	5.33E-08	1.66E-04
Road 39	39	0100-0200	9.28E-02	1.28E-08	3.99E-05	2.93E-01	4.05E-08	1.26E-04	3.85E-01	5.33E-08	1.66E-04
Road 39	39	0200-0300	9.56E-02	8.77E-09	2.72E-05	3.00E-01	2.75E-08	8.56E-05	3.96E-01	3.63E-08	1.13E-04
Road 39	39	0300-0400	9.56E-02	8.77E-09	2.72E-05	3.00E-01	2.75E-08	8.56E-05	3.96E-01	3.63E-08	1.13E-04
Road 39	39	0400-0500	9.67E-02	1.04E-08	3.22E-05	3.03E-01	3.25E-08	1.01E-04	4.00E-01	4.29E-08	1.33E-04
Road 39	39	0500-0600	9.74E-02	1.38E-08	4.28E-05	3.05E-01	4.31E-08	1.34E-04	4.03E-01	5.69E-08	1.77E-04
Road 39	39	0600-0700	1.00E-01	4.49E-08	1.39E-04	3.13E-01	1.40E-07	4.37E-04	4.13E-01	1.85E-07	5.76E-04
Road 39	39	0700-0800	1.00E-01	1.39E-07	4.33E-04	3.13E-01	4.40E-07	1.37E-03	4.13E-01	5.81E-07	1.81E-03
Road 39	39	0800-0900	1.06E-01	1.35E-07	4.20E-04	3.31E-01	4.23E-07	1.31E-03	4.37E-01	5.58E-07	1.73E-03
Road 39	39	0900-1000	1.06E-01	1.35E-07	4.20E-04	3.31E-01	4.23E-07	1.31E-03	4.37E-01	5.58E-07	1.73E-03
Road 39	39	1000-1100	1.06E-01	1.35E-07	4.20E-04	3.31E-01	4.23E-07	1.31E-03	4.37E-01	5.58E-07	1.73E-03
Road 39	39	1100-1200	1.06E-01	1.35E-07	4.20E-04	3.31E-01	4.23E-07	1.31E-03	4.37E-01	5.58E-07	1.73E-03
Road 39	39	1200-1300	4.49E-02	1.40E-08	4.44E-05	1.59E-01	4.95E-08	1.57E-04	2.10E-01	6.54E-08	2.07E-04
Road 39	39	1300-1400	1.40E-01	4.36E-08	1.38E-04	4.96E-01	1.54E-07	4.89E-04	6.55E-01	2.04E-07	6.46E-04
Road 39	39	1400-1500	1.40E-01	4.36E-08	1.38E-04	4.96E-01	1.54E-07	4.89E-04	6.55E-01	2.04E-07	6.46E-04
Road 39	39	1500-1600	1.40E-01	4.36E-08	1.38E-04	4.96E-01	1.54E-07	4.89E-04	6.55E-01	2.04E-07	6.46E-04
Road 39	39	1600-1700	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 39	39	1700-1800	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 39	39	1800-1900	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 39	39	1900-2000	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 39	39	2000-2100	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 39	39	2100-2200	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 39	39	2200-2300	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 39	39	2300-0000	1.46E-01	4.54E-08	1.44E-04	5.18E-01	1.61E-07	5.10E-04	6.84E-01	2.13E-07	6.74E-04
Road 40	40	0000-0100	1.39E-02	2.09E-08	7.16E-05	9.64E-02	1.44E-07	4.95E-04	1.12E-01	1.68E-07	5.76E-04
Road 40	40	0100-0200	1.39E-02	1.86E-08	6.38E-05	5.09E-02	6.84E-08	2.34E-04	6.47E-02	8.70E-08	2.98E-04
Road 40	40	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.61E-04
Road 40	40	0300-0400	1.96E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 40	40	0400-0500	1.49E-02	2.15E-08	7.39E-05	4.25E-02	6.13E-08	2.11E-04	5.94E-02	1.00E-07	3.44E-04
Road 40	40	0500-0600	1.14E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04
Road 40	40	0600-0700	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 40	40	0700-0800	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 40	40	0800-0900	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.22E-07	1.10E-03	7.12E-02	4.15E-07	1.42E-03
Road 40	40	0900-1000	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.22E-07	1.10E-03	7.12E-02	4.15E-07	1.42E-03
Road 40	40	1000-1100	1.77E-02	8.68E-08	2.97E-04	6.04E-02	2.96E-07	1.01E-03	7.81E-02	3.82E-07	1.31E-03
Road 40	40	1100-1200	1.77E-02	8.68E-08	2.97E-04	6.04E-02	2.96E-07	1.01E-03	7.81E-02	3.82E-07	1.31E-03
Road 40	40	1200-1300	1.66E-02	1.19E-08	4.07E-05	5.66E-02	4.05E-08	1.38E-04	7.32E-02	5.24E-08	1.79E-04
Road 40	40	1300-1400	1.66E-02	1.19E-08	4.07E-05	5.66E-02	4.05E-08	1.38E-04	7.32E-02	5.24E-08	1.79E-04
Road 40	40	1400-1500	1.66E-02	1.19E-08	4.07E-05	5.66E-02	4.05E-08	1.38E-04	7.32E-02	5.24E-08	1.79E-04
Road 40	40	1500-1600	1.66E-02	1.19E-08	4.07E-05	5.66E-02	4.05E-08	1.38E-04	7.32E-02	5.24E-08	1.79E-04
Road 40	40	1600-1700	1.66E-02	1.19E-08	4.07E-05	5.66E-02	4.05E-08	1.38E-04	7.32E-02	5.24E-08	1.79E-04
Road 40	40	1700-1800	1.66E-02	1.19E-08	4.07E-05	5.66E-02	4.05E-08	1.38E-04	7.32E-02	5.24E-08	1.79E-04
Road 40	40	1800-1900	1.66E-02	1.19E-08	4.07E-05	5.66E-02	4.05E-08	1.38E-04	7.32E-02	5.24E-08	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	4.34E-03	3.31E-08	1.27E-03	1.36E-02	4.88E-07	9.81E-03	3.82E-02	1.31E-07	1.11E-02
Road 1	1	0100-0200	4.79E-03	4.52E-08	9.09E-04	3.49E-02	3.29E-07	6.62E-03	3.97E-02	3.75E-07	7.53E-03
Road 1	1	0200-0300	5.26E-03	3.63E-08	7.30E-04	3.65E-02	2.52E-07	5.06E-03	4.17E-02	2.88E-07	5.78E-03
Road 1	1	0300-0400	5.73E-03	3.12E-08	6.27E-04	3.77E-02	2.05E-07	4.12E-03	4.34E-02	2.36E-07	4.75E-03
Road 1	1	0400-0500	6.20E-03	3.70E-08	7.44E-04	3.90E-02	2.33E-07	4.68E-03	4.52E-02	2.70E-07	5.43E-03
Road 1	1	0500-0600	6.90E-03	5.37E-08	1.08E-03	4.16E-02	3.23E-07	6.49E-03	4.81E-02	3.74E-07	7.51E-03
Road 1	1	0600-0700	7.15E-03	1.59E-07	3.19E-03	4.17E-02	9.25E-07	1.86E-02	4.84E-02	1.07E-06	2.16E-02
Road 1	1	0700-0800	7.61E-03	3.41E-07	6.86E-03	4.26E-02	1.91E-06	3.84E-02	5.02E-02	2.25E-06	4.53E-02
Road 1	1	0800-0900	8.38E-03	3.57E-07	7.18E-03	4.23E-02	1.80E-06	3.62E-02	5.08E-02	2.16E-06	4.35E-02
Road 1	1	0900-1000	8.38E-03	3.17E-07	6.38E-03	4.23E-02	1.60E-06	3.22E-02	5.08E-02	1.92E-06	3.87E-02
Road 1	1	1000-1100	9.06E-03	3.17E-07	6.36E-03	4.43E-02	1.55E-06	3.11E-02	5.34E-02	1.86E-06	3.75E-02
Road 1	1	1100-1200	9.06E-03	3.17E-07	6.36E-03	4.43E-02	1.55E-06	3.11E-02	5.34E-02	1.86E-06	3.75E-02
Road 1	1	1200-1300	1.26E-02	6.29E-07	1.26E-02	6.44E-02	3.21E-06	6.45E-02	7.79E-02	3.88E-06	7.81E-02
Road 1	1	1300-1400	1.26E-02	6.25E-07	1.25E-02	6.44E-02	3.21E-06	6.43E-02	7.79E-02	3.88E-06	7.79E-02
Road 1	1	1400-1500	1.26E-02	6.66E-07	1.34E-02	5.38E-02	2.84E-06	5.70E-02	6.64E-02	3.50E-06	7.04E-02
Road 1	1	1500-1600	1.26E-02	6.66E-07	1.34E-02	5.20E-02	2.75E-06	5.52E-02	6.42E-02	3.39E-06	6.81E-02
Road 1	1	1600-1700	1.23E-02	6.99E-07	1.40E-02	5.43E-02	3.09E-06	6.20E-02	6.70E-02	3.81E-06	7.65E-02
Road 1	1	1700-1800	1.23E-02	6.99E-07	1.40E-02	5.43E-02	3.09E-06	6.20E-02	6.70E-02	3.81E-06	7.65E-02
Road 1	1	1800-1900	6.21E-03	4.24E-07	8.53E-03	3.38E-02	2.31E-06	4.64E-02	4.00E-02	2.73E-06	5.49E-02
Road 1	1	1900-2000	5.31E-03	2.87E-07	5.76E-03	3.17E-02	1.71E-06	3.44E-02	3.70E-02	2.00E-06	4.02E-02
Road 1	1	2000-2100	5.06E-03	2.44E-07	4.91E-03	3.04E-02	1.46E-06	2.94E-02	3.55E-02	1.71E-06	3.44E-02
Road 1	1	2100-2200	4.58E-03	1.92E-07	3.86E-03	3.17E-02	1.41E-06	2.84E-02	3.83E-02	1.61E-06	3.23E-02
Road 1	1	2200-2300	4.34E-03	1.70E-07	3.42E-03	3.17E-02	1.41E-06	2.84E-02	3.83E-02	1.61E-06	3.23E-02
Road 1	1	2300-0000	5.05E-03	1.54E-07	3.10E-03	3.17E-02	1.26E-06	2.54E-02	3.83E-02	1.44E-06	2.89E-02
Road 2	2	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	4.33E-02	6.01E-07	1.11E-02
Road 2	2	0100-0200	6.97E-03	8.42E-08	1.69E-03	3.81E-02	4.61E-07	9.29E-03	4.33E-02	5.24E-07	1.05E-02
Road 2	2	0200-0300	7.88E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.92E-02	3.22E-07	5.96E-03
Road 2	2	0300-0400	8.79E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.92E-02	3.22E-07	5.96E-03
Road 2	2	0400-0500	8.66E-03	4.98E-08	9.20E-04	4.50E-02	2.59E-07	4.78E-03	5.36E-02	3.08E-07	5.69E-03
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	5.54E-02	5.55E-07	1.03E-02
Road 2	2	0600-0700	9.56E-03	2.68E-07	4.95E-03	4.63E-02	1.30E-06	2.40E-02	5.54E-02	1.56E-06	2.88E-02
Road 2	2	0700-0800	1.02E-02	4.50E-07	8.31E-03	4.92E-02	2.16E-06	4.00E-02	5.94E-02	2.61E-06	4.83E-02
Road 2	2	0800-0900	1.06E-02	4.89E-07	9.04E-03	4.92E-02	2.27E-06	4.20E-02	5.94E-02	2.74E-06	5.06E-02
Road 2	2	0900-1000	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	6.28E-02	2.76E-06	5.11E-02
Road 2	2	1000-1100	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	6.28E-02	2.76E-06	5.11E-02
Road 2	2	1100-1200	1.27E-02	6.89E-07	8.67E-03	5.40E-02	1.99E-06	3.68E-02	6.68E-02	2.46E-06	4.55E-02
Road 2	2	1200-1300	1.32E-02	6.04E-07	1.12E-02	5.38E-02	2.45E-06	4.54E-02	6.70E-02	3.06E-06	5.69E-02
Road 2	2	1300-1400	1.32E-02	6.31E-07	1.19E-02	5.38E-02	2.56E-06	4.83E-02	6.70E-02	3.25E-06	6.13E-02
Road 2	2	1400-1500	1.34E-02	6.70E-07	1.24E-02	5.55E-02	2.77E-06	5.14E-02	6.89E-02	3.44E-06	6.38E-02
Road 2	2	1500-1600	1.34E-02	6.70E-07	1.24E-02	5.22E-02	2.61E-06	4.83E-02	6.48E-02	3.24E-06	6.00E-02
Road 2	2	1600-1700	1.30E-02	6.95E-07	1.29E-02	5.45E-02	2.91E-06	5.39E-02	6.75E-02	3.61E-06	6.69E-02
Road 2	2	1700-1800	1.30E-02	6.95E-07	1.29E-02	5.45E-02	2.91E-06	5.39E-02	6.75E-02	3.61E-06	6.69E-02
Road 2	2	1800-1900	6.57E-03	4.22E-07	7.83E-03	3.39E-02	2.18E-06	4.04E-02	4.20E-02	2.70E-06	5.01E-02
Road 2	2	1900-2000	5.65E-03	2.86E-07	5.31E-03	3.18E-02	1.61E-06	2.99E-02	3.94E-02	2.00E-06	3.71E-02
Road 2	2	2000-2100	5.39E-03	2.43E-07	4.52E-03	3.05E-02	1.37E-06	2.55E-02	3.78E-02	1.70E-06	3.16E-02
Road 2	2	2100-2200	4.87E-03	1.91E-07	3.55E-03	3.18E-02	1.25E-06	2.32E-02	3.94E-02	1.55E-06	2.87E-02
Road 2	2	2200-2300	4.62E-03	1.69E-07	3.14E-03	3.18E-02	1.16E-06	2.16E-02	3.94E-02	1.44E-06	2.67E-02
Road 2	2	2300-0000	5.37E-03	1.53E-07	2.85E-03	3.18E-02	9.07E-07	1.69E-02	3.94E-02	1.12E-06	2.09E-02
Road 3	3	0000-0100	4.59E-03	2.51E-08	5.61E-05	3.50E-02	1.91E-07	4.28E-04	3.96E-02	2.16E-07	4.84E-04
Road 3	3	0100-0200	5.15E-03	2.29E-08	4.59E-05	3.50E-02	1.56E-07	3.12E-04	3.96E-02	1.76E-07	3.53E-04
Road 3	3	0200-0300	5.56E-03	1.44E-08	3.23E-05	3.81E-02	9.89E-08	2.21E-04	4.36E-02	1.13E-07	2.53E-04
Road 3	3	0300-0400	5.96E-03	1.44E-08	3.23E-05	3.81E-02	9.89E-08	2.21E-04	4.36E-02	1.13E-07	2.53E-04
Road 3	3	0400-0500	6.51E-03	1.47E-08	3.28E-05	4.07E-02	9.16E-08	2.04E-04	4.72E-02	1.06E-07	2.37E-04
Road 3	3	0500-0600	7.00E-03	2.73E-08	6.12E-05	4.20E-02	1.64E-07	3.67E-04	4.75E-02	1.85E-07	4.15E-04
Road 3	3	0600-0700	7.44E-03	8.08E-08	1.81E-04	4.56E-02	4.95E-07	1.11E-03	5.15E-02	5.59E-07	1.25E-03
Road 3	3	0700-0800	8.08E-03	1.37E-07	3.06E-04	4.59E-02	7.77E-07	1.74E-03	5.40E-02	9.14E-07	2.05E-03
Road 3	3	0800-0900	8.37E-03	1.37E-07	3.06E-04	4.59E-02	7.52E-07	1.68E-03	5.40E-02	8.85E-07	1.98E-03
Road 3	3	0900-1000	9.05E-03	1.46E-07	3.28E-04	4.72E-02	7.63E-07	1.71E-03	5.61E-02	8.98E-07	2.01E-03
Road 3	3	1000-1100	9.05E-03	1.46E-07	3.28E-04	4.72E-02	7.63E-07	1.71E-03	5.61E-02	8.98E-07	2.01E-03
Road 3	3	1100-1200	1.02E-02	1.44E-07	3.21E-04	4.87E-02	6.86E-07	1.54E-03	5.84E-02	8.07E-07	1.81E-03
Road 3	3	1200-1300	1.03E-02	1.47E-07	3.28E-04	4.90E-02	6.99E-07	1.57E-03	5.88E-02	8.23E-07	1.84E-03
Road 3	3	1300-1400	1.03E-02	1.47E-07	3.28E-04	4.90E-02	6.99E-07	1.57E-03	5.88E-02	8.23E-07	1.84E-03
Road 3	3	1400-1500	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	1500-1600	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	1600-1700	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	1700-1800	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	1800-1900	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	1900-2000	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	2000-2100	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	2100-2200	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	2200-2300	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03
Road 3	3	2300-0000	1.04E-02	1.47E-07	3.28E-04	4.96E-02	7.00E-07	1.57E-03	5.95E-02	8.24E-07	1.84E-03

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 4	4	0800-0900	8.21E-03	2.42E-07	1.77E-03	4.19E-02	1.23E-06	9.03E-03	5.01E-02	1.48E-06	1.08E-02
Road 4	4	0900-1000	8.21E-03	2.42E-07	1.77E-03	4.19E-02	1.23E-06	9.03E-03	5.01E-02	1.48E-06	1.08E-02
Road 4	4	1000-1100	9.37E-03	2.38E-07	1.74E-03	4.42E-02	1.12E-06	8.22E-03	5.36E-02	1.36E-06	9.97E-03
Road 4	4	1100-1200	8.89E-03	2.14E-07	1.57E-03	4.41E-02	1.06E-06	7.78E-03	5.35E-02	1.28E-06	9.34E-03
Road 4	4	1200-1300	1.09E-02	3.17E-07	2.32E-03	4.70E-02	1.37E-06	1.01E-02	5.79E-02	1.69E-06	1.24E-02
Road 4	4	1300-1400	1.09E-02	3.17E-07	2.32E-03	4.70E-02	1.37E-06	1.01E-02	5.79E-02	1.69E-06	1.24E-02
Road 4	4	1400-1500	1.11E-02	3.33E-07	2.58E-03	4.85E-02	1.44E-06	1.13E-02	5.99E-02	1.90E-06	1.39E-02
Road 4	4	1500-1600	1.04E-02	3.37E-07	2.47E-03	4.86E-02	1.58E-06	1.16E-02	5.89E-02	1.92E-06	1.41E-02
Road 4	4	1600-1700	1.09E-02	3.79E-07	2.77E-03	4.70E-02	1.63E-06	1.19E-02	5.77E-02	2.01E-06	1.47E-02
Road 4	4	1700-1800	7.71E-03	3.01E-07	2.22E-03	4.10E-02	1.60E-06	1.18E-02	5.07E-02	1.98E-06	1.46E-02
Road 4	4	1800-1900	3.91E-03	1.52E-07	1.12E-03	2.08E-02	8.09E-07	5.96E-03	2.57E-02	1.00E-06	7.37E-03
Road 4	4	1900-2000	4.74E-03	1.63E-07	1.19E-03	2.98E-02	1.02E-06	7.49E-03	3.46E-02	1.19E-06	8.68E-03
Road 4	4	2000-2100	4.57E-03	1.22E-07	8.91E-04	3.30E-02	8.81E-07	6.41E-03	3.75E-02	1.00E-06	7.28E-03
Road 4	4	2100-2200	4.09E-03	1.06E-07	7.78E-04	3.23E-02	8.38E-07	6.12E-03	3.67E-02	9.52E-07	6.95E-03
Road 4	4	2200-2300	3.93E-03	1.02E-07	7.44E-04	3.25E-02	8.42E-07	6.16E-03	3.65E-02	9.43E-07	6.90E-03
Road 4	4	2300-0000	4.81E-03	1.01E-07	7.39E-04	3.51E-02	7.37E-07	5.39E-03	3.99E-02	8.37E-07	6.12E-03
Road 5	5	0000-0100	6.14E-03	4.36E-08	1.33E-04	4.48E-02	3.18E-07	9.69E-04	5.09E-02	3.61E-07	1.10E-03
Road 5	5	0100-0200	6.61E-03	3.04E-08	9.27E-05	4.56E-02	2.10E-07	6.40E-04	5.21E-02	2.40E-07	7.31E-04
Road 5	5	0200-0300	7.09E-03	2.38E-08	7.25E-05	4.72E-02	1.58E-07	4.83E-04	5.43E-02	1.82E-07	5.55E-04
Road 5	5	0300-0400	7.74E-03	2.05E-08	6.24E-05	4.90E-02	1.30E-07	3.95E-04	5.63E-02	1.50E-07	4.57E-04
Road 5	5	0400-0500	8.40E-03	2.42E-08	4.95E-05	5.08E-02	1.47E-07	3.00E-04	5.84E-02	1.69E-07	3.45E-04
Road 5	5	0500-0600	9.34E-03	4.67E-08	1.42E-04	5.37E-02	2.68E-07	8.18E-04	6.31E-02	3.15E-07	9.61E-04
Road 5	5	0600-0700	9.68E-03	1.22E-07	3.71E-04	5.56E-02	7.00E-07	2.13E-03	6.51E-02	8.20E-07	2.49E-03
Road 5	5	0700-0800	1.44E-02	2.61E-07	7.96E-04	8.28E-02	1.50E-06	4.57E-03	9.72E-02	1.76E-06	5.36E-03
Road 5	5	0800-0900	1.45E-02	1.61E-07	1.10E-03	6.80E-02	1.69E-06	5.15E-03	8.25E-02	2.05E-06	6.25E-03
Road 5	5	0900-1000	1.45E-02	1.61E-07	1.10E-03	6.80E-02	1.69E-06	5.15E-03	8.25E-02	2.05E-06	6.25E-03
Road 5	5	1000-1100	1.80E-02	3.10E-07	2.13E-03	7.93E-02	1.36E-06	4.15E-03	9.72E-02	1.67E-06	5.10E-03
Road 5	5	1100-1200	1.80E-02	3.10E-07	2.13E-03	7.93E-02	1.36E-06	4.15E-03	9.72E-02	1.67E-06	5.10E-03
Road 5	5	1200-1300	2.05E-02	5.66E-07	1.73E-03	8.60E-02	2.37E-06	7.24E-03	1.06E-01	2.94E-06	8.96E-03
Road 5	5	1300-1400	2.16E-02	6.01E-07	1.85E-03	9.32E-02	2.59E-06	7.90E-03	1.15E-01	3.19E-06	9.74E-03
Road 5	5	1400-1500	2.16E-02	6.59E-07	2.01E-03	9.54E-02	2.92E-06	8.91E-03	1.17E-01	3.58E-06	1.09E-02
Road 5	5	1500-1600	2.15E-02	6.59E-07	2.01E-03	9.54E-02	2.92E-06	8.91E-03	1.17E-01	3.58E-06	1.09E-02
Road 5	5	1600-1700	2.18E-02	7.14E-07	2.49E-03	9.54E-02	3.13E-06	1.09E-02	1.17E-01	3.92E-06	1.37E-02
Road 5	5	1700-1800	1.68E-02	6.49E-07	1.98E-03	7.98E-02	3.08E-06	9.40E-03	9.66E-02	3.73E-06	1.14E-02
Road 5	5	1800-1900	1.20E-02	3.40E-07	1.04E-03	5.32E-02	1.51E-06	4.61E-03	6.52E-02	1.85E-06	5.65E-03
Road 5	5	1900-2000	9.67E-03	3.40E-07	1.04E-03	5.25E-02	1.85E-06	5.63E-03	6.22E-02	2.19E-06	6.67E-03
Road 5	5	2000-2100	8.53E-03	2.31E-07	7.11E-04	5.43E-02	1.48E-06	4.52E-03	6.28E-02	1.72E-06	5.23E-03
Road 5	5	2100-2200	8.63E-03	2.16E-07	6.61E-04	5.51E-02	1.38E-06	4.21E-03	6.37E-02	1.60E-06	4.87E-03
Road 5	5	2200-2300	6.59E-03	1.75E-07	5.34E-04	5.04E-02	1.34E-06	4.09E-03	5.70E-02	1.52E-06	4.62E-03
Road 5	5	2300-0000	6.38E-03	1.38E-07	4.20E-04	5.02E-02	1.08E-06	3.31E-03	5.71E-02	1.31E-06	3.98E-03
Road 6	6	0000-0100	1.57E-02	1.45E-07	1.49E-03	7.45E-02	6.91E-07	7.11E-03	9.02E-02	8.37E-07	8.60E-03
Road 6	6	0100-0200	1.60E-02	9.80E-08	1.01E-03	7.45E-02	4.56E-07	4.69E-03	9.05E-02	5.54E-07	5.70E-03
Road 6	6	0200-0300	1.60E-02	9.80E-08	1.01E-03	7.45E-02	4.56E-07	4.69E-03	9.05E-02	5.54E-07	5.70E-03
Road 6	6	0300-0400	1.82E-02	6.63E-08	6.81E-04	8.06E-02	2.94E-07	3.02E-03	9.88E-02	3.60E-07	3.70E-03
Road 6	6	0400-0500	2.04E-02	6.63E-08	6.81E-04	8.06E-02	2.62E-07	2.69E-03	1.01E-01	3.32E-07	3.41E-03
Road 6	6	0500-0600	2.13E-02	1.52E-07	1.56E-03	9.14E-02	6.49E-07	6.67E-03	1.13E-01	8.05E-07	8.22E-03
Road 6	6	0600-0700	2.76E-02	4.25E-07	4.37E-03	1.14E-01	1.75E-06	1.80E-02	1.41E-01	2.18E-06	2.24E-02
Road 6	6	0700-0800	3.96E-02	1.46E-06	1.50E-02	1.55E-01	5.69E-06	5.85E-02	1.94E-01	7.15E-06	7.35E-02
Road 6	6	0800-0900	3.96E-02	1.46E-06	1.50E-02	1.55E-01	5.69E-06	5.85E-02	1.94E-01	7.15E-06	7.35E-02
Road 6	6	0900-1000	4.91E-02	1.46E-06	1.50E-02	1.81E-01	5.40E-06	5.55E-02	2.23E-01	6.86E-06	7.06E-02
Road 6	6	1000-1100	4.91E-02	1.46E-06	1.50E-02	1.81E-01	5.40E-06	5.55E-02	2.23E-01	6.86E-06	7.06E-02
Road 6	6	1100-1200	5.53E-02	1.52E-06	1.56E-02	1.94E-01	5.33E-06	5.47E-02	2.49E-01	6.84E-06	7.04E-02
Road 6	6	1200-1300	5.53E-02	1.52E-06	1.56E-02	1.94E-01	5.33E-06	5.47E-02	2.49E-01	6.84E-06	7.04E-02
Road 6	6	1300-1400	5.53E-02	1.61E-06	1.65E-02	2.03E-01	5.90E-06	6.05E-02	2.58E-01	7.51E-06	7.72E-02
Road 6	6	1400-1500	5.74E-02	1.73E-06	1.77E-02	2.04E-01	6.14E-06	6.30E-02	2.58E-01	7.78E-06	7.98E-02
Road 6	6	1500-1600	5.26E-02	1.63E-06	1.68E-02	2.05E-01	6.38E-06	6.55E-02	2.58E-01	8.01E-06	8.23E-02
Road 6	6	1600-1700	5.26E-02	1.63E-06	1.68E-02	2.05E-01	6.38E-06	6.55E-02	2.58E-01	8.01E-06	8.23E-02
Road 6	6	1700-1800	4.02E-02	1.33E-06	1.37E-02	1.66E-01	5.63E-06	5.78E-02	2.06E-01	7.00E-06	7.20E-02
Road 6	6	1800-1900	2.75E-02	8.81E-07	9.06E-03	1.17E-01	3.74E-06	3.85E-02	1.44E-01	4.62E-06	4.75E-02
Road 6	6	1900-2000	2.11E-02	5.17E-07	5.31E-03	9.33E-02	2.28E-06	2.34E-02	1.14E-01	2.80E-06	2.87E-02
Road 6	6	2000-2100	1.91E-02	3.66E-07	3.76E-03	9.15E-02	1.75E-06	1.80E-02	1.11E-01	2.12E-06	2.18E-02
Road 6	6	2100-2200	1.82E-02	3.32E-07	3.42E-03	8.46E-02	1.55E-06	1.59E-02	1.03E-01	1.88E-06	1.93E-02
Road 6	6	2200-2300	1.82E-02	2.58E-07	2.65E-03	8.45E-02	1.18E-06	1.21E-02	1.03E-01	1.43E-06	1.47E-02
Road 6	6	2300-0000	1.85E-02	2.09E-07	2.15E-03	8.59E-02	9.68E-07	9.94E-03	1.04E-01	1.17E-06	1.21E-02
Road 7	7	0000-0100	5.04E-03	2.23E-08	9.53E-05	3.66E-02	1.62E-07	6.92E-04	4.16E-02	1.84E-07	7.87E-04
Road 7	7	0100-0200	5.04E-03	2.23E-08	9.53E-05	3.66E-02	1.62E-07	6.92E-04	4.16E-02	1.84E-07	7.87E-04
Road 7	7	0200-0300	5.31E-03	1.14E-08	4.87E-05	3.85E-02	8.27E-08	3.53E-04	4.38E-02	9.41E-08	4.02E-04
Road 7	7	0300-0400	5.02E-03	1.14E-08	4.87E-05	3.98E-02	9.06E-08	3.87E-04	4.52E-02	1.03E-07	4.40E-04
Road 7	7	0400-0500	5.31E-03	1.16E-08	4.95E-05	4.08E-02	8.89E-08	3.79E-04	4.64E-02	1.01E-07	4.31E-04
Road 7	7	0500-0600	6.99E-03	3.39E-08	1.45E-04	4.24E-02	2.06E-07	8.80E-04	4.93E-02	2.40E-07	1.02E-03
Road 7	7	0600-0700	7.50E-03	2.31E-07	4.88E-04	4.68E-02	1.44E-06	3.04E-03	5.47E-02	1.68E-06	3.55E-03
Road 7	7	0700-0800	7.96E-03	1.94E-07	8.30E-04	4.62E-02	1.04E-06	4.44E-03	5.05E-02	1.23E-06	5.27E-03
Road 7	7	0800-0900	8.94E-03	1.80E-07	7.69E-04	4.68E-02	9.45E-07	4.03E-03	5.54E-02	1.11E-06	4.75E-03
Road 7	7	0900-1000	1.01E-02	1.76E-07	7.54E-04	4.84E-02	8.43E-07	3.61E-03	5.86E-02	1.02E-06	4.36E-03
Road 7	7	1000-1100	9.63E-03	1.59E-07	6.79E-04	4.80E-02	7.91E-07	3.39E-03	5.76E-02	9.50E-07	4.07E-03
Road 7	7	1100-1200	1.16E-02	4.18E-07	1.79E-03	6.76E-02	1.73E-06	7.39E-03	8.40E-02	2.14E-06	9.17E-03
Road 7	7	1200-1300	1.16E-02	4.18E-07	1.79E-03	6.76E-02	1.73E-06	7.39E-03	8.40E-02	2.14E-06	9.17E-03
Road 7	7	1300-1400	1.16E-02	4.18E-07	1.79E-03	6.76E-02	1.73E-06	7.39E-03	8.40E-02	2.14E-06	9.17E-03
Road 7	7	1400-1500	1.21E-02	4.18E-07	1.79E-03	7.04E-02	1.73E-06	7.39E-03	8.75E-02	2.14E-06	9.17E-03
Road 7	7	1500-1600	2.58E-02	7.39E-07	3.16E-03	1.09E-01	3.12E-06	1.33E-02	1.35E-01	3.85E-06	1.65E-02

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.41E-01	3.49E-02	4.05E-04	1.27E-01	3.14E-02	3.64E-04	3.34E-02	8.24E-03	9.56E-05	3.00E-02	7.41E-03	8.60E-05
Road 27	27	1700-1800	1.23E-01	2.82E-02	3.17E-04	4.88E-01	1.12E-01	1.26E-03	5.11E-01	1.41E-01	1.58E-03	1.29E-02	2.97E-03	3.34E-05
Road 27	27	1800-1900	1.08E-01	1.71E-02	1.92E-04	4.47E-01	7.05E-02	7.92E-04	1.19E-02	1.88E-03	2.11E-05	4.44E-02	7.00E-03	7.86E-05
Road 27	27	1900-2000	1.01E-01	1.04E-02	1.17E-04	3.99E-01	4.11E-02	4.62E-04	5.06E-01	5.15E-02	5.78E-04	1.15E-02	1.18E-03	1.33E-05
Road 27	27	2000-2100	9.78E-02	8.03E-03	9.03E-05	4.00E-01	3.29E-02	3.69E-04	4.98E-01	4.09E-02	4.59E-04	1.13E-02	9.25E-04	1.04E-05
Road 27	27	2100-2200	9.54E-02	6.40E-03	7.19E-05	3.98E-01	2.67E-02	3.00E-04	4.94E-01	3.32E-02	3.73E-04	1.04E-02	6.97E-04	7.83E-06
Road 27	27	2200-2300	1.06E-01	7.77E-03	8.73E-05	3.98E-01	2.91E-02	3.27E-04	4.87E-01	3.58E-02	4.02E-04	1.19E-02	8.77E-04	9.85E-06
Road 27	27	2300-0000	1.07E-01	6.45E-03	7.24E-05	3.85E-01	2.32E-02	2.61E-04	4.91E-01	2.97E-02	3.33E-04	1.21E-02	7.31E-04	8.21E-06
Road 28	28	0000-0100	1.76E-01	4.36E-02	5.07E-04	1.59E-01	3.94E-02	4.57E-04	4.17E-02	1.03E-02	1.20E-04	3.75E-02	9.27E-03	1.08E-04
Road 28	28	0100-0200	7.73E-03	5.49E-08	1.14E-03	4.14E-02	2.94E-07	6.09E-03	2.26E-03	1.60E-08	3.33E-04	1.21E-02	8.60E-08	1.78E-03
Road 28	28	0200-0300	8.99E-03	5.76E-08	1.19E-03	4.52E-02	2.89E-07	5.97E-03	2.63E-03	1.68E-08	3.48E-04	1.32E-02	8.46E-08	1.75E-03
Road 28	28	0300-0400	8.99E-03	5.76E-08	1.19E-03	4.52E-02	2.89E-07	5.97E-03	2.63E-03	1.68E-08	3.48E-04	1.32E-02	8.46E-08	1.75E-03
Road 28	28	0400-0500	1.53E-02	4.44E-07	9.19E-03	4.67E-02	1.35E-06	2.80E-02	4.48E-03	1.30E-07	2.69E-03	1.37E-02	3.97E-07	8.22E-03
Road 28	28	0500-0600	1.02E-02	8.27E-08	1.71E-03	3.94E-02	3.17E-07	6.57E-03	2.98E-03	2.42E-08	5.01E-04	1.15E-02	9.27E-08	1.92E-03
Road 28	28	0600-0700	1.08E-02	1.89E-07	3.92E-03	5.01E-02	8.80E-07	1.82E-02	6.09E-02	1.07E-06	2.22E-02	2.93E-03	5.15E-08	1.07E-03
Road 28	28	0700-0800	1.15E-02	2.16E-07	4.48E-03	4.88E-02	9.01E-07	1.87E-02	6.49E-02	1.22E-06	2.53E-02	3.13E-03	5.89E-08	1.22E-03
Road 28	28	0800-0900	1.10E-02	4.57E-07	9.47E-03	4.28E-02	1.77E-06	3.68E-02	6.20E-02	2.58E-06	5.35E-02	2.98E-03	1.24E-07	2.57E-03
Road 28	28	0900-1000	1.46E-02	4.79E-07	9.93E-03	5.79E-02	1.90E-06	3.93E-02	7.25E-02	2.38E-06	4.93E-02	4.15E-03	1.36E-07	2.81E-03
Road 28	28	1000-1100	1.42E-02	4.40E-07	9.12E-03	5.76E-02	1.79E-06	3.70E-02	7.18E-02	2.23E-06	4.62E-02	4.02E-03	1.24E-07	2.58E-03
Road 28	28	1100-1200	1.35E-02	4.24E-07	8.78E-03	5.44E-02	1.71E-06	3.54E-02	6.69E-02	2.10E-06	4.35E-02	3.67E-03	1.15E-07	2.38E-03
Road 28	28	1200-1300	1.34E-02	4.16E-07	8.62E-03	5.44E-02	1.68E-06	3.48E-02	6.66E-02	2.06E-06	4.27E-02	3.67E-03	1.13E-07	2.34E-03
Road 28	28	1300-1400	1.34E-02	4.16E-07	8.62E-03	5.44E-02	1.68E-06	3.48E-02	6.66E-02	2.06E-06	4.27E-02	3.67E-03	1.13E-07	2.34E-03
Road 28	28	1400-1500	1.42E-02	4.40E-07	9.12E-03	5.76E-02	1.79E-06	3.70E-02	7.18E-02	2.23E-06	4.62E-02	4.02E-03	1.24E-07	2.58E-03
Road 28	28	1500-1600	1.24E-02	3.85E-07	7.97E-03	5.03E-02	1.56E-06	3.23E-02	6.17E-02	1.91E-06	3.96E-02	3.40E-03	1.05E-07	2.17E-03
Road 28	28	1600-1700	1.29E-02	4.03E-07	8.34E-03	5.20E-02	1.62E-06	3.36E-02	6.49E-02	2.03E-06	4.20E-02	3.56E-03	1.11E-07	2.30E-03
Road 28	28	1700-1800	1.14E-02	3.21E-07	6.64E-03	4.61E-02	1.30E-06	2.69E-02	5.66E-02	1.59E-06	3.29E-02	3.12E-03	8.78E-08	1.81E-03
Road 28	28	1800-1900	6.61E-03	2.41E-07	5.00E-03	3.36E-02	1.23E-06	2.54E-02	4.02E-02	1.47E-06	3.04E-02	2.15E-03	7.85E-08	1.62E-03
Road 28	28	1900-2000	5.67E-03	1.27E-07	2.64E-03	3.59E-02	8.06E-07	1.67E-02	4.16E-02	9.34E-07	1.93E-02	1.53E-03	3.44E-08	7.13E-04
Road 28	28	2000-2100	5.67E-03	1.27E-07	2.64E-03	3.59E-02	8.06E-07	1.67E-02	4.16E-02	9.34E-07	1.93E-02	1.53E-03	3.44E-08	7.13E-04
Road 28	28	2100-2200	5.18E-03	1.16E-07	2.40E-03	3.50E-02	7.85E-07	1.63E-02	3.80E-02	8.53E-07	1.77E-02	1.40E-03	3.14E-08	6.54E-04
Road 28	28	2200-2300	5.18E-03	1.16E-07	2.40E-03	3.50E-02	7.85E-07	1.63E-02	3.80E-02	8.53E-07	1.77E-02	1.40E-03	3.14E-08	6.54E-04
Road 28	28	2300-0000	1.68E-03	9.24E-08	1.91E-03	3.66E-02	5.95E-07	1.23E-02	4.23E-02	6.87E-07	1.42E-02	1.50E-03	2.43E-08	5.04E-04
Road 29	29	0000-0100	1.61E-03	1.08E-07	2.24E-03	3.51E-02	6.96E-07	1.44E-02	4.06E-02	8.04E-07	1.66E-02	1.44E-03	2.83E-08	5.90E-04
Road 29	29	0100-0200	6.15E-03	3.52E-08	8.88E-04	3.69E-02	2.12E-07	5.34E-03	4.31E-02	2.47E-07	6.23E-03	1.52E-03	8.73E-09	2.20E-04
Road 29	29	0200-0300	6.15E-03	3.52E-08	8.88E-04	3.69E-02	2.12E-07	5.34E-03	4.31E-02	2.47E-07	6.23E-03	1.52E-03	8.73E-09	2.20E-04
Road 29	29	0300-0400	7.98E-03	2.68E-08	6.75E-04	4.12E-02	1.39E-07	3.49E-03	4.92E-02	1.65E-07	4.17E-03	1.97E-03	6.63E-09	1.67E-04
Road 29	29	0400-0500	8.22E-03	3.02E-08	7.60E-04	4.20E-02	1.54E-07	3.89E-03	5.02E-02	1.84E-07	4.65E-03	2.04E-03	7.50E-09	1.89E-04
Road 29	29	0500-0600	7.81E-03	4.93E-08	1.04E-03	4.22E-02	2.66E-07	5.61E-03	4.75E-02	3.00E-07	6.32E-03	2.57E-03	1.62E-08	3.41E-04
Road 29	29	0600-0700	7.68E-03	1.02E-07	2.56E-03	4.24E-02	5.61E-07	1.41E-02	5.01E-02	6.63E-07	1.67E-02	1.95E-03	2.58E-08	6.49E-04
Road 29	29	0700-0800	8.00E-03	2.32E-07	5.81E-03	4.36E-02	1.26E-06	3.16E-02	5.31E-02	1.54E-06	3.85E-02	2.19E-03	6.36E-08	1.59E-03
Road 29	29	0800-0900	8.09E-03	2.52E-07	6.34E-03	3.89E-02	1.21E-06	3.05E-02	4.70E-02	1.46E-06	3.68E-02	2.11E-03	6.56E-08	1.65E-03
Road 29	29	0900-1000	9.29E-03	2.37E-07	5.98E-03	4.30E-02	1.10E-06	2.76E-02	5.23E-02	1.33E-06	3.36E-02	2.50E-03	6.39E-08	1.61E-03
Road 29	29	1000-1100	1.02E-02	2.14E-07	5.38E-03	4.57E-02	1.00E-06	2.51E-02	5.56E-02	1.22E-06	3.08E-02	2.66E-03	5.86E-08	1.48E-03
Road 29	29	1100-1200	1.02E-02	2.14E-07	5.38E-03	4.57E-02	1.00E-06	2.51E-02	5.56E-02	1.22E-06	3.08E-02	2.66E-03	5.86E-08	1.48E-03
Road 29	29	1200-1300	1.02E-02	2.14E-07	5.38E-03	4.57E-02	1.00E-06	2.51E-02	5.56E-02	1.22E-06	3.08E-02	2.66E-03	5.86E-08	1.48E-03
Road 29	29	1300-1400	1.29E-02	2.68E-07	6.75E-03	5.79E-02	1.20E-06	3.02E-02	7.04E-02	1.46E-06	3.68E-02	3.37E-03	7.01E-08	1.76E-03
Road 29	29	1400-1500	1.35E-02	2.80E-07	7.06E-03	6.05E-02	1.25E-06	3.16E-02	7.36E-02	1.53E-06	3.85E-02	3.52E-03	7.32E-08	1.84E-03
Road 29	29	1500-1600	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	1600-1700	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	1700-1800	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	1800-1900	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	1900-2000	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	2000-2100	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	2100-2200	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	2200-2300	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 29	29	2300-0000	1.24E-02	2.58E-07	6.49E-03	5.56E-02	1.15E-06	2.90E-02	6.76E-02	1.41E-06	3.54E-02	3.23E-03	6.73E-08	1.69E-03
Road 30	30	0000-0100	1.47E-02	3.64E-07	8.23E-03	5.44E-02	1.35E-06	3.04E-02	6.88E-02	1.71E-06	3.86E-02	3.36E-03	8.32E-08	1.88E-03
Road 30	30	0100-0200	1.39E-02	3.86E-07	8.73E-03	5.09E-02	1.41E-06	3.19E-02	6.44E-02	1.79E-06	4.05E-02	3.14E-03	8.73E-08	1.97E-03
Road 30	30	0200-0300	1.69E-02	1.76E-08	4.02E-04	6.25E-02	6.51E-08	1.49E-03	7.96E-02	8.29E-08	1.89E-03	3.88E-03	4.04E-09	9.23E-05
Road 30	30	0300-0400	1.69E-02	1.76E-08	4.02E-04	6.25E-02	6.51E-08	1.49E-03	7.96E-02	8.29E-08	1.89E-03	3.88E-03	4.04E-09	9.23E-05
Road 30	30	0400-0500	1.49E-02	1.55E-08	3.54E-04	5.57E-02	5.79E-08	1.32E-03	7.09E-02	7.38E-08	1.68E-03	3.46E-03	3.60E-09	8.22E-05
Road 30	30	0500-0600	1.49E-02	1.55E-08	3.54E-04	5.57E-02	5.79E-08	1.32E-03	7.09E-02	7.38E-08	1.68E-03	3.46E-03	3.60E-09	8.22E-05
Road 30	30	0600-0700	1.49E-02	1.55E-08	3.54E-04	5.57E-02	5.79E-08	1.32E-03	7.09E-02	7.38E-08	1.68E-03	3.46E-03	3.60E-09	8.22E-05
Road 30	30	0700-0800	1.32E-02	2.52E-07	5.76E-03	5.03E-02	9.61E-07	2.20E-02	6.44E-02	1.23E-06	2.81E-02	3.21E-03	6.13E-08	1.40E-03
Road 30	30	0800-0900	1.32E-02	4.52E-07	1.03E-02	5.03E-02	1.72E-06	3.93E-02	6.44E-02	2.20E-06	5.03E-02	3.21E-03	1.10E-07	2.51E-03
Road 30	30	0900-1000	1.48E-02	4.57E-07	9.93E-03	5.79E-02	1.78E-06	3.87E-02	7.27E-02	2.24E-06	4.87E-02	4.15E-03	1.28E-07	2.77E-03
Road 30	30	1000-1100	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1100-1200	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1200-1300	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1300-1400	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1400-1500	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1500-1600	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1600-1700	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1700-1800	1.42E-02	4.39E-07	9.53E-03	5.76E-02	1.71E-06	3.72E-02	7.18E-02	2.21E-06	4.80E-02	4.02E-03	1.24E-07	2.69E-03
Road 30	30	1800-1900	1.10E-02	4.01E-07	1.43E-03	4.91E-02	1.79E-06	6.39E-03	8.01E-02	2.92E-06	1.04E-02	3.57E-03	1.30E-07	3.94E-04
Road 30	30	1900-2000	8.98E-03	2.45E-07	8.77E-04	4.44E-02	1.21E-06	4.33E-03	5.34E-02	1.46E-06	5.21E-03	2.44E-03	6.67E-08	2.39E-04
Road 30	30	2000-2100	8.95E-03	1.92E-07	6.87E-04	4.06E-02	8.72E-07	3.12E-03	5.43E-02	1.17E-06	4.18E-03	2.46E-03	5.29E-08	1.89E-04
Road 30	30	2100-2200	8.65E-03	1.86E-07	6.64E-04	3.92E-02	8.44E-07	3.01E-03	5.25E-02	1.13E-06	4.04E-03	2.38E-03	5.12E-08	1.83E-04
Road 30	30	2200-2300	8.65E-03	1.86E-07	6.64E-04	3.92E-02	8.44E-07	3.01E-03	5.25E-02	1.13E-06	4.04E-03	2.38E-03	5.12E-08	1.83E-04
Road 30	30	2300-0000	9.73E-03	1.52E-07	5.43E-04	4.87E-02	7.61E-07	2.72E-03	5.84E-02	9.13E-07	3.26E-03	2.57E-03	4.01E-08	1.43E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	9.98E-03	1.77E-08	5.79E-04	4.01E-02	7.12E-08	2.32E-03	5.29E-02	9.37E-08	3.06E-03	2.87E-03	5.09E-09	1.66E-04
Road 31	31	0100-0200	9.66E-03	1.26E-08	4.12E-05	4.63E-02	6.06E-08	1.98E-04	5.60E-02	7.32E-08	2.39E-04	2.68E-03	3.50E-09	1.14E-05
Road 31	31	0200-0300	1.04E-02	1.01E-08	3.29E-05	4.87E-02	4.73E-08	1.54E-04	5.90E-02	5.74E-08	1.87E-04	2.87E-03	2.79E-09	9.11E-06
Road 31	31	0300-0400	1.31E-02	1.95E-08	6.35E-05	5.05E-02	7.51E-08	2.45E-04	5.94E-02	8.84E-08	2.88E-04	3.06E-03	2.39E-09	7.80E-06
Road 31	31	0400-0500	1.17E-02	1.02E-08	3.33E-05	5.22E-02	4.54E-08	1.48E-04	6.39E-02	5.56E-08	1.81E-04	3.25E-03	2.83E-09	9.22E-06
Road 31	31	0500-0600	1.15E-02	1.90E-08	6.18E-05	5.26E-02	8.27E-08	2.70E-04	6.42E-02	1.02E-07	3.31E-04	3.43E-03	5.56E-09	1.72E-05
Road 31	31	0600-0700	1.30E-02	4.35E-08	1.42E-04	5.58E-02	1.87E-07	6.09E-04	6.88E-02	2.30E-07	7.51E-04	3.61E-03	1.21E-08	3.93E-05
Road 31	31	0700-0800	1.35E-02	9.32E-08	3.04E-04	5.70E-02	3.92E-07	1.28E-03	7.05E-02	4.85E-07	1.58E-03	3.78E-03	2.60E-08	8.48E-05
Road 31	31	0800-0900	1.32E-02	1.05E-07	3.43E-04	5.45E-02	4.33E-07	1.41E-03	6.77E-02	5.38E-07	1.75E-03	3.75E-03	2.99E-08	9.75E-05
Road 31	31	0900-1000	1.52E-02	1.31E-07	3.44E-04	5.79E-02	4.96E-07	1.30E-03	7.79E-02	6.69E-07	1.76E-03	4.42E-03	3.79E-08	9.98E-05
Road 31	31	1000-1100	1.68E-02	1.06E-07	3.46E-04	6.48E-02	4.08E-07	1.33E-03	8.17E-02	5.14E-07	1.68E-03	4.81E-03	3.03E-08	9.88E-05
Road 31	31	1100-1200	1.27E-02	5.58E-08	1.81E-04	5.31E-02	2.34E-07	7.60E-04	6.20E-02	2.80E-07	9.12E-04	3.64E-03	1.61E-08	4.99E-05
Road 31	31	1200-1300	1.29E-02	1.27E-07	4.14E-04	5.38E-02	5.31E-07	1.73E-03	6.29E-02	6.20E-07	2.02E-03	3.69E-03	3.64E-08	1.19E-04
Road 31	31	1300-1400	1.25E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	1400-1500	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	1500-1600	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	1600-1700	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	1700-1800	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	1800-1900	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	1900-2000	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	2000-2100	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	2100-2200	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	2200-2300	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 31	31	2300-0000	1.29E-02	1.29E-07	4.20E-04	5.31E-02	5.48E-07	1.78E-03	6.09E-02	6.29E-07	2.05E-03	3.57E-03	3.68E-08	1.20E-04
Road 32	32	0000-0100	6.86E-03	6.90E-08	1.67E-03	3.92E-02	3.94E-07	9.55E-03	4.60E-02	4.63E-07	1.12E-02	1.84E-03	1.85E-08	4.49E-04
Road 32	32	0100-0200	6.86E-03	3.22E-08	7.79E-04	3.92E-02	1.84E-07	4.45E-03	4.60E-02	2.16E-07	5.22E-03	1.84E-03	8.65E-09	2.09E-04
Road 32	32	0200-0300	8.08E-03	3.93E-08	9.54E-04	4.28E-02	2.08E-07	5.05E-03	5.09E-02	2.48E-07	6.00E-03	2.18E-03	1.06E-08	2.57E-04
Road 32	32	0300-0400	9.26E-03	3.98E-08	9.64E-04	4.59E-02	1.97E-07	4.78E-03	5.51E-02	2.37E-07	5.74E-03	2.50E-03	1.08E-08	2.61E-04
Road 32	32	0400-0500	9.26E-03	3.98E-08	9.64E-04	4.59E-02	1.97E-07	4.78E-03	5.51E-02	2.37E-07	5.74E-03	2.50E-03	1.08E-08	2.61E-04
Road 32	32	0500-0600	9.83E-03	7.39E-08	1.79E-03	4.74E-02	3.56E-07	8.63E-03	5.72E-02	4.30E-07	1.04E-02	2.22E-03	1.67E-08	4.04E-04
Road 32	32	0600-0700	1.10E-02	3.64E-07	8.81E-03	5.03E-02	1.67E-06	4.04E-02	6.12E-02	2.03E-06	4.92E-02	2.99E-03	9.92E-08	2.40E-03
Road 32	32	0700-0800	1.10E-02	1.04E-06	2.84E-02	4.39E-02	9.86E-06	2.71E-01	5.73E-02	1.29E-05	3.54E-01	2.22E-03	5.00E-07	1.37E-02
Road 32	32	0900-1000	1.24E-02	4.18E-07	1.01E-02	5.33E-02	1.79E-06	4.35E-02	6.57E-02	2.21E-06	5.36E-02	3.56E-03	1.20E-07	2.90E-03
Road 32	32	1000-1100	1.38E-02	3.91E-07	9.48E-03	5.65E-02	1.60E-06	3.89E-02	7.02E-02	1.99E-06	4.83E-02	3.89E-03	1.10E-07	2.67E-03
Road 32	32	1100-1200	1.34E-02	3.41E-07	8.18E-03	5.37E-02	1.35E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.72E-03	9.29E-08	2.25E-03
Road 32	32	1200-1300	1.34E-02	3.41E-07	8.18E-03	5.37E-02	1.35E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.72E-03	9.29E-08	2.25E-03
Road 32	32	1300-1400	1.35E-02	3.41E-07	8.18E-03	5.37E-02	1.35E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.72E-03	9.29E-08	2.25E-03
Road 32	32	1400-1500	1.35E-02	3.41E-07	8.18E-03	5.37E-02	1.35E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.72E-03	9.29E-08	2.25E-03
Road 32	32	1500-1600	1.35E-02	3.41E-07	8.18E-03	5.37E-02	1.35E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.72E-03	9.29E-08	2.25E-03
Road 32	32	1600-1700	1.35E-02	3.41E-07	8.18E-03	5.37E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) — **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 54	54	0800-0900	3.144E-02	1.048E-02	2.153E-03	5.980E-03	1.522E-01	5.073E-02	1.042E-02	2.888E-02
Road 54	54	0900-1000	9.211E-02	3.329E-02	2.766E-03	3.400E-01	1.522E-01	5.068E-02	4.211E-03	1.556E-02
Road 54	54	1000-1100	1.02E-01	3.41E-02	2.84E-03	3.60E-01	1.22E-01	4.06E-02	3.38E-03	1.19E-02
Road 54	54	1100-1200	1.01E-01	3.38E-02	2.84E-03	3.58E-01	1.13E-01	3.77E-02	3.17E-03	1.11E-02
Road 54	54	1200-1300	1.26E-01	2.77E-02	2.30E-03	4.25E-01	9.34E-02	7.77E-03	1.51E-01	1.01E-02
Road 54	54	1300-1400	1.27E-01	3.95E-02	2.64E-03	4.64E-01	1.20E-01	3.98E-02	2.66E-03	1.40E-02
Road 54	54	1400-1500	1.24E-01	3.01E-02	2.50E-03	4.25E-01	1.03E-01	8.60E-03	5.49E-01	1.33E-02
Road 54	54	1500-1600	1.12E-01	2.82E-02	2.35E-03	4.25E-01	1.07E-01	8.90E-03	5.38E-01	1.32E-02
Road 54	54	1600-1700	1.34E-01	2.77E-02	2.30E-03	4.25E-01	1.07E-01	8.90E-03	5.38E-01	1.32E-02
Road 54	54	1700-1800	9.76E-02	2.27E-02	1.89E-03	3.84E-01	8.93E-02	7.43E-03	1.12E-01	1.26E-02
Road 54	54	1800-1900	1.20E-01	2.99E-02	2.49E-03	4.03E-01	1.44E-01	3.61E-02	2.99E-03	1.21E-02
Road 54	54	1900-2000	7.39E-02	1.01E-02	8.44E-04	2.84E-01	9.87E-02	2.47E-02	2.05E-03	9.47E-03
Road 54	54	2000-2100	5.91E-02	7.55E-03	6.28E-04	2.27E-01	7.89E-02	1.97E-02	1.64E-03	7.57E-03
Road 54	54	2100-2200	4.99E-02	6.37E-03	5.30E-04	1.92E-01	6.66E-02	1.67E-02	1.38E-03	6.39E-03
Road 54	54	2200-2300	7.38E-02	7.36E-03	2.68E-03	2.67E-02	2.23E-01	3.41E-02	9.53E-03	9.51E-03
Road 54	54	2300-2400	3.78E-02	4.82E-03	4.01E-04	1.45E-01	5.04E-02	1.26E-02	1.04E-03	4.84E-03
Road 101	101	0000-0100	1.52E-03	7.59E-08	1.10E-03	9.47E-04	1.97E-03	9.87E-08	1.41E-03	1.23E-03
Road 101	101	0100-0200	1.04E-03	5.41E-08	7.81E-04	9.90E-04	1.51E-03	7.85E-08	1.13E-03	1.44E-03
Road 101	101	0200-0300	6.62E-03	6.36E-08	6.30E-04	4.10E-02	2.70E-03	3.91E-03	4.76E-02	1.63E-04
Road 101	101	0300-0400	7.17E-03	3.74E-08	5.41E-04	4.24E-02	2.22E-03	3.20E-03	4.62E-02	1.14E-04
Road 101	101	0400-0500	7.26E-03	4.43E-08	6.41E-04	4.34E-02	2.56E-03	3.71E-03	5.36E-02	1.32E-04
Road 101	101	0500-0600	8.24E-03	8.25E-08	1.19E-03	4.52E-02	4.52E-03	6.54E-03	9.34E-02	2.31E-04
Road 101	101	0600-0700	1.01E-02	2.75E-07	3.98E-03	5.44E-02	5.35E-03	7.73E-03	1.12E-01	2.73E-04
Road 101	101	0700-0800	9.35E-03	4.09E-07	5.91E-03	4.82E-02	2.11E-03	3.05E-03	5.76E-02	2.52E-04
Road 101	101	0800-0900	9.06E-03	4.61E-07	6.67E-03	4.46E-02	2.27E-03	3.28E-03	5.36E-02	2.41E-04
Road 101	101	0900-1000	9.55E-03	4.50E-07	6.51E-03	4.70E-02	2.36E-03	3.41E-03	4.93E-02	2.49E-04
Road 101	101	1000-1100	1.20E-02	4.50E-07	6.51E-03	5.19E-02	2.95E-03	4.26E-03	6.16E-02	2.49E-04
Road 101	101	1100-1200	1.24E-02	4.34E-07	6.27E-03	5.18E-02	2.61E-02	6.42E-02	2.24E-06	3.24E-02
Road 101	101	1200-1300	1.24E-02	6.34E-07	6.27E-03	5.18E-02	1.81E-06	2.61E-02	6.42E-02	2.24E-06
Road 101	101	1300-1400	1.25E-02	4.49E-07	6.49E-03	5.35E-02	2.78E-02	6.85E-02	2.38E-06	3.44E-02
Road 101	101	1400-1500	1.25E-02	4.49E-07	6.49E-03	5.35E-02	2.78E-02	6.85E-02	2.38E-06	3.44E-02
Road 101	101	1500-1600	1.17E-02	4.57E-07	6.61E-03	5.30E-02	2.07E-06	2.99E-02	6.44E-02	2.53E-06
Road 101	101	1600-1700	1.35E-02	4.57E-07	6.61E-03	5.30E-02	2.07E-06	2.99E-02	6.44E-02	2.53E-06
Road 101	101	1700-1800	8.73E-03	4.02E-07	5.81E-03	4.45E-02	2.05E-06	2.96E-02	5.32E-02	2.45E-06
Road 101	101	1800-1900	1.08E-02	4.46E-07	6.44E-03	5.01E-02	2.52E-06	3.64E-02	5.26E-02	3.01E-06
Road 101	101	1900-2000	5.39E-03	2.10E-07	3.03E-03	2.56E-02	1.82E-02	3.77E-02	2.12E-02	1.43E-03
Road 101	101	2000-2100	5.23E-03	1.58E-07	2.29E-03	3.57E-02	1.08E-02	3.36E-02	2.06E-02	1.08E-03
Road 101	101	2100-2200	4.65E-03	1.41E-07	2.04E-03	3.55E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 101	101	2200-2300	4.62E-03	1.35E-07	1.96E-03	3.51E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 101	101	2300-2400	4.61E-03	1.34E-07	1.94E-03	3.50E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 102	102	0000-0100	7.59E-03	8.86E-08	1.20E-03	4.28E-02	5.00E-03	5.88E-07	7.98E-03	2.83E-02
Road 102	102	0100-0200	8.23E-03	6.33E-08	8.58E-04	4.45E-02	3.42E-03	4.07E-03	5.49E-03	2.73E-03
Road 102	102	0200-0300	4.27E-03	2.61E-07	3.54E-03	2.31E-02	1.77E-03	2.11E-03	2.86E-02	1.41E-03
Road 102	102	0300-0400	4.58E-03	4.35E-08	5.90E-04	4.84E-02	2.20E-02	2.62E-02	3.55E-02	1.46E-02
Road 102	102	0400-0500	4.39E-03	4.17E-08	5.66E-04	4.64E-02	2.11E-02	2.51E-02	3.41E-02	1.40E-02
Road 102	102	0500-0600	1.09E-02	9.60E-08	1.30E-03	5.19E-02	4.59E-02	6.22E-02	8.27E-02	2.64E-02
Road 102	102	0600-0700	1.15E-02	2.20E-07	2.99E-03	5.39E-02	4.85E-02	6.57E-02	8.91E-02	2.79E-02
Road 102	102	0700-0800	1.11E-02	5.39E-07	7.30E-03	5.23E-02	2.40E-02	3.26E-02	6.40E-02	2.94E-02
Road 102	102	0800-0900	1.17E-02	5.39E-07	7.30E-03	5.23E-02	2.40E-02	2.94E-02	3.99E-02	2.94E-02
Road 102	102	0900-1000	1.55E-02	5.65E-07	7.65E-03	6.17E-02	2.52E-02	3.05E-02	4.13E-02	3.04E-02
Road 102	102	1000-1100	1.55E-02	5.65E-07	7.65E-03	6.17E-02	2.52E-02	3.05E-02	4.13E-02	3.04E-02
Road 102	102	1100-1200	1.52E-02	5.94E-07	5.34E-03	6.08E-02	2.64E-02	3.19E-02	4.32E-02	3.19E-02
Road 102	102	1200-1300	1.25E-02	3.94E-07	5.34E-03	5.18E-02	2.63E-02	3.18E-02	4.30E-02	3.17E-02
Road 102	102	1300-1400	1.26E-02	4.08E-07	5.54E-03	5.35E-02	2.72E-02	3.29E-02	4.46E-02	3.29E-02
Road 102	102	1400-1500	1.24E-02	4.39E-07	5.95E-03	5.28E-02	2.86E-02	3.45E-02	4.68E-02	3.45E-02
Road 102	102	1500-1600	1.18E-02	4.15E-07	5.62E-03	5.28E-02	2.98E-02	3.60E-02	4.88E-02	3.60E-02
Road 102	102	1600-1700	1.78E-02	3.83E-07	4.92E-03	4.42E-02	2.48E-02	2.99E-02	3.84E-02	2.99E-02
Road 102	102	1700-1800	8.76E-03	3.83E-07	4.92E-03	4.42E-02	2.48E-02	2.99E-02	3.84E-02	2.99E-02
Road 102	102	1800-1900	6.20E-03	2.75E-07	3.71E-03	3.28E-02	1.46E-06	2.11E-02	3.96E-02	2.55E-06
Road 102	102	1900-2000	3.44E-03	1.53E-07	2.06E-03	1.82E-02	1.97E-02	4.09E-02	2.30E-02	1.55E-03
Road 102	102	2000-2100	2.98E-03	1.32E-07	1.78E-03	1.57E-02	1.46E-02	4.54E-02	2.37E-02	1.46E-03
Road 102	102	2100-2200	4.67E-03	1.23E-07	1.66E-03	2.47E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 102	102	2200-2300	3.32E-03	1.03E-07	1.39E-03	1.75E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 102	102	2300-2400	3.03E-03	9.41E-08	1.27E-03	1.60E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 103	103	0000-0100	1.44E-03	1.44E-08	2.04E-04	1.80E-04	1.87E-03	1.87E-08	2.65E-04	2.34E-04
Road 103	103	0100-0200	9.90E-04	1.03E-08	1.48E-04	1.88E-04	1.43E-03	1.49E-08	2.14E-04	2.73E-04
Road 103	103	0200-0300	6.29E-03	6.05E-08	5.99E-04	3.90E-02	2.57E-03	3.72E-03	4.52E-02	1.55E-04
Road 103	103	0300-0400	6.81E-03	3.55E-08	5.14E-04	4.03E-02	2.11E-03	3.04E-03	4.39E-02	1.08E-04
Road 103	103	0400-0500	6.90E-03	4.21E-08	6.09E-04	4.12E-02	2.43E-03	3.53E-03	5.09E-02	1.25E-04
Road 103	103	0500-0600	7.83E-03	7.84E-08	1.13E-03	4.30E-02	4.30E-03	6.21E-03	8.88E-02	2.19E-04
Road 103	103	0600-0700	9.60E-03	2.61E-07	3.78E-03	5.17E-02	5.08E-03	7.35E-03	1.06E-01	2.60E-04
Road 103	103	0700-0800	8.89E-03	3.89E-07	5.62E-03	4.58E-02	2.01E-03	2.90E-03	5.48E-02	2.39E-04
Road 103	103	0800-0900	8.61E-03	4.38E-07	6.34E-03	4.24E-02	2.16E-03	3.12E-03	5.09E-02	2.29E-04
Road 103	103	0900-1000	9.08E-03	4.28E-07	6.19E-03	4.47E-02	2.24E-03	3.24E-03	4.68E-02	2.37E-04
Road 103	103	1000-1100	1.14E-02	4.28E-07	6.19E-03	4.93E-02	2.80E-03	4.05E-03	5.85E-02	2.37E-04
Road 103	103	1100-1200	1.18E-02	4.12E-07	5.96E-03	4.92E-02	2.48E-02	6.10E-02	2.13E-06	3.08E-02
Road 103	103	1200-1300	1.18E-02	6.03E-07	5.96E-03	4.92E-02	1.72E-06	2.48E-02	6.10E-02	2.13E-06
Road 103	103	1300-1400	1.25E-02	4.49E-07	6.49E-03	5.35E-02	2.78E-02	6.85E-02	2.38E-06	3.44E-02
Road 103	103	1400-1500	1.25E-02	4.49E-07	6.49E-03	5.35E-02	2.78E-02	6.85E-02	2.38E-06	3.44E-02
Road 103	103	1500-1600	1.17E-02	4.57E-07	6.61E-03	5.30E-02	2.07E-06	2.99E-02	6.44E-02	2.53E-06
Road 103	103	1600-1700	1.35E-02	4.57E-07	6.61E-03	5.30E-02	2.07E-06	2.99E-02	6.44E-02	2.53E-06
Road 103	103	1700-1800	8.73E-03	4.02E-07	5.81E-03	4.45E-02	2.05E-06	2.96E-02	5.32E-02	2.45E-06
Road 103	103	1800-1900	1.08E-02	4.46E-07	6.44E-03	5.01E-02	2.52E-06	3.64E-02	5.26E-02	3.01E-06
Road 103	103	1900-2000	5.39E-03	2.10E-07	3.03E-03	2.56E-02	1.82E-02	3.77E-02	2.12E-02	1.43E-03
Road 103	103	2000-2100	5.23E-03	1.58E-07	2.29E-03	3.57E-02	1.08E-02	3.36E-02	2.06E-02	1.08E-03
Road 103	103	2100-2200	4.65E-03	1.41E-07	2.04E-03	3.55E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 103	103	2200-2300	4.62E-03	1.35E-07	1.96E-03	3.51E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03
Road 103	103	2300-2400	4.61E-03	1.34E-07	1.94E-03	3.50E-02	1.27E-02	3.94E-02	2.06E-02	1.27E-03

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (February) — **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 103	103	1600-1700	1.19E-02	5.48E-07	4.81E-03	5.19E-02	2.83E-06	2.02E-02	2.94E-06	2.58E-02
Road 103	103	1700-1800	8.50E-03	4.42E-07	3.88E-03	4.56E-02	2.37E-06	2.08E-02	5.41E-02	2.81E-06
Road 103	103	1800-1900	6.51E-03	3.27E-07	3.32E-03	3.60E-02	2.02E-06	2.11E-02	1.63E-03	9.23E-08
Road 103	103	1900-2000	3.57E-03	2.31E-07	2.02E-03	3.22E-02	1.43E-06	3.26E-02	3.73E-02	1.66E-06
Road 103	103	2000-2100	4.96E-03	1.72E-07	1.51E-03	3.50E-02	1.21E-06	1.06E-02	3.99E-02	1.38E-06
Road 103	103	2100-2200	3.90E-03	1.51E-07	1.33E-03	3.50E-02	1.21E-06	1.06E-02	3.99E-02	1.38E-06
Road 103	103	2200-2300	4.30E-03	1.44E-07	1.27E-03	3.43E-02	1.21E-06	1.06E-02	3.99E-02	1.38E-06
Road 103	103	2300-2400	4.80E-03	1.21E-07	1.06E-03	3.55E-02	8.91E-07	7.84E-03	4.03E-02	1.01E-06
Road 104	104	0000-0100	8.21E-03	9.19E-08	1.40E-03	4.47E-02	5.01E-07	3.72E-06	5.25E-02	5.01E-07
Road 104	104	0100-0200	8.89E-03	6.57E-08	4.88E-04	4.65E-02	3.43E-07	2.55E-06	5.53E-02	4.09E-07
Road 104	104	0200-0300	6.31E-03	6.06E-08	5.99E-04	3.91E-02	2.57E-03	3.72E-03	4.52E-02	1.55E-04
Road 104	104	0300-0400	1.03E-02	4.51E-08	3.35E-04	5.06E-02	2.22E-07	1.65E-03	6.08E-02	2.67E-07
Road 104	104	0400-0500	1.09E-02	6.04E-08	4.49E-04	5.22E-02	2.55E-07	1.89E-03	6.32E-02	3.08E-07
Road 104	104	0500-0600	1.34E-02	9.94E-08	7.38E-04	5.99E-02	4.49E-06	2.61E-02	6.54E-02	2.51E-06
Road 104	104	0600-0700	1.22E-02	2.28E-07	1.70E-03	5.79E-02	2.61E-06	1.52E-02	7.22E-03	1.81E-07
Road 104	104	0700-0800	1.29E-02	3.79E-07	2.81E-03	6.14E-02	2.64E-06	1.54E-02	7.08E-03	1.77E-07
Road 104	104	0800-0900	1.26E-02	6.43E-07	4.77E-03	6.02E-02	2.49E-06	1.45E-02	6.82E-03	3.05E-06
Road 104	104	0900-1000	1.66E-02	5.96E-07	4.43E-03	6.51E-02	2.36E-06	1.75E-02	8.16E-02	2.95E-06
Road 104	104	1000-1100	1.66E-02	5.96E-07	4.43E-03	6.51E-02	2.36E-06	1.75E-02	8.16E-02	2.95E-06
Road 104	104	1100-1200	1.60E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	3.05E-06	2.27E-02
Road 104	104	1200-1300	1.46E-02	5.85E-07	4.15E-03	6.27E-02	2.51E-06	1.86E-02	7.70E-02	2.19E-06
Road 104	104	1300-1400	1.03E-02	2.58E-07	1.91E-03	4.74E-02	1.18E-06	8.80E-03	5.77E-02	1.44E-06
Road 104	104	1400-1500	1.03E-02	2.58E-07	1.91E-03	4.74E-02	1.18E-06	8.80E-03	5.77E-02	1.44E-06
Road 104	104	1500-1600	9.80E-03	2.45E-07	1.82E-03	4.50E-02	1.12E-06	8.36E-03	5.48E-02	1.37E-06
Road 104	104	1600-1700	1.04E-02	3.05E-07	2.27E-03	4.56E-02	1.33E-06	9.92E-03	5.60E-02	1.64E-06
Road 104	104	1700-1800	9.80E-03	2.45E-07	1.82E-03	4.50E-02	1.12E-06	8.36E-03	5.48E-02	1.37E-06
Road 104	104	1800-1900	9.58E-03	2.51E-07	1.87E-03	4.40E-02	1.15E-06	8.57E-03	5.36E-02	1.41E-06
Road 104	104	1900-2000	4.42E-03	1.01E-07	7.53E-04	3.32E-02	7.62E-03	1.91E-02	1.06E-02	7.23E-04
Road 104	104	2000-2100	4.15E-03	1.09E-07	8.11E-04	3.18E-02	7.15E-03	1.79E-02	9.98E-03	6.79E-04
Road 104	104	2100-2200	4.15E-03	1.09E-07	8.11E-04	3.18E-02	7.15E-03	1.79E-02	9.98E-03	6.79E-04
Road 104	104	2200-2300	4.15E-03	1.09E-07	8.11E-04	3.18E-02	7.15E-03	1.79E-02	9.98E-03	6.79E-04
Road 104	104	2300-2400	4.16E-03	1.09E-07	8.11E-04	3.18E-02	7.15E-03	1.79E-02	9.98E-03	6.79E-04
Road 105	105	0000-0100	1.52E-03	7.59E-08	1.10E-03	9.47E-04	1.97E-03	9.87E-08	1.41E-03	1.23E-03
Road 105	105	0100-0200	1.04E-03	5.41E-08	7.81E-04	9.90E-04	1.51E-03	7.85E-08	1.13E-03	1.44E-03
Road 105	105	0200-0300	6.62E-03	6.36E-08	6.30E-04	4.10E-02	2.70E-03	3.91E-03	4.76E-02	1.63E-04
Road 105	105	0300-0400	7.17E-03	3.74E-08	5.41E-04	4.24E-02	2.22E-03	3.20E-03	4.62E-02	1.14E-04
Road 105	105	0400-0500	7.26E-03	4.43E-08	6.41E-04	4.34E-02	2.56E-03	3.71E-03	5.36E-02	1.32E-04
Road 105	105	0500-0600	8.24E-03	8.25E-08	1.19E-03	4.52E-02	4.52E-03	6.54E-03	9.34E-02	2.31E-04
Road 105	105	0600-0700	1.01E-02	2.75E-07	3.98E-03	5.44E-02	5.35E-03	7.73E-03	1.12E-01	2.73E-04
Road 105	105	0700-0800	9.35E-03	4.09E-07	5.91E-03	4.82E-02	2.11E-03	3.05E-03	5.76E-02	2.52E-04
Road 105	105	0800-0900	9.06E-03	4.61E-07	6.67E-03	4.46E-02	2.27E-03	3.28E-03	5.36E-02	2.41E-04
Road 105	105	0900-1000	2.87E-02	1.91E-07	2.90E-03	1.18E-01	7.88E-07	1.20E-02	1.47E-01	9.79E-07
Road 105	105	1000-1100	3.16E-02	1.23E-07	1.87E-03	1.30E-01	8.69E-07	3.39E-03	1.62E-01	4.49E-07
Road 105	105	1100-1200	2.97E-02	1.67E-07	2.54E-03	1.19E-01	6.67E-07	1.01E-02	1.48E-01	8.34E-07
Road 105	105	1200-1300	2.97E-02	1.67E-07	2.54E-03	1.19E-01	6.67E-07	1.01E-02	1.48E-01	8.34E-07
Road 105	105	1300-1400	4.95E-02	1.25E-07	1.90E-03	2.01E-01	4.56E-07	6.93E-03	2.30E-01	5.81E-07
Road 105	105	1400-1500	5.04E-02	1.27E-07	1.93E-03	1.78E-01	4.49E-07	6.83E-03	2.34E-01	5.76E-07
Road 105	105	1500-1600	4.84E-02	1.19E-07	1.81E-03	1.76E-01	4.33E-07	6.59E-03	2.24E-01	5.56E-07
Road 105	105	1600-1700	4.84E-02	1.19E-07	1.81E-03	1.76E-01	4.33E-07	6.59E-03	2.24E-01	5.56E-07
Road 105	105	1700-1800	3.37E-02	5.98E-08	8.91E-04	1.44E-01	2.50E-07	3.80E-03	1.77E-01	3.08E-07
Road 105	105	1800-1900	3.37E-02	5.98E-08	8.91E-04	1.44E-01	2.50E-07	3.80E-03	1.77E-01	3.08E-07
Road 105	105	1900-2000	3.01E-02	2.85E-08	4.33E-04	1.30E-01	1.23E-07	1.87E-03	1.61E-01	1.52E-07
Road 105	105	2000-2100	3.01E-02	2.85E-08	4.33E-04	1.30E-01	1.23E-07	1.87E-03	1.61E-01	1.52E-07
Road 105	105	2100-2200	3.04E-02	2.92E-08	4.43E-04	1.31E-01	1.26E-07	1.92E-03	1.62E-01	1.56E-07
Road 105	105	2200-2300	3.04E-02	2.92E-08	4.43E-04	1.31E-01	1.26E-07	1.92E-03	1.62E-01	1.56E-07
Road 105	105	2300-2400	3.04E-02	2.92E-08	4.43E-04	1.31E-01	1.26E-07	1.92E-03	1.62E-01	1.56E-07
Road 106	106	0000-0100	1.26E-02	1.30E-08	3.80E-04	6.99E-02	1.72E-07	1.98E-03	7.85E-02	2.05E-07
Road 106	106	0100-0200	1.26E-02	9.42E-08	8.15E-07	9.37E-03	1.15E-03	9.95E-07	1.15E-02	3.34E-03
Road 106	106	0200-0300	2.11E-02	1.82E-07	2.10E-03	9.42E-02	8.15E-07	9.37E-03	1.15E-03	9.95E-07
Road 106	106	0300-0400	1.42E-02	1.22E-07	1.41E-03	2.00E-06	2.72E-07	1.41E-03	2.48E-06	2.85E-02
Road 106	106	0400-0500	1.42E-02	1.22E-07	1.41E-03	2.00E-06	2.72E-07	1.41E-03	2.48E-06	2.85E-02
Road 106	106	0500-0600	1.42E-02	1.22E-07	1.41E-03	2.00E-06	2.72E-07	1.41E-03	2.48E-06	2.85E-02
Road 106	106	0600-0700	2.11E-02	1.82E-07	2.10E-03	9.42E-02	8.15E-07	9.37E-03	1.15E-03	9.95E-07
Road 106	106	0700-0800	2.75E-02	4.74E-07	5.46E-03	1.14E-01	2.00E-06	2.77E-02	6.08E-02	5.64E-06
Road 106	106	0800-0900	2.75E-02	4.74E-07	5.46E-03	1.14E-01	2.00E-06	2.77E-02	6.08E-02	5.64E-06
Road 106	106	0900-1000	3.29E-02	5.78E-07	6.66E-03	1.35E-01	2.37E-06	2.73E-02	1.68E-01	2.95E-06
Road 106	106	1000-1100	3.37E-02	4.95E-07	5.71E-03	1.34E-01	1.91E-06	2.27E-02	1.68E-01	2.37E-06
Road 106	106	1100-1200	3.37E-02	4.95E-07	5.71E-03	1.34E-01	1.91E-06	2.27E-02	1.68E-01	2.37E-06
Road 106	106	1200-1300	3.37E-02	4.95E-07	5.71E-03	1.34E-01	1.91E-06	2.27E-02	1.68E-01	2.37E-06
Road 106	106	1300-1400	5.61E-02	1.23E-06	1.42E-02	2.14E-01	4.69E-06	5.41E-02	2.70E-01	5.92E-06
Road 106	106	1400-1500	5.83E-02	1.34E-06	1.54E-02	2.15E-01	4.93E-06	5.69E-02	2.74E-01	6.27E-06
Road 106	106	1500-1600	5.46E-02	1.32E-06	1.53E-02	2.03E-01	4.92E-06	5.67E-02	2.58E-01	6.24E-06
Road 106	106	1600-1700	5.46E-02	1.32E-06	1.53E-02	2.03E-01	4.92E-06	5.67E-02	2.58E-01	6.24E-06
Road 106	106	1700-1800	7.76E-02	7.39E-07	8.51E-03	1.21E-01	3.24E-06	3.74E-02	1.49E-01	3.98E-06
Road 106	106	1800-1900	7.76E-02	7.39E-07	8.51E-03	1.21E-01	3.24E-06	3.74E-02	1.49E-01	3.98E-06
Road 106	106	1900-2000	1.96E-02	4.05E-07	4.66E-03	8.94E-02	1.85E-06	2.13E-02	1.09E-01	2.25E-06
Road 106	106	2000-2100	1.68E-02	2.71E-07	3.13E-03	8.55E-02	1.38E-06	1.59E-02	1.02E-01	1.65E-06
Road 106	106	2100-2200	1.59E-02	2.58E-07	2.97E-03	8.42E-02	1.36E-06	1.57E-02	1.00E-01	1.62E-06
Road 106	106	2200-2300	1.57E-02	2.38E-07	2.74E-03	8.29E-02	1.36E-06	1.57E-02	1.00E-01	1.62E-06
Road 106	106	2300-2400	1.57E-02	1.84E-07	2.12E-03	7.84E-02	9.19E-07	1.06E-02	9.41E-02	1.10E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.12E-02	3.45E-06	3.59E-04	1.51E-02	3.78E-03	3.93E-04	2.84E-03	9.35E-07	9.33E-05
Road 21	21	0100-0200	1.26E-02	5.72E-06	2.76E-04	5.48E-02	2.50E-05	1.21E-03	5.22E-03	4.98E-04	2.41E-05
Road 21	21	0200-0300	1.41E-02	4.88E-08	2.35E-04	5.81E-02	2.01E-07	9.68E-04	7.22E-02	2.49E-07	1.20E-03
Road 21	21	0300-0400	1.56E-02	4.40E-08	2.12E-04	6.15E-02	1.74E-07	8.37E-04	7.71E-02	2.18E-07	1.05E-03
Road 21	21	0400-0500	1.58E-02	4.93E-08	2.38E-04	6.27E-02	1.95E-07	9.43E-04	7.85E-02	2.45E-07	1.18E-03
Road 21	21	0500-0600	1.44E-02	9.92E-08	3.22E-04	5.38E-02	3.71E-07	1.21E-03	6.77E-02	4.67E-07	1.52E-03
Road 21	21	0600-0700	1.45E-02	1.63E-07	7.87E-04	6.39E-02	7.20E-07	3.47E-03	7.84E-02	8.83E-07	4.25E-03
Road 21	21	0700-0800	1.68E-02	3.97E-07	1.91E-03	6.99E-02	1.65E-06	7.96E-03	8.67E-02	2.05E-06	9.87E-03
Road 21	21	0800-0900	1.68E-02	2.05E-06	8.89E-03	6.32E-02	7.72E-06	3.35E-02	7.83E-02	9.56E-06	4.15E-02
Road 21	21	0900-1000	2.06E-02	5.17E-07	2.50E-03	8.28E-02	2.07E-06	1.00E-02	9.97E-03	2.49E-07	1.20E-03
Road 21	21	1000-1100	2.05E-02	4.44E-07	2.14E-03	8.01E-02	1.73E-06	8.35E-03	9.91E-03	2.14E-07	1.03E-03
Road 21	21	1100-1200	2.05E-02	4.44E-07	2.14E-03	8.01E-02	1.73E-06	8.35E-03	5.29E-03	1.14E-07	5.51E-04
Road 21	21	1200-1300	2.04E-02	8.47E-07	4.08E-03	8.01E-02	3.32E-06	1.60E-02	5.29E-03	2.19E-07	1.06E-03
Road 21	21	1300-1400	2.51E-02	5.62E-07	2.71E-03	9.83E-02	2.20E-06	1.06E-02	6.24E-03	1.40E-07	6.74E-04
Road 21	21	1400-1500	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	6.26E-03	1.44E-07	6.95E-04
Road 21	21	1500-1600	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	6.26E-03	1.44E-07	6.95E-04
Road 21	21	1600-1700	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	6.26E-03	1.44E-07	6.95E-04
Road 21	21	1700-1800	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	6.26E-03	1.44E-07	6.95E-04
Road 21	21	1800-1900	2.51E-02	5.62E-07	2.71E-03	9.83E-02	2.20E-06	1.06E-02	6.24E-03	1.40E-07	6.74E-04
Road 21	21	1900-2000	2.51E-02	1.79E-07	8.62E-04	9.83E-02	7.00E-07	3.37E-03	6.24E-03	4.46E-08	2.14E-04
Road 21	21	2000-2100	2.51E-02	1.79E-07	8.62E-04	9.83E-02	7.00E-07	3.37E-03	6.24E-03	4.46E-08	2.14E-04
Road 21	21	2100-2200	2.05E-02	1.38E-07	6.66E-04	8.03E-02	5.42E-07	2.61E-03	5.09E-03	3.44E-08	1.65E-04
Road 21	21	2200-2300	2.05E-02	1.38E-07	6.66E-04	8.03E-02	5.42E-07	2.61E-03	5.09E-03	3.44E-08	1.65E-04
Road 21	21	2300-0000	1.18E-02	1.31E-07	5.45E-04	5.48E-02	6.09E-07	2.53E-03	3.02E-03	3.35E-08	1.39E-04
Road 22	22	0000-0100	1.28E-02	8.34E-06	4.64E-04	3.02E-03	4.85E-01	5.92E-07	3.85E-03	1.12E-02	1.37E-06	8.91E-05
Road 22	22	0100-0200	1.43E-02	9.32E-06	4.61E-04	3.37E-03	5.42E-01	5.88E-07	4.30E-03	1.25E-02	1.36E-06	8.84E-05
Road 22	22	0200-0300	9.92E-03	6.59E-08	2.49E-04	3.60E-03	2.40E-05	1.56E-03	4.59E-03	3.05E-07	1.15E-03	7.49E-06
Road 22	22	0300-0400	1.05E-02	6.98E-08	2.64E-04	3.81E-03	2.54E-05	1.65E-03	4.86E-03	3.23E-07	1.22E-03	7.93E-06
Road 22	22	0400-0500	1.03E-02	6.68E-08	4.35E-04	3.71E-03	2.42E-07	1.58E-03	4.74E-03	3.09E-07	2.01E-03	1.31E-05
Road 22	22	0500-0600	1.15E-02	1.37E-07	8.93E-04	4.15E-03	4.95E-07	3.23E-03	5.30E-03	6.31E-07	4.11E-03	2.68E-05
Road 22	22	0600-0700	1.21E-02	2.87E-07	1.87E-03	4.37E-03	1.04E-06	6.77E-03	5.58E-03	1.32E-06	8.61E-03	5.62E-05
Road 22	22	0700-0800	1.44E-02	8.34E-07	5.43E-03	5.08E-03	2.94E-06	1.91E-02	6.52E-03	3.77E-06	2.45E-02	1.37E-02	7.92E-05	5.16E-04
Road 22	22	0800-0900	1.50E-02	1.14E-06	7.39E-03	5.49E-03	4.16E-06	2.71E-02	6.99E-03	5.30E-06	3.45E-02	1.47E-02	1.11E-04	7.23E-04
Road 22	22	0900-1000	1.50E-02	1.14E-06	7.39E-03	5.49E-03	4.16E-06	2.71E-02	6.99E-03	5.30E-06	3.45E-02	1.47E-02	1.11E-04	7.23E-04
Road 22	22	1000-1100	1.61E-02	1.12E-06	7.27E-03	5.62E-03	3.90E-06	2.54E-02	7.23E-03	5.02E-06	3.27E-02	1.48E-02	1.03E-04	6.68E-04
Road 22	22	1100-1200	1.66E-02	1.19E-06	7.21E-03	5.55E-03	3.96E-06	2.58E-02	7.21E-03	5.14E-06	3.34E-02	1.46E-02	1.04E-04	6.76E-04
Road 22	22	1200-1300	1.66E-02	1.19E-06	7.21E-03	5.55E-03	3.96E-06	2.58E-02	7.21E-03	5.14E-06	3.34E-02	1.46E-02	1.04E-04	6.76E-04
Road 22	22	1300-1400	1.63E-02	1.31E-06	8.44E-03	5.44E-03	4.41E-06	2.87E-02	7.17E-03	5.70E-06	3.71E-02	1.49E-02	1.18E-04	7.69E-04
Road 22	22	1400-1500	1.63E-02	1.30E-06	8.44E-03	5.44E-03	4.41E-06	2.87E-02	7.17E-03	5.70E-06	3.71E-02	1.49E-02	1.18E-04	7.69E-04
Road 22	22	1500-1600	1.66E-02	1.21E-06	7.85E-03	5.55E-03	4.09E-06	2.66E-02	7.38E-03	5.31E-06	3.45E-02	1.46E-02	1.07E-04	6.97E-04
Road 22	22	1600-1700	1.56E-02	1.21E-06	7.85E-03	5.42E-03	4.09E-06	2.66E-02	7.24E-03	5.31E-06	3.45E-02	1.52E-02	1.18E-04	7.66E-04
Road 22	22	1700-1800	1.32E-02	9.45E-07	6.15E-03	5.17E-03	3.71E-06	2.41E-02	6.89E-03	4.95E-06	3.03E-02	1.27E-02	9.12E-05	5.93E-04
Road 22	22	1800-1900	1.39E-02	9.96E-07	6.47E-03	5.17E-03	3.71E-06	2.41E-02	6.89E-03	4.95E-06	3.03E-02	1.27E-02	9.12E-05	5.93E-04
Road 22	22	1900-2000	1.07E-02	1.79E-07	8.62E-04	5.56E-03	9.43E-07	4.54E-03	5.09E-03	8.49E-07	4.08E-03	2.64E-05	4.43E-04	2.86E-03
Road 22	22	2000-2100	1.07E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	4.68E-02	8.51E-07	4.10E-03	2.86E-03	3.75E-04	2.81E-04
Road 22	22	2100-2200	1.07E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	4.68E-02	8.51E-07	4.10E-03	2.86E-03	3.75E-04	2.81E-04
Road 22	22	2200-2300	1.18E-02	1.31E-07	5.45E-04	5.48E-02	6.09E-07	2.53E-03	4.68E-02	7.22E-07	3.27E-03	2.53E-03	3.75E-04	2.81E-04
Road 22	22	2300-0000	1.18E-02	1.31E-07	5.45E-04	5.48E-02	6.09E-07	2.53E-03	4.68E-02	7.22E-07	3.27E-03	2.53E-03	3.75E-04	2.81E-04
Road 23	23	0000-0100	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	4.35E-01	5.92E-07	3.85E-03	1.12E-02	1.37E-06	8.91E-05
Road 23	23	0100-0200	1.17E-01	1.43E-07	9.32E-04	4.24E-01	5.18E-07	3.37E-03	4.86E-01	5.88E-07	4.30E-03	1.25E-02	1.36E-06	8.84E-05
Road 23	23	0200-0300	9.92E-02	6.59E-08	2.49E-04	3.60E-01	2.40E-07	1.56E-03	4.59E-01	3.05E-07	1.15E-03	7.49E-06	9.94E-06
Road 23	23	0300-0400	1.05E-01	6.98E-08	2.64E-04	3.81E-01	2.54E-07	1.65E-03	4.86E-01	3.23E-07	1.22E-03	7.93E-06	1.05E-05
Road 23	23	0400-0500	1.03E-01	6.68E-08	4.35E-04	3.71E-01	2.42E-07	1.58E-03	4.74E-01	3.09E-07	2.01E-03	1.31E-05	1.72E-04	1.12E-03
Road 23	23	0500-0600	1.15E-01	1.37E-07	8.93E-04	4.15E-01	4.95E-07	3.23E-03	5.30E-01	6.31E-07	4.11E-03	2.68E-05	3.51E-04	2.29E-03
Road 23	23	0600-0700	1.21E-01	2.87E-07	1.87E-03	4.37E-01	1.04E-06	6.77E-03	5.58E-01	1.32E-06	8.61E-03	5.62E-05	7.37E-04	4.80E-03
Road 23	23	0700-0800	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	6.52E-01	3.77E-06	2.45E-02	1.37E-02	7.92E-05	5.16E-04
Road 23	23	0800-0900	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02	1.47E-02	1.11E-04	7.23E-04
Road 23	23	0900-1000	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02	1.47E-02	1.11E-04	7.23E-04
Road 23	23	1000-1100	1.61E-01	1.12E-06	7.27E-03	5.62E-01	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02	1.48E-02	1.03E-04	6.68E-04
Road 23	23	1100-1200	1.66E-01	1.19E-06	7.21E-03	5.55E-01	3.96E-06	2.58E-02	7.21E-01	5.14E-06	3.34E-02	1.46E-02	1.04E-04	6.76E-04
Road 23	23	1200-1300	1.66E-01	1.19E-06	7.21E-03	5.55E-01	3.96E-06	2.58E-02	7.21E-01	5.14E-06	3.34E-02	1.46E-02	1.04E-04	6.76E-04
Road 23	23	1300-1400	1.63E-01	1.31E-06	8.44E-03	5.44E-01	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02	1.49E-02	1.18E-04	7.69E-04
Road 23	23	1400-1500	1.63E-01	1.30E-06	8.44E-03	5.44E-01	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02	1.49E-02	1.18E-04	7.69E-04
Road 23	23	1500-1600	1.66E-01	1.21E-06	7.85E-03	5.55E-01	4.09E-06	2.66E-02	7.38E-01	5.31E-06	3.45E-02	1.46E-02	1.07E-04	6.97E-04
Road 23	23	1600-1700	1.56E-01	1.21E-06	7.85E-03	5.42E-01	4.09E-06	2.66E-02	7.24E-01	5.31E-06	3.45E-02	1.52E-02	1.18E-04	7.66E-04
Road 23	23	1700-1800	1.32E-01	9.45E-07	6.15E-03	5.17E-01	3.71E-06	2.41E-02	6.89E-01	4.95E-06	3.03E-02	1.27E-02	9.12E-05	5.93E-04
Road 23	23	1800-1900	1.39E-01	9.96E-07	6.47E-03	5.17E-01	3.71E-06	2.41E-02	6.89E-01	4.95E-06	3.03E-02	1.27E-02	9.12E-05	5.93E-04
Road 23	23	1900-2000	1.07E-01	1.79E-07	8.62E-04	5.56E-01	9.43E-07	4.54E-03	5.09E-01	8.49E-07	4.08E-03	2.64E-05	4.43E-04	2.86E-03
Road 23	23	2000-2100	1.07E-01	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	4.68E-02	8.51E-07	4.10E-03	2.86E-03	3.75E-04	2.81E-04
Road 23	23	2100-2200	1.07E-01	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	4.68E-02	8.51E-07	4.10E-03	2.86E-03	3.75E-04	2.81E-04
Road 23	23	2200-2300	1.18E-01	1.31E-07	5.45E-04	5.48E-02	6.09E-07	2.53E-03	4.68E-02	7.22E-07	3.27E-03	2.53E-03	3.75E-04	2.81E-04
Road 23	23	2300-0000	1.18E-01	1.31E-07	5.45E-04	5.48E-02	6.09E-07	2.53E-03	4.68E-02	7.22E-07	3.27E-03	2.53E-03	3.75E-04	2.81E-04
Road 24	24	0000-0100	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	4.35E-01	5.92E-07	3.85E-03	1.12E-02	1.37E-06	8.91E-05
Road 24	24	0100-0200	1.17E-01	1.43E-07	9.32E-04	4.24E-01	5.18E-07	3.37E-03	4.86E-01	5.88E-07	4.30E-03	1.25E-02	1.36E-06	8.84E-05
Road 24	24	0200-0300	9.92E-02	6.59E-08	2.49E-04	3.60E-01	2.40E-07	1.56E-03	4.59E-01	3.05E-07	1.15E-03	7.49E-06	9.94E-06
Road 24	24	0300-0400	1.05E-01	6.98E-08	2.64E-04	3.81E-01	2.54E-07	1.65E-03	4.86E-01	3.23E-07	1.22E-03	7.93E-06	1.05E-05
Road 24	24	0400-0500	1.03E-01	6.68E-08	4.35E-04	3.71E-01	2.42E-07	1.58E-03	4.74E-01	3.09E-07	2.01E-03	1.31E-05	1.72E-04	1.12E-03
Road 24	24	0500-0600	1.07E-01	1.37E-07	8.93E-04	3.85E-01	4.95E-07	3.23E-03	4.91E-01	6.31E-07	4.11E-03	2.68E-05	3.51E-04	2.29E-03
Road 24	24	0600-0700	1.19E-01	2.87E-07	1.87E-03	4.29E-01	1.04E-06	6.77E-03	5.47E-01	1.32E-06	8.61E-03	5.62E-05	7.37E-04	4.80E-03
Road 24	24	0700-0800	1.31E-01	2.12E-07	1.94E-04	4.67E-01	7.56E-07	6.92E-04	5.99E-01	9.69E-07	8.87E-04	1.36E-02	2.20E-06	2.01E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 24	24	0800-0900	1.26E-02	2.75E-07	2.51E-04	4.72E-01	1.03E-06	9.38E-04	5.98E-01	1.30E-06	1.19E-03	1.34E-02	2.91E-06	2.66E-05
Road 24	24	0900-1000	1.26E-02	2.75E-07	2.51E-04	4.72E-01	1.03E-06	9.38E-04	5.98E-01	1.30E-06	1.19E-03	1.34E-02	2.91E-06	2.66E-05
Road 24	24	1000-1100	1.35E-01	2.89E-07	2.65E-04	4.78E-01	1.02E-06	9.36E-04	6.13E-01	1.31E-06	1.20E-03	1.40E-02	3.00E-06	2.74E-05
Road 24	24	1100-1200	1.35E-01	2.70E-07	2.47E-04	4.79E-01	9.60E-07	8.79E-04	6.14E-01	1.23E-06	1.13E-03	1.39E-02	2.79E-06	2.56E-05
Road 24	24	1200-1300	1.41E-01	2.86E-07	2.62E-04	4.80E-01	9.70E-07	8.88E-04	6.21E-01	1.26E-06	1.15E-03	1.44E-02	2.91E-06	2.66E-05
Road 24	24	1300-1400	1.41E-01	2.86E-07	2.62E-04	4.80E-01	9.70E-07	8.88E-04	6.21E-01	1.26E-06	1.15E-03	1.44E-02	2.91E-06	2.66E-05
Road 24	24	1400-1500	1.46E-01	3.20E-07	3.01E-04	5.02E-01	1.10E-06	1.04E-03	6.48E-01	1.46E-06	1.34E-03	1.45E-02	3.28E-06	3.00E-05
Road 24	24	1500-1600	1.30E-01	3.07E-07	2.81E-04	4.96E-01	1.17E-06	1.07E-03	6.26E-01	1.48E-06	1.35E-03	1.35E-02	3.18E-06	2.91E-05
Road 24	24	1600-1700	1.30E-01	2.90E-07	2.65E-04	4.96E-01	1.10E-06	1.01E-03	6.06E-01	1.35E-06	1.24E-03	1.31E-02	2.92E-06	2.67E-05
Road 24	24	1700-1800	1.16E-01	2.28E-07	2.08E-04	4.63E-01	9.11E-07	8.34E-04	5.79E-01	1.14E-06	1.04E-03	1.24E-02	2.43E-06	2.22E-05
Road 24	24	1800-1900	1.22E-01	2.39E-07	2.19E-04	4.63E-01	9.11E-07	8.34E-04	5.79E-01	1.14E-06	1.04E-03	1.24E-02	2.43E-06	2.22E-05
Road 24	24	1900-2000	9.89E-02	8.82E-08	8.07E-05	3.92E-01	3.50E-07	3.20E-04	4.91E-01	4.38E-07	4.01E-04	1.13E-02	1.00E-06	9.18E-06
Road 24	24	2000-2100	9.14E-02	8.15E-08	7.46E-05	3.62E-01	3.23E-07	2.96E-04	4.54E-01	4.04E-07	3.32E-04	1.04E-02	9.29E-07	8.50E-06
Road 24	24	2100-2200	9.14E-02	6.12E-08	5.59E-05	3.62E-01	2.42E-07	2.21E-04	4.54E-01	3.03E-07	2.77E-04	1.04E-02	6.97E-07	6.37E-06
Road 24	24	2200-2300	6.97E-02	6.25E-08	4.61E-05	2.76E-01	2.48E-07	1.82E-04	3.46E-01	3.11E-07	2.28E-04	7.97E-03	7.13E-07	5.24E-06
Road 24	24	2300-0000	6.51E-02	5.84E-08	4.31E-05	2.58E-01	2.31E-07	1.70E-04	3.23E-01	2.90E-07	2.13E-04	7.44E-03	6.66E-07	4.90E-06
Road 25	25	0000-0100	1.03E-01	9.03E-08	2.13E-04	3.72E-01	3.25E-07	7.67E-04	4.26E-01	3.72E-07	8.78E-04	1.10E-02	9.61E-07	2.27E-05
Road 25	25	0100-0200	1.04E-01	9.20E-08	2.18E-04	3.76E-01	3.31E-07	7.81E-04	4.31E-01	3.79E-07	8.94E-04	1.11E-02	9.79E-07	2.31E-05
Road 25	25	0200-0300	1.05E-01	2.56E-08	2.38E-05	3.79E-01	9.21E-08	8.58E-05	4.84E-01	1.18E-07	1.10E-04	1.22E-02	2.96E-07	2.76E-06
Road 25	25	0300-0400	1.06E-01	2.19E-08	2.04E-05	3.83E-01	7.91E-08	7.36E-05	4.89E-01	1.01E-07	9.40E-05	1.23E-02	2.53E-07	2.36E-06
Road 25	25	0400-0500	1.07E-01	2.39E-08	2.48E-05	3.85E-01	8.62E-08	8.94E-05	4.92E-01	1.10E-07	1.14E-04	1.24E-02	2.76E-07	2.86E-06
Road 25	25	0500-0600	1.13E-01	5.05E-08	4.70E-05	4.05E-01	1.82E-07	1.69E-04	5.18E-01	2.32E-07	2.16E-04	1.27E-02	5.67E-07	5.28E-06
Road 25	25	0600-0700	1.22E-01	1.07E-07	2.48E-04	4.38E-01	3.85E-07	8.94E-04	5.60E-01	4.92E-07	1.14E-03	1.37E-02	1.20E-06	2.79E-05
Road 25	25	0700-0800	1.32E-01	2.89E-07	2.69E-04	4.69E-01	1.03E-06	9.57E-04	6.01E-01	1.32E-06	1.23E-03	1.47E-02	3.23E-06	3.00E-05
Road 25	25	0800-0900	1.33E-01	1.49E-07	3.25E-04	4.90E-01	1.29E-06	1.20E-03	6.23E-01	1.63E-06	1.52E-03	1.36E-02	3.56E-06	3.32E-05
Road 25	25	0900-1000	1.33E-01	1.49E-07	3.25E-04	4.90E-01	1.29E-06	1.20E-03	6.23E-01	1.63E-06	1.52E-03	1.36E-02	3.56E-06	3.32E-05
Road 25	25	1000-1100	1.43E-01	3.86E-08	5.03E-05	5.08E-01	1.37E-07	1.79E-04	6.46E-01	1.74E-07	2.28E-04	1.44E-02	3.88E-07	5.06E-05
Road 25	25	1100-1200	1.43E-01	3.86E-08	5.03E-05	5.08E-01	1.37E-07	1.79E-04	6.46E-01	1.74E-07	2.28E-04	1.44E-02	3.88E-07	5.06E-05
Road 25	25	1200-1300	1.51E-01	4.10E-07	3.81E-04	5.09E-01	1.38E-06	1.29E-03	6.59E-01	1.79E-06	1.67E-03	1.49E-02	4.04E-06	3.76E-05
Road 25	25	1300-1400	1.43E-01	4.40E-07	4.10E-04	5.09E-01	1.56E-06	1.45E-03	6.24E-01	1.92E-06	1.78E-03	1.47E-02	4.52E-06	4.21E-05
Road 25	25	1400-1500	1.43E-01	4.47E-07	4.18E-04	5.09E-01	1.58E-06	1.48E-03	6.32E-01	1.97E-06	1.84E-03	1.47E-02	4.59E-06	4.29E-05
Road 25	25	1500-1600	1.31E-01	4.17E-07	3.88E-04	5.01E-01	1.59E-06	1.48E-03	6.32E-01	2.01E-06	1.87E-03	1.36E-02	4.32E-06	4.02E-05
Road 25	25	1600-1700	1.31E-01	4.15E-07	3.86E-04	5.01E-01	1.59E-06	1.48E-03	6.32E-01	2.01E-06	1.87E-03	1.36E-02	4.32E-06	4.02E-05
Road 25	25	1700-1800	1.24E-01	3.96E-07	3.68E-04	4.92E-01	1.57E-06	1.46E-03	6.21E-01	1.98E-06	1.84E-03	1.29E-02	4.12E-06	3.83E-05
Road 25	25	1800-1900	1.24E-01	3.96E-07	3.68E-04	4.92E-01	1.57E-06	1.46E-03	6.21E-01	1.98E-06	1.84E-03	1.29E-02	4.12E-06	3.83E-05
Road 25	25	1900-2000	1.08E-01	1.26E-07	1.17E-04	4.24E-01	4.96E-07	4.61E-04	5.32E-01	6.22E-07	5.78E-04	1.39E-02	1.39E-06	1.29E-05
Road 25	25	2000-2100	9.92E-02	9.25E-08	8.61E-05	4.05E-01	3.78E-07	3.52E-04	5.05E-01	4.71E-07	4.38E-04	1.14E-02	1.07E-06	9.91E-06
Road 25	25	2100-2200	1.01E-01	9.42E-08	8.77E-05	4.05E-01	3.78E-07	3.52E-04	5.05E-01	4.71E-07	4.38E-04	1.14E-02	1.07E-06	9.91E-06
Road 25	25	2200-2300	1.13E-01	9.42E-08	8.77E-05	4.05E-01	3.38E-07	3.14E-04	5.18E-01	4.32E-07	4.02E-04	1.24E-02	1.03E-06	9.61E-06
Road 25	25	2300-0000	1.13E-01	9.42E-08	8.77E-05	4.05E-01	3.38E-07	3.14E-04	4.99E-01	4.32E-07	4.02E-04	1.24E-02	1.03E-06	9.61E-06
Road 26	26	0000-0100	1.04E-01	2.95E-08	4.05E-05	3.79E-01	1.07E-07	1.46E-04	4.84E-01	1.36E-07	1.86E-04	1.22E-02	3.44E-07	4.71E-06
Road 26	26	0100-0200	1.04E-01	2.95E-08	4.05E-05	3.79E-01	1.07E-07	1.46E-04	4.84E-01	1.36E-07	1.86E-04	1.22E-02	3.44E-07	4.71E-06
Road 26	26	0200-0300	1.07E-01	2.02E-08	2.77E-05	3.86E-01	7.28E-08	9.98E-05	4.91E-01	9.31E-08	1.27E-04	1.24E-02	2.34E-07	3.20E-06
Road 26	26	0300-0400	1.07E-01	2.02E-08	2.77E-05	3.86E-01	7.28E-08	9.98E-05	4.91E-01	9.31E-08	1.27E-04	1.24E-02	2.34E-07	3.20E-06
Road 26	26	0400-0500	1.08E-01	2.30E-08	9.57E-05	3.87E-01	8.24E-08	3.43E-04	4.93E-01	1.05E-07	4.38E-04	1.25E-02	2.66E-07	1.11E-05
Road 26	26	0500-0600	1.08E-01	4.44E-08	6.09E-05	3.87E-01	1.60E-07	2.19E-04	4.99E-01	2.05E-07	2.80E-04	1.25E-02	5.14E-07	7.04E-06
Road 26	26	0600-0700	1.28E-01	1.12E-07	1.54E-04	4.58E-01	4.02E-07	5.51E-04	5.91E-01	5.15E-07	7.05E-04	1.48E-02	1.30E-06	3.03E-05
Road 26	26	0700-0800	1.34E-01	3.22E-07	4.41E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	2.08E-02	3.94E-07	4.52E-03	3.47E-02	1.60E-06	1.84E-02	1.02E-06	2.28E-02	3.29E-03	6.49E-04
Road 47	47	1700-1800	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	8.68E-02	1.91E-06	2.17E-02	2.30E-03
Road 47	47	1800-1900	1.07E-02	2.66E-07	3.03E-03	5.26E-02	1.30E-06	1.49E-02	6.33E-02	1.57E-06	1.79E-02	1.67E-03
Road 47	47	1900-2000	8.57E-03	1.79E-07	1.97E-03	4.82E-02	9.55E-07	1.09E-02	5.68E-02	1.26E-06	1.29E-02	1.34E-03
Road 47	47	2000-2100	7.93E-03	1.22E-07	1.39E-03	5.17E-02	7.94E-07	9.05E-03	5.96E-02	9.16E-07	1.04E-02	1.25E-03
Road 47	47	2100-2200	6.53E-03	1.02E-07	1.16E-03	4.95E-02	7.61E-07	8.67E-03	5.62E-02	8.63E-07	9.83E-03	1.07E-03
Road 47	47	2200-2300	6.22E-03	9.30E-08	1.06E-03	4.82E-02	7.22E-07	8.23E-03	5.45E-02	8.15E-07	9.29E-03	9.50E-04
Road 47	47	2300-0000	6.57E-03	7.33E-08	8.35E-04	4.82E-02	5.38E-07	6.11E-03	5.48E-02	6.11E-07	6.96E-03	1.06E-03
Road 48	48	0000-0100	4.95E-03	4.26E-08	4.85E-04	3.47E-02	3.00E-07	3.41E-03	3.96E-02	3.41E-07	3.89E-03	7.56E-04
Road 48	48	0100-0200	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.92E-07	1.05E-03	4.03E-02	2.17E-07	1.19E-03	7.70E-04
Road 48	48	0200-0300	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.92E-07	1.05E-03	4.03E-02	2.17E-07	1.19E-03	7.70E-04
Road 48	48	0300-0400	5.89E-03	1.83E-08	1.01E-04	3.83E-02	1.19E-07	6.55E-04	4.41E-02	1.37E-07	7.56E-04	1.49E-03
Road 48	48	0400-0500	6.81E-03	2.32E-08	1.27E-04	4.13E-02	1.41E-07	7.74E-04	4.79E-02	1.63E-07	8.94E-04	2.25E-03
Road 48	48	0500-0600	6.81E-03	4.04E-08	2.22E-04	4.13E-02	2.45E-07	1.35E-03	4.79E-02	2.84E-07	1.56E-03	2.25E-03
Road 48	48	0600-0700	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.34E-07	2.94E-03	4.95E-02	6.26E-07	3.45E-03	2.41E-03
Road 48	48	0700-0800	7.30E-03	2.18E-07	1.20E-03	5.64E-02	1.68E-06	9.26E-03	6.64E-02	1.98E-06	1.09E-02	2.41E-03
Road 48	48	0800-0900	7.38E-03	2.18E-07	1.20E-03	6.24E-02	1.84E-06	1.01E-02	7.39E-02	2.18E-06	1.20E-02	2.44E-03
Road 48	48	0900-1000	8.14E-03	2.05E-07	1.13E-03	5.07E-02	1.27E-06	6.99E-03	6.03E-02	1.51E-06	8.32E-03	2.69E-03
Road 48	48	1000-1100	9.61E-03	2.05E-07	1.11E-03	4.46E-02	9.51E-07	5.23E-03	5.29E-02	1.13E-06	6.20E-03	3.17E-03
Road 48	48	1100-1200	9.14E-03	1.81E-07	9.98E-04	4.06E-02	8.04E-07	4.42E-03	4.82E-02	9.54E-07	5.25E-03	3.02E-03
Road 48	48	1200-1300	1.00E-02	1.89E-07	1.04E-03	4.38E-02	8.27E-07	4.55E-03	5.20E-02	9.82E-07	5.40E-03	3.31E-03
Road 48	48	1300-1400	1.50E-02	3.03E-07	1.67E-03	5.84E-02	1.18E-06	6.47E-03	7.34E-02	1.48E-06	8.14E-03	4.95E-03
Road 48	48	1400-1500	1.42E-02	3.24E-07	1.78E-03	6.24E-02	1.42E-06	7.82E-03	7.84E-02	1.79E-06	9.82E-03	4.69E-03
Road 48	48	1500-1600	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	7.09E-02	1.53E-06	8.43E-03	4.56E-03
Road 48	48	1600-1700	1.41E-02	3.16E-07	1.74E-03	5.42E-02	1.21E-06	6.68E-03	6.83E-02	1.53E-06	8.42E-03	3.97E-03
Road 48	48	1700-1800	1.39E-02	2.51E-07	1.38E-03	5.70E-02	1.03E-06	5.66E-03	7.09E-02	1.28E-06	7.03E-03	4.02E-03
Road 48	48	1800-1900	7.38E-03	1.82E-07	1.00E-03	3.50E-02	8.62E-07	4.75E-03	4.24E-02	1.04E-06	5.75E-03	2.39E-03
Road 48	48	1900-2000	6.30E-03	9.62E-08	5.30E-04	3.54E-02	5.41E-07	2.98E-03	4.17E-02	6.37E-07	3.51E-03	2.49E-03
Road 48	48	2000-2100	6.30E-03	9.62E-08	5.30E-04	3.54E-02	5.41E-07	2.98E-03	4.17E-02	6.37E-07	3.51E-03	2.49E-03
Road 48	48	2100-2200	6.07E-03	9.11E-08	5.02E-04	3.56E-02	5.35E-07	2.95E-03	4.17E-02	6.26E-07	3.45E-03	2.49E-03
Road 48	48	2200-2300	5.78E-03	8.26E-08	4.55E-04	3.51E-02	5.02E-07	2.76E-03	4.09E-02	5.85E-07	3.22E-03	2.44E-03
Road 48	48	2300-0000	6.62E-03	7.28E-08	4.01E-04	3.64E-02	4.00E-07	2.20E-03	4.30E-02	4.73E-07	2.61E-03	1.80E-03
Road 49	49	0000-0100	4.95E-03	4.26E-08	4.85E-04	3.47E-02	3.00E-07	3.41E-03	3.96E-02	3.41E-07	3.89E-03	7.56E-04
Road 49	49	0100-0200	4.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	4.65E-02	1.81E-07	1.66E-03	1.07E-03
Road 49	49	0200-0300	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.92E-07	1.05E-03	4.03E-02	2.17E-07	1.19E-03	7.70E-04
Road 49	49	0300-0400	5.89E-03	1.83E-08	1.01E-04	3.83E-02	1.19E-07	6.55E-04	4.41E-02	1.37E-07	7.56E-04	1.49E-03
Road 49	49	0400-0500	6.81E-03	2.32E-08	1.27E-04	4.13E-02	1.41E-07	7.74E-04	4.79E-02	1.63E-07	8.94E-04	2.25E-03
Road 49	49	0500-0600	6.81E-03	4.04E-08	2.22E-04	4.13E-02	2.45E-07	1.35E-03	4.79E-02	2.84E-07	1.56E-03	2.25E-03
Road 49	49	0600-0700	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.34E-07	2.94E-03	4.95E-02	6.26E-07	3.45E-03	2.41E-03
Road 49	49	0700-0800	7.30E-03	2.18E-07	1.20E-03	5.64E-02	1.68E-06	9.26E-03	6.64E-02	1.98E-06	1.09E-02	2.41E-03
Road 49	49	0800-0900	7.38E-03	2.18E-07	1.20E-03	6.24E-02	1.84E-06	1.01E-02	7.39E-02	2.18E-06	1.20E-02	2.44E-03
Road 49	49	0900-1000	8.14E-03	2.05E-07	1.13E-03	5.07E-02	1.27E-06	6.99E-03	6.03E-02	1.51E-06	8.32E-03	2.69E-03
Road 49	49	1000-1100	9.61E-03	2.05E-07	1.11E-03	4.46E-02	9.51E-07	5.23E-03	5.29E-02	1.13E-06	6.20E-03	3.17E-03
Road 49	49	1100-1200	9.14E-03	1.81E-07	9.98E-04	4.06E-02	8.04E-07	4.42E-03	4.82E-02	9.54E-07	5.25E-03	3.02E-03
Road 49	49	1200-1300	1.00E-02	1.89E-07	1.04E-03	4.38E-02	8.27E-07	4.55E-03	5.20E-02	9.82E-07	5.40E-03	3.31E-03
Road 49	49	1300-1400	1.50E-02	3.03E-07	1.67E-03	5.84E-02	1.18E-06	6.47E-03	7.34E-02	1.48E-06	8.14E-03	4.95E-03
Road 49	49	1400-1500	1.42E-02	3.24E-07	1.78E-03	6.24E-02	1.42E-06	7.82E-03	7.84E-02	1.79E-06	9.82E-03	4.69E-03
Road 49	49	1500-1600	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	7.09E-02	1.53E-06	8.43E-03	4.56E-03
Road 49	49	1600-1700	1.41E-02	3.16E-07	1.74E-03	5.42E-02	1.21E-06	6.68E-03	6.83E-02	1.53E-06	8.42E-03	3.97E-03
Road 49	49	1700-1800	1.39E-02	2.51E-07	1.38E-03	5.70E-02	1.03E-06	5.66E-03	7.09E-02	1.28E-06	7.03E-03	4.02E-03
Road 49	49	1800-1900	7.38E-03	1.82E-07	1.00E-03	3.50E-02	8.62E-07	4.75E-03	4.24E-02	1.04E-06	5.75E-03	2.39E-03
Road 49	49	1900-2000	6.30E-03	9.62E-08	5.30E-04	3.54E-02	5.41E-07	2.98E-03	4.17E-02	6.37E-07	3.51E-03	2.49E-03
Road 49	49	2000-2100	6.30E-03	9.62E-08	5.30E-04	3.54E-02	5.41E-07	2.98E-03	4.17E-02	6.37E-07	3.51E-03	2.49E-03
Road 49	49	2100-2200	6.07E-03	9.11E-08	5.02E-04	3.56E-02	5.35E-07	2.95E-03	4.17E-02	6.26E-07	3.45E-03	2.49E-03
Road 49	49	2200-2300	5.78E-03	8.26E-08	4.55E-04	3.51E-02	5.02E-07	2.76E-03	4.09E-02	5.85E-07	3.22E-03	2.44E-03
Road 49	49	2300-0000	6.62E-03	7.28E-08	4.01E-04	3.64E-02	4.00E-07	2.20E-03	4.30E-02	4.73E-07	2.61E-03	1.80E-03
Road 50	50	0000-0100	4.95E-03	4.26E-08	4.85E-04	3.47E-02	3.00E-07	3.41E-03	3.96E-02	3.41E-07	3.89E-03	7.56E-04
Road 50	50	0100-0200	4.79E-03	4.52E-08	9.09E-04	3.49E-02	3.29E-07	6.62E-03	3.97E-02	3.75E-07	7.53E-03	1.19E-03
Road 50	50	0200-0300	5.26E-03	3.63E-08	7.30E-04	3.65E-02	2.52E-07	5.06E-03	4.17E-02	2.88E-07	5.78E-03	1.31E-03
Road 50	50	0300-0400	6.57E-03	1.79E-07	3.60E-03	4.82E-02	1.31E-06	2.64E-02	5.48E-02	1.49E-06	3.00E-02	1.67E-03
Road 50	50	0400-0500	6.20E-03	2.66E-07	5.34E-03	4.68E-02	2.01E-06	4.03E-02	5.32E-02	2.28E-06	4.58E-02	1.57E-03
Road 50	50	0500-0600	6.57E-03	4.72E-07	9.45E-03	4.64E-02	3.33E-06	6.68E-02	5.48E-02	3.94E-06	7.89E-02	1.67E-03
Road 50	50	0600-0700	7.66E-02	9.54E-08	8.79E-04	6.26E-02	5.16E-07	4.75E-03	7.41E-02	6.10E-07	5.62E-03	1.96E-02
Road 50	50	0700-0800	2.54E-02	2.73E-07	2.51E-03	1.56E-02	1.68E-06	1.55E-02	1.84E-02	1.98E-06	1.82E-02	6.50E-03
Road 50	50	0800-0900	1.62E-02	3.10E-07	2.86E-03	7.44E-02	1.42E-06	1.31E-02	8.79E-02	1.68E-06	1.55E-02	4.15E-03
Road 50	50	0900-1000	1.72E-02	2.65E-07	2.44E-03	8.00E-02	1.23E-06	1.13E-02	9.72E-02	1.49E-06	1.37E-02	4.41E-03
Road 50	50	1000-1100	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	4.36E-03
Road 50	50	1100-1200	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	4.36E-03
Road 50	50	1200-1300	1.66E-02	1.99E-07	1.82E-03	7.55E-02	9.08E-07	8.32E-03	9.20E-02	1.09E-06	1.00E-02	4.24E-03
Road 50	50	1300-1400	1.66E-02	1.72E-07	1.59E-03	7.51E-02	7.79E-07	7.19E-03	9.17E-02	9.50E-07	8.77E-03	4.24E-03
Road 50	50	1400-1500	1.66E-02	1.99E-07	1.82E-03	7.55E-02	9.08E-07	8.32E-03	9.20E-02	1.09E-06	1.00E-02	4.24E-03
Road 50	50	1500-1600	1.66E-02	1.99E-07	1.82E-03	7.55E-02	9.08E-07	8.32E-03	9.20E-02	1.09E-06	1.00E-02	4.24E-03
Road 50	50	1600-1700	1.86E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	9.50E-02	1.18E-06	1.09E-02	4.36E-03
Road 50	50	1700-1800	1.86E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	9.50E-02	1.18E-06	1.09E-02	4.36E-03
Road 50	50	1800-1900	1.01E-02	1.99E-07	1.56E-03	4.95E-02	9.76E-07	7.67E-03	6.09E-02	1.19E-06	9.38E-03	2.47E-03
Road 50	50	1900-2000	7.04E-03	2.39E-08	1.84E-04	4.72E-02	1.60E-07	1.23E-03	5.78E-02	1.96E-07	1.51E-03	1.02E-03
Road 50	50	2000-2100	7.04E-03	2.39E-08	1.84E-04	4.72E-02	1.60E-07	1.23E-03	5.78E-02	1.96E-07	1.51E-03	1.02E-03
Road 50	50	2100-2200	6.75E-03	5.97E-08	5.50E-04	4.71E-02	4.34E-07	3.51E-03	5.91E-02	4.97E-07	4.02E-03	1.02E-03
Road 50	50	2200-2300	6.51E-03	5.97E-08	5.50E-04	4.71E-02	4.34E-07	3.51E-03	5.91E-02	4.97E-07	4.02E-03	1.02E-03
Road 50	50	2300-0000	6.65E-03	4.29E-08	3.95E-04	4.40E-02	3.34E-07	2.70E-03	5.40E-02	3.65E-07	2.95E-03	9.34E-04
Road 51	51	0000-0100	4.95E-03	4.26E-08	4.85E-04	3.47E-02	3.00E-07	3.41E-03	3.96E-02	3.41E-07	3.89E-03	7.56E-04
Road 51	51	0100-0200	4.79E-03	4.52E-08	9.09E-04	3.49E-02	3.29E-07	6.62E-03	3.97E-02	3.75E-07	7.53E-03	1.19E-03
Road 51	51	0200-0300	5.26E-03	3.63E-08	7.30E-04	3.65E-02	2.52E-07	5.06E-03	4.17E-02	2.88E-07	5.78E-03	1.31E-03
Road 51	51	0300-0400	6.57E-03	1.79E-07	3.60E-03	4.82E-02	1.31E-06	2.64E-02	5.48E-02	1.49E-06	3.00E-02	1.67E-03
Road 51	51	0400-0500	6.20E-03	2.66E-07	5.34E-03	4.68E-02	2.01E-06	4.03E-02	5.32E-02	2.28E-06	4.58E-02	1.57E-03
Road 51	51	0500-0600	6.57E-03	4.72E-07	9.45E-03	4.64E-02	3.33E-06	6.68E-02	5.48E-02	3.94E-06	7.89E-02	1.67E-03
Road 51	51	0600-0700	7.66E-02	9.54E-08	8.79E-04	6.26E-02	5.16E-07	4.75E-03	7.41E-02	6.10E-07	5.62E-03	1.96E-02
Road 51	51	0700-0800	2.54E-02	2.73E-07	2.51E-03	1.56E-02	1.68E-06	1.55E-02	1.84E-02	1.98E-06	1.82E-02	6.50E-03
Road 51	51	0800-0900	1.62E-02	3.10E-07	2.86E-03	7.44E-02	1.42E-06	1.31E-02	8.79E-02	1.68E-06	1.55E-02	4.15E-03
Road 51	51	0900-1000	1.72E-02	2.65E-07	2.44E-03	8.00E-02	1.23E-06	1.13E-02	9.72E-02	1.49E-06	1.37E-02	4.41E-03
Road 51	51	1000-1100	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	4.36E-03
Road 51	51	1100-1200	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	4.36E-03
Road 51	51	1200-1300	1.66E-02	1.99E-07	1.82E-03	7.55E-02	9.08E-07	8.32E-03	9.20E-02	1.09E-06	1.00E-02	4.24E-03
Road 51	51	1300-1400	1.66E-02	1.72E-07	1.59E-03	7.51E-02	7.79E-07	7.19E-03	9.17E-02	9.50E-07	8.77E-03	4.24E-03
Road 51	51	1400-1500	1.66E-02	1.99E-07	1.82E-03	7.55E-02	9.08E-07	8.32E-03	9.20E-02	1.09E-06	1.00E-02	4.24E-03
Road 51	51	1500-1600	1.66E-02	1.99E-07	1.82E-03	7.55E-02	9.08E-07	8.32E-03	9.20E-02	1.09E-06	1.00E-02	4.24E-03
Road 51	51	1600-1700	1.86E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	9.50E-02	1.18E-06	1.09E-02	4.36E-03
Road 51	51	1700-1800	1.86E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	9.50E-02	1.18E-06	1.09E-02	4.36E-03
Road 51	51	1800-1900	1.01E-02	1.99E-07	1.56E-03	4.95E-02	9.76E-07	7.67E-03	6.09E-02	1.19E-06	9.38E-03	2.47E-03
Road 51	51	1900-2000	7.04E-03	2.39E-08	1.84E-04	4.72E-02	1.60E-07	1.23E-03	5.78E-02	1.96E-07	1.51E-03	1.02E-03
Road 51	51	2000-2100	7.04E-03	2.39E-08	1.84E-04	4.72E-02	1.60E-07	1.23E-03	5.78E-02	1.96E-07	1.51E-03	1.02E-03
Road 51	51	2100-2200	6.75E-03	5.97E-08	5.50E-04	4.71E-02	4.34E-07	3.51E-03	5.91E-02	4.97E-07	4.02E-03	1.02E-03
Road 51	51	2200-2300	6.51E-03	5.97E-08	5.50E-04	4.71E-02	4.34E-07	3.51E-03	5.91E-02	4.97E-07	4.02E-03	1.02E-03
Road 51	51	2300-0000	6.65E-03	4.29E-08	3.95E-04	4.40E-02	3.34E-07	2.70E-03	5.40E-02	3.65E-07	2.95E-03	9.34E-04
Road 52	52	0000-0100	4.64E-03	3.99E-08	4.54E-04	3.25E-02	2.80E-07	3.19E-03	3.71E-02	3.19E-07	3.64E-03	7.08E-04
Road 52	52	0100-0200	4.64E-03	2.50E-08	1.38E-04	3.33E-02	1.80E-07	9.86E-04	3.78E-02	2.03E-07	1.12E-03	7.22E-04
Road 52	52	0200-0300	4.64E-03	2.50E-08	1.38E-04	3.33E-02	1.80E-07	9.86E-04	3.78E-02	2.03E-07	1.12E-03	7.22E-04
Road 52	52	0300-0400	5.52E-03	1.71E-08	9.45E-05	3.59E-02	1.11E-07	6.13E-04	4.13E-02	1.28E-07	7.08E-04	1.40E-03
Road 52	52	0400-0500	6.38E-03	2.17E-08	1.19E-04	3.87E-02	1.32E-07	7.24E-04	4.49E-02	1.52E-07	8.37E-04	2.11E-03
Road 52	52	0500-0600	6.38E-03	3.78E-08	2.08E-04	3.87E-02	2.29E-07	1.26E-03	4.49E-02	2.66E-07	1.46E-03	2.11E-03
Road 52	52	0600-0700	6.84E-03	8.65E-08	4.76E-04	3.95E-02	5.00E-07	2.75E-03	4.64E-02	5.86E-07	3.23E-03	2.26E-03
Road 52	52	0700-0800	8.35E-02	2.73E-07	2.27E-03	2.98E-01	9.73E-07	8.10E-03	3.81E-01	1.25E-06	1.04E-02	1.01E-02
Road 52	52	0800-0900	1.77E-02	3.10E-07	2.58E-03	8.14E-02	1.42E-06	1.19E-02	9.91E-02	1.74E-06	1.45E-02	4.54E-03
Road 52	52	0900-1000	1.88E-02	2.65E-07	2.20E-03	8.76E-02	1.23E-06	1.03E-02	1.06E-01	1.49E-06	1.24E-02	4.83E-03
Road 52	52	1000-1100	1.85E-02	2.11E-07	1.75E-03	8.68E-02	9.84E-07	8.17E-03	1.05E-01	1.19E-06	9.90E-03	4.77E-03
Road 52	52	1100-1200	1.85E-02	2.11E-07	1.75E-03	8.68E-02	9.84E-07	8.17E-03	1.05E-01	1.19E-06	9.90E-03	4.77E-03
Road 52	52	1200-1300	1.82E-02	1.99E-07	1.65E-03	8.27E-02	9.08E-07	7.52E-03	1.00E-01	1.09E-06	9.04E-03	4.64E-03
Road 52	52	1300-1400	1.82E-02	1.72E-07	1.44E-03	8.22E-02	7.79E-07	6.50E-03	1.00E-01	9.50E-07	7.93E-03	4.64E-03
Road 52	52	1400-1500	1.82E-02	1.99E-07	1.65E-03	8.27E-02	9.08E-07	7.52E-03	1.00E-01	1.09E-06	9.04E-03	4.64E-03
Road 52	52	1500-1600	1.82E-02	1.99E-07	1.65E-03	8.27E-02	9.08E-07	7.52E-03	1.00E-01	1.09E-06	9.04E-03	4.64E-03
Road 52	52	1600-1700	2.04E-02	2.32E-07	1.92E-03	8.37E-02	9.52E-07	7.87E-03	1.03E-01	1.18E-06	9.77E-03	4.77E-03
Road 52	52	1700-1800	2.04E-02	2.32E-07	1.92E-03	8.37E-02	9.52E-07	7.87E-03	1.03E-01	1.18E-06	9.77E-03	4.77E-03
Road 52	52	1800-1900	1.11E-02	1.99E-07	1.40E-03	5.42E-02	9.76E-07	6.89E-03	6.66E-02	1.19E-06	8.43E-03	2.70E-03
Road 52	52	1900-2000	7.71E-03	2.39E-08	1.65E-04	5.17E-02	1.60E-07	1.11E-03	6.33E-02	1.96E-07	1.36E-03	1.12E-03
Road 52	52	2000-2100	7.71E-03	2.39E-08	1.65E-04	5.17E-02	1.60E-07	1.11E-03	6.33E-02	1.96E-07	1.36E-03	1.12E-03
Road 52	52	2100-2200	7.39E-03	5.97E-08	4.94E-04	5.16E-02	4.34E-07	3.15E-03	6.47E-02	4.97E-07	3.61E-03	1.12E-03
Road 52	52	2200-2300	7.13E-03	5.97E-08	4.94E-04	5.16E-02	4.34E-07	3.15E-03	6.47E-02	4.97E-07	3.61E-03	1.12E-03
Road 52	52	2300-0000	7.28E-03	4.29E-08	3.55E-04	4.82E-02	3.34E-07	2.43E-03	5.91E-02	3.65E-07	2.65E-03	1.03E-03
Road 53	53	0000-0100	4.64E-03	3.99E-08	4.54E-04	3.25E-02	2.80E-07	3.19E-03	3.71E-02	3.19E-07	3.64E-03	7.08E-04
Road 53	53	0100-0200	4.64E-03	2.50E-08	1.38E-04	3.33E-02	1.80E-07	9.86E-04	3.78E-02	2.03E-07	1.12E-03	7.22E-04
Road 53	53	0200-0300	4.64E-03	2.50E-08	1.38E-04	3.33E-02	1.80E-07	9.86E-04	3.78E-02	2.03E-07	1.12E-03	7.22E-04
Road 53	53	0300-0400	5.52E-03	1.71E-08	9.45E-05	3.59E-02	1.11E-07	6.13E-04	4.13E-02	1.28E-07	7.08E-04	1.40E-03
Road 53	53	0400-0500	6.38E-03	2.17E-08	1.19E-04	3.87E-02	1.32E-07	7.24E-04	4.49E-02	1.52E-07	8.37E-04	2.11E-03
Road 53	53	0500-0600	6.38E-03	3.78E-08	2.08E-04	3.87E-02	2.29E-07	1.26E-03	4.49E-02	2.66E-07	1.46E-03	2.11E-03
Road 53	53	0600-0700	6.84E-03	8.65E-08	4.76E-04	3.95E-02	5.00E-07	2.75E-03	4.64E-02	5.86E-07	3.23E-03	2.26E-03
Road 53	53	0700-0800	8.35E-02	2.73E-07	2.27E-03	2.98E-01	9.73E-07	8.10E-03	3.81E-01	1.25E-06	1.04E-02	1.01E-02
Road 53	53	0800-0900	1.77E-02	3.10E-07	2.58E-03	8.14E-02	1.42E-06	1.19E-02	9.91E-02	1.74E-06	1.45E-02	4.54E-03
Road 53	53	0900-1000	1.88E-02	2.65E-07	2.20E-03	8.76E-02	1.23E-06	1.03E-02	1.06E-01	1.49E-06	1.24E-02	4.83E-03
Road 53	53	1000-1100	1.85E-02	2.11E-07	1.75E-03	8.68E-02	9.84E-07	8.17E-03	1.05E-01	1.19E-06	9.90E-03	4.77E-03
Road 53	53	1100-1200	1.85E-02	2.11E-07	1.75E-03	8.68E-02	9.84E-07	8.17E-03	1.05E-01	1.19E-06	9.90E-03	4.77E-03
Road 53	53	1200-1300	1.82E-02	1.99E-07	1.65E-03	8.27E-02	9.08E-07	7.52E-03	1.00E-01	1.09E-06	9.04E-03	4.64E-03
Road 53	53	1300-1400	1.82E-02	1.72E-07	1.44E-03	8.22E-02	7.79E-07	6.50E-03	1.00E-01	9.50E-07	7.93E-03	4.64E-03
Road 53	53	1400-1500	1.82E-02	1.99E-07	1.65E-03	8.27E-02	9.08E-07	7.52E-03	1.00E-01	1.09E-06	9.04E-03	4.64E-03
Road 53	53

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0800-0900	1.111E-02	8.89E-07	5.553E-03	1.31E-06	1.048E-01	6.55E-02	1.24E-05	9.94E-04	6.21E-03
Road 1	1	0900-1000	1.55E-02	8.82E-07	5.37E-03	1.32E-05	7.49E-03	4.06E-06	2.53E-02	1.44E-05	7.81E-03
Road 1	1	1000-1100	1.39E-02	7.95E-07	4.84E-03	1.17E-05	6.74E-03	3.66E-06	2.27E-02	1.30E-05	7.03E-03
Road 1	1	1100-1200	1.66E-02	9.47E-07	5.77E-03	1.40E-05	8.03E-03	4.36E-06	2.71E-02	1.55E-05	8.38E-03
Road 1	1	1200-1300	1.39E-02	7.95E-07	4.84E-03	1.17E-05	6.74E-03	3.66E-06	2.27E-02	1.30E-05	7.03E-03
Road 1	1	1300-1400	1.66E-02	9.47E-07	5.77E-03	1.40E-05	8.03E-03	4.36E-06	2.71E-02	1.55E-05	8.38E-03
Road 1	1	1400-1500	1.39E-02	7.95E-07	4.84E-03	1.17E-05	6.74E-03	3.66E-06	2.27E-02	1.30E-05	7.03E-03
Road 1	1	1500-1600	1.66E-02	9.47E-07	5.77E-03	1.40E-05	8.03E-03	4.36E-06	2.71E-02	1.55E-05	8.38E-03
Road 1	1	1600-1700	1.39E-02	7.95E-07	4.84E-03	1.17E-05	6.74E-03	3.66E-06	2.27E-02	1.30E-05	7.03E-03
Road 1	1	1700-1800	1.66E-02	9.47E-07	5.77E-03	1.40E-05	8.03E-03	4.36E-06	2.71E-02	1.55E-05	8.38E-03
Road 1	1	1800-1900	1.39E-02	7.95E-07	4.84E-03	1.17E-05	6.74E-03	3.66E-06	2.27E-02	1.30E-05	7.03E-03
Road 1	1	1900-2000	1.82E-02	4.19E-07	2.61E-03	7.99E-06	1.84E-02	5.80E-03	1.47E-05	3.38E-04	2.11E-03
Road 1	1	2000-2100	1.82E-02	4.19E-07	2.61E-03	7.99E-06	1.84E-02	5.80E-03	1.47E-05	3.38E-04	2.11E-03
Road 1	1	2100-2200	1.61E-02	2.80E-07	1.74E-03	7.65E-06	1.33E-02	4.15E-03	1.24E-05	2.16E-04	1.34E-03
Road 1	1	2200-2300	1.61E-02	2.80E-07	1.74E-03	7.65E-06	1.33E-02	4.15E-03	1.24E-05	2.16E-04	1.34E-03
Road 1	1	2300-2400	1.61E-02	2.80E-07	1.74E-03	7.65E-06	1.33E-02	4.15E-03	1.24E-05	2.16E-04	1.34E-03
Road 1	1	0000-0100	1.10E-02	6.42E-08	1.56E-04	5.43E-06	4.39E-02	2.07E-03	7.00E-06	2.50E-05	5.96E-04
Road 1	1	0100-0200	1.10E-02	6.42E-08	1.56E-04	5.43E-06	4.39E-02	2.07E-03	7.00E-06	2.50E-05	5.96E-04
Road 1	1	0200-0300	1.10E-02	6.42E-08	1.56E-04	5.43E-06	4.39E-02	2.07E-03	7.00E-06	2.50E-05	5.96E-04
Road 1	1	0300-0400	1.10E-02	6.42E-08	1.56E-04	5.43E-06	4.39E-02	2.07E-03	7.00E-06	2.50E-05	5.96E-04
Road 1	1	0400-0500	1.10E-02	6.42E-08	1.56E-04	5.43E-06	4.39E-02	2.07E-03	7.00E-06	2.50E-05	5.96E-04
Road 1	1	0500-0600	2.79E-02	4.63E-08	1.57E-04	1.37E-05	1.11E-06	3.75E-03	4.78E-03	3.84E-08	1.30E-02
Road 1	1	0600-0700	2.41E-02	8.89E-07	3.01E-03	1.18E-05	9.56E-07	3.24E-03	4.13E-03	3.32E-08	1.12E-02
Road 1	1	0700-0800	1.54E-02	2.50E-07	8.46E-04	1.10E-05	7.77E-07	2.62E-03	5.45E-03	3.57E-08	1.21E-02
Road 1	1	0800-0900	3.39E-02	2.72E-07	9.20E-04	1.04E-05	8.39E-07	2.83E-03	4.78E-03	3.84E-08	1.30E-02
Road 1	1	0900-1000	2.80E-02	3.21E-07	1.09E-03	1.37E-05	1.11E-06	3.75E-03	4.78E-03	3.84E-08	1.30E-02
Road 1	1	1000-1100	4.13E-02	2.51E-07	8.47E-04	1.22E-05	7.04E-07	2.37E-03	5.52E-03	3.77E-08	1.27E-02
Road 1	1	1100-1200	3.39E-02	2.72E-07	9.20E-04	1.04E-05	8.39E-07	2.83E-03	4.78E-03	3.84E-08	1.30E-02
Road 1	1	1200-1300	5.24E-02	4.39E-07	1.48E-03	1.61E-05	1.34E-06	4.54E-03	7.23E-03	6.04E-08	2.04E-02
Road 1	1	1300-1400	5.20E-02	4.54E-07	1.54E-03	1.65E-05	1.44E-06	4.88E-03	8.37E-03	7.30E-08	2.47E-02
Road 1	1	1400-1500	5.00E-02	4.65E-07	1.57E-03	1.66E-05	1.55E-06	5.22E-03	8.16E-03	7.59E-08	2.56E-02
Road 1	1	1500-1600	5.00E-02	4.65E-07	1.57E-03	1.66E-05	1.55E-06	5.22E-03	8.16E-03	7.59E-08	2.56E-02
Road 1	1	1600-1700	4.02E-02	4.16E-07	1.40E-03	1.38E-05	1.43E-06	4.83E-03	6.79E-03	7.02E-08	2.37E-02
Road 1	1	1700-1800	4.08E-02	4.15E-07	1.40E-03	1.38E-05	1.41E-06	4.76E-03	6.79E-03	6.91E-08	2.33E-02
Road 1	1	1800-1900	3.39E-02	4.69E-07	1.58E-03	1.17E-05	1.62E-06	5.47E-03	5.74E-03	7.94E-08	2.68E-02
Road 1	1	1900-2000	1.88E-02	3.39E-07	4.69E-04	7.81E-06	6.49E-07	2.36E-03	3.03E-03	2.23E-08	7.54E-05
Road 1	1	2000-2100	1.90E-02	1.12E-07	1.31E-04	8.00E-06	4.61E-07	1.57E-03	3.09E-03	1.79E-08	6.06E-05
Road 1	1	2100-2200	1.90E-02	1.12E-07	1.31E-04	8.00E-06	4.61E-07	1.57E-03	3.09E-03	1.79E-08	6.06E-05
Road 1	1	2200-2300	1.80E-02	1.00E-07	3.39E-04	7.51E-06	4.20E-07	1.42E-03	3.91E-02	5.21E-07	1.76E-03
Road 1	1	2300-2400	1.80E-02	1.00E-07	3.39E-04	7.51E-06	4.20E-07	1.42E-03	3.91E-02	5.21E-07	1.76E-03
Road 1	1	0000-0100	8.33E-03	5.02E-08	5.61E-04	4.03E-02	3.20E-07	3.58E-03	1.95E-02	1.26E-07	1.41E-03
Road 1	1	0100-0200	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.15E-07	2.88E-03	1.79E-03	9.31E-09	1.04E-04
Road 1	1	0200-0300	1.94E-02	1.01E-07	1.13E-03	2.55E-02	1.33E-07	1.49E-03	1.79E-03	9.31E-09	1.04E-04
Road 1	1	0300-0400	8.70E-03	7.66E-08	2.08E-04	4.61E-02	3.81E-07	1.58E-03	2.60E-03	6.72E-09	7.52E-05
Road 1	1	0400-0500	1.94E-02	1.01E-07	1.13E-03	2.55E-02	1.33E-07	1.49E-03	1.79E-03	9.31E-09	1.04E-04
Road 1	1	0500-0600	9.29E-03	5.40E-08	6.04E-04	4.90E-02	3.18E-07	3.83E-03	3.39E-07	3.79E-03	2.37E-03
Road 1	1	0600-0700	9.60E-03	5.19E-07	1.34E-03	5.31E-02	8.37E-07	3.47E-03	3.39E-07	3.79E-03	2.37E-03
Road 1	1	0700-0800	1.47E-02	4.27E-07	1.11E-03	3.83E-02	1.24E-06	4.50E-03	2.60E-03	3.79E-03	2.37E-03
Road 1	1	0800-0900	2.00E-02	5.88E-07	6.58E-03	8.40E-02	2.47E-06	2.77E-02	1.04E-06	3.42E-02	3.28E-03
Road 1	1	0900-1000	1.32E-02	3.90E-07	4.36E-03	2.07E-06	6.11E-05	6.84E-04	1.66E-06	4.90E-05	5.48E-04
Road 1	1	1000-1100	1.91E-02	4.20E-07	4.70E-03	1.73E-06	3.81E-05	4.26E-04	1.93E-06	4.25E-05	4.76E-04
Road 1	1	1100-1200	1.57E-02	3.46E-07	3.87E-03	1.42E-06	3.13E-05	3.50E-04	1.59E-06	3.50E-05	3.92E-04
Road 1	1	1200-1300	2.62E-02	5.94E-07	6.64E-03	9.87E-02	2.23E-06	2.50E-02	1.25E-02	2.83E-06	3.16E-02
Road 1	1	1300-1400	2.82E-02	6.67E-07	7.46E-03	1.10E-01	2.59E-06	2.90E-02	1.38E-01	3.26E-06	3.64E-02
Road 1	1	1400-1500	2.82E-02	6.33E-07	7.08E-03	1.10E-01	2.47E-06	2.76E-02	1.38E-01	3.09E-06	3.46E-02
Road 1	1	1500-1600	2.87E-02	7.29E-07	8.15E-03	1.17E-01	2.97E-06	3.32E-02	1.45E-01	3.70E-06	4.14E-02
Road 1	1	1600-1700	2.87E-02	7.29E-07	8.15E-03	1.17E-01	2.97E-06	3.32E-02	1.45E-01	3.70E-06	4.14E-02
Road 1	1	1700-1800	2.68E-02	7.09E-07	7.93E-03	1.06E-01	3.03E-06	3.39E-02	1.31E-01	3.74E-06	4.19E-02
Road 1	1	1800-1900	1.58E-02	4.65E-07	5.21E-03	7.01E-02	2.06E-06	2.31E-02	8.59E-02	2.53E-06	2.83E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	1.07E-02	2.97E-06	7.16E-05	4.55E-02	8.88E-08	3.04E-04	6.32E-02	1.76E-05	4.22E-04
Road 41	41	0100-0200	1.39E-02	3.86E-06	6.38E-05	5.09E-02	6.84E-08	2.34E-04	8.47E-02	1.18E-05	4.03E-04
Road 41	41	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04
Road 41	41	0300-0400	1.96E-02	1.70E-08	5.81E-05	6.10E-02	5.29E-08	1.81E-04	8.06E-02	6.99E-08	2.39E-04
Road 41	41	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 41	41	0500-0600	1.49E-02	1.15E-08	7.36E-05	5.46E-02	2.89E-08	2.70E-04	8.04E-02	1.07E-07	3.96E-04
Road 41	41	0600-0700	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 41	41	0700-0800	1.46E-02	8.94E-08	3.06E-04	5.46E-02	3.34E-07	1.14E-03	6.91E-02	4.23E-07	1.45E-03
Road 41	41	0800-1000	1.58E-02	9.19E-08	3.15E-04	5.94E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	41	1000-1100	1.58E-02	9.19E-08	3.15E-04	5.94E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	41	1100-1200	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.29E-03
Road 41	41	1200-1300	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.29E-03
Road 41	41	1300-1400	2.14E-02	1.23E-07	4.21E-04	6.99E-02	4.00E-07	1.37E-03	9.13E-02	5.23E-07	1.79E-03
Road 41	41	1400-1500	2.10E-02	1.23E-07	4.21E-04	6.99E-02	4.00E-07	1.37E-03	9.57E-02	5.61E-07	1.92E-03
Road 41	41	1500-1600	2.10E-02	1.23E-07	4.21E-04	6.99E-02	4.00E-07	1.37E-03	9.57E-02	5.61E-07	1.92E-03
Road 41	41	1600-1700	2.02E-02	1.25E-07	4.27E-04	6.73E-02	4.15E-07	1.42E-03	9.57E-02	5.90E-07	2.02E-03
Road 41	41	1700-1800	1.64E-02	1.25E-07	4.27E-04	6.73E-02	8.75E-07	5.40E-07	1.85E-03	5.19E-03	3.20E-06
Road 41	41	1800-1900	1.35E-02	9.42E-08	3.22E-04	4.80E-02	3.35E-07	1.15E-03	6.14E-02	4.29E-07	1.47E-03
Road 41	41	1900-2000	8.60E-03	4.31E-08	1.48E-04	4.01E-02	2.01E-07	6.89E-04	4.87E-02	2.44E-07	8.36E-04
Road 41	41	2000-2100	8.59E-03	3.48E-08	1.18E-04	4.44E-02	1.75E-07	6.01E-04	5.35E-02	2.08E-07	7.13E-04
Road 41	41	2100-2200	8.59E-03	3.40E-08	1.16E-04	4.38E-02	1.73E-07	5.93E-04	5.23E-02	2.07E-07	7.09E-04
Road 41	41	2200-2300	1.02E-02	3.40E-08	1.16E-04	5.24E-02	2.01E-07	6.89E-04	6.26E-02	2.40E-07	8.23E-04
Road 41	41	2300-0000	1.02E-02	2.97E-06	1.02E-04	4.66E-02	1.36E-07	4.67E-04	5.67E-02	1.62E-07	5.57E-04
Road 41	41	0000-0100	1.97E-02	3.78E-08	1.30E-04	6.98E-02	1.24E-03	8.95E-02	1.72E-07	1.59E-03	1.30E-03
Road 41	41	0100-0200	2.56E-02	3.41E-08	1.17E-04	9.35E-02	1.13E-07	3.87E-04	1.14E-01	1.35E-07	4.63E-04
Road 41	42	0200-0300	3.01E-02	3.13E-08	2.99E-04	8.86E-02	9.21E-08	8.51E-04	1.59E-01	2.33E-07	2.14E-03
Road 41	42	0300-0400	3.60E-02	3.13E-08	2.99E-04	1.06E-01	9.21E-08	8.51E-04	1.90E-01	2.33E-07	2.14E-03
Road 41	42	0400-0500	3.36E-02	3.14E-08	2.91E-04	9.58E-02	8.93E-08	8.27E-04	1.29E-01	2.34E-07	2.17E-03
Road 41	42	0500-0600	2.69E-02	3.88E-08	3.59E-04	8.62E-02	3.24E-07	3.15E-03	6.52E-02	6.04E-07	5.87E-03
Road 41	42	0600-0700	2.04E-02	1.81E-07	1.68E-03	7.52E-02	1.33E-07	1.29E-03	8.12E-02	2.47E-07	2.40E-03
Road 41	42	0700-0800	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 41	42	0800-0900	1.91E-02	1.95E-07	1.81E-03	1.06E-01	6.17E-07	5.72E-03	1.40E-01	8.12E-07	7.52E-03
Road 41	42	0900-1000	3.42E-02	2.01E-07	1.86E-03	6.24E-02	5.77E-03	5.40E-01	8.24E-07	7.63E-03	5.28E-03
Road 41	42	1000-1100	3.72E-02	1.85E-07	1.72E-03	1.26E-01	1.82E-02	3.77E-02	1.47E-06	1.47E-04	1.36E-03
Road 41	42	1100-1200	3.72E-02	1.85E-07	1.72E-03	1.26E-01	1.82E-02	3.77E-02	1.47E-06	1.47E-04	1.36E-03
Road 41	42	1200-1300	3.29E-02	1.88E-07	1.74E-03	1.12E-01	5.57E-07	5.15E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	42	1300-1400	3.29E-02	1.88E-07	1.74E-03	1.12E-01	5.57E-07	5.15E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	42	1400-1500	3.12E-02	1.96E-07	1.81E-03	1.46E-01	5.57E-07	5.15E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	42	1500-1600	3.12E-02	1.96E-07	1.81E-03	1.46E-01	5.16E-03	1.97E-01	1.49E-01	7.40E-07	6.85E-03
Road 41	42	1600-1700	4.91E-02	1.95E-07	1.81E-03	1.40E-01	5.58E-07	5.17E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	42	1700-1800	4.36E-02	1.83E-07	1.70E-03	1.31E-01	5.56E-07	5.14E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	42	1800-1900	3.60E-02	1.85E-07	1.72E-03	1.06E-01	8.28E-03	2.84E-01	1.47E-06	1.47E-04	1.36E-03
Road 41	42	1900-2000	2.05E-02	5.72E-08	5.30E-04	7.44E-02	2.08E-07	1.93E-03	1.35E-01	3.78E-07	3.50E-03
Road 41	42	2000-2100	2.10E-02	4.70E-08	4.35E-04	7.86E-02	1.76E-07	1.63E-03	9.96E-02	2.23E-07	2.06E-03
Road 41	42	2100-2200	2.10E-02	4.81E-08	4.45E-04	7.72E-02	1.76E-07	1.63E-03	9.96E-02	2.23E-07	2.06E-03
Road 41	42	2200-2300	2.52E-02	4.81E-08	4.45E-04	9.26E-02	1.43E-07	1.32E-03	1.19E-01	1.81E-07	1.68E-03
Road 41	42	2300-0000	2.52E-02	3.78E-06	3.49E-02	9.26E-02	1.43E-07	1.32E-03	1.19E-01	1.81E-07	1.68E-03
Road 41	43	0000-0100	6.91E-03	4.08E-09	1.52E-05	3.77E-02	2.23E-08	8.33E-05	4.66E-02	2.64E-08	9.85E-05
Road 41	43	0100-0200	8.44E-03	4.91E-09	1.84E-05	4.61E-02	2.68E-08	1.00E-04	5.70E-02	3.17E-08	1.19E-04
Road 41	43	0200-0300	1.15E-02	5.44E-09	1.29E-05	6.27E-02	2.97E-08	7.06E-05	7.75E-02	3.51E-08	8.35E-05
Road 41	43	0300-0400	1.32E-02	5.44E-09	1.29E-05	7.21E-02	2.97E-08	7.06E-05	8.92E-02	3.51E-08	8.35E-05
Road 41	43	0400-0500	1.32E-02	3.47E-09	1.30E-05	4.95E-02	8.28E-02	1.65E-08	6.15E-05	3.07E-03	8.06E-10	3.01E-06
Road 41	43	0500-0600	1.01E-02	4.26E-09	1.99E-05	4.49E-02	1.89E-08	7.06E-05	5.51E-02	2.31E-08	8.65E-05	3.23E-07
Road 41	43	0600-0700	1.03E-02	4.58E-09	2.14E-05	4.56E-02	2.03E-08	9.51E-05	5.60E-02	2.49E-08	1.17E-04	5.46E-07
Road 41	43	0700-0800	1.03E-02	8.83E-08	6.83E-05	4.58E-02	3.18E-08	3.04E-04	5.61E-02	2.40E-03	4.36E-09	1.59E-05
Road 41	43	0800-1000	1.06E-02	8.07E-08	6.24E-05	4.70E-02	2.91E-08	2.78E-04	5.76E-02	2.19E-03	3.98E-09	1.45E-05
Road 41	43	1000-1100	1.06E-02	1.72E-08	6.42E-05	4.70E-02	6.31E-08	2.54E-03	5.76E-02	4.42E-03	8.03E-09	2.93E-05
Road 41	43	1100-1200	1.20E-02	1.66E-08	6.19E-05	5.34E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1200-1300	1.20E-02	1.66E-08	6.19E-05	5.34E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1300-1400	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1400-1500	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1500-1600	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1600-1700	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1700-1800	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1800-1900	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	1900-2000	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	2000-2100	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	2100-2200	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	2200-2300	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	43	2300-0000	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	44	0000-0100	1.07E-02	2.97E-06	7.16E-05	4.55E-02	8.88E-08	3.04E-04	6.32E-02	1.76E-05	4.22E-04
Road 41	44	0100-0200	1.39E-02	3.86E-06	6.38E-05	5.09E-02	6.84E-08	2.34E-04	8.47E-02	1.18E-05	4.03E-04
Road 41	44	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04
Road 41	44	0300-0400	1.96E-02	1.70E-08	5.81E-05	6.10E-02	5.29E-08	1.81E-04	8.06E-02	6.99E-08	2.39E-04
Road 41	44	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 41	44	0500-0600	1.49E-02	1.15E-08	7.36E-05	5.46E-02	2.89E-08	2.70E-04	8.04E-02	1.07E-07	3.96E-04
Road 41	44	0600-0700	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 41	44	0700-0800	1.46E-02	8.94E-08	3.06E-04	5.46E-02	3.34E-07	1.14E-03	6.91E-02	4.23E-07	1.45E-03
Road 41	44	0800-1000	1.58E-02	9.19E-08	3.15E-04	5.94E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	44	1000-1100	1.58E-02	9.19E-08	3.15E-04	5.94E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	44	1100-1200	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.29E-03
Road 41	44	1200-1300	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.29E-03
Road 41	44	1300-1400	2.14E-02	1.23E-07	4.21E-04	6.99E-02	4.00E-07	1.37E-03	9.13E-02	5.23E-07	1.79E-03
Road 41	44	1400-1500	2.10E-02	1.23E-07	4.21E-04	6.99E-02	4.00E-07	1.37E-03	9.57E-02	5.61E-07	1.92E-03
Road 41	44	1500-1600	2.10E-02	1.23E-07	4.21E-04	6.99E-02	4.00E-07	1.37E-03	9.57E-02	5.61E-07	1.92E-03
Road 41	44	1600-1700	2.02E-02	1.25E-07	4.27E-04	6.73E-02	4.15E-07	1.42E-03	9.57E-02	5.90E-07	2.02E-03
Road 41	44	1700-1800	1.64E-02	1.25E-07	4.27E-04	6.73E-02	8.75E-07	5.40E-07	1.85E-03	5.19E-03	3.20E-06
Road 41	44	1800-1900	1.35E-02	9.42E-08	3.22E-04	4.80E-02	3.35E-07	1.15E-03	6.14E-02	4.29E-07	1.47E-03
Road 41	44	1900-2000	8.60E-03	4.31E-08	1.48E-04	4.01E-02	2.01E-07	6.89E-04	4.87E-02	2.44E-07	8.36E-04
Road 41	44	2000-2100	8.59E-03	3.48E-08	1.18E-04	4.44E-02	1.75E-07	6.01E-04	5.35E-02	2.08E-07	7.13E-04
Road 41	44	2100-2200	8.59E-03	3.40E-08	1.16E-04	4.38E-02	1.73E-07	5.93E-04	5.23E-02	2.07E-07	7.09E-04
Road 41	44	2200-2300	1.02E-02	3.40E-08	1.16E-04	5.24E-02	2.01E-07	6.89E-04	6.26E-02	2.40E-07	8.23E-04
Road 41	44	2300-0000	1.02E-02	2.97E-06	1.02E-04	4.66E-02	1.36E-07	4.67E-04	5.67E-02	1.62E-07	5.57E-04
Road 41	44	0000-0100	1.97E-02	3.78E-08	1.30E-04	6.98E-02	1.24E-03	8.95E-02	1.72E-07	1.59E-03	1.30E-03
Road 41	44	0100-0200	2.56E-02	3.41E-08	1.17E-04	9.35E-02	1.13E-07	3.87E-04	1.14E-01	1.35E-07	4.63E-04
Road 41	44	0200-0300	3.01E-02	3.13E-08	2.99E-04	8.86E-02	9.21E-08	8.51E-04	1.59E-01	2.33E-07	2.14E-03
Road 41	44	0300-0400	3.60E-02	3.13E-08	2.99E-04	1.06E-01	9.21E-08	8.51E-04	1.90E-01	2.33E-07	2.14E-03
Road 41	44	0400-0500	3.36E-02	3.14E-08	2.91E-04	9.58E-02	8.93E-08	8.27E-04	1.29E-01	2.34E-07	2.17E-03
Road 41	44	0500-0600	2.69E-02	3.88E-08	3.59E-04	8.62E-02	3.24E-07	3.15E-03	6.52E-02	6.04E-07	5.87E-03
Road 41	44	0600-0700	2.04E-02	1.81E-07	1.68E-03	7.52E-02	1.33E-07	1.29E-03	8.12E-02	2.47E-07	2.40E-03
Road 41	44	0700-0800	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 41	44	0800-0900	1.91E-02	1.95E-07	1.81E-03	1.06E-01	6.17E-07	5.72E-03	1.40E-01	8.12E-07	7.52E-03
Road 41	44	0900-1000	3.42E-02	2.01E-07	1.86E-03	6.24E-02	5.77E-03	5.40E-01	8.24E-07	7.63E-03	5.28E-03
Road 41	44	1000-1100	3.72E-02	1.85E-07	1.72E-03	1.26E-01	1.82E-02	3.77E-02	1.47E-06	1.47E-04	1.36E-03
Road 41	44	1100-1200	3.72E-02	1.85E-07	1.72E-03	1.26E-01	1.82E-02	3.77E-02	1.47E-06	1.47E-04	1.36E-03
Road 41	44	1200-1300	3.29E-02	1.88E-07	1.74E-03	1.12E-01	5.57E-07	5.15E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	44	1300-1400	3.29E-02	1.88E-07	1.74E-03	1.12E-01	5.57E-07	5.15E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	44	1400-1500	3.12E-02	1.96E-07	1.81E-03	1.46E-01	5.57E-07	5.15E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	44	1500-1600	3.12E-02	1.96E-07	1.81E-03	1.46E-01	5.16E-03	1.97E-01	1.49E-01	7.40E-07	6.85E-03
Road 41	44	1600-1700	4.91E-02	1.95E-07	1.81E-03	1.40E-01	5.58E-07	5.17E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	44	1700-1800	4.36E-02	1.83E-07	1.70E-03	1.31E-01	5.56E-07	5.14E-03	1.49E-01	7.40E-07	6.85E-03
Road 41	44	1800-1900	3.60E-02	1.85E-07	1.72E-03	1.06E-01	8.28E-03	2.84E-01	1.47E-06	1.47E-04	1.36E-03
Road 41	44	1900-2000	2.05E-02	5.72E-08	5.30E-04	7.44E-02	2.08E-07	1.93E-03	1.35E-01	3.78E-07	3.50E-03
Road 41	44	2000-2100	2.10E-02	4.70E-08	4.35E-04	7.86E-02	1.76E-07	1.63E-03	9.96E-02	2.23E-07	2.06E-03
Road 41	44	2100-2200	2.10E-02	4.81E-08	4.45E-04	7.72E-02	1.76E-07	1.63E-03	9.96E-02	2.23E-07	2.06E-03
Road 41	44	2200-2300	2.52E-02	4.81E-08	4.45E-04	9.26E-02	1.43E-07	1.32E-03	1.19E-01	1.81E-07	1.68E-03
Road 41	44	2300-0000	2.52E-02	3.78E-06	3.49E-02	9.26E-02	1.43E-07	1.32E-03	1.19E-01	1.81E-07	1.68E-03
Road 41	45	0000-0100	6.91E-03	4.08E-09	1.52E-05	3.77E-02	2.23E-08	8.33E-05	4.66E-02	2.64E-08	9.85E-05
Road 41	45	0100-0200	8.44E-03	4.91E-09	1.84E-05	4.61E-02	2.68E-08	1.00E-04	5.70E-02	3.17E-08	1.19E-04
Road 41	45	0200-0300	1.15E-02	5.44E-09	1.29E-05	6.27E-02	2.97E-08	7.06E-05	7.75E-02	3.51E-08	8.35E-05
Road 41	45	0300-0400	1.32E-02	5.44E-09	1.29E-05	7.21E-02	2.97E-08	7.06E-05	8.92E-02	3.51E-08	8.35E-05
Road 41	45	0400-0500	1.32E-02	3.47E-09	1.30E-05	4.95E-02	8.28E-02	1.65E-08	6.15E-05	3.07E-03	8.06E-10	3.01E-06
Road 41	45	0500-0600	1.01E-02	4.26E-09	1.99E-05	4.49E-02	1.89E-08	7.06E-05	5.51E-02	2.31E-08	8.65E-05	3.23E-07
Road 41	45	0600-0700	1.03E-02	4.58E-09	2.14E-05	4.56E-02	2.03E-08	9.51E-05	5.60E-02	2.49E-08	1.17E-04	5.46E-07
Road 41	45	0700-0800	1.03E-02	8.83E-08	6.83E-05	4.58E-02	3.18E-08	3.04E-04	5.61E-02	2.40E-03	4.36E-09	1.59E-05
Road 41	45	0800-1000	1.06E-02	8.07E-08	6.24E-05	4.70E-02	2.91E-08	2.78E-04	5.76E-02	2.19E-03	3.98E-09	1.45E-05
Road 41	45	1000-1100	1.06E-02	1.72E-08	6.42E-05	4.70E-02	6.31E-08	2.54E-03	5.76E-02	4.42E-03	8.03E-09	2.93E-05
Road 41	45	1100-1200	1.20E-02	1.66E-08	6.19E-05	5.34E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1200-1300	1.20E-02	1.66E-08	6.19E-05	5.34E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1300-1400	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1400-1500	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1500-1600	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1600-1700	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1700-1800	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1800-1900	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	1900-2000	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	2000-2100	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	2100-2200	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	2200-2300	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	45	2300-0000	1.47E-02	1.68E-08	6.26E-05	6.52E-02	5.74E-02	7.95E-08	2.97E-04	2.88E-03	3.98E-09	1.48E-05
Road 41	46	0000-0100	1.07E-02	2.97E-06	7.16E-05	4.55E-02	8.88E-08	3.04E-04	6.32E-02	1.76E-05	4.22E-04
Road 41	46	0100-0200	1.39E-02	3.86E-06	6.38E-05	5.09E-02	6.84E-08	2.34E-04	8.47E-02	1.18E-05	4.03E-04
Road 41	46	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04
Road 41	46	0300-0400	1.96E-02	1.70E-08	5.81E-05	6.10E-02	5.29E-08	1.81E-04	8.06E-02	6.99E-08	2.39E-04
Road 41	46	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 41	46	0500-0600	1.49E-02	1.15E-08	7.36E-05	5.46E-02	2.89E-08	2.70E-04	8.04E-02	1.07E-07	3.96E-04
Road 41	46	0600-0700	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 41	46	0700-0800	1.46E-02	8.94E-08	3.06E-04	5.46E-02	3.34E-07	1.14E-03	6.91E-02	4.23E-07	1.45E-03
Road 41	46	0800-1000	1.58E-02	9.19E-08	3.15E-04	5.94E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	46	1000-1100	1.58E-02	9.19E-08	3.15E-04	5.94E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	46	1100-1200	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.29E-03
Road 41	46	1200-1300	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.29E-03
Road 41	46	1300-1400	2.14E-02	1.23E-07	4.21E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	2.01E-02
Road 1	1	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	1.97E-02
Road 1	1	0200-0300	1.41E-02	3.92E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	2.21E-02
Road 1	1	0300-0400	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.51E-06	1.92E-02	1.79E-01	4.96E-02	2.44E-02
Road 1	1	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.56E-06	1.94E-02	1.81E-01	5.02E-02	2.47E-02
Road 1	1	0500-0600	1.49E-02	4.13E-03	5.34E-03	1.67E-01	4.30E-06	1.83E-02	1.71E-01	4.74E-02	2.33E-02
Road 1	1	0600-0700	1.45E-02	4.03E-03	5.21E-03	1.63E-01	4.20E-06	1.79E-02	1.67E-01	4.63E-02	2.28E-02
Road 1	1	0700-0800	1.68E-02	3.97E-03	5.42E-03	1.88E-01	4.13E-06	1.85E-02	1.93E-01	4.56E-02	2.37E-02
Road 1	1	0800-0900	1.65E-02	3.90E-03	5.32E-03	1.85E-01	4.06E-06	1.82E-02	1.89E-01	4.48E-02	2.33E-02
Road 1	1	0900-1000	1.56E-02	3.69E-03	5.03E-03	1.75E-01	3.84E-06	1.72E-02	1.79E-01	4.24E-02	2.20E-02
Road 1	1	1000-1100	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 1	1	1100-1200	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 1	1	1200-1300	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 1	1	1300-1400	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 1	1	1400-1500	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 1	1	1500-1600	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 1	1	1600-1700	1.47E-02	3.46E-03	4.72E-03	1.65E-01	3.60E-06	1.61E-02	1.69E-01	3.97E-02	2.06E-02
Road 1	1	1700-1800	1.51E-02	3.56E-03	4.86E-03	1.69E-01	3.71E-06	1.66E-02	1.73E-01	4.09E-02	2.12E-02
Road 1	1	1800-1900	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 1	1	1900-2000	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 1	1	2000-2100	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 1	1	2100-2200	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 1	1	2200-2300	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 1	1	2300-2400	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 2	2	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	2.01E-02
Road 2	2	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	1.97E-02
Road 2	2	0200-0300	1.41E-02	3.92E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	2.21E-02
Road 2	2	0300-0400	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.51E-06	1.92E-02	1.79E-01	4.96E-02	2.44E-02
Road 2	2	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.56E-06	1.94E-02	1.81E-01	5.02E-02	2.47E-02
Road 2	2	0500-0600	1.49E-02	4.13E-03	5.34E-03	1.67E-01	4.30E-06	1.83E-02	1.71E-01	4.74E-02	2.33E-02
Road 2	2	0600-0700	1.45E-02	4.03E-03	5.21E-03	1.63E-01	4.20E-06	1.79E-02	1.67E-01	4.63E-02	2.28E-02
Road 2	2	0700-0800	1.68E-02	3.97E-03	5.42E-03	1.88E-01	4.13E-06	1.85E-02	1.93E-01	4.56E-02	2.37E-02
Road 2	2	0800-0900	1.65E-02	3.90E-03	5.32E-03	1.85E-01	4.06E-06	1.82E-02	1.89E-01	4.48E-02	2.33E-02
Road 2	2	0900-1000	1.56E-02	3.69E-03	5.03E-03	1.75E-01	3.84E-06	1.72E-02	1.79E-01	4.24E-02	2.20E-02
Road 2	2	1000-1100	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 2	2	1100-1200	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 2	2	1200-1300	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 2	2	1300-1400	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 2	2	1400-1500	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 2	2	1500-1600	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 2	2	1600-1700	1.47E-02	3.46E-03	4.72E-03	1.65E-01	3.60E-06	1.61E-02	1.69E-01	3.97E-02	2.06E-02
Road 2	2	1700-1800	1.51E-02	3.56E-03	4.86E-03	1.69E-01	3.71E-06	1.66E-02	1.73E-01	4.09E-02	2.12E-02
Road 2	2	1800-1900	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 2	2	1900-2000	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 2	2	2000-2100	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 2	2	2100-2200	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 2	2	2200-2300	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 2	2	2300-2400	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 3	3	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	2.01E-02
Road 3	3	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	1.97E-02
Road 3	3	0200-0300	1.41E-02	3.92E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	2.21E-02
Road 3	3	0300-0400	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.51E-06	1.92E-02	1.79E-01	4.96E-02	2.44E-02
Road 3	3	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.56E-06	1.94E-02	1.81E-01	5.02E-02	2.47E-02
Road 3	3	0500-0600	1.49E-02	4.13E-03	5.34E-03	1.67E-01	4.30E-06	1.83E-02	1.71E-01	4.74E-02	2.33E-02
Road 3	3	0600-0700	1.45E-02	4.03E-03	5.21E-03	1.63E-01	4.20E-06	1.79E-02	1.67E-01	4.63E-02	2.28E-02
Road 3	3	0700-0800	1.68E-02	3.97E-03	5.42E-03	1.88E-01	4.13E-06	1.85E-02	1.93E-01	4.56E-02	2.37E-02
Road 3	3	0800-0900	1.65E-02	3.90E-03	5.32E-03	1.85E-01	4.06E-06	1.82E-02	1.89E-01	4.48E-02	2.33E-02
Road 3	3	0900-1000	1.56E-02	3.69E-03	5.03E-03	1.75E-01	3.84E-06	1.72E-02	1.79E-01	4.24E-02	2.20E-02
Road 3	3	1000-1100	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 3	3	1100-1200	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 3	3	1200-1300	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 3	3	1300-1400	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 3	3	1400-1500	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 3	3	1500-1600	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 3	3	1600-1700	1.47E-02	3.46E-03	4.72E-03	1.65E-01	3.60E-06	1.61E-02	1.69E-01	3.97E-02	2.06E-02
Road 3	3	1700-1800	1.51E-02	3.56E-03	4.86E-03	1.69E-01	3.71E-06	1.66E-02	1.73E-01	4.09E-02	2.12E-02
Road 3	3	1800-1900	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 3	3	1900-2000	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 3	3	2000-2100	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 3	3	2100-2200	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 3	3	2200-2300	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 3	3	2300-2400	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 4	4	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	2.01E-02
Road 4	4	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	1.97E-02
Road 4	4	0200-0300	1.41E-02	3.92E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	2.21E-02
Road 4	4	0300-0400	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.51E-06	1.92E-02	1.79E-01	4.96E-02	2.44E-02
Road 4	4	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.56E-06	1.94E-02	1.81E-01	5.02E-02	2.47E-02
Road 4	4	0500-0600	1.49E-02	4.13E-03	5.34E-03	1.67E-01	4.30E-06	1.83E-02	1.71E-01	4.74E-02	2.33E-02
Road 4	4	0600-0700	1.45E-02	4.03E-03	5.21E-03	1.63E-01	4.20E-06	1.79E-02	1.67E-01	4.63E-02	2.28E-02
Road 4	4	0700-0800	1.68E-02	3.97E-03	5.42E-03	1.88E-01	4.13E-06	1.85E-02	1.93E-01	4.56E-02	2.37E-02
Road 4	4	0800-0900	1.65E-02	3.90E-03	5.32E-03	1.85E-01	4.06E-06	1.82E-02	1.89E-01	4.48E-02	2.33E-02
Road 4	4	0900-1000	1.56E-02	3.69E-03	5.03E-03	1.75E-01	3.84E-06	1.72E-02	1.79E-01	4.24E-02	2.20E-02
Road 4	4	1000-1100	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 4	4	1100-1200	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 4	4	1200-1300	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 4	4	1300-1400	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 4	4	1400-1500	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 4	4	1500-1600	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 4	4	1600-1700	1.47E-02	3.46E-03	4.72E-03	1.65E-01	3.60E-06	1.61E-02	1.69E-01	3.97E-02	2.06E-02
Road 4	4	1700-1800	1.51E-02	3.56E-03	4.86E-03	1.69E-01	3.71E-06	1.66E-02	1.73E-01	4.09E-02	2.12E-02
Road 4	4	1800-1900	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 4	4	1900-2000	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 4	4	2000-2100	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 4	4	2100-2200	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 4	4	2200-2300	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 4	4	2300-2400	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 5	5	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	2.01E-02
Road 5	5	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	1.97E-02
Road 5	5	0200-0300	1.41E-02	3.92E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	2.21E-02
Road 5	5	0300-0400	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.51E-06	1.92E-02	1.79E-01	4.96E-02	2.44E-02
Road 5	5	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.56E-06	1.94E-02	1.81E-01	5.02E-02	2.47E-02
Road 5	5	0500-0600	1.49E-02	4.13E-03	5.34E-03	1.67E-01	4.30E-06	1.83E-02	1.71E-01	4.74E-02	2.33E-02
Road 5	5	0600-0700	1.45E-02	4.03E-03	5.21E-03	1.63E-01	4.20E-06	1.79E-02	1.67E-01	4.63E-02	2.28E-02
Road 5	5	0700-0800	1.68E-02	3.97E-03	5.42E-03	1.88E-01	4.13E-06	1.85E-02	1.93E-01	4.56E-02	2.37E-02
Road 5	5	0800-0900	1.65E-02	3.90E-03	5.32E-03	1.85E-01	4.06E-06	1.82E-02	1.89E-01	4.48E-02	2.33E-02
Road 5	5	0900-1000	1.56E-02	3.69E-03	5.03E-03	1.75E-01	3.84E-06	1.72E-02	1.79E-01	4.24E-02	2.20E-02
Road 5	5	1000-1100	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 5	5	1100-1200	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 5	5	1200-1300	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 5	5	1300-1400	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 5	5	1400-1500	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 5	5	1500-1600	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 5	5	1600-1700	1.47E-02	3.46E-03	4.72E-03	1.65E-01	3.60E-06	1.61E-02	1.69E-01	3.97E-02	2.06E-02
Road 5	5	1700-1800	1.51E-02	3.56E-03	4.86E-03	1.69E-01	3.71E-06	1.66E-02	1.73E-01	4.09E-02	2.12E-02
Road 5	5	1800-1900	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 5	5	1900-2000	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 5	5	2000-2100	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 5	5	2100-2200	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 5	5	2200-2300	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 5	5	2300-2400	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02

L:\Secure\Environment_Projects\60733229\1.0\1\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2043.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 6	6	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	2.01E-02
Road 6	6	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	1.97E-02
Road 6	6	0200-0300	1.41E-02	3.92E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	2.21E-02
Road 6	6	0300-0400	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.51E-06	1.92E-02	1.79E-01	4.96E-02	2.44E-02
Road 6	6	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.56E-06	1.94E-02	1.81E-01	5.02E-02	2.47E-02
Road 6	6	0500-0600	1.49E-02	4.13E-03	5.34E-03	1.67E-01	4.30E-06	1.83E-02	1.71E-01	4.74E-02	2.33E-02
Road 6	6	0600-0700	1.45E-02	4.03E-03	5.21E-03	1.63E-01	4.20E-06	1.79E-02	1.67E-01	4.63E-02	2.28E-02
Road 6	6	0700-0800	1.68E-02	3.97E-03	5.42E-03	1.88E-01	4.13E-06	1.85E-02	1.93E-01	4.56E-02	2.37E-02
Road 6	6	0800-0900	1.65E-02	3.90E-03	5.32E-03	1.85E-01	4.06E-06	1.82E-02	1.89E-01	4.48E-02	2.33E-02
Road 6	6	0900-1000	1.56E-02	3.69E-03	5.03E-03	1.75E-01	3.84E-06	1.72E-02	1.79E-01	4.24E-02	2.20E-02
Road 6	6	1000-1100	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 6	6	1100-1200	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 6	6	1200-1300	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 6	6	1300-1400	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 6	6	1400-1500	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 6	6	1500-1600	1.48E-02	3.50E-03	4.77E-03	1.66E-01	3.64E-06	1.63E-02	1.70E-01	4.02E-02	2.09E-02
Road 6	6	1600-1700	1.47E-02	3.46E-03	4.72E-03	1.65E-01	3.60E-06	1.61E-02	1.69E-01	3.97E-02	2.06E-02
Road 6	6	1700-1800	1.51E-02	3.56E-03	4.86E-03	1.69E-01	3.71E-06	1.66E-02	1.73E-01	4.09E-02	2.12E-02
Road 6	6	1800-1900	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 6	6	1900-2000	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 6	6	2000-2100	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 6	6	2100-2200	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 6	6	2200-2300	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 6	6	2300-2400	1.58E-02	3.73E-03	5.09E-03	1.77E-01	3.89E-06	1.74E-02	1.82E-01	4.29E-02	2.23E-02
Road 7	7	0000-0100	1.28E-02	3.55E-03	4.60E-03	1.44E-01	3.71E-06	1.58E-02	1.47E-01	4.08E-02	2.01E-02
Road 7	7	0100-0200	1.26E-02	3.50E-03	4.53E-03	1.41E-01	3.64E-06	1.55E-02	1.44E-01	4.00E-02	1.97E-02
Road 7	7	0200-0300	1.41E-02	3.92E-03	5.07E-03	1.58E-01	4.08E-06	1.74E-02	1.61E-01	4.48E-02	2.21E-02
Road 7	7	0300-0400	1.56E-02	4.33E-03	5.60E-03	1.75E-01	4.51E-06	1.92E-02	1.79E-01	4.96E-02	2.44E-02
Road 7	7	0400-0500	1.58E-02	4.38E-03	5.67E-03	1.77E-01	4.56E-06	1.94E-02	1.81E-01	5.02E-02	2.47E-02
Road 7	7	0500-0600	1.49E-02	4.13E-03	5.34E-03	1.67E-01	4.30E-06	1.83E-02	1.71E-01	4.74E-02	2.33E-02
Road 7	7	0600-0700	1.45E-02	4.03E-03	5.21E-03	1.63E-01	4.20E-06	1.79E-02	1.67E-01	4.63E-02	2.28E-02
Road 7	7	0700-0800	1.68E-02	3.97E-03	5.42E-03	1.88E-01	4.13E-06	1.85E-02	1.93E-01	4.56E-02	2.37E-02
Road 7	7	0800-0900	1.65E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	9.13E-03	1.97E-07	1.88E-03	9.65E-03	2.08E-07	1.99E-03	1.51E-02	3.26E-07	3.11E-03	1.60E-02	3.45E-07	3.30E-03
Road 34	34	0900-1000	9.32E-03	1.95E-07	1.86E-03	4.33E-02	9.05E-07	8.65E-03	1.56E-02	3.25E-07	3.10E-03	7.21E-02	1.51E-06	1.44E-02
Road 34	34	1000-1100	1.06E-02	1.91E-07	1.82E-03	4.58E-02	8.27E-07	7.90E-03	1.64E-02	2.96E-07	2.82E-03	7.08E-02	1.28E-06	1.22E-02
Road 34	34	1100-1200	1.02E-02	1.75E-07	1.67E-03	4.59E-02	7.86E-07	7.51E-03	1.58E-02	2.71E-07	2.59E-03	7.10E-02	1.22E-06	1.16E-02
Road 34	34	1200-1300	1.61E-02	2.67E-07	2.55E-03	5.79E-02	9.61E-07	9.18E-03	2.50E-02	4.15E-07	3.96E-03	9.00E-02	1.49E-06	1.42E-02
Road 34	34	1300-1400	1.61E-02	2.79E-07	2.66E-03	5.79E-02	1.00E-06	9.58E-03	2.50E-02	4.33E-07	4.13E-03	9.00E-02	1.56E-06	1.49E-02
Road 34	34	1400-1500	1.61E-02	2.90E-07	2.77E-03	5.87E-02	1.06E-06	1.01E-02	2.50E-02	4.50E-07	4.30E-03	9.12E-02	1.64E-06	1.57E-02
Road 34	34	1500-1600	1.49E-02	2.75E-07	2.63E-03	5.85E-02	1.08E-06	1.04E-02	2.34E-02	4.30E-07	4.12E-03	9.21E-02	1.70E-06	1.62E-02
Road 34	34	1600-1700	1.76E-02	3.08E-07	2.94E-03	6.10E-02	1.07E-06	1.02E-02	2.68E-02	4.69E-07	4.47E-03	9.29E-02	1.62E-06	1.55E-02
Road 34	34	1700-1800	1.14E-02	2.17E-07	2.06E-03	6.00E-02	1.14E-06	1.09E-02	1.73E-02	3.24E-07	3.09E-03	9.12E-02	1.71E-06	1.63E-02
Road 34	34	1800-1900	1.03E-02	1.93E-07	1.84E-03	5.43E-02	1.02E-06	9.72E-03	1.56E-02	2.93E-07	2.79E-03	8.24E-02	1.54E-06	1.47E-02
Road 34	34	1900-2000	6.82E-03	1.27E-07	1.21E-03	3.60E-02	6.71E-07	6.40E-03	1.03E-02	1.93E-07	1.84E-03	5.46E-02	1.02E-06	9.70E-03
Road 34	34	2000-2200	6.49E-03	1.21E-07	1.15E-03	3.95E-02	7.36E-07	7.02E-03	9.84E-03	1.83E-07	1.75E-03	5.99E-02	1.12E-06	1.06E-02
Road 34	34	2200-2300	4.49E-03	8.37E-08	7.98E-04	2.73E-02	5.08E-07	4.85E-03	6.81E-03	1.27E-07	1.21E-03	4.14E-02	7.71E-07	7.35E-03
Road 34	34	2300-2400	3.15E-03	5.87E-08	5.60E-04	1.92E-02	3.57E-07	3.41E-03	4.78E-03	8.91E-08	8.50E-04	2.91E-02	5.42E-07	5.17E-03
Road 35	35	0200-0300	4.32E-03	5.08E-08	2.73E-04	5.14E-01	6.81E-06	3.66E-03	6.55E-03	7.71E-08	4.14E-04	7.79E-01	1.03E-05	5.55E-03
Road 35	35	0300-0400	4.86E-03	3.00E-08	2.66E-05	1.23E-01	7.63E-06	6.77E-04	7.37E-03	4.55E-08	4.03E-05	1.87E-01	1.16E-05	1.03E-03
Road 35	35	0400-0500	4.71E-03	1.29E-08	1.14E-05	3.80E-02	1.04E-06	9.24E-05	7.14E-03	1.96E-08	1.73E-05	5.51E-02	1.51E-06	1.34E-04
Road 35	35	0500-0600	3.74E-02	3.60E-08	3.19E-05	1.07E-01	1.03E-06	9.16E-05	5.65E-02	5.44E-08	4.82E-05	1.62E-01	1.56E-06	1.38E-04
Road 35	35	0600-0700	2.74E-02	4.61E-08	4.09E-05	4.47E-01	7.52E-06	6.67E-04	4.13E-02	6.95E-08	6.16E-05	6.74E-01	1.13E-05	1.01E-03
Road 35	35	0700-0800	4.22E-02	1.72E-07	1.53E-04	1.22E-01	4.99E-07	4.43E-04	6.64E-02	2.71E-07	2.40E-04	1.92E-01	7.85E-07	6.96E-04
Road 35	35	0800-0900	4.05E-02	1.87E-07	1.66E-04	1.18E-01	5.44E-07	4.83E-04	1.59E-01	7.31E-07	6.49E-04	6.28E-01	2.90E-06	2.57E-03
Road 35	35	0900-1000	3.75E-02	1.82E-07	1.61E-04	1.09E-01	5.29E-07	4.69E-04	1.47E-01	7.08E-07	6.27E-04	5.81E-01	2.81E-06	2.48E-03
Road 35	35	1000-1100	4.87E-02	1.83E-07	1.62E-04	1.37E-01	5.15E-07	4.58E-04	1.86E-01	6.98E-07	6.20E-04	7.26E-01	2.73E-06	2.42E-03
Road 35	35	1100-1200	4.61E-02	1.73E-07	1.53E-04	1.37E-01	5.14E-07	4.57E-04	1.76E-01	6.61E-07	5.87E-04	7.26E-01	2.72E-06	2.42E-03
Road 35	35	1200-1300	5.65E-02	1.42E-07	1.27E-04	1.43E-01	3.61E-07	3.20E-04	2.00E-01	5.03E-07	4.47E-04	8.80E-01	2.22E-06	1.97E-03
Road 35	35	1300-1400	5.60E-02	1.28E-07	1.14E-04	1.45E-01	3.33E-07	2.96E-04	1.98E-01	4.54E-07	4.03E-04	8.80E-01	2.02E-06	1.79E-03
Road 35	35	1400-1500	5.60E-02	1.23E-07	1.09E-04	1.41E-01	3.11E-07	2.76E-04	1.98E-01	4.36E-07	3.87E-04	8.80E-01	1.94E-06	1.72E-03
Road 35	35	1500-1600	5.31E-02	1.44E-07	1.28E-04	1.41E-01	3.81E-07	3.39E-04	1.94E-01	5.25E-07	4.66E-04	8.40E-01	2.28E-06	2.02E-03
Road 35	35	1600-1700	6.60E-02	1.24E-07	1.10E-04	1.73E-01	3.25E-07	2.89E-04	2.41E-01	4.53E-07	4.03E-04	1.06E-00	1.99E-06	1.77E-03
Road 35	35	1700-1800	4.60E-02	1.39E-07	1.23E-04	1.71E-01	5.30E-07	4.69E-04	1.68E-01	5.10E-07	4.53E-04	7.23E-01	2.18E-06	1.94E-03
Road 35	35	1800-1900	4.07E-02	1.39E-07	1.23E-04	1.71E-01	5.85E-07	5.18E-04	1.49E-01	5.10E-07	4.53E-04	6.28E-01	2.15E-06	1.91E-03
Road 35	35	1900-2000	2.07E-02	4.11E-08	3.65E-05	6.86E-02	1.36E-07	1.21E-04	7.59E-02	1.50E-07	1.34E-04	9.94E-01	1.97E-06	1.75E-03
Road 35	35	2000-2200	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	8.56E-02	1.37E-07	1.22E-04	1.12E-00	1.80E-06	1.60E-03
Road 35	35	2200-2300	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	8.90E-02	1.54E-07	1.37E-04	1.04E-00	1.80E-06	1.60E-03
Road 35	35	2300-0000	2.24E-02	3.48E-08	3.09E-05	7.40E-02	1.15E-07	1.02E-04	8.43E-03	1.31E-08	1.16E-05	9.98E-02	1.55E-07	1.38E-04
Road 36	36	0000-0100	3.57E-02	5.58E-08	5.13E-05	1.40E-01	2.18E-07	2.00E-04	1.74E-01	2.74E-07	2.52E-04	6.36E-01	9.93E-07	9.13E-04
Road 36	36	0100-0200	4.18E-02	4.66E-08	4.29E-05	1.48E-01	1.65E-07	1.52E-04	1.90E-01	2.12E-07	1.95E-04	6.74E-01	7.51E-07	6.91E-04
Road 36	36	0200-0300	3.79E-02	4.39E-08	4.04E-05	1.34E-01	1.55E-07	1.43E-04	1.72E-01	1.99E-07	1.83E-04	6.09E-01	7.05E-07	6.48E-04
Road 36	36	0300-0400	3.33E-02	4.07E-08	3.74E-05	1.66E-01	2.03E-07	1.87E-04	1.51E-01	1.85E-07	1.70E-04	7.54E-01	9.21E-07	8.47E-04
Road 36	36	0400-0500	3.67E-02	5.70E-08	5.24E-05	1.88E-01	2.15E-07	2.62E-07	2.41E-04	8.37E-03	1.02E-08	9.39E-06	1.07E-02	9.84E-06
Road 36	36	0500-0600	3.67E-02	9.77E-08	8.98E-05	1.72E-01	4.59E-07	4.22E-04	1.67E-01	4.45E-07	4.09E-04	7.83E-01	2.09E-06	1.92E-03
Road 36	36	0600-0700	5.47E-02	1.01E-07	9.31E-05	3.27E-01	2.44E-07	2.25E-04	2.66E-01	4.91E-07	4.51E-04	1.59E-00	3.84E-06	3.53E-03
Road 36	36	0700-0800	5.27E-02	3.10E-07	2.85E-04	1.79E-01	1.05E-06	9.69E-04	2.32E-01	1.36E-06	1.25E-03	7.78E-01	4.58E-06	4.21E-03
Road 36	36	0800-0900	5.27E-02	3.10E-07	2.85E-04	1.79E-01	1.05E-06	9.69E-04	2.32E-01	1.36E-06	1.25E-03	7.78E-01	4.58E-06	4.21E-03
Road 36	36	0900-1000	4.57E-02	3.09E-07	2.84E-04	2.01E-01	1.36E-06	1.25E-03	1.97E-01	1.33E-06	1.22E-03	8.66E-01	5.84E-06	5.37E-03
Road 36	36	1000-1100	4.57E-02	3.09E-07	2.84E-04	2.01E-01	1.36E-06	1.25E-03	1.97E-01	1.33E-06	1.22E-03	8.66E-01	5.84E-06	5.37E-03
Road 36	36	1100-1200	4.77E-02	3.08E-07	2.83E-04	2.01E-01	1.30E-06	1.19E-03	2.06E-01	1.33E-06	1.22E-03	8.66E-01	5.58E-06	5.13E-03
Road 36	36	1200-1300	7.74E-02	2.90E-07	2.66E-04	2.21E-01	8.29E-07	7.62E-04	2.99E-01	1.12E-06	1.03E-03	9.43E-01	3.53E-06	3.25E-03
Road 36	36	1300-1400	7.97E-02	3.10E-07	2.85E-04	2.31E-01	9.01E-07	8.29E-04	3.11E-01	1.21E-06	1.11E-03	9.43E-01	3.67E-06	3.37E-03
Road 36	36	1400-1500	7.97E-02	3.10E-07	2.85E-04	2.31E-01	9.01E-07	8.29E-04	3.11E-01	1.21E-06	1.11E-03	9.43E-01	3.67E-06	3.37E-03
Road 36	36	1500-1600	7.82E-02	3.21E-07	2.95E-04	2.33E-01	9.57E-07	8.80E-04	3.12E-01	1.28E-06	1.17E-03	9.07E-01	3.72E-06	3.42E-03
Road 36	36	1600-1700	8.20E-02	3.20E-07	2.94E-04	2.43E-01	9.48E-07	8.72E-04	3.26E-01	1.27E-06	1.17E-03	9.66E-01	3.77E-06	3.47E-03
Road 36	36	1700-1800	6.72E-02	2.94E-07	2.70E-04	2.44E-01	1.06E-06	9.76E-04	2.69E-01	1.17E-06	1.08E-03	9.78E-01	4.27E-06	3.92E-03
Road 36	36	1800-1900	5.44E-02	2.37E-07	2.18E-04	1.70E-01	7.41E-07	6.81E-04	2.18E-01	9.48E-07	8.72E-04	6.82E-01	2.98E-06	2.74E-03
Road 36	36	1900-2000	3.49E-02	1.38E-07	1.27E-04	1.43E-01	5.64E-07	5.18E-04	1.40E-01	5.52E-07	5.08E-04	5.73E-01	2.26E-06	2.08E-03
Road 36	36	2000-2200	3.76E-02	1.03E-07	9.47E-05	1.40E-01	3.82E-07	3.51E-04	1.51E-01	4.13E-07	3.80E-04	5.61E-01	1.53E-06	1.41E-03
Road 36	36	2200-2300	3.76E-02	1.08E-08	5.60E-06	1.41E-01	4.53E-08	2.36E-05	1.74E-01	5.60E-08	2.91E-05	6.52E-01	2.10E-07	1.09E-04
Road 36	36	2300-2400	3.76E-02	1.08E-08	5.60E-06	1.41E-01	4.53E-08	2.36E-05	1.74E-01	5.60E-08	2.91E-05	6.52E-01	2.10E-07	1.09E-04
Road 37	37	0000-0100	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0100-0200	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0200-0300	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0300-0400	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0400-0500	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0500-0600	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0600-0700	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0700-0800	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0800-0900	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	0900-1000	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	1000-1100	4.31E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	1100-1200	4.31E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 37	37	1200-1300	7.74E-02	2.90E-07	2.66E-04	2.21E-01	8.29E-07	7.62E-04	2.99E-01	1.12E-06	1.03E-03	9.43E-01	3.53E-06	3.25E-03
Road 37	37	1300-1400	7.97E-02	3.10E-07	2.85E-04	2.31E-01	9.01E-07	8.29E-04	3.11E-01	1.21E-06	1.11E-03	9.43E-01	3.67E-06	3.37E-03
Road 37	37	1400-1500	7.97E-02	3.10E-07	2.85E-04	2.31E-01	9.01E-07	8.29E-04	3.11E-01	1.21E-06	1.11E-03	9.43E-01	3.67E-06	3.37E-03
Road 37	37	1500-1600	7.82E-02	3.21E-07	2.95E-04	2.33E-01	9.57E-07	8.80E-04	3.12E-01	1.28E-06	1.17E-03	9.07E-01	3.72E-06	3.42E-03
Road 37	37	1600-1700	8.20E-02	3.20E-07	2.94E-04	2.43E-01	9.48E-07	8.72E-04	3.26E-01	1.27E-06	1.17E-03	9.66E-01	3.77E-06	3.47E-03
Road 37	37	1700-1800	6.72E-02	2.94E-07	2.70E-04	2.44E-01	1.06E-06	9.76E-04	2.69E-01	1.17E-06	1.08E-03	9.78E-01	4.27E-06	3.92E-03
Road 37	37	1800-1900	5.44E-02	2.37E-07	2.18E-04	1.70E-01	7.41E-07	6.81E-04	2.18E-01	9.48E-07	8.72E-04	6.82E-01	2.98E-06	2.74E-03
Road 37	37	1900-2000	3.49E-02	1.38E-07	1.27E-04	1.43E-01	5.64E-07	5.18E-04	1.40E-01	5.52E-07	5.08E-04	5.73E-01	2.26E-06	2.08E-03
Road 37	37	2000-2200	3.76E-02	1.03E-07	9.47E-05	1.40E-01	3.82E-07	3.51E-04	1.51E-01	4.13E-07	3.80E-04	5.61E-01	1.53E-06	1.41E-03
Road 37	37	2200-2300	3.76E-02	1.08E-08	5.60E-06	1.41E-01	4.53E-08	2.36E-05	1.74E-01	5.60E-08	2.91E-05	6.52E-01	2.10E-07	1.09E-04
Road 37	37	2300-2400	3.76E-02	1.08E-08	5.60E-06	1.41E-01	4.53E-08	2.36E-05	1.74E-01	5.60E-08	2.91E-05	6.52E-01	2.10E-07	1.09E-04
Road 38	38	0000-0100	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 38	38	0100-0200	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 38	38	0200-0300	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 38	38	0300-0400	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 38	38	0400-0500	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 38	38	0500-0600	3.75E-02	9.47E-08	7.93E-05	1.51E-01	4.41E-07	3.69E-04	1.84E-01	5.31E-07	4.45E-04	7.41E-01	2.14E-06	1.79E-03
Road 38	38	0600-0700	4.56E-02	8.36E-08	2.50E-04	1.92E-01	3.53E-07	1.05E-03	2.38E-01	4.36E-07	1.30E-03	7.18E-01	1.32E-06	3.94E-03
Road 38	38	0700-0800	5.47E-02	1.56E-07	4.68E-04	2.31E-01	6.62E-07	1.98E-03	2.85E-01	8.16E-07	2.44E-03	8.62E-01	2.46E-06	7.36E-03
Road 38	38	0800-0900	5.04E-02	2.28E-07	6.80E-04	2.12E-01	9.58E-07	2.86E-03	2.62E-01	1.18E-06	3.53E-03	7.93E-01	3.58E-06	1.07E-02
Road 38	38	0900-1000	4.57E-02	2.09E-07	6.24E-04	1.92E-01	8.79E-07	2.63E-03	2.38E-01	1.09E-06	3.24E-03	7.18E-01	3.29E-06	9.83E-03
Road 38	38	1000-1100	4.57E-02	2.09E-07	6.24E-04	1.92E-01	8.79E-07	2.63E-03	2.38E-01	1.09E-06	3.24E-03	7.18E-01	3.29E-06	9.83E-03
Road 38	38	1100-1200	4.77E-02	2.08E-07	6.22E-04	2.01E-01	8.77E-07	2.62E-03	2.49E-01	1.09E-06	3.24E-03	7.18E-01	3.29E-06	9.83E-03
Road 38	38	1200-1300	7.74E-02	2.90E-07	2.66E-04	2.21E-01	8.29E-07	7.62E-04	2.99E-01	1.12E-06	1.03E-03	9.43E-01	3.53E-06	3.25E-03
Road 38	38	1300-1400	7.97E-02	3.10E-07	2.85E-04	2.31E-01	9.01E-07	8.29E-04	3.11E-01	1.21E-06	1.11E-03	9.43E-01	3.67E-06	3.37E-03
Road 38	38	1400-1500	7.97E-02	3.10E-07	2.85E-04	2.31E-01	9.01E-07	8.29E-04	3.11E-01	1.21E-06	1.11E-03	9.43E-01	3.67E-06	3.37E-03
Road 38	38	1500-1600	7.82E-02	3.21E-07	2.95E-04	2.33E-01	9.57E-07	8.80E-04	3.12E-01	1.28E-06	1.17E-03	9.07E-01	3.72E-06	3.42E-03
Road 38	38	1600-1700	8.20E-02	3.20E-07	2.94E-04	2.43E-01	9.48E-07	8.72E-04	3.26E-01	1.27E-06	1.17E-03	9.66E-01	3.77E-06	3.47E-03
Road 38	38	1700-1800	6.72E-02	2.94E-07	2.70E-04	2.44E-01	1.06E-06	9.76E-04	2.69E-01	1.17E-06	1.08E-03	9.78E-01	4.27E-06	3.92E-03
Road 38	38	1800-1900	5.44E-02	2.37E-07	2.18E-04	1.70E-01	7.41E-07	6.81E-04	2.18E-01	9.48E-07	8.72E-04	6.82E-01	2.98E-06	2.74E-03
Road 38	38	1900-2000	3.49E-02	1.38E-07	1.27E-04	1.43E-01	5.64E-07	5.18E-04	1.40E-01	5.52E-07	5.08E-04	5.73E-01	2.26E-06	2.08E-03
Road 38	38	2000-2200	3.76E-02	1.03E-07	9.47E-05	1.40E-01	3.82E-07	3.51E-04	1.51E-01	4.13E-07	3.80E-04	5.61E-01	1.53E-06	1.41E-03
Road 38	38	2200-2300	3.76E-02	1.08E-08	5.60E-06	1.41E-01	4.53E-08	2.36E-05	1.74E-01	5.60E-08	2.91E-05	6.52E-01	2.10E-07	1.09E-04
Road 38	38	2300-2400	3.76E-02	1.08E-08	5.60E-06	1.41E-01	4.53E-08	2.36E-05	1.74E-01	5.60E-08	2.91E-05	6.52E-01	2.10E-07	1.09E-04

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 39	39	1600-1700	2.56E-02	3.34E-08	2.96E-05	8.46E-02	1.10E-07	9.77E-05	3.78E-02	4.93E-08	4.37E-05	1.25E-01	1.63E-07	1.44E-04
Road 39	39	1700-1800	4.82E-02	8.68E-09	7.27E-06	1.93E-01	3.47E-08	2.91E-05	2.41E-02	4.34E-08	3.64E-05	6.83E-03	1.23E-08	1.03E-06
Road 39	39	1800-1900	3.24E-02	5.83E-09	4.88E-06	1.38E-01	2.49E-08	2.09E-05	1.71E-02	3.07E-08	2.58E-05	5.04E-03	9.07E-09	7.60E-07
Road 39	39	1900-2000	2.76E-02	3.74E-09	3.14E-06	1.25E-01	1.72E-08	1.44E-05	1.52E-02	2.10E-08	1.76E-05	4.22E-03	5.85E-09	4.90E-07
Road 39	39	2000-2100	2.76E-02	2.98E-09	2.50E-06	1.34E-01	1.44E-08	1.21E-05	1.61E-02	1.74E-08	1.46E-05	4.14E-03	4.46E-09	3.74E-07
Road 39	39	2100-2200	2.76E-02	2.96E-09	2.48E-06	1.35E-01	1.45E-08	1.21E-05	1.61E-02	1.72E-08	1.44E-05	4.14E-03	4.44E-09	3.72E-07
Road 39	39	2200-2300	2.41E-02	2.50E-09	2.09E-06	1.26E-01	1.30E-08	1.09E-05	1.50E-02	1.55E-08	1.30E-05	3.93E-03	4.07E-09	3.41E-07
Road 39	39	2300-0000	2.66E-02	2.09E-09	1.75E-06	1.33E-01	1.05E-08	8.76E-06	1.66E-02	1.29E-08	1.09E-05	4.33E-03	3.40E-09	2.85E-07
Road 38	38	0000-0100	3.04E-02	3.31E-08	2.78E-05	1.52E-01	1.65E-07	1.38E-04	1.89E-02	2.06E-08	1.73E-05	7.94E-02	8.64E-08	7.24E-05
Road 38	38	0100-0200	3.29E-02	2.28E-08	3.15E-05	1.52E-01	1.05E-07	1.45E-04	2.04E-02	1.42E-08	1.96E-05	7.94E-02	5.50E-08	7.59E-05
Road 38	38	0200-0300	3.29E-02	2.28E-08	3.15E-05	1.52E-01	1.05E-07	1.45E-04	2.04E-02	1.42E-08	1.96E-05	7.94E-02	5.50E-08	7.59E-05
Road 38	38	0300-0400	3.73E-02	1.61E-08	4.80E-05	1.66E-01	7.14E-08	2.13E-04	2.03E-02	8.75E-09	2.61E-04	6.03E-02	2.60E-08	7.76E-05
Road 38	38	0400-0500	3.97E-02	1.90E-08	5.68E-05	1.73E-01	8.29E-08	2.48E-04	2.16E-02	1.03E-08	3.09E-04	6.28E-02	3.01E-08	9.00E-05
Road 38	38	0500-0600	4.56E-02	2.40E-08	7.15E-05	1.92E-01	1.01E-07	3.01E-04	2.49E-02	1.31E-08	3.90E-04	7.27E-02	3.83E-08	1.14E-04
Road 38	38	0600-0700	4.56E-02	8.36E-08	2.50E-04	1.92E-01	3.53E-07	1.05E-03	2.38E-01	4.36E-07	1.30E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	4.34E-03	3.31E-08	1.27E-03	1.36E-02	4.88E-07	9.81E-03	3.82E-02	1.31E-07	3.12E-04
Road 1	1	0100-0200	4.79E-03	4.52E-08	9.09E-04	3.49E-02	3.29E-07	6.62E-03	3.97E-02	3.75E-07	7.18E-04
Road 1	1	0200-0300	5.26E-03	3.63E-08	7.30E-04	3.85E-02	2.52E-07	5.06E-03	4.17E-02	2.88E-07	5.79E-04
Road 1	1	0300-0400	5.73E-03	3.12E-08	6.27E-04	3.77E-02	2.05E-07	4.12E-03	4.36E-02	2.37E-07	4.77E-04
Road 1	1	0400-0500	6.20E-03	3.70E-08	7.44E-04	3.90E-02	2.33E-07	4.68E-03	4.52E-02	2.70E-07	5.43E-04
Road 1	1	0500-0600	6.66E-03	4.90E-08	9.85E-04	4.16E-02	3.06E-07	6.15E-03	4.82E-02	3.54E-07	7.12E-04
Road 1	1	0600-0700	7.15E-03	1.59E-07	3.19E-03	4.17E-02	9.25E-07	1.86E-02	4.84E-02	1.07E-06	2.16E-02
Road 1	1	0700-0800	7.61E-03	3.41E-07	6.86E-03	4.26E-02	1.91E-06	3.84E-02	5.02E-02	2.25E-06	4.53E-02
Road 1	1	0800-0900	8.08E-03	3.57E-07	7.18E-03	4.23E-02	1.87E-06	3.76E-02	5.00E-02	2.21E-06	4.45E-02
Road 1	1	0900-1000	8.38E-03	3.17E-07	6.38E-03	4.23E-02	1.60E-06	3.22E-02	5.00E-02	1.89E-06	3.81E-02
Road 1	1	1000-1100	8.69E-03	3.52E-07	7.09E-03	4.32E-02	1.75E-06	3.52E-02	5.10E-02	2.07E-06	4.16E-02
Road 1	1	1100-1200	9.06E-03	3.17E-07	6.36E-03	4.43E-02	1.55E-06	3.11E-02	5.24E-02	1.83E-06	3.68E-02
Road 1	1	1200-1300	9.43E-03	3.26E-07	6.57E-03	4.54E-02	1.57E-06	3.16E-02	5.37E-02	1.86E-06	3.74E-02
Road 1	1	1300-1400	9.80E-03	3.25E-07	6.54E-03	4.64E-02	1.54E-06	3.10E-02	5.49E-02	1.82E-06	3.66E-02
Road 1	1	1400-1500	1.02E-02	3.21E-07	6.46E-03	4.75E-02	1.49E-06	3.00E-02	5.62E-02	1.77E-06	3.56E-02
Road 1	1	1500-1600	1.06E-02	3.19E-07	6.42E-03	4.84E-02	1.46E-06	2.93E-02	5.73E-02	1.73E-06	3.48E-02
Road 1	1	1600-1700	1.09E-02	3.29E-07	6.62E-03	4.93E-02	1.49E-06	2.98E-02	5.84E-02	1.76E-06	3.53E-02
Road 1	1	1700-1800	1.13E-02	3.28E-07	6.59E-03	5.02E-02	1.45E-06	2.92E-02	5.94E-02	1.72E-06	3.46E-02
Road 1	1	1800-1900	1.17E-02	3.26E-07	6.56E-03	5.11E-02	1.42E-06	2.86E-02	6.05E-02	1.69E-06	3.39E-02
Road 1	1	1900-2000	1.21E-02	3.24E-07	6.52E-03	5.20E-02	1.39E-06	2.80E-02	6.15E-02	1.65E-06	3.32E-02
Road 1	1	2000-2100	1.24E-02	3.22E-07	6.48E-03	5.29E-02	1.37E-06	2.75E-02	6.26E-02	1.62E-06	3.26E-02
Road 1	1	2100-2200	1.28E-02	3.20E-07	6.44E-03	5.38E-02	1.34E-06	2.70E-02	6.36E-02	1.59E-06	3.20E-02
Road 1	1	2200-2300	1.32E-02	3.18E-07	6.40E-03	5.47E-02	1.32E-06	2.65E-02	6.47E-02	1.56E-06	3.14E-02
Road 1	1	2300-2400	1.36E-02	3.16E-07	6.36E-03	5.56E-02	1.29E-06	2.60E-02	6.57E-02	1.53E-06	3.08E-02
Road 2	2	0000-0100	2.14E-02	1.05E-07	1.47E-04	1.29E-01	6.14E-07	8.61E-04	1.47E-01	7.19E-07	1.01E-03
Road 2	2	0100-0200	2.36E-02	1.16E-07	1.32E-01	1.40E-02	7.05E-07	8.04E-04	1.73E-02	8.85E-07	1.01E-03
Road 2	2	0200-0300	2.58E-02	1.27E-07	1.45E-04	1.54E-01	7.76E-07	8.85E-04	1.90E-01	9.55E-07	1.09E-03
Road 2	2	0300-0400	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 2	2	0400-0500	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 2	2	0500-0600	2.32E-02	1.42E-07	1.62E-04	1.39E-01	8.54E-07	9.74E-04	1.71E-01	1.05E-06	1.20E-03
Road 2	2	0600-0700	2.87E-02	1.76E-07	3.53E-04	1.72E-01	1.06E-06	2.12E-03	2.12E-01	1.30E-06	2.61E-03
Road 2	2	0700-0800	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	0800-0900	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	0900-1000	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1000-1100	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1100-1200	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1200-1300	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1300-1400	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1400-1500	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1500-1600	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1600-1700	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1700-1800	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1800-1900	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	1900-2000	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	2000-2100	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	2100-2200	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	2200-2300	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 2	2	2300-2400	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	0000-0100	2.14E-02	1.05E-07	1.47E-04	1.29E-01	6.14E-07	8.61E-04	1.47E-01	7.19E-07	1.01E-03
Road 3	3	0100-0200	2.36E-02	1.16E-07	1.32E-01	1.40E-02	7.05E-07	8.04E-04	1.73E-02	8.85E-07	1.01E-03
Road 3	3	0200-0300	2.58E-02	1.27E-07	1.45E-04	1.54E-01	7.76E-07	8.85E-04	1.90E-01	9.55E-07	1.09E-03
Road 3	3	0300-0400	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 3	3	0400-0500	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 3	3	0500-0600	2.32E-02	1.42E-07	1.62E-04	1.39E-01	8.54E-07	9.74E-04	1.71E-01	1.05E-06	1.20E-03
Road 3	3	0600-0700	2.87E-02	1.76E-07	3.53E-04	1.72E-01	1.06E-06	2.12E-03	2.12E-01	1.30E-06	2.61E-03
Road 3	3	0700-0800	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	0800-0900	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	0900-1000	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1000-1100	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1100-1200	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1200-1300	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1300-1400	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1400-1500	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1500-1600	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1600-1700	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1700-1800	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1800-1900	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	1900-2000	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	2000-2100	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	2100-2200	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	2200-2300	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 3	3	2300-2400	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	0000-0100	2.14E-02	1.05E-07	1.47E-04	1.29E-01	6.14E-07	8.61E-04	1.47E-01	7.19E-07	1.01E-03
Road 4	4	0100-0200	2.36E-02	1.16E-07	1.32E-01	1.40E-02	7.05E-07	8.04E-04	1.73E-02	8.85E-07	1.01E-03
Road 4	4	0200-0300	2.58E-02	1.27E-07	1.45E-04	1.54E-01	7.76E-07	8.85E-04	1.90E-01	9.55E-07	1.09E-03
Road 4	4	0300-0400	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 4	4	0400-0500	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 4	4	0500-0600	2.32E-02	1.42E-07	1.62E-04	1.39E-01	8.54E-07	9.74E-04	1.71E-01	1.05E-06	1.20E-03
Road 4	4	0600-0700	2.87E-02	1.76E-07	3.53E-04	1.72E-01	1.06E-06	2.12E-03	2.12E-01	1.30E-06	2.61E-03
Road 4	4	0700-0800	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	0800-0900	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	0900-1000	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1000-1100	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1100-1200	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1200-1300	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1300-1400	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1400-1500	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1500-1600	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1600-1700	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1700-1800	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1800-1900	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	1900-2000	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	2000-2100	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	2100-2200	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	2200-2300	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02
Road 4	4	2300-2400	2.87E-01	6.85E-07	1.38E-03	1.72E+00	4.11E-06	8.27E-03	2.12E+00	5.06E-06	1.02E-02

L:\Secure\Environment_Projects\607332\P1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2043.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 7	7	1600-1700	3.28E-02	8.00E-07	1.61E-03	2.64E-01	6.44E-06	1.29E-02	3.71E-01	9.06E-06	1.82E-02
Road 7	7	1700-1800	3.27E-02	1.07E-06	4.60E-03	1.43E-01	4.69E-06	2.01E-02	1.75E-01	5.77E-06	2.47E-02
Road 7	7	1800-1900	2.00E-02	6.90E-07	2.95E-03	8.87E-02	3.06E-06	1.31E-02	1.09E-01	3.75E-06	1.61E-02
Road 7	7	1900-2000	6.62E-03	2.79E-07	7.65E-04	3.81E-02	1.03E-06	4.60E-03	4.47E-02	1.21E-06	5.17E-03
Road 7	7	2000-2100	5.98E-03	1.26E-07	5.39E-04	3.92E-02	8.26E-07	3.53E-03	4.52E-02	9.52E-07	4.07E-03
Road 7	7	2100-2200	5.51E-03	1.16E-07	4.96E-04	3.79E-02	7.79E-07	3.33E-03	4.42E-02	9.30E-07	3.98E-03
Road 7	7	2200-2300	5.43E-03	1.12E-07	4.72E-04	3.79E-02	7.91E-07	3.29E-03	4.33E-02	8.80E-07	3.67E-03
Road 7	7	2300-2400	5.99E-03	9.15E-08	3.92E-04	3.90E-02	5.97E-07	2.55E-03	4.50E-02	6.88E-07	2.95E-03
Road 8	8	0000-0100	1.26E-03	6.18E-09	1.30E-04	9.06E-03	4.44E-08	9.35E-04	1.06E-02	5.16E-08	1.09E-03
Road 8	8	0100-0200	5.22E-03	2.88E-08	1.40E-04	3.24E-02	1.78E-07	8.65E-04	3.76E-02	2.06E-07	1.00E-03
Road 8	8	0200-0300	5.26E-03	2.87E-08	1.23E-04	3.26E-02	1.78E-07	7.63E-04	3.78E-02	2.06E-07	8.85E-04
Road 8	8	0300-0400	6.18E-03	1.30E-08	9.60E-06	3.55E-02	7.47E-08	5.51E-05	4.17E-02	8.77E-08	6.47E-05
Road 8	8	0400-0500	1.54E-03	1.14E-08	2.46E-06	1.10E-02	8.19E-08	1.76E-05	1.25E-02	9.30E-08	2.00E-05
Road 8	8	0500-0600	2.52E-03	2.87E-08	2.23E-05	1.45E-02	1.65E-07	1.28E-04	1.70E-02	1.94E-07	1.50E-04
Road 8	8	0600-0700	7.61E-03	6.59E-09	4.86E-05	3.98E-02	3.45E-08	2.54E-04	4.74E-02	4.11E-08	3.03E-04
Road 8	8	0700-0800	7.98E-03	1.59E-08	1.17E-04	3.87E-02	7.71E-08	5.69E-04	4.67E-02	9.30E-08	6.86E-04
Road 8	8	0800-0900	7.98E-03	1.59E-08	1.17E-04	3.87E-02	7.71E-08	5.69E-04	4.67E-02	9.30E-08	6.86E-04
Road 8	8	0900-1000	1.08E-02	1.81E-08	1.19E-04	4.70E-02	7.02E-08	5.18E-04	5.78E-02	8.63E-08	6.37E-04
Road 8	8	1000-1100	1.08E-02	1.81E-08	1.19E-04	4.70E-02	7.02E-08	5.18E-04	5.78E-02	8.63E-08	6.37E-04
Road 8	8	1100-1200	1.03E-02	1.47E-08	1.08E-04	4.67E-02	6.63E-08	4.89E-04	5.70E-02	8.10E-08	5.98E-04
Road 8	8	1200-1300	1.03E-02	1.47E-08	1.08E-04	4.67E-02	6.63E-08	4.89E-04	5.70E-02	8.10E-08	5.98E-04
Road 8	8	1300-1400	1.57E-02	6.71E-08	4.95E-04	6.39E-02	2.73E-07	2.02E-03	7.96E-02	3.40E-07	2.51E-03
Road 8	8	1400-1500	1.44E-02	6.87E-08	5.15E-04	6.47E-02	3.09E-07	2.31E-03	7.91E-02	3.77E-07	2.82E-03
Road 8	8	1500-1600	1.44E-02	6.62E-08	4.87E-04	6.27E-02	2.87E-07	2.11E-03	7.72E-02	3.53E-07	2.60E-03
Road 8	8	1600-1700	1.47E-02	6.94E-08	5.12E-04	5.88E-02	2.78E-07	2.05E-03	7.35E-02	3.48E-07	2.57E-03
Road 8	8	1700-1800	1.58E-02	5.56E-08	4.10E-04	6.27E-02	2.21E-07	1.63E-03	7.85E-02	2.76E-07	2.04E-03
Road 8	8	1800-1900	7.58E-03	3.90E-08	2.88E-04	3.78E-02	1.94E-07	1.43E-03	4.54E-02	2.33E-07	1.72E-03
Road 8	8	1900-2000	6.36E-03	2.02E-08	1.49E-04	3.78E-02	1.19E-07	8.77E-04	4.37E-02	1.39E-07	1.03E-03
Road 8	8	2000-2100	6.17E-03	1.93E-08	1.43E-04	3.78E-02	1.18E-07	8.72E-04	4.50E-02	1.41E-07	1.04E-03
Road 8	8	2100-2200	6.17E-03	1.93E-08	1.43E-04	3.78E-02	1.18E-07	8.72E-04	4.50E-02	1.41E-07	1.04E-03
Road 8	8	2200-2300	6.17E-03	1.93E-08	1.43E-04	3.78E-02	1.18E-07	8.72E-04	4.50E-02	1.41E-07	1.04E-03
Road 8	8	2300-2400	6.17E-03	1.93E-08	1.43E-04	3.78E-02	1.18E-07	8.72E-04	4.50E-02	1.41E-07	1.04E-03
Road 9	9	0000-0100	2.14E-02	1.05E-07	1.47E-04	1.29E-01	6.14E-07	8.61E-04	1.47E-01	7.19E-07	1.01E-03
Road 9	9	0100-0200	2.36E-02	1.16E-07	1.32E-01	1.40E-02	7.05E-07	8.04E-04	1.73E-02	8.85E-07	1.01E-03
Road 9	9	0200-0300	2.58E-02	1.27E-07	1.45E-04	1.54E-01	7.76E-07	8.85E-04	1.90E-01	9.55E-07	1.09E-03
Road 9	9	0300-0400	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 9	9	0400-0500	2.65E-02	1.30E-07	1.49E-04	1.59E-01	7.98E-07	9.11E-04	1.96E-01	9.83E-07	1.12E-03
Road 9	9	0500-0600	2.32E-02	1.42E-07	1.62E-04	1.39E-01	8.54E-07	9.74E-04	1.71E-01	1.05E-06	1.20E-03
Road 9	9	0600-0700	2.02E-02	2.20E-07	5.97E-04	9.23E-02	1.01E-06	2.72E-03	1.32E-01	1.23E-06	3.32E-03
Road 9	9	0700-0800	4.26E-02	7.21E-07	1.95E-03	1.99E-01	3.39E-06	9.15E-03	2.46E-01	4.17E-06	1.13E-02
Road 9	9	0800-0900	5.17E-02	1.32E-06	3.59E-03	1.99E-01	5.09E-06	1.38E-02	2.50E-01	6.42E-06	1.74E-02
Road 9	9	0900-1000	4.05E-02	8.68E-07	2.35E-03	1.66E-01	3.56E-06	9.64E-03	2.07E-01	4.44E-06	1.20E-02
Road 9	9	1000-1100	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1100-1200	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1200-1300	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1300-1400	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1400-1500	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1500-1600	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1600-1700	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1700-1800	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1800-1900	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	1900-2000	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	2000-2100	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	2100-2200	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	2200-2300	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 9	9	2300-2400	3.71E-02	6.04E-07	1.64E-03	1.66E-01	2.70E-06	7.32E-03	2.07E-01	3.37E-06	9.14E-03
Road 10	10	0000-0100	2.14E-02	1.05E-07	1.47E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.41E-01	3.49E-02	4.05E-04	1.27E-01	3.14E-02	3.64E-04	3.64E-02	9.04E-03	1.05E-04	3.27E-02	8.12E-03	9.43E-05
Road 27	27	1700-1800	1.23E-01	2.82E-02	3.17E-04	4.88E-01	1.12E-01	1.26E-03	5.11E-01	1.41E-01	1.58E-03	1.29E+02	2.97E-01	3.34E-03
Road 27	27	1800-1900	1.08E-01	1.71E-02	1.92E-04	4.47E-01	7.05E-02	7.92E-04	5.55E-01	8.76E-02	9.84E-04	1.19E+02	1.88E-01	2.11E-03
Road 27	27	1900-2000	1.01E-01	1.04E-02	1.17E-04	3.99E-01	4.11E-02	4.62E-04	5.06E-01	5.15E-02	5.78E-04	1.15E+02	1.18E-01	1.33E-03
Road 27	27	2000-2100	9.78E-02	8.03E-03	9.03E-05	4.00E-01	3.29E-02	3.69E-04	4.98E-01	4.09E-02	4.59E-04	1.13E+02	9.25E-02	1.04E-03
Road 27	27	2100-2200	9.56E-02	6.40E-03	7.20E-05	3.88E-01	2.60E-02	2.92E-04	4.84E-01	3.24E-02	3.64E-04	1.09E+02	7.32E-02	8.23E-04
Road 27	27	2200-2300	1.06E-01	7.77E-03	8.73E-05	3.80E-01	2.78E-02	3.12E-04	4.87E-01	3.58E-02	4.02E-04	1.19E+02	8.77E-02	9.85E-04
Road 27	27	2300-0000	1.07E-01	6.45E-03	7.24E-05	3.85E-01	2.32E-02	2.61E-04	4.91E-01	2.97E-02	3.33E-04	1.21E+02	7.31E-02	8.21E-04
Road 28	28	0000-0100	1.76E-01	4.36E-02	5.06E-04	1.58E-01	3.92E-02	4.55E-04	4.54E-02	1.13E-02	1.31E-04	4.08E-02	1.01E-02	1.18E-04
Road 28	28	0100-0200	7.73E-03	5.49E-08	1.14E-03	4.14E-02	2.94E-07	6.09E-03	4.91E-02	3.49E-07	7.22E-03	2.63E-02	1.87E-07	3.87E-03
Road 28	28	0200-0300	8.99E-03	5.76E-08	1.19E-03	4.82E-02	3.09E-07	6.36E-03	5.71E-02	3.66E-07	7.55E-03	3.06E-02	1.96E-07	4.04E-03
Road 28	28	0300-0400	8.99E-03	5.76E-08	7.78E-04	4.52E-02	2.89E-07	3.91E-03	5.42E-02	3.47E-07	4.69E-03	2.91E-02	1.86E-07	2.51E-03
Road 28	28	0400-0500	1.53E-02	4.44E-08	9.19E-04	4.87E-02	1.41E-07	2.92E-03	5.84E-02	1.69E-07	3.50E-03	3.10E-02	8.98E-08	1.86E-03
Road 28	28	0500-0600	1.02E-02	8.27E-08	1.74E-03	4.96E-02	4.01E-07	8.43E-03	5.95E-02	4.81E-07	1.01E-02	2.88E-02	2.33E-07	4.91E-03
Road 28	28	0600-0700	1.08E-02	1.89E-07	3.92E-03	5.01E-02	8.80E-07	1.82E-02	6.09E-02	1.07E-06	2.22E-02	2.93E-02	5.15E-07	1.07E-02
Road 28	28	0700-0800	1.16E-02	2.66E-07	5.52E-03	4.18E-02	9.61E-07	1.99E-02	6.25E-02	1.44E-06	2.98E-02	2.26E-02	5.19E-07	1.08E-02
Road 28	28	0800-0900	1.16E-02	4.57E-07	9.47E-03	4.87E-02	2.02E-06	4.19E-02	5.97E-02	2.36E-06	4.89E-02	2.58E-02	1.02E-06	2.11E-02
Road 28	28	0900-1000	1.46E-02	4.79E-07	9.93E-03	5.79E-02	1.90E-06	3.93E-02	7.25E-02	2.38E-06	4.93E-02	4.15E-02	1.36E-07	2.81E-03
Road 28	28	1000-1100	1.42E-02	4.40E-07	9.12E-03	5.76E-02	1.79E-06	3.70E-02	7.13E-02	2.23E-06	4.60E-02	4.02E-02	1.24E-07	2.58E-03
Road 28	28	1100-1200	1.34E-02	3.55E-07	7.36E-03	5.42E-02	1.44E-06	2.98E-02	6.69E-02	1.78E-06	3.69E-02	3.78E-02	1.00E-07	2.08E-03
Road 28	28	1200-1300	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.52E-06	3.15E-02	6.88E-02	1.89E-06	3.92E-02	3.77E-02	1.04E-07	2.15E-03
Road 28	28	1300-1400	1.50E-02	3.84E-07	7.96E-03	5.77E-02	1.48E-06	3.07E-02	7.16E-02	1.83E-06	3.80E-02	3.93E-02	1.01E-07	2.09E-03
Road 28	28	1400-1500	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	1500-1600	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	1600-1700	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	1700-1800	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	1800-1900	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	1900-2000	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	2000-2100	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	2100-2200	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	2200-2300	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 28	28	2300-0000	1.44E-02	3.69E-07	7.65E-03	5.54E-02	1.42E-06	2.95E-02	6.88E-02	1.76E-06	3.65E-02	3.77E-02	9.66E-08	2.00E-03
Road 29	29	0000-0100	1.41E-01	3.49E-02	4.05E-04	1.27E-01	3.14E-02	3.64E-04	3.64E-02	9.04E-03	1.05E-04	3.27E-02	8.12E-03	9.43E-05
Road 29	29	0100-0200	1.39E-02	3.86E-08	6.38E-05	5.09E-02	6.84E-08	2.34E-04	6.47E-02	8.70E-08	2.98E-04	3.33E-03	4.48E-09	1.53E-05
Road 29	29	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04	4.04E-03	4.20E-09	1.44E-05
Road 29	29	0300-0400	1.96E-02	1.79E-08	5.81E-05	6.10E-02	5.56E-08	1.80E-04	7.91E-02	7.22E-08	2.34E-04	4.51E-03	4.12E-09	1.33E-05
Road 29	29	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04	4.55E-03	4.22E-09	1.45E-05
Road 29	29	0500-0600	1.49E-02	1.15E-08	7.36E-05	5.46E-02	4.23E-08	2.70E-04	6.94E-02	5.39E-08	3.43E-04	3.97E-03	3.08E-09	1.96E-05
Road 29	29	0600-0700	1.14E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04	3.03E-03	8.60E-09	2.95E-05
Road 29	29	0700-0800	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03	3.63E-03	2.23E-08	7.63E-05
Road 29	29	0800-0900	1.76E-02	1.68E-07	5.75E-04	6.34E-02	6.05E-07	2.07E-03	8.03E-02	7.67E-07	2.63E-03	4.14E-03	3.95E-08	1.35E-04
Road 29	29	0900-1000	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03	3.94E-03	2.29E-08	7.88E-05
Road 29	29	1000-1100	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1100-1200	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1200-1300	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1300-1400	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1400-1500	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1500-1600	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1600-1700	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1700-1800	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1800-1900	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	1900-2000	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	2000-2100	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	2100-2200	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	2200-2300	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 29	29	2300-0000	1.27E-02	9.19E-08	3.15E-04	5.01E-02	3.62E-07	1.24E-03	6.43E-02	4.65E-07	1.59E-03	3.56E-03	2.57E-08	8.81E-05
Road 30	30	0000-0100	1.41E-01	3.49E-02	4.05E-04	1.27E-01	3.14E-02	3.64E-04	3.64E-02	9.04E-03	1.05E-04	3.27E-02	8.12E-03	9.43E-05
Road 30	30	0100-0200	1.76E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0200-0300	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0300-0400	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0400-0500	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0500-0600	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0600-0700	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0700-0800	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0800-0900	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	0900-1000	1.96E-02	6.26E-08	1.03E-04	6.45E-02	2.30E-07	7.89E-04	8.20E-02	2.92E-07	1.00E-03	4.23E-03	1.51E-08	5.17E-05
Road 30	30	1000-1100	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1100-1200	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1200-1300	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1300-1400	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1400-1500	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1500-1600	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1600-1700	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1700-1800	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1800-1900	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	1900-2000	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	2000-2100	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	2100-2200	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	2200-2300	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04
Road 30	30	2300-0000	1.64E-02	4.86E-07	1.74E-03	6.01E-02	1.78E-06	6.37E-03	7.64E-02	2.26E-06	8.11E-03	3.94E-03	1.17E-07	4.18E-04

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	9.98E-03	1.77E-08	5.79E-05	4.01E-02	7.12E-08	2.32E-04	4.80E-02	8.52E-08	2.78E-04	3.30E-03	5.86E-09	1.91E-05
Road 31	31	0100-0200	9.66E-03	1.26E-08	4.12E-05	4.63E-02	6.06E-08	1.98E-04	5.60E-02	7.32E-08	2.39E-04	2.68E-03	3.50E-09	1.14E-05
Road 31	31	0200-0300	1.04E-02	1.01E-08	3.29E-05	4.87E-02	4.73E-08	1.54E-04	5.90E-02	5.72E-08	1.87E-04	2.87E-03	2.79E-09	9.11E-06
Road 31	31	0300-0400	1.11E-02	8.64E-09	2.82E-05	5.05E-02	3.94E-08	1.28E-04	6.11E-02	4.80E-08	1.57E-04	2.60E-03	2.45E-09	7.80E-06
Road 31	31	0400-0500	1.17E-02	1.02E-08	3.33E-05	5.22E-02	4.54E-08	1.48E-04	6.39E-02	5.56E-08	1.81E-04	3.25E-03	2.83E-09	9.22E-06
Road 31	31	0500-0600	1.15E-02	1.90E-08	6.18E-05	5.13E-02	8.47E-08	2.75E-04	6.42E-02	1.06E-07	3.45E-04	3.43E-03	5.66E-09	1.72E-05
Road 31	31	0600-0700	1.20E-02	3.43E-07	7.73E-04	5.43E-02	1.55E-06	3.49E-03	6.63E-02	1.89E-06	4.26E-03	3.05E-03	8.68E-08	1.96E-04
Road 31	31	0700-0800	1.35E-02	9.32E-08	3.04E-04	5.70E-02	3.92E-07	1.28E-03	7.05E-02	4.85E-07	1.58E-03	3.78E-03	2.60E-08	8.48E-05
Road 31	31	0800-0900	1.32E-02	1.05E-07	3.43E-04	5.45E-02	4.33E-07	1.42E-03	6.77E-02	5.38E-07	1.76E-03	3.75E-03	2.99E-08	9.78E-05
Road 31	31	0900-1000	1.52E-02	1.11E-07	3.63E-04	6.14E-02	4.49E-07	1.47E-03	7.79E-02	5.72E-07	1.87E-03	4.32E-03	3.17E-08	1.04E-04
Road 31	31	1000-1100	1.68E-02	1.06E-07	3.46E-04	6.48E-02	4.08E-07	1.33E-03	8.17E-02	5.14E-07	1.68E-03	4.81E-03	3.03E-08	9.88E-05
Road 31	31	1100-1200	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1200-1300	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1300-1400	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1400-1500	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1500-1600	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1600-1700	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1700-1800	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1800-1900	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	1900-2000	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	2000-2100	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	2100-2200	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	2200-2300	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 31	31	2300-0000	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.18E-02	2.70E-07	8.83E-04	3.64E-03	1.60E-08	5.21E-05
Road 32	32	0000-0100	8.86E-03	1.57E-08	5.14E-05	3.56E-02	6.32E-08	2.06E-04	4.26E-02	7.56E-08	2.47E-04	2.93E-03	5.20E-09	1.69E-05
Road 32	32	0100-0200	8.58E-03	1.12E-08	3.65E-05	4.11E-02	5.38E-08	1.75E-04	4.97E-02	6.50E-08	2.12E-04	2.38E-03	3.11E-09	1.01E-05
Road 32	32	0200-0300	8.08E-03	8.93E-09	2.91E-05	4.58E-02	5.06E-08	1.65E-04	5.22E-02	5.77E-08	1.88E-04	2.65E-03	2.93E-09	9.55E-06
Road 32	32	0300-0400	9.26E-03	3.98E-08	9.64E-04	4.59E-02	1.97E-07	4.78E-03	5.51E-02	2.37E-07	5.74E-03	2.50E-03	1.08E-08	2.61E-04
Road 32	32	0400-0500	9.26E-03	3.98E-08	9.64E-04	4.59E-02	1.97E-07	4.78E-03	5.51E-02	2.37E-07	5.74E-03	2.50E-03	1.08E-08	2.61E-04
Road 32	32	0500-0600	9.83E-03	7.39E-08	1.79E-03	4.74E-02	3.56E-07	8.63E-03	5.72E-02	4.30E-07	1.04E-02	2.65E-03	1.99E-08	4.82E-04
Road 32	32	0600-0700	1.10E-02	3.64E-07	8.81E-03	5.03E-02	1.67E-06	4.04E-02	6.12E-02	2.03E-06	4.92E-02	2.99E-03	9.92E-08	2.40E-03
Road 32	32	0700-0800	1.10E-02	1.28E-07	4.33E-04	5.03E-02	5.86E-07	1.98E-03	6.12E-02	7.13E-07	2.41E-03	2.99E-03	3.48E-08	1.18E-04
Road 32	32	0800-0900	1.24E-02	4.18E-07	1.01E-03	5.33E-02	1.79E-06	4.35E-02	6.57E-02	2.21E-06	5.36E-02	3.56E-03	1.20E-07	2.90E-03
Road 32	32	0900-1000	1.24E-02	4.18E-07	1.01E-03	5.33E-02	1.79E-06	4.35E-02	6.57E-02	2.21E-06	5.36E-02	3.56E-03	1.20E-07	2.90E-03
Road 32	32	1000-1100	1.38E-02	3.91E-07	9.48E-03	5.65E-02	1.60E-06	3.89E-02	7.02E-02	1.99E-06	4.83E-02	3.89E-03	1.10E-07	2.67E-03
Road 32	32	1100-1200	1.34E-02	3.41E-07	8.18E-03	5.37E-02	1.36E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.69E-03	9.29E-08	2.25E-03
Road 32	32	1200-1300	1.34E-02	3.41E-07	8.18E-03	5.37E-02	1.36E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.69E-03	9.29E-08	2.25E-03
Road 32	32	1300-1400	1.50E-02	3.81E-07	9.14E-03	5.82E-02	1.48E-06	3.55E-02	7.24E-02	1.84E-06	4.41E-02	4.01E-03	1.02E-07	2.44E-03
Road 32	32	1400-1500	1.45E-02	3.68E-07	8.83E-03	5.62E-02	1.43E-06	3.43E-02	6.99E-02	1.78E-06	4.26E-02	3.87E-03	9.84E-08	2.36E-03
Road 32	32	1500-1600	1.45E-02	3.68E-07	8.83E-03	5.62E-02	1.43E-06	3.43E-02	6.99E-02	1.78E-06	4.26E-02	3.87E-03	9.84E-08	2.36E-03
Road 32

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 54	54	0800-0900	3.144E-02	1.90E-03	2.153E-03	5.98E-03	1.12E-01	6.82E-03	7.68E-03	2.13E-02
Road 54	54	0900-1000	9.21E-02	3.32E-03	2.76E-03	3.40E-03	1.22E-01	4.39E-03	3.65E-03	1.26E-02
Road 54	54	1000-1100	1.02E-01	3.41E-03	2.84E-03	3.60E-03	1.20E-01	4.00E-03	3.33E-03	1.11E-02
Road 54	54	1100-1200	1.01E-01	3.38E-03	2.84E-03	3.58E-03	1.13E-01	3.77E-03	3.17E-03	1.05E-02
Road 54	54	1200-1300	1.26E-01	2.77E-03	2.30E-03	4.25E-03	9.34E-02	7.77E-03	1.01E-02	1.34E-02
Road 54	54	1300-1400	1.27E-01	3.95E-03	2.41E-03	3.44E-03	1.26E-01	3.92E-03	2.39E-03	1.08E-02
Road 54	54	1400-1500	1.24E-01	3.01E-03	2.50E-03	4.25E-03	1.03E-01	8.66E-03	5.49E-03	1.33E-02
Road 54	54	1500-1600	1.12E-01	2.82E-03	2.35E-03	4.25E-03	1.07E-01	8.90E-03	5.38E-03	1.23E-02
Road 54	54	1600-1700	1.24E-01	2.94E-03	2.41E-03	4.25E-03	1.08E-01	8.90E-03	5.38E-03	1.23E-02
Road 54	54	1700-1800	9.76E-02	2.27E-03	1.89E-03	3.84E-03	8.93E-02	7.43E-03	4.81E-03	1.12E-02
Road 54	54	1800-1900	1.08E-01	2.56E-03	2.13E-03	3.84E-03	9.88E-02	7.43E-03	4.81E-03	1.12E-02
Road 54	54	1900-2000	7.39E-02	1.01E-03	8.44E-04	2.84E-03	9.87E-02	3.75E-03	4.08E-03	9.70E-03
Road 54	54	2000-2200	1.91E-02	7.55E-04	6.28E-04	2.68E-03	2.51E-02	9.91E-03	8.24E-03	2.31E-02
Road 54	54	2200-2300	7.38E-02	7.36E-04	6.13E-04	2.68E-03	9.70E-02	9.67E-03	8.05E-03	2.31E-02
Road 54	54	2300-2400	1.52E-02	7.59E-04	1.10E-03	5.98E-03	2.00E-02	9.97E-03	1.45E-03	1.34E-02
Road 101	101	0000-0100	1.52E-02	7.59E-04	1.10E-03	5.98E-03	2.00E-02	9.97E-03	1.45E-03	1.34E-02
Road 101	101	0100-0200	5.41E-02	7.81E-04	1.90E-02	3.51E-02	7.07E-02	1.02E-02	2.48E-02	4.58E-02
Road 101	101	0200-0300	6.62E-03	6.36E-04	6.30E-04	4.10E-02	2.70E-03	2.59E-04	2.56E-04	1.67E-02
Road 101	101	0300-0400	7.17E-03	3.74E-04	5.41E-04	4.24E-02	2.22E-03	1.20E-04	1.67E-04	1.31E-02
Road 101	101	0400-0500	2.76E-02	1.43E-03	2.08E-03	4.24E-02	8.54E-03	4.45E-04	6.44E-04	1.31E-02
Road 101	101	0500-0600	8.24E-03	8.25E-04	1.19E-03	4.52E-02	6.54E-03	6.54E-04	9.45E-04	5.18E-02
Road 101	101	0600-0700	1.65E-02	2.75E-03	2.75E-03	4.52E-02	1.31E-02	2.18E-03	2.18E-03	3.58E-02
Road 101	101	0700-0800	9.35E-03	4.09E-03	5.91E-03	4.82E-02	2.11E-03	9.25E-04	1.34E-03	1.09E-02
Road 101	101	0800-0900	9.06E-03	4.61E-03	6.67E-03	4.46E-02	2.27E-03	1.16E-03	1.67E-03	1.12E-02
Road 101	101	0900-1000	8.50E-03	2.83E-03	2.45E-03	2.89E-02	3.58E-03	1.19E-03	1.03E-03	1.22E-02
Road 101	101	1000-1100	1.20E-02	4.50E-03	6.51E-03	5.19E-02	2.95E-03	1.11E-03	1.60E-03	1.28E-02
Road 101	101	1100-1200	1.34E-02	4.46E-03	6.27E-03	5.19E-02	3.29E-03	1.09E-03	1.54E-03	1.28E-02
Road 101	101	1200-1300	1.24E-02	4.34E-03	6.27E-03	5.18E-02	1.81E-02	6.42E-03	2.24E-02	9.29E-02
Road 101	101	1300-1400	1.25E-02	4.49E-03	6.49E-03	5.35E-02	1.79E-02	6.44E-03	2.32E-02	9.57E-02
Road 101	101	1400-1500	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-02	2.99E-02	4.64E-02	2.53E-02
Road 101	101	1500-1600	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-02	2.99E-02	4.64E-02	2.53E-02
Road 101	101	1600-1700	1.35E-02	3.37E-03	4.87E-03	3.91E-02	2.39E-02	5.97E-03	8.63E-03	6.95E-02
Road 101	101	1700-1800	8.73E-03	4.02E-03	5.81E-03	4.45E-02	2.05E-02	2.96E-02	4.28E-02	2.19E-02
Road 101	101	1800-1900	1.44E-02	3.60E-03	5.21E-03	3.72E-02	1.47E-02	3.67E-03	5.31E-03	3.79E-02
Road 101	101	1900-2000	5.39E-03	2.10E-03	1.04E-03	3.23E-02	1.26E-02	4.91E-03	2.43E-03	7.55E-02
Road 101	101	2000-2100	5.23E-03	1.58E-03	2.29E-03	3.57E-02	1.08E-02	3.26E-03	4.73E-03	7.37E-02
Road 101	101	2100-2200	4.65E-03	1.41E-03	2.04E-03	3.57E-02	9.60E-03	2.91E-03	4.21E-03	7.37E-02
Road 101	101	2200-2300	4.62E-03	1.35E-03	1.96E-03	3.49E-02	3.97E-02	1.16E-02	1.68E-02	1.27E-01
Road 101	101	2300-2400	2.35E-03	1.17E-03	3.03E-04	5.18E-03	2.01E-02	1.00E-02	2.60E-03	2.22E-02
Road 102	102	0000-0100	7.59E-03	8.86E-04	1.20E-03	4.28E-02	5.00E-03	5.84E-04	7.90E-04	2.82E-02
Road 102	102	0100-0200	8.23E-03	6.33E-04	8.58E-04	4.45E-02	3.42E-03	4.07E-04	5.49E-04	2.53E-02
Road 102	102	0200-0300	4.27E-03	3.29E-04	4.45E-04	4.45E-02	2.61E-03	2.01E-04	2.72E-04	2.53E-02
Road 102	102	0300-0400	4.58E-03	4.35E-04	5.90E-04	4.84E-02	2.20E-03	2.09E-04	2.83E-04	2.32E-02
Road 102	102	0400-0500	1.76E-02	1.67E-03	2.26E-03	4.84E-02	8.44E-03	8.01E-04	1.08E-03	2.32E-02
Road 102	102	0500-0600	1.09E-02	9.60E-04	1.30E-03	5.19E-02	6.22E-03	5.27E-04	7.52E-04	2.91E-02
Road 102	102	0600-0700	1.15E-02	2.20E-03	2.99E-03	5.19E-02	1.95E-02	3.72E-03	5.04E-03	2.91E-02
Road 102	102	0700-0800	1.01E-02	4.43E-03	6.00E-03	5.19E-02	1.39E-02	6.57E-03	8.90E-03	2.91E-02
Road 102	102	0800-0900	1.17E-02	5.39E-03	7.30E-03	5.23E-02	2.40E-02	2.94E-02	3.98E-02	3.25E-02
Road 102	102	0900-1000	1.55E-02	5.66E-03	7.65E-03	5.23E-02	2.40E-02	2.94E-02	3.98E-02	3.25E-02
Road 102	102	1000-1100	1.55E-02	5.66E-03	7.65E-03	5.23E-02	2.40E-02	2.94E-02	3.98E-02	3.25E-02
Road 102	102	1100-1200	1.25E-02	5.94E-03	5.34E-03	5.18E-02	2.31E-02	6.43E-03	2.09E-02	9.29E-02
Road 102	102	1200-1300	1.25E-02	3.94E-03	5.34E-03	5.18E-02	2.31E-02	6.43E-03	2.09E-02	9.29E-02
Road 102	102	1300-1400	1.26E-02	4.08E-03	5.54E-03	5.35E-02	2.31E-02	6.43E-03	2.09E-02	9.29E-02
Road 102	102	1400-1500	1.26E-02	4.08E-03	5.54E-03	5.35E-02	2.31E-02	6.43E-03	2.09E-02	9.29E-02
Road 102	102	1500-1600	1.18E-02	4.15E-03	5.62E-03	5.28E-02	2.98E-02	3.09E-02	4.18E-02	2.53E-02
Road 102	102	1600-1700	1.27E-02	3.31E-03	4.48E-03	3.60E-02	2.98E-02	3.09E-02	4.18E-02	2.53E-02
Road 102	102	1700-1800	8.76E-03	3.63E-03	4.92E-03	4.42E-02	1.48E-02	6.14E-03	8.32E-03	7.48E-02
Road 102	102	1800-1900	6.20E-03	2.75E-03	1.71E-03	4.26E-02	1.04E-02	4.62E-03	2.88E-03	7.19E-02
Road 102	102	1900-2000	2.98E-03	1.16E-03	1.57E-03	3.51E-02	5.02E-03	1.95E-03	2.65E-03	5.92E-02
Road 102	102	2000-2100	2.98E-03	1.16E-03	1.57E-03	3.51E-02	5.02E-03	1.95E-03	2.65E-03	5.92E-02
Road 102	102	2100-2200	4.67E-03	1.23E-03	1.66E-03	3.49E-02	9.18E-03	2.42E-03	3.26E-03	6.86E-02
Road 102	102	2200-2300	4.67E-03	1.23E-03	1.66E-03	3.49E-02	9.18E-03	2.42E-03	3.26E-03	6.86E-02
Road 102	102	2300-2400	3.03E-03	1.39E-03	3.64E-04	5.19E-03	2.98E-03	1.37E-03	3.58E-04	6.13E-03
Road 103	103	0000-0100	5.32E-03	1.39E-03	3.64E-04	5.19E-03	2.98E-03	1.37E-03	3.58E-04	6.13E-03
Road 103	103	0100-0200	3.83E-03	5.52E-04	4.85E-04	3.20E-02	4.43E-03	4.20E-04	7.68E-04	1.49E-02
Road 103	103	0200-0300	3.56E-03	3.11E-04	4.08E-04	3.20E-02	2.06E-03	1.68E-04	3.49E-04	1.49E-02
Road 103	103	0300-0400	3.56E-03	2.81E-04	3.68E-04	3.20E-02	1.86E-03	1.47E-04	3.49E-04	1.49E-02
Road 103	103	0400-0500	1.37E-02	1.08E-03	1.42E-03	3.20E-02	7.08E-03	5.59E-04	1.47E-03	1.49E-02
Road 103	103	0500-0600	8.24E-03	8.25E-04	1.19E-03	4.52E-02	6.54E-03	6.54E-04	9.45E-04	5.18E-02
Road 103	103	0600-0700	1.65E-02	2.75E-03	2.75E-03	4.52E-02	1.31E-02	2.18E-03	2.18E-03	3.58E-02
Road 103	103	0700-0800	9.35E-03	4.09E-03	5.91E-03	4.82E-02	2.11E-03	9.25E-04	1.34E-03	1.09E-02
Road 103	103	0800-0900	9.06E-03	4.61E-03	6.67E-03	4.46E-02	2.27E-03	1.16E-03	1.67E-03	1.12E-02
Road 103	103	0900-1000	8.50E-03	2.83E-03	2.45E-03	2.89E-02	3.58E-03	1.19E-03	1.03E-03	1.22E-02
Road 103	103	1000-1100	1.20E-02	4.50E-03	6.51E-03	5.19E-02	2.95E-03	1.11E-03	1.60E-03	1.28E-02
Road 103	103	1100-1200	1.34E-02	4.46E-03	6.27E-03	5.19E-02	3.29E-03	1.09E-03	1.54E-03	1.28E-02
Road 103	103	1200-1300	1.24E-02	4.34E-03	6.27E-03	5.18E-02	1.81E-02	6.42E-03	2.24E-02	9.29E-02
Road 103	103	1300-1400	1.25E-02	4.49E-03	6.49E-03	5.35E-02	1.79E-02	6.44E-03	2.32E-02	9.57E-02
Road 103	103	1400-1500	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-02	2.99E-02	4.64E-02	2.53E-02
Road 103	103	1500-1600	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-02	2.99E-02	4.64E-02	2.53E-02
Road 103	103	1600-1700	1.35E-02	3.37E-03	4.87E-03	3.91E-02	2.39E-02	5.97E-03	8.63E-03	6.95E-02
Road 103	103	1700-1800	8.73E-03	4.02E-03	5.81E-03	4.45E-02	2.05E-02	2.96E-02	4.28E-02	2.19E-02
Road 103	103	1800-1900	1.44E-02	3.60E-03	5.21E-03	3.72E-02	1.47E-02	3.67E-03	5.31E-03	3.79E-02
Road 103	103	1900-2000	5.39E-03	2.10E-03	1.04E-03	3.23E-02	1.26E-02	4.91E-03	2.43E-03	7.55E-02
Road 103	103	2000-2100	5.23E-03	1.58E-03	2.29E-03	3.57E-02	1.08E-02	3.26E-03	4.73E-03	7.37E-02
Road 103	103	2100-2200	4.65E-03	1.41E-03	2.04E-03	3.57E-02	9.60E-03	2.91E-03	4.21E-03	7.37E-02
Road 103	103	2200-2300	4.62E-03	1.35E-03	1.96E-03	3.49E-02	3.97E-02	1.16E-02	1.68E-02	1.27E-01
Road 103	103	2300-2400	2.35E-03	1.17E-03	3.03E-04	5.18E-03	2.01E-02	1.00E-02	2.60E-03	2.22E-02

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour average		Monthly Hour Min		Monthly Hour average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 103	103	1600-1700	1.19E-02	2.98E-03	2.38E-03	3.31E-02	1.47E-02	4.08E-03	3.26E-03	4.29E-02
Road 103	103	1700-1800	8.50E-03	4.42E-03	4.88E-03	3.31E-02	3.86E-02	2.94E-02	2.58E-02	4.29E-02
Road 103	103	1800-1900	6.51E-03	2.73E-03	1.70E-03	4.25E-02	2.40E-02	2.11E-02	1.63E-02	9.23E-02
Road 103	103	1900-2000	3.57E-03	1.21E-03	1.57E-03	3.51E-02	5.02E-03	1.95E-03	2.65E-03	5.92E-02
Road 103	103	2000-2100	4.96E-03	1.72E-03	1.51E-03	3.50E-02	2.12E-02	1.28E-02	1.28E-02	4.44E-02
Road 103	103	2100-2200	1.30E-02	2.89E-03	2.89E-03	3.49E-02	1.51E-02	1.35E-02	1.35E-02	3.44E-02
Road 103	103	2200-2300	4.30E-03	1.44E-03	1.27E-03	3.43E-02	2.11E-02	1.01E-02	3.88E-03	3.90E-02
Road 103	103	2300-0000	4.80E-03	1.21E-03	1.06E-03	3.55E-02	8.93E-03	7.84E-03	4.03E-02	1.01E-02
Road 104	104	0000-0100	8.21E-03	9.19E-04	1.30E-03	4.45E-02	5.01E-03	5.61E-04	7.92E-04	2.72E-02
Road 104	104	0100-0200	8.89E-03	6.57E-04	4.88E-04	4.65E-02	3.43E-03	2.55E-04	4.09E-04	3.04E-02
Road 104	104	0200-0300	3.84E-03	2.96E-04	4.19E-04	4.65E-02	1.85E-03	1.43E-04	2.02E-04	3.04E-02
Road 104	104	0300-0400	1.03E-02	4.51E-04	3.35E-04	5.06E-02	2.22E-03	1.65E-03	6.08E-02	2.67E-02
Road 104	104	0400-0500	1.09E-02	1.66E-03	2.34E-03	5.34E-02	3.91E-03	5.22E-04	7.38E-04	2.56E-02
Road 104	104	0500-0600	1.34E-02	9.94E-04	7.38E-04	5.39E-02	4.61E-03	3.43E-04	5.09E-04	2.07E-02
Road 104	104	0600-0700	1.22E-02	2.28E-03	1.70E-03	5.59E-02	2.42E-03	3.35E-03	2.50E-03	4.44E-02
Road 104	104	0700-0800	1.26E-02	2.45E-03	1.82E-03	5.59E-02	2.49E-03	3.45E-03	2.57E-03	4.44E-02
Road 104	104	0800-0900	1.26E-02	4.62E-03	3.43E-03	5.59E-02	2.49E-03	3.45E-03	2.57E-03	4.44E-02
Road 104	104	0900-1000	1.16E-02	5.96E-03	4.43E-03	6.51E-02	2.29E-03	3.17E-03	2.36E-03	4.46E-02
Road 104	104	1000-1100	1.60E-02	5.96E-03	4.43E-03	6.51E-02	2.36E-03	1.75E-02	8.16E-02	2.95E-02
Road 104	104	1100-1200	1.60E-02	5.63E-03	4.18E-03	5.58E-02	2.49E-03	1.85E-02	8.82E-02	3.05E-02
Road 104	104	1200-1300	1.46E-02	5.85E-03	4.35E-03	5.58E-02	2.49E-03	1.85E-02	8.82E-02	3.05E-02
Road 104	104	1300-1400	1.03E-02	2.58E-03	1.91E-03	3.70E-02	1.75E-02	4.37E-03	3.77E-02	8.63E-02
Road 104	104	1400-1500	1.60E-02	4.00E-03	2.97E-03	3.70E-02	2.72E-02	6.81E-03	5.87E-02	1.34E-02
Road 104	104	1500-1600	9.80E-03	2.45E-03	1.82E-03	3.70E-02	1.67E-02	4.17E-03	3.59E-02	8.21E-02
Road 104	104	1600-1700	1.04E-02	2.59E-03	1.92E-03	3.70E-02	1.77E-02	4.42E-03	3.81E-02	8.72E-02
Road 104	104	1700-1800	8.80E-03	2.20E-03	1.63E-03	3.70E-02	1.50E-02	3.74E-03	3.22E-02	7.37E-02
Road 104	104	1800-1900	5.85E-03	1.46E-03	1.08E-03	3.70E-02	9.96E-03	2.49E-03	2.14E-02	4.91E-02
Road 104	104	1900-2000	2.68E-03	1.01E-03	1.48E-03	3.31E-02	4.56E-03	1.72E-03	2.52E-03	5.63E-02
Road 104	104	2000-2100	2.68E-03	1.01E-03	1.48E-03	3.31E-02	4.56E-03	1.72E-03	2.52E-03	5.63E-02
Road 104	104	2100-2200	4.20E-03	1.11E-03	1.53E-03	3.31E-02	7.14E-03	1.89E-03	2.60E-03	5.63E-02
Road 104	104	2200-2300	4.20E-03	1.11E-03	1.53E-03	3.31E-02	7.14E-03	1.89E-03	2.60E-03	5.63E-02
Road 104	104	2300-2400	2.73E-03	1.25E-03	3.28E-04	4.67E-03	2.68E-03	1.23E-03	3.22E-04	5.51E-03
Road 105	105	0000-0100	2.73E-03	1.25E-03	3.28E-04	4.67E-03	2.68E-03	1.23E-03	3.22E-04	5.51E-03
Road 105	105	0100-0200	2.14E-02	1.05E-03	1.47E-04	1.25E-01	6.14E-03	8.61E-04	1.47E-03	2.58E-02
Road 105	105	0200-0300	2.30E-02	8.29E-04	1.16E-04	1.32E-01	4.74E-03	6.64E-04	1.15E-03	2.42E-05
Road 105	105	0300-0400	2.46E-02	7.02E-04	9.83E-05	1.37E-01	3.92E-03	5.49E-04	9.52E-04	2.66E-05
Road 105	105	0400-0500	2.65E-02	8.33E-04	1.17E-04	1.43E-01	4.49E-03	6.29E-04	1.09E-03	2.88E-05
Road 105	105	0500-0600	2.73E-02	1.89E-03	2.65E-04	1.47E-01	1.03E-02	1.44E-03	2.50E-03	2.77E-05
Road 105	105	0600-0700	2.73E-02	1.89E-03	2.65E-04	1.47E-01	1.03E-02	1.44E-03	2.50E-03	2.77E-05
Road 105	105	0700-0800	2.73E-02	1.89E-03	2.65E-04	1.47E-01	1.03E-02	1.44E-03	2.50E-03	2.77E-05
Road 105	105	0800-0900	2.73E-02	1.89E-03	2.65E-04	1.47E-01	1.03E-02	1.44E-03	2.50E-03	2.77E-05
Road 105	105	0900-1000	2.87E-02	1.91E-03	2.68E-04	1.54E-01	1.08E-02	1.45E-03	2.52E-03	2.91E-05
Road 105	105	1000-1100	2.87E-02	1.91E-03	2.68E-04	1.54E-01	1.08E-02	1.45E-03	2.52E-03	2.91E-05
Road 105	105	1100-1200	2.97E-02	1.98E-03	2.77E-04	1.59E-01	1.12E-02	1.50E-03	2.61E-03	3.01E-05
Road 105	105	1200-1300	2.97E-02	1.98E-03	2.77E-04	1.59E-01	1.12E-02	1.50E-03	2.61E-03	3.01E-05
Road 105	105	1300-1400	3.05E-02	2.03E-03	2.85E-04	1.63E-01	1.15E-02	1.54E-03	2.68E-03	3.09E-05
Road 105	105	1400-1500	3.05E-02	2.03E-03	2.85E-04	1.63E-01	1.15E-02	1.54E-03	2.68E-03	3.09E-05
Road 105	105	1500-1600	3.14E-02	2.09E-03	2.93E-04	1.68E-01	1.18E-02	1.58E-03	2.76E-03	3.18E-05
Road 105	105	1600-1700	3.14E-02	2.09E-03	2.93E-04	1.68E-01	1.18E-02	1.58E-03	2.76E-03	3.18E-05
Road 105	105	1700-1800	3.22E-02	2.15E-03	3.01E-04	1.72E-01	1.21E-02	1.62E-03	2.83E-03	3.26E-05
Road 105	105	1800-1900	3.22E-02	2.15E-03	3.01E-04	1.72E-01	1.21E-02	1.62E-03	2.83E-03	3.26E-05
Road 105	105	1900-2000	3.31E-02	2.20E-03	3.09E-04	1.77E-01	1.24E-02	1.66E-03	2.91E-03	3.35E-05
Road 105	105	2000-2100	3.31E-02	2.20E-03	3.09E-04	1.77E-01	1.24E-02	1.66E-03	2.91E-03	3.35E-05
Road 105	105	2100-2200	3.39E-02	2.26E-03	3.17E-04	1.81E-01	1.27E-02	1.70E-03	2.98E-03	3.43E-05
Road 105	105	2200-2300	3.39E-02	2.26E-03	3.17E-04	1.81E-01	1.27E-02	1.70E-03	2.98E-03	3.43E-05
Road 105	105	2300-2400	3.57E-02	2.38E-03	8.57E-04	1.91E-01	1.34E-02	1.79E-03	6.44E-03	3.61E-05
Road 106	106	0000-0100	3.57E-02	2.38E-03	8.57E-04	1.91E-01	1.34E-02	1.79E-03	6.44E-03	3.61E-05
Road 106	106	0100-0200	1.26E-02	1.30E-03	8.06E-04	6.29E-02	4.73E-03	4.89E-04	3.03E-03	1.51E-02
Road 106	106	0200-0300	1.26E-02	1.30E-03	8.06E-04	6.29E-02	4.73E-03	4.89E-04	3.03E-03	1.51E-02
Road 106	106	0300-0400	1.26E-02	1.30E-03	8.06E-04	6.29E-02	4.73E-03	4.89E-04	3.03E-03	1.51E-02
Road 106	106	0400-0500	1.42E-02	1.46E-03	9.08E-04	7.09E-02	5.33E-03	5.51E-04	3.41E-03	1.70E-02
Road 106	106	0500-0600	1.42E-02	1.46E-03	9.08E-04	7.09E-02	5.33E-03	5.51E-04	3.41E-03	1.70E-02
Road 106	106	0600-0700	2.11E-02	1.82E-03	2.10E-03	9.42E-02	8.11E-03	9.37E-03	1.15E-02	3.59E-02
Road 106	106	0700-0800	2.75E-02	4.74E-03	5.46E-03	1.24E-01	1.05E-02	1.81E-02	2.08E-02	3.59E-02
Road 106	106	0800-0900	3.29E-02	5.78E-03	6.66E-03	1.35E-01	2.37E-02	4.16E-02	4.79E-02	3.59E-02
Road 106	106	0900-1000	3.29E-02	5.78E-03	6.66E-03	1.35E-01	2.37E-02	4.16E-02	4.79E-02	3.59E-02
Road 106	106	1000-1100	3.37E-02	4.95E-03	5.71E-03	1.34E-01	2.97E-02	4.36E-02	5.03E-02	3.59E-02
Road 106	106	1100-1200	3.37E-02	4.95E-03	5.71E-03	1.34E-01	2.97E-02	4.36E-02	5.03E-02	3.59E-02
Road 106	106	1200-1300	3.37E-02	4.95E-03	5.71E-03	1.34E-01	2.97E-02	4.36E-02	5.03E-02	3.59E-02
Road 106	106	1300-1400	5.61E-02	1.23E-02	1.42E-02	2.23E-01	4.94E-02	1.08E-01	1.25E-01	3.59E-02
Road 106	106	1400-1500	5.61E-02	1.23E-02	1.42E-02	2.23E-01	4.94E-02	1.08E-01	1.25E-01	3.59E-02
Road 106	106	1500-1600	5.46E-02	1.32E-02	1.53E-02	2.23E-01	4.92E-02	1.19E-01	1.38E-01	3.59E-02
Road 106	106	1600-1700	5.46E-02	1.32E-02	1.53E-02	2.23E-01	4.92E-02	1.19E-01	1.38E-01	3.59E-02
Road 106	106	1700-1800	1.79E-02	7.99E-03	8.51E-03	1.21E-01	3.24E-02	1.44E-02	1.53E-02	1.75E-01
Road 106	106	1800-1900	1.79E-02	7.99E-03	8.51E-03	1.21E-01	3.24E-02	1.44E-02	1.53E-02	1.75E-01
Road 106	106	1900-2000	1.96E-02	4.05E-03	4.66E-03	8.94E-02	1.85E-02	2.13E-02	2.09E-02	2.25E-02
Road 106	106	2000-2100	1.68E-02	2.71E-03	3.13E-03	8.55E-02	1.38E-02	1.59E-02	1.02E-02	1.65E-02
Road 106	106	2100-2200	1.59E-02	2.58E-03	2.97E-03	8.42E-02	1.30E-02	1.57E-02	1.00E-02	1.62E-02
Road 106	106	2200-2300	1.57E-02	2.38E-03	2.74E-03	8.29E-02	1.40E-02	9.40E-02	1.46E-02	1.59E-02
Road 106	106	2300-0000	1.57E-02	1.84E-03	7.12E-03	7.84E-02	9.19E-03	1.06E-02	9.41E-02	1.10E-02

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Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.12E-02	3.45E-06	3.59E-04	1.51E-02	1.70E-03	1.77E-04	2.84E-03	3.91E-04	9.33E-05
Road 21	21	0100-0200	1.26E-02	5.72E-06	2.76E-04	5.48E-02	1.21E-03	5.74E-04	2.50E-03	5.22E-04	4.98E-04
Road 21	21	0200-0300	1.41E-02	4.88E-06	2.35E-04	5.81E-02	2.01E-07	9.68E-04	7.22E-02	2.49E-07	1.20E-03
Road 21	21	0300-0400	1.56E-02	4.00E-06	2.12E-04	6.15E-02	1.74E-07	8.37E-04	7.71E-02	1.98E-07	1.06E-03
Road 21	21	0400-0500	1.58E-02	4.93E-06	2.38E-04	6.27E-02	1.95E-07	9.43E-04	7.85E-02	2.45E-07	1.18E-03
Road 21	21	0500-0600	1.44E-02	7.92E-06	3.32E-04	5.38E-02	2.95E-07	1.24E-03	6.73E-02	3.69E-07	1.55E-03
Road 21	21	0600-0700	1.45E-02	1.63E-07	7.87E-04	6.39E-02	7.20E-07	3.47E-03	7.84E-02	8.83E-07	4.26E-03
Road 21	21	0700-0800	1.68E-02	3.97E-07	1.91E-03	6.99E-02	1.65E-06	7.96E-03	8.67E-02	2.05E-06	9.87E-03
Road 21	21	0800-0900	1.82E-02	2.05E-06	8.85E-04	8.13E-02	9.13E-06	3.95E-03	1.00E-01	1.12E-06	4.84E-03
Road 21	21	0900-1000	2.06E-02	5.17E-07	2.50E-03	8.28E-02	2.07E-06	1.03E-02	1.25E-06	4.97E-03	2.44E-02
Road 21	21	1000-1100	2.31E-02	5.17E-07	2.80E-03	9.28E-02	2.07E-06	1.12E-02	1.40E-06	5.63E-03	3.04E-02
Road 21	21	1100-1200	2.05E-02	4.44E-07	2.14E-03	8.01E-02	1.73E-06	8.35E-03	1.01E-06	2.17E-06	1.05E-02
Road 21	21	1200-1300	2.26E-02	5.42E-07	2.62E-03	8.75E-02	2.10E-06	1.01E-02	1.32E-06	5.29E-03	2.55E-02
Road 21	21	1300-1400	2.51E-02	6.13E-07	2.96E-03	9.72E-02	2.37E-06	1.15E-02	1.46E-06	5.94E-03	2.87E-02
Road 21	21	1400-1500	2.51E-02	6.13E-07	2.96E-03	9.72E-02	2.37E-06	1.15E-02	1.46E-06	5.94E-03	2.87E-02
Road 21	21	1500-1600	2.58E-02	6.29E-07	3.04E-03	9.98E-02	2.43E-06	1.18E-02	1.50E-06	6.10E-03	2.95E-02
Road 21	21	1600-1700	2.61E-02	6.37E-07	3.08E-03	1.01E-01	2.46E-06	1.19E-02	1.52E-06	6.18E-03	2.99E-02
Road 21	21	1700-1800	2.61E-02	6.37E-07	3.08E-03	1.01E-01	2.46E-06	1.19E-02	1.52E-06	6.18E-03	2.99E-02
Road 21	21	1800-1900	2.39E-02	1.52E-03	5.98E-02	1.36E-06	6.55E-03	7.37E-02	1.67E-06	8.07E-03	3.63E-03
Road 21	21	1900-2000	1.07E-02	1.79E-07	8.62E-04	5.16E-02	8.58E-07	4.14E-03	6.23E-02	1.04E-06	5.00E-03
Road 21	21	2000-2100	1.07E-02	2.10E-07	1.01E-03	5.48E-02	1.08E-06	5.20E-03	6.62E-02	1.30E-06	6.28E-03
Road 21	21	2100-2200	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	6.48E-02	8.51E-07	4.10E-03
Road 21	21	2200-2300	1.07E-02	1.79E-07	8.62E-04	5.48E-02	9.17E-07	4.42E-03	6.55E-02	1.10E-06	5.29E-03
Road 21	21	2300-0000	1.18E-02	1.13E-07	5.45E-04	5.48E-02	5.26E-07	2.54E-03	6.66E-02	6.39E-07	3.08E-03
Road 22	22	0000-0100	1.28E-02	3.84E-06	4.64E-04	3.02E-03	4.85E-04	5.92E-07	3.85E-03	1.12E-02	1.37E-06
Road 22	22	0100-0200	1.43E-02	3.27E-06	3.97E-04	3.37E-03	4.29E-04	5.22E-07	4.29E-03	1.03E-02	1.26E-06
Road 22	22	0200-0300	9.92E-03	6.59E-08	2.49E-04	3.60E-03	2.40E-05	9.06E-08	1.31E-03	7.74E-06	2.91E-06
Road 22	22	0300-0400	1.03E-02	6.68E-08	2.58E-04	3.74E-03	2.43E-05	9.40E-08	1.36E-03	7.85E-06	3.03E-06
Road 22	22	0400-0500	1.03E-02	6.68E-08	4.35E-04	3.71E-03	2.42E-05	1.57E-07	1.34E-03	7.81E-06	5.08E-06
Road 22	22	0500-0600	1.15E-02	1.37E-07	8.93E-04	4.12E-03	4.93E-05	3.21E-07	1.48E-03	1.77E-05	1.15E-05
Road 22	22	0600-0700	1.22E-02	1.45E-07	9.47E-04	4.37E-03	5.23E-05	3.41E-07	1.57E-03	1.88E-05	1.22E-05
Road 22	22	0700-0800	1.44E-02	8.34E-07	5.43E-03	5.08E-03	2.94E-06	1.91E-02	6.52E-01	3.77E-06	2.45E-02
Road 22	22	0800-0900	1.56E-02	1.75E-06	7.58E-03	5.56E-03	6.25E-06	2.71E-02	6.99E-01	7.86E-06	3.41E-02
Road 22	22	0900-1000	1.50E-02	1.14E-06	7.39E-03	5.49E-03	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02
Road 22	22	1000-1100	1.61E-02	1.12E-06	7.27E-03	5.62E-03	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02
Road 22	22	1100-1200	1.66E-02	1.19E-06	7.21E-03	5.55E-03	3.96E-06	2.40E-02	7.23E-01	5.02E-06	3.04E-02
Road 22	22	1200-1300	1.66E-02	1.19E-06	7.72E-03	5.80E-03	4.16E-06	2.70E-02	7.46E-01	5.35E-06	3.47E-02
Road 22	22	1300-1400	1.56E-02	1.12E-06	7.27E-03	5.44E-03	3.90E-06	2.54E-02	7.46E-01	5.35E-06	3.47E-02
Road 22	22	1400-1500	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 22	22	1500-1600	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 22	22	1600-1700	1.56E-02	1.21E-06	7.85E-03	5.43E-03	4.20E-06	2.74E-02	6.98E-01	5.41E-06	3.52E-02
Road 22	22	1700-1800	1.32E-02	9.45E-07	6.15E-03	5.17E-03	3.71E-06	2.41E-02	6.49E-01	4.65E-06	3.03E-02
Road 22	22	1800-1900	1.29E-02	1.34E-07	8.71E-04	5.03E-03	5.22E-07	3.39E-03	6.32E-01	6.55E-07	4.26E-03
Road 22	22	1900-2000	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 22	22	2000-2100	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 22	22	2100-2200	1.05E-02	2.28E-07	1.48E-03	3.74E-03	8.13E-07	5.28E-03	4.59E-01	1.00E-06	6.50E-03
Road 22	22	2200-2300	1.07E-02	2.96E-07	1.92E-03	3.82E-03	1.06E-06	6.86E-03	4.70E-01	1.30E-06	8.45E-03
Road 22	22	2300-0000	1.18E-02	1.87E-07	1.21E-03	4.21E-03	6.66E-07	4.32E-03	5.17E-01	8.19E-07	5.31E-03
Road 23	23	0000-0100	1.28E-02	3.84E-06	4.64E-04	3.02E-03	4.85E-04	5.92E-07	3.85E-03	1.12E-02	1.37E-06
Road 23	23	0100-0200	1.43E-02	3.27E-06	3.97E-04	3.37E-03	4.29E-04	5.22E-07	4.29E-03	1.03E-02	1.26E-06
Road 23	23	0200-0300	9.92E-03	6.59E-08	2.49E-04	3.60E-03	2.40E-05	9.06E-08	1.31E-03	7.74E-06	2.91E-06
Road 23	23	0300-0400	1.03E-02	6.68E-08	2.58E-04	3.74E-03	2.43E-05	9.40E-08	1.36E-03	7.85E-06	3.03E-06
Road 23	23	0400-0500	1.03E-02	6.68E-08	4.35E-04	3.71E-03	2.42E-05	1.57E-07	1.34E-03	7.81E-06	5.08E-06
Road 23	23	0500-0600	1.15E-02	1.37E-07	8.93E-04	4.12E-03	4.93E-05	3.21E-07	1.48E-03	1.77E-05	1.15E-05
Road 23	23	0600-0700	1.22E-02	1.45E-07	9.47E-04	4.37E-03	5.23E-05	3.41E-07	1.57E-03	1.88E-05	1.22E-05
Road 23	23	0700-0800	1.44E-02	8.34E-07	5.43E-03	5.08E-03	2.94E-06	1.91E-02	6.52E-01	3.77E-06	2.45E-02
Road 23	23	0800-0900	1.56E-02	1.75E-06	7.58E-03	5.56E-03	6.25E-06	2.71E-02	6.99E-01	7.86E-06	3.41E-02
Road 23	23	0900-1000	1.50E-02	1.14E-06	7.39E-03	5.49E-03	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02
Road 23	23	1000-1100	1.61E-02	1.12E-06	7.27E-03	5.62E-03	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02
Road 23	23	1100-1200	1.66E-02	1.19E-06	7.21E-03	5.55E-03	3.96E-06	2.40E-02	7.23E-01	5.02E-06	3.04E-02
Road 23	23	1200-1300	1.66E-02	1.19E-06	7.72E-03	5.80E-03	4.16E-06	2.70E-02	7.46E-01	5.35E-06	3.47E-02
Road 23	23	1300-1400	1.56E-02	1.12E-06	7.27E-03	5.44E-03	3.90E-06	2.54E-02	7.46E-01	5.35E-06	3.47E-02
Road 23	23	1400-1500	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 23	23	1500-1600	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 23	23	1600-1700	1.56E-02	1.21E-06	7.85E-03	5.43E-03	4.20E-06	2.74E-02	6.98E-01	5.41E-06	3.52E-02
Road 23	23	1700-1800	1.32E-02	9.45E-07	6.15E-03	5.17E-03	3.71E-06	2.41E-02	6.49E-01	4.65E-06	3.03E-02
Road 23	23	1800-1900	1.29E-02	1.34E-07	8.71E-04	5.03E-03	5.22E-07	3.39E-03	6.32E-01	6.55E-07	4.26E-03
Road 23	23	1900-2000	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 23	23	2000-2100	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 23	23	2100-2200	1.05E-02	2.28E-07	1.48E-03	3.74E-03	8.13E-07	5.28E-03	4.59E-01	1.00E-06	6.50E-03
Road 23	23	2200-2300	1.07E-02	2.96E-07	1.92E-03	3.82E-03	1.06E-06	6.86E-03	4.70E-01	1.30E-06	8.45E-03
Road 23	23	2300-0000	1.18E-02	1.87E-07	1.21E-03	4.21E-03	6.66E-07	4.32E-03	5.17E-01	8.19E-07	5.31E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 24	24	0000-0100	1.26E-02	5.72E-06	2.76E-04	5.48E-02	1.21E-03	5.74E-04	2.50E-03	5.22E-04	4.98E-04
Road 24	24	0100-0200	1.41E-02	4.88E-06	2.35E-04	5.81E-02	2.01E-07	9.68E-04	7.22E-02	2.49E-07	1.20E-03
Road 24	24	0200-0300	1.56E-02	4.00E-06	2.12E-04	6.15E-02	1.74E-07	8.37E-04	7.71E-02	1.98E-07	1.06E-03
Road 24	24	0300-0400	1.58E-02	4.93E-06	2.38E-04	6.27E-02	1.95E-07	9.43E-04	7.85E-02	2.45E-07	1.18E-03
Road 24	24	0400-0500	1.44E-02	7.92E-06	3.32E-04	5.38E-02	2.95E-07	1.24E-03	6.73E-02	3.69E-07	1.55E-03
Road 24	24	0500-0600	1.45E-02	1.63E-07	7.87E-04	6.39E-02	7.20E-07	3.47E-03	7.84E-02	8.83E-07	4.26E-03
Road 24	24	0600-0700	1.68E-02	3.97E-07	1.91E-03	6.99E-02	1.65E-06	7.96E-03	8.67E-02	2.05E-06	9.87E-03
Road 24	24	0700-0800	1.82E-02	2.05E-06	8.85E-04	8.13E-02	9.13E-06	3.95E-03	1.00E-01	1.12E-06	4.84E-03
Road 24	24	0800-0900	2.06E-02	5.17E-07	2.50E-03	8.28E-02	2.07E-06	1.03E-02	1.25E-06	4.97E-03	2.44E-02
Road 24	24	0900-1000	2.31E-02	5.17E-07	2.80E-03	9.28E-02	2.07E-06	1.12E-02	1.40E-06	5.63E-03	3.04E-02
Road 24	24	1000-1100	2.05E-02	4.44E-07	2.14E-03	8.01E-02	1.73E-06	8.35E-03	1.01E-06	2.17E-06	1.05E-02
Road 24	24	1100-1200	2.26E-02	5.42E-07	2.62E-03	8.75E-02	2.10E-06	1.01E-02	1.32E-06	5.29E-03	2.55E-02
Road 24	24	1200-1300	2.51E-02	6.13E-07	2.96E-03	9.72E-02	2.37E-06	1.15E-02	1.46E-06	5.94E-03	2.87E-02
Road 24	24	1300-1400	2.51E-02	6.13E-07	2.96E-03	9.72E-02	2.37E-06	1.15E-02	1.46E-06	5.94E-03	2.87E-02
Road 24	24	1400-1500	2.58E-02	6.29E-07	3.04E-03	9.98E-02	2.43E-06	1.18E-02	1.50E-06	6.10E-03	2.95E-02
Road 24	24	1500-1600	2.61E-02	6.37E-07	3.08E-03	1.01E-01	2.46E-06	1.19E-02	1.52E-06	6.18E-03	2.99E-02
Road 24	24	1600-1700	2.61E-02	6.37E-07	3.08E-03	1.01E-01	2.46E-06	1.19E-02	1.52E-06	6.18E-03	2.99E-02
Road 24	24	1700-1800	2.39E-02	1.52E-03	5.98E-02	1.36E-06	6.55E-03	7.37E-02	1.67E-06	8.07E-03	3.63E-03
Road 24	24	1800-1900	1.07E-02	1.79E-07	8.62E-04	5.16E-02	8.58E-07	4.14E-03	6.23E-02	1.04E-06	5.00E-03
Road 24	24	1900-2000	1.07E-02	2.10E-07	1.01E-03	5.48E-02	1.08E-06	5.20E-03	6.62E-02	1.30E-06	6.28E-03
Road 24	24	2000-2100	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	6.48E-02	8.51E-07	4.10E-03
Road 24	24	2100-2200	1.07E-02	1.79E-07	8.62E-04	5.48E-02	9.17E-07	4.42E-03	6.55E-02	1.10E-06	5.29E-03
Road 24	24	2200-2300	1.18E-02	1.13E-07	5.45E-04	5.48E-02	5.26E-07	2.54E-03	6.66E-02	6.39E-07	3.08E-03
Road 24	24	2300-0000	1.28E-02	3.84E-06	4.64E-04	3.02E-03	4.85E-04	5.92E-07	3.85E-03	1.12E-02	1.37E-06
Road 25	25	0000-0100	1.43E-02	3.27E-06	3.97E-04	3.37E-03	4.29E-04	5.22E-07	4.29E-03	1.03E-02	1.26E-06
Road 25	25	0100-0200	9.92E-03	6.59E-08	2.49E-04	3.60E-03	2.40E-05	9.06E-08	1.31E-03	7.74E-06	2.91E-06
Road 25	25	0200-0300	1.03E-02	6.68E-08	2.58E-04	3.74E-03	2.43E-05	9.40E-08	1.36E-03	7.85E-06	3.03E-06
Road 25	25	0300-0400	1.03E-02	6.68E-08	4.35E-04	3.71E-03	2.42E-05	1.57E-07	1.34E-03	7.81E-06	5.08E-06
Road 25	25	0400-0500	1.15E-02	1.37E-07	8.93E-04	4.12E-03	4.93E-05	3.21E-07	1.48E-03	1.77E-05	1.15E-05
Road 25	25	0500-0600	1.22E-02	1.45E-07	9.47E-04	4.37E-03	5.23E-05	3.41E-07	1.57E-03	1.88E-05	1.22E-05
Road 25	25	0600-0700	1.44E-02	8.34E-07	5.43E-03	5.08E-03	2.94E-06	1.91E-02	6.52E-01	3.77E-06	2.45E-02
Road 25	25	0700-0800	1.56E-02	1.75E-06	7.58E-03	5.56E-03	6.25E-06	2.71E-02	6.99E-01	7.86E-06	3.41E-02
Road 25	25	0800-0900	1.50E-02	1.14E-06	7.39E-03	5.49E-03	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02
Road 25	25	0900-1000	1.61E-02	1.12E-06	7.27E-03	5.62E-03	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02
Road 25	25	1000-1100	1.66E-02	1.19E-06	7.21E-03	5.55E-03	3.96E-06	2.40E-02	7.23E-01	5.02E-06	3.04E-02
Road 25	25	1100-1200	1.66E-02	1.19E-06	7.72E-03	5.80E-03	4.16E-06	2.70E-02	7.46E-01	5.35E-06	3.47E-02
Road 25	25	1200-1300	1.56E-02	1.12E-06	7.27E-03	5.44E-03	3.90E-06	2.54E-02	7.46E-01	5.35E-06	3.47E-02
Road 25	25	1300-1400	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 25	25	1400-1500	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 25	25	1500-1600	1.56E-02	1.21E-06	7.85E-03	5.43E-03	4.20E-06	2.74E-02	6.98E-01	5.41E-06	3.52E-02
Road 25	25	1600-1700	1.32E-02	9.45E-07	6.15E-03	5.17E-03	3.71E-06	2.41E-02	6.49E-01	4.65E-06	3.03E-02
Road 25	25	1700-1800	1.29E-02	1.34E-07	8.71E-04	5.03E-03	5.22E-07	3.39E-03	6.32E-01	6.55E-07	4.26E-03
Road 25	25	1800-1900	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 25	25	1900-2000	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 25	25	2000-2100	1.05E-02	2.28E-07	1.48E-03	3.74E-03	8.13E-07	5.28E-03	4.59E-01	1.00E-06	6.50E-03
Road 25	25	2100-2200	1.07E-02	2.96E-07	1.92E-03	3.82E-03	1.06E-06	6.86E-03	4.70E-01	1.30E-06	8.45E-03
Road 25	25	2200-2300	1.18E-02	1.87E-07	1.21E-03	4.21E-03	6.66E-07	4.32E-03	5.17E-01	8.19E-07	5.31E-03
Road 25	25	2300-0000	1.28E-02	3.84E-06	4.64E-04	3.02E-03	4.85E-04	5.92E-07	3.85E-03	1.12E-02	1.37E-06
Road 26	26	0000-0100	1.43E-02	3.27E-06	3.97E-04	3.37E-03	4.29E-04	5.22E-07	4.29E-03	1.03E-02	1.26E-06
Road 26	26	0100-0200	9.92E-03	6.59E-08	2.49E-04	3.60E-03	2.40E-05	9.06E-08	1.31E-03	7.74E-06	2.91E-06
Road 26	26	0200-0300	1.03E-02	6.68E-08	2.58E-04	3.74E-03	2.43E-05	9.40E-08	1.36E-03	7.85E-06	3.03E-06
Road 26	26	0300-0400	1.03E-02	6.68E-08	4.35E-04	3.71E-03	2.42E-05	1.57E-07	1.34E-03	7.81E-06	5.08E-06
Road 26	26	0400-0500	1.15E-02	1.37E-07	8.93E-04	4.12E-03	4.93E-05	3.21E-07	1.48E-03	1.77E-05	1.15E-05
Road 26	26	0500-0600	1.22E-02	1.45E-07	9.47E-04	4.37E-03	5.23E-05	3.41E-07	1.57E-03	1.88E-05	1.22E-05
Road 26	26	0600-0700	1.44E-02	8.34E-07	5.43E-03	5.08E-03	2.94E-06	1.91E-02	6.52E-01	3.77E-06	2.45E-02
Road 26	26	0700-0800	1.56E-02	1.75E-06	7.58E-03	5.56E-03	6.25E-06	2.71E-02	6.99E-01	7.86E-06	3.41E-02
Road 26	26	0800-0900	1.50E-02	1.14E-06	7.39E-03	5.49E-03	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02
Road 26	26	0900-1000	1.61E-02	1.12E-06	7.27E-03	5.62E-03	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02
Road 26	26	1000-1100	1.66E-02	1.19E-06	7.21E-03	5.55E-03	3.96E-06	2.40E-02	7.23E-01	5.02E-06	3.04E-02
Road 26	26	1100-1200	1.66E-02	1.19E-06	7.72E-03	5.80E-03	4.16E-06	2.70E-02	7.46E-01	5.35E-06	3.47E-02
Road 26	26	1200-1300	1.56E-02	1.12E-06	7.27E-03	5.44E-03	3.90E-06	2.54E-02	7.46E-01	5.35E-06	3.47E-02
Road 26	26	1300-1400	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 26	26	1400-1500	1.63E-02	1.30E-06	8.44E-03	5.54E-03	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02
Road 26	26	1500-1600	1.56E-02	1.21E-06	7.85E-03	5.43E-03	4.20E-06	2.74E-02	6.98E-01	5.41E-06	3.52E-02
Road 26	26	1600-1700	1.32E-02	9.45E-07	6.15E-03	5.17E-03	3.71E-06	2.41E-02	6.49E-01	4.65E-06	3.03E-02
Road 26	26	1700-1800	1.29E-02	1.34E-07	8.71E-04	5.03E-03	5.22E-07	3.39E-03	6.32E-01	6.55E-07	4.26E-03
Road 26	26	1800-1900	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 26	26	1900-2000	1.07E-02	3.46E-07	2.25E-03	3.82E-03	1.23E-06	8.00E-03	4.70E-01	1.52E-06	9.87E-03
Road 26	26	2000-2100	1.05E-02	2.28E-07	1.48E-03	3.74E-03	8.13E-07	5.28E-03	4.59E-01	1.00E-06	6.50E-03
Road 26	26	2100-2200	1.07E-02	2.96E-07	1.92E-03	3.82E-03	1.06E-06	6.86E-03	4.70E-01	1.30E-06	8.45E-03
Road 26	26	2200-2300	1.18E-02	1.87E-07	1.21E-03	4.21E-03	6.66E-07	4.32E-03	5.17E-01	8.19E-07	5.31E-03
Road 26	26	2300-0000	1.28E-02	3.84E-06	4.64E-04	3.02E-03	4.85E-04	5.92E-07	3.85E-03	1.12E-02	1.37E-06
Road 27	27	0000-0100	1.43E-02	3.27E-06	3.97E-04	3.37E-03	4.29E-04	5.22E-07	4.29E-03	1.03E-02	1.26E-06
Road 27	27	0100-0200	9.92E-03	6.59E-08	2.49E-04	3.60E-03	2.40E-05	9.06E-08	1.31E-03	7.74E-06	2.91E-06
Road 27	27	0200-0300	1.03E-02	6.68E-08	2.58E-04	3.74E-03	2.43E-05	9.40E-08	1.36E-03	7.85E-06	3.03E-06
Road 27	27	0300-0400	1.03E-02	6.68E-08	4.35E-04	3.71E-03	2.42E-05	1.57E-07	1.34E-03	7.81E-06	5.08E-06
Road 27	27	0400-0500	1.15E-02	1.37E-07	8.93E-04	4.12E-03	4.93E-05	3.21E-07	1.48E-03	1.77E-05	1.15E-05
Road 27	27	0500-0600	1.22E-02	1.45E-07	9.47E-04	4.37E-03	5.23E-05	3.41E-07	1.57E-03	1.88E-05	1.22E-05
Road 27	27	0600-0700	1.44E-02	8.34E-07	5.43E-03	5.08E-03	2.94E-06	1.91E-02	6.52E-01	3.77E-06	2.45E-02
Road 27	27	0700-0800	1.56E-02	1.75E-06	7.58E-03	5.56E-03	6.25E-06	2.71E-02	6.99E-01	7.86E-06	3.41E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.08E-02	3.94E-02	4.52E-03	1.47E-02	1.60E-06	1.84E-02	1.02E-02	1.23E-02	1.54E-03	1.02E-02	1.23E-02	1.54E-03
Road 47	47	1700-1800	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	8.68E-02	1.91E-06	2.17E-02	2.30E-03	5.04E-08	5.74E-04
Road 47	47	1800-1900	1.07E-02	2.66E-07	3.03E-03	5.26E-02	1.30E-06	1.49E-02	6.33E-02	1.57E-06	1.79E-02	1.67E-03	4.14E-08	4.72E-04
Road 47	47	1900-2000	8.57E-03	1.79E-07	1.97E-03	4.82E-02	1.00E-06	1.10E-02	5.55E-02	1.09E-06	1.28E-02	1.35E-03	2.67E-08	3.05E-04
Road 47	47	2000-2100	7.93E-03	1.22E-07	1.39E-03	5.17E-02	7.94E-07	9.05E-03	5.96E-02	9.16E-07	1.04E-02	1.25E-03	1.92E-08	2.19E-04
Road 47	47	2100-2200	8.13E-03	1.02E-07	1.16E-03	5.49E-02	6.91E-07	7.87E-03	6.32E-02	8.53E-07	9.73E-03	1.06E-03	1.33E-08	1.52E-04
Road 47	47	2200-2300	6.22E-03	9.30E-08	1.06E-03	4.82E-02	7.22E-07	8.23E-03	5.45E-02	8.15E-07	9.29E-03	9.50E-04	1.42E-08	1.62E-04
Road 47	47	2300-0000	6.57E-03	7.33E-08	8.35E-04	4.82E-02	5.38E-07	6.11E-03	5.74E-02	6.11E-07	6.96E-03	1.06E-03	1.18E-08	1.34E-04
Road 48	48	0000-0100	4.75E-03	1.32E-08	1.51E-04	3.48E-02	9.68E-08	1.10E-03	4.15E-02	1.15E-07	1.32E-03	7.66E-04	2.13E-09	2.43E-05
Road 48	48	0100-0200	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.91E-07	1.05E-03	4.33E-02	2.33E-07	1.28E-03	7.82E-04	4.22E-09	2.32E-05
Road 48	48	0200-0300	4.96E-03	1.44E-08	7.93E-05	3.55E-02	1.03E-07	5.68E-04	4.34E-02	1.26E-07	6.94E-04	7.83E-04	2.27E-09	1.25E-05
Road 48	48	0300-0400	5.89E-03	1.83E-08	1.01E-04	3.83E-02	1.19E-07	6.55E-04	4.41E-02	1.37E-07	7.56E-04	1.49E-03	4.63E-09	2.55E-05
Road 48	48	0400-0500	6.23E-03	2.14E-08	1.18E-04	3.94E-02	1.36E-07	8.59E-04	4.51E-02	1.55E-07	8.73E-04	1.73E-03	5.94E-09	3.35E-05
Road 48	48	0500-0600	6.81E-03	4.20E-08	2.32E-04	4.32E-02	2.67E-07	1.47E-03	5.07E-02	3.13E-07	1.72E-03	1.96E-03	1.21E-08	6.64E-05
Road 48	48	0600-0700	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.34E-07	2.94E-03	4.95E-02	6.26E-07	3.45E-03	1.87E-03	2.36E-08	1.30E-04
Road 48	48	0700-0800	7.38E-03	1.98E-07	1.09E-03	4.22E-02	1.14E-06	6.26E-03	4.95E-02	1.34E-06	7.38E-03	1.87E-03	5.04E-08	2.77E-04
Road 48	48	0800-0900	7.38E-03	2.18E-07	1.20E-03	4.22E-02	1.24E-06	6.85E-03	4.95E-02	1.46E-06	8.07E-03	1.87E-03	5.52E-08	3.04E-04
Road 48	48	0900-1000	7.38E-03	2.05E-07	1.13E-03	4.22E-02	1.17E-06	6.47E-03	4.95E-02	1.37E-06	7.56E-03	1.87E-03	5.20E-08	2.87E-04
Road 48	48	1000-1100	9.61E-03	2.01E-07	1.11E-03	4.46E-02	9.33E-07	5.14E-03	5.42E-02	1.13E-06	6.25E-03	2.63E-03	5.50E-08	3.03E-04
Road 48	48	1100-1200	9.14E-03	1.81E-07	9.98E-04	4.45E-02	8.83E-07	4.87E-03	5.37E-02	1.06E-06	5.86E-03	2.48E-03	4.92E-08	2.71E-04
Road 48	48	1200-1300	1.05E-02	3.49E-07	1.93E-03	1.06E-06	3.98E-03	3.12E-06	1.37E-06	4.57E-06	2.52E-03	3.12E-06	1.04E-06	5.74E-03
Road 48	48	1300-1400	1.50E-02	3.03E-07	1.67E-03	5.84E-02	1.18E-06	6.47E-03	7.34E-02	1.48E-06	8.14E-03	4.29E-03	8.63E-08	4.75E-04
Road 48	48	1400-1500	1.42E-02	3.74E-07	2.07E-03	7.46E-02	1.96E-06	1.08E-02	9.44E-02	2.48E-06	1.37E-02	5.52E-03	1.45E-07	8.00E-04
Road 48	48	1500-1600	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	7.09E-02	1.53E-06	8.43E-03	4.02E-03	8.70E-08	4.79E-04
Road 48	48	1600-1700	1.41E-02	3.16E-07	1.74E-03	5.42E-02	1.21E-06	6.68E-03	6.83E-02	1.53E-06	8.42E-03	3.97E-03	8.89E-08	4.90E-04
Road 48	48	1700-1800	1.38E-02	2.51E-07	1.38E-03	5.26E-02	9.57E-07	5.27E-03	6.74E-02	1.23E-06	6.77E-03	3.92E-03	7.30E-08	4.02E-04
Road 48	48	1800-1900	7.38E-03	1.82E-07	1.00E-03	3.50E-02	8.62E-07	4.75E-03	4.24E-02	1.04E-06	5.73E-03	2.51E-03	6.18E-08	3.40E-04
Road 48	48	1900-2000	6.30E-03	9.62E-08	5.30E-04	3.54E-02	5.41E-07	2.98E-03	4.17E-02	6.37E-07	3.51E-03	2.47E-03	3.78E-08	2.08E-04
Road 48	48	2000-2100	6.30E-03	9.62E-08	5.30E-04	3.54E-02	5.41E-07	2.98E-03	4.17E-02	6.37E-07	3.51E-03	2.47E-03	3.78E-08	2.08E-04
Road 48	48	2100-2200	6.07E-03	9.11E-08	5.02E-04	3.56E-02	5.34E-07	2.94E-03	4.19E-02	6.29E-07	3.46E-03	2.49E-03	3.74E-08	2.06E-04
Road 48	48	2200-2300	6.62E-03	7.28E-08	4.01E-04	3.64E-02	4.00E-07	2.20E-03	4.30E-02	4.73E-07	2.61E-03	1.80E-03	1.98E-08	1.09E-04
Road 48	48	2300-0000	6.20E-03	2.56E-07	1.41E-03	3.41E-02	1.41E-06	7.75E-03	4.03E-02	1.66E-06	9.14E-03	2.34E-03	9.68E-08	5.32E-04
Road 49	49	0100-0200	4.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	5.06E-02	2.81E-07	1.85E-03	1.06E-03	3.80E-09	3.50E-05
Road 49	49	0200-0300	4.20E-03	1.20E-08	1.10E-04	4.44E-02	8.59E-08	7.89E-04	5.06E-02	1.52E-07	1.00E-03	1.06E-03	2.05E-09	1.89E-05
Road 49	49	0300-0400	4.20E-03	1.20E-08	1.10E-04	4.44E-02	8.59E-08	7.89E-04	5.06E-02	1.52E-07	1.00E-03	1.06E-03	2.05E-09	1.89E-05
Road 49	49	0400-0500	7.94E-03	1.78E-08	1.64E-04	4.93E-02	1.10E-07	1.02E-03	5.72E-02	1.28E-07	1.18E-03	1.41E-03	3.14E-09	2.90E-05
Road 49	49	0500-0600	9.11E-03	1.59E-08	1.47E-04	5.28E-02	9.23E-08	8.53E-04	6.13E-02	1.07E-07	9.88E-04	2.04E-03	3.55E-09	3.28E-05
Road 49	49	0600-0700	9.54E-03	8.79E-08	6.26E-02	5.16E-02	4.75E-07	3.41E-02	6.11E-07	5.63E-03	1.81E-03	1.50E-03	1.38E-08	9.84E-04
Road 49	49	0700-0800	2.54E-02	1.56E-07	1.11E-02	2.87E-02	1.76E-06	1.25E-02	3.57E-02	2.15E-03	1.57E-06	4.03E-03	2.47E-08	1.76E-03
Road 49	49	0800-0900	1.62E-02	3.10E-07	2.86E-03	7.44E-02	1.42E-06	2.31E-02	9.06E-02	1.73E-06	2.69E-02	4.19E-03	8.19E-08	3.86E-04
Road 49	49	0900-1000	1.72E-02	2.65E-07	2.44E-03	8.00E-02	1.23E-06	1.13E-02	9.72E-02	1.49E-06	1.37E-02	2.42E-03	3.71E-08	3.41E-04
Road 49	49	1000-1100	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	2.44E-03	3.03E-08	2.79E-04
Road 49	49	1100-1200	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	2.44E-03	3.03E-08	2.79E-04
Road 49	49	1300-1400	1.66E-02	1.72E-07	1.59E-03	7.51E-02	7.78E-07	7.16E-03	9.17E-02	9.50E-07	8.75E-03	2.51E-03	2.60E-08	2.40E-04
Road 49	49	1400-1500	1.66E-02	1.98E-07	1.82E-03	7.51E-02	8.94E-07	8.22E-03	9.17E-02	1.09E-06	1.00E-02	2.51E-03	2.99E-08	2.75E-04
Road 49	49	1500-1600	1.66E-02	1.98E-07	1.82E-03	7.51E-02	8.94E-07	8.22E-03	9.17E-02	1.09E-06	1.00E-02	2.51E-03	2.99E-08	2.75E-04
Road 49	49	1600-1700	1.86E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	9.50E-02	1.18E-06	1.09E-02	2.74E-03	3.42E-08	3.15E-04
Road 49	49	1700-1800	1.01E-02	1.69E-07	1.56E-03	4.95E-02	8.26E-07	7.61E-03	5.96E-02	9.95E-07	9.16E-03	1.48E-03	2.47E-08	2.27E-04
Road 49	49	1800-1900	1.01E-02	1.69E-07	1.56E-03	4.95E-02	8.26E-07	7.61E-03	5.96E-02	9.95E-07	9.16E-03	1.48E-03	2.47E-08	2.27E-04
Road 49	49	2000-2100	7.04E-03	2.39E-08	2.61E-04	4.72E-02	4.56E-07	5.24E-03	5.68E-02	1.06E-07	1.31E-03	1.06E-03	2.11E-08	1.02E-04
Road 49	49	2100-2200	7.75E-03	5.97E-08	5.50E-04	4.53E-02	4.71E-07	4.34E-03	5.11E-02	5.31E-07	4.97E-03	1.84E-03	8.90E-09	8.19E-05
Road 49	49	2200-2300	7.75E-03	5.97E-08	5.50E-04	4.53E-02	4.71E-07	4.34E-03	5.11E-02	5.31E-07	4.97E-03	1.84E-03	8.90E-09	8.19E-05
Road 49	49	2300-0000	1.65E-03	4.29E-08	3.95E-04	4.40E-02	3.84E-07	3.77E-03	3.47E-03	8.67E-04	6.58E-09	2.06E-03	1.95E-08	1.84E-05
Road 50	50	0000-0100	2.82E-02	8.32E-06	4.34E-05	1.33E-01	3.92E-05	2.04E-02	1.38E-01	4.07E-05	2.12E-02	7.26E-03	2.14E-06	1.11E-03
Road 50	50	0100-0200	2.82E-02	8.32E-06	4.34E-05	1.33E-01	3.92E-05	2.04E-02	1.38E-01	4.07E-05	2.12E-02	7.26E-03	2.14E-06	1.11E-03
Road 50	50	0200-0300	2.96E-02	6.66E-09	1.47E-05	1.17E-01	2.64E-08	5.83E-05	1.30E-01	2.93E-08	6.47E-05	1.72E-04	3.87E-11	8.55E-08
Road 50	50	0300-0400	2.70E-02	2.97E-05	1.21E-01	2.64E-02	2.90E-05	1.18E-02	2.57E-02	2.82E-05	1.15E-02	1.44E-04	1.58E-07	6.44E-05
Road 50	50	0400-0500	3.17E-02	6.74E-09	1.51E-05	1.24E-01	2.63E-08	5.91E-05	1.37E-01	2.91E-08	6.56E-05	1.84E-04	3.91E-11	8.82E-08
Road 50	50	0500-0600	3.48E-02	2.97E-08	1.55E-04	1.44E-01	1.22E-07	6.38E-04	1.59E-01	1.35E-07	7.05E-04	2.14E-04	1.82E-10	9.50E-07
Road 50	50	0600-0700	3.48E-02	2.97E-08	1.55E-04	1.44E-01	1.22E-07	6.38E-04	1.59E-01	1.35E-07	7.05E-04	2.14E-04	1.82E-10	9.50E-07
Road 50	50	0700-0800	3.79E-02	6.81E-08	3.55E-04	1.44E-01	2.59E-07	1.35E-03	1.59E-01	2.86E-07	1.49E-03	2.14E-04	3.84E-10	2.00E-06
Road 50	50	0800-0900	3.79E-02	6.81E-08	3.55E-04	1.44E-01	2.59E-07	1.35E-03	1.59E-01	2.86E-07	1.49E-03	2.14E-04	3.84E-10	2.00E-06
Road 50	50	0900-1000	3.97E-02	8.66E-08	4.51E-04	1.54E-01	3.37E-07	1.76E-03	1.94E-01	4.24E-07	2.21E-03	7.64E-03	1.67E-08	8.68E-05
Road 50	50	1000-1100	4.31E-02	8.42E-08	4.38E-04	1.66E-01	3.24E-07	1.69E-03	2.09E-01	4.08E-07	2.12E-03	8.24E-03	1.61E-08	8.36E-05
Road 50	50	1100-1200	4.31E-02	8.42E-08	4.38E-04	1.66E-01	3.24E-07	1.69E-03	2.09E-01	4.08E-07	2.12E-03	8.24E-03	1.61E-08	8.36E-05
Road 50	50	1200-1300	4.65E-02	4.28E-08	2.23E-04	1.70E-01	1.57E-07	8.15E-04	2.17E-01	1.99E-07	1.04E-03	9.21E-03	8.48E-09	4.41E-05
Road 50	50	1300-1400	4.65E-02	4.28E-08	2.23E-04	1.70E-01	1.57E-07	8.15E-04	2.17E-01	1.99E-07	1.04E-03	9.21E-03	8.48E-09	4.41E-05
Road 50	50	1400-1500	4.74E-02	4.34E-08	2.26E-04	1.68E-01	1.54E-07	8.02E-04	2.16E-01	1.97E-07	1.03E-03	9.37E-03	8.58E-09	4.47E-05
Road 50	50	1500-1600	4.74E-02	4.34E-08	2.26E-04	1.68E-01	1.54E-07	8.02E-04	2.16E-01	1.97E-07	1.03E-03	9.37E-03	8.58E-09	4.47E-05
Road 50	50	1600-1700	4.58E-02	4.07E-08	2.12E-04	1.67E-01	1.48E-07	7.72E-04	2.13E-01	1.89E-07	9.84E-04	9.06E-03	8.08E-09	4.21E-05
Road 50	50	1700-1800	3.91E-02	3.20E-08	1.67E-04	1.42E-01	1.31E-07	6.80E-04	1.82E-01	1.67E-07	8.67E-04	7.74E-03	7.13E-09	3.71E-05
Road 50	50	1800-1900	3.49E-02	2.06E-08	1.07E-04	1.49E-01	8.75E-08	4.54E-04	1.83E-01	1.08E-07	5.61E-04	6.91E-03	4.07E-09	2.12E-05
Road 50	50	1900-2000	3.49E-02	1.38E-08	7.18E-05	1.43E-01	5.64E-08	2.94E-04	1.78E-01	7.02E-08	3.66E-04	7.13E-03	2.82E-09	1.47E-05
Road 50	50	2000-2100	3.76E-02	1.03E-08	5.37E-05	1.49E-01	4.23E-08	2.20E-04	1.96E-01	5.26E-08	2.74E-04	7.68E-03	2.11E-09	1.10E-05
Road 50	50	2100-2200	3.35E-02	1.08E-08	5.60E-05	1.41E-01	4.53E-08	2.36E-04	1.74E-01	5.60E-08	2.92E-04	6.84E-03	2.20E-09	1.15E-05
Road 50	50	2200-2300	3.35E-02	1.08E-08	5.60E-05	1.41E-01	4.53E-08	2.36E-04	1.74E-01	5.60E-08	2.92E-04	6.84E-03	2.20E-09	1.15E-05
Road 50	50	2300-0000	3.76E-02	8.66E-09	4.51E-05	1.41E-01	3.25E-08	1.69E-04	1.78E-01	4.09E-08	2.13E-04	6.91E-03	1.59E-09	8.29E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July)
Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	4.15E-03	3.35E-08	2.28E-04	3.31E-02	2.68E-07	1.82E-03	3.62E-03	2.92E-08	1.99E-04	6.70E-04	5.41E-09	3.68E-05
Road 51	51	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	2.01E-07	1.37E-03	1.15E-03	5.92E-09	4.03E-05
Road 51	51	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-07	1.05E-03	1.27E-03	4.75E-09	3.23E-05
Road 51	51	0300-0400	5.53E-03	1.64E-08	1.11E-04	3.73E-02	1.10E-07	7.51E-04	4.28E-02	1.27E-07	8.62E-04	1.38E-03	4.08E-09	2.78E-05
Road 51	51	0400-0500	5.96E-03	1.93E-08	1.31E-04	3.84E-02	1.24E-07	8.46E-04	4.44E-02	1.44E-07	9.77E-04	1.50E-03	4.85E-09	3.30E-05
Road 51	51	0500-0600	5.38E-03	3.59E-08	2.44E-04	3.70E-02	2.46E-07	1.67E-03	4.01E-02	2.68E-07	1.82E-03	1.35E-03	9.02E-09	6.13E-05
Road 51	51	0600-0700	6.88E-03	8.25E-08	5.61E-04	4.11E-02	4.92E-07	3.35E-03	4.80E-02	5.75E-07	3.91E-03	1.74E-03	2.09E-08	1.42E-04
Road 51	51	0700-0800	7.30E-03	1.76E-07	1.20E-03	4.17E-02	1.01E-06	6.86E-03	4.90E-02	1.19E-06	8.07E-03	1.86E-03	4.51E-08	3.07E-04
Road 51	51	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.96E-02	1.10E-06	7.04E-03	4.40E-02	1.23E-06	8.38E-03	1.68E-03	4.70E-08	3.19E-04
Road 51	51	0900-1000	7.88E-03	1.79E-07	1.22E-03	4.06E-02	9.23E-07	6.28E-03	4.85E-02	1.10E-06	7.50E-03	2.14E-03	4.86E-08	3.31E-04
Road 51	51	1000-1100	8.46E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.38E-03	5.11E-02	9.47E-07	6.44E-03	2.28E-03	4.21E-08	2.87E-04
Road 51	51	1100-1200	1.56E-02	2.77E-07	1.89E-03	7.07E-02	1.25E-06	8.52E-03	9.43E-02	1.67E-06	1.14E-02	4.26E-03	7.56E-08	5.17E-04
Road 51	51	1200-1300	1.51E-02	2.96E-07	2.03E-03	6.84E-02	1.34E-06	9.19E-03	9.12E-02	1.79E-06	1.22E-02	4.12E-03	8.08E-08	5.54E-04
Road 51	51	1300-1400	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 51	51	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 51	51	1500-1600	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 51	51	1600-1700	1.41E-02	2.98E-07	2.03E-03	5.44E-02	1.15E-06	7.84E-03	6.93E-02	1.46E-06	9.96E-03	4.08E-03	8.62E-08	5.87E-04
Road 51	51	1700-1800	1.39E-02	2.51E-07	1.71E-03	5.26E-02	9.57E-07	6.52E-03	6.82E-02	1.23E-06	8.38E-03	3.92E-03	7.30E-08	4.97E-04
Road 51	51	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.61E-03	4.25E-02	9.99E-07	6.80E-03	2.14E-03	5.03E-08	3.42E-04
Road 51	51	1900-2000	6.49E-03	1.21E-07	8.21E-04	3.30E-02	6.13E-07	4.17E-03	3.95E-02	7.34E-07	4.99E-03	1.82E-03	3.39E-08	2.31E-04
Road 51	51	2000-2100	6.31E-03	9.22E-08	6.27E-04	3.17E-02	4.63E-07	3.15E-03	3.84E-02	5.61E-07	3.81E-03	1.77E-03	2.59E-08	1.76E-04
Road 51	51	2100-2200	6.08E-03	8.74E-08	5.95E-04	3.56E-02	5.12E-07	3.48E-03	4.17E-02	5.99E-07	4.08E-03	1.72E-03	2.47E-08	1.68E-04
Road 51	51	2200-2300	5.84E-03	8.42E-08	5.73E-04	3.43E-02	4.94E-07	3.36E-03	4.01E-02	5.77E-07	3.93E-03	1.66E-03	2.39E-08	1.62E-04
Road 51	51	2300-0000	6.64E-03	6.98E-08	4.75E-04	3.64E-02	3.83E-07	2.60E-03	4.33E-02	4.55E-07	3.09E-03	1.91E-03	1.90E-08	1.30E-04
Road 52	52	0000-0100	4.73E-02	2.38E-08	4.45E-05	1.72E-01	8.65E-08	1.62E-04	2.19E-01	1.10E-07	2.06E-04	9.38E-03	4.72E-09	8.83E-06
Road 52	52	0100-0200	4.73E-02	2.38E-08	4.45E-05	1.72E-01	8.65E-08	1.62E-04	2.19E-01	1.10E-07	2.06E-04	9.38E-03	4.72E-09	8.83E-06
Road 52	52	0200-0300	4.63E-02	1.31E-08	2.45E-05	1.69E-01	4.77E-08	8.91E-05	2.15E-01	6.07E-08	1.14E-04	9.36E-03	2.65E-09	4.95E-06
Road 52	52	0300-0400	4.68E-02	1.31E-08	2.45E-05	1.70E-01	4.77E-08	8.91E-05	2.17E-01	6.07E-08	1.14E-04	9.42E-03	2.65E-09	4.95E-06
Road 52	52	0400-0500	4.68E-02	1.33E-08	2.48E-05	1.70E-01	4.83E-08	9.03E-05	2.17E-01	6.15E-08	1.15E-04	9.42E-03	2.67E-09	5.00E-06
Road 52	52	0500-0600	4.84E-02	2.55E-08	4.76E-05	1.76E-01	9.25E-08	1.73E-04	2.24E-01	1.18E-07	2.21E-04	9.68E-03	5.09E-09	9.40E-06
Road 52	52	0600-0700	4.84E-02	2.55E-08	4.76E-05	1.76E-01	9.25E-08	1.73E-04	2.24E-01	1.18E-07	2.21E-04	9.68E-03	5.09E-09	9.40E-06
Road 52	52	0700-0800	5.37E-02	1.38E-07	2.59E-04	1.94E-01	5.00E-07	9.35E-04	2.47E-01	6.38E-07	1.19E-03	9.93E-03	2.56E-08	4.79E-05
Road 52	52	0800-0900	5.37E-02	1.38E-07	2.59E-04	1.94E-01	5.00E-07	9.35E-04	2.47E-01	6.38E-07	1.19E-03	9.93E-03	2.56E-08	4.79E-05
Road 52	52	0900-1000	5.48E-02	1.92E-07	3.60E-04	2.06E-01	7.25E-07	1.36E-03	2.61E-01	9.17E-07	1.72E-03	9.90E-03	3.48E-08	6.51E-05
Road 52	52	1000-1100	5.82E-02	1.89E-07	3.54E-04	2.08E-01	6.76E-07	1.27E-03	2.67E-01	8.68E-07	1.62E-03	1.03E-02	3.35E-08	6.26E-05
Road 52	52	1100-1200	5.95E-02	2.01E-07	3.75E-04	2.04E-01	6.89E-07	1.29E-03	2.64E-01	8.89E-07	1.66E-03	1.04E-02	3.49E-08	6.53E-05
Road 52	52	1200-1300	5.95E-02	2.01E-07	3.75E-04	2.04E-01	6.89E-07	1.29E-03	2.64E-01	8.89E-07	1.66E-03	1.04E-02	3.49E-08	6.53E-05
Road 52	52	1300-1400	5.82E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.70E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1400-1500	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1500-1600	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1600-1700	5.61E-02	2.04E-07	3.81E-04	2.02E-01	7.32E-07	1.37E-03	2.58E-01	9.36E-07	1.75E-03	9.95E-03	3.61E-08	6.76E-05
Road 52	52	1700-1800	4.69E-02	1.55E-07	2.90E-04	1.91E-01	6.29E-07	1.18E-03	2.38E-01	7.84E-07	1.47E-03	8.85E-03	2.92E-08	5.46E-05
Road 52	52	1800-1900	4.56E-02	1.56E-07	2.92E-04	1.88E-01	6.44E-07	1.21E-03	2.34E-01	8.04E-07	1.51E-03	8.60E-03	2.94E-08	5.51E-05
Road 52	52	1900-2000	3.94E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 14	14	0800-0900	1.111E-02	8.89E-07	5.53E-03	1.166E-01	3.111E-06	2.06E-02	1.47E-01	3.61E-06	2.42E-02
Road 14	14	0900-1000	1.55E-02	8.82E-07	5.37E-03	1.32E-01	1.99E-02	1.67E-01	4.08E-06	2.53E-02	4.75E-03
Road 14	14	1000-1100	1.90E-02	8.35E-07	5.20E-03	1.38E-01	2.95E-06	1.83E-02	1.76E-01	3.78E-06	2.35E-02
Road 14	14	1100-1200	3.66E-02	2.45E-07	4.63E-03	1.32E-01	2.68E-06	1.67E-02	1.69E-01	3.45E-06	2.13E-02
Road 14	14	1200-1300	4.95E-02	1.17E-06	7.27E-03	1.67E-01	3.95E-06	2.46E-02	2.17E-01	5.12E-06	3.19E-02
Road 14	14	1300-1400	3.59E-02	2.28E-06	7.91E-03	1.48E-01	3.79E-06	2.34E-02	1.76E-01	3.58E-06	2.21E-02
Road 14	14	1400-1500	5.12E-02	1.32E-06	8.21E-03	1.76E-01	4.52E-06	2.81E-02	2.27E-01	5.84E-06	3.64E-02
Road 14	14	1500-1600	4.97E-02	1.31E-06	8.18E-03	1.84E-01	3.62E-02	2.23E-01	6.17E-06	3.84E-02	6.41E-03
Road 14	14	1600-1700	3.67E-02	2.33E-06	8.09E-03	1.48E-01	3.87E-06	2.39E-02	1.76E-01	3.66E-06	2.26E-02
Road 14	14	1700-1800	6.98E-02	1.12E-06	6.98E-03	1.42E-01	3.45E-06	2.13E-02	1.85E-01	5.45E-06	3.39E-02
Road 14	14	1800-1900	1.82E-02	6.19E-07	3.85E-03	1.14E-01	2.77E-06	1.71E-02	1.47E-01	3.61E-06	2.24E-02
Road 14	14	1900-2000	1.82E-02	6.19E-07	2.61E-03	7.99E-02	1.84E-06	1.40E-02	2.66E-02	6.12E-06	3.81E-04
Road 14	14	2000-2100	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.27E-03	2.52E-02	4.39E-06	2.73E-04
Road 14	14	2100-2200	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.27E-03	2.52E-02	4.39E-06	2.73E-04
Road 14	14	2200-2300	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.27E-03	2.52E-02	4.39E-06	2.73E-04
Road 14	14	2300-2400	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.27E-03	2.52E-02	4.39E-06	2.73E-04
Road 15	15	0000-0100	2.76E-02	4.63E-08	1.57E-04	1.32E-01	2.21E-07	7.51E-04	2.44E-02	4.09E-07	1.39E-03
Road 15	15	0100-0200	3.22E-02	3.87E-08	1.31E-04	9.32E-02	1.12E-07	3.79E-04	1.25E-02	1.50E-07	5.09E-04
Road 15	15	0200-0300	3.55E-02	3.63E-08	1.23E-04	9.91E-02	1.00E-07	3.39E-04	1.35E-02	1.37E-07	4.65E-04
Road 15	15	0300-0400	3.55E-02	3.63E-08	1.23E-04	9.91E-02	1.00E-07	3.39E-04	1.35E-02	1.37E-07	4.65E-04
Road 15	15	0400-0500	3.55E-02	3.63E-08	1.23E-04	9.91E-02	1.00E-07	3.39E-04	1.35E-02	1.37E-07	4.65E-04
Road 15	15	0500-0600	2.79E-02	4.63E-08	1.57E-04	8.85E-02	1.47E-07	4.99E-04	4.59E-03	7.63E-09	2.58E-05
Road 15	15	0600-0700	2.41E-02	8.68E-08	2.94E-04	1.16E-01	4.18E-07	1.42E-03	5.53E-03	1.99E-08	6.75E-05
Road 15	15	0700-0800	1.54E-02	2.50E-07	8.46E-04	1.10E-01	1.77E-07	2.62E-03	5.45E-02	3.57E-06	1.21E-04
Road 15	15	0800-0900	3.39E-02	2.72E-07	9.20E-04	1.04E-01	8.39E-07	1.11E-06	3.75E-03	4.78E-03	2.84E-06
Road 15	15	0900-1000	1.55E-02	2.80E-07	9.49E-04	1.32E-01	2.38E-07	3.52E-03	3.77E-03	6.79E-06	2.30E-04
Road 15	15	1000-1100	4.13E-02	2.51E-07	8.47E-04	1.22E-01	7.40E-07	2.50E-03	3.66E-03	1.33E-06	4.50E-04
Road 15	15	1100-1200	4.13E-02	2.51E-07	8.47E-04	1.22E-01	7.40E-07	2.50E-03	3.66E-03	1.33E-06	4.50E-04
Road 15	15	1200-1300	5.24E-02	4.39E-07	1.48E-03	1.61E-01	1.34E-06	4.54E-03	2.13E-01	1.78E-06	6.03E-03
Road 15	15	1300-1400	5.20E-02	4.54E-07	1.54E-03	1.65E-01	1.48E-06	5.01E-03	1.90E-01	1.70E-06	5.76E-03
Road 15	15	1400-1500	5.00E-02	4.65E-07	1.57E-03	1.66E-01	5.22E-03	2.16E-01	2.01E-06	6.79E-03	7.17E-03
Road 15	15	1500-1600	5.00E-02	4.65E-07	1.57E-03	1.66E-01	5.22E-03	2.16E-01	2.01E-06	6.79E-03	7.17E-03
Road 15	15	1600-1700	4.02E-02	1.08E-07	3.65E-04	1.29E-01	3.47E-07	1.17E-03	1.96E-03	5.29E-09	1.79E-05
Road 15	15	1700-1800	4.08E-02	4.15E-07	1.40E-03	1.38E-01	1.40E-06	4.76E-03	1.79E-01	1.82E-06	6.16E-03
Road 15	15	1800-1900	3.39E-02	2.72E-07	9.20E-04	1.04E-01	8.39E-07	2.84E-03	3.75E-03	4.78E-03	1.62E-05
Road 15	15	1900-2000	1.88E-02	1.39E-07	4.69E-04	7.81E-02	5.61E-07	1.89E-03	6.99E-03	2.29E-06	7.74E-05
Road 15	15	2000-2100	1.90E-02	1.10E-07	1.71E-04	8.00E-02	4.65E-07	1.57E-03	3.09E-03	1.79E-06	6.06E-05
Road 15	15	2100-2200	1.90E-02	1.10E-07	1.71E-04	8.00E-02	4.65E-07	1.57E-03	3.09E-03	1.79E-06	6.06E-05
Road 15	15	2200-2300	1.80E-02	1.00E-07	3.39E-04	7.51E-02	4.20E-07	1.42E-03	9.31E-02	5.21E-07	1.76E-03
Road 15	15	2300-2400	1.80E-02	1.00E-07	3.39E-04	7.51E-02	4.20E-07	1.42E-03	9.31E-02	5.21E-07	1.76E-03
Road 16	16	0000-0100	8.33E-03	5.02E-08	5.61E-04	4.03E-02	2.30E-07	3.58E-03	1.25E-02	1.48E-07	1.65E-03
Road 16	16	0100-0200	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.85E-03
Road 16	16	0200-0300	7.94E-03	3.94E-08	4.41E-04	4.03E-02	2.00E-07	2.24E-03	4.57E-02	2.27E-07	2.54E-03
Road 16	16	0300-0400	8.70E-03	2.66E-08	2.98E-04	4.61E-02	1.41E-07	1.58E-03	2.44E-02	7.47E-08	8.36E-04
Road 16	16	0400-0500	8.70E-03	2.66E-08	2.98E-04	4.61E-02	1.41E-07	1.58E-03	2.44E-02	7.47E-08	8.36E-04
Road 16	16	0500-0600	9.29E-03	5.40E-08	6.04E-04	4.90E-02	2.85E-07	3.18E-03	8.83E-02	2.29E-06	2.56E-02
Road 16	16	0600-0700	9.60E-03	1.19E-07	1.34E-03	5.31E-02	6.57E-07	7.34E-03	2.47E-02	1.37E-07	1.53E-03
Road 16	16	0700-0800	1.47E-02	1.70E-07	1.90E-03	2.06E-02	8.81E-07	2.46E-03	1.96E-03	1.02E-06	1.14E-02
Road 16	16	0800-0900	2.00E-02	5.88E-07	6.58E-03	2.47E-02	7.27E-02	1.04E-01	3.06E-06	1.42E-04	3.28E-03
Road 16	16	0900-1000	3.32E-02	2.07E-06	1.16E-02	3.94E-02	1.14E-01	1.64E-01	2.01E-04	3.96E-02	2.21E-01
Road 16	16	1000-1100	1.91E-02	4.20E-07	4.70E-03	2.78E-02	2.38E-02	3.43E-02	2.66E-04	5.24E-03	2.93E-02
Road 16	16	1100-1200	1.91E-02	4.20E-07	4.70E-03	2.78E-02	2.38E-02	3.43E-02	2.66E-04	5.24E-03	2.93E-02
Road 16	16	1200-1300	2.62E-02	5.94E-07	6.64E-03	9.87E-02	2.23E-06	2.50E-02	1.25E-01	2.83E-06	3.16E-02
Road 16	16	1300-1400	2.82E-02	6.67E-07	7.46E-03	1.10E-01	2.59E-06	2.90E-02	1.38E-01	3.26E-06	3.64E-02
Road 16	16	1400-1500	2.82E-02	6.67E-07	7.46E-03	1.10E-01	2.59E-06	2.90E-02	1.38E-01	3.26E-06	3.64E-02
Road 16	16	1500-1600	2.87E-02	7.29E-07	8.15E-03	1.17E-01	2.97E-06	3.32E-02	1.45E-01	3.70E-06	4.14E-02
Road 16	16	1600-1700	2.87E-02	7.29E-07	8.15E-03	1.17E-01	2.97E-06	3.32E-02	1.45E-01	3.70E-06	4.14E-02
Road 16	16	1700-1800	2.48E-02	7.09E-07	7.93E-03	1.06E-01	3.03E-06	3.39E-02	4.19E-02	3.98E-03	1.44E-02
Road 16	16	1800-1900	1.58E-02	4.65E-07	5.21E-03	7.01E-02	2.06E-06	2.31E-02	8.59E-02	2.53E-06	2.83E-02
Road 16	16	1900-2000	1.82E-02	6.19E-07	2.61E-03	7.99E-02	1.84E-06	1.40E-02	2.66E-02	6.12E-06	3.81E-04
Road 16	16	2000-2100	7.05E-03	1.26E-07	1.41E-03	4.30E-02	7.67E-07	8.58E-03	9.07E-03	1.62E-07	1.81E-03
Road 16	16	2100-2200	7.05E-03	1.26E-07	1.41E-03	4.30E-02	7.67E-07	8.58E-03	9.07E-03	1.62E-07	1.81E-03
Road 16	16	2200-2300	6.58E-03	1.13E-07	1.26E-03	4.17E-02	7.15E-07	8.00E-03	4.82E-02	8.28E-07	9.26E-03
Road 16	16	2300-2400	6.97E-03	1.01E-07	4.23E-04	4.91E-02	7.15E-07	2.99E-03	3.46E-02	5.04E-07	2.11E-03
Road 17	17	0000-0100	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0100-0200	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0200-0300	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0300-0400	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0400-0500	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0500-0600	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0600-0700	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0700-0800	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0800-0900	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	0900-1000	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	1000-1100	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	1100-1200	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	1200-1300	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	1300-1400	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	1400-1500	4.61E-03	4.92E-08	4.92E-04	4.74E-02	5.06E-07	5.21E-03	2.26E-02	2.41E-07	2.58E-03
Road 17	17	1500-1600	5.16E-02	1.37E-06	1.46E-02	2.03E-01	5.38E-06	5.74E-02	2.54E-01	6.75E-06	7.21E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	1.29E-02	1.41E-06	1.51E-03	1.92E-01	1.99E-02	1.67E-01	4.85E-06	2.99E-02	4.75E-03
Road 17	17	1700-1800	3.65E-02	1.02E-06	1.09E-02	1.53E-01	4.26E-06	4.55E-02	1.90E-01	5.28E-06	5.64E-02
Road 17	17	1800-1900	1.86E-02	4.97E-07	5.30E-03	8.37E-02	2.23E-06	2.38E-02	1.02E-01	2.73E-06	2.91E-02
Road 17	17	1900-2000	1.31E-02	2.25E-07	2.41E-03	5.48E-02	9.41E-07	1.01E-02	2.73E-02	4.69E-06	5.02E-04
Road 17	17	2000-2100	9.31E-03	1.48E-07	1.58E-03	5.17E-02	8.22E-07	8.77E-03	6.11E-02	9.70E-07	1.03E-02
Road 17	17	2100-2200	1.04E-02	1.44E-07	1.54E-03	5.16E-02	8.31E-07	8.77E-03	6.06E-02	9.61E-07	1.03E-02
Road 17	17	2200-2300	8.91E-03	1.35E-07	1.44E-03	4.90E-02	7.42E-07	7.92E-03	5.79E-02	8.77E-07	9.36E-03
Road 17	17	2300-0000	9.48E-03	1.09E-07	1.17E-03	5.05E-02	5.83E-07	6.22E-03	6.00E-02	6.92E-07	7.39E-03
Road 18	18	0000-0100	6.30E-03	4.35E-08	3.27E-04	3.99E-02	2.75E-07	2.07E-03	3.58E-03	1.79E-08	1.34E-04
Road 18	18	0100-0200	7.08E-03	5.18E-08	4.18E-04	4.12E-02	2.89E-07	2.51E-03	3.58E-03	1.79E-08	1.31E-04
Road 18	18	0200-0300	7.08E-03	5.18E-08	4.18E-04	4.12E-02	2.89E-07	2.51E-03	3.58E-03	1.79E-08	1.31E-04
Road 18	18	0300-0400	8.71E-03	2.63E-08	3.75E-04	4.62E-02	1.39E-07	1.99E-03	5.49E-02	1.66E-07	2.38E-03
Road 18	18	0400-0500	9.34E-03	3.04E-08	4.37E-04	4.74E-02	1.54E-07	2.21E-03	5.66E-02	1.84E-07	2.64E-03
Road 18	18	0500-0600	9.53E-03	5.31E-08	7.57E-04	4.85E-02	2.70E-07	3.85E-03	5.77E-02	3.21E-07	4.57E-03
Road 18	18	0600-0700	9.53E-03	1.17E-07	1.67E-03	5.01E-02	6.14E-07	8.76E-03	5.96E-02	7.31E-07	1.04E-02
Road 18	18	0700-0800	1.34E-02	1.76E-07	2.51E-03	5.81E-02	7.64E-07	1.09E-02	6.91E-02	9.09E-07	1.29E-02
Road 18	18	0800-0900	1.02E-02	2.86E-07	4.25E-03	4.92E-02	1.43E-06	2.04E-02	5.85E-02	1.70E-06	2.43E-02
Road 18	18	0900-1000	1.17E-02	2.88E-07	4.11E-03	5.10E-02	1.36E-06	1.94E-02	6.06E-02	1.61E-06	2.31E-02
Road 18	18	1000-1100	1.33E-02	2.90E-07	4.13E-03	5.28E-02	1.28E-06	1.82E-02	7.21E-02	1.57E-06	2.24E-02
Road 18	18	1100-1200	1.29E-02	2.43E-07	4.26E-03	5.14E-02	1.34E-06	2.35E-02	7.21E-02	1.57E-06	2.75E-02
Road 18	18	1200-1300	1.29E-02	2.43E-07	4.26E-03	5.14E-02	1.34E-06	2.35E-02	7.21E-02	1.57E-06	2.75E-02
Road 18	18	1300-1400	1.29E-02	2.43E-07	4.26E-03	5.14E-02	1.34E-06	2.35E-02	7.21E-02	1.57E-06	2.75E-02
Road 18	18	1400-1500	1.49E-02	2.75E-07	4.82E-03	5.93E-02	1.54E-06	2.71E-02	8.32E-02	1.82E-06	3.19E-02
Road 18	18	1500-1600	1.49E-02	2.75E-07	4.82E-03	5.93E-02	1.54E-06	2.71E-02	8.32E-02	1.82E-06	3.19E-02
Road 18	18	1600-1700	1.57E-02	4.06E-07	5.79E-03	6.44E-02	1.67E-06	2.38E-02	8.01E-02	2.08E-06	2.96E-02
Road 18	18	1700-1800	1.56E-02	4.29E-07	6.12E-03	6.44E-02	1.77E-06	2.52E-02	8.01E-02	2.20E-06	3.14E-02
Road 18	18	1800-1900	8.31E-03	2.42E-07	3.45E-03	4.18E-02	1.22E-06	1.73E-02	5.22E-02	1.52E-06	2.17E-02
Road 18	18	1900-2000	9.34E-03	2.45E-07	3.49E-03	4.74E-02	1.24E-06	1.77E-02	5.35E-02	1.40E-06	2.00E-02
Road 18	18	2000-2100	8.60E-03	1.37E-07	1.96E-03	4.64E-02	7.42E-07	1.06E-02	5.29E-02	8.46E-07	1.21E-02
Road 18	18	2100-2200	8.60E-03	1.37E-07	1.96E-03	4.64E-02	7.42E-07	1.06E-02	5.29E-02	8.46E-07	1.21E-02
Road 18	18	2200-2300	8.60E-03	1.37E-07	1.96E-03	4.64E-02	7.42E-07	1.06E-02	5.29E-02	8.46E-07	1.21E-02
Road 18	18	2300-2400	8.60E-03	1.37E-07	1.96E-03	4.64E-02	7.42E-07	1.06E-02	5.29E-02	8.46E-07	1.21E-02
Road 19	19	0000-0100	1.66E-02	1.77E-07	1.95E-03	1.06E-01	1.13E-06	1.24E-02	1.25E-02	1.33E-07	1.47E-03
Road 19	19	0100-0200	1.42E-02	1.51E-07	1.66E-03	9.09E-02	9.68E-07	1.06E-02	1.07E-02	1.14E-07	1.25E-03
Road 19	19	0200-0300	1.52E-02	1.62E-07	1.78E-03	9.74E-02	1.04E-06	1.14E-02	1.15E-02	1.22E-07	1.34E-03
Road 19	19	0300-0400	1.52E-02	1.62E-07	1.78E-03	9.74E-02	1.04E-06	1.14E-02	1.15E-02	1.22E-07	1.34E-03
Road 19	19	0400-0500	1.52E-02	1.62E-07	1.78E-03	9.74E-02	1.04E-06	1.14E-02	1.15E-02	1.22E-07	1.34E-03
Road 19	19	0500-0600	1.66E-02	1.77E-07	1.95E-03	1.06E-01	1.13E-06	1.24E-02	1.25E-02	1.33E-07	1.47E-03
Road 19	19	0600-0700	1.20E-02	1.62E-07	1.78E-03	7.66E-02	1.04E-06	1.14E-02	9.03E-03	1.22E-07	1.34E-03
Road 19	19	0700-0800	1.20E-02	1.62E-07	1.78E-03	7.66E-02	1.04E-06	1.14E-02	9.03E-03	1.22E-07	1.34E-03
Road 19	19	0800-0900	8.29E-02	2.57E-07	3.84E-03	5.30E-01	1.64E-06	2.45E-02	6.24E-02	1.93E-07	2.89E-03
Road 19	19	0900-1000	1.47E-02	4.22E-07	4.44E-03	6.64E-02	1.91E-06	2.01E-02	8.11E-02	2.33E-06	2.45E-02
Road 19	19	1000-1100	1.59E-02	3.88E-07	4.09E-03	7.25E-02	1.77E-06	1.86E-02	8.11E-02	1.98E-06	2.08E-02
Road 19	19	1100-1200	1.59E-02	3.88E-07	4.09E-03	7.25E-02	1.77E-06	1.86E-02	8.11E-02	1.98E-06	2.08E-02
Road 19	19	1200-1300	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	1300-1400	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	1400-1500	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	1500-1600	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	1600-1700	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	1700-1800	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	1800-1900	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	1900-2000	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	2000-2100	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	2100-2200	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	2200-2300	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 19	19	2300-2400	1.47E-02	2.01E-07	2.12E-03	6.74E-02	9.24E-07	9.73E-03	3.98E-02	5.46E-07	5.75E-03
Road 20	20	0000-0100	6.69E-02	6.48E-08	4.36E-04	1.74E-01	1.69E-07	1.13E-03	2.41E-01	2.33E-07	1.57E-03
Road 20	20	0100-0200	6.82E-02	5.99E-08	4.03E-04	1.74E-01	1.52E-07	1.02E-03	2.41E-01	2.12E-07	1.43E-03
Road 20	20	0200-0300	6.52E-02	4.39E-08	2.95E-04	1.79E-01	1.20E-07	8.07E-04	2.29E-01	1.54E-07	1.04E-03
Road 20	20	0300-0400	6.52E-02	4.39E-08	2.95E-04	1.79E-01	1.20E-07	8.07E-04	2.29E-01	1.54E-07	1.04E-03
Road 20	20	0400-0500	6.88E-02	6.52E-08	4.39E-04	1.79E-01	1.69E-07	1.14E-03	2.29E-01	2.17E-07	1.46E-03
Road 20	20	0500-0600	6.88E-02	6.52E-08	4.39E-04	1.79E-01	1.69E-07	1.14E-03	2.29E-01	2.17E-07	1.46E-03
Road 20	20	0600-0700	5.56E-02	1.43E-07	9.61E-04	1.44E-01	3.71E-07	2.50E-03	1.91E-01	4.91E-07	3.31E-03
Road 20	20	0700-0800	7.55E-02	1.94E-07	1.30E-03	1.96E-01	5.03E-07	3.38E-03	2.59E-01	6.66E-07	4.48E-03
Road 20	20	0800-0900	7.47E-02	5.54E-07	3.73E-03	2.29E-01	1.70E-06	1.14E-02	2.98E-01	2.21E-06	1.49E-02
Road 20	20	0900-1000	7.47E-02	5.54E-07	3.73E-03	2.29E-01	1.70E-06	1.14E-02	3.04E-01	2.25E-06	1.51E-02
Road 20	20	1000-1100	7.98E-02	5.75E-07	3.87E-03	2.55E-01	1.84E-06	1.24E-02	3.41E-01	2.46E-06	1.65E-02
Road 20	20	1100-1200	7.98E-02	5.75E-07	3.87E-03	2.55E-01	1.84E-06	1.24E-02	3.41E-01	2.46E-06	1.65E-02
Road 20	20	1200-1300	7.13E-02	4.88E-07	3.29E-03	2.32E-01	1.59E-06	1.07E-02	3.44E-01	2.35E-06	1.58E-02
Road 20	20	1300-1400	7.90E-02	5.75E-07	3.87E-03	2.55E-01	1.71E-06	1.15E-02	3.14E-01	2.29E-06	1.54E-02
Road 20	20	1400-1500	7.98E-02	5.81E-07	3.91E-03	2.33E-01	1.70E-06	1.14E-02	3.28E-01	2.53E-06	1.70E-02
Road 20	20	1500-1600	7.71E-02	5.97E-07	3.75E-03	2.29E-01	1.65E-06	1.11E-02	3.07E-01	2.20E-06	1.48E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	1.07E-02	2.97E-06	7.16E-05	4.55E-02	8.88E-08	3.04E-04	5.62E-02	1.56E-05	3.76E-04
Road 41	41	0100-0200	1.39E-02	1.86E-08	6.38E-05	5.09E-02	6.84E-08	2.34E-04	6.47E-02	8.70E-08	2.98E-04
Road 41	41	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04
Road 41	41	0300-0400	1.96E-02	1.79E-08	6.13E-05	6.29E-02	1.81E-08	6.20E-05	8.25E-02	2.37E-08	8.12E-05
Road 41	41	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 41	41	0500-0600	1.49E-02	1.15E-08	7.36E-05	5.46E-02	7.89E-08	2.70E-04	8.04E-02	1.06E-07	3.64E-04
Road 41	41	0600-0700	1.14E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04
Road 41	41	0700-0800	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 41	41	0800-0900	1.54E-02	1.15E-07	3.94E-04	5.46E-02	4.06E-07	1.39E-03	7.00E-02	5.21E-07	1.78E-03
Road 41	41	0900-1000	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	41	1000-1100	1.64E-02	1.11E-07	3.80E-04	5.63E-02	3.82E-07	1.31E-03	7.27E-02	4.93E-07	1.69E-03
Road 41	41	1100-1200	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.30E-03
Road 41	41	1200-1300	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 41	41	1300-1400	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 41	41	1400-1500	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 41	41	1500-1600	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 41	41	1600-1700	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.30E-03
Road 41	41	1700-1800	1.64E-02	1.11E-07	3.80E-04	5.63E-02	3.82E-07	1.31E-03	7.27E-02	4.93E-07	1.69E-03
Road 41	41	1800-1900	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 41	41	1900-2000	1.54E-02	1.15E-07	3.94E-04	5.46E-02	4.06E-07	1.39E-03	7.00E-02	5.21E-07	1.78E-03
Road 41	41	2000-2100	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 41	41	2100-2200	1.44E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04
Road 41	41	2200-2300	1.14E-02	1.13E-08	3.87E-05	4.55E-02	2.00E-07	6.85E-04	5.62E-02	2.46E-07	8.43E-04
Road 41	41	2300-0000	1.02E-02	2.97E-06	1.02E-04	4.66E-02	1.36E-07	4.67E-04	5.68E-02	1.66E-05	5.72E-04
Road 42	42	0000-0100	1.97E-02	3.78E-08	1.30E-04	6.98E-02	1.34E-07	4.59E-04	8.25E-02	1.58E-07	5.42E-04
Road 42	42	0100-0200	2.56E-02	3.41E-08	1.17E-04	7.81E-02	1.04E-07	3.57E-04	9.22E-02	1.23E-07	4.22E-04
Road 42	42	0200-0300	3.01E-02	3.13E-08	2.99E-04	8.86E-02	9.21E-08	8.81E-04	1.09E-01	1.13E-07	1.08E-03
Road 42	42	0300-0400	3.46E-02	3.30E-08	3.16E-04	9.57E-02	9.13E-08	8.74E-04	1.18E-01	1.13E-07	1.08E-03
Road 42	42	0400-0500	3.36E-02	3.14E-08	2.91E-04	9.58E-02	8.93E-08	8.27E-04	1.29E-01	1.21E-07	1.12E-03
Road 42	42	0500-0600	2.69E-02	3.88E-08	3.59E-04	8.62E-02	1.24E-07	1.15E-03	1.13E-01	1.63E-07	1.51E-03
Road 42	42	0600-0700	1.84E-02	3.43E-08	3.17E-04	7.56E-02	1.41E-07	1.30E-03	1.01E-01	1.88E-07	1.74E-03
Road 42	42	0700-0800	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 42	42	0800-0900	1.85E-02	2.47E-07	2.29E-03	1.05E-01	8.26E-07	7.65E-03	1.38E-01	1.09E-06	1.01E-02
Road 42	42	0900-1000	1.42E-02	2.01E-07	1.86E-03	8.24E-02	5.77E-07	5.34E-03	1.08E-01	7.58E-07	7.02E-03
Road 42	42	1000-1100	1.29E-02	1.81E-07	1.68E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 42	42	1100-1200	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 42	42	1200-1300	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 42	42	1300-1400	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 42	42	1400-1500	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 42	42	1500-1600	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 42	42	1600-1700	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 42	42	1700-1800	1.84E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 42	42	1800-1900	1.85E-02	2.47E-07	2.29E-03	1.05E-01	8.26E-07	7.65E-03	1.38E-01	1.09E-06	1.01E-02
Road 42	42	1900-2000	1.42E-02	2.01E-07	1.86E-03	8.24E-02	5.77E-07	5.34E-03	1.08E-01	7.58E-07	7.02E-03
Road 42	42	2000-2100	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 42	42	2100-2200	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 42	42	2200-2300	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 42	42	2300-0000	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 43	43	0000-0100	1.97E-02	3.78E-08	1.30E-04	6.98E-02	1.34E-07	4.59E-04	8.25E-02	1.58E-07	5.42E-04
Road 43	43	0100-0200	2.56E-02	3.41E-08	1.17E-04	7.81E-02	1.04E-07	3.57E-04	9.22E-02	1.23E-07	4.22E-04
Road 43	43	0200-0300	3.01E-02	3.13E-08	2.99E-04	8.86E-02	9.21E-08	8.81E-04	1.09E-01	1.13E-07	1.08E-03
Road 43	43	0300-0400	3.46E-02	3.30E-08	3.16E-04	9.57E-02	9.13E-08	8.74E-04	1.18E-01	1.13E-07	1.08E-03
Road 43	43	0400-0500	3.36E-02	3.14E-08	2.91E-04	9.58E-02	8.93E-08	8.27E-04	1.29E-01	1.21E-07	1.12E-03
Road 43	43	0500-0600	2.69E-02	3.88E-08	3.59E-04	8.62E-02	1.24E-07	1.15E-03	1.13E-01	1.63E-07	1.51E-03
Road 43	43	0600-0700	1.84E-02	3.43E-08	3.17E-04	7.56E-02	1.41E-07	1.30E-03	1.01E-01	1.88E-07	1.74E-03
Road 43	43	0700-0800	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 43	43	0800-0900	1.85E-02	2.47E-07	2.29E-03	1.05E-01	8.26E-07	7.65E-03	1.38E-01	1.09E-06	1.01E-02
Road 43	43	0900-1000	1.42E-02	2.01E-07	1.86E-03	8.24E-02	5.77E-07	5.34E-03	1.08E-01	7.58E-07	7.02E-03
Road 43	43	1000-1100	1.29E-02	1.81E-07	1.68E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 43	43	1100-1200	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 43	43	1200-1300	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 43	43	1300-1400	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 43	43	1400-1500	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 43	43	1500-1600	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 43	43	1600-1700	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 43	43	1700-1800	1.84E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 43	43	1800-1900	1.85E-02	2.47E-07	2.29E-03	1.05E-01	8.26E-07	7.65E-03	1.38E-01	1.09E-06	1.01E-02
Road 43	43	1900-2000	1.42E-02	2.01E-07	1.86E-03	8.24E-02	5.77E-07	5.34E-03	1.08E-01	7.58E-07	7.02E-03
Road 43	43	2000-2100	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 43	43	2100-2200	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 43	43	2200-2300	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 43	43	2300-0000	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 44	44	0000-0100	1.07E-02	2.97E-06	7.16E-05	4.55E-02	8.88E-08	3.04E-04	5.62E-02	1.56E-05	3.76E-04
Road 44	44	0100-0200	1.39E-02	1.86E-08	6.38E-05	5.09E-02	6.84E-08	2.34E-04	6.47E-02	8.70E-08	2.98E-04
Road 44	44	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04
Road 44	44	0300-0400	1.96E-02	1.79E-08	6.13E-05	6.29E-02	1.81E-08	6.20E-05	8.25E-02	2.37E-08	8.12E-05
Road 44	44	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 44	44	0500-0600	1.49E-02	1.15E-08	7.36E-05	5.46E-02	7.89E-08	2.70E-04	8.04E-02	1.06E-07	3.64E-04
Road 44	44	0600-0700	1.14E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04
Road 44	44	0700-0800	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 44	44	0800-0900	1.54E-02	1.15E-07	3.94E-04	5.46E-02	4.06E-07	1.39E-03	7.00E-02	5.21E-07	1.78E-03
Road 44	44	0900-1000	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 44	44	1000-1100	1.64E-02	1.11E-07	3.80E-04	5.63E-02	3.82E-07	1.31E-03	7.27E-02	4.93E-07	1.69E-03
Road 44	44	1100-1200	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.30E-03
Road 44	44	1200-1300	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 44	44	1300-1400	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 44	44	1400-1500	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 44	44	1500-1600	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 44	44	1600-1700	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.30E-03
Road 44	44	1700-1800	1.64E-02	1.11E-07	3.80E-04	5.63E-02	3.82E-07	1.31E-03	7.27E-02	4.93E-07	1.69E-03
Road 44	44	1800-1900	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 44	44	1900-2000	1.54E-02	1.15E-07	3.94E-04	5.46E-02	4.06E-07	1.39E-03	7.00E-02	5.21E-07	1.78E-03
Road 44	44	2000-2100	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 44	44	2100-2200	1.44E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04
Road 44	44	2200-2300	1.14E-02	1.13E-08	3.87E-05	4.55E-02	2.00E-07	6.85E-04	5.62E-02	2.46E-07	8.43E-04
Road 44	44	2300-0000	1.02E-02	2.97E-06	1.02E-04	4.66E-02	1.36E-07	4.67E-04	5.68E-02	1.66E-05	5.72E-04
Road 45	45	0000-0100	1.97E-02	3.78E-08	1.30E-04	6.98E-02	1.34E-07	4.59E-04	8.25E-02	1.58E-07	5.42E-04
Road 45	45	0100-0200	2.56E-02	3.41E-08	1.17E-04	7.81E-02	1.04E-07	3.57E-04	9.22E-02	1.23E-07	4.22E-04
Road 45	45	0200-0300	3.01E-02	3.13E-08	2.99E-04	8.86E-02	9.21E-08	8.81E-04	1.09E-01	1.13E-07	1.08E-03
Road 45	45	0300-0400	3.46E-02	3.30E-08	3.16E-04	9.57E-02	9.13E-08	8.74E-04	1.18E-01	1.13E-07	1.08E-03
Road 45	45	0400-0500	3.36E-02	3.14E-08	2.91E-04	9.58E-02	8.93E-08	8.27E-04	1.29E-01	1.21E-07	1.12E-03
Road 45	45	0500-0600	2.69E-02	3.88E-08	3.59E-04	8.62E-02	1.24E-07	1.15E-03	1.13E-01	1.63E-07	1.51E-03
Road 45	45	0600-0700	1.84E-02	3.43E-08	3.17E-04	7.56E-02	1.41E-07	1.30E-03	1.01E-01	1.88E-07	1.74E-03
Road 45	45	0700-0800	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 45	45	0800-0900	1.85E-02	2.47E-07	2.29E-03	1.05E-01	8.26E-07	7.65E-03	1.38E-01	1.09E-06	1.01E-02
Road 45	45	0900-1000	1.42E-02	2.01E-07	1.86E-03	8.24E-02	5.77E-07	5.34E-03	1.08E-01	7.58E-07	7.02E-03
Road 45	45	1000-1100	1.29E-02	1.81E-07	1.68E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 45	45	1100-1200	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 45	45	1200-1300	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 45	45	1300-1400	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 45	45	1400-1500	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 45	45	1500-1600	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 45	45	1600-1700	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 45	45	1700-1800	1.84E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 45	45	1800-1900	1.85E-02	2.47E-07	2.29E-03	1.05E-01	8.26E-07	7.65E-03	1.38E-01	1.09E-06	1.01E-02
Road 45	45	1900-2000	1.42E-02	2.01E-07	1.86E-03	8.24E-02	5.77E-07	5.34E-03	1.08E-01	7.58E-07	7.02E-03
Road 45	45	2000-2100	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 45	45	2100-2200	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77E-07	6.27E-03
Road 45	45	2200-2300	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 45	45	2300-0000	1.29E-02	1.88E-07	1.74E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 46	46	0000-0100	1.07E-02	2.97E-06	7.16E-05	4.55E-02	8.88E-08	3.04E-04	5.62E-02	1.56E-05	3.76E-04
Road 46	46	0100-0200	1.39E-02	1.86E-08	6.38E-05	5.09E-02	6.84E-08	2.34E-04	6.47E-02	8.70E-08	2.98E-04
Road 46	46	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04
Road 46	46	0300-0400	1.96E-02	1.79E-08	6.13E-05	6.29E-02	1.81E-08	6.20E-05	8.25E-02	2.37E-08	8.12E-05
Road 46	46	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 46	46	0500-0600	1.49E-02	1.15E-08	7.36E-05	5.46E-02	7.89E-08	2.70E-04	8.04E-02	1.06E-07	3.64E-04
Road 46	46	0600-0700	1.14E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04
Road 46	46	0700-0800	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 46	46	0800-0900	1.54E-02	1.15E-07	3.94E-04	5.46E-02	4.06E-07	1.39E-03	7.00E-02	5.21E-07	1.78E-03
Road 46	46	0900-1000	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 46	46	1000-1100	1.64E-02	1.11E-07	3.80E-04	5.63E-02	3.82E-07	1.31E-03	7.27E-02	4.93E-07	1.69E-03
Road 46	46	1100-1200	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.30E-03
Road 46	46	1200-1300	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 46	46	1300-1400	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 46	46	1400-1500	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 46	46	1500-1600	1.44E-02	2.94E-08	1.01E-04	5.47E-02	1.12E-07	3.84E-04	6.91E-02	1.41E-07	4.84E-04
Road 46	46	1600-1700	1.77E-02	8.68E-08	2.97E-04	5.96E-02	2.92E-07	9.99E-04	7.73E-02	3.79E-07	1.30E-03
Road 46	46	1700-1800	1.64E-02	1.11E-07	3.80E-04	5.63E-02	3.82E-07	1.31E-03	7.27E-02	4.93E-07	1.69E-03
Road 46	46	1800-1900	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.23E-07	1.11E-03	7.12E-02	4.15E-07	1.42E-03
Road 46	46	1900-2000	1.54E-02	1.15E-07	3.94E-04	5.46E-02	4.06E-07	1.39E-03	7.00E-02	5.21E-07	1.78E-03
Road 46	46	2000-2100	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 46	46	2100-2200	1.44E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	5.98E-04
Road 46	46	2200-2300	1.14E-02	1.13E-08	3.87E-05	4.55E-02	2.00E-07	6.85E-04	5.62E-02	2.46E-07	8.43E-04
Road 46	46	2300-0000	1.02E-02	2.97E-06	1.02E-04	4.66E-02	1.36E-07	4.67E-04	5.68E-02	1.66E-05	5.72E-04
Road 47	47	0000-0100	1.97E-02	3.78E-08	1.30E-04	6.98E-02	1.34E-07	4.59E-04	8.25E-02	1.58E-07	5.42E-04
Road 47	47	0100-0200	2.56E-02	3.41E-08	1.17E-04	7.81E-02	1.04E-07	3.57E-04	9.22E-02	1.23E-07	4.22E-04
Road 47	47	0200-0300	3.01E-02	3.13E-08	2.99E-04	8.86E-02	9.21E-08	8.81E-04	1.09E-01	1.13E-07	1.08E-03
Road 47	47	0300-0400	3.46E-02	3.30E-08	3.16E-04	9.57E-02	9.13E-08	8.74E-04	1.18E-01	1.13E-07	1.08E-03
Road 47	47	0400-0500	3.36E-02	3.14E-08	2.91E-04	9.58E-02	8.93E-08	8.27E-04	1.29E-01	1.21E-07	1.12E-03
Road 47	47	0500-0600	2.69E-02	3.88E-08	3.59E-04	8.62E-02	1.24E-07	1.15E-03	1.13E-01	1.63E-07	1.51E-03
Road 47	47	0600-0700	1.84E-02	3.43E-08	3.17E-04	7.56E-02	1.41E-07	1.30E-03	1.01E-01	1.88E-07	1.74E-03
Road 47	47	0700-0800	1.81E-02	1.95E-07	1.81E-03	1.01E-01	6.17E-07	5.72E-03	1.33E-01	8.12E-07	7.52E-03
Road 47	47	0800-0900	1.85E-02	2.47E-07	2.29E-03	1.05E-01	8.26E-07	7.65E-03	1.38E-01	1.09E-06	1.01E-02
Road 47	47	0900-1000	1.42E-02	2.01E-07	1.86E-03	8.24E-02	5.77E-07	5.34E-03	1.08E-01	7.58E-07	7.02E-03
Road 47	47	1000-1100	1.29E-02	1.81E-07	1.68E-03	7.47E-02	5.21E-07	4.82E-03	9.79E-02	6.84E-07	6.34E-03
Road 47	47	1100-1200	1.72E-02	1.85E-07	1.72E-03	9.57E-02	5.15E-07	4.77E-03	1.26E-01	6.77

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 1	1	0100-0200	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 1	1	0200-0300	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 1	1	0300-0400	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 1	1	0400-0500	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 1	1	0500-0600	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 1	1	0600-0700	1.32E-02	4.02E-07	4.33E-03	1.28E-02	3.83E-06	1.64E-02	1.52E-03	4.62E-07	1.49E-03	1.47E-03	4.39E-07	1.88E-03
Road 1	1	0700-0800	1.38E-02	4.20E-07	4.53E-03	1.34E-02	4.00E-06	1.72E-02	1.59E-03	4.83E-07	1.56E-03	1.54E-03	4.59E-07	1.96E-03
Road 1	1	0800-0900	1.44E-02	4.38E-07	4.73E-03	1.40E-02	4.18E-06	1.80E-02	1.66E-03	5.04E-07	1.63E-03	1.61E-03	4.79E-07	2.05E-03
Road 1	1	0900-1000	1.50E-02	4.56E-07	4.93E-03	1.46E-02	4.35E-06	1.87E-02	1.73E-03	5.25E-07	1.70E-03	1.68E-03	4.99E-07	2.14E-03
Road 1	1	1000-1100	1.56E-02	4.74E-07	5.13E-03	1.52E-02	4.52E-06	1.95E-02	1.80E-03	5.46E-07	1.77E-03	1.75E-03	5.19E-07	2.23E-03
Road 1	1	1100-1200	1.62E-02	4.92E-07	5.33E-03	1.58E-02	4.70E-06	2.03E-02	1.87E-03	5.67E-07	1.84E-03	1.82E-03	5.39E-07	2.32E-03
Road 1	1	1200-1300	1.68E-02	5.10E-07	5.53E-03	1.64E-02	4.87E-06	2.10E-02	1.94E-03	5.88E-07	1.91E-03	1.89E-03	5.59E-07	2.41E-03
Road 1	1	1300-1400	1.74E-02	5.28E-07	5.73E-03	1.70E-02	5.05E-06	2.18E-02	2.01E-03	6.09E-07	1.98E-03	1.96E-03	5.79E-07	2.50E-03
Road 1	1	1400-1500	1.80E-02	5.46E-07	5.93E-03	1.76E-02	5.23E-06	2.26E-02	2.08E-03	6.31E-07	2.05E-03	2.03E-03	6.00E-07	2.59E-03
Road 1	1	1500-1600	1.86E-02	5.64E-07	6.13E-03	1.82E-02	5.41E-06	2.34E-02	2.15E-03	6.52E-07	2.12E-03	2.10E-03	6.20E-07	2.68E-03
Road 1	1	1600-1700	1.92E-02	5.82E-07	6.33E-03	1.88E-02	5.59E-06	2.42E-02	2.22E-03	6.74E-07	2.19E-03	2.17E-03	6.40E-07	2.77E-03
Road 1	1	1700-1800	1.98E-02	6.00E-07	6.53E-03	1.94E-02	5.77E-06	2.50E-02	2.29E-03	6.95E-07	2.26E-03	2.24E-03	6.61E-07	2.86E-03
Road 1	1	1800-1900	2.04E-02	6.18E-07	6.73E-03	2.00E-02	5.95E-06	2.58E-02	2.36E-03	7.17E-07	2.33E-03	2.31E-03	6.81E-07	2.95E-03
Road 1	1	1900-2000	2.10E-02	6.36E-07	6.93E-03	2.06E-02	6.13E-06	2.66E-02	2.43E-03	7.39E-07	2.40E-03	2.38E-03	7.02E-07	3.04E-03
Road 1	1	2000-2100	2.16E-02	6.54E-07	7.13E-03	2.12E-02	6.31E-06	2.74E-02	2.50E-03	7.61E-07	2.47E-03	2.45E-03	7.22E-07	3.13E-03
Road 1	1	2100-2200	2.22E-02	6.72E-07	7.33E-03	2.18E-02	6.49E-06	2.82E-02	2.57E-03	7.83E-07	2.54E-03	2.52E-03	7.43E-07	3.22E-03
Road 1	1	2200-2300	2.28E-02	6.90E-07	7.53E-03	2.24E-02	6.67E-06	2.90E-02	2.64E-03	8.05E-07	2.61E-03	2.59E-03	7.63E-07	3.31E-03
Road 1	1	2300-2400	2.34E-02	7.08E-07	7.73E-03	2.30E-02	6.85E-06	2.98E-02	2.71E-03	8.27E-07	2.68E-03	2.66E-03	7.84E-07	3.40E-03
Road 2	2	0000-0100	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 2	2	0100-0200	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 2	2	0200-0300	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 2	2	0300-0400	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 2	2	0400-0500	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 2	2	0500-0600	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 2	2	0600-0700	1.32E-02	4.02E-07	4.33E-03	1.28E-02	3.83E-06	1.64E-02	1.52E-03	4.62E-07	1.49E-03	1.47E-03	4.39E-07	1.88E-03
Road 2	2	0700-0800	1.38E-02	4.20E-07	4.53E-03	1.34E-02	4.00E-06	1.72E-02	1.59E-03	4.83E-07	1.56E-03	1.54E-03	4.59E-07	1.96E-03
Road 2	2	0800-0900	1.44E-02	4.38E-07	4.73E-03	1.40E-02	4.18E-06	1.80E-02	1.66E-03	5.04E-07	1.63E-03	1.61E-03	4.79E-07	2.05E-03
Road 2	2	0900-1000	1.50E-02	4.56E-07	4.93E-03	1.46E-02	4.35E-06	1.87E-02	1.73E-03	5.25E-07	1.70E-03	1.68E-03	4.99E-07	2.14E-03
Road 2	2	1000-1100	1.56E-02	4.74E-07	5.13E-03	1.52E-02	4.52E-06	1.95E-02	1.80E-03	5.46E-07	1.77E-03	1.75E-03	5.19E-07	2.23E-03
Road 2	2	1100-1200	1.62E-02	4.92E-07	5.33E-03	1.58E-02	4.70E-06	2.03E-02	1.87E-03	5.67E-07	1.84E-03	1.82E-03	5.39E-07	2.32E-03
Road 2	2	1200-1300	1.68E-02	5.10E-07	5.53E-03	1.64E-02	4.87E-06	2.10E-02	1.94E-03	5.88E-07	1.91E-03	1.89E-03	5.59E-07	2.41E-03
Road 2	2	1300-1400	1.74E-02	5.28E-07	5.73E-03	1.70E-02	5.05E-06	2.18E-02	2.01E-03	6.09E-07	1.98E-03	1.96E-03	5.79E-07	2.50E-03
Road 2	2	1400-1500	1.80E-02	5.46E-07	5.93E-03	1.76E-02	5.23E-06	2.26E-02	2.08E-03	6.31E-07	2.05E-03	2.03E-03	6.00E-07	2.59E-03
Road 2	2	1500-1600	1.86E-02	5.64E-07	6.13E-03	1.82E-02	5.41E-06	2.34E-02	2.15E-03	6.52E-07	2.12E-03	2.10E-03	6.20E-07	2.68E-03
Road 2	2	1600-1700	1.92E-02	5.82E-07	6.33E-03	1.88E-02	5.59E-06	2.42E-02	2.22E-03	6.74E-07	2.19E-03	2.17E-03	6.40E-07	2.77E-03
Road 2	2	1700-1800	1.98E-02	6.00E-07	6.53E-03	1.94E-02	5.77E-06	2.50E-02	2.29E-03	6.95E-07	2.26E-03	2.24E-03	6.61E-07	2.86E-03
Road 2	2	1800-1900	2.04E-02	6.18E-07	6.73E-03	2.00E-02	5.95E-06	2.58E-02	2.36E-03	7.17E-07	2.33E-03	2.31E-03	6.81E-07	2.95E-03
Road 2	2	1900-2000	2.10E-02	6.36E-07	6.93E-03	2.06E-02	6.13E-06	2.66E-02	2.43E-03	7.39E-07	2.40E-03	2.38E-03	7.02E-07	3.04E-03
Road 2	2	2000-2100	2.16E-02	6.54E-07	7.13E-03	2.12E-02	6.31E-06	2.74E-02	2.50E-03	7.61E-07	2.47E-03	2.45E-03	7.22E-07	3.13E-03
Road 2	2	2100-2200	2.22E-02	6.72E-07	7.33E-03	2.18E-02	6.49E-06	2.82E-02	2.57E-03	7.83E-07	2.54E-03	2.52E-03	7.43E-07	3.22E-03
Road 2	2	2200-2300	2.28E-02	6.90E-07	7.53E-03	2.24E-02	6.67E-06	2.90E-02	2.64E-03	8.05E-07	2.61E-03	2.59E-03	7.63E-07	3.31E-03
Road 2	2	2300-2400	2.34E-02	7.08E-07	7.73E-03	2.30E-02	6.85E-06	2.98E-02	2.71E-03	8.27E-07	2.68E-03	2.66E-03	7.84E-07	3.40E-03
Road 3	3	0000-0100	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 3	3	0100-0200	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 3	3	0200-0300	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 3	3	0300-0400	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 3	3	0400-0500	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 3	3	0500-0600	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 3	3	0600-0700	1.32E-02	4.02E-07	4.33E-03	1.28E-02	3.83E-06	1.64E-02	1.52E-03	4.62E-07	1.49E-03	1.47E-03	4.39E-07	1.88E-03
Road 3	3	0700-0800	1.38E-02	4.20E-07	4.53E-03	1.34E-02	4.00E-06	1.72E-02	1.59E-03	4.83E-07	1.56E-03	1.54E-03	4.59E-07	1.96E-03
Road 3	3	0800-0900	1.44E-02	4.38E-07	4.73E-03	1.40E-02	4.18E-06	1.80E-02	1.66E-03	5.04E-07	1.63E-03	1.61E-03	4.79E-07	2.05E-03
Road 3	3	0900-1000	1.50E-02	4.56E-07	4.93E-03	1.46E-02	4.35E-06	1.87E-02	1.73E-03	5.25E-07	1.70E-03	1.68E-03	4.99E-07	2.14E-03
Road 3	3	1000-1100	1.56E-02	4.74E-07	5.13E-03	1.52E-02	4.52E-06	1.95E-02	1.80E-03	5.46E-07	1.77E-03	1.75E-03	5.19E-07	2.23E-03
Road 3	3	1100-1200	1.62E-02	4.92E-07	5.33E-03	1.58E-02	4.70E-06	2.03E-02	1.87E-03	5.67E-07	1.84E-03	1.82E-03	5.39E-07	2.32E-03
Road 3	3	1200-1300	1.68E-02	5.10E-07	5.53E-03	1.64E-02	4.87E-06	2.10E-02	1.94E-03	5.88E-07	1.91E-03	1.89E-03	5.59E-07	2.41E-03
Road 3	3	1300-1400	1.74E-02	5.28E-07	5.73E-03	1.70E-02	5.05E-06	2.18E-02	2.01E-03	6.09E-07	1.98E-03	1.96E-03	5.79E-07	2.50E-03
Road 3	3	1400-1500	1.80E-02	5.46E-07	5.93E-03	1.76E-02	5.23E-06	2.26E-02	2.08E-03	6.31E-07	2.05E-03	2.03E-03	6.00E-07	2.59E-03
Road 3	3	1500-1600	1.86E-02	5.64E-07	6.13E-03	1.82E-02	5.41E-06	2.34E-02	2.15E-03	6.52E-07	2.12E-03	2.10E-03	6.20E-07	2.68E-03
Road 3	3	1600-1700	1.92E-02	5.82E-07	6.33E-03	1.88E-02	5.59E-06	2.42E-02	2.22E-03	6.74E-07	2.19E-03	2.17E-03	6.40E-07	2.77E-03
Road 3	3	1700-1800	1.98E-02	6.00E-07	6.53E-03	1.94E-02	5.77E-06	2.50E-02	2.29E-03	6.95E-07	2.26E-03	2.24E-03	6.61E-07	2.86E-03
Road 3	3	1800-1900	2.04E-02	6.18E-07	6.73E-03	2.00E-02	5.95E-06	2.58E-02	2.36E-03	7.17E-07	2.33E-03	2.31E-03	6.81E-07	2.95E-03
Road 3	3	1900-2000	2.10E-02	6.36E-07	6.93E-03	2.06E-02	6.13E-06	2.66E-02	2.43E-03	7.39E-07	2.40E-03	2.38E-03	7.02E-07	3.04E-03
Road 3	3	2000-2100	2.16E-02	6.54E-07	7.13E-03	2.12E-02	6.31E-06	2.74E-02	2.50E-03	7.61E-07	2.47E-03	2.45E-03	7.22E-07	3.13E-03
Road 3	3	2100-2200	2.22E-02	6.72E-07	7.33E-03	2.18E-02	6.49E-06	2.82E-02	2.57E-03	7.83E-07	2.54E-03	2.52E-03	7.43E-07	3.22E-03
Road 3	3	2200-2300	2.28E-02	6.90E-07	7.53E-03	2.24E-02	6.67E-06	2.90E-02	2.64E-03	8.05E-07	2.61E-03	2.59E-03	7.63E-07	3.31E-03
Road 3	3	2300-2400	2.34E-02	7.08E-07	7.73E-03	2.30E-02	6.85E-06	2.98E-02	2.71E-03	8.27E-07	2.68E-03	2.66E-03	7.84E-07	3.40E-03
Road 4	4	0000-0100	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 4	4	0100-0200	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 4	4	0200-0300	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 4	4	0300-0400	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 4	4	0400-0500	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 4	4	0500-0600	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 4	4	0600-0700	1.32E-02	4.02E-07	4.33E-03	1.28E-02	3.83E-06	1.64E-02	1.52E-03	4.62E-07	1.49E-03	1.47E-03	4.39E-07	1.88E-03
Road 4	4	0700-0800	1.38E-02	4.20E-07	4.53E-03	1.34E-02	4.00E-06	1.72E-02	1.59E-03	4.83E-07	1.56E-03	1.54E-03	4.59E-07	1.96E-03
Road 4	4	0800-0900	1.44E-02	4.38E-07	4.73E-03	1.40E-02	4.18E-06	1.80E-02	1.66E-03	5.04E-07	1.63E-03	1.61E-03	4.79E-07	2.05E-03
Road 4	4	0900-1000	1.50E-02	4.56E-07	4.93E-03	1.46E-02	4.35E-06	1.87E-02	1.73E-03	5.25E-07	1.70E-03	1.68E-03	4.99E-07	2.14E-03
Road 4	4	1000-1100	1.56E-02	4.74E-07	5.13E-03	1.52E-02	4.52E-06	1.95E-02	1.80E-03	5.46E-07	1.77E-03	1.75E-03	5.19E-07	2.23E-03
Road 4	4	1100-1200	1.62E-02	4.92E-07	5.33E-03	1.58E-02	4.70E-06	2.03E-02	1.87E-03	5.67E-07	1.84E-03	1.82E-03	5.39E-07	2.32E-03
Road 4	4	1200-1300	1.68E-02	5.10E-07	5.53E-03	1.64E-02	4.87E-06	2.10E-02	1.94E-03	5.88E-07	1.91E-03	1.89E-03	5.59E-07	2.41E-03
Road 4	4	1300-1400	1.74E-02	5.28E-07	5.73E-03	1.70E-02	5.05E-06	2.18E-02	2.01E-03	6.09E-07	1.98E-03	1.96E-03	5.79E-07	2.50E-03
Road 4	4	1400-1500	1.80E-02	5.46E-07	5.93E-03	1.76E-02	5.23E-06	2.26E-02	2.08E-03	6.31E-07	2.05E-03	2.03E-03	6.00E-07	2.59E-03
Road 4	4	1500-1600	1.86E-02	5.64E-07	6.13E-03	1.82E-02	5.41E-06	2.34E-02	2.15E-03	6.52E-07	2.12E-03	2.10E-03	6.20E-07	2.68E-03
Road 4	4	1600-1700	1.92E-02	5.82E-07	6.33E-03	1.88E-02	5.59E-06	2.42E-02	2.22E-03	6.74E-07	2.19E-03	2.17E-03	6.40E-07	2.77E-03
Road 4	4	1700-1800	1.98E-02	6.00E-07	6.53E-03	1.94E-02	5.77E-06	2.50E-02	2.29E-03	6.95E-07	2.26E-03	2.24E-03	6.61E-07	2.86E-03
Road 4	4	1800-1900	2.04E-02	6.18E-07	6.73E-03	2.00E-02	5.95E-06	2.58E-02	2.36E-03	7.17E-07	2.33E-03	2.31E-03	6.81E-07	2.95E-03
Road 4	4	1900-2000	2.10E-02	6.36E-07	6.93E-03	2.06E-02	6.13E-06	2.66E-02	2.43E-03	7.39E-07	2.40E-03	2.38E-03	7.02E-07	3.04E-03
Road 4	4	2000-2100	2.16E-02	6.54E-07	7.13E-03	2.12E-02	6.31E-06	2.74E-02	2.50E-03	7.61E-07	2.47E-03	2.45E-03	7.22E-07	3.13E-03
Road 4	4	2100-2200	2.22E-02	6.72E-07	7.33E-03	2.18E-02	6.49E-06	2.82E-02	2.57E-03	7.83E-07	2.54E-03	2.52E-03	7.43E-07	3.22E-03
Road 4	4	2200-2300	2.28E-02	6.90E-07	7.53E-03	2.24E-02	6.67E-06	2.90E-02	2.64E-03	8.05E-07	2.61E-03	2.59E-03	7.63E-07	3.31E-03
Road 4	4	2300-2400	2.34E-02	7.08E-07	7.73E-03	2.30E-02	6.85E-06	2.98E-02	2.71E-03	8.27E-07	2.68E-03	2.66E-03	7.84E-07	3.40E-03
Road 5	5	0000-0100	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 5	5	0100-0200	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 5	5	0200-0300	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 5	5	0300-0400	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1.39E-03	4.16E-07	1.78E-03
Road 5	5	0400-0500	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 5	5	0500-0600	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 5	5	0600-0700	1.32E-02	4.02E-07	4.33E-03	1.28E-02	3.83E-06	1.64E-02	1.52E-03	4.62E-07	1.49E-03	1.47E-03	4.39E-07	1.88E-03
Road 5	5	0700-0800	1.38E-02	4.20E-07	4.53E-03	1.34E-02	4.00E-06	1.72E-02	1.59E-03	4.83E-07	1.56E-03	1.54E-03	4.59E-07	1.96E-03
Road 5	5	0800-0900	1.44E-02	4.38E-07	4.73E-03	1.40E-02	4.18E-06	1.80E-02	1.66E-03	5.04E-07	1.63E-03	1.61E-03	4.79E-07	2.05E-03
Road 5	5	0900-1000	1.50E-02	4.56E-07	4.93E-03	1.46E-02	4.35E-06	1.87E-02	1.73E-03	5.25E-07	1.70E-03	1.68E-03	4.99E-07	2.14E-03
Road 5	5	1000-1100	1.56E-02	4.74E-07	5.13E-03	1.52E-02	4.52E-06	1.95E-02	1.80E-03	5.46E-07	1.77E-03	1.75E-03	5.19E-07	2.23E-03
Road 5	5	1100-1200	1.62E-02	4.92E-07	5.33E-03	1.58E-02	4.70E-06	2.03E-02	1.87E-03	5.67E-07	1.84E-03	1.82E-03	5.39E-07	2.32E-03
Road 5	5	1200-1300	1.68E-02	5.10E-07	5.53E-03	1.64E-02	4.87E-06	2.10E-02	1.94E-03	5.88E-07	1.91E-03	1.89E-03	5.59E-07	2.41E-03
Road 5	5	1300-1400	1.74E-02	5.28E-07	5.73E-03	1.70E-02	5.05E-06	2.18E-02	2.01E-03	6.09E-07	1.98E-03	1.96E-03	5.79E-07	2.50E-03
Road 5	5	1400-1500	1.80E-02	5.46E-07	5.93E-03	1.76E-02	5.23E-06	2.26E-02	2.08E-03	6.31E-07	2.05E-03	2.03E-03	6.00E-07	2.59E-03
Road 5	5	1500-1600	1.86E-02	5.64E-07	6.13E-03	1.82E-02	5.41E-06	2.34E-02	2.15E-03	6.52E-07	2.12E-03	2.10E-03	6.20E-07	2.68E-03
Road 5	5	1600-1700	1.92E-02	5.82E-07	6.33E-03	1.88E-02	5.59E-06	2.42E-02	2.22E-03	6.74E-07	2.19E-03	2.17E-03	6.40E-07	2.77E-03
Road 5	5	1700-1800	1.98E-02	6.00E-07	6.53E-03	1.94E-02	5.77E-06	2.50E-02	2.29E-03	6.95E-07	2.26E-03	2.24E-03	6.61E-07	2.86E-03
Road 5	5	1800-1900	2.04E-02	6.18E-07	6.73E-03	2.00E-02	5.95E-06	2.58E-02	2.36E-03	7.17E-07	2.33E-03	2.31E-03	6.81E-07	2.95E-03
Road 5	5	1900-2000	2.10E-02	6.36E-07	6.93E-03	2.06E-02	6.13E-06	2.66E-02	2.43E-03	7.39E-07	2.40E-03	2.38E-03	7.02E-07	3.04E-03
Road 5	5	2000-2100	2.16E-02	6.54E-07	7.13E-03	2.12E-02	6.31E-06	2.74E-02	2.50E-03	7.61E-07	2.47E-03	2.45E-03	7.22E-07	3.13E-03
Road 5	5	2100-2200	2.22E-02	6.72E-07	7.33E-03	2.18E-02	6.49E-06	2.82E-02	2.57E-03	7.83E-07	2.54E-03	2.52E-03	7.43E-07	3.22E-03
Road 5	5	2200-2300	2.28E-02	6.90E-07	7.53E-03	2.24E-02	6.67E-06	2.90E-02	2.64E-03	8.05E-07	2.61E-03	2.59E-03	7.63E-07	3.31E-03
Road 5	5	2300-2400	2.34E-02	7.08E-07	7.73E-03	2.30E-02	6.85E-06	2.98E-02	2.71E-03	8.27E-07	2.68E-03	2.66E-03	7.84E-07	3.40E-03
Road 6	6	0000-0100	1.28E-02	3.90E-07	4.20E-03	1.24E-02	3.71E-06	1.59E-02	1.47E-03	4.47E-07	1.45E-03	1.42E-03	4.25E-07	1.82E-03
Road 6	6	0100-0200	1.26E-02	3.84E-07	4.13E-03	1.22E-02	3.65E-06	1.56E-02	1.45E-03	4.41E-07	1.43E-03	1.40E-03	4.19E-07	1.79E-03
Road 6	6	0200-0300	1.25E-02	3.81E-07	4.10E-03	1.21E-02	3.62E-06	1.55E-02	1.44E-03	4.38E-07	1.42E-03	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 34	34	0800-0900	9.13E-03	1.97E-07	1.39E-05	1.00E-06	5.56E-03	4.74E-02	1.15E-02	2.11E-03	5.13E-04
Road 34	34	0900-1000	9.32E-03	1.95E-07	1.86E-03	4.33E-02	9.05E-07	8.65E-03	5.27E-02	4.58E-04	4.98E-04
Road 34	34	1000-1100	1.06E-02	1.91E-07	1.82E-03	4.58E-02	8.27E-07	7.90E-03	5.64E-02	1.02E-06	2.79E-03
Road 34	34	1100-1200	1.02E-02	1.75E-07	1.67E-03	4.59E-02	7.86E-07	7.51E-03	5.06E-02	8.61E-07	8.23E-03
Road 34	34	1200-1300	1.61E-02	2.67E-07	2.55E-03	5.79E-02	9.61E-07	9.18E-03	7.61E-02	1.23E-06	1.17E-02
Road 34	34	1300-1400	1.61E-02	2.79E-07	2.66E-03	5.99E-02	1.04E-06	9.89E-03	7.61E-02	1.32E-06	1.26E-02
Road 34	34	1400-1500	1.61E-02	2.90E-07	2.77E-03	5.87E-02	1.06E-06	1.01E-02	7.47E-02	1.35E-06	1.29E-02
Road 34	34	1500-1600	1.49E-02	2.75E-07	2.63E-03	5.85E-02	1.08E-06	1.04E-02	7.34E-02	1.36E-06	1.30E-02
Road 34	34	1600-1700	1.75E-02	3.08E-07	2.94E-03	6.32E-02	1.11E-06	1.06E-02	8.28E-02	1.46E-06	1.39E-02
Road 34	34	1700-1800	1.14E-02	2.17E-07	2.06E-03	4.45E-02	8.47E-07	8.07E-03	5.77E-02	1.10E-06	1.04E-02
Road 34	34	1800-1900	1.44E-02	2.73E-07	2.60E-03	5.63E-02	1.07E-06	1.02E-02	7.31E-02	1.38E-06	1.32E-02
Road 34	34	1900-2000	6.82E-03	1.12E-07	1.07E-03	3.36E-02	5.52E-07	5.27E-03	4.04E-02	6.64E-07	6.34E-03
Road 35	35	0000-0100	2.70E-03	3.82E-08	3.64E-04	1.32E-02	1.87E-07	1.78E-03	1.59E-02	2.25E-07	2.14E-03
Road 35	35	0100-0200	2.56E-03	3.62E-08	3.45E-04	1.25E-02	1.77E-07	1.69E-03	1.51E-02	2.13E-07	2.03E-03
Road 35	35	0200-0300	2.56E-03	3.62E-08	3.45E-04	1.25E-02	1.77E-07	1.69E-03	1.51E-02	2.13E-07	2.03E-03
Road 35	35	0300-0400	2.56E-03	3.62E-08	3.45E-04	1.25E-02	1.77E-07	1.69E-03	1.51E-02	2.13E-07	2.03E-03
Road 35	35	0400-0500	2.56E-03	3.62E-08	3.45E-04	1.25E-02	1.77E-07	1.69E-03	1.51E-02	2.13E-07	2.03E-03
Road 35	35	0500-0600	2.70E-03	3.82E-08	3.64E-04	1.32E-02	1.87E-07	1.78E-03	1.59E-02	2.25E-07	2.14E-03
Road 35	35	0600-0700	2.70E-03	3.82E-08	3.64E-04	1.32E-02	1.87E-07	1.78E-03	1.59E-02	2.25E-07	2.14E-03
Road 35	35	0700-0800	4.22E-03	5.97E-08	5.69E-04	2.06E-02	2.92E-07	2.78E-03	2.48E-02	3.51E-07	3.34E-03
Road 35	35	0800-0900	4.05E-02	1.87E-07	1.66E-04	1.98E-01	9.15E-07	8.13E-03	2.38E-01	1.10E-06	9.79E-03
Road 35	35	0900-1000	2.51E-02	1.77E-07	1.69E-04	1.23E-01	8.66E-07	8.25E-03	1.48E-01	1.04E-06	9.91E-03
Road 35	35	1000-1100	2.82E-02	1.73E-07	1.65E-04	1.38E-01	8.47E-07	8.07E-03	1.66E-01	1.02E-06	9.69E-03
Road 35	35	1100-1200	2.68E-02	1.58E-07	1.51E-04	1.31E-01	7.72E-07	7.36E-03	1.58E-01	9.27E-07	8.84E-03
Road 35	35	1200-1300	1.65E-02	1.42E-07	1.27E-04	3.20E-02	2.00E-07	5.03E-07	4.47E-04	8.80E-03	2.22E-08
Road 35	35	1300-1400	1.60E-02	1.24E-07	1.19E-04	3.01E-02	2.01E-07	5.27E-07	4.69E-04	8.26E-03	2.08E-05
Road 35	35	1400-1500	1.53E-02	1.24E-07	1.19E-04	2.87E-02	2.01E-07	5.27E-07	4.69E-04	8.26E-03	2.08E-05
Road 35	35	1500-1600	1.53E-02	1.44E-07	1.28E-04	2.87E-02	2.01E-07	5.27E-07	4.69E-04	8.26E-03	2.08E-05
Road 35	35	1600-1700	1.60E-02	1.24E-07	1.19E-04	3.01E-02	2.01E-07	5.27E-07	4.69E-04	8.26E-03	2.08E-05
Road 35	35	1700-1800	4.60E-02	1.39E-07	1.23E-04	8.71E-02	3.30E-07	8.65E-07	7.23E-03	2.18E-06	1.94E-05
Road 35	35	1800-1900	1.42E-02	1.23E-07	1.09E-04	2.68E-02	1.84E-07	4.82E-07	4.03E-04	7.58E-03	1.91E-05
Road 35	35	1900-2000	2.07E-02	4.11E-08	3.65E-05	6.86E-02	1.36E-07	1.21E-04	8.93E-02	1.77E-07	1.58E-04
Road 35	35	2000-2100	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04
Road 35	35	2100-2200	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04
Road 35	35	2200-2300	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.54E-07	1.37E-04
Road 35	35	2300-0000	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.54E-07	1.37E-04
Road 36	36	0000-0100	3.57E-02	5.58E-08	5.13E-05	1.40E-01	2.18E-07	2.00E-04	2.19E-01	3.43E-06	3.86E-04
Road 36	36	0100-0200	4.18E-02	4.66E-08	4.29E-05	1.48E-01	1.65E-07	1.52E-04	1.90E-01	2.12E-07	1.95E-04
Road 36	36	0200-0300	3.79E-02	4.22E-08	3.88E-05	1.34E-01	1.49E-07	1.37E-04	1.72E-01	1.92E-07	1.77E-04
Road 36	36	0300-0400	3.33E-02	4.07E-08	3.74E-05	1.66E-01	1.02E-06	9.37E-04	2.13E-01	1.31E-06	1.20E-03
Road 36	36	0400-0500	3.33E-02	4.07E-08	3.74E-05	1.66E-01	1.02E-06	9.37E-04	2.13E-01	1.31E-06	1.20E-03
Road 36	36	0500-0600	4.67E-02	5.70E-08	5.24E-05	1.66E-01	2.05E-07	1.88E-04	2.13E-01	2.63E-07	2.41E-04
Road 36	36	0600-0700	4.67E-02	9.77E-08	8.98E-05	1.25E-01	3.99E-07	3.67E-04	1.60E-01	5.12E-07	4.70E-04
Road 36	36	0700-0800	5.47E-02	1.15E-07	1.05E-04	1.47E-01	3.13E-07	2.87E-04	1.88E-01	4.01E-07	3.68E-04
Road 36	36	0800-0900	5.27E-02	3.10E-07	2.85E-04	1.79E-01	1.05E-06	9.69E-04	2.32E-01	1.36E-06	1.25E-03
Road 36	36	0900-1000	3.26E-02	2.44E-07	2.24E-04	1.79E-01	1.34E-06	1.23E-03	2.32E-01	1.74E-06	1.60E-03
Road 36	36	1000-1100	3.69E-02	2.44E-07	2.24E-04	1.79E-01	1.34E-06	1.23E-03	2.32E-01	1.74E-06	1.60E-03
Road 36	36	1100-1200	3.50E-02	2.29E-07	2.11E-04	1.70E-01	1.11E-06	1.02E-03	2.20E-01	1.44E-06	1.32E-03
Road 36	36	1200-1300	7.74E-02	2.90E-07	2.66E-04	2.21E-01	8.29E-07	7.62E-04	2.99E-01	1.12E-06	1.03E-03
Road 36	36	1300-1400	7.97E-02	2.31E-07	2.12E-04	2.27E-01	6.62E-07	6.08E-04	3.07E-01	8.94E-07	8.21E-04
Road 36	36	1400-1500	7.97E-02	2.31E-07	2.12E-04	2.27E-01	6.62E-07	6.08E-04	3.07E-01	8.94E-07	8.21E-04
Road 36	36	1500-1600	7.82E-02	3.21E-07	2.95E-04	2.23E-01	9.17E-07	8.42E-04	3.01E-01	1.24E-06	1.14E-03
Road 36	36	1600-1700	8.59E-02	2.94E-07	2.70E-04	2.45E-01	8.40E-07	7.71E-04	3.31E-01	1.13E-06	1.04E-03
Road 36	36	1700-1800	5.44E-02	2.23E-07	2.18E-04	6.81E-02	2.24E-01	9.78E-07	8.99E-04	7.98E-03	3.48E-08
Road 36	36	1800-1900	5.44E-02	2.23E-07	2.18E-04	6.81E-02	2.24E-01	9.78E-07	8.99E-04	7.98E-03	3.48E-08
Road 36	36	1900-2000	4.82E-03	1.12E-07	1.07E-03	5.27E-03	4.04E-02	6.64E-07	6.34E-03	1.89E-03	3.01E-05
Road 37	37	2000-2100	3.75E-03	8.72E-08	8.32E-04	4.10E-03	3.14E-02	5.16E-07	4.93E-03	1.47E-03	2.34E-05
Road 37	37	2100-2200	6.51E-03	8.29E-08	7.91E-04	7.12E-03	5.46E-02	8.97E-07	8.56E-03	2.55E-03	4.06E-05
Road 37	37	2200-2300	6.49E-03	8.05E-08	7.68E-04	7.09E-03	5.43E-02	8.93E-07	8.52E-03	2.54E-03	4.04E-05
Road 37	37	2300-0000	6.49E-03	8.05E-08	7.68E-04	7.09E-03	5.43E-02	8.93E-07	8.52E-03	2.54E-03	4.04E-05
Road 37	37	0000-0100	3.75E-03	9.47E-08	7.93E-07	3.66E-06	1.84E-01	3.03E-06	2.90E-05	1.32E-03	2.10E-05
Road 37	37	0100-0200	3.75E-03	9.47E-08	7.93E-07	3.66E-06	1.84E-01	3.03E-06	2.90E-05	1.32E-03	2.10E-05
Road 37	37	0200-0300	3.75E-03	9.47E-08	7.93E-07	3.66E-06	1.84E-01	3.03E-06	2.90E-05	1.32E-03	2.10E-05
Road 37	37	0300-0400	3.75E-03	6.50E-08	1.45E-07	3.66E-06	1.84E-01	3.03E-06	2.90E-05	1.32E-03	2.10E-05
Road 37	37	0400-0500	3.75E-03	6.50E-08	1.45E-07	3.66E-06	1.84E-01	3.03E-06	2.90E-05	1.32E-03	2.10E-05
Road 37	37	0500-0600	4.22E-02	1.44E-06	1.20E-05	7.60E-09	6.36E-06	6.65E-03	2.26E-10	1.89E-07	2.00E-04
Road 37	37	0600-0700	4.46E-02	3.30E-09	2.76E-06	1.89E-01	1.40E-08	1.17E-05	2.34E-01	1.73E-08	1.45E-05
Road 37	37	0700-0800	4.72E-02	8.41E-09	7.04E-06	1.83E-01	3.26E-08	2.73E-05	2.30E-01	4.10E-08	3.44E-05
Road 37	37	0800-0900	4.72E-02	8.41E-09	7.04E-06	1.83E-01	3.26E-08	2.73E-05	2.30E-01	4.10E-08	3.44E-05
Road 37	37	0900-1000	5.63E-02	1.00E-08	8.39E-06	2.18E-01	3.89E-08	3.26E-05	2.75E-01	4.89E-08	4.10E-05
Road 37	37	1000-1100	6.03E-02	2.72E-09	2.28E-06	2.44E-01	1.10E-08	9.21E-06	3.07E-01	1.38E-08	1.16E-05
Road 37	37	1100-1200	6.03E-02	8.27E-09	6.93E-06	2.10E-01	2.88E-08	2.41E-05	2.70E-01	3.71E-08	3.11E-05
Road 37	37	1200-1300	5.67E-02	8.33E-09	6.98E-06	2.01E-01	2.95E-08	2.47E-05	2.54E-01	3.73E-08	3.13E-05
Road 37	37	1300-1400	6.10E-02	9.39E-09	7.87E-06	2.72E-01	4.18E-08	3.50E-05	3.43E-01	5.28E-08	4.42E-05
Road 37	37	1400-1500	5.64E-02	1.00E-08	8.39E-06	2.54E-01	4.51E-08	3.78E-05	3.20E-01	5.68E-08	4.76E-05
Road 37	37	1500-1600	6.06E-02	1.00E-08	8.39E-06	2.14E-01	3.54E-08	2.97E-05	2.75E-01	4.54E-08	3.80E-05

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	2.30E-03	5.04E-08	5.74E-04
Road 37	37	1700-1800	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	2.30E-03	5.04E-08	5.74E-04
Road 37	37	1800-1900	1.07E-02	2.66E-07	3.03E-03	5.26E-02	1.30E-06	1.49E-02	1.67E-03	4.14E-08	4.72E-04
Road 37	37	1900-2000	8.57E-03	1.79E-07	1.97E-03	4.82E-02	1.00E-06	1.10E-02	1.53E-03	3.20E-08	3.50E-04
Road 37	37	2000-2100	7.93E-03	1.22E-07	1.39E-03	5.17E-02	7.94E-07	9.05E-03	5.96E-02	9.16E-07	1.04E-02
Road 37	37	2100-2200	8.53E-03	1.15E-07	1.31E-03	4.95E-02	6.68E-07	7.61E-03	5.62E-02	7.58E-07	8.63E-03
Road 37	37	2200-2300	6.22E-03	9.30E-08	1.06E-03	5.45E-02	8.15E-07	9.29E-03	9.50E-04	1.42E-08	1.62E-04
Road 37	37	2300-0000	6.57E-03	7.33E-08	8.35E-04	4.82E-02	5.38E-07	6.11E-03	6.96E-03	1.06E-03	1.18E-05
Road 38	38	0000-0100	3.75E-03	8.72E-08	8.32E-04	4.10E-03	3.14E-02	5.16E-07	4.93E-03	1.47E-03	2.34E-05
Road 38	38	0100-0200	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.91E-07	1.05E-03	4.03E-02	2.17E-07	1.19E-03
Road 38	38	0200-0300	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.91E-07	1.05E-03	4.03E-02	2.17E-07	1.19E-03
Road 38	38	0300-0400	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.91E-07	1.05E-03	4.03E-02	2.17E-07	1.19E-03
Road 38	38	0400-0500	4.95E-03	2.67E-08	1.47E-04	3.55E-02	1.91E-07	1.05E-03	4.03E-02	2.17E-07	1.19E-03
Road 38	38	0500-0600	5.63E-03	3.04E-08	1.67E-04	4.04E-02	2.18E-07	1.19E-03	4.59E-02	2.47E-07	1.35E-03
Road 38	38	0600-0700	5.63E-03	3.04E-08	1.67E-04	4.04E-02	2.18E-07	1.19E-03	4.59E-02	2.47E-07	1.35E-03
Road 38	38	0700-0800	8.44E-03	4.56E-08	2.50E-04	6.06E-02	3.27E-07	1.79E-03	6.88E-02	3.71E-07	2.03E-03
Road 38	38	0800-0900	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.21E-07	4.97E-03	1.73E-03	2.14E-08	2.04E-04
Road 38	38	0900-1000	3.75E-03	8.72E-08	8.32E-04	4.10E-03	3.14E-02	5.16E-07	4.93E-03	1.47E-03	2.34E-05
Road 38	38	1000-1100	9.61E-03	2.01E-07	1.11E-03	4.46E-02	9.33E-07	5.14E-03	5.42E-02	1.13E-06	6.25E-03
Road 38	38	1100-1200	9.14E-03	1.81E-07	9.98E-04	4.45E-02	8.83E-07	4.87E-03	5.37E-02	1.06E-06	5.86E-03
Road 38	38	1200-1300	1.45E-02	2.40E-07	1.32E-03	5.21E-02	8.65E-07	4.76E-03	6.85E-02	1.13E-06	6.25E-03
Road 38	38	1300-1400	1.45E-02	2.51E-07	1.38E-03	5.39E-02	9.32E-07	5.13E-03	6.85E-02	1.19E-06	6.55E-03
Road 38	38	1400-1500	1.34E-02	2.48E-07	1.36E-03	5.27E-02	9.74E-07	5.36E-03	6.73E-02	1.24E-06	6.84E-03
Road 38	38	1500-1600	1.34E-02	2.59E-07	1.42E-03	5.26E-02	1.02E-06	5.60E-03	6.72E-02	1.28E-06	7.04E-03
Road 38	38	1600-1700	1.58E-02	2.77E-07	1.52E-03	5.69E-02	9.98E-07	5.49E-03	7.45E-02	1.31E-06	7.20E-03
Road 38	38	1700-1800	1.03E-02	1.95E-07	1.07E-03	4.01E-02	7.60E-07	4.18E-03	5.19E-02	9.84E-07	5.41E-03
Road 38	38	1800-1900	1.30E-02	2.46E-07	1.35E-03	5.07E-02	9.60E-07	5.28E-03	6.57E-02	1.24E-06	6.84E-03
Road 38	38	1900-2000	6.14E-03	1.01E-07	5.55E-04	3.02E-02	4.97E-07	2.73E-03	3.63E-02	5.98E-07	3.29E-03
Road 39	39	2000-2100	3.37E-03	7.85E-08	4.32E-04	3.69E-03	2.83E-02	4.64E-07	2.55E-03	1.32E-03	2.11E-05
Road 39	39	2100-2200	5.86E-03	7.46E-08	4.10E-04	6.41E-03	4.91E-02	8.07E-07	4.43E-03	2.30E-03	3.65E-05
Road 39	39	2200-2300	5.84E-03	7.24E-08	3.98E-04	6.39E-03	4.89E-02	8.03E-07	4.41E-03	2.29E-03	3.64E-05
Road 39	39	2300-0000	5.84E-03	7.24E-08	3.98E-04	6.39E-03	4.89E-02	8.03E-07	4.41E-03	2.29E-03	3.64E-05
Road 39	39	0000-0100	3.37E-03	8.52E-08	7.13E-07	3.29E-06	1.66E-01	2.73E-06	2.61E-05	1.19E-03	1.89E-05
Road 39	39	0100-0200	3.37E-03	8.52E-08	7.13E-07	3.29E-06	1.66E-01	2.73E-06	2.61E-05	1.19E-03	1.89E-05
Road 39	39	0200-0300	3.37E-03	8.52E-08	7.13E-07	3.29E-06	1.66E-01	2.73E-06	2.61E-05	1.19E-03	1.89E-05
Road 39	39	0300-0400	3.37E-03	5.85E-08	1.30E-07	3.29E-06	1.66E-01	2.73E-06	2.61E-05	1.19E-03	1.89E-05
Road 39	39	0400-0500	3.37E-03	5.85E-08	1.30E-07	3.29E-06	1.66E-01	2.73E-06	2.61E-05	1.19E-03	1.89E-05
Road 39	39	0500-0600	3.79E-02	1.29E-06	1.08E-05	6.83E-09	5.72E-06	5.98E-03	2.03E-10	1.70E-07	1.80E-04
Road 39	39	0600-0700	4.01E-02	2.97E-09	2.48E-06	1.70E-01	1.26E-08	1.05E-05	2.11E-01	1.56E-08	1.30E-05
Road 39	39	0700-0800	4.25E-02	7.57E-09	6.33E-06	1.65E-01	2.93E-08	2.45E-05	2.07E-01	3.69E-08	3.09E-05
Road 39	39	0800-0900	4.25E-02	7.57E-09	6.33E-06	1.65E-01	2.93E-08	2.45E-05	2.07E-01	3.69E-08	3.09E-05
Road 39	39	0900-1000	5.06E-02	9.00E-09	7.55E-06	1.96E-01	3.50E-08	2.93E-05	2.48E-01	4.40E-08	3.69E-05
Road 39	39	1000-1100	5.42E-02	2.45E-09	2.05E-06	2.20E-01	9.90E-09	8.29E-06	2.76E-01	1.24E-08	1.04E-05
Road 39	39	1100-1200	5.42E-02	7.44E-09	6.23E-06	1.89E-01	2.59E-08	2.17E-05	2.43E-01	3.34E-08	2.80E-05
Road 39	39	1200-1300	5.10E-02	7.49E-09	6.28E-06	1.81E-01	2.65E-08	2.22E-05	2.28E-01	3.36E-08	2.81E-05
Road 39	39	1300-1400	5.48E-02	8.44E-09	7.08E-06	2.45E-01	3.76E-08	3.15E-05	3.08E-01	4.75E-08	3.98E-05
Road 39	39	1400-1500	5.07E-02	9.00E-09	7.55E-06	2.28E-01	4.06E-08	3.40E-05	2.88E-01	5.11E-08	4.28E-05
Road 39	39	1500-1600	5.45E-02	9.00E-09	7.55E-06	1.93E-01	3.18E-08	2.67E-05	2.48E-01	4.09E-08	3.42E-05
Road 39	39	1600-1700	4.69E-02	1.55E-07	2.90E-04	1.91E-01	6.29E-07	1.18E-03	2.38E-01	7.84E-07	1.47E-03
Road 39	39	1700-1800	3.12E-02	1.88E-07	3.52E-04	1.69E-01	1.02E-06	1.91E-03	2.13E-01	1.29E-06	2.41E-03
Road 39	39	1800-1900	3.12E-02	1.88E-07	3.52E-04	1.69E-01	1.02E-06	1.91E-03	2.13E-01	1.29E-06	2.41E-03
Road 39	39	1900-2000	4.95E-02	1.20E-07	2.24E-04	1.40E-01	3.40E-07	6.37E-04	1.77E-01	4.30E-07	8.05E-04
Road 39	39	2000-2100	4.35E-02	1.17E-07	2.20E-04	1.23E-01	3.31E-07	6.21E-04	1.56E-01	4.19E-07	7.85E-04
Road 39	39	2100-2200	4.31E-02	1.17E-07	2.20E-04	1.22E-01	3.31E-07	6.21E-04	1.54E-01	4.19E-07	7.85E-04
Road 39	39	2200-2300	4.36E-02	8.87E-08	1.57E-04	1.62E-01	3.30E-07	5.85E-04	2.06E-01	4.18E-07	7.40E-04
Road 39	39	2300-0000	4.36E-02	8.87E-08	1.57E-04	1.62E-01	3.30E-07	5.85E-04	2.06E-01	4.18E-07	7.40E-04

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (September) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	3.15E-03	3.35E-08	2.28E-04	3.21E-02	3.65E-07	1.80E-03	3.77E-02	3.98E-07	2.00E-03
Road 51	51	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	2.01E-07	1.37E-03
Road 51	51	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-07	1.05E-03
Road 51	51	0300-0400	5.53E-03	1.64E-08	1.11E-04	3.73E-02	1.10E-07	7.51E-04	4.28E-02	1.27E-07	8.62E-04
Road 51	51	0400-0500	5.96E-03	1.93E-08	1.31E-04	3.84E-02	1.24E-07	8.46E-04	4.44E-02	1.44E-07	9.77E-04
Road 51	51	0500-0600	5.38E-03	3.59E-08	2.44E-04	3.76E-02	2.51E-07	1.71E-03	4.31E-02	2.88E-07	1.96E-03
Road 51	51	0600-0700	6.88E-03	8.25E-08	5.61E-04	4.41E-02	5.29E-07	3.59E-03	5.08E-02	6.09E-07	4.14E-03
Road 51	51	0700-0800	7.30E-03	1.79E-07	1.20E-03	4.17E-02	1.01E-06	6.86E-03	4.90E-02	1.19E-06	8.07E-03
Road 51	51	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.97E-02	1.11E-06	7.54E-03	4.67E-02	1.30E-06	8.87E-03
Road 51	51	0900-1000	7.88E-03	1.79E-07	1.22E-03	4.06E-02	9.23E-07	6.28E-03	4.85E-02	1.10E-06	7.50E-03
Road 51	51	1000-1100	8.46E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.38E-03	5.11E-02	9.47E-07	6.44E-03
Road 51	51	1100-1200	1.56E-02	2.77E-07	1.89E-03	5.63E-02	1.00E-06	6.80E-03	7.07E-02	1.25E-06	8.56E-03
Road 51	51	1200-1300	1.51E-02	2.91E-07	1.98E-03	5.44E-02	1.05E-06	7.14E-03	6.83E-02	1.32E-06	8.96E-03
Road 51	51	1300-1400	1.51E-02	2.91E-07	1.98E-03	5.44E-02	1.05E-06	7.14E-03	6.83E-02	1.32E-06	8.96E-03
Road 51	51	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03
Road 51	51	1500-1600	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03
Road 51	51	1600-1700	1.41E-02	3.09E-07	2.09E-03	5.48E-02	1.20E-06	8.13E-03	6.94E-02	1.52E-06	1.03E-02
Road 51	51	1700-1800	1.41E-02	3.09E-07	2.09E-03	5.48E-02	1.20E-06	8.13E-03	6.94E-02	1.52E-06	1.03E-02
Road 51	51	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.61E-03	4

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	4.34E-01	3.91E-08	1.27E-03	1.36E-02	4.88E-07	9.81E-03	3.82E-02	1.51E-07	1.11E-02
Road 1	1	0100-0200	4.79E-03	4.52E-08	9.09E-04	3.49E-02	3.29E-07	6.62E-03	1.97E-02	3.75E-07	7.53E-03
Road 1	1	0200-0300	5.26E-03	3.63E-08	7.30E-04	3.65E-02	2.52E-07	5.06E-03	4.17E-02	2.88E-07	5.78E-03
Road 1	1	0300-0400	5.73E-03	3.12E-08	6.27E-04	3.77E-02	2.05E-07	4.12E-03	4.34E-02	2.36E-07	4.75E-03
Road 1	1	0400-0500	6.20E-03	3.70E-08	7.44E-04	3.90E-02	2.33E-07	4.68E-03	4.52E-02	2.70E-07	5.43E-03
Road 1	1	0500-0600	6.66E-03	5.39E-08	1.08E-03	4.02E-02	3.25E-07	6.53E-03	4.69E-02	3.79E-07	7.62E-03
Road 1	1	0600-0700	7.15E-03	1.59E-07	3.19E-03	4.17E-02	9.25E-07	1.86E-02	4.88E-02	1.08E-06	2.18E-02
Road 1	1	0700-0800	7.61E-03	3.41E-07	6.86E-03	4.26E-02	1.91E-06	3.84E-02	5.02E-02	2.25E-06	4.53E-02
Road 1	1	0800-0900	8.38E-03	3.57E-07	7.18E-03	4.23E-02	1.80E-06	3.62E-02	5.00E-02	2.13E-06	4.28E-02
Road 1	1	0900-1000	8.38E-03	3.17E-07	6.38E-03	4.23E-02	1.60E-06	3.22E-02	5.00E-02	1.89E-06	3.81E-02
Road 1	1	1000-1100	9.06E-03	3.17E-07	6.36E-03	4.43E-02	1.55E-06	3.11E-02	5.34E-02	1.87E-06	3.75E-02
Road 1	1	1100-1200	9.06E-03	3.17E-07	6.36E-03	4.43E-02	1.55E-06	3.11E-02	5.34E-02	1.87E-06	3.75E-02
Road 1	1	1200-1300	1.26E-02	6.29E-07	1.26E-02	6.44E-02	3.22E-06	6.47E-02	7.75E-02	3.88E-06	7.79E-02
Road 1	1	1300-1400	1.26E-02	6.29E-07	1.26E-02	6.44E-02	3.22E-06	6.47E-02	7.75E-02	3.88E-06	7.79E-02
Road 1	1	1400-1500	1.26E-02	6.66E-07	1.34E-02	6.44E-02	3.41E-06	6.85E-02	7.75E-02	4.10E-06	8.25E-02
Road 1	1	1500-1600	1.26E-02	6.66E-07	1.34E-02	6.44E-02	3.41E-06	6.85E-02	7.75E-02	4.10E-06	8.25E-02
Road 1	1	1600-1700	1.23E-02	6.29E-07	1.26E-02	6.29E-02	3.22E-06	6.47E-02	7.57E-02	3.88E-06	7.79E-02
Road 1	1	1700-1800	1.23E-02	6.29E-07	1.26E-02	6.29E-02	3.22E-06	6.47E-02	7.57E-02	3.88E-06	7.79E-02
Road 1	1	1800-1900	6.21E-03	4.24E-07	8.53E-03	3.38E-02	2.31E-06	4.64E-02	4.00E-02	2.73E-06	5.49E-02
Road 1	1	1900-2000	5.31E-03	2.87E-07	5.76E-03	3.17E-02	1.71E-06	3.44E-02	3.79E-02	2.05E-06	4.12E-02
Road 1	1	2000-2100	5.04E-03	2.44E-07	4.91E-03	3.02E-02	1.46E-06	2.93E-02	3.60E-02	1.74E-06	3.51E-02
Road 1	1	2100-2200	4.58E-03	1.92E-07	3.86E-03	2.84E-02	1.83E-06	3.23E-02	1.22E-03	5.11E-08	1.03E-03
Road 1	1	2200-2300	3.97E-03	1.64E-07	3.70E-03	2.56E-02	1.06E-06	2.39E-02	1.10E-03	4.48E-08	9.41E-04
Road 1	1	2300-0000	5.05E-03	1.54E-07	3.10E-03	3.07E-02	2.15E-02	4.01E-02	1.22E-03	3.72E-08	7.48E-04
Road 2	2	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	4.33E-02	6.01E-07	1.11E-02
Road 2	2	0100-0200	6.97E-03	8.42E-08	1.69E-03	4.06E-02	4.91E-07	9.88E-03	4.70E-02	5.68E-07	1.14E-02
Road 2	2	0200-0300	7.48E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.93E-02	3.22E-07	5.96E-03
Road 2	2	0300-0400	7.98E-03	4.89E-08	9.84E-04	4.29E-02	2.63E-07	5.29E-03	5.07E-02	3.11E-07	6.26E-03
Road 2	2	0400-0500	8.66E-03	4.98E-08	9.20E-04	4.50E-02	2.59E-07	4.78E-03	5.36E-02	3.08E-07	5.69E-03
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	5.54E-02	5.55E-07	1.03E-02
Road 2	2	0600-0700	9.60E-03	2.68E-07	4.96E-03	4.76E-02	1.33E-06	2.46E-02	5.72E-02	1.59E-06	2.95E-02
Road 2	2	0700-0800	1.02E-02	4.50E-07	8.31E-03	4.92E-02	2.16E-06	4.00E-02	5.94E-02	2.61E-06	4.83E-02
Road 2	2	0800-0900	1.09E-02	4.66E-07	8.62E-03	4.89E-02	2.09E-06	3.87E-02	5.92E-02	2.53E-06	4.68E-02
Road 2	2	0900-1000	1.16E-02	4.05E-07	7.49E-03	5.12E-02	1.79E-06	3.31E-02	6.23E-02	2.17E-06	4.02E-02
Road 2	2	1000-1100	1.16E-02	4.05E-07	7.49E-03	5.12E-02	1.79E-06	3.31E-02	6.23E-02	2.17E-06	4.02E-02
Road 2	2	1100-1200	1.27E-02	4.89E-07	9.07E-03	5.53E-02	2.13E-06	3.95E-02	6.80E-02	2.62E-06	4.86E-02
Road 2	2	1200-1300	1.27E-02	4.89E-07	9.07E-03	5.53E-02	2.13E-06	3.95E-02	6.80E-02	2.62E-06	4.86E-02
Road 2	2	1300-1400	1.26E-02	4.89E-07	9.07E-03	5.48E-02	2.13E-06	3.95E-02	6.62E-02	2.57E-06	4.77E-02
Road 2	2	1400-1500	1.26E-02	4.89E-07	9.07E-03	5.48E-02	2.13E-06	3.95E-02	6.62E-02	2.57E-06	4.77E-02
Road 2	2	1500-1600	1.26E-02	4.89E-07	9.07E-03	5.48E-02	2.13E-06	3.95E-02	6.62E-02	2.57E-06	4.77E-02
Road 2	2	1600-1700	1.30E-02	4.89E-07	9.07E-03	5.66E-02	2.13E-06	3.95E-02	6.84E-02	2.57E-06	4.77E-02
Road 2	2	1700-1800	1.30E-02	4.89E-07	9.07E-03	5.66E-02	2.13E-06	3.95E-02	6.84E-02	2.57E-06	4.77E-02
Road 2	2	1800-1900	6.66E-03	3.29E-07	6.62E-03	3.63E-02	1.79E-06	3.60E-02	4.29E-02	2.12E-06	4.26E-02
Road 2	2	1900-2000	5.69E-03	2.23E-07	4.48E-03	3.40E-02	1.33E-06	2.68E-02	4.06E-02	1.59E-06	3.20E-02
Road 2	2	2000-2100	5.40E-03	1.89E-07	3.81E-03	3.24E-02	1.13E-06	2.28E-02	3.89E-02	1.36E-06	2.73E-02
Road 2	2	2100-2200	4.91E-03	1.49E-07	3.00E-03	3.05E-02	1.41E-06	2.50E-02	1.31E-03	3.96E-08	7.98E-04
Road 2	2	2200-2300	4.25E-03	1.27E-07	2.87E-03	2.74E-02	8.22E-07	1.85E-02	1.18E-03	3.47E-08	7.29E-04
Road 2	2	2300-0000	5.41E-03	1.19E-07	2.40E-03	3.29E-02	1.66E-02	3.10E-02	1.31E-03	2.88E-08	5.80E-04
Road 3	3	0000-0100	4.59E-03	2.51E-08	5.61E-05	3.50E-02	1.91E-07	4.28E-04	3.96E-02	2.16E-07	4.84E-04
Road 3	3	0100-0200	5.15E-03	2.70E-08	5.44E-05	3.72E-02	1.95E-07	3.93E-04	4.28E-02	2.25E-07	4.53E-04
Road 3	3	0200-0300	5.56E-03	1.44E-08	3.23E-05	3.81E-02	9.89E-08	2.21E-04	4.36E-02	1.13E-07	2.54E-04
Road 3	3	0300-0400	5.96E-03	1.44E-08	2.90E-05	3.91E-02	9.46E-08	1.91E-04	4.45E-02	1.08E-07	2.17E-04
Road 3	3	0400-0500	6.51E-03	1.47E-08	3.28E-05	4.07E-02	1.06E-07	2.38E-04	4.62E-02	3.65E-08	8.18E-06
Road 3	3	0500-0600	7.00E-03	2.73E-08	6.12E-05	4.20E-02	1.64E-07	3.67E-04	4.90E-02	1.91E-07	4.28E-04
Road 3	3	0600-0700	7.47E-03	7.46E-08	1.67E-04	4.33E-02	4.32E-07	9.67E-04	5.07E-02	5.06E-07	1.13E-03
Road 3	3	0700-0800	8.08E-03	1.37E-07	3.06E-04	4.59E-02	7.77E-07	1.74E-03	5.40E-02	9.14E-07	2.05E-03
Road 3	3	0800-0900	8.97E-03	1.57E-07	3.51E-04	4.80E-02	8.41E-07	1.88E-03	5.62E-02	9.85E-07	2.20E-03
Road 3	3	0900-1000	9.05E-03	1.46E-07	3.28E-04	4.72E-02	7.63E-07	1.71E-03	5.61E-02	9.07E-07	2.03E-03
Road 3	3	1000-1100	9.66E-03	1.46E-07	3.28E-04	4.96E-02	7.49E-07	1.68E-03	5.96E-02	8.94E-07	2.00E-03
Road 3	3	1100-1200	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 3	3	1200-1300	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 3	3	1300-1400	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 3	3	1400-1500	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 3	3	1500-1600	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 3	3	1600-1700	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 3	3	1700-1800	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 3	3	1800-1900	5.23E-03	1.64E-07	3.68E-04	3.44E-02	1.08E-06	2.42E-03	4.22E-02	1.32E-06	2.97E-03
Road 3	3	1900-2000	4.46E-03	1.26E-07	2.82E-04	3.19E-02	9.03E-07	2.02E-03	3.82E-02	1.08E-06	2.42E-03
Road 3	3	2000-2100	4.23E-03	1.07E-07	2.39E-04	3.03E-02	7.68E-07	1.72E-03	3.65E-02	9.24E-07	2.07E-03
Road 3	3	2100-2200	3.85E-03	8.42E-08	1.89E-04	2.84E-02	6.21E-07	1.39E-03	1.03E-03	2.25E-08	5.04E-05
Road 3	3	2200-2300	3.33E-03	7.17E-08	1.61E-04	2.56E-02	5.52E-07	1.24E-03	9.24E-04	1.99E-08	4.46E-05
Road 3	3	2300-0000	4.24E-03	6.73E-08	1.35E-04	3.08E-02	4.89E-07	9.84E-04	1.03E-03	1.63E-08	3.28E-05
Road 4	4	0000-0100	4.34E-01	3.91E-08	1.27E-03	1.36E-02	4.88E-07	9.81E-03	3.82E-02	1.51E-07	1.11E-02
Road 4	4	0100-0200	4.79E-03	4.52E-08	9.09E-04	3.49E-02	3.29E-07	6.62E-03	1.97E-02	3.75E-07	7.53E-03
Road 4	4	0200-0300	5.26E-03	3.63E-08	7.30E-04	3.65E-02	2.52E-07	5.06E-03	4.17E-02	2.88E-07	5.78E-03
Road 4	4	0300-0400	5.73E-03	3.12E-08	6.27E-04	3.77E-02	2.05E-07	4.12E-03	4.34E-02	2.36E-07	4.75E-03
Road 4	4	0400-0500	6.20E-03	3.70E-08	7.44E-04	3.90E-02	2.33E-07	4.68E-03	4.52E-02	2.70E-07	5.43E-03
Road 4	4	0500-0600	6.66E-03	5.39E-08	1.08E-03	4.02E-02	3.25E-07	6.53E-03	4.69E-02	3.79E-07	7.62E-03
Road 4	4	0600-0700	7.15E-03	1.59E-07	3.19E-03	4.17E-02	9.25E-07	1.86E-02	4.88E-02	1.08E-06	2.18E-02
Road 4	4	0700-0800	7.61E-03	3.41E-07	6.86E-03	4.26E-02	1.91E-06	3.84E-02	5.02E-02	2.25E-06	4.53E-02
Road 4	4	0800-0900	8.38E-03	3.57E-07	7.18E-03	4.23E-02	1.80E-06	3.62E-02	5.00E-02	2.13E-06	4.28E-02
Road 4	4	0900-1000	8.38E-03	3.17E-07	6.38E-03	4.23E-02	1.60E-06	3.22E-02	5.00E-02	1.89E-06	3.81E-02
Road 4	4	1000-1100	9.06E-03	3.17E-07	6.36E-03	4.43E-02	1.55E-06	3.11E-02	5.34E-02	1.87E-06	3.75E-02
Road 4	4	1100-1200	9.06E-03	3.17E-07	6.36E-03	4.43E-02	1.55E-06	3.11E-02	5.34E-02	1.87E-06	3.75E-02
Road 4	4	1200-1300	1.26E-02	6.29E-07	1.26E-02	6.44E-02	3.22E-06	6.47E-02	7.75E-02	3.88E-06	7.79E-02
Road 4	4	1300-1400	1.26E-02	6.29E-07	1.26E-02	6.44E-02	3.22E-06	6.47E-02	7.75E-02	3.88E-06	7.79E-02
Road 4	4	1400-1500	1.26E-02	6.66E-07	1.34E-02	6.44E-02	3.41E-06	6.85E-02	7.75E-02	4.10E-06	8.25E-02
Road 4	4	1500-1600	1.26E-02	6.66E-07	1.34E-02	6.44E-02	3.41E-06	6.85E-02	7.75E-02	4.10E-06	8.25E-02
Road 4	4	1600-1700	1.23E-02	6.29E-07	1.26E-02	6.29E-02	3.22E-06	6.47E-02	7.57E-02	3.88E-06	7.79E-02
Road 4	4	1700-1800	1.23E-02	6.29E-07	1.26E-02	6.29E-02	3.22E-06	6.47E-02	7.57E-02	3.88E-06	7.79E-02
Road 4	4	1800-1900	6.21E-03	4.24E-07	8.53E-03	3.38E-02	2.31E-06	4.64E-02	4.00E-02	2.73E-06	5.49E-02
Road 4	4	1900-2000	5.31E-03	2.87E-07	5.76E-03	3.17E-02	1.71E-06	3.44E-02	3.79E-02	2.05E-06	4.12E-02
Road 4	4	2000-2100	5.04E-03	2.44E-07	4.91E-03	3.02E-02	1.46E-06	2.93E-02	3.60E-02	1.74E-06	3.51E-02
Road 4	4	2100-2200	4.58E-03	1.92E-07	3.86E-03	2.84E-02	1.83E-06	3.23E-02	1.22E-03	5.11E-08	1.03E-03
Road 4	4	2200-2300	3.97E-03	1.64E-07	3.70E-03	2.56E-02	1.06E-06	2.39E-02	1.10E-03	4.48E-08	9.41E-04
Road 4	4	2300-0000	5.05E-03	1.54E-07	3.10E-03	3.07E-02	2.15E-02	4.01E-02	1.22E-03	3.72E-08	7.48E-04
Road 5	5	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	4.33E-02	6.01E-07	1.11E-02
Road 5	5	0100-0200	6.97E-03	8.42E-08	1.69E-03	4.06E-02	4.91E-07	9.88E-03	4.70E-02	5.68E-07	1.14E-02
Road 5	5	0200-0300	7.48E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.93E-02	3.22E-07	5.96E-03
Road 5	5	0300-0400	7.98E-03	4.89E-08	9.84E-04	4.29E-02	2.63E-07	5.29E-03	5.07E-02	3.11E-07	6.26E-03
Road 5	5	0400-0500	8.66E-03	4.98E-08	9.20E-04	4.50E-02	2.59E-07	4.78E-03	5.36E-02	3.08E-07	5.69E-03
Road 5	5	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	5.54E-02	5.55E-07	1.03E-02
Road 5	5	0600-0700	9.60E-03	2.68E-07	4.96E-03	4.76E-02	1.33E-06	2.46E-02	5.72E-02	1.59E-06	2.95E-02
Road 5	5	0700-0800	1.02E-02	4.50E-07	8.31E-03	4.92E-02	2.16E-06	4.00E-02	5.94E-02	2.61E-06	4.83E-02
Road 5	5	0800-0900	1.09E-02	4.66E-07	8.62E-03	4.89E-02	2.09E-06	3.87E-02	5.92E-02	2.53E-06	4.68E-02
Road 5	5	0900-1000	1.16E-02	4.05E-07	7.49E-03	5.12E-02	1.79E-06	3.31E-02	6.23E-02	2.17E-06	4.02E-02
Road 5	5	1000-1100	1.16E-02	4.05E-07	7.49E-03	5.12E-02	1.79E-06	3.31E-02	6.23E-02	2.17E-06	4.02E-02
Road 5	5	1100-1200	1.27E-02	4.89E-07	9.07E-03	5.53E-02	2.13E-06	3.95E-02	6.80E-02	2.62E-06	4.86E-02
Road 5	5	1200-1300	1.27E-02	4.89E-07	9.07E-03	5.53E-02	2.13E-06	3.95E-02	6.80E-02	2.62E-06	4.86E-02
Road 5	5	1300-1400	1.26E-02	4.89E-07	9.07E-03	5.48E-02	2.13E-06	3.95E-02	6.62E-02	2.57E-06	4.77E-02
Road 5	5	1400-1500	1.26E-02	4.89E-07	9.07E-03	5.48E-02	2.13E-06	3.95E-02	6.62E-02	2.57E-06	4.77E-02
Road 5	5	1500-1600	1.26E-02	4.89E-07	9.07E-03	5.48E-02	2.13E-06	3.95E-02	6.62E-02	2.57E-06	4.77E-02
Road 5	5	1600-1700	1.30E-02	4.89E-07	9.07E-03	5.66E-02	2.13E-06	3.95E-02	6.84E-02	2.57E-06	4.77E-02
Road 5	5	1700-1800	1.30E-02	4.89E-07	9.07E-03	5.66E-02	2.13E-06	3.95E-02	6.84E-02	2.57E-06	4.77E-02
Road 5	5	1800-1900	6.66E-03	3.29E-07	6.62E-03	3.63E-02	1.79E-06	3.60E-02	4.29E-02	2.12E-06	4.26E-02
Road 5	5	1900-2000	5.69E-03	2.23E-07	4.48E-03	3.40E-02	1.33E-06	2.68E-02	4.06E-02	1.59E-06	3.20E-02
Road 5	5	2000-2100	5.40E-03	1.89E-07	3.81E-03	3.24E-02	1.13E-06	2.28E-02	3.89E-02	1.36E-06	2.73E-02
Road 5	5	2100-2200	4.91E-03	1.49E-07	3.00E-03	3.05E-02	1.41E-06	2.50E-02	1.31E-03	3.96E-08	7.98E-04
Road 5	5	2200-2300	4.25E-03	1.27E-07	2.87E-03	2.74E-02	8.22E-07	1.85E-02	1.18E-03	3.47E-08	7.29E-04
Road 5	5	2300-0000	5.41E-03	1.19E-07	2.40E-03	3.29E-02	1.66E-02	3.10E-02	1.31E-03	2.88E-08	5.80E-04
Road 6	6	0000-0100	4.59E-03	2.51E-08	5.61E-05	3.50E-02	1.91E-07	4.28E-04	3.96E-02	2.16E-07	4.84E-04
Road 6	6	0100-0200	5.15E-03	2.70E-08	5.44E-05	3.72E-02	1.95E-07	3.93E-04	4.28E-02	2.25E-07	4.53E-04
Road 6	6	0200-0300	5.56E-03	1.44E-08	3.23E-05	3.81E-02	9.89E-08	2.21E-04	4.36E-02	1.13E-07	2.54E-04
Road 6	6	0300-0400	5.96E-03	1.44E-08	2.90E-05	3.91E-02	9.46E-08	1.91E-04	4.45E-02	1.08E-07	2.17E-04
Road 6	6	0400-0500	6.51E-03	1.47E-08	3.28E-05	4.07E-02	1.06E-07	2.38E-04	4.62E-02	3.65E-08	8.18E-06
Road 6	6	0500-0600	7.00E-03	2.73E-08	6.12E-05	4.20E-02	1.64E-07	3.67E-04	4.90E-02	1.91E-07	4.28E-04
Road 6	6	0600-0700	7.47E-03	7.46E-08	1.67E-04	4.33E-02	4.32E-07	9.67E-04	5.07E-02	5.06E-07	1.13E-03
Road 6	6	0700-0800	8.08E-03	1.37E-07	3.06E-04	4.59E-02	7.77E-07	1.74E-03	5.40E-02	9.14E-07	2.05E-03
Road 6	6	0800-0900	8.97E-03	1.57E-07	3.51E-04	4.80E-02	8.41E-07	1.88E-03	5.62E-02	9.85E-07	2.20E-03
Road 6	6	0900-1000	9.05E-03	1.46E-07	3.28E-04	4.72E-02	7.63E-07	1.71E-03	5.61E-02	9.07E-07	2.03E-03
Road 6	6	1000-1100	9.66E-03	1.46E-07	3.28E-04	4.96E-02	7.49E-07	1.68E-03	5.96E-02	8.94E-07	2.00E-03
Road 6	6	1100-1200	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 6	6	1200-1300	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 6	6	1300-1400	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 6	6	1400-1500	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 6	6	1500-1600	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 6	6	1600-1700	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 6	6	1700-1800	1.02E-02	2.26E-07	5.06E-04	5.16E-02	1.14E-06	2.56E-03	6.23E-02	1.35E-06	3.03E-03
Road 6	6	1800-1900	5.23E-03	1.64E-07	3.68E-04	3.44E-02	1.08E-06	2.42E-03	4.22E-02	1.32E-06	2.97E-03
Road 6	6	1900-2000	4.46E-03	1.26E-07	2.82E-04	3.19E-02	9.03E-07	2.02E-03	3.82E-02	1.08E-06	2.42E-03
Road 6	6	2000-2100	4.23E-03	1.07E-07	2.39E-04	3.03E-02	7.68E-07	1.72E-03	3.65E-02	9.24E-07	2.07E-03
Road 6	6	2100-2200	3.85E-03	8.42E-08	1.89E-04	2.84E-02	6.21E-07	1.39E-03	1.03E-03	2.25E-08	5.04E-05
Road 6	6	2200-2300	3.33E-03	7.17E-08	1.61E-04	2.56E-02	5.52E-07	1.24E-03	9.24E-04	1.99E-08	4.46E-05
Road 6	6	2300-0000	4.24E-03	6.73E-08	1.35E-04	3.08E-02	4.89E-07	9.84E-04	1.03E-03	1.63E-08	3.28E-05
Road 7	7	0000-0100	5.04E-03	2.23E-08	9.53E-05	3.66E-02	1.62E-07	6.92E-04	4.16E-02	1.84E-07	7.87E-04
Road 7	7	0100-0200	5.60E-03	2.39E-08	9.19E-05	3.89E-02	1.66E-07	6.38E-04	4.42E-02	1.89E-07	7.26E-04
Road 7	7	0200-0300	6.02E-03	1.54E-08	6.58E-05	3.98E-02	1.01E-07	4.34E-04	4.58E-02	1.17E-07	5.00E-04
Road 7	7	0300-0400	6.42E-03	1.54E-08	5.82E-05	4.08E-02	9.71E-08	3.68E-04	4.75E-02	1.12E-07	4.25E-04
Road 7	7	0400-0500	6.99E-03	3.39E-08	1.45E-04	4.23E-02	2.06E-07	8.80E-04	4.93E-02	2.40E-07	1.03E-03
Road 7	7	0500-0600	7.53E-03	6.92E-08	2.96E-04	4.38E-02	4.03E-07	1.72E-03	5.14E-02	4.70E-07	2.01E-03
Road 7	7	0600-0700	7.96E-03	1.94E-07	8.30E-04	4.50E-02	1.04E-06	4.44E-03	5.05E-02	1.23E-06	5.26E-03
Road 7	7	0700-0800	7.96E-03	3.94E-07	1.80E-03	4.49E-02	2.22E-06	1.02E-02	5.04E-02	2.51E-06	1.15E-02
Road 7	7	0800-0900	7.96E-03	1.94E-07	8.30E-04	4.62E-02	1.04E-06	4.44E-03	5.05E-02	1.23E-06	5.27E-03
Road 7	7	0900-1000	8.61E-03	1.94E-07	8.30E-04	4.84E-02	1.04E-06	4.44E-03	5.31E-02	1.23E-06	5.27E-03
Road 7	7	1000-1100	9.63E-03	1.59E-07	6.79E-04	4.80E-02	7.91E-07	3.39E-03	5.76E-02	9.50E-07	4.07E-03
Road 7	7	1100-1200	1.04E-02	4.18E-07	1.79E-03	4.76E-02	1.91E-06	8.40E-03	5.71E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.41E-01	3.49E-04	4.05E-04	1.27E-01	3.14E-04	3.64E-04	3.43E-02	8.44E-05	4.08E-05
Road 27	27	1700-1800	1.23E-01	2.82E-07	3.17E-04	4.88E-01	1.12E-06	1.25E-03	2.97E-01	6.82E-04	3.44E-05
Road 27	27	1800-1900	1.08E-01	1.71E-07	1.92E-04	4.47E-01	7.05E-07	7.92E-04	9.84E-04	1.19E-02	1.88E-04
Road 27	27	1900-2000	1.01E-01	1.04E-07	1.17E-04	3.99E-01	4.11E-07	4.62E-04	5.06E-01	5.21E-03	1.39E-05
Road 27	27	2000-2100	9.78E-02	8.03E-08	9.03E-05	4.00E-01	3.29E-07	3.69E-04	4.98E-01	4.09E-07	1.04E-05
Road 27	27	2100-2200	9.56E-02	4.60E-08	5.17E-05	3.38E-07	1.63E-13	1.83E-10	3.80E-04	1.83E-07	2.06E-04
Road 27	27	2200-2300	1.06E-01	7.77E-08	8.73E-05	3.38E-01	2.48E-07	2.78E-04	4.88E-01	3.58E-07	4.02E-04
Road 27	27	2300-0000	1.07E-01	6.45E-08	7.24E-05	3.85E-01	2.32E-07	2.61E-04	4.91E-01	2.97E-07	3.33E-04
Road 28	28	0000-0100	1.76E-01	4.35E-04	4.89E-04	1.58E-01	3.91E-04	4.39E-04	4.28E-02	1.05E-04	4.91E-05
Road 28	28	0100-0200	7.73E-03	5.49E-08	1.14E-03	4.14E-02	2.94E-07	6.09E-03	4.91E-02	3.49E-07	7.08E-04
Road 28	28	0200-0300	1.58E-02	9.19E-08	3.81E-04	8.46E-02	4.92E-07	2.04E-03	1.00E-01	5.84E-07	2.42E-04
Road 28	28	0300-0400	8.99E-03	5.76E-08	7.78E-04	4.52E-02	2.89E-07	3.91E-03	5.42E-02	3.47E-07	4.69E-04
Road 28	28	0400-0500	1.53E-02	4.44E-08	9.19E-04	4.87E-02	1.41E-07	2.92E-03	5.84E-02	1.69E-07	3.50E-04
Road 28	28	0500-0600	1.02E-02	8.27E-08	1.74E-03	8.17E-03	5.88E-08	1.23E-03	9.80E-03	7.05E-08	1.48E-04
Road 28	28	0600-0700	1.08E-02	1.89E-07	3.92E-03	5.01E-02	8.80E-07	1.82E-02	6.09E-02	1.07E-06	2.22E-03
Road 28	28	0700-0800	1.16E-02	4.18E-07	8.66E-03	9.01E-02	3.25E-06	6.73E-02	1.08E-01	3.90E-06	8.07E-03
Road 28	28	0800-0900	1.10E-02	4.57E-07	9.47E-03	8.26E-02	3.43E-06	7.10E-02	9.91E-02	4.12E-06	8.52E-03
Road 28	28	0900-1000	1.14E-02	3.23E-07	6.69E-03	8.76E-02	2.48E-06	5.14E-02	1.05E-01	2.98E-06	6.17E-03
Road 28	28	1000-1100	1.46E-02	4.79E-07	9.93E-03	1.90E-01	3.93E-06	8.14E-02	2.28E-01	4.72E-06	9.77E-03
Road 28	28	1100-1200	1.42E-02	4.40E-07	9.12E-03	5.76E-02	1.78E-06	3.70E-02	6.91E-02	2.14E-06	4.44E-03
Road 28	28	1200-1300	1.34E-02	3.55E-07	7.36E-03	1.44E-02	3.81E-07	7.90E-03	1.73E-02	4.57E-07	9.47E-04
Road 28	28	1300-1400	1.34E-02	3.69E-07	7.65E-03	5.54E-02	1.52E-06	3.15E-02	6.88E-02	1.89E-06	3.92E-03
Road 28	28	1400-1500	1.34E-02	3.69E-07	7.65E-03	5.54E-02	1.52E-06	3.15E-02	6.88E-02	1.89E-06	3.92E-03
Road 28	28	1500-1600	1.24E-02	3.70E-07	7.66E-03	5.54E-02	1.65E-06	3.42E-02	6.88E-02	2.05E-06	4.25E-03
Road 28	28	1600-1700	1.29E-02	4.03E-07	8.34E-03	5.20E-02	1.62E-06	3.36E-02	6.49E-02	2.03E-06	4.20E-03
Road 28	28	1700-1800	1.23E-02	3.21E-07	6.65E-03	5.20E-02	1.36E-06	2.82E-02	6.49E-02	1.70E-06	3.52E-03
Road 28	28	1800-1900	6.61E-03	2.41E-07	5.00E-03	3.36E-02	1.23E-06	2.54E-02	4.02E-02	1.47E-06	3.04E-03
Road 28	28	1900-2000	1.01E-02	3.93E-07	8.14E-03	4.23E-02	1.64E-06	3.40E-02	5.07E-02	1.97E-06	4.08E-03
Road 28	28	2000-2100	5.67E-03	1.27E-07	2.64E-03	3.59E-02	8.06E-07	1.67E-02	4.16E-02	9.34E-07	1.93E-02
Road 28	28	2100-2200	5.18E-03	1.16E-07	2.40E-03	3.53E-02	7.90E-07	1.64E-02	4.02E-02	9.00E-07	1.87E-02
Road 28	28	2200-2300	7.63E-03	2.87E-07	5.95E-03	3.84E-02	1.44E-06	2.99E-02	4.61E-02	1.73E-06	3.59E-02
Road 28	28	2300-0000	5.68E-03	9.24E-08	1.91E-03	3.66E-02	5.95E-07	1.23E-02	4.23E-02	6.87E-07	1.42E-02
Road 29	29	0000-0100	1.42E-01	3.51E-04	3.95E-04	1.28E-01	3.16E-04	3.55E-04	3.46E-02	8.52E-05	3.96E-05
Road 29	29	0100-0200	6.15E-03	3.52E-08	8.88E-04	3.69E-02	2.12E-07	5.34E-03	4.31E-02	2.47E-07	6.22E-04
Road 29	29	0200-0300	1.26E-02	7.36E-08	3.04E-04	7.56E-02	4.41E-07	1.82E-03	8.82E-02	5.14E-07	2.12E-04
Road 29	29	0300-0400	7.98E-03	4.88E-08	6.75E-04	4.12E-02	2.52E-07	3.49E-03	4.93E-02	3.02E-07	4.17E-04
Road 29	29	0400-0500	8.22E-03	3.02E-08	7.60E-04	4.22E-02	1.54E-07	3.89E-03	5.02E-02	1.84E-07	4.65E-04
Road 29	29	0500-0600	7.81E-03	4.93E-08	1.04E-03	4.22E-02	2.66E-07	3.57E-03	5.24E-02	3.31E-07	4.43E-04
Road 29	29	0600-0700	7.68E-03	1.02E-07	2.56E-03	4.24E-02	5.61E-07	1.67E-02	1.95E-02	2.58E-07	6.49E-04
Road 29	29	0700-0800	8.08E-03	2.32E-07	5.76E-03	4.24E-02	1.21E-06	3.05E-02	7.94E-02	2.28E-06	5.66E-03
Road 29	29	0800-0900	8.09E-03	2.52E-07	6.34E-03	3.89E-02	1.21E-06	3.05E-02	4.70E-02	1.46E-06	3.68E-03
Road 29	29	0900-1000	9.29E-03	2.37E-07	5.98E-03	4.30E-02	1.10E-06	2.76E-02	5.23E-02	1.33E-06	3.36E-03
Road 29	29	1000-1100	1.06E-02	2.55E-07	6.44E-03	4.34E-02	1.04E-06	2.63E-02	5.34E-02	1.28E-06	3.24E-03
Road 29	29	1100-1200	1.02E-02	2.14E-07	5.38E-03	4.57E-02	9.59E-07	2.41E-02	5.59E-02	1.17E-06	2.95E-03
Road 29	29	1200-1300	9.78E-03	2.66E-07	6.71E-03	4.57E-02	1.24E-06	3.14E-02	5.59E-02	1.52E-06	3.84E-03
Road 29	29	1300-1400	1.00E-02	2.66E-07	6.71E-03	4.57E-02	1.21E-06	3.06E-02	5.59E-02	1.48E-06	3.74E-03
Road 29	29	1400-1500	1.00E-02	3.87E-07	9.76E-03	4.57E-02	1.76E-06	4.43E-02	5.59E-02	2.16E-06	5.45E-03
Road 29	29	1500-1600	1.47E-02	3.97E-07	7.51E-03	4.57E-02	1.24E-06	2.34E-02	5.59E-02	1.54E-06	2.92E-03
Road 29	29	1600-1700	1.50E-02	3.86E-07	9.73E-03	5.56E-02	1.43E-06	3.60E-02	7.06E-02	1.81E-06	4.57E-03
Road 29	29	1700-1800	1.43E-02	3.86E-07	9.73E-03	5.56E-02	1.50E-06	3.78E-02	7.06E-02	1.91E-06	4.81E-03
Road 29	29	1800-1900	8.32E-03	2.35E-07	5.92E-03	3.66E-02	1.03E-06	2.61E-02	4.62E-02	1.30E-06	3.29E-03
Road 29	29	1900-2000	1.27E-02	3.58E-07	9.03E-03	5.56E-02	1.57E-06	3.96E-02	7.06E-02	1.99E-06	5.02E-03
Road 29	29	2000-2100	6.67E-03	1.56E-07	3.91E-03	6.25E-02	1.57E-06	3.94E-02	7.93E-02	1.99E-06	5.00E-03
Road 29	29	2100-2200	6.43E-03	1.10E-07	2.76E-03	6.12E-02	1.04E-06	2.62E-02	7.77E-02	1.98E-06	4.97E-03
Road 29	29	2200-2300	9.47E-03	3.56E-07	8.98E-03	6.12E-02	2.30E-06	5.80E-02	7.77E-02	2.92E-06	7.37E-03
Road 29	29	2300-0000	7.14E-03	8.94E-08	2.25E-03	4.67E-02	5.85E-07	1.48E-02	5.92E-02	7.42E-07	1.87E-02
Road 30	30	0000-0100	1.00E-01	2.48E-04	2.79E-04	9.04E-02	2.23E-04	2.51E-04	2.43E-02	6.00E-05	2.79E-05
Road 30	30	0100-0200	1.00E-02	6.85E-08	4.85E-04	4.83E-02	3.30E-07	2.34E-03	5.73E-02	3.92E-07	2.77E-04
Road 30	30	0200-0300	1.14E-02	5.82E-08	2.08E-04	5.16E-02	2.64E-07	9.41E-04	6.30E-02	3.22E-07	1.15E-04
Road 30	30	0300-0400	1.13E-02	4.44E-08	9.19E-04	4.87E-02	1.91E-07	3.96E-03	5.84E-02	2.29E-07	4.75E-04
Road 30	30	0400-0500	1.33E-02	4.47E-08	1.06E-03	5.61E-02	1.88E-07	4.46E-03	6.73E-02	2.26E-07	5.35E-04
Road 30	30	0500-0600	1.29E-02	1.04E-07	2.19E-03	5.44E-02	4.39E-07	9.22E-03	6.53E-02	5.27E-07	1.11E-03
Road 30	30	0600-0700	1.20E-02	1.98E-07	7.07E-04	5.60E-02	9.24E-07	3.29E-03	6.72E-02	1.11E-06	3.95E-03
Road 30	30	0700-0800	1.32E-02	4.52E-07	1.62E-03	9.35E-02	3.20E-06	1.14E-02	1.12E-01	3.84E-06	1.37E-02
Road 30	30	0800-0900	1.24E-02	4.96E-07	1.77E-03	8.44E-02	3.37E-06	1.20E-02	1.01E-01	4.05E-06	1.44E-02
Road 30	30	0900-1000	1.48E-02	5.71E-07	2.04E-03	9.31E-02	3.59E-06	1.28E-02	1.12E-01	4.31E-06	1.54E-02
Road 30	30	1000-1100	1.64E-02	4.86E-07	1.74E-03	2.04E-02	6.04E-07	2.16E-03	2.45E-02	7.25E-07	2.59E-03
Road 30	30	1100-1200	1.64E-02	4.86E-07	1.74E-03	5.66E-02	1.68E-06	6.00E-03	6.79E-02	2.01E-06	7.19E-03
Road 30	30	1200-1300	1.47E-02	3.91E-07	1.40E-03	1.58E-02	4.21E-07	1.50E-03	1.90E-02	5.05E-07	1.80E-03
Road 30	30	1300-1400	2.00E-02	6.66E-07	2.38E-03	7.74E-02	2.57E-06	9.19E-03	9.74E-02	3.24E-06	1.16E-02
Road 30	30	1400-1500	2.00E-02	6.86E-07	2.45E-03	7.54E-02	2.59E-06	9.26E-03	9.53E-02	3.28E-06	1.17E-02
Road 30	30	1500-1600	1.90E-02	6.79E-07	2.43E-03	7.30E-02	2.61E-06	9.33E-03	9.20E-02	3.29E-06	1.18E-02
Road 30	30	1600-1700	1.90E-02	6.79E-07	2.43E-03	7.30E-02	2.61E-06	9.33E-03	9.20E-02	3.29E-06	1.18E-02
Road 30	30	1700-1800	1.47E-02	5.51E-07	1.97E-03	2.42E-02	8.64E-07	3.09E-03	2.97E-02	1.09E-06	3.89E-03
Road 30	30	1800-1900	1.10E-02	4.01E-07	1.43E-03	9.91E-02	3.79E-06	1.35E-02	1.25E-01	4.78E-06	1.71E-02
Road 30	30	1900-2000	8.98E-03	2.45E-07	8.77E-04	4.44E-02	1.21E-06	4.33E-03	5.54E-02	1.48E-06	5.31E-03
Road 30	30	2000-2100	8.95E-03	1.92E-07	6.87E-04	4.76E-02	1.02E-06	3.65E-03	5.94E-02	1.27E-06	4.55E-03
Road 30	30	2100-2200	8.65E-03	1.86E-07	6.64E-04	4.34E-02	9.32E-07	3.33E-03	5.42E-02	1.16E-06	4.16E-03
Road 30	30	2200-2300	8.95E-03	3.37E-07	1.21E-03	4.63E-02	1.74E-06	6.23E-03	5.78E-02	2.17E-06	7.77E-03
Road 30	30	2300-0000	9.73E-03	1.52E-07	5.43E-04	4.87E-02	7.61E-07	2.72E-03	5.21E-02	1.42E-06	3.20E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	9.38E-03	1.77E-08	5.79E-05	4.65E-02	8.80E-08	2.87E-04	3.35E-02	6.33E-08	2.07E-04
Road 31	31	0100-0200	9.66E-03	1.26E-08	4.12E-05	4.63E-02	6.06E-08	1.98E-04	5.60E-02	7.32E-08	2.39E-04
Road 31	31	0200-0300	1.04E-02	1.01E-08	3.29E-05	4.87E-02	4.73E-08	1.54E-04	5.90E-02	5.74E-08	1.87E-04
Road 31	31	0300-0400	1.11E-02	8.64E-09	2.82E-05	5.05E-02	3.94E-08	1.28E-04	6.13E-02	4.80E-08	1.57E-04
Road 31	31	0400-0500	1.17E-02	1.02E-08	3.33E-05	5.22E-02	4.54E-08	1.48E-04	6.39E-02	5.56E-08	1.81E-04
Road 31	31	0500-0600	1.15E-02	1.90E-08	6.18E-05	5.16E-02	8.27E-08	2.70E-04	6.42E-02	1.02E-07	3.31E-04
Road 31	31	0600-0700	1.30E-02	4.35E-08	1.42E-04	5.58E-02	1.87E-07	6.09E-04	6.88E-02	2.30E-07	7.51E-04
Road 31	31	0700-0800	1.35E-02	9.32E-08	3.04E-04	5.70E-02	3.92E-07	1.28E-03	7.05E-02	4.85E-07	1.58E-03
Road 31	31	0800-0900	1.32E-02	1.05E-07	3.43E-04	5.45E-02	4.33E-07	1.42E-03	6.77E-02	5.38E-07	1.76E-03
Road 31	31	0900-1000	1.52E-02	1.31E-07	4.27E-04	6.54E-02	5.64E-07	1.84E-03	8.07E-02	6.96E-07	2.27E-03
Road 31	31	1000-1100	1.68E-02	1.06E-07	3.46E-04	6.48E-02	4.08E-07	1.33E-03	8.17E-02	5.14E-07	1.68E-03
Road 31	31	1100-1200	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.38E-02	2.80E-07	9.12E-04
Road 31	31	1200-1300	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.38E-02	2.80E-07	9.12E-04
Road 31	31	1300-1400	1.29E-02	5.61E-08	1.83E-04	5.17E-02	2.25E-07	7.34E-04	6.47E-02	2.81E-07	9.17E-04
Road 31	31	1400-1500	1.29E-02	5.61E-08	1.83E-04	5.17E-02	2.25E-07	7.34E-04	6.47E-02	2.81E-07	9.17E-04
Road 31	31	1500-1600	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	1600-1700	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	1700-1800	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	1800-1900	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	1900-2000	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	2000-2100	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	2100-2200	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	2200-2300	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 31	31	2300-0000	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 32	32	0000-0100	6.86E-03	6.30E-08	1.67E-03	3.92E-02	3.94E-07	9.55E-03	4.60E-02	4.63E-07	1.12E-02
Road 32	32	0100-0200	6.86E-03	4.20E-08	1.11E-03	3.92E-02	2.62E-07	6.51E-03	4.81E-02	3.18E-07	7.91E-03
Road 32	32	0200-0300	8.08E-03	3.93E-08	9.54E-04	4.28E-02	2.08E-07	5.05E-03	5.09E-02	2.48E-07	6.00E-03
Road 32	32	0300-0400	8.08E-03	3.71E-08	9.00E-04	4.28E-02	1.96E-07	4.77E-03	5.09E-02	2.34E-07	5.67E-03
Road 32	32	0400-0500	9.26E-03	3.98E-08	9.64E-04	4.59E-02	1.97E-07	4.78E-03	5.51E-02	2.37E-07	5.74E-03
Road 32	32	0500-0600	9.83E-03	7.39E-08	1.79E-03	4.74E-02	3.56E-07	8.63E-03	5.72E-02	4.30E-07	1.04E-02
Road 32	32	0600-0700	1.03E-02	1.70E-07	4.11E-03	5.03E-02	8.31E-07	2.01E-02	6.06E-02	1.00E-06	2.42E-02
Road 32	32	0700-0800	1.10E-02	3.64E-07	8.81E-03	5.03E-02	1.67E-06	4.04E-02	6.12E-02	2.03E-06	4.92E-02
Road 32	32	0800-0900	1.04E-02	3.84E-07	9.30E-03	4.71E-02	1.74E-06	4.21E-02	5.73E-02	2.12E-06	5.13E-02
Road 32	32	0900-1000	1.24E-02	4.18E-07	1.01E-02	5.33E-02	1.79E-06	4.35E-02	6.57E-02	2.21E-06	5.36E-02
Road 32	32	1000-1100	1.38E-02	3.91E-07	9.48E-03	5.33E-02	1.51E-06	3.66E-02	6.57E-02	1.86E-06	4.51E-02
Road 32	32	1100-1200	1.38E-02	3.91E-07	9.48E-03	5.33E-02	1.51E-06	3.66E-02	6.57E-02	1.86E-06	4.51E-02
Road 32	32	1200-1300	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	1300-1400	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	1400-1500	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	1500-1600	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	1600-1700	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	1700-1800	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	1800-1900	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	1900-2000	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	2000-2100	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	2100-2200	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	2200-2300	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 32	32	2300-0000	1.34E-02	3.91E-07	9.48E-03	5.33E-02	1.55E-06	3.77E-02	6.57E-02	1.91E-06	4.64E-02
Road 33	33	0000-0100	8.88E-03	2.37E-07	1.98E-03	3.96E-02	1.06E-06	2.64E-02	4.91E-02	1.31E-06	3.27E-02
Road 33	33	0100-0200	9.66E-03	1.26E-08	4.12E-05	4.63E-02	6.06E-08	1.98E-04	5.60E-02	7.32E-08	2.39E-04
Road 33	33	0200-0300	1.04E-02	1.01E-08	3.29E-05	4.87E-02	4.73E-08	1.54E-04	5.90E-02	5.74E-08	1.87E-04
Road 33	33	0300-0400	1.11E-02	8.64E-09	2.82E-05	5.05E-02	3.94E-08	1.28E-04	6.13E-02	4.80E-08	1.57E-04
Road 33	33	0400-0500	1.17E-02	1.02E-08	3.33E-05	5.22E-02	4.54E-08	1.48E-04	6.39E-02	5.56E-08	1.81E-04
Road 33	33	0500-0600	1.15E-02	1.90E-08	6.18E-05	5.16E-02	8.27E-08	2.70E-04	6.42E-02	1.02E-07	3.31E-04
Road 33	33	0600-0700	1.30E-02	4.35E-08	1.42E-04	5.58E-02	1.87E-07	6.09E-04	6.88E-02	2.30E-07	7.51E-04
Road 33	33	0700-0800	1.35E-02	9.32E-08	3.04E-04	5.70E-02	3.92E-07	1.28E-03	7.05E-02	4.85E-07	1.58E-03
Road 33	33	0800-0900	1.32E-02	1.05E-07	3.43E-04	5.45E-02	4.33E-07	1.42E-03	6.77E-02	5.38E-07	1.76E-03
Road 33	33	0900-1000	1.49E-02	4.89E-07	2.69E-03	6.27E-02	2.06E-06	1.13E-02	7.76E-02	2.55E-06	1.40E-02
Road 33	33	1000-1100	1.68E-02	1.06E-07	3.46E-04	6.48E-02	4.08E-07	1.33E-03	8.17E-02	5.14E-07	1.68E-03
Road 33	33	1100-1200	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.38E-02	2.80E-07	9.12E-04
Road 33	33	1200-1300	1.27E-02	5.58E-08	1.82E-04	5.11E-02	2.24E-07	7.30E-04	6.38E-02	2.80E-07	9.12E-04
Road 33	33	1300-1400	1.29E-02	5.61E-08	1.83E-04	5.17E-02	2.25E-07	7.34E-04	6.47E-02	2.81E-07	9.17E-04
Road 33	33	1400-1500	1.29E-02	5.61E-08	1.83E-04	5.17E-02	2.25E-07	7.34E-04	6.47E-02	2.81E-07	9.17E-04
Road 33	33	1500-1600	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	1600-1700	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	1700-1800	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	1800-1900	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	1900-2000	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	2000-2100	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	2100-2200	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	2200-2300	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 33	33	2300-0000	1.24E-02	5.61E-08	1.83E-04	5.17E-02	2.34E-07	7.63E-04	6.47E-02	2.92E-07	9.53E-04
Road 34	34	0

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 54	54	0800-0900	8.14E-02	1.36E-02	2.53E-03	3.98E-03	1.12E-01	5.28E-03	3.83E-03	5.43E-03
Road 54	54	0900-1000	9.21E-02	3.32E-02	2.76E-03	3.40E-03	1.22E-01	4.69E-03	3.88E-03	3.23E-03
Road 54	54	1000-1100	1.02E-01	3.41E-02	2.84E-03	3.60E-03	1.20E-01	1.28E-02	3.15E-03	3.84E-03
Road 54	54	1100-1200	1.01E-01	3.38E-02	2.64E-03	3.58E-03	1.13E-01	9.37E-03	4.39E-03	2.99E-03
Road 54	54	1200-1300	1.26E-01	2.77E-02	2.30E-03	9.34E-03	7.77E-03	5.55E-01	1.21E-01	1.06E-02
Road 54	54	1300-1400	1.27E-01	3.95E-02	2.41E-03	1.04E-02	8.68E-03	5.56E-01	1.34E-01	1.19E-02
Road 54	54	1400-1500	1.24E-01	3.01E-02	2.50E-03	4.25E-03	1.03E-02	8.66E-03	5.49E-01	1.33E-01
Road 54	54	1500-1600	1.12E-01	2.82E-02	2.35E-03	4.25E-03	1.07E-02	8.90E-03	5.38E-01	1.25E-01
Road 54	54	1600-1700	1.24E-01	3.95E-02	2.41E-03	1.04E-02	8.68E-03	5.56E-01	1.34E-01	1.19E-02
Road 54	54	1700-1800	9.76E-02	2.27E-02	1.89E-03	3.84E-03	4.81E-01	1.12E-02	9.32E-03	1.14E-02
Road 54	54	1800-1900	1.02E-01	3.41E-02	2.84E-03	3.60E-03	1.20E-01	1.28E-02	3.15E-03	3.84E-03
Road 54	54	1900-2000	7.39E-02	1.01E-02	8.44E-04	2.98E-03	3.24E-03	3.57E-01	4.95E-02	4.08E-03
Road 54	54	2000-2200	1.91E-02	7.55E-03	6.28E-04	2.67E-03	2.22E-03	3.42E-01	1.45E-02	3.54E-03
Road 54	54	2200-2300	6.99E-02	7.69E-03	5.84E-03	3.47E-01	8.21E-03	9.42E-03	1.04E-03	3.64E-01
Road 54	54	2300-2400	7.38E-02	7.36E-03	6.13E-04	2.68E-03	2.52E-03	3.41E-01	2.84E-03	9.53E-03
Road 101	101	0000-0100	7.78E-02	1.29E-02	2.41E-03	3.79E-03	1.07E-01	5.03E-03	3.65E-03	5.17E-03
Road 101	101	0100-0200	1.52E-03	7.59E-04	1.10E-03	3.77E-03	5.19E-02	7.56E-03	4.32E-02	5.94E-03
Road 101	101	0200-0300	1.44E-03	7.81E-04	1.90E-02	3.51E-03	5.07E-03	4.51E-02	4.05E-03	1.85E-02
Road 101	101	0300-0400	6.62E-03	6.36E-03	4.10E-02	2.70E-03	3.91E-03	4.76E-02	3.14E-03	4.54E-03
Road 101	101	0400-0500	7.17E-03	3.74E-03	5.41E-04	4.24E-02	2.22E-03	3.20E-03	4.96E-02	2.59E-03
Road 101	101	0500-0600	1.20E-03	1.43E-03	6.41E-04	1.84E-03	3.55E-03	2.08E-03	1.55E-03	3.63E-03
Road 101	101	0600-0700	8.24E-03	8.25E-03	1.19E-03	4.52E-02	4.52E-03	6.54E-03	5.34E-02	5.35E-03
Road 101	101	0700-0800	1.55E-03	1.60E-03	2.75E-03	2.27E-02	2.54E-03	2.63E-03	3.72E-02	3.81E-03
Road 101	101	0800-0900	9.35E-03	4.69E-03	5.91E-03	4.82E-02	2.11E-03	3.05E-03	2.52E-03	4.09E-03
Road 101	101	0900-1000	9.06E-03	4.61E-03	6.67E-03	4.46E-02	2.27E-03	3.28E-03	5.36E-03	2.41E-03
Road 101	101	1000-1100	1.20E-02	6.50E-03	9.58E-03	6.29E-02	3.08E-03	4.45E-03	7.26E-03	3.27E-03
Road 101	101	1100-1200	1.84E-02	9.35E-03	1.37E-02	9.04E-02	4.43E-03	6.40E-03	1.04E-02	4.70E-03
Road 101	101	1200-1300	1.24E-02	6.34E-03	6.27E-03	5.18E-02	2.84E-03	4.24E-03	3.99E-03	1.88E-03
Road 101	101	1300-1400	1.25E-02	4.49E-03	6.49E-03	5.35E-02	2.98E-03	4.48E-03	3.84E-03	1.71E-03
Road 101	101	1400-1500	1.25E-02	4.49E-03	6.49E-03	5.35E-02	2.98E-03	4.48E-03	3.84E-03	1.71E-03
Road 101	101	1500-1600	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-03	2.99E-02	4.64E-02	2.53E-03
Road 101	101	1600-1700	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-03	2.99E-02	4.64E-02	2.53E-03
Road 101	101	1700-1800	8.73E-03	4.02E-03	5.81E-03	4.45E-02	2.05E-03	2.96E-02	5.32E-02	2.45E-03
Road 101	101	1800-1900	1.44E-02	5.61E-03	8.11E-03	6.02E-02	3.77E-02	1.47E-01	2.13E-01	1.58E-02
Road 101	101	1900-2000	5.39E-03	2.10E-03	3.04E-03	2.23E-02	1.26E-02	4.91E-02	7.09E-02	5.25E-03
Road 101	101	2000-2200	5.23E-03	1.58E-03	2.29E-03	3.57E-02	1.08E-02	3.30E-02	4.77E-02	3.63E-03
Road 101	101	2200-2300	4.62E-03	1.35E-03	1.96E-03	1.49E-02	3.97E-03	1.17E-02	1.69E-02	1.28E-03
Road 101	101	2300-2400	4.65E-03	1.44E-03	2.09E-03	1.50E-02	4.00E-03	1.24E-02	1.80E-02	1.38E-03
Road 102	102	0000-0100	7.59E-03	8.36E-04	1.20E-03	4.28E-02	5.04E-02	5.88E-03	7.08E-02	8.30E-03
Road 102	102	0100-0200	8.23E-03	6.33E-03	8.58E-04	4.45E-02	3.42E-03	4.61E-03	6.27E-02	4.85E-03
Road 102	102	0200-0300	1.47E-03	1.61E-03	1.57E-02	2.61E-03	3.56E-03	2.41E-03	3.37E-03	1.86E-03
Road 102	102	0300-0400	9.58E-03	4.35E-03	5.90E-04	4.84E-02	2.20E-03	2.98E-03	4.03E-02	2.41E-03
Road 102	102	0400-0500	1.47E-03	1.61E-03	2.22E-03	2.61E-03	3.56E-03	2.41E-03	3.37E-03	1.86E-03
Road 102	102	0500-0600	1.09E-02	9.60E-03	1.30E-03	5.19E-02	4.59E-03	6.22E-03	8.27E-02	5.55E-03
Road 102	102	0600-0700	1.15E-02	2.20E-03	2.99E-03	5.96E-02	1.85E-02	2.51E-02	3.24E-02	1.69E-02
Road 102	102	0700-0800	1.44E-02	6.62E-03	1.38E-03	6.57E-02	1.09E-02	1.48E-02	2.01E-02	9.96E-03
Road 102	102	0800-0900	1.17E-02	5.39E-03	7.30E-03	5.23E-02	2.40E-02	2.94E-02	3.98E-02	3.25E-02
Road 102	102	0900-1000	1.55E-02	7.12E-03	9.65E-03	6.92E-02	3.17E-02	4.31E-02	5.84E-02	4.29E-02
Road 102	102	1000-1100	1.55E-02	5.65E-03	7.65E-03	6.97E-02	3.18E-02	4.32E-02	5.86E-02	4.30E-02
Road 102	102	1100-1200	1.25E-02	3.94E-03	5.34E-03	5.18E-02	2.63E-02	3.57E-02	4.84E-02	3.32E-02
Road 102	102	1200-1300	1.25E-02	3.94E-03	5.34E-03	2.11E-02	2.64E-02	3.44E-03	1.08E-02	1.47E-03
Road 102	102	1300-1400	1.26E-02	4.08E-03	5.54E-03	2.35E-02	2.51E-03	3.41E-03	4.63E-03	2.09E-03
Road 102	102	1400-1500	1.26E-02	4.08E-03	5.54E-03	2.35E-02	2.51E-03	3.41E-03	4.63E-03	2.09E-03
Road 102	102	1500-1600	1.18E-02	4.15E-03	5.62E-03	5.28E-02	2.98E-03	3.99E-03	5.41E-03	2.67E-03
Road 102	102	1600-1700	1.18E-02	4.15E-03	5.62E-03	5.28E-02	2.98E-03	3.99E-03	5.41E-03	2.67E-03
Road 102	102	1700-1800	8.76E-03	3.63E-03	4.92E-03	4.42E-02	1.83E-02	2.46E-02	3.33E-02	2.43E-02
Road 102	102	1800-1900	6.20E-03	2.75E-03	3.73E-03	2.98E-02	1.29E-02	1.73E-02	2.34E-02	1.71E-02
Road 102	102	1900-2000	4.67E-03	2.16E-03	2.93E-03	2.24E-02	9.66E-03	1.30E-02	1.76E-02	1.28E-02
Road 102	102	2000-2200	1.28E-03	1.66E-03	2.25E-03	1.49E-02	2.66E-03	3.61E-03	4.89E-03	3.42E-03
Road 102	102	2200-2300	4.67E-03	1.23E-03	1.66E-03	1.49E-02	3.97E-03	1.05E-02	1.42E-02	1.28E-03
Road 102	102	2300-2400	4.65E-03	1.44E-03	1.95E-03	1.50E-02	4.00E-03	1.24E-02	1.68E-02	1.38E-03
Road 103	103	0000-0100	1.44E-02	2.53E-03	4.70E-04	7.39E-04	2.08E-02	9.80E-04	7.12E-03	1.01E-03
Road 103	103	0100-0200	1.52E-03	7.59E-04	1.10E-03	3.77E-03	5.19E-02	7.56E-03	4.32E-02	5.94E-03
Road 103	103	0200-0300	1.44E-03	7.81E-04	1.90E-02	3.51E-03	5.07E-03	4.51E-02	4.05E-03	1.85E-02
Road 103	103	0300-0400	6.62E-03	6.36E-03	4.10E-02	2.70E-03	3.91E-03	4.76E-02	3.14E-03	4.54E-03
Road 103	103	0400-0500	7.17E-03	3.74E-03	5.41E-04	4.24E-02	2.22E-03	3.20E-03	4.96E-02	2.59E-03
Road 103	103	0500-0600	1.20E-03	1.43E-03	6.41E-04	1.84E-03	3.55E-03	2.08E-03	1.55E-03	3.63E-03
Road 103	103	0600-0700	8.24E-03	8.25E-03	1.19E-03	4.52E-02	4.52E-03	6.54E-03	5.34E-02	5.35E-03
Road 103	103	0700-0800	1.55E-03	1.60E-03	2.75E-03	2.27E-02	2.54E-03	2.63E-03	3.72E-02	3.81E-03
Road 103	103	0800-0900	9.35E-03	4.69E-03	5.91E-03	4.82E-02	2.11E-03	3.05E-03	2.52E-03	4.09E-03
Road 103	103	0900-1000	9.06E-03	4.61E-03	6.67E-03	4.46E-02	2.27E-03	3.28E-03	5.36E-03	2.41E-03
Road 103	103	1000-1100	1.20E-02	6.50E-03	9.58E-03	6.29E-02	3.08E-03	4.45E-03	7.26E-03	3.27E-03
Road 103	103	1100-1200	1.84E-02	9.35E-03	1.37E-02	9.04E-02	4.43E-03	6.40E-03	1.04E-02	4.70E-03
Road 103	103	1200-1300	1.24E-02	6.34E-03	6.27E-03	5.18E-02	2.84E-03	4.24E-03	3.99E-03	1.88E-03
Road 103	103	1300-1400	1.25E-02	4.49E-03	6.49E-03	5.35E-02	2.98E-03	4.48E-03	3.84E-03	1.71E-03
Road 103	103	1400-1500	1.25E-02	4.49E-03	6.49E-03	5.35E-02	2.98E-03	4.48E-03	3.84E-03	1.71E-03
Road 103	103	1500-1600	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-03	2.99E-02	4.64E-02	2.53E-03
Road 103	103	1600-1700	1.17E-02	4.57E-03	6.61E-03	5.30E-02	2.07E-03	2.99E-02	4.64E-02	2.53E-03
Road 103	103	1700-1800	8.73E-03	4.02E-03	5.81E-03	4.45E-02	2.05E-03	2.96E-02	5.32E-02	2.45E-03
Road 103	103	1800-1900	1.44E-02	5.61E-03	8.11E-03	6.02E-02	3.77E-02	1.47E-01	2.13E-01	1.58E-02
Road 103	103	1900-2000	5.39E-03	2.10E-03	3.04E-03	2.23E-02	1.26E-02	4.91E-02	7.09E-02	5.25E-03
Road 103	103	2000-2200	5.23E-03	1.58E-03	2.29E-03	3.57E-02	1.08E-02	3.30E-02	4.77E-02	3.63E-03
Road 103	103	2200-2300	4.62E-03	1.35E-03	1.96E-03	1.49E-02	3.97E-03	1.17E-02	1.69E-02	1.28E-03
Road 103	103	2300-2400	4.65E-03	1.44E-03	2.09E-03	1.50E-02	4.00E-03	1.24E-02	1.80E-02	1.38E-03
Road 103	103	0000-0100	7.59E-03	8.36E-04	1.20E-03	4.28E-02	5.04E-02	5.88E-03	7.08E-02	8.30E-03
Road 103	103	0100-0200	8.23E-03	6.33E-03	8.58E-04	4.45E-02	3.42E-03	4.61E-03	6.27E-02	4.85E-03
Road 103	103	0200-0300	1.47E-03	1.61E-03	1.57E-02	2.61E-03	3.56E-03	2.41E-03	3.37E-03	1.86E-03
Road 103	103	0300-0400	9.58E-03	4.35E-03	5.90E-04	4.84E-02	2.20E-03	2.98E-03	4.03E-02	2.41E-03
Road 103	103	0400-0500	1.47E-03	1.61E-03	2.22E-03	2.61E-03	3.56E-03	2.41E-03	3.37E-03	1.86E-03
Road 103	103	0500-0600	1.09E-02	9.60E-03	1.30E-03	5.19E-02	4.59E-03	6.22E-03	8.27E-02	5.55E-03
Road 103	103	0600-0700	1.15E-02	2.20E-03	2.99E-03	5.96E-02	1.85E-02	2.51E-02	3.24E-02	1.69E-02
Road 103	103	0700-0800	1.44E-02	6.62E-03	1.38E-03	6.57E-02	1.09E-02	1.48E-02	2.01E-02	9.96E-03
Road 103	103	0800-0900	1.17E-02	5.39E-03	7.30E-03	5.23E-02	2.40E-02	2.94E-02	3.98E-02	3.25E-02
Road 103	103	0900-1000	1.55E-02	7.12E-03	9.65E-03	6.92E-02	3.17E-02	4.31E-02	5.84E-02	4.29E-02
Road 103	103	1000-1100	1.55E-02	5.65E-03	7.65E-03	6.97E-02	3.18E-02	4.32E-02	5.86E-02	4.30E-02
Road 103	103	1100-1200	1.25E-02	3.94E-03	5.34E-03	5.18E-02	2.63E-02	3.57E-02	4.84E-02	3.32E-02
Road 103	103	1200-1300	1.25E-02	3.94E-03	5.34E-03	2.11E-02	2.64E-02	3.44E-03	1.08E-02	1.47E-03
Road 103	103	1300-1400	1.26E-02	4.08E-03	5.54E-03	2.35E-02	2.51E-03	3.41E-03	4.63E-03	2.09E-03
Road 103	103	1400-1500	1.26E-02	4.08E-03	5.54E-03	2.35E-02	2.51E-03	3.41E-03	4.63E-03	2.09E-03
Road 103	103	1500-1600	1.18E-02	4.15E-03	5.62E-03	5.28E-02	2.98E-03	3.99E-03	5.41E-03	2.67E-03
Road 103	103	1600-1700	1.18E-02	4.15E-03	5.62E-03	5.28E-02	2.98E-03	3.99E-03	5.41E-03	2.67E-03
Road 103	103	1700-1800	8.76E-03	3.63E-03	4.92E-03	4.42E-02	1.83E-02	2.46E-02	3.33E-02	2.43E-02
Road 103	103	1800-1900	6.20E-03	2.75E-03	3.73E-03	2.98E-02	1.29E-02	1.73E-02	2.34E-02	1.71E-02
Road 103	103	1900-2000	4.67E-03	2.16E-03	2.93E-03	2.24E-02	9.66E-03	1.30E-02	1.76E-02	1.28E-02
Road 103	103	2000-2200	1.28E-03	1.66E-03	2.25E-03	1.49E-02	2.66E-03	3.61E-03	4.89E-03	3.42E-03
Road 103	103	2200-2300	4.67E-03	1.23E-03	1.66E-03	1.49E-02	3.97E-03	1.05E-02	1.42E-02	1.28E-03
Road 103	103	2300-2400	4.65E-03	1.44E-03	1.95E-03	1.50E-02	4.00E-03	1.24E-02	1.68E-02	1.38E-03

L:\Secure\Environment_Projects\607332\P1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2043.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (October)
Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 103	103	1600-1700	1.19E-02	5.48E-03	4.81E-03	5.19E-02	2.39E-03	2.10E-02	8.38E-02	2.94E-02
Road 103	103	1700-1800	8.50E-03	4.42E-03	3.88E-03	4.56E-02	2.37E-03	2.08E-02	5.41E-02	2.81E-02
Road 103	103	1800-1900	6.51E-03	3.37E-03	2.96E-03	1.32E-01	4.74E-02	6.64E-04	1.55E-01	1.73E-02
Road 103	103	1900-2000	3.67E-03	2.31E-03	2.02E-03	1.43E-02	1.32E-02	1.85E-04	7.02E-02	9.83E-03
Road 103	103	2000-2100	4.96E-03	1.72E-03	1.51E-03	3.50E-02	2.10E-02	2.94E-04	1.44E-01	2.02E-03
Road 103	103	2100-2200	2.77E-02	4.99E-03	4.39E-03	2.58E-02	3.61E-03	1.71E-01	3.08E-03	4.31E-03
Road 103	103	2200-2300	1.44E-02	2.52E-03	2.22E-03	1.49E-02	2.08E-03	2.91E-05	5.34E-02	7.48E-04
Road 103	103	2300-2400	6.92E-03	5.14E-04	3.38E-02	6.92E-03	1.00E-03	1.40E-05	2.56E-02	3.58E-04
Road 104	104	0000-0100	1.69E-02	5.96E-03	4.43E-03	6.51E-02	2.36E-06	1.75E-02	8.16E-02	2.95E-06
Road 104	104	0100-0200	1.60E-02	5.96E-03	4.47E-03	6.64E-02	2.51E-06	2.05E-02	8.32E-02	3.14E-06
Road 104	104	0200-0300	1.26E-02	5.63E-03	4.18E-03	5.56E-02	2.49E-06	1.85E-02	8.62E-02	3.05E-06
Road 104	104	0300-0400	1.03E-02	4.51E-03	3.35E-03	4.45E-02	1.99E-06	1.48E-02	6.90E-02	2.44E-06
Road 104	104	0400-0500	1.03E-02	4.51E-03	3.35E-03	5.06E-02	2.22E-06	1.65E-02	6.08E-02	2.67E-06
Road 104	104	0500-0600	1.09E-02	4.74E-03	3.52E-03	5.21E-02	2.54E-06	1.89E-02	6.32E-02	3.04E-06
Road 104	104	0600-0700	1.22E-02	2.28E-03	1.70E-03	5.59E-02	2.44E-03	1.81E-02	7.22E-03	1.81E-03
Road 104	104	0700-0800	1.26E-02	2.35E-03	1.75E-03	5.77E-02	2.51E-03	1.87E-02	7.44E-03	1.87E-03
Road 104	104	0800-0900	1.26E-02	5.63E-03	4.18E-03	5.56E-02	2.49E-06	1.85E-02	8.62E-02	3.05E-06
Road 104	104	0900-1000	1.44E-02	5.85E-03	4.35E-03	6.25E-02	2.51E-06	1.86E-02	7.70E-02	3.09E-06
Road 104	104	1000-1100	1.65E-02	5.96E-03	4.43E-03	6.51E-02	2.36E-06	1.75E-02	8.16E-02	2.95E-06
Road 104	104	1100-1200	1.60E-02	5.63E-03	4.18E-03	5.56E-02	2.49E-06	1.85E-02	8.62E-02	3.05E-06
Road 104	104	1200-1300	1.44E-02	5.85E-03	4.35E-03	6.25E-02	2.51E-06	1.86E-02	7.70E-02	3.09E-06
Road 104	104	1300-1400	1.65E-02	5.96E-03	4.43E-03	6.51E-02	2.36E-06	1.75E-02	8.16E-02	2.95E-06
Road 104	104	1400-1500	1.60E-02	5.63E-03	4.18E-03	5.56E-02	2.49E-06	1.85E-02	8.62E-02	3.05E-06
Road 104	104	1500-1600	9.80E-03	4.02E-03	3.00E-03	3.96E-02	1.77E-06	1.32E-02	6.14E-02	2.17E-06
Road 104	104	1600-1700	1.04E-02	3.05E-03	2.27E-03	4.56E-02	1.33E-06	9.92E-03	5.60E-02	1.64E-06
Road 104	104	1700-1800	1.04E-02	3.05E-03	2.27E-03	4.56E-02	1.33E-06	9.92E-03	5.60E-02	1.64E-06
Road 104	104	1800-1900	7.54E-03	2.91E-03	2.62E-03	2.94E-02	1.33E-06	1.20E-02	2.78E-02	1.31E-06
Road 104	104	1900-2000	2.10E-02	4.42E-03	1.98E-03	2.66E-02	1.66E-06	7.42E-04	3.37E-02	1.26E-06
Road 104	104	2000-2100	2.34E-02	1.45E-03	1.29E-03	2.94E-02	1.66E-06	1.48E-04	3.37E-02	2.11E-06
Road 104	104	2100-2200	2.34E-02	1.45E-03	1.29E-03	2.94E-02	1.66E-06	1.48E-04	3.37E-02	2.11E-06
Road 104	104	2200-2300	1.57E-02	1.84E-03	1.64E-03	2.00E-02	1.13E-06	8.55E-02	1.38E-06	5.95E-02
Road 104	104	2300-2400	1.57E-02	1.84E-03	1.64E-03	2.00E-02	1.13E-06	8.55E-02	1.38E-06	5.95E-02
Road 105	105	0000-0100	1.69E-02	5.96E-03	4.43E-03	6.51E-02	2.36E-06	1.75E-02	8.16E-02	2.95E-06
Road 105	105	0100-0200	2.14E-02	1.05E-07	1.47E-04	1.25E-01	6.14E-07	8.61E-04	1.47E-01	7.19E-07
Road 105	105	0200-0300	2.36E-02	8.29E-08	1.16E-04	1.32E-01	4.74E-07	6.64E-04	1.56E-01	5.57E-07
Road 105	105	0300-0400	2.46E-02	7.02E-08	9.83E-05	1.37E-01	3.92E-07	5.49E-04	1.61E-01	4.60E-07
Road 105	105	0400-0500	2.65E-02	8.33E-08	1.17E-04	1.43E-01	4.49E-07	6.29E-04	1.69E-01	5.32E-07
Road 105	105	0500-0600	2.59E-02	1.39E-03	1.94E-03	1.46E-01	7.84E-06	1.10E-02	8.22E-01	4.42E-05
Road 105	105	0600-0700	2.59E-02	1.39E-03	1.94E-03	1.46E-01	7.84E-06	1.10E-02	8.22E-01	4.42E-05
Road 105	105	0700-0800	2.59E-02	1.39E-03	1.94E-03	1.46E-01	7.84E-06	1.10E-02	8.22E-01	4.42E-05
Road 105	105	0800-0900	2.41E-02	1.82E-07	2.55E-04	1.37E-01	1.03E-06	1.45E-03	7.64E-01	5.82E-06
Road 105	105	0900-1000	2.87E-02	1.91E-07	2.99E-04	1.61E-01	1.07E-06	1.68E-03	9.04E-01	6.01E-06
Road 105	105	1000-1100	2.87E-02	1.91E-07	2.99E-04	1.61E-01	1.07E-06	1.68E-03	9.04E-01	6.01E-06
Road 105	105	1100-1200	2.97E-02	1.97E-07	3.09E-04	1.67E-01	1.11E-06	1.74E-03	9.36E-01	6.22E-06
Road 105	105	1200-1300	2.97E-02	1.97E-07	3.09E-04	1.67E-01	1.11E-06	1.74E-03	9.36E-01	6.22E-06
Road 105	105	1300-1400	2.97E-02	1.97E-07	3.09E-04	1.67E-01	1.11E-06	1.74E-03	9.36E-01	6.22E-06
Road 105	105	1400-1500	2.94E-02	1.95E-07	3.06E-04	1.65E-01	1.10E-06	1.72E-03	9.26E-01	6.15E-06
Road 105	105	1500-1600	2.94E-02	1.95E-07	3.06E-04	1.65E-01	1.10E-06	1.72E-03	9.26E-01	6.15E-06
Road 105	105	1600-1700	4.84E-02	1.19E-07	1.86E-01	4.33E-07	6.59E-03	2.24E-01	5.33E-03	2.09E-10
Road 105	105	1700-1800	4.84E-02	1.19E-07	1.86E-01	4.33E-07	6.59E-03	2.24E-01	5.33E-03	2.09E-10
Road 105	105	1800-1900	3.37E-02	8.98E-08	8.91E-04	1.44E-01	2.50E-07	7.80E-03	1.77E-01	3.08E-07
Road 105	105	1900-2000	3.37E-02	8.98E-08	8.91E-04	1.44E-01	2.50E-07	7.80E-03	1.77E-01	3.08E-07
Road 105	105	2000-2100	3.01E-02	2.85E-08	4.33E-04	1.30E-01	1.23E-07	3.87E-03	1.61E-01	1.52E-07
Road 105	105	2100-2200	3.06E-02	2.90E-08	4.40E-04	1.32E-01	1.25E-07	3.93E-03	1.64E-01	1.54E-07
Road 105	105	2200-2300	3.06E-02	2.90E-08	4.40E-04	1.32E-01	1.25E-07	3.93E-03	1.64E-01	1.54E-07
Road 105	105	2300-2400	3.06E-02	2.90E-08	4.40E-04	1.32E-01	1.25E-07	3.93E-03	1.64E-01	1.54E-07
Road 106	106	0000-0100	1.69E-02	5.96E-03	4.43E-03	6.51E-02	2.36E-06	1.75E-02	8.16E-02	2.95E-06
Road 106	106	0100-0200	1.60E-02	5.96E-03	4.47E-03	6.64E-02	2.51E-06	2.05E-02	8.32E-02	3.14E-06
Road 106	106	0200-0300	1.26E-02	5.63E-03	4.18E-03	5.56E-02	2.49E-06	1.85E-02	8.62E-02	3.05E-06
Road 106	106	0300-0400	1.03E-02	4.51E-03	3.35E-03	4.45E-02	1.99E-06	1.48E-02	6.90E-02	2.44E-06
Road 106	106	0400-0500	1.03E-02	4.51E-03	3.35E-03	5.06E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.26E-02	5.72E-08	2.76E-04	5.48E-02	2.49E-07	1.20E-03	2.38E-01	1.08E-06	5.22E-03
Road 1	1	0100-0200	1.26E-02	5.72E-08	2.76E-04	5.48E-02	2.49E-07	1.20E-03	2.38E-01	1.08E-06	5.22E-03
Road 1	1	0200-0300	1.41E-02	4.88E-08	2.35E-04	5.81E-02	2.01E-07	9.68E-04	2.39E-01	8.27E-07	3.98E-03
Road 1	1	0300-0400	1.56E-02	4.09E-08	2.12E-04	6.15E-02	1.74E-07	8.37E-04	2.42E-01	6.34E-07	3.28E-03
Road 1	1	0400-0500	1.58E-02	4.93E-08	2.38E-04	6.27E-02	1.95E-07	9.43E-04	2.48E-01	7.71E-07	3.72E-03
Road 1	1	0500-0600	1.44E-02	7.92E-08	3.82E-04	5.88E-02	3.23E-07	1.56E-03	2.40E-01	1.32E-06	6.37E-03
Road 1	1	0600-0700	1.45E-02	1.63E-07	7.87E-04	6.39E-02	7.20E-07	3.47E-03	2.84E-01	3.20E-06	1.54E-02
Road 1	1	0700-0800	1.68E-02	3.97E-07	1.91E-03	6.99E-02	1.65E-06	7.96E-03	2.87E-01	6.77E-06	3.27E-02
Road 1	1	0800-0900	2.06E-02	5.17E-07	2.50E-03	8.28E-02	2.07E-06	1.00E-02	3.32E-01	8.33E-06	4.02E-02
Road 1	1	0900-1000	2.06E-02	5.17E-07	2.50E-03	8.28E-02	2.07E-06	1.00E-02	3.32E-01	8.33E-06	4.02E-02
Road 1	1	1000-1100	2.05E-02	4.44E-07	2.14E-03	8.01E-02	1.73E-06	8.35E-03	3.11E-01	6.75E-06	3.26E-02
Road 1	1	1100-1200	2.05E-02	4.44E-07	2.14E-03	8.01E-02	1.73E-06	8.35E-03	3.11E-01	6.75E-06	3.26E-02
Road 1	1	1200-1300	2.04E-02	4.61E-07	2.22E-03	8.01E-02	1.81E-06	8.72E-03	3.15E-01	7.11E-06	3.43E-02
Road 1	1	1300-1400	2.51E-02	5.42E-07	2.61E-03	9.84E-02	2.12E-06	1.02E-02	3.85E-01	8.32E-06	4.01E-02
Road 1	1	1400-1500	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	3.90E-01	8.97E-06	4.33E-02
Road 1	1	1500-1600	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	3.90E-01	8.97E-06	4.33E-02
Road 1	1	1600-1700	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	3.90E-01	8.97E-06	4.33E-02
Road 1	1	1700-1800	2.58E-02	5.93E-07	2.86E-03	1.00E-01	2.30E-06	1.11E-02	3.90E-01	8.97E-06	4.33E-02
Road 1	1	1800-1900	2.39E-02	5.49E-07	2.65E-03	9.31E-02	2.14E-06	1.03E-02	3.58E-01	8.23E-06	3.98E-02
Road 1	1	1900-2000	1.07E-02	1.79E-07	8.62E-04	5.16E-02	8.63E-07	4.16E-03	2.36E-01	3.95E-06	1.90E-02
Road 1	1	2000-2100	1.07E-02	2.10E-07	1.01E-03	5.16E-02	1.01E-06	4.88E-03	2.36E-01	4.64E-06	2.23E-02
Road 1	1	2100-2200	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 1	1	2200-2300	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 1	1	2300-0000	1.18E-02	1.13E-07	5.45E-04	5.48E-02	5.26E-07	2.54E-03	2.55E-01	2.44E-06	1.18E-02
Road 2	2	0000-0100	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 2	2	0100-0200	1.37E-01	1.67E-07	1.09E-03	4.96E-01	6.05E-07	3.94E-03	1.79E-01	2.18E-06	1.42E-02
Road 2	2	0200-0300	9.92E-02	6.59E-08	4.29E-04	3.60E-01	2.40E-07	1.56E-03	1.30E-01	8.68E-07	5.65E-03
Road 2	2	0300-0400	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 2	2	0400-0500	1.03E-01	6.68E-08	4.35E-04	3.71E-01	2.42E-07	1.57E-03	1.34E-01	8.70E-07	5.66E-03
Road 2	2	0500-0600	1.15E-01	1.37E-07	8.93E-04	4.32E-01	5.16E-07	3.36E-03	1.62E-01	1.93E-06	1.26E-02
Road 2	2	0600-0700	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	1.79E-01	1.04E-06	6.77E-03
Road 2	2	0700-0800	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	1.79E-01	1.04E-06	6.77E-03
Road 2	2	0800-0900	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 2	2	0900-1000	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	1.99E-01	1.51E-06	9.84E-03
Road 2	2	1000-1100	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	1.99E-01	1.51E-06	9.84E-03
Road 2	2	1100-1200	1.61E-01	1.12E-06	7.27E-03	5.62E-01	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02
Road 2	2	1200-1300	1.66E-01	1.19E-06	7.72E-03	5.55E-01	3.98E-06	2.58E-02	7.21E-01	5.14E-06	3.35E-02
Road 2	2	1300-1400	1.55E-01	1.10E-06	7.14E-03	5.46E-01	3.86E-06	2.50E-02	7.08E-01	5.00E-06	3.24E-02
Road 2	2	1400-1500	1.63E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	7.17E-01	5.71E-06	3.72E-02
Road 2	2	1500-1600	1.66E-01	1.21E-06	7.85E-03	5.62E-01	4.09E-06	2.66E-02	7.31E-01	5.32E-06	3.46E-02
Road 2	2	1600-1700	1.56E-01	1.21E-06	7.85E-03	5.42E-01	4.20E-06	2.74E-02	7.02E-01	5.44E-06	3.55E-02
Road 2	2	1700-1800	1.32E-01	9.45E-07	6.15E-03	5.17E-01	3.70E-06	2.41E-02	6.49E-01	4.65E-06	3.03E-02
Road 2	2	1800-1900	1.39E-01	1.00E-06	6.52E-03	5.39E-01	3.88E-06	2.52E-02	6.77E-01	4.87E-06	3.17E-02
Road 2	2	1900-2000	1.07E-02	1.79E-07	8.62E-04	5.16E-02	8.63E-07	4.16E-03	2.36E-01	3.95E-06	1.90E-02
Road 2	2	2000-2100	1.07E-02	2.10E-07	1.01E-03	5.16E-02	1.01E-06	4.88E-03	2.36E-01	4.64E-06	2.23E-02
Road 2	2	2100-2200	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 2	2	2200-2300	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 2	2	2300-0000	1.18E-02	1.13E-07	5.45E-04	5.48E-02	5.26E-07	2.54E-03	2.55E-01	2.44E-06	1.18E-02
Road 3	3	0000-0100	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 3	3	0100-0200	1.37E-01	1.67E-07	1.09E-03	4.96E-01	6.05E-07	3.94E-03	1.79E-01	2.18E-06	1.42E-02
Road 3	3	0200-0300	9.92E-02	6.59E-08	4.29E-04	3.60E-01	2.40E-07	1.56E-03	1.30E-01	8.68E-07	5.65E-03
Road 3	3	0300-0400	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 3	3	0400-0500	1.03E-01	6.68E-08	4.35E-04	3.71E-01	2.42E-07	1.57E-03	1.34E-01	8.70E-07	5.66E-03
Road 3	3	0500-0600	1.15E-01	1.37E-07	8.93E-04	4.32E-01	5.16E-07	3.36E-03	1.62E-01	1.93E-06	1.26E-02
Road 3	3	0600-0700	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	1.79E-01	1.04E-06	6.77E-03
Road 3	3	0700-0800	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	1.79E-01	1.04E-06	6.77E-03
Road 3	3	0800-0900	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 3	3	0900-1000	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	1.99E-01	1.51E-06	9.84E-03
Road 3	3	1000-1100	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	1.99E-01	1.51E-06	9.84E-03
Road 3	3	1100-1200	1.61E-01	1.12E-06	7.27E-03	5.62E-01	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02
Road 3	3	1200-1300	1.66E-01	1.19E-06	7.72E-03	5.55E-01	3.98E-06	2.58E-02	7.21E-01	5.14E-06	3.35E-02
Road 3	3	1300-1400	1.55E-01	1.10E-06	7.14E-03	5.46E-01	3.86E-06	2.50E-02	7.08E-01	5.00E-06	3.24E-02
Road 3	3	1400-1500	1.63E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	7.17E-01	5.71E-06	3.72E-02
Road 3	3	1500-1600	1.66E-01	1.21E-06	7.85E-03	5.62E-01	4.09E-06	2.66E-02	7.31E-01	5.32E-06	3.46E-02
Road 3	3	1600-1700	1.56E-01	1.21E-06	7.85E-03	5.42E-01	4.20E-06	2.74E-02	7.02E-01	5.44E-06	3.55E-02
Road 3	3	1700-1800	1.32E-01	9.45E-07	6.15E-03	5.17E-01	3.70E-06	2.41E-02	6.49E-01	4.65E-06	3.03E-02
Road 3	3	1800-1900	1.39E-01	1.00E-06	6.52E-03	5.39E-01	3.88E-06	2.52E-02	6.77E-01	4.87E-06	3.17E-02
Road 3	3	1900-2000	1.07E-02	1.79E-07	8.62E-04	5.16E-02	8.63E-07	4.16E-03	2.36E-01	3.95E-06	1.90E-02
Road 3	3	2000-2100	1.07E-02	2.10E-07	1.01E-03	5.16E-02	1.01E-06	4.88E-03	2.36E-01	4.64E-06	2.23E-02
Road 3	3	2100-2200	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 3	3	2200-2300	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 3	3	2300-0000	1.18E-02	1.13E-07	5.45E-04	5.48E-02	5.26E-07	2.54E-03	2.55E-01	2.44E-06	1.18E-02
Road 4	4	0000-0100	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 4	4	0100-0200	1.37E-01	1.67E-07	1.09E-03	4.96E-01	6.05E-07	3.94E-03	1.79E-01	2.18E-06	1.42E-02
Road 4	4	0200-0300	9.92E-02	6.59E-08	4.29E-04	3.60E-01	2.40E-07	1.56E-03	1.30E-01	8.68E-07	5.65E-03
Road 4	4	0300-0400	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 4	4	0400-0500	1.03E-01	6.68E-08	4.35E-04	3.71E-01	2.42E-07	1.57E-03	1.34E-01	8.70E-07	5.66E-03
Road 4	4	0500-0600	1.15E-01	1.37E-07	8.93E-04	4.32E-01	5.16E-07	3.36E-03	1.62E-01	1.93E-06	1.26E-02
Road 4	4	0600-0700	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	1.79E-01	1.04E-06	6.77E-03
Road 4	4	0700-0800	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	1.79E-01	1.04E-06	6.77E-03
Road 4	4	0800-0900	1.05E-01	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	1.37E-01	1.67E-06	1.09E-02
Road 4	4	0900-1000	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	1.99E-01	1.51E-06	9.84E-03
Road 4	4	1000-1100	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	1.99E-01	1.51E-06	9.84E-03
Road 4	4	1100-1200	1.61E-01	1.12E-06	7.27E-03	5.62E-01	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02
Road 4	4	1200-1300	1.66E-01	1.19E-06	7.72E-03	5.55E-01	3.98E-06	2.58E-02	7.21E-01	5.14E-06	3.35E-02
Road 4	4	1300-1400	1.55E-01	1.10E-06	7.14E-03	5.46E-01	3.86E-06	2.50E-02	7.08E-01	5.00E-06	3.24E-02
Road 4	4	1400-1500	1.63E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	7.17E-01	5.71E-06	3.72E-02
Road 4	4	1500-1600	1.66E-01	1.21E-06	7.85E-03	5.62E-01	4.09E-06	2.66E-02	7.31E-01	5.32E-06	3.46E-02
Road 4	4	1600-1700	1.56E-01	1.21E-06	7.85E-03	5.42E-01	4.20E-06	2.74E-02	7.02E-01	5.44E-06	3.55E-02
Road 4	4	1700-1800	1.32E-01	9.45E-07	6.15E-03	5.17E-01	3.70E-06	2.41E-02	6.49E-01	4.65E-06	3.03E-02
Road 4	4	1800-1900	1.39E-01	1.00E-06	6.52E-03	5.39E-01	3.88E-06	2.52E-02	6.77E-01	4.87E-06	3.17E-02
Road 4	4	1900-2000	1.07E-02	1.79E-07	8.62E-04	5.16E-02	8.63E-07	4.16E-03	2.36E-01	3.95E-06	1.90E-02
Road 4	4	2000-2100	1.07E-02	2.10E-07	1.01E-03	5.16E-02	1.01E-06	4.88E-03	2.36E-01	4.64E-06	2.23E-02
Road 4	4	2100-2200	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 4	4	2200-2300	1.05E-02	1.38E-07	6.66E-04	5.42E-02	7.13E-07	3.44E-03	2.48E-01	3.26E-06	1.57E-02
Road 4	4	2300-0000	1.18E-02	1.13E-07	5.45E-04	5.48E-02	5.26E-07	2.54E-03	2.55E-01	2.44E-06	1.18E-02

L:\Secure\Environment_Projects\607332$Y1.01\Others\Air\Modelling\Appendix\Traffic\OpenRoad\Appendix 3.5.4 Emission Factor in 2043.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.41E-01	4.69E-07	4.05E-03	5.48E-01	1.82E-06	1.57E-02	2.13E-01	7.08E-07	6.11E-03
Road 27	27	1700-1800	1.23E-01	2.82E-07	3.17E-04	4.88E-01	1.12E-06	1.26E-03	6.11E-01	1.41E-06	1.58E-03
Road 27	27	1800-1900	1.08E-01	1.71E-07	1.92E-04	4.47E-01	7.05E-07	7.92E-04	5.55E-01	8.76E-07	9.84E-04
Road 27	27	1900-2000	1.08E-01	1.71E-07	1.92E-04	4.47E-01	7.05E-07	7.92E-04	5.55E-01	8.76E-07	9.84E-04
Road 27	27	2000-2100	9.78E-02	8.03E-08	9.03E-05	4.00E-01	3.29E-07	3.69E-04	4.98E-01	4.09E-07	4.59E-04
Road 27	27	2100-2200	1.94E-02	8.40E-08	9.43E-05	1.12E-01	4.86E-07	5.45E-04	1.38E-01	5.98E-07	6.71E-04
Road 27	27	2200-2300	1.06E-01	7.77E-08	8.73E-05	3.81E-01	2.80E-07	3.15E-04	4.87E-01	3.58E-07	4.02E-04
Road 27	27	2300-0000	1.07E-01	6.45E-08	7.24E-05	3.85E-01	2.32E-07	2.61E-04	4.91E-01	2.97E-07	3.33E-04
Road 28	28	0000-0100	3.73E-02	1.63E-08	4.80E-05	1.66E-01	7.14E-08	2.13E-04	2.03E-01	8.75E-08	2.61E-04
Road 28	28	0100-0200	7.73E-03	5.49E-08	1.14E-03	4.14E-02	2.94E-07	6.09E-03	4.95E-02	3.49E-07	7.24E-03
Road 28	28	0200-0300	8.99E-03	3.76E-08	7.78E-04	4.52E-02	1.89E-07	3.91E-03	5.42E-02	2.26E-07	4.69E-03
Road 28	28	0300-0400	8.99E-03	3.76E-08	7.78E-04	4.52E-02	1.89E-07	3.91E-03	5.42E-02	2.26E-07	4.69E-03
Road 28	28	0400-0500	1.02E-02	8.27E-08	1.71E-03	5.08E-02	4.12E-07	8.52E-03	6.09E-02	4.94E-07	1.02E-02
Road 28	28	0500-0600	1.08E-02	1.89E-07	3.92E-03	5.41E-02	9.46E-07	1.96E-02	6.49E-02	1.14E-06	2.35E-02
Road 28	28	0600-0700	1.08E-02	1.89E-07	3.92E-03	5.01E-02	8.80E-07	1.82E-02	6.09E-02	1.07E-06	2.22E-02
Road 28	28	0700-0800	1.08E-02	1.15E-07	2.38E-03	4.95E-02	5.28E-07	1.09E-02	6.03E-02	6.43E-07	1.33E-02
Road 28	28	0800-0900	1.10E-02	4.70E-07	9.73E-03	5.45E-02	2.32E-06	4.81E-02	6.58E-02	2.80E-06	5.81E-02
Road 28	28	0900-1000	1.46E-02	4.79E-07	9.93E-03	5.79E-02	1.90E-06	3.93E-02	7.25E-02	2.38E-06	4.92E-02
Road 28	28	1000-1100	1.46E-02	4.79E-07	9.93E-03	5.79E-02	1.90E-06	3.93E-02	7.25E-02	2.38E-06	4.92E-02
Road 28	28	1100-1200	1.42E-02	4.40E-07	9.12E-03	5.76E-02	1.79E-06	3.70E-02	7.18E-02	2.23E-06	4.61E-02
Road 28	28	1200-1300	1.34E-02	3.65E-07	7.56E-03	5.34E-02	1.45E-06	3.01E-02	6.68E-02	1.81E-06	3.75E-02
Road 28	28	1300-1400	1.34E-02	3.69E-07	7.65E-03	5.34E-02	1.52E-06	3.15E-02	6.68E-02	1.89E-06	3.92E-02
Road 28	28	1400-1500	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	1500-1600	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	1600-1700	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	1700-1800	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	1800-1900	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	1900-2000	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	2000-2100	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	2100-2200	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	2200-2300	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 28	28	2300-0000	1.24E-02	3.74E-07	7.74E-03	5.16E-02	1.56E-06	3.23E-02	6.46E-02	1.94E-06	4.02E-02
Road 29	29	0000-0100	1.41E-01	4.69E-07	4.05E-03	5.48E-01	1.82E-06	1.57E-02	2.13E-01	7.08E-07	6.11E-03
Road 29	29	0100-0200	1.39E-02	1.86E-08	6.38E-05	5.09E-02	6.84E-08	2.34E-04	6.47E-02	8.70E-08	2.98E-04
Road 29	29	0200-0300	1.69E-02	1.76E-08	6.02E-05	5.65E-02	5.88E-08	2.01E-04	7.34E-02	7.64E-08	2.62E-04
Road 29	29	0300-0400	1.96E-02	1.70E-08	5.81E-05	6.10E-02	5.29E-08	1.81E-04	7.93E-02	6.87E-08	2.35E-04
Road 29	29	0400-0500	1.90E-02	1.76E-08	6.04E-05	6.05E-02	5.62E-08	1.93E-04	7.95E-02	7.39E-08	2.53E-04
Road 29	29	0500-0600	1.94E-02	8.40E-08	3.43E-04	6.12E-02	2.65E-07	1.08E-03	8.00E-02	3.46E-07	1.41E-03
Road 29	29	0600-0700	1.14E-02	3.23E-08	1.11E-04	5.01E-02	1.42E-07	4.88E-04	6.15E-02	1.75E-07	6.00E-04
Road 29	29	0700-0800	1.49E-02	9.14E-08	3.13E-04	5.55E-02	3.41E-07	1.17E-03	7.04E-02	4.32E-07	1.48E-03
Road 29	29	0800-0900	1.58E-02	1.37E-07	4.69E-04	5.88E-02	5.10E-07	1.75E-03	7.46E-02	6.47E-07	2.22E-03
Road 29	29	0900-1000	1.58E-02	9.19E-08	3.15E-04	5.54E-02	3.22E-07	1.10E-03	7.12E-02	4.15E-07	1.42E-03
Road 29	29	1000-1100	1.68E-02	1.06E-07	3.46E-04	6.48E-02	4.08E-07	1.33E-03	8.17E-02	5.14E-07	1.68E-03
Road 29	29	1100-1200	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1200-1300	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1300-1400	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1400-1500	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1500-1600	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1600-1700	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1700-1800	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1800-1900	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	1900-2000	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	2000-2100	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	2100-2200	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	2200-2300	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 29	29	2300-0000	1.78E-02	1.89E-07	3.87E-04	6.51E-02	6.91E-07	1.41E-03	8.29E-02	8.80E-07	1.80E-03
Road 30	30	0000-0100	1.14E-02	5.82E-08	2.08E-04	5.16E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.08E-02	3.94E-02	4.52E-03	4.47E-02	1.60E-06	1.84E-02	1.02E-06	1.22E-02	1.29E-03	2.04E-02	1.04E-03	1.23E-02
Road 47	47	1700-1800	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	8.68E-02	1.91E-06	2.17E-02	2.30E-03	5.04E-08	5.74E-04
Road 47	47	1800-1900	1.07E-02	2.66E-07	3.03E-03	5.26E-02	1.30E-06	1.49E-02	6.13E-02	1.52E-06	1.79E-02	1.67E-03	4.14E-08	4.72E-04
Road 47	47	1900-2000	8.57E-03	1.79E-07	1.97E-03	4.82E-02	9.55E-07	1.09E-02	5.68E-02	1.22E-06	1.28E-02	1.35E-03	2.87E-08	3.25E-04
Road 47	47	2000-2100	7.93E-03	1.22E-07	1.39E-03	5.17E-02	7.94E-07	9.05E-03	5.96E-02	9.16E-07	1.04E-02	1.25E-03	1.92E-08	2.19E-04
Road 47	47	2100-2200	8.13E-03	1.02E-07	1.16E-03	5.49E-02	6.91E-07	7.87E-03	6.32E-02	7.95E-07	9.06E-03	1.29E-03	1.62E-08	1.85E-04
Road 47	47	2200-2300	6.22E-03	9.30E-08	1.06E-03	4.82E-02	7.22E-07	8.23E-03	5.45E-02	8.15E-07	9.29E-03	9.50E-04	1.42E-08	1.62E-04
Road 47	47	2300-0000	6.57E-03	7.33E-08	8.35E-04	4.82E-02	5.38E-07	6.13E-03	5.48E-02	6.11E-07	6.96E-03	1.06E-03	1.18E-08	1.34E-04
Road 48	48	0000-0100	4.75E-08	1.32E-02	1.51E-03	3.88E-02	1.08E-06	1.23E-02	4.60E-02	1.28E-06	1.46E-02	7.52E-04	2.09E-08	2.38E-04
Road 48	48	0100-0200	4.95E-02	2.67E-08	1.47E-04	3.55E-02	1.92E-07	1.06E-03	4.79E-02	2.58E-07	1.42E-03	7.83E-04	4.22E-09	2.33E-05
Road 48	48	0200-0300	4.95E-02	2.67E-08	1.47E-04	3.55E-02	1.92E-07	1.06E-03	4.79E-02	2.58E-07	1.42E-03	7.83E-04	4.22E-09	2.33E-05
Road 48	48	0300-0400	4.95E-02	2.67E-08	1.47E-04	3.55E-02	1.92E-07	1.06E-03	4.79E-02	2.58E-07	1.42E-03	7.83E-04	4.22E-09	2.33E-05
Road 48	48	0400-0500	5.89E-03	1.83E-08	1.01E-04	3.83E-02	1.19E-07	6.55E-04	4.41E-02	1.37E-07	7.56E-04	1.49E-03	4.63E-09	2.55E-05
Road 48	48	0500-0600	2.32E-02	1.21E-07	6.67E-04	3.74E-02	1.95E-07	1.07E-03	4.58E-02	2.39E-07	1.32E-03	3.96E-03	2.07E-08	1.14E-04
Road 48	48	0600-0700	6.81E-03	4.20E-08	2.31E-04	3.92E-02	2.42E-07	1.33E-03	4.74E-02	2.93E-07	1.61E-03	5.46E-03	3.37E-08	1.85E-04
Road 48	48	0700-0800	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.34E-07	2.94E-03	4.95E-02	6.26E-07	3.45E-03	1.87E-03	2.36E-08	1.30E-04
Road 48	48	0800-0900	8.90E-03	1.08E-07	5.96E-04	4.22E-02	5.13E-07	2.82E-03	4.95E-02	6.02E-07	3.31E-03	2.29E-03	2.78E-08	1.53E-04
Road 48	48	0900-1000	1.18E-03	2.18E-07	1.20E-03	4.22E-02	7.79E-07	4.29E-03	4.95E-02	9.14E-07	5.03E-03	3.04E-04	5.62E-08	3.09E-04
Road 48	48	1000-1100	9.61E-03	2.01E-07	1.11E-03	4.46E-02	9.33E-07	5.14E-03	5.42E-02	1.13E-06	6.25E-03	2.63E-03	5.50E-08	3.03E-04
Road 48	48	1100-1200	9.14E-03	1.81E-07	9.98E-04	4.45E-02	8.83E-07	4.87E-03	5.37E-02	1.06E-06	5.86E-03	2.48E-03	4.92E-08	2.71E-04
Road 48	48	1200-1300	1.06E-02	1.68E-07	9.28E-04	4.45E-02	7.03E-07	3.88E-03	5.12E-02	8.13E-07	4.48E-03	2.89E-03	4.58E-08	2.52E-04
Road 48	48	1300-1400	1.50E-02	3.03E-07	1.67E-03	5.84E-02	1.18E-06	6.47E-03	7.34E-02	1.48E-06	8.14E-03	4.29E-03	8.63E-08	4.75E-04
Road 48	48	1400-1500	1.42E-02	2.87E-07	1.58E-03	5.74E-02	1.16E-06	6.39E-03	7.24E-02	1.46E-06	8.04E-03	4.23E-03	8.53E-08	4.69E-04
Road 48	48	1500-1600	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	7.09E-02	1.53E-06	8.43E-03	4.03E-03	8.70E-08	4.79E-04
Road 48	48	1600-1700	1.41E-02	3.16E-07	1.74E-03	5.42E-02	1.21E-06	6.68E-03	6.83E-02	1.53E-06	8.42E-03	3.97E-03	8.89E-08	4.90E-04
Road 48	48	1700-1800	1.38E-02	2.51E-07	1.38E-03	5.42E-02	9.87E-07	5.44E-03	6.83E-02	1.24E-06	6.82E-03	3.97E-03	7.20E-08	4.02E-04
Road 48	48	1800-1900	7.38E-03	1.82E-07	1.00E-03	3.50E-02	8.62E-07	4.75E-03	4.24E-02	1.04E-06	5.73E-03	2.13E-03	5.25E-08	2.89E-04
Road 48	48	1900-2000	5.30E-03	1.41E-07	7.77E-04	3.50E-02	9.31E-07	5.13E-03	4.24E-02	1.13E-06	6.21E-03	1.53E-03	4.06E-08	2.24E-04
Road 48	48	2000-2100	6.30E-03	9.62E-08	5.30E-04	3.54E-02	5.41E-07	2.98E-03	4.17E-02	6.37E-07	3.50E-03	1.82E-03	2.78E-08	1.49E-04
Road 48	48	2100-2200	6.07E-03	9.11E-08	5.02E-04	3.56E-02	5.35E-07	2.95E-03	4.17E-02	6.26E-07	3.45E-03	1.75E-03	2.63E-08	1.42E-04
Road 48	48	2200-2300	6.62E-03	7.28E-08	4.01E-04	3.64E-02	4.00E-07	2.20E-03	4.30E-02	4.73E-07	2.61E-03	1.80E-03	1.98E-08	1.09E-04
Road 48	48	2300-0000	6.22E-03	6.84E-08	3.77E-04	3.64E-02	4.00E-07	2.20E-03	4.30E-02	4.73E-07	2.61E-03	1.69E-03	1.86E-08	1.02E-04
Road 49	49	0100-0200	6.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	5.06E-02	1.81E-07	1.66E-03	2.30E-03	8.25E-09	7.56E-05
Road 49	49	0200-0300	6.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	5.06E-02	1.81E-07	1.66E-03	2.30E-03	8.25E-09	7.56E-05
Road 49	49	0300-0400	6.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	5.06E-02	1.81E-07	1.66E-03	2.30E-03	8.25E-09	7.56E-05
Road 49	49	0400-0500	7.94E-03	1.78E-08	1.64E-04	4.94E-02	1.11E-07	1.02E-03	5.68E-02	1.27E-07	1.17E-03	2.90E-03	6.50E-09	5.99E-05
Road 49	49	0500-0600	9.11E-03	1.59E-08	1.47E-04	5.66E-02	9.87E-08	9.09E-04	6.52E-02	1.13E-07	1.05E-03	3.33E-03	5.81E-09	5.35E-05
Road 49	49	0600-0700	1.16E-02	9.54E-08	8.79E-04	6.26E-02	5.16E-07	4.75E-03	7.41E-02	6.11E-07	5.63E-03	1.81E-03	1.50E-08	1.38E-04
Road 49	49	0700-0800	2.54E-02	1.56E-07	1.44E-03	7.57E-02	2.87E-06	2.64E-02	8.96E-02	3.38E-06	3.11E-02	2.15E-03	1.57E-08	1.45E-04
Road 49	49	0800-0900	1.62E-02	3.10E-07	2.86E-03	7.44E-02	2.31E-06	2.13E-02	9.06E-02	1.73E-06	1.60E-02	2.19E-03	4.19E-08	3.86E-04
Road 49	49	0900-1000	1.72E-02	2.65E-07	2.44E-03	8.00E-02	1.23E-06	1.13E-02	9.72E-02	1.49E-06	1.37E-02	2.42E-03	3.71E-08	3.41E-04
Road 49	49	1000-1100	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	2.44E-03	3.03E-08	2.79E-04
Road 49	49	1100-1200	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	2.44E-03	3.03E-08	2.79E-04
Road 49	49	1200-1300	1.69E-02	2.11E-07	1.94E-03	7.92E-02	9.84E-07	9.07E-03	9.62E-02	1.19E-06	1.10E-02	2.44E-03	3.03E-08	2.79E-04
Road 49	49	1300-1400	1.66E-02	1.72E-07	1.59E-03	7.51E-02	7.78E-07	7.16E-03	9.17E-02	9.50E-07	8.75E-03	2.51E-03	2.60E-08	2.40E-04
Road 49	49	1400-1500	1.96E-02	1.82E-07	1.68E-03	8.84E-02	8.21E-07	7.56E-03	1.05E-01	9.75E-07	8.98E-03	2.96E-03	2.76E-08	2.54E-04
Road 49	49	1500-1600	1.86E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	9.50E-02	1.18E-06	1.09E-02	2.74E-03	3.42E-08	3.15E-04
Road 49	49	1600-1700	1.86E-02	2.32E-07	2.14E-03	7.64E-02	9.52E-07	8.77E-03	9.50E-02	1.18E-06	1.09E-02	2.74E-03	3.42E-08	3.15E-04
Road 49	49	1700-1800	1.01E-02	1.99E-07	1.56E-03	4.95E-02	8.26E-07	7.61E-03	5.96E-02	9.55E-07	9.16E-03	1.48E-03	2.47E-08	2.27E-04
Road 49	49	1800-1900	1.01E-02	1.99E-07	1.56E-03	4.95E-02	8.26E-07	7.61E-03	5.96E-02	9.55E-07	9.16E-03	1.48E-03	2.47E-08	2.27E-04
Road 49	49	1900-2000	1.01E-02	1.99E-07	1.56E-03	4.95E-02	8.26E-07	7.61E-03	5.96E-02	9.55E-07	9.16E-03	1.48E-03	2.47E-08	2.27E-04
Road 49	49	2000-2100	7.04E-03	2.39E-08	1.68E-04	4.72E-02	4.56E-07	5.24E-03	1.06E-03	1.31E-08	1.01E-04	1.02E-04		
Road 49	49	2100-2200	7.75E-03	5.97E-08	5.50E-04	4.53E-02	4.71E-07	4.34E-03	5.11E-02	5.91E-07	4.97E-03	8.50E-04	8.90E-09	8.19E-05
Road 49	49	2200-2300	8.39E-03	3.89E-08	3.58E-04	4.53E-02	2.45E-07	2.26E-03	5.11E-02	3.09E-07	2.84E-03	9.20E-04	4.26E-09	3.92E-05
Road 49	49	2300-0000	5.65E-03	4.29E-08	3.95E-04	4.40E-02	3.36E-07	3.47E-03	8.67E-04	6.58E-09	6.06E-05			
Road 50	50	0000-0100	2.82E-02	8.32E-06	4.34E-05	1.13E-01	3.32E-06	1.72E-04	5.92E-03	1.33E-06	6.95E-06			
Road 50	50	0100-0200	2.82E-02	8.32E-06	4.34E-05	1.13E-01	3.32E-06	1.72E-04	5.92E-03	1.33E-06	6.95E-06			
Road 50	50	0200-0300	2.96E-02	6.66E-09	1.47E-05	1.17E-01	2.64E-08	1.37E-04	1.47E-01	3.30E-08	7.29E-05			
Road 50	50	0300-0400	2.96E-02	6.66E-09	1.47E-05	1.17E-01	2.64E-08	1.37E-04	1.47E-01	3.30E-08	7.29E-05			
Road 50	50	0400-0500	3.17E-02	1.98E-07	1.82E-04	1.25E-01	7.84E-07	7.21E-04	1.57E-01	9.81E-07	9.02E-04			
Road 50	50	0500-0600	3.17E-02	1.98E-07	1.82E-04	1.25E-01	7.84E-07	7.21E-04	1.57E-01	9.81E-07	9.02E-04			
Road 50	50	0600-0700	3.48E-02	2.97E-08	1.55E-04	1.33E-01	1.48E-07	7.49E-04	6.81E-03	5.82E-09	3.03E-05			
Road 50	50	0700-0800	1.79E-02	6.81E-08	3.55E-04	1.44E-01	5.28E-07	2.76E-03	7.14E-03	2.28E-08	6.68E-05			
Road 50	50	0800-0900	1.97E-02	6.24E-08	3.25E-04	1.34E-01	4.24E-07	2.21E-03	7.64E-03	2.41E-08	1.25E-04			
Road 50	50	0900-1000	1.97E-02	8.66E-08	4.51E-04	1.54E-01	3.37E-07	1.76E-03	1.94E-01	4.24E-07	2.21E-03	7.64E-03	1.67E-08	8.70E-05
Road 50	50	1000-1100	1.97E-02	8.66E-08	4.51E-04	1.54E-01	3.37E-07	1.76E-03	1.94E-01	4.24E-07	2.21E-03	7.64E-03	1.67E-08	8.70E-05
Road 50	50	1100-1200	4.31E-02	8.42E-08	4.38E-04	1.60E-01	3.12E-07	1.62E-03	2.03E-01	3.96E-07	2.06E-03	7.98E-03	1.56E-08	8.12E-05
Road 50	50	1200-1300	4.31E-02	8.42E-08	4.38E-04	1.60E-01	3.12E-07	1.62E-03	2.03E-01	3.96E-07	2.06E-03	7.98E-03	1.56E-08	8.12E-05
Road 50	50	1300-1400	4.65E-02	4.28E-08	2.23E-04	1.70E-01	1.57E-07	8.15E-04	2.17E-01	1.99E-07	1.04E-03	9.21E-03	8.48E-09	4.41E-05
Road 50	50	1400-1500	4.74E-02	4.34E-08	2.26E-04	1.68E-01	1.54E-07	8.02E-04	2.16E-01	1.97E-07	1.03E-03	9.37E-03	8.57E-09	4.46E-05
Road 50	50	1500-1600	4.58E-02	4.07E-08	2.12E-04	1.67E-01	1.48E-07	7.72E-04	2.13E-01	1.89E-07	9.84E-04	9.09E-03	8.08E-09	4.21E-05
Road 50	50	1600-1700	4.58E-02	4.07E-08	2.12E-04	1.67E-01	1.48E-07	7.72E-04	2.13E-01	1.89E-07	9.84E-04	9.09E-03	8.08E-09	4.21E-05
Road 50	50	1700-1800	3.91E-02	2.26E-08	1.17E-04	1.33E-01	7.67E-08	3.97E-04	2.01E-01	1.16E-07	6.01E-04	7.78E-03	4.49E-09	2.33E-05
Road 50	50	1800-1900	3.49E-02	2.06E-08	1.07E-04	1.49E-01	8.75E-08	4.54E-04	2.22E-01	1.31E-07	6.81E-04	6.95E-03	4.09E-09	2.12E-05
Road 50	50	1900-2000	3.49E-02	1.38E-08	7.18E-05	1.43E-01	5.64E-08	2.94E-04	1.78E-01	7.02E-08	3.66E-04	7.13E-03	2.82E-09	1.47E-05
Road 50	50	2000-2100	3.76E-02	1.03E-08	5.37E-05	1.49E-01	4.57E-08	2.38E-04	1.78E-01	5.46E-08	2.84E-04	7.13E-03	2.19E-09	1.14E-05
Road 50	50	2100-2200	3.35E-02	1.08E-08	5.60E-05	1.41E-01	4.53E-08	2.36E-04	1.74E-01	5.60E-08	2.92E-04	6.70E-03	2.16E-09	1.12E-05
Road 50	50	2200-2300	3.76E-02	8.66E-09	4.51E-05	1.41E-01	3.25E-08	1.69E-04	1.79E-01	4.12E-08	2.15E-04	7.61E-03	1.75E-09	9.12E-06
Road 50	50	2300-0000	3.76E-02	8.66E-09	4.51E-05	1.41E-01	3.25E-08	1.69E-04	1.79E-01	4.12E-08	2.15E-04	7.61E-03	1.75E-09	9.12E-06

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (November) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	4.15E-03	3.35E-08	2.28E-04	3.31E-02	2.68E-07	1.82E-03	8.56E-07	6.91E-12	4.70E-09	1.38E-06	1.01E-02	6.85E-03
Road 51	51	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	2.01E-07	1.37E-03	1.15E-03	5.92E-09	4.03E-05
Road 51	51	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-07	1.05E-03	1.27E-03	4.75E-09	3.23E-05
Road 51	51	0300-0400	5.53E-03	1.64E-08	1.11E-04	3.73E-02	1.10E-07	7.51E-04	4.28E-02	1.27E-07	8.62E-04	1.38E-03	4.08E-09	2.78E-05
Road 51	51	0400-0500	5.96E-03	1.93E-08	1.31E-04	3.84E-02	1.24E-07	8.46E-04	4.44E-02	1.44E-07	9.77E-04	1.50E-03	4.85E-09	3.30E-05
Road 51	51	0500-0600	5.38E-03	3.59E-08	2.44E-04	3.75E-02	2.50E-07	1.70E-03	4.01E-02	2.67E-07	1.82E-03	1.35E-03	9.02E-09	6.13E-05
Road 51	51	0600-0700	6.88E-03	8.25E-08	5.61E-04	4.11E-02	4.92E-07	3.35E-03	4.80E-02	5.75E-07	3.91E-03	1.74E-03	2.09E-08	1.42E-04
Road 51	51	0700-0800	7.30E-03	1.79E-07	1.20E-03	4.17E-02	1.01E-06	6.86E-03	4.90E-02	1.19E-06	8.07E-03	1.86E-03	4.51E-08	3.07E-04
Road 51	51	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.96E-02	1.10E-06	7.04E-03	4.40E-02	1.23E-06	8.38E-03	1.68E-03	4.70E-08	3.19E-04
Road 51	51	0900-1000	7.88E-03	1.79E-07	1.22E-03	4.06E-02	9.23E-07	6.28E-03	4.85E-02	1.10E-06	7.50E-03	2.14E-03	4.86E-08	3.31E-04
Road 51	51	1000-1100	1.52E-03	2.89E-07	1.97E-03	3.88E-02	7.38E-06	5.02E-02	4.66E-02	8.86E-06	6.03E-02	1.68E-03	3.21E-07	2.18E-03
Road 51	51	1100-1200	8.46E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.38E-03	5.11E-02	9.47E-07	6.44E-03	2.28E-03	4.21E-08	2.87E-04
Road 51	51	1200-1300	1.56E-02	2.77E-07	1.89E-03	5.63E-02	1.00E-06	6.80E-03	6.45E-02	1.15E-06	7.82E-03	3.14E-03	5.57E-08	3.79E-04
Road 51	51	1300-1400	1.51E-02	2.91E-07	1.98E-03	5.44E-02	1.05E-06	7.14E-03	6.23E-02	1.20E-06	8.17E-03	3.03E-03	5.84E-08	3.97E-04
Road 51	51	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 51	51	1500-1600	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 51	51	1600-1700	1.41E-02	3.02E-07	2.06E-03	5.42E-02	1.16E-06	7.90E-03	6.83E-02	1.46E-06	9.96E-03	3.96E-03	8.48E-08	5.80E-04
Road 51	51	1700-1800	1.17E-02	1.04E-07	7.09E-04	4.70E-02	1.09E-06	7.40E-03	5.74E-02	1.33E-06	9.04E-03	3.02E-03	7.00E-08	4.76E-04
Road 51	51	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.61E-03	4.25E-02	9.99E-07	6.80E-03	2.14E-03	5.03E-08	3.42E-04
Road 51	51	1900-2000	6.49E-03	1.21E-07	8.21E-04	3.30E-02	6.13E-07	4.17E-03	3.95E-02	7.34E-07	4.99E-03	1.82E-03	3.39E-08	2.31E-04
Road 51	51	2000-2100	6.31E-03	9.22E-08	6.27E-04	3.17E-02	4.63E-07	3.15E-03	3.79E-02	5.54E-07	3.76E-03	1.75E-03	2.56E-08	1.74E-04
Road 51	51	2100-2200	6.08E-03	8.74E-08	5.95E-04	3.56E-02	5.12E-07	3.48E-03	4.17E-02	5.99E-07	4.08E-03	1.72E-03	2.47E-08	1.68E-04
Road 51	51	2200-2300	5.84E-03	6.99E-08	3.85E-04	3.44E-02	3.79E-07	2.09E-03	4.00E-02	4.70E-07	2.59E-03	1.66E-03	1.83E-08	1.01E-04
Road 51	51	2300-0000	6.64E-03	6.98E-08	4.75E-04	3.64E-02	3.83E-07	2.08E-03	4.33E-02	4.53E-07	3.08E-03	1.80E-03	1.90E-08	1.29E-04
Road 52	52	0000-0100	4.73E-02	2.38E-08	4.45E-05	1.72E-01	8.65E-08	1.62E-04	2.19E-01	1.10E-07	2.06E-04	9.38E-03	4.72E-09	8.83E-06
Road 52	52	0100-0200	4.73E-02	2.38E-08	4.45E-05	1.72E-01	8.65E-08	1.62E-04	2.19E-01	1.10E-07	2.06E-04	9.38E-03	4.72E-09	8.83E-06
Road 52	52	0200-0300	4.63E-02	1.31E-08	2.45E-05	1.69E-01	4.77E-08	8.91E-05	2.15E-01	6.07E-08	1.14E-04	9.36E-03	2.65E-09	4.95E-06
Road 52	52	0300-0400	4.63E-02	1.31E-08	2.45E-05	1.69E-01	4.77E-08	8.91E-05	2.15E-01	6.07E-08	1.14E-04	9.36E-03	2.65E-09	4.95E-06
Road 52	52	0400-0500	4.68E-02	1.33E-08	2.48E-05	1.70E-01	4.83E-08	9.03E-05	2.17E-01	6.15E-08	1.15E-04	9.42E-03	2.67E-09	5.00E-06
Road 52	52	0500-0600	4.84E-02	2.55E-08	1.76E-05	1.95E-01	1.73E-07	2.24E-01	2.18E-07	2.21E-04	9.56E-03	2.32E-09	9.40E-06	
Road 52	52	0600-0700	5.37E-02	1.38E-07	2.59E-04	1.94E-01	1.04E-01	5.00E-07	9.35E-04	2.47E-01	6.38E-07	1.19E-03	9.93E-03	2.56E-08
Road 52	52	0700-0800	5.37E-02	1.38E-07	2.59E-04	1.94E-01	1.04E-01	5.00E-07	9.35E-04	2.47E-01	6.38E-07	1.19E-03	9.93E-03	2.56E-08
Road 52	52	0800-0900	5.48E-02	1.32E-07	3.60E-04	2.06E-01	7.25E-07	3.36E-03	2.61E-01	9.17E-07	7.25E-03	9.90E-03	3.48E-08	6.51E-05
Road 52	52	0900-1000	5.82E-02	1.89E-07	3.54E-04	2.09E-01	6.75E-07	2.85E-03	2.77E-01	1.32E-06	8.43E-03	1.05E-02	5.01E-08	3.19E-04
Road 52	52	1000-1100	5.82E-02	1.89E-07	3.54E-04	2.09E-01	6.75E-07	2.85E-03	2.77E-01	1.32E-06	8.43E-03	1.05E-02	5.01E-08	3.19E-04
Road 52	52	1100-1200	5.95E-02	2.01E-07	3.75E-04	2.04E-01	6.89E-07	2.96E-03	2.61E-01	8.81E-07	6.07E-03	1.14E-02	3.86E-08	2.66E-04
Road 52	52	1200-1300	5.95E-02	2.01E-07	3.75E-04	2.04E-01	6.89E-07	2.96E-03	2.61E-01	8.81E-07	6.07E-03	1.14E-02	3.86E-08	2.66E-04
Road 52	52	1300-1400	5.95E-02	2.01E-07	3.75E-04	2.04E-01	6.89E-07	2.96E-03	2.61E-01	8.81E-07	6.07E-03	1.14E-02	3.86E-08	2.66E-04
Road 52	52	1400-1500	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1500-1600	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1600-1700	5.61E-02	2.24E-07	3.81E-04	2.02E-01	7.32E-07	3.27E-03	2.58E-01	9.36E-07	7.15E-03	9.65E-03	3.46E-08	6.76E-05
Road 52	52	1700-1800	4.69E-02	1.55E-07	2.90E-04	1.91E-01	6.29E-07	1.18E-03	2.38E-01	7.84E-07	1.47E-03	8.85E-03	2.92E-08	5.46E-05
Road 52	52	1800-1900	4.56E-02	1.96E-07	3.66E-04	1.88E-01	7.74E-07	1.45E-03	2.34E-01	9.68E-07	1.81E-03	8.77E-03	3.67E-08	6.87E-05
Road 52	52

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2043**

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	1.111E-02	3.459E-03	5.553E-03	1.166E-01	3.311E-06	2.066E-02	1.671E-01	4.686E-03	1.166E-02
Road 14	14	0900-1000	3.55E-02	8.82E-07	5.37E-03	1.32E-01	3.20E-06	1.99E-02	1.67E-01	4.08E-06	2.53E-02
Road 14	14	1000-1100	3.90E-02	8.35E-07	5.20E-03	1.38E-01	2.95E-06	1.83E-02	1.76E-01	3.78E-06	2.34E-02
Road 14	14	1100-1200	3.66E-02	7.45E-07	4.63E-03	1.32E-01	2.68E-06	1.67E-02	1.69E-01	3.43E-06	2.13E-02
Road 14	14	1200-1300	4.95E-02	1.17E-06	7.27E-03	1.67E-01	3.95E-06	2.46E-02	2.17E-01	5.12E-06	3.18E-02
Road 14	14	1300-1400	3.59E-02	7.95E-07	5.02E-03	1.34E-01	2.96E-06	1.86E-02	1.73E-01	3.82E-06	2.41E-02
Road 14	14	1400-1500	5.12E-02	1.32E-06	8.21E-03	1.76E-01	4.52E-06	2.81E-02	2.27E-01	5.84E-06	3.64E-02
Road 14	14	1500-1600	4.97E-02	1.31E-06	8.18E-03	1.84E-01	4.86E-06	3.02E-02	2.23E-01	6.17E-06	3.84E-02
Road 14	14	1600-1700	4.17E-02	1.06E-06	6.59E-03	1.54E-01	3.92E-06	2.43E-02	1.94E-01	4.94E-06	3.07E-02
Road 14	14	1700-1800	5.80E-02	1.12E-06	6.98E-03	1.47E-01	2.84E-06	1.77E-02	1.92E-01	3.70E-06	2.30E-02
Road 14	14	1800-1900	4.13E-02	1.07E-06	6.66E-03	1.53E-01	3.96E-06	2.47E-02	1.92E-01	4.98E-06	3.10E-02
Road 14	14	1900-2000	1.82E-02	4.19E-07	2.61E-03	7.99E-02	1.84E-06	1.14E-02	7.80E-02	1.80E-06	1.12E-02
Road 14	14	2000-2100	1.61E-02	3.89E-07	2.42E-03	7.06E-02	1.71E-06	1.06E-02	6.89E-02	1.66E-06	1.04E-02
Road 14	14	2100-2200	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.25E-03	9.26E-02	1.61E-06	1.00E-02
Road 14	14	2200-2300	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.25E-03	9.26E-02	1.61E-06	1.00E-02
Road 14	14	2300-2400	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.25E-03	9.26E-02	1.61E-06	1.00E-02
Road 15	15	0000-0100	3.22E-02	3.87E-08	1.31E-04	9.32E-02	1.12E-07	3.79E-04	1.25E-01	1.50E-07	5.08E-04
Road 15	15	0100-0200	3.63E-02	1.23E-08	9.91E-05	1.00E-01	3.39E-08	2.73E-04	1.35E-01	4.57E-08	3.68E-04
Road 15	15	0200-0300	3.63E-02	1.23E-08	9.91E-05	1.00E-01	3.39E-08	2.73E-04	1.35E-01	4.57E-08	3.68E-04
Road 15	15	0300-0400	3.55E-02	1.23E-08	9.91E-05	1.00E-01	3.39E-08	2.73E-04	1.35E-01	4.57E-08	3.68E-04
Road 15	15	0400-0500	2.79E-02	4.63E-08	1.37E-04	8.85E-02	1.47E-07	4.35E-04	4.59E-03	7.63E-09	2.58E-05
Road 15	15	0500-0600	2.79E-02	4.63E-08	1.37E-04	8.85E-02	1.47E-07	4.35E-04	4.59E-03	7.63E-09	2.58E-05
Road 15	15	0600-0700	2.44E-02	2.41E-08	6.24E-05	8.14E-02	8.03E-08	2.08E-04	1.53E-01	1.51E-07	3.91E-04
Road 15	15	0700-0800	3.54E-02	2.50E-07	8.46E-04	1.10E-01	7.77E-07	2.62E-03	1.45E-01	1.03E-06	3.47E-03
Road 15	15	0800-0900	3.39E-02	2.72E-07	9.20E-04	1.04E-01	8.39E-07	2.83E-03	1.38E-01	1.11E-06	3.75E-03
Road 15	15	0900-1000	2.80E-02	2.22E-07	7.51E-04	8.61E-02	6.83E-07	2.31E-03	1.14E-01	9.04E-07	3.06E-03
Road 15	15	1000-1100	4.13E-02	2.51E-07	8.47E-04	1.22E-01	7.40E-07	2.50E-03	1.63E-01	9.90E-07	3.35E-03
Road 15	15	1100-1200	3.66E-02	2.71E-07	9.16E-04	1.08E-01	8.00E-07	2.70E-03	1.44E-01	1.06E-06	3.58E-03
Road 15	15	1200-1300	5.24E-02	4.39E-07	1.48E-03	1.61E-01	1.34E-06	4.54E-03	2.13E-01	1.78E-06	6.03E-03
Road 15	15	1300-1400	5.20E-02	4.54E-07	1.54E-03	1.65E-01	1.44E-06	4.88E-03	2.17E-01	1.90E-06	6.42E-03
Road 15	15	1400-1500	5.20E-02	4.54E-07	1.54E-03	1.65E-01	1.44E-06	4.88E-03	2.17E-01	1.90E-06	6.42E-03
Road 15	15	1500-1600	5.00E-02	4.65E-07	1.57E-03	1.66E-01	1.55E-06	5.22E-03	2.16E-01	2.01E-06	6.79E-03
Road 15	15	1600-1700	4.42E-02	4.14E-07	1.40E-03	1.58E-01	1.48E-06	4.99E-03	2.00E-01	1.87E-06	6.32E-03
Road 15	15	1700-1800	4.08E-02	4.15E-07	1.40E-03	1.38E-01	1.40E-06	4.76E-03	1.79E-01	1.82E-06	6.16E-03
Road 15	15	1800-1900	3.55E-02	3.32E-07	1.12E-03	1.38E-01	1.29E-06	4.36E-03	1.79E-01	1.67E-06	5.64E-03
Road 15	15	1900-2000	1.88E-02	1.39E-07	4.69E-04	7.81E-02	5.61E-07	6.99E-07	2.36E-02	3.03E-03	2.23E-08
Road 15	15	2000-2100	1.90E-02	1.10E-07	3.71E-04	8.00E-02	4.65E-07	1.57E-03	2.39E-02	1.38E-07	4.66E-04
Road 15	15	2100-2200	1.90E-02	1.10E-07	3.71E-04	8.00E-02	4.65E-07	1.57E-03	2.39E-02	1.38E-07	4.66E-04
Road 15	15	2200-2300	1.80E-02	1.00E-07	3.39E-04	7.51E-02	4.42E-07	9.31E-02	5.21E-07	3.77E-03	1.27E-08
Road 15	15	2300-2400	1.80E-02	1.00E-07	3.39E-04	7.51E-02	4.42E-07	9.31E-02	5.21E-07	3.77E-03	1.27E-08
Road 16	16	0000-0100	6.33E-03	5.02E-08	5.61E-04	4.03E-02	3.20E-07	3.58E-03	5.91E-02	4.67E-07	5.22E-03
Road 16	16	0100-0200	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.85E-03
Road 16	16	0200-0300	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.85E-03
Road 16	16	0300-0400	8.70E-03	2.66E-08	2.98E-04	4.61E-02	1.41E-07	1.58E-03	6.03E-02	1.84E-07	2.06E-03
Road 16	16	0400-0500	1.05E-02	2.29E-08	2.57E-04	5.60E-02	1.22E-07	1.37E-03	7.31E-02	1.59E-07	1.78E-03
Road 16	16	0500-0600	9.29E-03	5.40E-08	6.04E-04	4.90E-02	2.85E-07	3.18E-03	6.83E-02	3.97E-07	4.44E-03
Road 16	16	0600-0700	9.60E-03	1.19E-07	1.34E-03	5.31E-02	6.57E-07	7.36E-03	7.40E-02	9.15E-07	1.02E-02
Road 16	16	0700-0800	1.47E-02	1.45E-07	1.63E-03	7.06E-02	6.97E-07	7.81E-03	9.83E-02	9.71E-07	1.09E-02
Road 16	16	0800-0900	2.00E-02	5.88E-07	6.58E-03	2.47E-01	7.27E-02	1.04E-01	3.06E-01	3.76E-02	5.39E-02
Road 16	16	0900-1000	1.32E-02	3.90E-07	4.36E-03	1.63E-01	4.80E-02	6.88E-02	2.02E-01	2.48E-02	3.56E-02
Road 16	16	1000-1100	1.91E-02	4.20E-07	4.70E-03	2.37E-01	5.20E-02	7.45E-02	2.94E-01	3.64E-02	5.21E-02
Road 16	16	1100-1200	1.69E-02	4.97E-07	5.56E-03	2.09E-01	6.15E-02	8.81E-02	2.59E-01	3.20E-02	4.58E-02
Road 16	16	1200-1300	2.62E-02	5.94E-07	6.64E-03	3.24E-01	7.35E-02	1.05E-01	4.02E-01	4.55E-02	6.51E-02
Road 16	16	1300-1400	2.82E-02	6.67E-07	7.46E-03	3.49E-01	8.25E-02	1.18E-01	4.33E-01	5.11E-02	7.31E-02
Road 16	16	1400-1500	2.62E-02	7.09E-07	7.93E-03	3.06E-01	8.31E-02	1.19E-01	3.58E-01	9.72E-02	1.39E-01
Road 16	16	1500-1600	2.87E-02	8.15E-03	1.17E-01	2.97E-01	3.32E-02	4.95E-02	3.08E-01	1.25E-02	1.86E-02
Road 16	16	1600-1700	2.87E-02	8.15E-03	1.17E-01	2.97E-01	3.32E-02	4.95E-02	3.08E-01	1.25E-02	1.86E-02
Road 16	16	1700-1800	2.48E-02	7.09E-07	7.93E-03	1.06E-01	3.03E-06	3.39E-02	4.98E-03	1.14E-07	1.28E-03
Road 16	16	1800-1900	1.58E-02	4.65E-07	5.21E-03	7.01E-02	2.06E-06	2.31E-02	8.59E-02	2.53E-06	2.83E-02
Road 16	16	1900-2000	1.82E-02	4.19E-07	2.61E-03	7.99E-02	1.84E-06	1.14E-02	7.80E-02	1.80E-06	1.12E-02
Road 16	16	2000-2100	1.61E-02	3.89E-07	2.42E-03	7.06E-02	1.71E-06	1.06E-02	6.89E-02	1.66E-06	1.04E-02
Road 16	16	2100-2200	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.25E-03	9.26E-02	1.61E-06	1.00E-02
Road 16	16	2200-2300	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.25E-03	9.26E-02	1.61E-06	1.00E-02
Road 16	16	2300-2400	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.25E-03	9.26E-02	1.61E-06	1.00E-02
Road 17	17	0000-0100	4.61E-08	4.92E-04	1.37E-04	8.85E-02	1.47E-07	4.35E-04	4.59E-03	7.63E-09	2.58E-05
Road 17	17	0100-0200	4.61E-08	4.92E-04	1.37E-04	8.85E-02	1.47E-07	4.35E-04	4.59E-03	7.63E-09	2.58E-05
Road 17	17	0200-0300	9.35E-03	3.16E-08	3.37E-04	5.44E-02	1.84E-07	1.96E-03	5.77E-02	1.95E-07	2.08E-03
Road 17	17	0300-0400	9.35E-03	3.16E-08	3.37E-04	5.44E-02	1.84E-07	1.96E-03	5.77E-02	1.95E-07	2.08E-03
Road 17	17	0400-0500	7.44E-03	3.16E-08	3.37E-04	5.44E-02	1.84E-07	1.96E-03	5.77E-02	1.95E-07	2.08E-03
Road 17	17	0500-0600	7.44E-03	3.16E-08	3.37E-04	5.44E-02	1.84E-07	1.96E-03	5.77E-02	1.95E-07	2.08E-03
Road 17	17	0600-0700	1.23E-02	1.03E-07	1.10E-03	7.29E-02	6.07E-07	6.47E-03	7.72E-02	6.43E-07	6.85E-03
Road 17	17	0700-0800	1.89E-02	1.86E-07	2.09E-03	1.12E-01	1.10E-06	1.24E-02	1.19E-01	1.17E-06	1.32E-02
Road 17	17	0800-0900	1.71E-02	1.68E-07	1.89E-03	1.01E-01	9.96E-07	1.12E-02	1.07E-01	1.06E-06	1.19E-02
Road 17	17	0900-1000	1.71E-02	1.68E-07	1.89E-03	1.01E-01	9.96E-07	1.12E-02	1.07E-01	1.06E-06	1.19E-02
Road 17	17	1000-1100	1.71E-02	1.68E-07	1.89E-03	1.01E-01	9.96E-07	1.12E-02	1.07E-01	1.06E-06	1.19E-02
Road 17	17	1100-1200	1.71E-02	1.68E-07	1.89E-03	1.01E-01	9.96E-07	1.12E-02	1.07E-01	1.06E-06	1.19E-02
Road 17	17	1200-1300	1.71E-02	1.68E-07	1.89E-03	1.01E-01	9.96E-07	1.12E-02	1.07E-01	1.06E-06	1.19E-02
Road 17	17	1300-1400	1.71E-02	1.68E-07	1.89E-03	1.01E-01	9.96E-07	1.12E-02	1.07E-01	1.06E-06	1.19E-02
Road 17	17	1400-1500	1.71E-02	1.68E-07	1.89E-03	1.01E-01	9.96E-07	1.12E-02	1.07E-01	1.06E-06	1.19E-02
Road 17	17	1500-1600	5.16E-02	1.37E-06	1.46E-02	2.03E-01	5.38E-06	5.74E-02	2.54E-01	6.75E-06	7.21E-02

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 17	17	1600-1700	3.29E-02	1.41E-06	1.55E-02	1.66E-01	7.12E-06	7.23E-02	2.04E-01	8.75E-06	9.55E-02
Road 17	17	1700-1800	3.65E-02	1.02E-06	1.09E-02	1.53E-01	4.26E-06	4.55E-02	1.90E-01	5.28E-06	5.66E-02
Road 17	17	1800-1900	1.86E-02	4.97E-07	5.32E-03	7.80E-02	2.08E-06	2.23E-02	9.68E-02	2.58E-06	2.76E-02
Road 17	17	1900-2000	1.31E-02	2.25E-07	1.40E-03	5.48E-02	9.41E-07	1.11E-02	6.79E-02	1.16E-06	1.38E-02
Road 17	17	2000-2100	9.31E-03	1.48E-07	1.58E-03	5.17E-02	8.22E-07	8.77E-03	6.11E-02	9.70E-07	1.04E-02
Road 17	17	2100-2200	8.91E-03	1.35E-07	1.44E-03	4.90E-02	7.42E-07	7.92E-03	5.79E-02	8.77E-07	9.36E-03
Road 17	17	2200-2300	8.91E-03	1.35E-07	1.44E-03	4.90E-02	7.42E-07	7.92E-03	5.79E-02	8.77E-07	9.36E-03
Road 17	17	2300-2400	9.48E-03	1.09E-07	1.17E-03	5.05E-02	5.83E-07	6.22E-03	6.00E-02	6.92E-07	7.39E-03
Road 18	18	0000-0100	6.30E-03	4.35E-08	3.23E-04	3.99E-02	2.75E-07	2.04E-03	5.86E-02	4.04E-07	3.00E-03
Road 18	18	0100-0200	7.08E-03	5.18E-08	4.18E-04	4.12E-02	4.89E-07	2.51E-07	3.58E-03	1.79E-08	1.31E-04
Road 18	18	0200-0300	7.08E-03	5.18E-08	4.18E-04	4.12E-02	4.89E-07	2.51E-07	3.58E-03	1.79E-08	1.31E-04
Road 18	18	0300-0400	8.71E-03	2.63E-08	3.75E-04	4.62E-02	1.39E-07	1.99E-03	5.49E-02	1.66E-07	2.38E-03
Road 18	18	0400-0500	9.34E-03	4.74E-08	1.35E-04	4.95E-02	2.51E-07	7.15E-04	5.49E-02	2.78E-07	7.92E-04
Road 18	18	0500-0600	9.53E-03	1.17E-07	1.67E-03	5.01E-02	6.14E-07	8.76E-03	5.96E-02	7.31E-07	1.04E-02
Road 18	18	0600-0700	9.53E-03	1.17E-07	1.67E-03	5.01E-02	6.14E-07	8.76E-03	5.96E-02	7.31E-07	1.04E-02
Road 18	18	0700-0800	1.02E-02	2.96E-07	4.22E-03	4.92E-02	1.43E-06	2.04E-02	5.94E-02	1.73E-06	2.46E-02
Road 18	18	0800-0900	1.02E-02	2.96E-07	4.22E-03	4.92E-02	1.43E-06	2.04E-02	5.94E-02	1.73E-06	2.46E-02
Road 18	18	0900-1000	1.16E-02	2.68E-07	3.82E-03	5.59E-02	1.29E-06	1.84E-02	6.73E-02	1.55E-06	2.22E-02
Road 18	18	1000-1100	1.16E-02	2.68E-07	3.82E-03	5.59E-02	1.29E-06	1.84E-02	6.73E-02	1.55E-06	2.22E-02
Road 18	18	1100-1200	1.16E-02	2.68E-07	3.82E-03	5.59E-02	1.29E-06	1.84E-02	6.73E-02	1.55E-06	2.22E-02
Road 18	18	1200-1300	1.16E-02	2.68E-07	3.82E-03	5.59E-02	1.29E-06	1.84E-02	6.73E-02	1.55E-06	2.22E-02
Road 18	18	1300-1400	1.16E-02	2.68E-07	3.82E-03	5.59E-02	1.29E-06	1.84E-02	6.73E-02	1.55E-06	2.22E-02
Road 18	18	1400-1500	1.16E-02	2.68E-07	3.82E-03	5.59E-02	1.29E-06	1.84E-02	6.73E-02	1.55E-06	2.22E-02
Road 18	18	1500-1600	1.49E-02	2.56E-07	3.65E-03	7.19E-02	1.23E-06	1.76E-02	8.66E-02	1.49E-06	2.12E-02
Road 18	18	1600-1700	1.57E-02	4.06E-07	5.79E-03	6.44E-02	1.67E-06	2.38E-02	8.01E-02	2.08E-06	2.96E-02
Road 18	18	1700-1800	1.56E-02	4.29E-07	6.11E-03	6.44E-02	1.77E-06	2.52E-02	8.19E-02	2.25E-06	3.21E-02
Road 18	18	1800-1900	8.31E-03	2.42E-07	3.45E-03	4.18E-02	1.22E-06	1.73E-02	5.02E-02	1.46E-06	2.08E-02
Road 18	18	1900-2000	9.26E-03	3.98E-08	9.64E-04	4.59E-02	1.97E-07	4.78E-03	5.51E-02	2.37E-07	5.74E-03
Road 18	18	2000-2100	6.68E-03	1.18E-07	1.68E-03	4.12E-02	7.24E-07	1.03E-02	4.78E-02	8.42E-07	1.20E-02
Road 18	18	2100-2200	6.26E-03	1.10E-07	1.57E-03	4.07E-02	7.16E-07	1.02E-02	8.26E-02	1.08E-07	1.66E-02
Road 18	18	2200-2300	6.90E-03	8.83E-08	1.26E-03	4.15E-02	5.31E-07	7.58E-03	4.84E-02	6.20E-07	8.84E-03
Road 18	18	2300-2400	6.90E-03	8.83E-08	1.26E-03	4.15E-02	5.31E-07	7.58E-03	4.84E-02	6.20E-07	8.84E-03
Road 19	19	0000-0100	8.58E-03	4.87E-04	4.71E-02	5.55E-02	3.15E-06	3.05E-02	7.14E-02	4.06E-06	3.92E-02
Road 19	19	0100-0200	8.58E-03	4.87E-04	4.71E-02	5.55E-02	3.15E-06	3.05E-02	7.14E-02	4.06E-06	3.92E-02
Road 19	19	0200-0300	9.96E-03	3.18E-08	3.35E-04	5.15E-02	1.65E-07	1.73E-03	6.14E-02	1.96E-07	2.06E-03
Road 19	19	0300-0400	9.96E-03	3.18E-08	3.35E-04	5.15E-02	1.65E-07	1.73E-03	6.14E-02	1.96E-07	2.06E-03
Road 19	19	0400-0500	1.06E-02	1.72E-08	1.96E-04	5.39E-02	8.75E-08	9.99E-04	6.39E-02	1.04E-07	1.19E-03
Road 19	19	0500-0600	1.20E-02	1.62E-07	1.79E-03	6.44E-02	8.68E-07	9.60E-03	7.64E-02	1.03E-06	1.14E-02
Road 19	19	0600-0700	1.20E-02	1.62E-07	1.79E-03	6.44E-02	8.68E-07	9.60E-03	7.64E-02	1.03E-06	1.14E-02
Road 19	19	0700-0800	1.99E-02	2.05E-07	2.31E-03	1.06E-01	1.10E-06	1.24E-02	1.26E-01	1.30E-06	1.47E-02
Road 19	19	0800-0900	1.99E-02	2.05E-07	2.31E-03	1.06E-01	1.10E-06	1.24E-02	1.26E-01	1.30E-06	1.47E-02
Road 19	19	0900-1000	1.47E-02	4.22E-07	4.44E-03	6.44E-02	1.91E-06	2.01E-02	8.11E-02	2.33E-06	2.45E-02
Road 19	19	1000-1100	1.59E-02	3.88E-07	4.08E-03	6.74E-02	1.64E-06	1.72E-02	8.33E-02	2.03E-06	2.13E-02
Road 19	19	1100-1200	1.59E-02	3.88E-07	4.08E-03	6.74E-02	1.64E-06	1.72E-02	8.33E-02	2.03E-06	2.13E-02
Road 19	19	1200-1300	1.59E-02	3.88E-07	4.08E-03	6.74E-02	1.64E-06	1.72E-02	8.33E-02	2.03E-06	2.13E-02
Road 19	19	1300-1400	1.59E-02	3.88E-07	4.08E-03	6.74E-02	1.64E-06	1.72E-02	8.33E-02	2.03E-06	2.13E-02
Road 19	19	1400-1500	1.59E-02	3.88E-07	4.08E-03	6.74E-02	1.64E-06	1.72E-02	8.33E-02	2.03E-06	2.13E-02
Road 19	19	1500-1600	1.47E-02	4.22E-07	4.44E-03	6.44E-02	1.91E-06	2.01E-02	8.11E-02	2.33E-06	2.45E-02
Road 19	19	1600-1700	1.47E-02	4.22E-07	4.44E-03	6.44E-02	1.91E-06	2.01E-02	8.11E-02	2.33E-06	2.45E-02
Road 19	19	1700-1800	1.32E-02	3.80E-07	4.00E-03	5.79E-02	1.72E-06	1.81E-02	7.29E-02	2.09E-06	2.20E-02
Road 19	19	1800-1900	1.32E-02	3.80E-07	4.00E-03	5.79E-02	1.72E-06	1.81E-02	7.29E-02	2.09E-06	2.20E-02
Road 19	19	1900-2000	1.47E-02	4.22E-07	4.44E-03	6.44E-02	1.91E-06	2.01E-02	8.11E-02	2.33E-06	2.45E-02
Road 19	19	2000-2100	1.32E-02	3.80E-07	4.00E-03	5.79E-02	1.72E-06	1.81E-02	7.29E-02	2.09E-06	2.20E-02
Road 19	19	2100-2200	1.32E-02	3.80E-07	4.00E-03	5.79E-02	1.72E-06	1.81E-02	7.29E-02	2.09E-06	2.20E-02
Road 19	19	2200-2300	1.32E-02	3.80E-07	4.00E-03	5.79E-02	1.72E-06	1.81E-02	7.29E-02	2.09E-06	2.20E-02
Road 19	19	2300-2400	1.32E-02	3.80E-07	4.00E-03	5.79E-02	1.72E-06	1.81E-02	7.29E-02	2.09E-06	2.20E-02
Road 20	20	0000-0100	6.69E-02	6.48E-08	4.36E-04	1.74E-01	1.69E-07	1.13E-03	2.41E-01	2.33E-07	1.57E-03
Road 20	20	0100-0200	6.82E-02	5.99E-08	4.03E-04	1.74E-01	1.52E-07	1.02E-03	2.41E-01	2.12E-07	1.43E-03
Road 20	20	0200-0300	6.82E-02	6.52E-08	4.39E-04	1.79E-01	1.69E-07	1.14E-03	2.47E-01	2.35E-07	1.58E-03
Road 20	20	0300-0400	6.88E-02	6.52E-08	4.39E-04	1.79E-01	1.69E-07	1.14E-03	2.47E-01	2.35E-07	1.58E-03
Road 20	20	0400-0500	6.88E-02	6.52E-08	4.39E-04	1.79E-01	1.69E-07	1.14E-03	2.47E-01	2.35E-07	1.58E-03
Road 20	20	0500-0600	5.56E-02	1.43E-07	9.61E-04	1.51E-01	3.83E-07	2.58E-03	2.06E-01	5.23E-07	3.52E-03
Road 20	20	0600-0700	7.55E-02	1.43E-07	9.61E-04	2.05E-01	3.83E-07	2.58E-03	2.79E-01	5.23E-07	3.52E-03
Road 20	20	0700-0800	7.55E-02	1.43E-07	9.61E-04	2.05E-01	3.83E-07	2.58E-03	2.79E-01	5.23E-07	3.52E-03
Road 20	20	0800-0900	7.55E-02	1.43E-07	9.61E-04	2.05E-01	3.83E-07	2.58E-03	2.79E-01	5.23E-07	3.52E-03
Road 20	20	0900-1000	7.47E-02	1.54E-07	3.73E-03	2.29E-01	1.70E-06	1.14E-02	3.04E-01	2.25E-06	1.51E-02
Road 20	20	1000-1100	7.98E-02	1.57E-07	3.80E-03	2.45E-01	1.74E-06	1.17E-02	3.25E-01	2.31E-06	1.55E-02
Road 20	20	1100-1200	7.98E-02	1.57E-07	3.80E-03	2.45E-01	1.74E-06	1.17E-02	3.25E-01	2.31E-06	1.55E-02
Road 20	20	1200-1300	7.98E-02	1.57E-07	3.80E-03	2.45E-01	1.74E-06	1.17E-02	3.25E-01	2.31E-06	1.55E-02
Road 20	20	1300-1400	7.98E-02	1.57E-07	3.80E-03	2.45E-01	1.74E-06	1.17E-02	3.25E-01	2.31E-06	1.55E-02
Road 20	20	1400-1500	7.98E-02	1.57E-07	3.80E-03	2.45E-01	1.74E-06	1.17E-02	3.25E-01	2.31E-06	1.55E-02
Road 20	20	1500-1600	7.47E-02	1.54E-07	3.73E-03	2.29E-01	1.70E-06	1.14E-02	3.04E-01	2.25E-06	1.51E-02
Road 20	20	1600-1700	7.77E-02	5.57E-07	3.75E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2043**

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour average			Monthly Hour Min			Monthly Hour average		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour
Road 54	54	0800-0900	1.144E-02	1.104E-02	2.153E-03	2.98E-03	1.12E-03	5.28E-03	1.830E-02	1.766E-02	3.534E-03	5.58E-03	2.09E-03	9.86E-03
Road 54	54	0900-1000	9.211E-02	3.32E-07	2.76E-03	3.40E-01	1.22E-06	1.02E-02	4.32E-01	1.56E-06	1.30E-02	1.08E-02	3.88E-06	3.23E-04
Road 54	54	1000-1100	1.02E-01	3.41E-07	2.84E-03	3.60E-01	1.20E-06	1.00E-02	4.57E-01	1.53E-06	1.27E-02	1.14E-02	3.82E-06	3.18E-04
Road 54	54	1100-1200	1.01E-01	3.38E-07	2.81E-03	3.57E-01	1.19E-06	9.97E-03	4.53E-01	1.51E-06	1.26E-02	1.13E-02	3.79E-06	3.16E-04
Road 54	54	1200-1300	1.26E-01	2.77E-07	2.30E-03	4.25E-01	9.34E-07	7.77E-03	5.651E-01	1.21E-06	1.01E-02	1.34E-02	2.95E-06	2.46E-04
Road 54	54	1300-1400	1.27E-01	3.56E-07	2.96E-03	4.29E-01	1.20E-06	9.98E-03	5.704E-01	1.60E-06	1.33E-02	1.32E-02	3.17E-06	2.64E-04
Road 54	54	1400-1500	1.24E-01	3.01E-07	2.50E-03	4.25E-01	1.03E-06	8.60E-03	5.559E-01	1.35E-06	1.12E-02	1.32E-02	3.20E-06	2.67E-04
Road 54	54	1500-1600	1.12E-01	2.82E-07	2.35E-03	4.25E-01	1.07E-06	8.90E-03	5.38E-01	1.35E-06	1.12E-02	1.25E-02	3.14E-06	2.61E-04
Road 54	54	1600-1700	1.07E-01	2.76E-07	2.30E-03	4.25E-01	1.09E-06	9.06E-03	5.134E-01	1.32E-06	1.10E-02	1.19E-02	3.07E-06	2.55E-04
Road 54	54	1700-1800	9.76E-02	2.27E-07	1.89E-03	3.84E-01	8.93E-07	7.43E-03	4.831E-01	1.12E-06	9.33E-03	1.08E-02	2.51E-06	2.09E-04
Road 54	54	1800-1900	1.03E-01	2.39E-07	1.99E-03	4.08E-01	9.48E-07	7.89E-03	5.103E-01	1.19E-06	9.90E-03	1.14E-02	2.66E-06	2.21E-04
Road 54	54	1900-2000	7.39E-02	1.01E-07	8.44E-04	2.84E-01	3.87E-07	3.22E-03	3.657E-01	4.91E-07	4.08E-03	9.70E-03	1.33E-06	1.11E-04
Road 54	54	2000-2200	6.95E-02	7.53E-08	6.28E-04	2.77E-01	3.00E-07	2.50E-03	3.441E-01	3.73E-07	3.10E-03	9.14E-03	9.90E-07	8.26E-05
Road 54	54	2200-2300	7.38E-02	7.36E-08	6.13E-04	2.68E-01	2.67E-07	2.22E-03	3.42E-01	3.41E-07	2.84E-03	9.53E-03	9.51E-07	7.91E-05
Road 54	54	2300-2400	6.78E-02	6.28E-08	2.72E-04	2.47E-01	2.29E-07	9.91E-04	3.441E-01	3.19E-07	1.38E-03	8.74E-03	8.09E-07	3.50E-05
Road 101	101	0000-0100	5.52E-03	7.59E-08	1.10E-03	3.77E-02	5.19E-07	7.50E-03	4.32E-02	5.94E-07	8.59E-03	1.45E-03	1.99E-07	2.88E-03
Road 101	101	0100-0200	5.52E-03	7.59E-08	1.10E-03	3.77E-02	5.19E-07	7.50E-03	4.32E-02	5.94E-07	8.59E-03	1.45E-03	1.99E-07	2.88E-03
Road 101	101	0200-0300	6.62E-03	6.36E-08	6.30E-04	4.10E-02	3.70E-07	3.91E-03	4.76E-02	3.14E-07	4.54E-03	1.71E-03	1.32E-06	1.63E-04
Road 101	101	0300-0400	7.17E-03	3.74E-08	5.41E-04	4.24E-02	2.22E-07	3.20E-03	4.56E-02	2.59E-07	3.75E-03	1.76E-03	9.69E-07	1.40E-04
Road 101	101	0400-0500	7.97E-03	3.43E-08	6.41E-04	4.28E-02	1.52E-07	3.44E-03	4.55E-02	2.36E-07	3.80E-03	1.76E-03	7.61E-07	1.31E-04
Road 101	101	0500-0600	8.24E-03	8.25E-08	1.19E-03	4.52E-02	6.54E-07	9.34E-03	5.35E-02	7.73E-07	2.15E-03	2.16E-03	2.98E-07	2.95E-03
Road 101	101	0600-0700	8.61E-03	1.13E-07	1.63E-03	4.72E-02	1.05E-06	1.50E-02	5.23E-02	2.00E-07	5.74E-03	2.31E-03	4.97E-06	7.18E-04
Road 101	101	0700-0800	9.35E-03	4.69E-07	5.91E-03	4.82E-02	2.11E-06	3.05E-02	5.76E-02	2.52E-06	6.64E-03	2.52E-03	1.27E-05	1.60E-03
Road 101	101	0800-0900	9.06E-03	4.61E-07	6.67E-03	4.46E-02	2.27E-06	3.28E-02	5.36E-02	2.73E-06	3.95E-02	2.41E-03	1.23E-05	1.78E-03
Road 101	101	0900-1000	1.20E-02	3.41E-08	1.13E-03	5.49E-02	1.56E-07	5.22E-03	6.56E-02	1.86E-07	6.22E-03	2.99E-03	8.52E-06	2.85E-04
Road 101	101	1000-1100	1.20E-02	4.56E-07	6.51E-03	5.49E-02	2.09E-06	2.98E-02	6.56E-02	2.49E-06	3.56E-02	2.99E-03	1.14E-05	1.63E-03
Road 101	101	1100-1200	1.27E-02	4.56E-07	6.89E-03	5.81E-02	2.09E-06	3.15E-02	6.94E-02	2.49E-06	3.76E-02	3.17E-03	1.14E-05	1.72E-03
Road 101	101	1200-1300	1.24E-02	4.34E-07	6.27E-03	5.18E-02	1.81E-06	2.61E-02	6.42E-02	2.24E-06	3.24E-02	3.39E-03	1.18E-05	1.71E-03
Road 101	101	1300-1400	1.25E-02	4.49E-07	6.49E-03	5.35E-02	1.92E-06	2.78E-02	6.60E-02	2.37E-06	3.43E-02	3.48E-03	1.25E-05	1.81E-03
Road 101	101	1400-1500	1.24E-02	4.49E-07	6.49E-03	5.35E-02	1.92E-06	2.78E-02	6.60E-02	2.37E-06	3.43E-02	3.48E-03	1.25E-05	1.81E-03
Road 101	101	1500-1600	1.17E-02	4.57E-07	6.61E-03	5.30E-02	2.07E-06	2.99E-02	6.46E-02	2.53E-06	3.65E-02	3.29E-03	1.29E-05	1.86E-03
Road 101	101	1600-1700	1.17E-02	4.57E-07	6.61E-03	5.30E-02	2.07E-06	2.99E-02	6.46E-02	2.53E-06	3.65E-02	3.29E-03	1.29E-05	1.86E-03
Road 101	101	1700-1800	8.73E-03	4.02E-07	5.81E-03	4.45E-02	2.05E-06	2.96E-02	5.32E-02	2.45E-06	3.55E-02	2.41E-03	1.11E-05	1.61E-03
Road 101	101	1800-1900	1.16E-02	4.02E-07	5.81E-03	5.31E-02	2.05E-06	2.96E-02	6.47E-02	2.45E-06	3.55E-02	3.28E-03	1.11E-05	1.61E-03
Road 101	101	1900-2000	5.39E-03	2.10E-07	3.04E-03	3.23E-02	1.26E-06	1.82E-02	3.77E-02	1.47E-06	2.12E-02	1.43E-03	5.57E-06	8.05E-04
Road 101	101	2000-2100	5.23E-03	1.58E-07	2.29E-03	3.57E-02	1.08E-06	1.56E-02	4.09E-02	1.24E-06	1.79E-02	1.73E-03	4.16E-06	6.01E-04
Road 101	101	2100-2200	4.65E-03	1.41E-07	2.04E-03	3.18E-02	9.66E-07	1.39E-02	3.64E-02	1.10E-06	1.59E-02	1.54E-03	4.68E-06	6.76E-04
Road 101	101	2200-2300	4.62E-03	1.35E-07	1.96E-03	3.51E-02	1.03E-06	1.49E-02	3.97E-02	1.17E-06	1.68E-02	1.61E-03	4.71E-06	6.79E-04
Road 101	101	2300-2400	4.62E-03	1.35E-07	1.96E-03	3.51E-02	1.03E-06	1.49E-02	3.97E-02	1.17E-06	1.68E-02	1.61E-03	4.71E-06	6.79E-04
Road 102	102	0000-0100	7.59E-03	8.86E-08	1.20E-03	4.28E-02	5.00E-07	6.78E-03	5.44E-02	6.28E-07	8.50E-03	1.92E-03	2.24E-07	3.03E-03
Road 102	102	0100-0200	8.23E-03	6.33E-08	8.58E-04	4.45E-02	3.42E-07	4.63E-03	5.27E-02	4.05E-07	5.49E-03	2.07E-03	1.71E-07	2.32E-03
Road 102	102	0200-0300	8.58E-03	4.35E-08	5.90E-04	4.64E-02	2.20E-07	2.98E-03	5.56E-02	2.81E-07	3.81E-03	2.16E-03	1.11E-07	1.50E-03
Road 102	102	0300-0400	8.58E-03	4.35E-08	5.90E-04	4.64E-02	2.20E-07	2.98E-03	5.56E-02	2.81E-07	3.81E-03	2.16E-03	1.11E-07	1.50E-03
Road 102	102	0400-0500	8.58E-03	4.35E-08	5.90E-04	4.64E-02	2.20E-07	2.98E-03	5.56E-02	2.81E-07	3.81E-03	2.16E-03	1.11E-07	1.50E-03
Road 102	102	0500-0600	1.09E-02	9.60E-08	1.30E-03	5.19E-02	6.22E-07	8.27E-03	5.55E-02	7.52E-07	2.95E-03	2.61E-03	3.61E-06	1.42E-03
Road 102	102	0600-0700	1.11E-02	2.20E-07	2.99E-03	5.34E-02	1.05E-06	1.43E-02	5.67E-02	1.12E-06	1.52E-02	2.68E-03	5.32E-06	7.22E-04
Road 102	102	0700-0800	1.17E-02	5.39E-07	7.30E-03	5.23E-02	2.40E-06	3.26E-02	6.40E-02	2.94E-06	3.99E-02	3.25E-03	1.49E-05	2.02E-03
Road 102	102	0800-0900	1.14E-02	5.39E-07	7.30E-03	5.23E-02	2.40E-06	3.26E-02	6.40E-02	2.94E-06	3.99E-02	3.25E-03	1.49E-05	2.02E-03
Road 102	102	0900-1000	1.55E-02	5.65E-07	7.65E-03	6.17E-02	2.25E-06	3.05E-02	7.72E-02	2.82E-06	3.82E-02	4.39E-03	1.60E-05	2.17E-03
Road 102	102	1000-1100	1.55E-02	5.65E-07	7.65E-03	6.17E-02	2.25E-06	3.05E-02	7.72E-02	2.82E-06	3.82E-02	4.39E-03	1.60E-05	2.17E-03
Road 102	102	1100-1200	1.55E-02	5.65E-07	7.65E-03	6.17E-02	2.25E-06	3.05E-02	7.72E-02	2.82E-06	3.82E-02	4.39E-03	1.60E-05	2.17E-03
Road 102	102	1200-1300	1.25E-02	3.94E-07	5.34E-03	5.18E-02	1.63E-06	2.21E-02	6.43E-02	2.02E-06	2.74E-02	3.44E-03	1.08E-05	1.47E-03
Road 102	102	1300-1400	1.26E-02	4.08E-07	5.54E-03	5.35E-02	1.74E-06	2.51E-02	6.61E-02	2.15E-06	2.91E-02	3.58E-03	1.16E-05	1.57E-03
Road 102	102	1400-1500	1.26E-02	4.08E-07	5.54E-03	5.35E-02	1.74E-06	2.51E-02	6.61E-02	2.15E-06	2.91E-02	3.58E-03	1.16E-05	1.57E-03
Road 102	102	1500-1600	1.18E-02	4.15E-07	5.62E-03	5.28E-02	1.86E-06	2.52E-02	6.46E-02	2.28E-06	3.09E-02	3.35E-03	1.18E-05	1.60E-03
Road 102	102	1600-1700	1.18E-02	4.15E-07	5.62E-03	5.28E-02	1.86E-06	2.52E-02	6.46E-02	2.28E-06	3.09E-02	3.35E-03	1.18E-05	1.60E-03
Road 102	102	1700-1800	8.76E-03	3.63E-07	4.92E-03	4.42E-02	1.83E-06	2.48E-02	5.29E-02	2.19E-06	2.97E-02	2.45E-03	1.01E-05	1.38E-03
Road 102	102	1800-1900	6.20E-03	2.75E-07	3.73E-03	3.28E-02	1.46E-06	1.97E-02	3.90E-02	1.73E-06	2.34E-02	1.73E-03	7.63E-06	1.03E-03
Road 102	102	1900-2000	5.28E-03	1.43E-07	1.94E-03	3.17E-02	8.57E-07	1.16E-02	3.72E-02	1.01E-06	1.36E-02	1.47E-03	3.98E-06	5.38E-04
Road 102	102	2000-2100	5.28E-03	1.43E-07	1.94E-03	3.17E-02	8.57E-07	1.16E-02	3.72E-02	1.01E-06	1.36E-02	1.47E-03	3.98E-06	5.38E-04
Road 102	102	2100-2200	5.28E-03	1.43E-07	1.94E-03	3.17E-02	8.57E-07	1.16E-02	3.72E-02	1.01E-06	1.36E-02	1.47E-03	3.98E-06	5.38E-04
Road 102	102	2200-2300	4.67E-03	1.28E-07	1.66E-03	3.49E-02	9.58E-07	1.24E-02	3.96E-02	1.09E-06	1.41E-02	1.59E-03	4.35E-06	5.66E-04
Road 102	102	2300-2400	5.32E-03	1.28E-07	1.66E-03	3.49E-02	9.58E-07	1.24E-02	3.96E-02	1.09E-06	1.41E-02	1.59E-03	4.35E-06	5.66E-04
Road 103	103	0000-0100	5.83E-03	5.52E-08	4.85E-04	3.85E-02	3.64E-07	3.20E-03	4.33E-02	4.20E-07	3.68E-03	1.49E-03	1.41E-07	1.24E-03
Road 103	103	0100-0200	5.83E-03	5.52E-08	4.85E-04	3.85E-02	3.64E-07	3.20E-03	4.33E-02	4.20E-07	3.68E-03	1.49E-03	1.41E-07	1.24E-03
Road 103	103	0200-0300	6.93E-03	3.81E-08	3.34E-04	4.58E-02	2.52E-07	2.20E-03	4.68E-02	2.57E-07	2.25E-03	1.78E-03	9.80E-08	8.61E-05
Road 103	103	0300-0400	6.93E-03	3.81E-08	3.34E-04	4.58E-02	2.52E-07	2.20E-03	4.68E-02	2.57E-07	2.25E-03	1.78E-03	9.80E-08	8.61E-05
Road 103	103	0400-0500	6.93E-03	3.81E-08	3.34E-04	4.58E-02	2.52E-07	2.20E-03	4.68E-02	2.57E-07	2.25E-03	1.78E-03	9.80E-08	8.61E-05
Road 103	103	0500-0600	7.99E-03	8.40E-08	1.37E-03	4.45E-02	4.68E-07	7.47E-03	4.11E-03	5.25E-02	5.52E-07	4.68E-03	2.08E-03	2.18E-03
Road 103	103	0600-0700	8.55E-03	1.93E-07	1.70E-03	4.63E-02	1.05E-06	9.19E-03	5.48E-02	1.24E-06	1.09E-02	2.22E-03	5.02E-06	4.42E-04
Road 103	103	0700-0800	9.68E-03	5.17E-07	4.54E-03	4.90E-02	2.62E-06	2.30E-02	5.87E-02	3.13E-06	2.75E-02	2.40E-03	1.28E-05	1.12E-03
Road 103	103	0800-0900	9.68E-03	5.17E-07	4.54E-03	4.90E-02	2.62E-06	2.30E-02	5.87E-02	3.13E-06	2.75E-02	2.40E-03	1.28E-05	1.12E-03
Road 103	103	0900-1000	1.17E-02	4.59E-07	4.03E-03	5.25E-02	2.06E-06	1.80E-02	6.42E-02	2.51E-06	2.20E-02	3.20E-03	1.25E-05	1.11E-03
Road 103	103	1000-1100	1.17E-02	4.56E-07	4.03E-03	5.25E-02	2.06E-06	1.80E-02	6.42E-02	2.51E-06	2.20E-02	3.20E-03	1.25E-05	1.11E-03
Road 103	103	1100-1200	1.12E-02	4.16E-07	3.65E-03	5.21E-02	1.93E-06	1.69E-02	6.31E-02	2.34E-06	2.06E-02	3.05E-03	1.13E-05	9.90E-04
Road 103	103	1200-1300	1.09E-02	4.63E-07	4.06E-03	5.15E-02	2.01E-06	1.76E-02	6.34E-02	2.75E-06	2.17E-02	3.01E-03	1.28E-05	1.08E-03
Road 103	103	1300-1400	1.20E-02	4.79E-07	4.21E-03	5.38E-02	2.15E-06	1.89E-02	6.58E-02	2.63E-06	2.31E-02	3.26E-03	1.30E-05	1.14E-03
Road 103	103	1400-1500	1.20E-02	4.79E-07	4.21E-03	5.38E-02	2.15E-06	1.89E-02	6.58E-02	2.63E-06	2.31E-02	3.26E-03	1.30E-05	1.14E-03
Road 103	103	1500-1600	1.13E-02	4.94E-07	4.34E-03	5.35E-02	2.06E-02	6.53E-02	2.84E-06	2.50E-02	3.11E-03	3.15E-03	1.37E-05	1.19E-03

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Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (December) **Year 2043**

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour average			Monthly Hour Min			Monthly Hour average		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour
Road 44	44	0800-0900	8.633E-03	2.238E-07	5.02E-04	4.42E-02	1.14E-06	2.58E-03	5.28E-02	1.37E-06	3.08E-03	2.28E-03	5.90E-07	1.33E-04
Road 44	44	0900-1000	8.633E-03	2.23E-07	5.02E-04	4.42E-02	1.14E-06	2.58E-03	5.28E-02	1.37E-06	3.08E-03	2.28E-03	5.90E-07	1.33E-04
Road 44	44	1000-1100	9.72E-03	2.17E-07	4.89E-04	4.56E-02	1.02E-06	2.29E-03	5.51E-02	1.23E-06	2.78E-03	2.59E-03	5.78E-07	1.30E-04
Road 44	44	1100-1200	1.34E-03	1.95E-07	4.40E-04	4.53E-02	9.58E-07	2.16E-03	5.51E-02	1.16E-06	2.60E-03	2.45E-03	5.18E-07	1.17E-04
Road 44	44	1200-1300	1.11E-02	2.91E-07	6.56E-04	4.95E-02	1.29E-06	2.92E-03	6.06E-02	1.59E-06	3.57E-03	2.92E-03	7.63E-07	1.72E-04
Road 44	44	1300-1400	1.41E-02	3.01E-07	6.78E-04	5.13E-02	1.10E-06	2.47E-03	6.54E-02	1.40E-06	3.15E-03	3.32E-03	7.09E-07	1.60E-04
Road 44	44	1400-1500	1.20E-02	3.43E-07	7.73E-04	5.43E-02	1.55E-06	3.49E-03	6.63E-02	1.89E-06	4.26E-03	3.05E-03	8.68E-07	1.96E-04
Road 44	44	1500-1600	1.22E-02	3.56E-07	8.02E-04	5.81E-02	1.69E-06	3.82E-03	7.03E-02	2.05E-06	4.62E-03	2.98E-03	8.69E-07	1.96E-04
Road 44	44	1600-1700	1.27E-02	3.57E-07	8.04E-04	5.81E-02	1.64E-06	3.70E-03	7.03E-02	1.98E-06	4.46E-03	3.08E-03	8.67E-07	1.96E-04
Road 44	44	1700-1800	1.97E-02	2.27E-07	5.12E-04	6.04E-02	6.96E-07	1.57E-03	8.09E-02	9.33E-07	2.10E-03	4.45E-03	5.13E-07	1.16E-04
Road 44	44	1800-1900	1.41E-02	3.36E-07	7.57E-04	5.43E-02	1.29E-06	2.91E-03	6.63E-02	1.58E-06	3.56E-03	3.19E-03	7.60E-07	1.71E-04
Road 44	44	1900-2000	8.48E-03	1.40E-07	3.36E-04	4.84E-02	7.98E-07	1.91E-03	5.66E-02	9.33E-07	2.24E-03	3.84E-03	6.35E-07	1.52E-04
Road 44	44	2000-2100	4.62E-03	1.11E-07	2.59E-04	3.70E-02	8.87E-07	2.07E-03	4.62E-02	1.11E-06	2.59E-03	3.70E-03	8.87E-07	2.07E-03
Road 44	44	2100-2200	3.95E-03	9.19E-08	2.07E-04	3.27E-02	7.61E-07	1.72E-03	3.67E-02	8.53E-07	1.92E-03	9.57E-04	2.23E-08	5.02E-05
Road 44	44	2200-2300	3.95E-03	9.19E-08	2.07E-04	3.27E-02	7.61E-07	1.72E-03	3.67E-02	8.53E-07	1.92E-03	9.57E-04	2.23E-08	5.02E-05
Road 44	44	2300-2400	4.62E-03	1.11E-07	2.59E-04	3.70E-02	8.87E-07	2.07E-03	4.62E-02	1.11E-06	2.59E-03	3.70E-03	8.87E-07	2.07E-03
Road 45	45	0000-0100	4.35E-03	3.44E-08	1.55E-04	3.39E-02	2.70E-07	1.21E-03	3.82E-02	3.04E-07	1.36E-03	1.05E-03	8.27E-08	3.69E-05
Road 45	45	0100-0200	5.25E-03	1.98E-08	8.91E-05	3.68E-02	1.39E-07	6.24E-04	4.20E-02	1.59E-07	7.13E-04	1.30E-03	4.92E-09	2.21E-05
Road 45	45	0200-0300	5.71E-03	1.70E-08	7.65E-05	3.80E-02	1.13E-07	5.09E-04	4.45E-02	1.32E-07	5.96E-04	1.43E-03	4.25E-09	1.91E-05
Road 45	45	0300-0400	5.71E-03	1.70E-08	7.65E-05	3.80E-02	1.13E-07	5.09E-04	4.45E-02	1.32E-07	5.96E-04	1.43E-03	4.25E-09	1.91E-05
Road 45	45	0400-0500	6.63E-03	3.76E-08	1.69E-04	4.03E-02	2.29E-07	1.03E-03	4.70E-02	2.66E-07	1.20E-03	1.68E-03	9.51E-09	4.27E-05
Road 45	45	0500-0600	7.13E-03	3.54E-08	2.85E-04	4.29E-02	2.13E-07	8.58E-04	4.19E-02	2.08E-07	8.41E-04	1.78E-03	8.84E-09	3.56E-05
Road 45	45	0600-0700	7.69E-03	1.89E-07	8.48E-04	4.39E-02	1.08E-06	4.84E-03	5.16E-02	1.27E-06	5.68E-03	1.54E-03	3.78E-07	1.70E-04
Road 45	45	0700-0800	7.69E-03	1.89E-07	8.48E-04	4.39E-02	1.08E-06	4.84E-03	5.16E-02	1.27E-06	5.68E-03	1.54E-03	3.78E-07	1.70E-04
Road 45	45	0800-0900	7.48E-03	2.13E-07	9.55E-04	4.04E-02	1.15E-06	5.16E-03	4.79E-02	1.36E-06	6.12E-03	1.92E-03	5.45E-08	2.45E-04
Road 45	45	0900-1000	7.48E-03	2.13E-07	9.55E-04	4.04E-02	1.15E-06	5.16E-03	4.58E-02	1.30E-06	5.22E-03	1.92E-03	5.46E-08	2.45E-04
Road 45	45	1000-1100	9.58E-03	1.93E-07	8.66E-04	5.24E-02	1.05E-06	4.73E-03	5.61E-02	1.13E-06	5.07E-03	2.58E-03	5.19E-08	2.34E-04
Road 45	45	1100-1200	1.06E-02	2.35E-07	1.05E-03	4.75E-02	1.05E-06	4.73E-03	5.81E-02	1.29E-06	5.79E-03	2.80E-03	6.21E-08	2.79E-04
Road 45	45	1200-1300	1.06E-02	2.35E-07	1.05E-03	4.75E-02	1.05E-06	4.73E-03	5.81E-02	1.29E-06	5.79E-03	2.80E-03	6.21E-08	2.79E-04
Road 45	45	1300-1400	1.07E-02	2.42E-07	1.09E-03	4.96E-02	1.12E-06	5.04E-03	5.82E-02	1.32E-06	6.13E-03	2.58E-03	5.85E-08	2.70E-04
Road 45	45	1400-1500	1.07E-02	2.42E-07	1.09E-03	4.96E-02	1.12E-06	5.04E-03	5.82E-02	1.32E-06	6.13E-03	2.58E-03	5.85E-08	2.70E-04
Road 45	45	1500-1600	1.02E-02	2.52E-07	1.13E-03	5.00E-02	1.23E-06	5.54E-03	6.02E-02	1.49E-06	6.68E-03	2.76E-03	6.82E-08	3.07E-04
Road 45	45	1600-1700	1.02E-02	2.52E-07	1.13E-03	5.00E-02	1.23E-06	5.54E-03	6.02E-02	1.49E-06	6.68E-03	2.76E-03	6.82E-08	3.07E-04
Road 45	45	1700-1800	9.28E-03	2.79E-07	1.25E-03	4.91E-02	1.48E-06	6.63E-03	5.84E-02	1.75E-06	7.88E-03	2.14E-03	6.42E-08	2.88E-04
Road 45	45	1800-1900	1.08E-02	2.79E-07	1.25E-03	5.71E-02	1.48E-06	6.63E-03	6.79E-02	1.75E-06	7.88E-03	2.14E-03	6.42E-08	2.88E-04
Road 45	45	1900-2000	4.66E-03	1.23E-07	5.52E-04	2.46E-02	7.95E-07	3.57E-03	3.48E-02	9.18E-07	4.13E-03	1.19E-03	3.13E-08	1.41E-04
Road 45	45	2000-2100	4.44E-03	9.12E-08	4.09E-04	3.27E-02	6.71E-07	3.01E-03	3.51E-02	7.62E-07	3.42E-03	1.13E-03	2.32E-08	1.04E-04
Road 45	45	2100-2200	3.78E-03	7.51E-08	3.38E-04	3.21E-02	6.39E-07	2.87E-03	3.59E-02	7.14E-07	3.21E-03	9.14E-04	1.82E-08	8.17E-05
Road 45	45	2200-2300	3.78E-03	7.51E-08	3.38E-04	3.21E-02	6.39E-07	2.87E-03	3.59E-02	7.14E-07	3.21E-03	9.14E-04	1.82E-08	8.17E-05
Road 45	45	2300-2400	4.35E-03	3.44E-08	1.55E-04	3.39E-02	2.70E-07	1.21E-03	3.82E-02	3.04E-07	1.36E-03	1.05E-03	8.27E-08	3.69E-05
Road 46	46	0000-0100	4.58E-03	1.04E-08	7.07E-05	3.49E-02	7.92E-08	5.38E-04	3.94E-02	8.97E-08	6.08E-04	1.12E-03	2.55E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 6	6	1800-1900	4.77E-02	1.37E-06	1.41E-02	2.80E-01	8.05E-06	8.28E-02	1.05E-02	3.01E-07	3.10E-03	1.14E-02	3.27E-07	3.37E-03
Road 6	6	1900-2000	3.87E-02	8.44E-07	8.67E-03	2.57E-01	5.59E-06	5.75E-02	1.02E-02	2.22E-07	2.29E-03	1.11E-02	2.42E-07	2.48E-03
Road 6	6	2000-2100	3.58E-02	6.12E-07	6.29E-03	2.46E-01	4.37E-06	4.49E-02	1.01E-02	1.72E-07	1.77E-03	1.09E-02	1.87E-07	1.92E-03
Road 6	6	2100-2200	3.46E-02	5.90E-07	6.07E-03	2.44E-01	4.18E-06	4.29E-02	9.27E-03	1.58E-07	1.63E-03	1.01E-02	1.72E-07	1.77E-03
Road 6	6	2200-2300	3.52E-02	5.72E-07	5.88E-03	2.50E-01	4.03E-06	4.14E-02	9.65E-03	1.57E-07	1.61E-03	1.05E-02	1.70E-07	1.75E-03
Road 6	6	2300-0000	3.54E-02	4.40E-07	4.52E-03	2.40E-01	2.98E-06	3.07E-02	9.60E-03	1.19E-07	1.22E-03	1.04E-02	1.30E-07	1.33E-03
Road 7	7	0000-0100	1.11E-02	6.17E-08	2.64E-04	1.32E-01	7.31E-07	3.13E-03	5.57E-03	3.09E-08	1.32E-04	6.05E-03	3.36E-08	1.44E-04
Road 7	7	0100-0200	1.21E-02	4.38E-08	1.87E-04	1.33E-01	4.83E-07	2.07E-03	5.75E-03	2.08E-08	8.91E-05	6.25E-03	2.26E-08	9.69E-05
Road 7	7	0200-0300	1.32E-02	3.56E-08	1.52E-04	1.34E-01	3.64E-07	1.56E-03	5.75E-03	1.57E-08	6.73E-05	6.25E-03	1.71E-08	7.33E-05
Road 7	7	0300-0400	1.42E-02	2.98E-08	1.28E-04	1.39E-01	2.92E-07	1.25E-03	6.11E-03	1.29E-08	5.51E-05	6.64E-03	1.40E-08	5.99E-05
Road 7	7	0400-0500	1.48E-02	3.41E-08	1.46E-04	1.40E-01	3.23E-07	1.38E-03	6.23E-03	1.44E-08	6.15E-05	6.78E-03	1.56E-08	6.69E-05
Road 7	7	0500-0600	1.51E-02	5.98E-08	2.56E-04	1.41E-01	5.61E-07	2.40E-03	6.30E-03	2.50E-08	1.07E-04	6.85E-03	2.72E-08	1.16E-04
Road 7	7	0600-0700	1.55E-02	1.32E-07	5.63E-04	1.43E-01	1.22E-06	5.20E-03	6.38E-03	5.41E-08	2.31E-04	6.94E-03	5.88E-08	2.52E-04
Road 7	7	0700-0800	1.65E-02	2.84E-07	1.21E-03	1.53E-01	2.62E-06	1.12E-02	6.81E-03	1.16E-07	4.96E-04	7.41E-03	1.26E-07	5.40E-04
Road 7	7	0800-0900	1.57E-02	3.11E-07	1.33E-03	1.29E-01	2.57E-06	1.10E-02	6.13E-03	1.22E-07	5.22E-04	6.67E-03	1.32E-07	5.67E-04
Road 7	7	0900-1000	1.75E-02	2.86E-07	1.22E-03	1.37E-01	2.25E-06	9.63E-03	6.67E-03	1.09E-07	4.67E-04	7.25E-03	1.19E-07	5.08E-04
Road 7	7	1000-1100	1.93E-02	2.74E-07	1.17E-03	1.41E-01	2.00E-06	8.55E-03	7.04E-03	9.98E-08	4.27E-04	7.66E-03	1.09E-07	4.65E-04
Road 7	7	1100-1200	1.87E-02	2.61E-07	1.12E-03	1.40E-01	1.95E-06	8.22E-03	6.94E-03	9.33E-08	3.99E-04	7.54E-03	1.01E-07	4.34E-04
Road 7	7	1200-1300	2.17E-02	3.21E-07	1.38E-03	1.58E-01	2.34E-06	1.00E-02	8.30E-03	1.23E-07	5.26E-04	8.53E-03	1.26E-07	5.40E-04
Road 7	7	1300-1400	2.17E-02	3.29E-07	1.41E-03	1.58E-01	2.39E-06	1.02E-02	8.28E-03	1.25E-07	5.39E-04	8.49E-03	1.29E-07	5.53E-04
Road 7	7	1400-1500	2.18E-02	3.26E-07	1.40E-03	1.59E-01	2.37E-06	1.02E-02	8.32E-03	1.24E-07	5.32E-04	8.53E-03	1.27E-07	5.46E-04
Road 7	7	1500-1600	2.17E-02	3.29E-07	1.41E-03	1.58E-01	2.39E-06	1.02E-02	8.29E-03	1.25E-07	5.39E-04	8.50E-03	1.28E-07	5.53E-04
Road 7	7	1600-1700	2.17E-02	3.29E-07	1.41E-03	1.58E-01	2.39E-06	1.02E-02	8.29E-03	1.25E-07	5.39E-04	8.50E-03	1.28E-07	5.53E-04
Road 7	7	1700-1800	1.69E-02	3.37E-07	1.44E-03	1.29E-01	2.57E-06	1.10E-02	6.67E-03	1.27E-07	5.42E-04	7.21E-03	1.37E-07	5.86E-04
Road 7	7	1800-1900	1.34E-02	2.92E-07	1.25E-03	1.32E-01	2.88E-06	1.23E-02	6.76E-03	1.47E-07	6.30E-04	7.35E-03	1.60E-07	6.85E-04
Road 7	7	1900-2000	1.23E-02	2.12E-07	9.08E-04	1.41E-01	2.43E-06	1.04E-02	7.01E-03	1.21E-07	5.18E-04	7.62E-03	1.32E-07	5.63E-04
Road 7	7	2000-2100	1.23E-02	1.77E-07	7.55E-04	1.41E-01	2.03E-06	8.67E-03	7.01E-03	1.01E-07	4.32E-04	7.62E-03	1.10E-07	4.69E-04
Road 7	7	2100-2200	1.09E-02	1.46E-07	6.24E-04	1.41E-01	1.89E-06	8.10E-03	6.37E-03	8.52E-08	3.65E-04	6.92E-03	9.26E-08	3.96E-04
Road 7	7	2200-2300	1.10E-02	1.43E-07	6.13E-04	1.48E-01	1.93E-06	8.24E-03	6.63E-03	8.65E-08	3.70E-04	7.21E-03	9.40E-08	4.02E-04
Road 7	7	2300-0000	1.18E-02	1.15E-07	4.91E-04	1.49E-01	1.45E-06	6.22E-03	6.77E-03	6.61E-08	2.83E-04	7.36E-03	7.18E-08	3.07E-04
Road 8	8	0000-0100	2.47E-02	1.33E-08	9.83E-05	4.02E-01	2.17E-07	1.60E-03	2.37E-02	1.28E-08	9.43E-05	2.57E-02	1.39E-08	1.03E-04
Road 8	8	0100-0200	2.52E-02	8.87E-09	3.55E-05	4.02E-01	1.41E-07	1.04E-03	2.36E-02	8.31E-09	3.32E-05	2.57E-02	9.04E-09	3.61E-05
Road 8	8	0200-0300	2.59E-02	6.69E-09	4.94E-05	4.03E-01	1.04E-07	7.67E-04	2.36E-02	6.09E-09	4.49E-05	2.56E-02	6.62E-09	4.88E-05
Road 8	8	0300-0400	2.65E-02	5.42E-09	4.00E-05	4.02E-01	8.22E-08	6.07E-04	2.36E-02	4.81E-09	3.55E-05	2.56E-02	5.23E-09	3.86E-05
Road 8	8	0400-0500	2.71E-02	6.09E-09	4.50E-05	4.01E-01	9.01E-08	6.65E-04	2.35E-02	5.28E-09	3.90E-05	2.56E-02	5.74E-09	4.24E-05
Road 8	8	0500-0600	2.71E-02	1.08E-08	7.98E-05	4.01E-01	1.56E-07	1.15E-03	2.35E-02	9.17E-09	6.77E-05	2.55E-02	9.96E-09	7.36E-05
Road 8	8	0600-0700	2.83E-02	2.58E-08	1.91E-04	4.01E-01	3.58E-07	2.64E-03	2.35E-02	2.19E-08	1.62E-04	2.55E-02	2.37E-08	1.75E-04
Road 8	8	0700-0800	2.88E-02	4.90E-08	3.62E-04	3.97E-01	6.75E-07	4.99E-03	2.34E-02	3.98E-08	2.94E-04	2.54E-02	4.33E-08	3.19E-04
Road 8	8	0800-0900	2.72E-02	5.24E-08	3.87E-04	3.62E-01	6.98E-07	5.15E-03	2.15E-02	4.15E-08	3.06E-04	2.34E-02	4.51E-08	3.33E-04
Road 8	8	0900-1000	2.92E-02	4.79E-08	3.53E-04	3.69E-01	6.06E-07	4.47E-03	2.20E-02	3.61E-08	2.67E-04	2.39E-02	3.93E-08	2.90E-04
Road 8	8	1000-1100	3.09E-02	4.31E-08	3.18E-04	3.89E-01	5.43E-07	4.01E-03	2.16E-02	3.01E-08	2.22E-04	2.37E-02	3.31E-08	2.44E-04
Road 8	8	1100-1200	3.06E-02	4.18E-08	3.09E-04	3.75E-01	5.12E-07	3.78E-03	2.23E-02	3.05E-08	2.25E-04	2.42E-02	3.31E-08	2.44E-04
Road 8	8	1200-1300	3.28E-02	1.28E-07	9.45E-04	2.77E-01	1.08E-06	7.99E-03	1.64E-02	6.41E-08	4.73E-04	1.78E-02	6.97E-08	5.14E-04
Road 8	8	1300-1400	3.25E-02	1.33E-07	9.78E-04	2.69E-01	1.10E-06	8.11E-03	1.58E-02	6.44E-08	4.75E-04	1.71E-02	7.00E-08	5.16E-04
Road 8	8	1400-1500	3.25E-02	1.38E-07	1.02E-03	2.69E-01	1.15E-06	8.45E-03	1.59E-02	6.78E-08	5.01E-04	1.73E-02	7.37E-08	5.44E-04
Road 8	8	1500-1600	3.25E-02	1.38E-07	1.02E-03	2.69E-01	1.15E-06	8.45E-03	1.59E-02	6.78E-08	5.01E-04	1.73E-02	7.37E-08	5.44E-04
Road 8	8	1600-1700	3.20E-02	1.45E-07	1.07E-03	2.81E-01	1.27E-06	9.40E-03	1.67E-02	7.57E-08	5.59E-04	1.82E-02	8.23E-08	6.08E-04
Road 8	8	1700-1800	2.67E-02	1.31E-07	9.64E-04	2.80E-01	1.37E-06	1.01E-02	1.62E-02	7.92E-08	5.84E-04	1.76E-02	8.60E-08	6.35E-04
Road 8	8	1800-1900	2.27E-02	1.12E-07	8.30E-04	2.78E-01	1.38E-06	1.02E-02	1.63E-02	8.10E-08	5.98E-04	1.78E-02	8.80E-08	6.50E-04
Road 8	8	1900-2000	2.26E-02	8.83E-08	6.52E-04	3.06E-01	1.20E-06	8.83E-03	1.79E-02	7.00E-08	5.16E-04	1.95E-02	7.62E-08	5.62E-04
Road 8	8	2000-2100	2.28E-02	7.02E-08	5.18E-04	3.21E-01	9.89E-07	7.30E-03	1.85E-02	5.69E-08	4.20E-04	2.01E-02	6.19E-08	4.57E-04
Road 8	8	2100-2200	2.11E-02	6.39E-08	4.72E-04	2.96E-01	8.94E-07	6.60E-03	1.67E-02	5.06E-08	3.73E-04	1.82E-02	5.50E-08	4.06E-04
Road 8	8	2200-2300	2.18E-02	6.40E-08	4.73E-04	3.12E-01	9.15E-07	6.76E-03	1.77E-02	5.21E-08	3.84E-04	1.93E-02	5.66E-08	4.18E-04
Road 8	8	2300-0000	2.26E-02	5.00E-08	3.69E-04	3.09E-01	6.87E-07	5.07E-03	1.77E-02	3.92E-08	2.90E-04	1.92E-02	4.26E-08	3.15E-04
Road 9	9	0000-0100	1.87E-02	1.04E-07	4.45E-04	2.23E-01	1.24E-06	5.31E-03	9.41E-03	5.22E-08	2.23E-04	1.02E-02	5.66E-08	2.42E-04
Road 9	9	0100-0200	2.04E-02	7.40E-08	3.16E-04	2.25E-01	8.79E-07	3.75E-03	9.72E-03	3.52E-08	1.50E-04	1.04E-02	4.00E-08	1.71E-04
Road 9	9	0200-0300	2.00E-02	4.52E-08	1.92E-04	2.26E-01	5.37E-07	2.29E-03	9.53E-03	2.15E-08	9.16E-05	1.04E-02	2.44E-08	1.04E-04
Road 9	9	0300-0400	2.16E-02	3.88E-08	1.65E-04	2.43E-01	4.61E-07	1.96E-03	9.53E-03	1.84E-08	7.86E-05	1.12E-02	2.09E-08	8.91E-05
Road 9	9	0400-0500	2.27E-02	3.21E-08	1.37E-04	2.55E-01	3.81E-07	1.62E-03	9.53E-03	1.52E-08	6.49E-05	1.18E-02	1.73E-08	7.37E-05
Road 9	9	0500-0600	2.44E-02	2.82E-08	2.24E-04	2.74E-01	3.34E-07	2.65E-03	9.53E-03	1.33E-08	1.06E-04	1.27E-02	1.51E-08	1.20E-04
Road 9	9	0600-0700	3.02E-02	2.19E-07	5.93E-04	2.12E-01	1.53E-06	4.16E-03	7.72E-03	5.59E-08	1.51E-04	8.39E-03	6.08E-08	1.65E-04
Road 9	9	0700-0800	4.00E-02	5.88E-07	1.59E-03	2.53E-01	3.71E-06	1.01E-02	8.79E-03	1.29E-07	3.50E-04	9.56E-03	1.41E-07	3.81E-04
Road 9	9	0800-0900	4.16E-02	7.07E-07	1.92E-03	2.47E-01	4.20E-06	1.14E-02	8.56E-03	1.46E-07	3.95E-04	9.31E-03	1.58E-07	4.29E-04
Road 9	9	0900-1000	4.47E-02	6.32E-07	1.71E-03	2.58E-01	3.65E-06	9.89E-03	9.01E-03	1.27E-07	3.46E-04	9.79E-03	1.38E-07	3.74E-04
Road 9	9	1000-1100	4.68E-02	5.74E-07	1.56E-03	2.55E-01	3.13E-06	8.47E-03	9.22E-03	1.13E-07	3.07E-04	1.00E-02	1.23E-07	3.33E-04
Road 9	9	1100-1200	4.51E-02	5.24E-07	1.42E-03	2.56E-01	2.98E-06	8.06E-03	9.07E-03	1.05E-07	2.86E-04	9.85E-03	1.15E-07	3.10E-04
Road 9	9	1200-1300	1.10E-01	1.99E-06	5.40E-03	4.69E-01	8.50E-06	2.30E-02	1.41E-02	2.56E-07	6.94E-04	1.54E-02	2.78E-07	7.54E-04
Road 9	9	1300-1400	1.27E-01	2.44E-06	6.61E-03	1.05E-01	2.03E-06	5.51E-03	7.77E-03	1.63E-07	3.12E-04	2.12E-02	4.07E-07	1.10E-03
Road 9	9	1400-1500	1.41E-01	2.80E-06	7.57E-03	5.82E-01	1.15E-05	3.14E-02	1.58E-02	3.13E-07	8.49E-04	1.71E-02	3.40E-07	9.22E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)
Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			PM_{10} Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 9	9	1500-1600	1.37E-01	2.81E-06	7.61E-03	6.08E-01	1.25E-05	3.38E-02	1.54E-02	3.16E-07	8.56E-04	1.68E-02	3.44E-07	9.32E-04
Road 9	9	1600-1700	1.48E-01	3.08E-06	8.34E-03	6.21E-01	1.29E-05	3.50E-02	1.66E-02	3.45E-07	9.36E-04	1.80E-02	3.75E-07	1.02E-03
Road 9	9	1700-1800	1.13E-01	2.49E-06	6.74E-03	5.51E-01	1.22E-05	3.29E-02	1.45E-02	3.21E-07	8.69E-04	1.58E-02	3.49E-07	9.45E-04
Road 9	9	1800-1900	6.45E-02	1.40E-06	3.80E-03	3.63E-01	7.88E-06	2.13E-02	1.14E-02	2.47E-07	6.69E-04	1.24E-02	2.68E-07	7.27E-04
Road 9	9	1900-2000	4.29E-02	9.16E-07	2.53E-03	2.41E-01	5.14E-06	1.42E-02	1.01E-02	2.16E-07	5.96E-04	1.12E-02	2.39E-07	6.60E-04
Road 9	9	2000-2100	3.77E-02	4.92E-07	1.33E-03	2.68E-01	3.50E-06	9.48E-03	9.75E-03	1.27E-07	3.45E-04	1.06E-02	1.38E-07	3.75E-04
Road 9	9	2100-2200	3.60E-02	4.69E-07	1.27E-03	2.56E-01	3.34E-06	9.04E-03	8.94E-03	1.17E-07	3.16E-04	9.72E-03	1.27E-07	3.43E-04
Road 9	9	2200-2300	3.51E-02	4.38E-07	1.19E-03	2.52E-01	3.14E-06	8.50E-03	9.10E-03	1.13E-07	3.07E-04	9.89E-03	1.23E-07	3.34E-04
Road 9	9	2300-0000	3.68E-02	3.35E-07	9.07E-04	2.44E-01	2.31E-06	6.26E-03	9.60E-03	8.75E-08	2.37E-04	1.04E-02	9.84E-08	2.53E-04
Road 10	10	0000-0100	7.41E-02	1.12E-07	2.75E-04	3.02E-01	4.57E-07	1.12E-03	1.18E-02	1.78E-08	4.37E-05	1.29E-02	1.95E-08	4.77E-05
Road 10	10	0100-0200	8.29E-02	9.39E-08	2.30E-04	3.09E-01	3.50E-07	8.56E-04	1.30E-02	1.47E-08	3.60E-05	1.42E-02	1.61E-08	3.93E-05
Road 10	10	0200-0300	9.18E-02	8.64E-08	2.11E-04	3.21E-01	3.02E-07	7.39E-04	1.41E-02	1.32E-08	3.24E-05	1.53E-02	1.44E-08	3.53E-05
Road 10	10	0300-0400	9.85E-02	8.19E-08	2.01E-04	3.42E-01	2.86E-07	7.00E-04	1.49E-02	1.24E-08	3.04E-05	1.62E-02	1.35E-08	3.30E-05
Road 10	10	0400-0500	9.81E-02	8.67E-08	2.12E-04	3.43E-01	3.03E-07	7.41E-04	1.48E-02	1.31E-08	3.21E-05	1.62E-02	1.43E-08	3.50E-05
Road 10	10	0500-0600	9.17E-02	1.16E-07	2.84E-04	3.41E-01	4.31E-07	1.05E-03	1.39E-02	1.76E-08	4.30E-05	1.52E-02	1.92E-08	4.71E-05
Road 10	10	0600-0700	8.49E-02	1.96E-07	4.78E-04	3.52E-01	8.10E-07	1.98E-03	1.30E-02	2.99E-08	7.32E-05	1.42E-02	3.28E-08	8.03E-05
Road 10	10	0700-0800	1.06E-01	5.76E-07	1.41E-03	3.86E-01	2.09E-06	5.13E-03	1.48E-02	8.05E-08	1.97E-04	1.62E-02	8.81E-08	2.16E-04
Road 10	10	0800-0900	1.06E-01	6.46E-07	1.58E-03	3.73E-01	2.28E-06	5.58E-03	1.37E-02	8.27E-08	2.02E-04	1.48E-02	9.02E-08	2.21E-04
Road 10	10	0900-1000	1.18E-01	6.71E-07	1.64E-03	3.95E-01	2.26E-06	5.52E-03	1.34E-02	7.65E-08	1.87E-04	1.46E-02	8.32E-08	2.04E-04
Road 10	10	1000-1100	1.21E-01	6.43E-07	1.57E-03	3.92E-01	2.08E-06	5.10E-03	1.36E-02	7.24E-08	1.77E-04	1.48E-02	7.89E-08	1.93E-04
Road 10	10	1100-1200	1.22E-01	6.22E-07	1.52E-03	3.96E-01	2.02E-06	4.94E-03	1.36E-02	6.92E-08	1.69E-04	1.48E-02	7.54E-08	1.85E-04
Road 10	10	1200-1300	1.40E-01	4.74E-07	1.16E-03	4.05E-01	1.38E-06	3.37E-03	1.58E-02	5.36E-08	1.31E-04	1.72E-02	5.83E-08	1.43E-04
Road 10	10	1300-1400	1.43E-01	4.29E-07	1.05E-03	4.09E-01	1.25E-06	3.05E-03	1.61E-02	4.85E-08	1.19E-04	1.75E-02	5.28E-08	1.29E-04
Road 10	10	1400-1500	1.42E-01	5.13E-07	1.25E-03	4.18E-01	1.51E-06	3.69E-03	1.58E-02	5.68E-08	1.39E-04	1.72E-02	6.19E-08	1.51E-04
Road 10	10	1500-1600	1.43E-01	5.27E-07	1.29E-03	4.29E-01	1.58E-06	3.86E-03	1.53E-02	5.62E-08	1.37E-04	1.67E-02	6.12E-08	1.50E-04
Road 10	10	1600-1700	1.41E-01	5.09E-07	1.25E-03	4.16E-01	1.51E-06	3.69E-03	1.58E-02	5.70E-08	1.40E-04	1.72E-02	6.22E-08	1.52E-04
Road 10	10	1700-1800	1.20E-01	5.45E-07	1.33E-03	3.54E-01	1.61E-06	3.93E-03	1.35E-02	6.07E-08	1.48E-04	1.46E-02	6.61E-08	1.61E-04
Road 10	10	1800-1900	1.19E-01	3.97E-07	9.71E-04	3.62E-01	1.21E-06	2.96E-03	1.51E-02	5.04E-08	1.23E-04	1.64E-02	5.49E-08	1.34E-04
Road 10	10	1900-2000	8.57E-02	1.50E-07	3.68E-04	3.13E-01	5.49E-07	1.34E-03	1.15E-02	2.02E-08	4.94E-05	1.25E-02	2.20E-08	5.39E-05
Road 10	10	2000-2100	9.02E-02	1.32E-07	3.22E-04	3.29E-01	4.80E-07	1.17E-03	1.18E-02	1.73E-08	4.22E-05	1.29E-02	1.88E-08	4.61E-05
Road 10	10	2100-2200	9.00E-02	1.32E-07	3.24E-04	3.31E-01	4.87E-07	1.19E-03	1.20E-02	1.76E-08	4.30E-05	1.30E-02	1.92E-08	4.70E-05
Road 10	10	2200-2300	8.69E-02	1.27E-07	3.12E-04	3.19E-01	4.70E-07	1.15E-03	1.16E-02	1.70E-08	4.15E-05	1.25E-02	1.85E-08	4.53E-05
Road 10	10	2300-0000	9.45E-02	1.10E-07	2.70E-04	3.29E-01	3.85E-07	9.42E-04	1.29E-02	1.51E-08	3.69E-05	1.41E-02	1.65E-08	4.03E-05
Road 11	11	0000-0100	3.80E-02	2.13E-07	2.98E-04	2.99E-01	1.67E-06	2.34E-03	1.15E-02	6.46E-08	9.05E-05	1.26E-02	7.06E-08	9.89E-05
Road 11	11	0100-0200	4.26E-02	1.59E-07	2.23E-04	3.04E-01	1.14E-06	1.59E-03	1.21E-02	4.54E-08	6.36E-05	1.33E-02	4.97E-08	6.96E-05
Road 11	11	0200-0300	4.70E-02	1.33E-07	1.86E-04	3.12E-01	9.17E-07	1.28E-03	1.23E-02	3.62E-08	5.07E-05	1.36E-02	3.98E-08	5.47E-05
Road 11	11	0300-0400	4.65E-02	1.38E-07	1.93E-04	3.10E-01	9.52E-07	1.33E-03	1.22E-02	3.76E-08	5.26E-05	1.35E-02	4.13E-08	5.78E-05
Road 11	11	0400-0500	5.31E-02	1.32E-07	1.85E-04	3.27E-01	8.14E-07	1.14E-03	1.36E-02	3.38E-08	4.74E-05	1.49E-02	3.71E-08	5.19E-05
Road 11	11	0500-0600	5.18E-02	2.14E-07	3.00E-04	3.36E-01	1.39E-06	1.95E-03	1.37E-02	5.68E-08	7.96E-05	1.51E-02	6.23E-08	8.73E-05
Road 11	11	0600-0700	5.45E-02	4.68E-07	6.55E-04	3.62E-01	3.11E-06	4.36E-03	1.43E-02	1.23E-07	1.72E-04	1.57E-02	1.35E-07	1.89E-04
Road 11	11	0700-0800	6.22E-02	1.01E-06	1.41E-03	4.12E-01	6.72E-06	9.41E-03	1.63E-02	2.66E-07	3.72E-04	1.79E-02	2.91E-07	4.07E-04
Road 11	11	0800-0900	6.86E-02	1.41E-06	1.98E-03	3.70E-01	7.62E-06	1.07E-02	1.47E-02	2.83E-07	3.96E-04	1.50E-02	3.09E-07	4.33E-04
Road 11	11	0900-1000	7.80E-02	1.36E-06	1.91E-03	3.84E-01	6.72E-06	9.41E-03	1.29E-02	2.26E-07	3.17E-04	1.41E-02	2.46E-07	3.45E-04
Road 11	11	1000-1100	8.31E-02	1.28E-06	1.80E-03	3.83E-01	5.91E-06	8.28E-03	1.28E-02	1.97E-07	2.76E-04	1.39E-02	2.15E-07	3.01E-04
Road 11	11	1100-1200	8.34E-02	1.22E-06	1.71E-03	3.96E-01	5.72E-06	8.01E-03	1.25E-02	1.84E-07	2.58E-04	1.37E-02	2.00E-07	2.81E-04
Road 11	11	1200-1300	8.56E-02	1.43E-06	2.01E-03	4.01E-01	6.72E-06	9.41E-03	1.32E-02	2.21E-07	3.10E-04	1.45E-02	2.42E-07	3.40E-04
Road 11	11	1300-1400	1.31E-01	2.77E-06	3.88E-03	5.14E-01	1.09E-05	1.52E-02	1.48E-02	3.12E-07	4.37E-04	1.61E-02	3.40E-07	4.76E-04
Road 11	11	1400-1500	1.28E-01	2.79E-06	3.91E-03	5.03E-01	1.10E-05	1.54E-02	1.51E-02	3.30E-07	4.62E-04	1.64E-02	3.59E-07	5.03E-04
Road 11	11	1500-1600	1.27E-01	2.87E-06	4.02E-03	5.15E-01	1.16E-05	1.62E-02	1.45E-02	3.25E-07	4.55E-04	1.57E-02	3.54E-07	4.96E-04
Road 11	11	1600-1700	1.21E-01	2.80E-06	3.93E-03	4.99E-01	1.15E-05	1.62E-02	1.39E-02	3.21E-07	4.50E-04	1.52E-02	3.51E-07	4.91E-04
Road 11

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 29	29	1800-1900	2.97E-02	5.63E-07	1.42E-02	3.50E-02	6.65E-06	1.67E-01	2.15E-02	4.08E-07	1.03E-02	2.34E-02	4.43E-07	1.12E-02
Road 29	29	1900-2000	2.90E-02	4.24E-07	1.07E-02	3.92E-01	5.73E-06	1.44E-01	2.39E-02	3.49E-07	8.80E-03	2.60E-02	3.80E-07	9.57E-03
Road 29	29	2000-2100	2.95E-02	3.41E-07	8.60E-03	4.08E-01	4.73E-06	1.19E-01	2.46E-02	2.85E-07	7.18E-03	2.67E-02	3.10E-07	7.81E-03
Road 29	29	2100-2200	2.77E-02	3.14E-07	7.91E-03	3.76E-01	4.25E-06	1.07E-01	2.24E-02	2.54E-07	6.40E-03	2.44E-02	2.76E-07	6.96E-03
Road 29	29	2200-2300	2.88E-02	3.16E-07	7.96E-03	3.91E-01	4.27E-06	1.08E-01	2.39E-02	2.62E-07	6.59E-03	2.60E-02	2.85E-07	7.17E-03
Road 29	29	2300-0000	2.97E-02	2.48E-07	6.25E-03	3.92E-01	3.28E-06	8.26E-02	2.36E-02	1.97E-07	4.97E-03	2.57E-02	2.15E-07	5.41E-03
Road 30	30	0000-0100	1.48E-02	1.57E-07	5.63E-04	1.16E-01	1.23E-06	4.40E-03	4.85E-03	5.15E-08	1.84E-04	5.27E-03	5.60E-08	2.00E-04
Road 30	30	0100-0200	1.69E-02	1.20E-07	4.28E-04	1.20E-01	8.47E-07	3.03E-03	5.26E-03	3.72E-08	1.33E-04	5.72E-03	4.05E-08	1.45E-04
Road 30	30	0200-0300	1.91E-02	1.01E-07	3.60E-04	1.41E-01	7.46E-07	2.67E-03	5.94E-03	3.14E-08	1.12E-04	6.46E-03	3.42E-08	1.22E-04
Road 30	30	0300-0400	2.12E-02	9.07E-08	3.24E-04	1.29E-01	5.51E-07	1.97E-03	6.04E-03	2.59E-08	9.25E-05	6.57E-03	2.82E-08	1.01E-04
Road 30	30	0400-0500	2.15E-02	1.01E-07	3.61E-04	1.30E-01	6.09E-07	2.18E-03	6.11E-03	2.87E-08	1.03E-04	6.65E-03	3.12E-08	1.12E-04
Road 30	30	0500-0600	2.02E-02	1.61E-07	5.74E-04	1.28E-01	1.02E-06	3.65E-03	5.88E-03	4.67E-08	1.67E-04	6.39E-03	5.08E-08	1.82E-04
Road 30	30	0600-0700	1.95E-02	3.27E-07	1.17E-03	1.22E-01	2.16E-06	7.72E-03	5.75E-03	9.65E-08	3.45E-04	6.25E-03	1.05E-07	3.75E-04
Road 30	30	0700-0800	2.16E-02	7.50E-07	2.68E-03	1.36E-01	4.57E-06	1.63E-02	6.14E-03	2.14E-07	7.65E-04	6.70E-03	2.33E-07	8.32E-04
Road 30	30	0800-0900	2.06E-02	8.29E-07	2.96E-03	1.21E-01	4.87E-06	1.74E-02	5.85E-03	2.36E-07	8.42E-04	6.36E-03	2.56E-07	9.15E-04
Road 30	30	0900-1000	2.35E-02	8.20E-07	2.93E-03	1.31E-01	4.56E-06	1.63E-02	6.52E-03	2.28E-07	8.13E-04	7.10E-03	2.48E-07	8.85E-04
Road 30	30	1000-1100	2.61E-02	8.11E-07	2.90E-03	1.35E-01	4.18E-06	1.49E-02	7.05E-03	2.19E-07	7.83E-04	7.67E-03	2.38E-07	8.52E-04
Road 30	30	1100-1200	2.57E-02	7.95E-07	2.84E-03	1.36E-01	4.09E-06	1.46E-02	6.95E-03	2.05E-07	7.31E-04	7.56E-03	2.22E-07	7.95E-04
Road 30	30	1200-1300	3.55E-02	1.01E-06	3.60E-03	1.62E-01	4.60E-06	1.64E-02	9.36E-03	2.66E-07	9.49E-04	1.02E-02	2.89E-07	1.03E-03
Road 30	30	1300-1400	3.52E-02	1.06E-06	3.81E-03	1.63E-01	4.94E-06	1.77E-02	9.21E-03	2.79E-07	9.96E-04	1.00E-02	3.03E-07	1.08E-03
Road 30	30	1400-1500	3.52E-02	1.09E-06	3.91E-03	1.62E-01	5.03E-06	1.80E-02	9.24E-03	2.88E-07	1.03E-03	1.01E-02	3.13E-07	1.12E-03
Road 30	30	1500-1600	3.28E-02	1.05E-06	3.77E-03	1.61E-01	5.15E-06	1.84E-02	8.77E-03	2.82E-07	1.01E-03	9.55E-03	3.07E-07	1.10E-03
Road 30	30	1600-1700	2.98E-02	1.04E-06	3.74E-03	1.46E-01	5.12E-06	1.84E-02	7.96E-03	2.80E-07	1.01E-03	8.68E-03	3.04E-07	1.09E-03
Road 30	30	1700-1800	2.74E-02	9.12E-07	3.26E-03	1.37E-01	4.79E-06	1.72E-02	7.96E-03	2.65E-07	9.46E-04	8.67E-03	2.88E-07	1.03E-03
Road 30	30	1800-1900	2.19E-02	6.90E-07	2.47E-03	1.32E-01	4.18E-06	1.49E-02	7.06E-03	2.22E-07	7.95E-04	7.67E-03	2.42E-07	8.64E-04
Road 30	30	1900-2000	1.86E-02	4.33E-07	1.55E-03	1.34E-01	3.11E-06	1.11E-02	6.76E-03	1.57E-07	5.62E-04	7.35E-03	1.71E-07	6.11E-04
Road 30	30	2000-2100	1.81E-02	3.31E-07	1.18E-03	1.36E-01	2.50E-06	8.93E-03	6.50E-03	1.20E-07	4.28E-04	7.06E-03	1.30E-07	4.65E-04
Road 30	30	2100-2200	1.81E-02	3.31E-07	1.18E-03	1.36E-01	2.50E-06	8.93E-03	6.50E-03	1.20E-07	4.28E-04	7.06E-03	1.30E-07	4.65E-04
Road 30	30	2200-2300	1.84E-02	3.21E-07	1.15E-03	1.40E-01	2.44E-06	8.70E-03	6.62E-03	1.15E-07	4.12E-04	7.20E-03	1.25E-07	4.48E-04
Road 30	30	2300-0000	2.00E-02	2.68E-07	9.57E-04	1.42E-01	1.90E-06	6.80E-03	9.22E-03	3.30E-04	7.50E-03	1.00E-02	3.58E-04	
Road 31	31	0000-0100	2.63E-02	5.31E-08	1.73E-04	2.14E-01	4.31E-07	1.41E-03	1.21E-02	2.45E-08	7.98E-05	1.32E-02	2.66E-08	8.68E-05
Road 31	31	0100-0200	3.02E-02	4.06E-08	1.32E-04	2.46E-01	3.30E-07	1.08E-03	1.39E-02	1.87E-08	6.09E-05	1.52E-02	2.04E-08	6.66E-05
Road 31	31	0200-0300	3.40E-02	3.71E-08	1.21E-04	2.17E-01	2.36E-07	7.71E-04	1.29E-02	1.40E-08	4.58E-05	1.40E-02	1.53E-08	4.99E-05
Road 31	31	0300-0400	3.72E-02	3.40E-08	1.11E-04	1.28E-01	1.99E-07	6.48E-04	1.32E-02	1.21E-08	3.94E-05	1.44E-02	1.31E-08	4.28E-05
Road 31	31	0400-0500	3.67E-02	3.64E-08	1.19E-04	2.17E-01	2.16E-07	7.03E-04	1.31E-02	1.30E-08	4.25E-05	1.43E-02	1.42E-08	4.62E-05
Road 31	31	0500-0600	3.22E-02	5.09E-08	1.66E-04	2.16E-01	3.42E-07	1.12E-03	1.26E-02	2.00E-08	6.52E-05	1.38E-02	2.18E-08	7.09E-05
Road 31	31	0600-0700	2.87E-02	7.26E-08	2.36E-04	1.93E-01	4.88E-07	1.59E-03	1.12E-02	2.85E-08	9.27E-05	1.23E-02	3.10E-08	1.01E-04
Road 31	31	0700-0800	3.26E-02	7.25E-08	2.36E-04	2.16E-01	4.79E-07	1.56E-03	1.26E-02	2.80E-08	9.12E-05	1.38E-02	3.06E-08	9.96E-05
Road 31	31	0800-0900	3.08E-02	2.41E-07	7.85E-04	1.98E-01	1.56E-06	5.08E-03	1.18E-02	9.25E-08	3.02E-04	1.28E-02	1.01E-07	3.28E-04
Road 31	31	0900-1000	3.37E-02	2.40E-07	7.81E-04	2.03E-01	1.44E-06	4.70E-03	1.22E-02	8.69E-08	2.84E-04	1.33E-02	9.47E-08	3.09E-04
Road 31	31	1000-1100	3.46E-02	2.26E-07	7.36E-04	2.07E-01	1.35E-06	4.43E-03	1.25E-02	8.14E-08	2.65E-04	1.36E-02	8.89E-08	2.89E-04
Road 31	31	1100-1200	3.66E-02	2.26E-07	7.36E-04	2.07E-01	1.28E-06	4.16E-03	1.26E-02	7.79E-08	2.54E-04	1.37E-02	8.48E-08	2.76E-04
Road 31	31	1200-1300	3.70E-02	2.09E-07	6.80E-04	2.03E-01	1.14E-06	3.73E-03	1.26E-02	7.09E-08	2.31E-04	1.37E-02	7.72E-08	2.52E-04
Road 31	31	1300-1400	3.65E-02	2.14E-07	6.97E-04	1.99E-01	1.16E-06	3.80E-03	1.23E-02	7.18E-08	2.34E-04	1.34E-02	7.82E-08	2.55E-04
Road 31	31	1400-1500	3.62E-02	2.20E-07	7.19E-04	1.98E-01	1.21E-06	3.93E-03	1.23E-02	7.48E-08	2.44E-04	1.34E-02	8.14E-08	2.66E-04
Road 31	31	1500-1600	3.53E-02	2.27E-07	7.40E-04	2.03E-01	1.30E-06	4.25E-03	1.26E-02	8.06E-08	2.63E-04	1.37E-02	8.78E-08	2.86E-04
Road 31	31	1600-1700	3.53E-02	2.27E-07	7.40E-04	2.03E-01	1.30E-06	4.25E-03	1.26E-02	8.06E-08	2.63E-04	1.37E-02	8.78E-08	2.86E-04
Road 31	31	1700-1800	2.98E-02	2.06E-07	6.71E-04	1.97E-01	1.36E-06	4.43E-03	1.17E-02	8.08E-08	2.63E-04	1.27E-02	8.79E-08	2.87E-04
Road 31	31	1800-1900	2.58E-02	1.82E-07	5.94E-04	1.88E-01	1.32E-06	4.31E-03	1.13E-02	7.95E-08	2.59E-04	1.23E-02	8.65E-08	2.82E-04
Road 31	31	1900-2000	2.11E-02	1.03E-07	3.35E-04	2.06E-01	1.02E-06	3.34E-03	1.96E-02	9.75E-08	3.18E-04	1.24E-02	6.07E-08	1.98E-04
Road 31	31	2000-2100	2.09E-02	8.45E-08	2.76E-04	2.13E-01	8.59E-07	2.80E-03	1.18E-02	4.77E-08	1.55E-04	1.26E-02	5.18E-08	1.69E-04
Road 31	31	2100-2200	1.96E-02	7.87E-08	2.57E-04	2.07E-01	8.31E-07	2.71E-03	1.07E-02	4.29E-08	1.40E-04	1.16E-02	4.67E-08	1.52E-04
Road 31	31	2200-2300	2.01E-02	7.82E-08	2.55E-04	2.07E-01	8.04E-07	2.62E-03	1.13E-02	4.37E-08	1.42E-04	1.22E-02	4.75E-08	1.55E-04
Road 31	31	2300-0000	2.21E-02	6.59E-08	2.15E-04	2.07E-01	6.18E-07	2.02E-03	1.15E-02	3.42E-08	1.11E-04	1.25E-02	3.72E-08	1.21E-04
Road 32	32	0000-0100	1.76E-02	1.87E-07	6.68E-04	1.38E-01	1.46E-06	5.22E-03	5.75E-03	6.12E-08	2.19E-04	6.25E-03	6.66E-08	2.38E-04
Road 32	32	0100-0200	1.85E-02	1.10E-07	2.67E-03	2.03E-01	1.21E-06	2.93E-02	1.07E-02	6.38E-08	1.55E-03	1.17E-02	6.94E-08	1.68E-03
Road 32	32	0200-0300	1.94E-02	8.53E-08	2.07E-03	9.00E-07	2.18E-02	1.08E-02	4.74E-08	1.15E-03	1.18E-02	5.56E-08	1.35E-03	
Road 32	32	0300-0400	2.03E-02	7.10E-08	1.72E-03	2.06E-01	7.20E-07	1.75E-02	1.09E-02	3.81E-08	9.24E-04	1.19E-02	4.15E-08	1.01E-03
Road 32	32	0400-0500	2.01E-02	1.19E-07	2.88E-03	2.04E-01	1.94E-06	4.70E-02	1.08E-02	6.17E-08	1.49E-03	1.16E-02	6.72E-08	1.62E-03
Road 32	32	0500-0600	2.20E-02	1.49E-07	3.61E-03	2.06E-01	1.40E-06	3.39E-02	1.11E-02	7.51E-08	1.82E-03	1.20E-02	8.17E-08	1.98E-03
Road 32	32	0600-0700	2.29E-02	3.36E-07	8.13E-03	2.08E-01	3.05E-06	7.40E-02	1.12E-02	1.64E-07	3.97E-03	1.21E-02	1.78E-07	4.32E-03
Road 32	32	0700-0800	2.36E-02	7.06E-07	1.71E-02	2.07E-01	6.20E-06	1.50E-01	1.12E-02	3.37E-07	8.16E-03	1.22E-02	3.67E-07	8.88E-03
Road 32	32	0800-0900	2.24E-02	7.77E-07	1.88E-02	1.88E-01	6.50E-06	1.58E-01	1.04E-02	3.61E-07	8.74E-03	1.13E-02	3.93E-07	9.52E-03
Road 32	32	0900-1000	2.50E-02	7.93E-07	1.92E-02	1.96E-01	6.20E-06	1.50E-01	1.43E-02	3.53E-07	8.54E-03	1.29E-02	3.62E-07	8.77E-03
Road 32	32	1000-1100	2.74E-02	7.47E-07	1.81E-02	1.95E-01	5.30E-06	1.28E-01	1.12E-02	3.06E-07	7.40E-03	1.22E-02	3.32E-07	8.06E-03
Road 32	32	1100-1200	2.70E-02	6.95E-07	1.68E-02	1.98E-01	5.10E-06	1.23E-01	1.12E-02	2.89E-07	7.00E-03	1.22E-02	3.14E-07	7.62E-03
Road 32	32	1200-1300	2.42E-02	4.30E-07	1.04E-02	1.57E-01	2.79E-06	6.77E-02	8.64E-03	1.53E-07	3.71E-03	9.41E-03	1.67E-07	4.04E-03
Road 32	32	1300-1400	2.42E-02	4.47E-07	1.07E-02	1.58E-01	2.90E-06	7.04E-02	8.64E-03	1.59E-07	3.86E-03	9.27E-03	1.70E-07	4.12E-03
Road 32	32	1400-1500	2.43E-02	4.70E-07	1.14E-02	3.06E-01	5.92E-06	1.44E-01	8.52E-03	1.65E-07	4.00E-03	9.28E-03	1.80E-07	4.36E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)
Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 32	32	1500-1600	2.28E-02	4.53E-07	1.10E-02	1.53E-01	3.04E-06	7.36E-02	8.20E-03	1.63E-07	3.94E-03	8.93E-03	1.77E-07	4.77E-03
Road 32	32	1600-1700	2.39E-02	4.97E-07	1.20E-02	1.57E-01	3.26E-06	7.90E-02	8.70E-03	1.81E-07	4.39E-03	9.47E-03	1.97E-07	4.77E-03
Road 32	32	1700-1800	1.84E-02	4.24E-07	1.03E-02	1.47E-01	3.40E-06	8.24E-02	7.65E-03	1.76E-07	4.28E-03	8.33E-03	1.92E-07	4.65E-03
Road 32	32	1800-1900	1.44E-02	3.51E-07	8.50E-03	1.32E-01	3.22E-06	7.80E-02	6.95E-03	1.69E-07	4.11E-03	7.55E-03	1.84E-07	4.46E-03
Road 32	32	1900-2000	1.38E-02	2.63E-07	6.38E-03	1.32E-01	2.51E-06	6.08E-02	6.96E-03	1.32E-07	3.20E-03	7.88E-03	1.52E-07	3.68E-03
Road 32	32	2000-2100	1.36E-02	2.05E-07	4.96E-03	1.53E-01	2.30E-06	5.58E-02	7.41E-03	1.11E-07	2.70E-03	8.06E-03	1.21E-07	2.94E-03
Road 32	32	2100-2200	1.23E-02	1.84E-07	4.46E-03	1.43E-01	2.14E-06	5.18E-02	6.63E-03	9.91E-08	2.40E-03	7.21E-03	1.08E-07	2.61E-03
Road 32	32	2200-2300	1.25E-02	1.80E-07	4.37E-03	1.49E-01	2.09E-06	5.06E-02	6.90E-03	9.99E-08	2.42E-03	7.50E-03	1.09E-07	2.63E-03
Road 32	32	2300-0000	1.32E-02	1.31E-07	3.22E-03	1.56E-01	1.53E-06	3.72E-02	7.04E-03	7.06E-08	1.71E-03	7.66E-03	7.75E-08	1.87E-03
Road 33	33	0000-0100	1.67E-02	1.64E-07	5.89E-04	1.32E-01	1.29E-06	4.61E-03	5.23E-03	5.09E-08	1.83E-04	5.69E-03	5.59E-08	2.01E-04
Road 33	33	0100-0200	1.91E-02	1.26E-07	4.50E-04	1.36E-01	8.92E-07	3.19E-03	5.94E-03	3.91E-08	1.40E-04	6.46E-03	4.25E-08	1.52E-04
Road 33	33	0200-0300	2.16E-02	1.06E-07	3.79E-04	1.60E-01	7.85E-07	2.81E-03	6.70E-03	3.30E-08	1.18E-04	7.29E-03	3.59E-08	1.28E-04
Road 33	33	0300-0400	2.40E-02	9.54E-08	3.41E-04	1.46E-01	5.80E-07	2.07E-03	6.84E-03	2.72E-08	9.73E-05	7.44E-03	2.96E-08	1.06E-04
Road 33	33	0400-0500	2.43E-02	1.06E-07	3.80E-04	1.47E-01	6.41E-07	2.29E-03	6.91E-03	3.01E-08	1.08E-04	7.52E-03	3.28E-08	1.17E-04
Road 33	33	0500-0600	2.28E-02	1.69E-07	6.05E-04	1.44E-01	1.07E-06	3.84E-03	6.62E-03	4.91E-08	1.76E-04	7.21E-03	5.35E-08	1.91E-04
Road 33	33	0600-0700	2.20E-02	3.44E-07	1.23E-03	1.38E-01	2.17E-06	7.76E-03	6.49E-03	1.01E-07	3.62E-04	7.06E-03	1.10E-07	3.94E-04
Road 33	33	0700-0800	2.44E-02	7.59E-07	2.71E-03	1.54E-01	4.79E-06	1.71E-02	6.94E-03	2.19E-07	7.84E-04	7.57E-03	2.39E-07	8.54E-04
Road 33	33	0800-0900	2.33E-02	8.38E-07	2.99E-03	1.37E-01	4.93E-06	1.76E-02	6.61E-03	2.38E-07	8.51E-04	7.21E-03	2.59E-07	9.25E-04
Road 33	33	0900-1000	2.66E-02	8.29E-07	2.96E-03	1.48E-01	4.62E-06	1.65E-02	7.38E-03	2.30E-07	8.22E-04	8.05E-03	2.51E-07	8.95E-04
Road 33	33	1000-1100	2.96E-02	8.21E-07	2.93E-03	1.53E-01	4.24E-06	1.51E-02	8.07E-03	2.24E-07	8.00E-04	8.68E-03	2.41E-07	8.60E-04
Road 33	33	1100-1200	2.91E-02	8.04E-07	2.87E-03	1.54E-01	4.26E-06	1.52E-02	7.87E-03	2.17E-07	7.75E-04	8.54E-03	2.36E-07	8.42E-04
Road 33	33	1200-1300	4.02E-02	1.14E-06	4.07E-03	1.84E-01	5.22E-06	1.86E-02	1.06E-02	3.01E-07	1.07E-03	1.16E-02	3.27E-07	1.17E-03
Road 33	33	1300-1400	3.98E-02	1.20E-06	4.31E-03	1.84E-01	5.59E-06	1.99E-02	1.04E-02	3.16E-07	1.13E-03	1.14E-02	3.44E-07	1.23E-03
Road 33	33	1400-1500	3.98E-02	1.23E-06	4.43E-03	1.83E-01	5.69E-06	2.04E-02	1.04E-02	3.24E-07	1.16E-03	1.14E-02	3.53E-07	1.26E-03
Road 33	33	1500-1600	3.71E-02	1.19E-06	4.26E-03	1.82E-01	5.84E-06	2.09E-02	9.92E-03	3.18E-07	1.14E-03	1.08E-02	3.47E-07	1.24E-03
Road 33	33	1600-1700	3.37E-02	1.18E-06	4.23E-03	1.65E-01	5.82E-06	2.08E-02	9.01E-03	3.17E-07	1.13E-03	9.85E-03	3.46E-07	1.24E-03
Road 33	33	1700-1800	3.10E-02	1.03E-06	3.69E-03	1.55E-01	5.15E-06	1.84E-02	8.29E-03	2.76E-07	9.87E-04	9.06E-03	3.01E-07	1.08E-03
Road 33	33	1800-1900	2.48E-02	8.26E-07	2.95E-03	1.24E-01	4.13E-06	1.48E-02	6.63E-03	2.21E-07	7.89E-04	7.24E-03	2.41E-07	8.60E-04
Road 33	33	1900-2000	2.11E-02	5.87E-07	2.10E-03	1.52E-01	4.23E-06	1.51E-02	7.96E-03	2.22E-07	7.92E-04	8.68E-03	2.42E-07	8.64E-04
Road 33	33	2000-2100	2.05E-02	4.60E-07	1.64E-03	1.56E-01	3.31E-06	1.18E-02	7.72E-03	1.74E-07	6.21E-04	8.42E-03	1.89E-07	6.75E-04
Road 33	33	2100-2200	1.96E-02	4.60E-07	1.64E-03	1.56E-01	3.31E-06	1.18E-02	7.37E-03	1.74E-07	6.21E-04	8.04E-03	1.89E-07	6.75E-04
Road 33	33	2200-2300	1.96E-02	4.60E-07	1.64E-03	1.56E-01	3.31E-06	1.18E-02	7.37E-03	1.74E-07	6.21E-04	8.04E-03	1.89E-07	6.75E-04
Road 33	33	2300-0000	2.04E-02	2.59E-07	1.42E-03	1.55E-01	1.96E-06	1.08E-02	7.72E-03	9.79E-08	5.38E-04	8.39E-03	1.06E-07	5.85E-04
Road 34	34	0000-0100	1.07E-02	7.87E-08	7.52E-04	1.32E-01	8.27E-07	7.90E-03	4.45E-03	3.26E-08	3.11E-04	4.84E-03	3.54E-08	3.38E-04
Road 34	34	0100-0200	1.21E-02	5.80E-08	5.54E-04	1.15E-01	5.54E-07	5.29E-03	4.71E-03	2.26E-08	2.16E-04	5.12E-03	2.46E-08	2.35E-04
Road 34	34	0200-0300	1.35E-02	4.79E-08	4.57E-04	1.29E-01	4.57E-07	4.36E-03	4.98E-03	1.76E-08	1.68E-04	5.41E-03	1.91E-08	1.82E-04
Road 34	34	0300-0400	1.45E-02	4.70E-08	4.49E-04	1.23E-01	3.78E-07	3.61E-03	5.33E-03	1.64E-08	1.56E-04	5.79E-03	1.78E-08	1.70E-04
Road 34	34	0400-0500	1.53E-02	4.70E-08	4.49E-04	1.23E-01	3.78E-07	3.61E-03	5.33E-03	1.64E-08	1.56E-04	5.79E-03	1.78E-08	1.70E-04
Road 34	34	0500-0600	1.46E-02	7.73E-08	7.39E-04	1.23E-01	6.42E-07	6.14E-03	5.25E-03	2.74E-08	2.62E-04	5.71E-03	2.93E-08	2.80E-04
Road 34	34	0600-0700	1.47E-02	1.62E-07	1.55E-03	1.24E-01	1.37E-06	1.31E-02	5.23E-03	5.79E-08	5.53E-04	5.69E-03	6.29E-08	6.01E-04
Road 34	34	0700-0800	1.49E-02	2.96E-07	2.83E-03	1.24E-01	2.51E-06	2.39E-02	5.24E-03	1.06E-07	1.01E-03	5.71E-03	1.15E-07	1.10E-03
Road 34	34	0800-0900	1.50E-02	3.91E-07	3.73E-03	1.11E-01	2.89E-06	2.76E-02	5.15E-03	1.34E-07	1.28E-03	5.61E-03	1.46E-07	1.39E-03
Road 34	34	0900-1000	1.68E-02	3.58E-07	3.42E-03	1.19E-01	2.53E-06	2.42E-02	5.67E-03	1.21E-07	1.15E-03	6.17E-03	1.31E-07	1.25E-03
Road 34	34	1000-1100	1.86E-02	3.43E-07	3.28E-03	1.32E-01	2.25E-06	2.15E-02	6.05E-03	1.11E-07	1.06E-03	6.58E-03	1.21E-07	1.16E-03
Road 34	34	1100-1200	1.81E-02	3.16E-07	3.02E-03	1.24E-01	2.17E-06	2.07E-02	5.94E-03	1.04E-07	9.91E-04	6.46E-03	1.13E-07	1.08E-03
Road 34	34	1200-1300	1.97E-02	3.97E-07	3.81E-03	1.35E-01	2.73E-06	2.61E-02	6.58E-03	1.31E-07	1.26E-03	7.16E-03	1.47E-07	1.41E-03
Road 34	34	1300-1400	1.97E-02	4.84E-07	4.62E-03	3.15E-01	3.84E-06	3.66E-02	1.96E-02	2.39E-07	2.28E-03	1.32E-02	2.60E-07	2.48E-03
Road 34	34	1400-1500	1.98E-02	5.01E-07	4.78E-03	3.18E-01	3.99E-06	3.81E-02	1.99E-02	2.50E-07	2.39E-03	2.17E-02	2.73E-07	2.60E-03
Road 34	34	1500-1600	3.75E-02	4.84E-07	4.62E-03	3.11E-01	4.02E-06	3.84E-02	2.92E-02	2.48E-07	2.37E-03	2.09E-02	2.70E-07	2.58E-03
Road 34	34	1600-1700	3.93E-02	5.16E-07	4.93E-03	3.37E-01	4.44E-06	4.24E-02	2.11E-02	2.78E-07	2.65E-03	2.30E-02	3.02E-07	2.89E-03
Road 34	34	1700-1800

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 52	52	1800-1900	6.35E-02	1.46E-07	2.73E-04	2.72E-01	6.26E-07	1.17E-03	1.02E-02	2.34E-08	4.37E-05	1.09E-02	2.50E-08	4.77E-05
Road 52	52	1900-2000	6.04E-02	9.14E-08	1.71E-04	2.52E-01	3.81E-07	7.12E-04	9.98E-03	1.51E-08	2.82E-05	1.09E-02	1.64E-08	3.07E-05
Road 52	52	2000-2100	5.89E-02	7.09E-08	1.33E-04	2.53E-01	3.05E-07	5.70E-04	9.80E-03	1.18E-08	2.21E-05	1.07E-02	1.29E-08	2.40E-05
Road 52	52	2100-2200	5.97E-02	7.39E-08	1.38E-04	2.54E-01	3.14E-07	5.87E-04	9.90E-03	1.23E-08	2.29E-05	1.08E-02	1.33E-08	2.49E-05
Road 52	52	2200-2300	6.55E-02	1.35E-07	2.52E-04	2.74E-01	5.13E-07	1.05E-03	1.14E-02	2.14E-08	3.99E-05	1.19E-02	2.24E-08	4.17E-05
Road 52	52	2300-0000	6.45E-02	5.71E-08	1.07E-04	2.21E-01	4.13E-07	4.00E-04	1.06E-02	9.41E-09	1.76E-05	1.15E-02	1.02E-08	1.91E-05
Road 53	53	0000-0100	9.55E-02	4.46E-08	3.78E-04	4.05E-01	1.89E-07	1.60E-03	1.26E-02	5.90E-09	5.00E-05	1.37E-02	6.40E-09	5.43E-05
Road 53	53	0100-0200	9.50E-02	2.99E-08	2.54E-04	4.01E-01	1.26E-07	1.07E-03	1.26E-02	3.98E-09	3.38E-05	1.37E-02	4.33E-09	3.67E-05
Road 53	53	0200-0300	9.87E-02	2.36E-08	2.01E-04	4.14E-01	9.88E-08	8.39E-04	1.31E-02	3.14E-09	2.67E-05	1.42E-02	3.42E-09	2.84E-05
Road 53	53	0300-0400	1.02E-01	1.99E-08	1.69E-04	4.23E-01	8.27E-08	7.02E-04	1.31E-02	2.56E-09	2.17E-05	1.42E-02	2.79E-09	2.36E-05
Road 53	53	0400-0500	1.05E-01	2.33E-08	1.97E-04	4.32E-01	9.59E-08	8.13E-04	1.32E-02	2.96E-09	2.51E-05	1.45E-02	3.22E-09	2.73E-05
Road 53	53	0500-0600	1.12E-01	4.47E-08	3.79E-04	4.57E-01	1.82E-07	1.54E-03	1.38E-02	5.51E-09	4.67E-05	1.50E-02	5.98E-09	5.07E-05
Road 53	53	0600-0700	1.26E-01	1.11E-07	9.41E-04	5.06E-01	4.45E-07	3.77E-03	1.46E-02	1.29E-08	1.10E-04	1.59E-02	1.41E-08	1.19E-04
Road 53	53	0700-0800	1.41E-01	2.59E-07	2.20E-03	5.53E-01	1.02E-06	8.65E-03	1.56E-02	2.87E-08	2.44E-04	1.69E-02	3.12E-08	2.65E-04
Road 53	53	0800-0900	1.39E-01	2.89E-07	2.45E-03	5.52E-01	1.15E-06	9.75E-03	1.49E-02	3.11E-08	2.64E-04	1.63E-02	3.39E-08	2.87E-04
Road 53	53	0900-1000	1.49E-01	3.19E-07	2.70E-03	5.94E-01	1.27E-06	1.08E-02	1.59E-02	3.39E-08	2.88E-04	1.73E-02	3.69E-08	3.13E-04
Road 53	53	1000-1100	1.62E-01	3.26E-07	2.76E-03	6.13E-01	1.23E-06	1.05E-02	1.67E-02	3.35E-08	2.84E-04	1.81E-02	3.64E-08	3.09E-04
Road 53	53	1100-1200	1.60E-01	3.47E-07	2.95E-03	6.13E-01	1.33E-06	1.13E-02	1.67E-02	3.62E-08	3.08E-04	1.81E-02	3.93E-08	3.34E-04
Road 53	53	1200-1300	1.39E-01	3.20E-07	2.72E-03	5.25E-01	1.18E-06	1.00E-02	1.44E-02	3.32E-08	2.82E-04	1.56E-02	3.60E-08	3.06E-04
Road 53	53	1300-1400	1.39E-01	3.40E-07	2.88E-03	5.32E-01	1.30E-06	1.11E-02	1.34E-02	3.27E-08	2.78E-04	1.45E-02	3.56E-08	3.02E-04
Road 53	53	1400-1500	1.38E-01	3.49E-07	2.96E-03	5.17E-01	1.31E-06	1.11E-02	1.34E-02	3.39E-08	2.87E-04	1.46E-02	3.68E-08	3.12E-04
Road 53	53	1500-1600	1.28E-01	3.32E-07	2.81E-03	5.19E-01	1.35E-06	1.14E-02	1.27E-02	3.30E-08	2.80E-04	1.38E-02	3.58E-08	3.04E-04
Road 53	53	1600-1700	1.31E-01	3.26E-07	2.76E-03	5.31E-01	1.32E-06	1.12E-02	1.30E-02	3.23E-08	2.74E-04	1.41E-02	3.50E-08	2.97E-04
Road 53	53	1700-1800	1.02E-01	2.75E-07	2.33E-03	4.37E-01	1.18E-06	9.99E-03	1.02E-02	2.75E-08	2.33E-04	1.11E-02	2.98E-08	2.68E-04
Road 53	53	1800-1900	7.65E-02	1.94E-07	1.65E-03	3.39E-01	8.60E-07	7.30E-03	8.74E-03	2.22E-08	1.88E-04	9.50E-03	2.41E-08	2.04E-04
Road 53	53	1900-2000	6.66E-02	1.29E-07	1.09E-03	3.02E-01	5.86E-07	4.97E-03	8.04E-03	1.56E-08	1.32E-04	8.74E-03	1.69E-08	1.44E-04
Road 53	53	2000-2100	6.57E-02	1.26E-07	1.07E-03	3.02E-01	5.80E-07	4.92E-03	7.93E-03	1.52E-08	1.29E-04	8.62E-03	1.65E-08	1.40E-04
Road 53	53	2100-2200	6.44E-02	9.85E-08	8.35E-04	3.13E-01	4.79E-07	4.06E-03	7.76E-03	1.19E-08	1.01E-04	8.44E-03	1.29E-08	1.09E-04
Road 53	53	2200-2300	6.50E-02	9.32E-08	7.90E-04	3.01E-01	4.32E-07	3.66E-03	7.57E-03	1.09E-08	9.20E-05	8.23E-03	1.18E-08	1.00E-04
Road 53	53	2300-0000	6.68E-02	7.33E-08	6.21E-04	3.04E-01	3.34E-07	2.83E-03	7.82E-03	8.58E-09	7.28E-05	8.50E-03	9.32E-09	7.90E-05
Road 54	54	0000-0100	7.33E-02	6.56E-08	5.46E-04	3.28E-01	2.93E-07	2.44E-03	9.19E-03	8.23E-09	6.85E-05	9.98E-03	8.93E-09	7.43E-05
Road 54	54	0100-0200	7.41E-02	4.29E-08	3.57E-04	3.28E-01	1.90E-07	1.58E-03	9.35E-03	5.41E-09	4.50E-05	1.02E-02	5.91E-09	4.92E-05
Road 54	54	0200-0300	7.83E-02	3.50E-08	2.91E-04	3.42E-01	1.53E-07	1.27E-03	9.70E-03	4.33E-09	3.61E-05	1.05E-02	4.70E-09	3.92E-05
Road 54	54	0300-0400	7.86E-02	2.84E-08	2.37E-04	3.41E-01	1.23E-07	1.03E-03	9.82E-03	3.55E-09	2.95E-05	1.07E-02	3.86E-09	3.21E-05
Road 54	54	0400-0500	8.55E-02	3.47E-08	2.89E-04	3.64E-01	1.48E-07	1.23E-03	1.03E-02	4.20E-09	3.50E-05	1.12E-02	4.57E-09	3.80E-05
Road 54	54	0500-0600	9.29E-02	6.70E-08	5.57E-04	3.89E-01	2.80E-07	2.33E-03	1.09E-02	7.85E-09	6.54E-05	1.18E-02	8.52E-09	7.09E-05
Road 54	54	0600-0700	1.01E-01	1.61E-07	1.34E-03	4.21E-01	6.71E-07	5.58E-03	1.18E-02	1.87E-08	1.56E-04	1.28E-02	2.02E-08	1.68E-04
Road 54	54	0700-0800	1.20E-01	3.93E-07	3.27E-03	4.80E-01	1.57E-06	1.31E-02	1.27E-02	4.14E-08	3.45E-04	1.38E-02	4.51E-08	3.75E-04
Road 54	54	0800-0900	1.17E-01	4.40E-07	3.66E-03	4.73E-01	1.77E-06	1.48E-02	1.22E-02	4.55E-08	3.79E-04	1.32E-02	4.95E-08	4.12E-04
Road 54	54	0900-1000	1.33E-01	4.79E-07	3.98E-03	5.33E-01	1.92E-06	1.60E-02	1.35E-02	4.87E-08	4.05E-04	1.47E-02	5.26E-08	4.41E-04
Road 54	54	1000-1100	1.41E-01	4.81E-07	4.00E-03	5.61E-01	1.91E-06	1.59E-02	1.43E-02	4.89E-08	4.07E-04	1.55E-02	5.29E-08	4.41E-04
Road 54	54	1100-1200	1.45E-01	4.55E-07	3.79E-03	5.76E-01	1.80E-06	1.50E-02	1.48E-02	4.62E-08	3.84E-04	1.59E-02	5.00E-08	4.17E-04
Road 54	54	1200-1300	1.80E-01	3.89E-07	3.23E-03	6.45E-01	1.39E-06	1.16E-02	1.68E-02	3.63E-08	3.02E-04	1.83E-02	3.95E-08	3.29E-04
Road 54	54	1300-1400	1.76E-01	4.15E-07	3.46E-03	6.55E-01	1.49E-06	1.29E-02	1.65E-02	3.90E-08	3.24E-04	1.79E-02	4.24E-08	3.53E-04
Road 54	54	1400-1500	1.77E-01	4.23E-07	3.52E-03	6.44E-01	1.54E-06	1.28E-02	1.67E-02	3.98E-08	3.31E-04	1.81E-02	4.33E-08	3.60E-04
Road 54	54	1500-1600	1.62E-01	4.01E-07	3.33E-03	5.94E-01	1.47E-06	1.22E-02	1.52E-02	3.77E-08	3.13E-04	1.65E-02	4.09E-08	3.40E-04
Road 54	54	1600-1700	1.70E-01	4.01E-07	3.33E-03	6.30E-01	1.49E-06	1.24E-02	1.62E-02	3.81E-08	3.17E-04	1.76E-02	4.15E-08	3.45E-04
Road 54	54	1700-1800	1.41E-01	3.23E-07	2.69E-03	5.86E-01	1.34E-06	1.12E-02	1.43E-02	3.28E-08	2.73E-04	1.56E-02	3.56E-08	2.97E-04
Road 54	54	1800-1900	1.17E-01	2.18E-07	1.82E-03	5.01E-01	9.37E-07	7.80E-03	1.26E-02	2.36E-08	1.96E-04	1.37E-02	2.56E-08	2.13E-04
Road 54	54	1900-2000	1.08E-01	1.44E-07	1.20E-03	4.51E-01	6.13E-07	5.10E-03	1.21E-02	1.64E-08	1.36E-04	1.31E-02	1.78E-08	1.48E-04
Road 54	54	2000-2100	9.97E-02	1.08E-07	8.95E-04	4.42E-01	4.77E-07	3.97E-03	1.17E-02	1.27E-08	1.05E-04	1.28E-02	1.38E-08	1.15E-04
Road 54	54	2100-2200	1.00E-01	1.09E-07	9.09E-04	4.44E-01	4.82E-07	4.01E-03	1.17E-02	1.27E-08	1.05E-04	1.27E-02	1.38E-08	1.15E-04
Road 54	54	2200-2300	1.05E-01	1.04E-07	8.64E-04	4.31E-01	4.25E-07	3.54E-03	1.18E-02	1.16E-08	9.68E-05	1.28E-02	1.26E-08	1.05E-04
Road 54	54	2300-0000	1.05E-01	8.16E-08	6.79E-04	4.29E-01	3.32E-07	2.76E-03	1.19E-02	9.24E-09	7.69E-05	1.29E-02	1.00E-08	8.35E-05
Road 101	101	0000-0100	9.29E-02	4.34E-08	3.68E-04	3.94E-01	1.84E-07	1.56E-03	1.23E-02	5.74E-09	4.86E-05	1.33E-02	6.22E-09	5.28E-05
Road 101	101	0100-0200	1.01E-02	5.84E-08	8.44E-04	7.77E-02	4.47E-07	6.47E-03	2.21E-03	1.27E-08	1.84E-04	2.40E-03	1.38E-08	2.00E-04
Road 101	101	0200-0300	1.11E-02	4.68E-08	6.77E-04	8.10E-02	3.43E-07	4.95E-03	2.40E-03	1.01E-08	1.47E-04	2.61E-03	1.10E-08	1.60E-04
Road 101	101	0300-0400	1.19E-02	4.00E-08	5.78E-04	8.33E-02	2.79E-07	4.03E-03	2.59E-03	8.69E-09	1.26E-04	2.82E-03	9.46E-09	1.37E-04
Road 101	101	0400-0500	1.28E-02	4.00E-08	5.78E-04	8.83E-02	2.76E-07	3.99E-03	2.78E-03	8.68E-09	1.26E-04	3.04E-03	9.46E-09	1.37E-04
Road 101	101	0500-0600	1.37E-02	8.78E-08	1.27E-03	8.74E-02	5.62E-07	8.12E-03	2.98E-03	1.92E-08	2.77E-04	3.25E-03	2.09E-08	3.02E-04
Road 101	101	0600-0700	1.46E-02	2.02E-07	2.92E-03	9.04E-02	1.25E-06	1.81E-02	3.18E-03	4.40E-08	6.35E-04	3.46E-03	4.79E-08	6.92E-04
Road 101	101	0700-0800	1.54E-02	4.32E-07	6.25E-03	9.57E-02	2.67E-06	3.71E-02	3.38E-03	9.48E-08	1.37E-03	3.68E-03	1.03E-07	1.49E-03
Road 101	101	0800-0900	1.48E-02	4.84E-07	6.99E-03	8.23E-02	2.69E-06	3.89E-02	3.33E-03	1.09E-07	1.57E-03	3.63E-03	1.19E-07	1.71E-03
Road 101	101	0900-1000	1.70E-02	4.49E-07	6.47E-03	9.43E-02	2.49E-06	3.59E-02	3.89E-03	1.03E-07	1.48E-03	4.24E-03	1.12E-07	1.61E-03
Road 101	101	1000-1100	1.93E-02	4.66E-07	6.73E-03	9.52E-02	2.30E-06	3.32E-02	4.39E-03	1.06E-07	1.53E-03	4.78E-03	1.15E-07	1.67E-03
Road 101	101	1100-1200	1.85E-02	4.23E-07	6.12E-03	9.52E-02	2.17E-06	3.14E-02	4.19E-03	9.57E-08	1.38E-03	4.57E-03	1.04E-07	1.51E-03
Road 101	101	1200-1300	2.51E-02	6.34E-07	9.16E-03	1.08E-01	2.74E-06	3.96E-02	5.68E-03	1.44E-07	2.08E-03	6.19E-03	1.57E-07	2.26E-03
Road 101	101	1300-1400	2.51E-02	6.65E-07	9.61E-03	1.11E-01	2.93E-06	4.24E-02	5.77E-03	1.53E-07	2.21E-03	6.26E-03	1.67E-07	2.41E-03
Road 101	101	1400-1500	2.51E-02	6.98E-07	9.61E-02	1.09E-01	3.03E-06	4.38E-02	5.75E-03	1.60E-07	2.31E-03	6.27E-03	1.74E-07	2.52E-03

L:\Secure\Environment_Projects\60732229\1.01\Others\Air\Modelling\Appendix\Traffic\Appendix\Appendix 3.5.3 Emission Factor in 2033-S.B.xlsx

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 101	101	1500-1600	2.33E-02	6.66E-07	9.63E-03	1.08E-01	3.09E-06	4.47E-02	5.44E-03	1.55E-07	2.25E-03	5.93E-03	1.69E-07	2.45E-03
Road 101	101	1600-1700	2.42E-02	7.10E-07	1.03E-02	1.05E-01	3.09E-06	4.46E-02	5.52E-03	1.62E-07	2.34E-03	6.02E-03	1.77E-07	2.55E-03
Road 101	101	1700-1800	1.79E-02	5.69E-07	8.22E-03	9.24E-02	2.95E-06	4.25E-02	4.19E-03	1.33E-07	1.92E-03	4.57E-03	1.45E-07	2.10E-03
Road 101	101	1800-1900	1.29E-02	4.17E-07	6.03E-03	7.12E-02	2.31E-06	3.34E-02	3.05E-03	9.88E-08	1.43E-03	3.32E-03	1.08E-07	1.56E-03
Road 101	101	1900-2000	1.14E-02	2.87E-07	4.16E-03	7.09E-02	1.78E-06	2.57E-02	2.65E-03	6.63E-08	9.59E-04	2.88E-03	7.22E-08	1.04E-03
Road 101	101	2000-2100	1.12E-02	2.19E-07	3.16E-03	7.78E-02	1.52E-06	2.20E-02	2.55E-03	4.98E-08	7.20E-04	2.78E-03	5.43E-08	7.84E-04
Road 101	101	2100-2200	1.04E-02	2.04E-07	2.95E-03	7.68E-02	1.50E-06	2.18E-02	2.38E-03	4.67E-08	6.76E-04	2.60E-03	5.09E-08	7.36E-04
Road 101	101	2200-2300	1.04E-02	1.95E-07	2.82E-03	7.77E-02	1.46E-06	2.11E-02	2.30E-03	4.33E-08	6.25E-04	2.51E-03	4.71E-08	6.81E-04
Road 101	101	2300-0000	1.02E-02	1.62E-07	2.34E-03	7.61E-02	1.21E-06	1.75E-02	2.54E-03	4.01E-08	5.79E-04	2.77E-03	4.36E-08	6.30E-04
Road 102	102	0000-0100	1.32E-02	9.67E-08	1.31E-03	8.47E-02	6.18E-07	8.38E-03	2.98E-03	2.17E-08	2.95E-04	3.24E-03	2.37E-08	3.21E-04
Road 102	102	0100-0200	1.43E-02	6.89E-08	9.34E-04	8.73E-02	4.20E-07	5.70E-03	3.22E-03	1.55E-08	2.10E-04	3.51E-03	1.69E-08	2.29E-04
Road 102	102	0200-0300	1.55E-02	5.52E-08	7.48E-04	9.11E-02	3.25E-07	4.40E-03	3.47E-03	1.24E-08	1.68E-04	3.78E-03	1.35E-08	1.83E-04
Road 102	102	0300-0400	1.65E-02	4.72E-08	6.40E-04	9.38E-02	2.68E-07	3.63E-03	3.71E-03	1.06E-08	1.43E-04	4.04E-03	1.15E-08	1.56E-04
Road 102	102	0400-0500	1.75E-02	5.57E-08	7.56E-04	9.63E-02	3.06E-07	4.14E-03	3.94E-03	1.25E-08	1.70E-04	4.30E-03	1.36E-08	1.85E-04
Road 102	102	0500-0600	1.86E-02	1.04E-07	1.41E-03	9.93E-02	5.54E-07	7.51E-03	4.17E-03	2.33E-08	3.16E-04	4.55E-03	2.54E-08	3.44E-04
Road 102	102	0600-0700	1.96E-02	2.38E-07	3.23E-03	1.04E-01	1.41E-06	1.91E-02	4.40E-03	5.34E-08	7.24E-04	4.80E-03	5.82E-08	7.89E-04
Road 102	102	0700-0800	2.05E-02	5.10E-07	6.92E-03	1.04E-01	2.58E-06	3.49E-02	4.63E-03	1.15E-07	1.56E-03	5.05E-03	1.25E-07	1.70E-03
Road 102	102	0800-0900	1.98E-02	5.79E-07	7.81E-03	9.54E-02	2.79E-06	3.78E-02	4.46E-03	1.30E-07	1.76E-03	4.86E-03	1.45E-07	1.96E-03
Road 102	102	0900-1000	2.28E-02	5.95E-07	8.07E-03	1.06E-01	2.77E-06	3.75E-02	5.33E-03	1.39E-07	1.88E-03	5.82E-03	1.51E-07	2.05E-03
Road 102	102	1000-1100	2.58E-02	6.05E-07	8.20E-03	1.12E-01	2.63E-06	3.56E-02	5.96E-03	1.40E-07	1.90E-03	6.50E-03	1.53E-07	2.07E-03
Road 102	102	1100-1200	2.19E-02	5.42E-07	7.34E-03	9.96E-02	2.46E-06	3.34E-02	4.97E-03	1.23E-07	1.67E-03	5.42E-03	1.34E-07	1.82E-03
Road 102	102	1200-1300	2.16E-02	5.34E-07	7.24E-03	9.85E-02	2.43E-06	3.29E-02	4.91E-03	1.21E-07	1.65E-03	5.36E-03	1.32E-07	1.80E-03
Road 102	102	1300-1400	2.21E-02	5.52E-07	7.48E-03	1.01E-01	2.52E-06	3.41E-02	5.03E-03	1.26E-07	1.70E-03	5.49E-03	1.37E-07	1.86E-03
Road 102	102	1400-1500	2.21E-02	5.99E-07	8.13E-03	1.01E-01	2.74E-06	3.71E-02	5.04E-03	1.37E-07	1.86E-03	5.51E-03	1.49E-07	2.02E-03
Road 102	102	1500-1600	2.07E-02	5.75E-07	7.79E-03	1.00E-01	2.79E-06	3.78E-02	4.81E-03	1.34E-07	1.81E-03	5.24E-03	1.46E-07	1.98E-03
Road 102	102	1600-1700	2.15E-02	6.24E-07	8.46E-03	9.72E-02	2.82E-06	3.82E-02	4.90E-03	1.42E-07	1.93E-03	5.34E-03	1.55E-07	2.10E-03
Road 102	102	1700-1800	1.72E-02	5.47E-07	7.41E-03	8.84E-02	2.81E-06	3.81E-02	4.00E-03	1.27E-07	1.72E-03	4.44E-03	1.41E-07	1.91E-03
Road 102	102	1800-1900	1.12E-02	3.80E-07	5.14E-03	6.53E-02	2.20E-06	2.99E-02	2.67E-03	9.00E-08	1.22E-03	2.90E-03	9.79E-08	1.33E-03
Road 102	102	1900-2000	9.97E-03	2.63E-07	3.56E-03	6.62E-02	1.75E-06	2.37E-02	2.29E-03	6.06E-08	8.21E-04	2.50E-03	6.59E-08	8.93E-04
Road 102	102	2000-2100	9.74E-03	2.00E-07	2.71E-03	7.33E-02	1.50E-06	2.04E-02	2.20E-03	4.51E-08	6.12E-04	2.39E-03	4.91E-08	6.65E-04
Road 102	102	2100-2200	8.80E-03	1.81E-07	2.45E-03	7.17E-02	1.48E-06	2.00E-02	2.00E-03	4.13E-08	5.59E-04	2.18E-03	4.49E-08	6.09E-04
Road 102	102	2200-2300	8.72E-03	1.23E-07	1.67E-03	7.54E-02	1.06E-06	1.46E-02	1.92E-03	2.71E-08	3.67E-04	2.06E-03	2.91E-08	3.94E-04
Road 102	102	2300-0000	9.66E-03	1.44E-07	1.95E-03	7.55E-02	1.13E-06	1.53E-02	2.13E-03	3.18E-08	4.31E-04	2.32E-03	3.46E-08	4.69E-04
Road 103	103	0000-0100	9.13E-03	9.20E-08	8.07E-04	7.52E-02	7.58E-07	6.65E-03	1.98E-03	1.99E-08	1.75E-04	2.15E-03	2.17E-08	1.90E-04
Road 103	103	0100-0200	9.96E-03	6.55E-08	5.75E-04	7.72E-02	5.08E-07	4.46E-03	2.17E-03	1.42E-08	1.25E-04	2.36E-03	1.55E-08	1.36E-04
Road 103	103	0200-0300	1.09E-02	5.25E-08	4.61E-04	8.06E-02	4.07E-07	3.57E-03	2.40E-03	1.14E-08	9.97E-05	2.56E-03	1.24E-08	1.09E-04
Road 103	103	0300-0400	1.17E-02	4.61E-08	4.04E-04	8.37E-02	3.57E-07	3.13E-03	2.74E-03	1.15E-08	1.01E-04	2.98E-03	1.26E-08	1.10E-04
Road 103	103	0400-0500	1.26E-02	5.30E-08	4.65E-04	8.48E-02	3.57E-07	3.13E-03	2.74E-03	1.15E-08	1.01E-04	2.98E-03	1.26E-08	1.10E-04
Road 103	103	0500-0600	1.35E-02	9.86E-08	8.65E-04	8.69E-02	6.36E-07	5.58E-03	2.93E-03	2.15E-08	1.88E-04	3.19E-03	2.34E-08	2.05E-04
Road 103	103	0600-0700	1.44E-02	2.27E-07	1.99E-03	8.99E-02	1.42E-06	1.24E-02	3.13E-03	4.92E-08	4.32E-04	3.41E-03	5.36E-08	4.71E-04
Road 103	103	0700-0800	1.51E-02	4.81E-07	4.22E-03	9.41E-02	3.00E-06	4.22E-02	3.26E-03	1.02E-07	1.44E-03	3.56E-03	1.13E-07	1.58E-03
Road 103	103	0800-0900	1.47E-02	5.47E-07	4.80E-03	8.30E-02	3.09E-06	4.35E-02	2.71E-03	1.01E-07	1.42E-03	2.96E-03	1.10E-07	1.55E-03
Road 103	103	0900-1000	1.68E-02	5.24E-07	4.60E-03	8.99E-02	2.81E-06	2.47E-02	3.83E-03	1.20E-07	1.05E-03	4.17E-03	1.30E-07	1.14E-03
Road 103	103	1000-1100	1.90E-02	5.19E-07	4.55E-03	9.44E-02	2.44E-06	2.14E-02	4.12E-03	1.07E-07	9.35E-04	4.49E-03	1.16E-07	1.02E-03
Road 103	103	1100-1200	1.82E-02	4.71E-07	4.14E-03	9.44E-02	2.44E-06	2.14E-02	4.12E-03	1.07E-07	9.35E-04	4.49E-03	1.16E-07	1.02E-03
Road 103	103	1200-1300	1.97E-02	4.57E-07	4.01E-03	9.76E-02	2.26E-06	1.98E-02	4.27E-03	9.91E-08	8.69E-04	4.65E-03	1.08E-07	9.47E-04
Road 103	103	1300-1400	1.92E-02	4.58E-07	4.02E-03	9.50E-02	2.26E-06	1.99E-02	4.37E-03	1.04E-07	9.15E-04	4.76E-03	1.14E-07	9.97E-04
Road 103	103	1400-1500	1.94E-02	4.93E-07	4.32E-03	9.43E-02	2.39E-06	2.10E-02	4.38E-03	1.11E-07	9.76E-04	4.77E-03	1.21E-07	1.06E-03
Road 103	103	1500-1600	1.83E-02	4.74E-07	4.16E-03	9.37E-02	2.44E-06	2.14E-02	4.19E-03	1.09E-07	9.56E-04	4.56E-03	1.19E-07	1.04E-03
Road 103	103	1600-1700	1.92E-02	5.28E-07	4.63E-03	9.52E-02	2.71E-06	2.37E-02	4.39E-03	1.21E-07	1.06E-03	4.78E-03	1.32E-07	1.15E-03
Road 103	103	1700-1800	1.38E-02	4.26E-07	3.74E-03	7.99E-02	2

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (annual)

Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAve		MonthlyHourMin		MonthlyHourAve	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	7.22E-02	1.81E-06	0.06	4.75E-02	1.19E-06	2.27E-04	2.76E-01	6.92E-06	2.02E-04
Road 17	17	1700-1800	5.30E-02	1.37E-06	4.01E-05	4.75E-02	1.23E-06	3.60E-05	2.66E-01	6.90E-06	2.02E-04
Road 17	17	1800-1900	3.13E-02	7.63E-07	2.23E-05	2.79E-02	6.80E-07	1.99E-05	1.82E-01	4.44E-06	1.30E-04
Road 17	17	1900-2000	2.02E-02	4.93E-07	1.08E-05	1.82E-02	3.33E-07	9.73E-06	1.47E-01	2.69E-06	7.85E-05
Road 17	17	2000-2100	1.85E-02	2.66E-07	7.78E-06	1.66E-02	2.38E-07	6.96E-06	1.49E-01	2.14E-06	6.26E-05
Road 17	17	2100-2200	1.76E-02	2.54E-07	7.41E-06	1.58E-02	2.28E-07	6.66E-06	1.43E-01	2.06E-06	6.01E-05
Road 17	17	2200-2300	1.82E-02	2.48E-07	7.26E-06	1.63E-02	2.23E-07	6.53E-06	1.48E-01	2.01E-06	5.88E-05
Road 17	17	2300-0000	1.91E-02	2.00E-07	5.84E-06	1.71E-02	1.79E-07	5.23E-06	1.53E-01	1.60E-06	4.68E-05
Road 18	18	0000-0100	1.23E-02	2.76E-06	1.08E-02	6.22E-03	2.43E-06	1.27E-02	7.28E-02	2.84E-05	1.08E-01
Road 18	18	0100-0200	1.38E-02	3.11E-06	1.22E-02	6.97E-03	2.74E-06	1.43E-02	8.16E-02	3.19E-05	1.22E-01
Road 18	18	0200-0300	1.48E-02	4.10E-06	1.60E-02	1.32E-02	3.67E-06	1.44E-02	1.32E-01	3.67E-05	1.44E-01
Road 18	18	0300-0400	1.61E-02	3.56E-06	1.39E-02	1.43E-02	3.17E-06	1.24E-02	1.24E-01	2.75E-05	1.08E-01
Road 18	18	0400-0500	1.47E-02	3.40E-06	1.33E-02	1.47E-02	3.37E-06	1.32E-02	1.47E-01	3.37E-05	1.32E-01
Road 18	18	0500-0600	1.66E-02	6.91E-08	2.70E-06	1.47E-02	6.11E-08	2.39E-06	1.31E-01	5.44E-07	2.13E-05
Road 18	18	0600-0700	1.67E-02	1.48E-07	5.79E-06	1.50E-02	1.33E-07	5.21E-06	1.34E-01	1.19E-06	4.66E-05
Road 18	18	0700-0800	1.79E-02	3.12E-07	1.22E-05	1.61E-02	2.81E-07	1.10E-05	1.44E-01	2.51E-06	9.85E-05
Road 18	18	0800-0900	1.70E-02	3.56E-07	1.39E-05	1.53E-02	3.21E-07	1.25E-05	1.37E-01	2.87E-06	1.12E-04
Road 18	18	0900-1000	1.93E-02	3.40E-07	1.33E-05	1.77E-02	3.12E-07	1.22E-05	1.62E-01	2.85E-06	1.12E-04
Road 18	18	1000-1100	2.15E-02	3.33E-07	1.30E-05	1.98E-02	3.06E-07	1.19E-05	1.82E-01	2.81E-06	1.10E-04
Road 18	18	1100-1200	2.10E-02	1.89E-07	2.77E-06	1.08E-02	9.04E-08	1.24E-06	1.82E-01	7.79E-07	1.07E-05
Road 18	18	1200-1300	3.15E-02	5.98E-07	2.34E-05	2.86E-02	5.44E-07	2.13E-05	2.70E-01	5.12E-06	2.00E-04
Road 18	18	1300-1400	3.15E-02	6.34E-07	2.48E-05	2.85E-02	5.73E-07	2.24E-05	2.70E-01	5.41E-06	2.12E-04
Road 18	18	1400-1500	3.16E-02	6.62E-07	2.59E-05	2.86E-02	5.98E-07	2.34E-05	2.70E-01	5.65E-06	2.21E-04
Road 18	18	1500-1600	2.95E-02	6.35E-07	2.48E-05	2.67E-02	5.75E-07	2.24E-05	2.52E-01	5.43E-06	2.12E-04
Road 18	18	1600-1700	3.04E-02	6.62E-07	2.59E-05	2.74E-02	5.95E-07	2.32E-05	2.60E-01	5.66E-06	2.21E-04
Road 18	18	1700-1800	2.48E-02	5.41E-07	2.11E-05	2.24E-02	4.89E-07	1.91E-05	2.12E-01	4.62E-06	1.80E-04
Road 18	18	1800-1900	1.90E-02	4.27E-07	1.67E-05	1.70E-02	3.85E-07	1.50E-05	1.61E-01	3.64E-06	1.42E-04
Road 18	18	1900-2000	1.72E-02	2.94E-07	1.15E-05	1.55E-02	2.64E-07	1.03E-05	1.47E-01	2.51E-06	9.81E-05
Road 18	18	2000-2100	1.60E-02	2.14E-07	8.37E-06	1.44E-02	1.92E-07	7.52E-06	1.36E-01	1.82E-06	7.11E-05
Road 18	18	2100-2200	1.66E-02	2.12E-07	8.29E-06	1.49E-02	1.90E-07	7.44E-06	1.41E-01	1.80E-06	7.04E-05
Road 18	18	2200-2300	1.66E-02	2.12E-07	8.29E-06	1.49E-02	1.90E-07	7.44E-06	1.41E-01	1.80E-06	7.04E-05
Road 18	18	2300-0000	1.78E-02	2.06E-07	7.76E-06	1.60E-02	1.85E-07	6.98E-06	1.52E-01	1.76E-06	6.63E-05
Road 19	19	0000-0100	1.28E-02	1.19E-07	3.43E-06	1.13E-02	1.03E-07	2.97E-06	9.38E-02	8.72E-07	2.51E-05
Road 19	19	0100-0200	1.40E-02	8.56E-08	2.47E-06	1.25E-02	7.62E-08	2.20E-06	1.14E-01	6.97E-07	2.01E-05
Road 19	19	0200-0300	1.51E-02	8.60E-08	2.48E-06	1.34E-02	7.66E-08	2.21E-06	1.23E-01	7.00E-07	2.02E-05
Road 19	19	0300-0400	1.64E-02	5.93E-08	1.71E-06	1.46E-02	5.27E-08	1.52E-06	1.20E-01	4.32E-07	1.24E-05
Road 19	19	0400-0500	1.72E-02	6.85E-08	1.97E-06	1.53E-02	6.08E-08	1.75E-06	1.22E-01	4.85E-07	1.40E-05
Road 19	19	0500-0600	1.72E-02	1.48E-07	4.26E-06	1.53E-02	1.32E-07	3.80E-06	1.22E-01	1.05E-06	3.02E-05
Road 19	19	0600-0700	1.80E-02	2.67E-07	7.69E-06	1.62E-02	2.40E-07	6.92E-06	1.24E-01	1.84E-06	5.29E-05
Road 19	19	0700-0800	1.94E-02	5.90E-07	1.70E-05	1.78E-02	5.39E-07	1.55E-05	1.37E-01	4.17E-06	1.20E-04
Road 19	19	0800-0900	1.96E-02	6.02E-07	1.74E-05	1.79E-02	5.50E-07	1.59E-05	1.38E-01	4.25E-06	1.22E-04
Road 19	19	0900-1000	2.15E-02	6.56E-07	1.89E-05	1.98E-02	6.02E-07	1.74E-05	1.26E-01	3.85E-06	1.11E-04
Road 19	19	1000-1100	2.43E-02	6.56E-07	1.89E-05	2.21E-02	5.98E-07	1.72E-05	1.41E-01	3.81E-06	1.10E-04
Road 19	19	1100-1200	3.36E-02	7.49E-07	2.16E-05	3.06E-02	6.81E-07	1.96E-05	1.95E-01	4.34E-06	1.25E-04
Road 19	19	1200-1300	3.36E-02	7.49E-07	2.16E-05	3.06E-02	6.81E-07	1.96E-05	1.95E-01	4.34E-06	1.25E-04
Road 19	19	1300-1400	3.42E-02	8.15E-07	2.35E-05	3.10E-02	7.38E-07	2.12E-05	1.98E-01	4.72E-06	1.36E-04
Road 19	19	1400-1500	3.42E-02	8.15E-07	2.35E-05	3.10E-02	7.38E-07	2.12E-05	1.98E-01	4.72E-06	1.36E-04
Road 19	19	1500-1600	3.19E-02	8.09E-07	2.33E-05	2.89E-02	7.32E-07	2.11E-05	1.66E-01	4.20E-06	1.21E-04
Road 19	19	1600-1700	3.29E-02	8.32E-07	2.40E-05	2.98E-02	7.53E-07	2.17E-05	1.71E-01	4.33E-06	1.25E-04
Road 19	19	1700-1800	2.96E-02	7.48E-07	2.16E-05	2.68E-02	6.77E-07	1.95E-05	1.54E-01	3.89E-06	1.12E-04
Road 19	19	1800-1900	2.02E-02	4.96E-07	1.43E-05	1.80E-02	4.49E-07	1.29E-05	1.47E-01	3.60E-06	1.04E-04
Road 19	19	1900-2000	1.82E-02	3.36E-07	9.69E-06	1.64E-02	3.03E-07	8.74E-06	1.47E-01	2.71E-06	7.82E-05
Road 19	19	2000-2100	1.81E-02	2.42E-07	6.98E-06	1.63E-02	2.19E-07	6.31E-06	1.47E-01	1.96E-06	5.65E-05
Road 19	19	2100-2200	1.71E-02	2.48E-07	7.16E-06	1.54E-02	2.23E-07	6.45E-06	1.38E-01	2.01E-06	5.80E-05
Road 19	19	2200-2300	1.74E-02	2.37E-07	6.83E-06	1.57E-02	2.14E-07	6.17E-06	1.41E-01	1.92E-06	5.54E-05
Road 19	19	2300-0000	1.82E-02	2.31E-07	6.65E-06	1.64E-02	2.08E-07	6.00E-06	1.47E-01	1.87E-06	5.39E-05
Road 20	20	0000-0100	5.01E-02	5.13E-06	9.46E-07	4.48E-02	4.59E-06	8.46E-07	4.03E-01	4.13E-05	7.61E-06
Road 20	20	0100-0200	5.19E-02	3.67E-06	6.76E-07	4.68E-02	3.31E-06	6.09E-07	4.21E-01	2.98E-05	5.48E-06
Road 20	20	0200-0300	5.31E-02	4.08E-06	7.52E-07	4.79E-02	3.68E-06	6.77E-07	4.31E-01	3.31E-05	6.09E-06
Road 20	20	0300-0400	5.52E-02	2.51E-06	4.63E-07	4.96E-02	2.25E-06	4.16E-07	4.46E-01	2.03E-05	3.74E-06
Road 20	20	0400-0500	5.64E-02	2.96E-06	5.46E-07	5.06E-02	2.66E-06	4.90E-07	4.55E-01	2.39E-05	4.41E-06
Road 20	20	0500-0600	5.72E-02	5.47E-06	1.01E-06	5.17E-02	4.94E-06	9.11E-07	2.26E-01	2.16E-05	3.99E-06
Road 20	20	0600-0700	6.15E-02	2.23E-06	2.44E-06	5.53E-02	2.01E-06	2.20E-06	2.43E-01	8.81E-06	9.64E-06
Road 20	20	0700-0800	6.85E-02	3.12E-07	5.76E-06	6.30E-02	2.87E-07	5.29E-06	2.64E-01	1.20E-06	2.22E-05
Road 20	20	0800-0900	6.86E-02	3.72E-07	6.85E-06	6.29E-02	3.41E-07	6.29E-06	2.70E-01	1.46E-06	2.70E-05
Road 20	20	0900-1000	7.48E-02	3.68E-07	6.78E-06	6.86E-02	3.38E-07	6.23E-06	2.95E-01	1.45E-06	2.67E-05
Road 20	20	1000-1100	7.82E-02	4.35E-07	8.03E-06	7.17E-02	3.99E-07	7.36E-06	2.93E-01	1.63E-06	3.01E-05
Road 20	20	1100-1200	7.77E-02	4.06E-07	7.48E-06	7.06E-02	3.69E-07	6.80E-06	2.94E-01	1.53E-06	2.83E-05
Road 20	20	1200-1300	8.48E-02	4.35E-07	8.03E-06	7.70E-02	3.95E-07	7.29E-06	3.21E-01	1.65E-06	3.04E-05
Road 20	20	1300-1400	8.14E-02	4.40E-07	8.12E-06	7.35E-02	3.98E-07	7.33E-06	3.06E-01	1.65E-06	3.05E-05
Road 20	20	1400-1500	8.33E-02	4.49E-07	8.27E-06	7.50E-02	4.04E-07	7.44E-06	3.05E-01	1.64E-06	3.02E-05
Road 20	20	1500-1600	7.54E-02	4.26E-07	7.81E-06	6.88E-02	3.89E-07	7.12E-06	2.81E-01	1.59E-06	2.91E-05
Road 20	20	1600-1700	8.02E-02	4.21E-07	7.76E-06	7.24E-02	3.80E-07	7.00E-06	3.00E-01	1.58E-06	2.90E-05
Road 20	20	1700-1800	6.64E-02	3.23E-07	5.95E-06	6.01E-02	2.92E-07	5.39E-06	2.78E-01	1.35E-06	2.49E-05
Road 20	20	1800-1900	5.45E-02	1.96E-07	3.61E-06	4.89E-02	1.75E-07	3.23E-06	2.54E-01	9.11E-07	1.68E-05
Road 20	20	1900-2000	5.20E-02	1.27E-07	2.33E-06	4.70E-02	1.14E-07	2.11E-06	2.21E-01	5.38E-07	9.92E-06
Road 20	20	2000-2100	4.94E-02	9.53E-08	1.76E-06	4.42E-02	8.54E-08	1.57E-06	2.18E-01	4.21E-07	7.76E-06
Road 20	20	2100-2200	4.98E-02	1.79E-07	3.30E-06	4.46E-02	1.60E-07	2.95E-06	2.19E-01	7.88E-07	1.45E-05
Road 20	20	2200-2300	5.40E-02	9.49E-08	1.75E-06	4.86E-02	8.55E-08	1.58E-06	2.17E-01	3.81E-07	7.03E-06
Road 20	20	2300-0000	5.57E-02	7.89E-08	1.45E-06	5.02E-02	7.11E-08	1.31E-06	2.22E-01	3.14E-07	5.79E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (annual)

Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAve		MonthlyHourMin		MonthlyHourAve	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	1.44E-02	1.05E-07	1.39E-06	1.27E-02	9.31E-08	1.23E-06	1.13E-01	8.25E-07	1.09E-05
Road 21	21	0100-0200	1.56E-02	7.55E-08	9.97E-07	1.40E-02	6.75E-08	8.93E-07	1.16E-01	5.59E-07	7.39E-06
Road 21	21	0200-0300	1.68E-02	6.01E-08	7.94E-07	1.51E-02	5.41E-08	7.15E-07	1.18E-01	4.22E-07	5.57E-06
Road 21	21	0300-0400	1.82E-02	5.23E-08	6.92E-07	1.62E-02	4.65E-08	6.15E-07	1.22E-01	3.52E-07	4.65E-06
Road 21	21	0400-0500	1.90E-02	6.05E-08	8.00E-07	1.70E-02	5.40E-08	7.13E-07	1.24E-01	3.95E-07	5.22E-06
Road 21	21	0500-0600	1.95E-02	1.08E-07	1.43E-06	1.75E-02	9.68E-08	1.28E-06	1.25E-01	6.95E-07	9.18E-06
Road 21	21	0600-0700	2.00E-02	2.38E-07	3.16E-06	1.81E-02	2.16E-07	2.86E-06	1.26E-01	1.51E-06	2.00E-05
Road 21	21	0700-0800	2.20E-02	5.41E-07	7.14E-06	2.01E-02	4.95E-07	6.54E-06	1.32E-01	3.24E-06	4.28E-05
Road 21	21	0800-0900	2.08E-02	6.80E-07	8.99E-06	2.17E-02	6.21E-07	8.21E-06	1.31E-01	3.76E-06	4.97E-05
Road 21	21	0900-1000	2.17E-02	6.49E-07	8.58E-06	2.26E-02	5.92E-07	7.83E-06	1.36E-01	3.49E-06	4.62E-05
Road 21	21	1000-1100	2.75E-02	6.27E-07	8.29E-06	2.52E-02	5.74E-07	7.58E-06	1.40E-01	3.20E-06	4.23E-05
Road 21	21	1100-1200	2.63E-02	5.67E-07	7.49E-06	2.39E-02	5.14E-07	6.79E-06	1.39E-01	2.99E-06	3.96E-05
Road 21	21	1200-1300	3.61E-02	6.32E-07	8.36E-06	3.27E-02	5.72E-07	7.57E-06	1.88E-01	3.29E-06	4.35E-05
Road 21	21	1300-1400	3.66E-02	7.46E-07	9.85E-06	3.30E-02	6.73E-07	8.89E-06	1.72E-01	3.50E-06	4.63E-05
Road 21	21	1400-1500	3.69E-02	7.69E-07	1.02E-05	3.32E-02	6.91E-07	9.14E-06	1.71E-01	3.56E-06	4.71E-05
Road 21	21	1500-1600	3.41E-02	7.35E-07	9.72E-06	3.08E-02	6.64E-07	8.78E-06	1.58E-01	3.41E-06	4.51E-05
Road 21	21	1600-1700	3.53E-02	7.52E-07	9.94E-06	3.18E-02	6.78E-07	8.96E-06	1.69E-01	3.61E-06	4.77E-05
Road 21	21	1700-1800	2.85E-02	6.18E-07	8.16E-06	2.57E-02	5.58E-07	7.37E-06	1.60E-01	3.46E-06	4.58E-05
Road 21	21	1800-1900	2.19E-02	4.92E-07	6.50E-06	1.97E-02	4.43E-07	5.85E-06	1.52E-01	3.42E-06	4.52E-05
Road 21	21	1900-2000	1.96E-02	2.88E-07	3.81E-06	1.76E-02	2.59E-07	3.43E-06	1.39E-01	2.05E-06	2.72E-05
Road 21	21	2000-2100	1.94E-02	2.24E-07	2.96E-06	1.73E-02	2.00E-07	2.64E-06	1.46E-01	1.69E-06	2.24E-05
Road 21	21	2100-2200	1.85E-02	2.15E-07	2.84E-06	1.67E-02	1.94E-07	2.56E-06	1.37E-01	1.60E-06	2.11E-05
Road 21	21	2200-2300	1.93E-02	2.15E-07	2.84E-06	1.74E-02	1.94E-07	2.56E-06	1.43E-01	1.60E-06	2.11E-05
Road 21	21	2300-0000	2.05E-02	1.73E-07	2.29E-06	1.84E-02	1.56E-07	2.06E-06	1.52E-01	1.28E-06	1.69E-05
Road 22	22	0000-0100	1.49E-02	1.81E-07	3.24E-06	1.33E-02	1.62E-07	2.90E-06	6.58E-01	8.01E-06	1.43E-04
Road 22	22	0100-0200	1.40E-02	9.32E-08	1.66E-06	1.27E-02	8.47E-08	1.51E-06	5.27E-01	3.50E-06	6.25E-05
Road 22	22	0200-0300	1.40E-02	9.32E-08	1.66E-06	1.27E-02	8.47E-08	1.51E-06	5.27E-01	3.50E-06	6.25E-05
Road 22	22	0300-0400	1.44E-02	8.06E-08	1.44E-06	1.29E-02	7.24E-08	1.29E-06	5.41E-01	3.03E-06	5.40E-05
Road 22	22	0400-0500	1.46E-02	7.00E-08	1.24E-06	1.31E-02	6.28E-08	1.11E-06	5.48E-01	2.63E-06	4.67E-05
Road 22	22	0500-0600	1.62E-02	1.93E-07	3.45E-06	1.46E-02	1.75E-07	3.12E-06	6.00E-01	7.18E-07	1.28E-05
Road 22	22	0600-0700	1.79E-02	4.86E-07	8.67E-06	1.63E-02	4.43E-07	7.90E-06	6.58E-01	1.78E-06	3.18E-05
Road 22	22	0700-0800	2.02E-02	1.18E-06	2.10E-05	1.84E-02	1.07E-06	1.91E-05	7.43E-01	4.33E-06	7.73E-05
Road 22	22	0800-0900	2.03E-02	1.40E-06	2.51E-05	1.87E-02	1.29E-06	2.30E-05	7.58E-01	5.23E-06	9.33E-05
Road 22	22	0900-1000	2.09E-02	1.58E-06	2.82E-05	1.92E-02	1.46E-06	2.60E-05	7.84E-01	5.94E-06	1.06E-04
Road 22	22	1000-1100	2.24E-02	1.55E-06	2.77E-05	2.03E-02	1.41E-06	2.52E-05	8.04E-01	5.58E-06	9.94E-05
Road 22	22	1100-1200	2.30E-02	1.64E-06	2.93E-05	2.10E-02	1.50E-06	2.67E-05	7.92E-01	5.65E-06	1.01E-04
Road 22	22	1200-1300	2.30E-02	1.64E-06	2.93E-05	2.10E-02	1.50E-06	2.67E-05	7.92E-01	5.65E-06	1.01E-04
Road 22	22	1300-1400	2.29E-02	1.80E-06	3.21E-05	2.04E-02	1.61E-06	2.86E-05	7.74E-01	6.12E-06	1.09E-04
Road 22	22	1400-1500	2.27E-02	1.80E-06	3.21E-05	2.04E-02	1.62E-06	2.89E-05	7.94E-01	6.32E-06	1.13E-04
Road 22	22	1500-1600	2.04E-02	1.66E-06	2.96E-05	1.83E-02	1.49E-06	2.66E-05	7.94E-01	6.47E-06	1.15E-04
Road 22	22	1600-1700	2.19E-02	1.78E-06	3.18E-05	1.96E-02	1.60E-06	2.85E-05	7.97E-01	6.48E-06	1.16E-04
Road 22	22	1700-1800	1.86E-02	1.33E-06	2.37E-05	1.68E-02	1.20E-06	2.15E-05	7.42E-01	5.33E-06	9.50E-05
Road 22	22	1800-1900	1.46E-02	7.72E-07	1.38E-05	1.31E-02	6.93E-07	1.24E-05	6.09E-01	3.22E-06	5.74E-05
Road 22	22	1900-2000	2.00E-02	1.51E-06	2.70E-05	1.80E-02	1.36E-06	2.43E-05	7.84E-01	5.91E-06	1.05E-04
Road 22	22	2000-2100	1.34E-02	3.80E-07	6.78E-06	1.20E-02	3.41E-07	6.08E-06	5.61E-01	1.59E-06	2.84E-05
Road 22	22	2100-2200	1.34E-02	3.89E-07	6.93E-06	1.21E-02	3.52E-07	6.27E-06	5.55E-01	1.61E-06	2.87E-05
Road 22	22	2200-2300	1.45E-02	3.01E-07	5.37E-06	1.30E-02	2.71E-07	4.84E-06	5.45E-01	1.13E-06	2.02E-05
Road 23	23	0000-0100	1.42E-02	3.92E-08	2.73E-07	1.27E-02	3.51E-08	6.48E-07	5.31E-01	1.46E-06	2.72E-05
Road 23	23	0100-0200	1.44E-02	2.80E-08	1.27E-07	1.29E-02	2.51E-08	4.63E-07	5.41E-01	1.05E-06	1.94E-05
Road 23	23	0200-0300	1.45E-02	2.22E-08	4.09E-07	1.32E-02	2.01E-08	3.72E-07	5.40E-01	8.26E-07	1.53E-05
Road 23	23	0300-0400	1.41E-02	1.83E-08	3.38E-07	1.27E-02	1.64E-08	3.03E-07	5.28E-01	6.83E-07	1.26E-05
Road 23	23	0400-0500	1.49E-02	1.48E-08	2.73E-07	1.35E-02	1.32E-08	2.44E-07	5.56E-01	5.52E-07	1.02E-05
Road 23	23	0500-0600	1.49E-02	4.18E-08	7.71E-07	1.35E-02	3.78E-08	6.97E-07	5.55E-01	1.55E-06	2.87E-05
Road 23	23	0600-0700	1.56E-02	9.95E-08	1.84E-06	1.42E-02	9.06E-08	1.67E-06	5.78E-01	3.69E-06	6.81E-05
Road 23	23	0700-0800	1.66E-02	1.61E-07	2.98E-06	1.51E-02	1.46E-07	2.70E-06	6.04E-01	5.86E-06	1.08E-04
Road 23	23	0800-0900	1.74E-02	2.84E-07	5.24E-06	1.60E-02	2.62E-07	4.81E-06	6.59E-01	1.08E-05	1.99E-04
Road 23	23	0900-1000	1.74E-02	2.84E-07	5.24E-06	1.60E-02	2.62E-07	4.81E-06	6.59E-01	1.08E-05	1.99E-04
Road 23	23	1000-1100	1.92E-02	3.16E-07	5.71E-06	1.76E-02	2.90E-07	5.24E-06	7.28E-01	1.20E-05	2.16E-04
Road 23	23	1100-1200	1.92E-02	3.16E-07	5.71E-06	1.76E-02	2.90E-07	5.24E-06	7.28E-01	1.20E-05	2.16E-04
Road 23	23	1200-1300	1.96E-02	3.16E-07	5.71E-06	1.80E-02	2.90E-07	5.24E-06	7.43E-01	1.20E-05	2.16E-04
Road 23	23	1300-1400	1.96E-02	3.16E-07	5.71E-06	1.80E-02	2.90E-07	5.24E-06	7.43E-01	1.20E-05	2.16E-04
Road 23	23	1400-1500	1.96E-02	3.16E-07	5.71E-06	1.80E-02	2.90E-07	5.24E-06	7.43E-01	1.20E-05	2.16E-04
Road 23	23	1500-1600	1.73E-02	3.43E-07	6.33E-06	1.58E-02	3.15E-07	5.75E-06	6.78E-01	1.34E-05	2.47E-04
Road 23	23	1600-1700	1.86E-02	3.40E-07	6.27E-06	1.68E-02	3.07E-07	5.66E-06	6.78E-01	1.24E-05	2.29E-04
Road 23	23	1700-1800	1.58E-02	2.63E-07	4.85E-06	1.43E-02	2.38E-07	4.39E-06	6.42E-01	1.07E-05	1.97E-04
Road 23	23	1800-1900	1.24E-02	1.14E-07	2.10E-06	1.13E-02	1.04E-07	1.91E-06	5.44E-01	5.00E-06	9.21E-05
Road 23	23	1900-2000	1.22E-02	1.03E-07	1.90E-06	1.11E-02	9.37E-08	1.73E-06	5.34E-01	4.51E-06	8.32E-05
Road 23	23	2000-2100	1.21E-02	1.03E-07	1.90E-06	1.10E-02	9.37E-08	1.73E-06	5.34E-01	4.51E-06	8.32E-05
Road 23	23	2100-2200	1.21E-02	1.03E-07	1.90E-06	1.10E-02	9.37E-08	1.73E-06	5.34E-01	4.51E-06	8.32E-05
Road 23	23	2200-2300	1.38E-02	6.17E-08	1.14E-06	1.25E-02	5.56E-08	1.03E-06	5.19E-01	2.31E-06	4.26E-05
Road 23	23	2300-0000	1.38E-02	6.17E-08	1.14E-06	1.25E-02	5.56E-08	1.03E-06	5.19E-01	2.31E-06	4.26E-05
Road 24	24	0000-0100	1.45E-02	4.70E-08	1.18E-07	1.30E-02	4.21E-08	1.06E-07	5.41E-01	1.75E-06	4.40E-05
Road 24	24	0100-0200	1.47E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (January) — Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Ave			Monthly/Hour/Min			Monthly/Hour/Ave		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 44	44	0800-0900	1.38E-02	3.91E-07	1.21E-06	1.03E-02	2.91E-07	9.03E-07	1.86E-05	9.39E-02	2.66E-06	1.64E-05		
Road 44	44	0900-1000	1.54E-02	3.57E-07	2.20E-06	1.40E-02	3.24E-07	2.00E-06	1.64E-05	1.00E-01	2.33E-06	1.44E-05		
Road 44	44	1000-1100	1.70E-02	3.41E-07	2.11E-06	1.54E-02	3.09E-07	1.91E-06	1.35E-05	1.03E-01	2.07E-06	1.28E-05		
Road 44	44	1100-1200	1.63E-02	3.91E-07	1.96E-06	1.48E-02	2.78E-07	1.71E-06	1.18E-05	2.24E-06	1.35E-05	1.03E-01	2.07E-06	1.28E-05
Road 44	44	1200-1300	1.95E-02	4.84E-07	2.99E-06	1.76E-02	4.37E-07	2.70E-06	1.97E-05	1.14E-01	2.81E-06	1.74E-05		
Road 44	44	1300-1400	1.97E-02	3.07E-06	1.78E-02	4.50E-07	2.78E-06	1.30E-01	3.14E-05	5.32E-02	1.10E-06	2.64E-05		
Road 44	44	1400-1500	2.00E-02	3.14E-07	1.94E-06	4.86E-07	3.00E-06	1.31E-01	3.53E-05	2.18E-06	1.35E-05	3.10E-06	1.91E-05	
Road 44	44	1500-1600	1.91E-02	5.27E-07	3.26E-06	1.71E-02	4.72E-07	2.92E-06	1.31E-01	3.61E-06	2.23E-05	1.14E-01	3.16E-06	1.95E-05
Road 44	44	1600-1700	2.32E-02	6.82E-07	4.21E-06	2.07E-02	6.09E-07	3.76E-06	1.43E-01	4.19E-06	2.59E-05	1.25E-01	3.66E-06	2.26E-05
Road 44	44	1700-1800	2.39E-02	6.97E-07	4.42E-06	2.13E-02	6.22E-07	3.94E-06	1.47E-01	4.28E-06	2.72E-05	1.31E-01	3.82E-06	2.42E-05
Road 44	44	1800-1900	2.48E-02	9.10E-07	5.62E-06	2.21E-02	8.09E-07	5.00E-06	1.52E-01	5.58E-06	3.45E-05	1.36E-01	4.98E-06	3.08E-05
Road 44	44	1900-2000	2.08E-02	9.16E-07	5.66E-06	1.85E-02	8.15E-07	5.03E-06	1.27E-01	5.61E-06	3.47E-05	1.13E-01	4.98E-06	3.08E-05
Road 44	44	2000-2100	1.76E-02	1.23E-06	8.04E-06	1.76E-02	1.09E-06	1.13E-01	2.48E-06	1.53E-05	9.74E-02	2.14E-06	1.32E-05	
Road 44	44	2100-2200	1.88E-02	2.00E-07	1.24E-06	1.76E-02	1.77E-07	1.86E-06	2.48E-06	2.48E-06	1.61E-05	9.74E-02	2.14E-06	1.32E-05
Road 44	44	2200-2300	1.88E-02	3.06E-07	1.89E-06	1.76E-02	2.71E-07	2.84E-06	2.48E-06	2.48E-06	2.48E-06	1.61E-05	9.74E-02	2.14E-06
Road 44	44	2300-2400	1.88E-02	3.06E-07	1.89E-06	1.76E-02	2.71E-07	2.84E-06	2.48E-06	2.48E-06	2.48E-06	1.61E-05	9.74E-02	2.14E-06

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (February) — Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Ave			Monthly/Hour/Min			Monthly/Hour/Ave		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	9.20E-03	1.76E-07	1.62E-06	6.83E-03	1.31E-07	6.09E-06	1.24E-05	1.11E-07	6.09E-06	1.07E-01	1.44E-01	2.81E-06
Road 1	1	0100-0200	9.92E-03	8.68E-08	4.78E-06	8.85E-03	7.75E-08	4.27E-06	1.08E-01	9.47E-07	5.22E-05	9.40E-02	8.23E-07	4.53E-05
Road 1	1	0200-0300	1.06E-02	6.62E-08	3.75E-06	9.49E-03	6.08E-08	3.35E-06	1.10E-01	7.02E-07	3.87E-05	9.53E-02	6.10E-07	3.36E-05
Road 1	1	0300-0400	1.14E-02	5.77E-08	3.18E-06	1.01E-02	5.13E-08	2.82E-06	1.11E-01	5.64E-07	3.11E-05	9.64E-02	4.88E-07	2.69E-05
Road 1	1	0400-0500	1.21E-02	6.72E-08	3.70E-06	1.07E-02	5.94E-08	3.27E-06	1.14E-01	6.31E-07	3.47E-05	9.76E-02	5.42E-07	2.98E-05
Road 1	1	0500-0600	1.27E-02	1.22E-07	6.69E-06	1.12E-02	1.07E-07	5.89E-06	1.15E-01	1.10E-06	6.08E-05	9.84E-02	9.44E-07	5.20E-05
Road 1	1	0600-0700	1.32E-02	2.70E-07	1.48E-05	1.16E-02	2.37E-07	1.30E-05	1.18E-01	2.43E-06	1.34E-04	1.01E-01	2.08E-06	1.14E-04
Road 1	1	0700-0800	1.38E-02	5.75E-07	3.17E-05	1.25E-02	5.18E-07	2.85E-05	1.16E-01	4.83E-06	2.66E-04	1.02E-01	4.24E-06	2.33E-04
Road 1	1	0800-0900	1.39E-02	9.38E-07	5.17E-05	1.27E-02	8.61E-07	4.74E-05	1.17E-01	7.91E-06	4.35E-04	1.03E-01	6.94E-06	3.82E-04
Road 1	1	0900-1000	1.46E-02	9.75E-07	5.37E-05	1.33E-02	8.94E-07	4.92E-05	1.23E-01	8.21E-06	4.52E-04	1.08E-01	7.21E-06	3.97E-04
Road 1	1	1000-1100	1.59E-02	3.18E-07	5.93E-06	1.44E-02	2.88E-07	5.37E-06	1.34E-01	2.68E-06	4.99E-05	1.21E-01	2.42E-06	4.51E-05
Road 1	1	1100-1200	1.59E-02	3.18E-07	5.93E-06	1.44E-02	2.88E-07	5.37E-06	1.34E-01	2.68E-06	4.99E-05	1.21E-01	2.42E-06	4.51E-05
Road 1	1	1200-1300	1.45E-02	2.90E-07	5.41E-06	1.31E-02	2.62E-07	4.89E-06	1.22E-01	2.44E-06	4.55E-05	1.10E-01	2.20E-06	4.11E-05
Road 1	1	1300-1400	1.47E-02	2.94E-07	5.48E-06	1.33E-02	2.65E-07	4.95E-06	1.23E-01	2.47E-06	4.61E-05	1.11E-01	2.22E-06	4.14E-05
Road 1	1	1400-1500	1.56E-02	3.12E-07	5.82E-06	1.41E-02	2.83E-07	5.27E-06	1.31E-01	2.63E-06	4.90E-05	1.19E-01	2.38E-06	4.43E-05
Road 1	1	1500-1600	1.56E-02	3.12E-07	5.82E-06	1.41E-02	2.83E-07	5.27E-06	1.31E-01	2.63E-06	4.90E-05	1.19E-01	2.38E-06	4.43E-05
Road 1	1	1600-1700	1.56E-02	3.12E-07	5.82E-06	1.41E-02	2.83E-07	5.27E-06	1.31E-01	2.63E-06	4.90E-05	1.19E-01	2.38E-06	4.43E-05
Road 1	1	1700-1800	1.56E-02	3.12E-07	5.82E-06	1.41E-02	2.83E-07	5.27E-06	1.31E-01	2.63E-06	4.90E-05	1.19E-01	2.38E-06	4.43E-05
Road 1	1	1800-1900	2.97E-02	4.44E-07	6.69E-06	2.66E-02	3.96E-07	5.98E-06	3.82E-01	5.70E-06	8.60E-05	3.40E-01	5.07E-06	7.65E-05
Road 1	1	1900-2000	3.03E-02	3.55E-07	5.36E-06	2.74E-02	3.20E-07	4.84E-06	4.25E-01	7.56E-05	3.82E-01	4.47E-06	6.74E-05	
Road 1	1	2000-2100	2.84E-02	2.58E-07	2.84E-06	2.75E-02	2.50E-07	2.75E-06	4.11E-01	3.73E-06	4.11E-05	3.98E-01	3.61E-06	3.98E-05
Road 1	1	2100-2200	2.86E-02	2.58E-07	3.90E-06	2.59E-02	2.33E-07	3.52E-06	4.02E-01	3.62E-06	5.47E-05	3.61E-01	3.26E-06	4.91E-05
Road 1	1	2200-2300	3.04E-02	2.65E-07	4.00E-06	2.73E-02	2.38E-07	3.60E-06	4.34E-01	3.78E-06	5.71E-05	3.88E-01	3.39E-06	5.11E-05
Road 1	1	2300-2400	3.04E-02	2.65E-07	4.00E-06	2.73E-02	2.38E-07	3.60E-06	4.34E-01	3.78E-06	5.71E-05	3.88E-01	3.39E-06	5.11E-05
Road 1	1	0000-0100	1.37E-02	7.48E-08	1.89E-06	1.20E-02	6.52E-08	1.64E-06	1.77E-01	9.65E-07	2.43E-05	1.50E-01	8.14E-07	2.05E-05
Road 1	1	0100-0200	1.36E-02	1.21E-07	4.25E-06	1.21E-02	1.08E-07	3.78E-06	1.76E-01	1.56E-06	5.50E-05	1.56E-01	1.39E-06	4.88E-05
Road 1	1	0200-0300	1.35E-02	1.18E-07	4.64E-06	1.20E-02	1.05E-07	4.12E-06	1.74E-01	1.52E-06	5.97E-05	1.54E-01	1.35E-06	5.32E-05
Road 1	1	0300-0400	1.47E-02	2.96E-08	7.47E-07	1.30E-02	2.61E-08	6.59E-07	1.70E-01	3.41E-07	8.60E-06	1.45E-01	2.91E-07	7.35E-06
Road 1	1	0400-0500	1.60E-02	3.50E-08	8.83E-07	1.41E-02	3.09E-08	7.80E-07	1.75E-01	3.83E-07	9.66E-06	1.49E-01	3.27E-07	8.26E-06
Road 1	1	0500-0600	1.72E-02	6.44E-08	1.68E-06	1.52E-02	5.68E-08	1.48E-06	1.81E-01	6.77E-07	1.77E-05	1.54E-01	5.76E-07	1.51E-05
Road 1	1	0600-0700	2.12E-02	1.71E-07	4.31E-06	1.89E-02	1.52E-07	3.84E-06	2.04E-01	1.64E-06	4.14E-05	1.76E-01	1.42E-06	3.57E-05
Road 1	1	0700-0800	2.65E-02	4.30E-07	1.08E-05	2.42E-02	3.91E-07	9.88E-06	2.32E-01	3.76E-06	9.49E-05	2.07E-01	3.34E-06	8.44E-05
Road 1	1	0800-0900	2.70E-02	1.07E-06	2.70E-05	2.47E-02	9.77E-07	2.47E-05	2.32E-01	9.19E-06	2.32E-04	2.07E-01	8.19E-06	2.07E-04
Road 1	1	0900-1000	2.67E-02	3.94E-07	9.95E-06	2.43E-02	3.58E-07	9.04E-06	2.22E-01	3.27E-06	8.25E-05	1.99E-01	2.90E-06	7.31E-05
Road 1	1	1000-1100	2.84E-02	3.55E-07	8.96E-06	2.57E-02	3.21E-07	8.11E-06	2.24E-01	2.80E-06	7.08E-05	1.99E-01	2.48E-06	6.27E-05
Road 1	1	1100-1200	3.41E-02	3.32E-07	8.39E-06	3.07E-02	2.99E-07	7.57E-06	2.53E-01	2.47E-06	6.23E-05	2.25E-01	2.19E-06	5.54E-05
Road 1	1	1200-1300	3.41E-02	3.32E-07	8.47E-06	3.07E-02	2.99E-07	7.63E-06	2.53E-01	2.47E-06	6.29E-05	2.25E-01	2.19E-06	5.59E-05
Road 1	1	1300-1400	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	1400-1500	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	1500-1600	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	1600-1700	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	1700-1800	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	1800-1900	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	1900-2000	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	2000-2100	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	2100-2200	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	2200-2300	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05
Road 1	1	2300-2400	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.21E-06	5.59E-05

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Ave			Monthly/Hour/Min			Monthly/Hour/Ave		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	3.22E-02	6.26E-07	1.74E-05	1.94E-02	3.78E-07	1.04E-05	2.81E-05	8.77E-05	1.25E-01	2.42E-06	7.57E-05	
Road 47	47	1700-1800	2.31E-02	5.20E-07	1.62E-05	2.08E-02	4.64E-07	1.45E-05	1.25E-01	8.77E-05	1.07E-01	2.41E-06	7.53E-05	
Road 47	47	1800-1900	1.76E-02	4.47E-07	1.39E-05	1.56E-02	3.96E-07	1.24E-05	9.64E-02	2.45E-06	7.65E-05	8.17E-02	2.07E-06	6.48E-05
Road 47	47	1900-2000	1.41E-02	2.87E-07	8.95E-06	1.26E-02	2.56E-07	8.00E-06	9.10E-02	1.85E-06	5.76E-05	7.72E-02	1.56E-06	4.89E-05
Road 47	47	2000-2100	1.28E-02	2.01E-07	6.27E-06	1.13E-02	1.78E-07	5.55E-06	9.63E-02	1.51E-06	4.73E-05	8.05E-02	1.27E-06	3.95E-05
Road 47	47	2100-2200	1.05E-02	1.65E-07	5.16E-06	9.35E-03	1.47E-07	4.59E-06	9.03E-02	1.42E-06	4.44E-05	7.59E-02	1.19E-06	3.73E-05
Road 47	47	2200-2300	1.04E-02	1.59E-07	4.95E-06	9.14E-03	1.40E-07	4.37E-06	9.35E-02	1.43E-06	4.47E-05	7.87E-02	1.19E-06	3.71E-05
Road 47	47	2300-0000	1.06E-02	1.21E-07	3.79E-06	9.38E-03	1.07E-07	3.34E-06	9.12E-02	1.04E-06	3.25E-05	7.56E-02	8.63E-07	2.69E-05
Road 48	48	0000-0100	9.53E-03	8.14E-08	1.23E-06	8.28E-03	7.08E-08	1.07E-06	1.10E-01	9.41E-07	1.42E-05	9.15E-02	7.82E-07	1.18E-05
Road 48	48	0100-0200	9.22E-03	5.66E-08	8.54E-07	8.01E-03	4.92E-08	7.42E-07	1.06E-01	6.53E-07	9.85E-06	9.02E-02	5.27E-07	7.95E-06
Road 48	48	0200-0300	1.09E-02	4.42E-08	6.66E-07	9.65E-03	3.91E-08	5.91E-07	1.13E-01	4.60E-07	6.94E-06	9.63E-02	3.90E-07	5.89E-06
Road 48	48	0300-0400	1.17E-02	3.72E-08	5.63E-07	1.03E-02	3.29E-08	4.97E-07	1.16E-01	3.70E-07	5.58E-06	9.77E-02	3.13E-07	4.72E-06
Road 48	48	0400-0500	1.30E-02	3.34E-08	5.05E-07	1.14E-02	2.94E-08	4.45E-07	1.17E-01	3.01E-07	4.55E-06	9.84E-02	2.53E-07	3.82E-06
Road 48	48	0500-0600	1.30E-02	7.90E-08	1.19E-06	1.16E-02	7.03E-08	1.06E-06	1.18E-01	7.15E-07	1.08E-05	1.01E-01	6.11E-07	9.22E-06
Road 48	48	0600-0700	1.37E-02	1.79E-07	2.69E-06	1.22E-02	1.59E-07	2.40E-06	1.20E-01	1.56E-06	2.35E-05	1.02E-01	1.33E-06	2.00E-05
Road 48	48	0700-0800	1.45E-02	3.51E-07	5.29E-06	1.29E-02	3.12E-07	4.70E-06	1.21E-01	2.93E-06	4.41E-05	1.08E-01	2.60E-06	3.92E-05
Road 48	48	0800-0900	1.35E-02	4.09E-07	6.18E-06	1.20E-02	3.63E-07	5.48E-06	1.12E-01	3.41E-06	5.14E-05	9.98E-02	3.02E-06	4.56E-05
Road 48	48	0900-1000	1.35E-02	4.01E-07	6.06E-06	1.20E-02	3.56E-07	5.38E-06	1.12E-01	3.34E-06	5.04E-05	9.98E-02	2.96E-06	4.47E-05
Road 48	48	1000-1100	1.68E-02	3.37E-07	5.09E-06	1.49E-02	3.00E-07	4.52E-06	1.40E-01	2.81E-06	4.24E-05	1.24E-01	2.49E-06	3.76E-05
Road 48	48	1100-1200	1.61E-02	3.23E-07	4.88E-06	1.43E-02	2.87E-07	4.33E-06	1.34E-01	2.69E-06	4.06E-05	1.19E-01	2.38E-06	3.60E-05
Road 48	48	1200-1300	3.84E-02	5.04E-07	7.60E-06	3.48E-02	4.56E-07	6.88E-06	3.34E-01	4.38E-06	6.61E-05	3.01E-01	3.95E-06	5.96E-05
Road 48	48	1300-1400	3.75E-02	5.21E-07	7.86E-06	3.40E-02	4.72E-07	7.14E-06	3.18E-01	4.42E-06	6.67E-05	2.88E-01	4.00E-06	6.04E-05
Road 48	48	1400-1500	3.81E-02	5.46E-07	8.24E-06	3.44E-02	4.93E-07	7.43E-06	3.24E-01	4.65E-06	7.07E-05	2.92E-01	4.19E-06	6.33E-05
Road 48	48	1500-1600	3.56E-02	5.25E-07	7.92E-06	3.20E-02	4.72E-07	7.13E-06	3.17E-01	4.68E-06	7.06E-05	2.84E-01	4.19E-06	6.33E-05
Road 48	48	1600-1700	3.75E-02	5.61E-07	8.47E-06	3.36E-02	5.03E-07	7.58E-06	3.45E-01	5.17E-06	7.80E-05	3.08E-01	4.61E-06	6.96E-05
Road 48	48	1700-1800	3.28E-02	5.12E-07	7.27E-06	2.95E-02	4.60E-07	6.52E-06	3.02E-01	4.72E-06	6.69E-05	2.71E-01	4.24E-06	6.01E-05
Road 48	48	1800-1900	2.97E-02	4.44E-07	6.69E-06	2.66E-02	3.96E-07	5.98E-06	3.82E-01	5.70E-06	8.60E-05	3.40E-01	5.07E-06	7.65E-05
Road 48	48	1900-2000	3.03E-02	3.55E-07	5.36E-06	2.74E-02	3.20E-07	4.84E-06	4.25E-01	7.56E-05	3.82E-01	4.47E-06	6.74E-05	
Road 48	48	2000-2100	2.84E-02	2.58E-07	2.84E-06	2.75E-02	2.50E-07	2.75E-06	4.11E-01	3.73E-06	4.11E-05	3.98E-01	3.61E-06	3.98E-05
Road 48	48	2100-2200	2.86E-02	2.58E-07	3.90E-06	2.59E-02	2.33E-07	3.52E-06	4.02E-01	3.62E-06	5.47E-05	3.61E-01	3.26E-06	4.91E-05
Road 48	48	2200-2300	3.04E-02	2.65E-07	4.00E-06	2.73E-02	2.38E-07	3.60E-06	4.34E-01	3.78E-06	5.71E-05	3.88E-01	3.39E-06	5.11E-05
Road 48	48	2300-2400	3.04E-02	2.65E-07	4.00E-06	2.73E-02	2.38E-07	3.60E-06	4.34E-01	3.78E-06	5.71E-05	3.88E-01	3.39E-06	5.11E-05
Road 49	49	0000-0100	1.37E-02	7.48E-08	1.89E-06	1.20E-02	6.52E-08	1.64E-06	1.77E-01	9.65E-07	2.43E-05	1.50E-01	8.14E-07	2.05E-05
Road 49	49	0100-0200	1.36E-02	1.21E-07	4.25E-06	1.21E-02	1.08E-07	3.78E-06	1.76E-01	1.56E-06	5.50E-05	1.56E-01	1.39E-06	4.88E-05
Road 49	49	0200-0300	1.35E-02	1.18E-07	4.64E-06	1.20E-02	1.05E-07	4.12E-06	1.74E-01	1.52E-06	5.97E-05	1.54E-01	1.35E-06	5.32E-05
Road 49	49	0300-0400	1.47E-02	2.96E-08	7.47E-07	1.30E-02	2.61E-08	6.59E-07	1.70E-01	3.41E-07	8.60E-06	1.45E-01	2.91E-07	7.35E-06
Road 49	49	0400-0500	1.60E-02	3.50E-08	8.83E-07	1.41E-02	3.09E-08	7.80E-07	1.75E-01	3.83E-07	9.66E-06	1.49E-01	3.27E-07	8.26E-06
Road 49	49	0500-0600	1.72E-02	6.44E-08	1.68E-06	1.52E-02	5.68E-08	1.48E-06	1.81E-01	6.77E-07	1.77E-05	1.54E-01	5.76E-07	1.51E-05
Road 49	49	0600-0700	2.12E-02	1.71E-07	4.31E-06	1.89E-02	1.52E-07	3.84E-06	2.04E-01	1.64E-06	4.14E-05	1.76E-01	1.42E-06	3.57E-05
Road 49	49	0700-0800	2.65E-02	4.30E-07	1.08E-05	2.42E-02	3.91E-07	9.88E-06	2.32E-01	3.76E-06	9.49E-05	2.07E-01	3.34E-06	8.44E-05
Road 49	49	0800-0900	2.70E-02	1.07E-06	2.70E-05	2.47E-02	9.77E-07	2.47E-05	2.32E-01	9.19E-06	2.32E-04	2.07E-01	8.19E-06	2.07E-04
Road 49	49	0900-1000	2.67E-02	3.94E-07	9.95E-06	2.43E-02	3.58E-07	9.04E-06	2.22E-01	3.27E-06	8.25E-05	1.99E-01	2.90E-06	7.31E-05
Road 49	49	1000-1100	2.84E-02	3.55E-07	8.96E-06	2.57E-02	3.21E-07	8.11E-06	2.24E-01	2.80E-06	7.08E-05	1.99E-01	2.48E-06	6.27E-05
Road 49	49	1100-1200	3.41E-02	3.32E-07	8.39E-06	3.07E-02	2.99E-07	7.57E-06	2.53E-01	2.47E-06	6.23E-05	2.25E-01	2.19E-06	5.54E-05
Road 49	49	1200-1300	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.22E-06	5.61E-05
Road 49	49	1300-1400	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.22E-06	5.61E-05
Road 49	49	1400-1500	3.42E-02	3.35E-07	8.47E-06	3.07E-02	3.01E-07	7.63E-06	2.53E-01	2.48E-06	6.29E-05	2.25E-01	2.22E-06	5.61E-05
Road 49	49	1500-1600	3.46E-02	3.73E-07	9.40E-06	3.10E-02	3.34E-07	8.42E-06	2.59E-01	2.79E-06	7.04E-05	2.28E-01	2.46E-06	6.20E-05
Road 49	49	1600-1700	3.66E-02	4.29E-07	1.08E-05	3.27E-02	3.83E-07	9.67E-06	2.61E-01	3.06E-06	7.72E-05	2.29E-01	2.69E-06	6.79E-05
Road 49	49	1700-1800	2.34E-02	3.61E-07	9.11E-06	2.08E-02	3.21E-07	8.09E-06	2.19E-01	3.38E-06	8.54E-05	1.92E-01	2.96E-06	7.46E-05
Road 49	49	1800-1900	2.34E-02	3.61E-07	9.11E-06	2.08E-02	3.21E-07	8.09E-06	2.19E-01	3.38E-06	8.54E-05	1.92E-01	2.96E-06	7.46E-05
Road 49	49	1900-2000	2.06E-02	2.56E-07	6.46E-06	1.84E-02	2.29E-07	5.78E-06	2.23E-01	2.77E-06	7.00E-05	1.97E-01	2.45E-06	6.17E-05
Road 49	49	2000-2100	1.62E-02	1.56E-07	3.93E-06	1.45E-02	1.40E-07	3.52E-06	2.07E-01	1.98E-06	5.00E-05	1.81E-01	1.74E-06	4.39E-05
Road 49	49	2100-2200	1.66E-02	1.56E-07	3.95E-06	1.48E-02	1.39E-07	3.51E-06	2.19E-01	2.06E-06	5.21E-05	1.92E-01	1.80E-06	4.55E-05
Road 49	49	2200-2300	1.66E-02	1.56E-07	3.95E-06	1.48E-02	1.39E-07	3.51E-06	2.19E-01	2.06E-06	5.21E-05	1.92E-01	1.80E-06	4.55E-05
Road 49	49	2300-0000	1.66E-02	1.56E-07	3.95E-06	1.48E-02	1.39E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	3.54E-02	1.98E-07	1.27E-03	7.10E-02	3.58E-01	2.56E-03	5.77E-06	2.46E-01	1.38E-06	5.30E-06
Road 11	11	0100-0200	3.97E-02	1.49E-07	5.71E-04	3.70E-02	1.39E-06	3.49E-06	5.88E-01	1.28E-06	3.21E-06	9.44E-07	3.62E-06	
Road 11	11	0200-0300	4.36E-02	1.23E-07	4.72E-04	4.07E-02	1.15E-07	4.40E-04	2.79E-01	7.83E-07	3.00E-06	1.15E-07	4.41E-04	
Road 11	11	0300-0400	4.82E-02	1.02E-07	4.28E-04	4.47E-02	9.47E-08	3.97E-04	2.71E-01	5.74E-07	2.41E-06	1.02E-07	4.29E-04	
Road 11	11	0400-0500	4.98E-02	1.24E-07	4.76E-04	4.59E-02	1.14E-07	4.39E-04	2.98E-01	7.42E-07	2.85E-06	1.14E-07	4.39E-04	
Road 11	11	0500-0600	4.87E-02	2.01E-07	7.73E-04	4.51E-02	1.86E-07	7.15E-04	2.91E-01	1.20E-06	4.63E-06	1.86E-07	7.16E-04	
Road 11	11	0600-0700	5.11E-02	1.68E-06	6.46E-03	4.72E-02	1.56E-06	5.99E-03	3.07E-01	1.01E-05	3.88E-05	1.56E-06	6.00E-03	
Road 11	11	0700-0800	6.44E-02	1.15E-06	4.43E-03	6.02E-02	1.08E-06	4.13E-03	3.66E-01	6.55E-06	2.51E-05	1.08E-06	4.13E-03	
Road 11	11	0800-0900	6.39E-02	1.32E-06	5.05E-06	5.99E-02	1.23E-06	4.74E-06	3.66E-01	7.54E-06	2.89E-05	1.23E-06	4.74E-06	
Road 11	11	0900-1000	7.30E-02	1.68E-06	6.46E-03	6.83E-02	1.57E-06	6.04E-03	4.16E-01	9.57E-06	3.68E-05	1.57E-06	6.04E-03	
Road 11	11	1000-1100	7.85E-02	1.21E-06	4.65E-06	7.32E-02	1.13E-06	4.34E-06	3.57E-01	5.52E-06	2.11E-05	1.13E-06	4.34E-06	
Road 11	11	1100-1200	7.84E-02	1.15E-06	4.41E-06	7.36E-02	1.08E-06	4.14E-06	3.59E-01	5.26E-06	2.02E-05	1.08E-06	4.14E-06	
Road 11	11	1200-1300	8.14E-02	1.22E-06	4.69E-06	7.64E-02	1.14E-06	4.40E-06	3.72E-01	5.57E-06	2.14E-05	1.14E-06	4.40E-06	
Road 11	11	1300-1400	1.24E-01	2.01E-06	1.17E-01	2.47E-06	9.47E-06	1.87E-05	5.47E-01	8.87E-06	3.41E-05	9.43E-06	3.62E-05	
Road 11	11	1400-1500	1.20E-01	2.63E-06	1.01E-05	2.49E-06	9.55E-06	4.68E-01	1.02E-05	3.92E-05	4.39E-01	9.59E-06	3.68E-05	
Road 11	11	1500-1600	1.27E-01	2.66E-06	1.02E-05	2.63E-06	1.01E-05	3.27E-01	1.08E-05	4.15E-05	3.07E-01	1.01E-05	3.89E-05	
Road 11	11	1600-1700	1.15E-01	2.62E-06	1.01E-05	1.09E-01	2.48E-06	9.52E-06	4.60E-01	1.04E-05	4.00E-05	9.80E-06	3.76E-05	
Road 11	11	1700-1800	9.83E-02	2.36E-06	9.05E-06	9.39E-02	2.25E-06	8.65E-06	4.43E-01	1.06E-05	4.08E-05	4.19E-01	1.01E-05	3.86E-05
Road 11	11	1800-1900	7.09E-02	1.67E-06	6.40E-06	6.78E-02	1.60E-06	6.13E-06	4.37E-01	1.03E-05	3.95E-05	4.13E-01	9.74E-06	3.73E-05
Road 11	11	1900-2000	5.47E-02	9.58E-07	3.68E-06	5.20E-02	9.12E-07	3.50E-06	4.25E-01	7.44E-06	2.86E-05	9.12E-07	3.50E-06	
Road 11	11	2000-2100	5.49E-02	7.55E-07	2.90E-06	5.21E-02	7.17E-07	2.75E-06	3.99E-01	5.49E-06	2.11E-05	7.17E-07	2.75E-06	
Road 11	11	2100-2200	5.53E-02	7.34E-07	2.82E-06	5.11E-02	6.78E-07	2.60E-06	4.02E-01	5.34E-06	2.05E-05	6.78E-07	2.60E-06	
Road 11	11	2200-2300	5.41E-02	6.32E-07	2.43E-06	5.00E-02	5.84E-07	2.24E-06	3.93E-01	4.59E-06	1.76E-05	5.84E-07	2.24E-06	
Road 11	11	2300-0000	5.06E-02	5.09E-07	1.95E-06	4.91E-02	4.94E-07	1.90E-06	3.68E-01	3.70E-06	1.42E-05	4.94E-07	1.90E-06	
Road 12	12	0000-0100	2.89E-01	1.81E-07	1.46E-06	2.65E-01	1.66E-07	1.34E-06	2.10E-06	1.32E-06	1.06E-05	1.21E-06	9.75E-06	
Road 12	12	0100-0200	3.02E-01	1.80E-07	4.45E-06	2.73E-01	1.63E-07	4.01E-06	6.97E-01	4.16E-07	1.02E-05	6.29E-01	3.75E-07	9.25E-06
Road 12	12	0200-0300	3.02E-01	1.80E-07	4.45E-06	2.73E-01	1.63E-07	4.01E-06	6.97E-01	4.16E-07	1.02E-05	6.29E-01	3.75E-07	9.25E-06
Road 12	12	0300-0400	3.05E-01	1.80E-07	4.45E-06	2.75E-01	1.62E-07	4.00E-06	7.02E-01	4.14E-07	1.02E-05	6.32E-01	3.73E-07	9.20E-06
Road 12	12	0400-0500	3.08E-01	1.80E-07	4.48E-06	2.78E-01	1.62E-07	4.03E-06	7.09E-01	4.14E-07	1.03E-05	6.38E-01	3.73E-07	9.25E-06
Road 12	12	0500-0600	2.99E-01	1.84E-07	4.52E-06	2.68E-01	1.64E-07	4.04E-06	6.96E-01	4.27E-07	1.05E-05	6.22E-01	3.82E-07	9.40E-06
Road 12	12	0600-0700	2.97E-01	1.98E-07	4.88E-06	2.71E-01	1.81E-07	4.45E-06	7.07E-01	4.71E-07	1.16E-05	6.44E-01	4.30E-07	1.06E-05
Road 12	12	0700-0800	3.12E-01	2.58E-07	6.36E-06	2.82E-01	2.34E-07	5.76E-06	7.30E-01	6.04E-07	1.49E-05	6.65E-01	5.51E-07	1.36E-05
Road 12	12	0800-0900	3.60E-01	8.72E-07	2.15E-05	3.29E-01	7.97E-07	1.96E-05	8.30E-01	2.01E-06	4.96E-05	7.59E-01	1.84E-06	4.53E-05
Road 12	12	0900-1000	3.64E-01	8.73E-07	2.15E-05	3.34E-01	8.02E-07	1.98E-05	8.39E-01	2.01E-06	4.96E-05	7.71E-01	1.85E-06	4.56E-05
Road 12	12	1000-1100	3.61E-01	8.73E-07	2.15E-05	3.33E-01	8.05E-07	1.98E-05	8.32E-01	2.01E-06	4.96E-05	7.66E-01	1.85E-06	4.56E-05
Road 12	12	1100-1200	3.71E-01	8.77E-07	2.16E-05	3.38E-01	8.01E-07	1.97E-05	8.51E-01	2.02E-06	4.97E-05	7.77E-01	1.84E-06	4.53E-05
Road 12	12	1200-1300	3.67E-01	8.74E-07	2.15E-05	3.36E-01	7.99E-07	1.97E-05	8.44E-01	2.01E-06	4.95E-05	7.71E-01	1.83E-06	4.52E-05
Road 12	12	1300-1400	3.68E-01	8.78E-07	2.16E-05	3.36E-01	8.01E-07	1.97E-05	8.46E-01	2.02E-06	4.97E-05	7.73E-01	1.84E-06	4.53E-05
Road 12	12	1400-1500	3.66E-01	8.78E-07	2.16E-05	3.36E-01	8.05E-07	1.98E-05	8.43E-01	2.02E-06	4.98E-05	7.73E-01	1.85E-06	4.57E-05
Road 12	12	1500-1600	3.63E-01	8.73E-07	2.15E-05	3.34E-01	8.03E-07	1.98E-05	8.38E-01	2.02E-06	4.97E-05	7.71E-01	1.85E-06	4.57E-05
Road 12	12	1600-1700	3.57E-01	8.72E-07	2.15E-05	3.29E-01	8.02E-07	1.98E-05	8.24E-01	2.01E-06	4.96E-05	7.59E-01	1.85E-06	4.57E-05
Road 12	12	1700-1800	3.57E-01	8.65E-07	2.13E-05	3.29E-01	7.97E-07	1.96E-05	8.25E-01	2.00E-06	4.93E-05	7.60E-01	1.84E-06	4.55E-05
Road 12	12	1800-1900	3.50E-01	8.49E-07	2.09E-05	3.23E-01	7.84E-07	1.93E-05	8.05E-01	1.95E-06	4.81E-05	7.44E-01	1.80E-06	4.45E-05
Road 12	12	1900-2000	3.50E-01	8.49E-07	2.09E-05	3.23E-01	7.84E-07	1.93E-05	8.05E-01	1.95E-06	4.81E-05	7.44E-01	1.80E-06	4.45E-05
Road 12	12	2000-2100	2.70E-01	1.92E-07	4.74E-06	2.49E-01	1.77E-07	4.36E-06	6.51E-01	4.64E-07	1.14E-05	5.99E-01	4.26E-07	1.05E-05
Road 12	12	2100-2200	2.64E-01	1.88E-07	4.64E-06	2.47E-01	1.76E-07	4.33E-06	6.37E-01	4.54E-07	1.12E-05	5.95E-01	4.24E-07	1.04E-05
Road 12	12	2200-2300	2.64E-01	1.88E-07	4.64E-06	2.47E-01	1.76E-07	4.33E-06	6.37E-01	4.54E-07	1.12E-05	5.95E-01	4.24E-07	1.04E-05
Road 12	12	2300-0000	2.60E-01	1.75E-07	4.31E-06	2.48E-01	1.67E-07	4.11E-06	6.19E-01	4.16E-07	1.03E-05	5.90E-01	3.97E-07	9.78E-06
Road 13	13	0000-0100	2.87E-01	1.80E-07	1.49E-06	2.60E-01	1.63E-07	4.08E-06	6.61E-01	4.15E-07	1.04E-05	6.00E-01	3.76E-07	9.40E-06
Road 13	13	0100-0200	3.01E-01	1.80E-07	4.49E-06	2.72E-01	1.62E-07	4.05E-06	6.95E-01	4.14E-07	1.03E-05	6.27E-01	3.71E-07	9.28E-06
Road 13	13	0200-0300	3.01E-01	1.80E-07	4.49E-06	2.72E-01	1.62E-07	4.05E-06	6.95E-01	4.14E-07	1.03E-05	6.27E-01	3.71E-07	9.28E-06
Road 13	13	0300-0400	3.04E-01	1.80E-07	4.49E-06	2.74E-01	1.62E-07	4.04E-06	7.00E-01	4.14E-07	1.03E-05	6.31E-01	3.70E-07	9.24E-06
Road 13	13	0400-0500	3.07E-01	1.80E-07	4.52E-06	2.77E-01	1.62E-07	4.07E-06	7.07E-01	4.14E-07	1.04E-05	6.37E-01	3.70E-07	9.29E-06
Road 13	13	0500-0600	2.97E-01	1.82E-07	4.55E-06	2.65E-01	1.63E-07	4.07E-06	6.84E-01	4.19E-07	1.05E-05	6.10E-01	3.74E-07	9.35E-06
Road 13	13	0600-0700	2.93E-01	1.95E-07	4.87E-06	2.66E-01	1.77E-07	4.42E-06	6.82E-01	4.55E-07	1.14E-05	6.20E-01	4.13E-07	1.03E-05
Road 13	13	0700-0800	3.18E-01	2.55E-07	6.28E-06	2.88E-01	2.31E-07	5.69E-06	7.43E-01	5.96E-07	1.47E-05	6.75E-01	5.41E-07	1.34E-05
Road 13	13	0800-0900	3.56E-01	8.63E-07	2.16E-05	3.26E-01	7.89E-07	1.97E-05	8.15E-01	1.99E-06	4.91E-05	7.45E-01	1.80E-06	4.51E-05
Road 13	13	0900-1000	3.60E-01	8.64E-07	2.16E-05	3.31E-01	7.93E-07	1.98E-05	8.25E-01	1.98E-06	4.95E-05	7.54E-01	1.81E-06	4.51E-05
Road 13	13	1000-1100	3.57E-01	8.63E-07	2.16E-05	3.28E-01	7.93E-07	1.98E-05	8.17E-01	1.98E-06	4.95E-05	7.47E-01	1.81E-06	4.51E-05
Road 13	13	1100-1200	3.67E-01	8.67E-07	2.17E-05	3.33E-01	7.91E-07	1.98E-05	8.36E-01	1.98E-06	4.95E-05	7.62E-01	1.80E-06	4.51E-05
Road 13	13	1200-1300	3.64E-01	8.70E-07	2.17E-05	3.33E-01	7.91E-07	1.98E-05	8.29E-01	1.98E-06	4.95E-05	7.56E-01	1.80E-06	4.51E-05
Road 13	13	1300-1400	3.64E-01	8.70E-07	2.17E-05	3.33E-01	7.95E-07	1.99E-05	8.29E-01	1.98E-06	4.96E-05	7.56E-01	1.81E-06	4.51E-05
Road 13	13	1400-1500	3.62E-01	8.67E-07	2.17E-05	3.32E-01	7.95E-07	1.99E-05	8.25E-01	1.98E-06	4.96E-05	7.53E-01	1.81E-06	4.51E-05
Road 13	13	1500-1600	3.59E-01	8.63E-07	2.16E-05	3.29E-01	7.92E-07	1.98E-05	8.17E-01	1.97E-06	4.94E-05	7.47E-01	1.80E-06	4.51E-05
Road 13	13	1600-1700	3.58E-01	8.62E-07	2.16E-05	3.28E-01	7.91E-07	1.98E-05	8.19E-01	1.97E-06	4.93E-05	7.49E-01	1.80E-06	4.51E-05
Road 13	13	1700-1800	3.53E-01	8.51E-07	2.13E-05	3.24E-01	7.81E-07	1.95E-05	8.07E-01	1.94E-06	4.86E-05	7.38E-01	1.78E-06	4.45E-05
Road 13	13	1800-1900	3.47E-01	8.43E-07	2.11E-05	3.21E-01	7.78E-07	1.94E-05	7.92E-01	1.92E-06	4.80E-05	7.32E-01	1.77E-06	4.43E-05
Road 13	13	1900-2000	3.47E-01	8.43E-07	2.11E-05	3.21E-01	7.78E-07	1.94E-05	7.92E-01	1.92E-06	4.80E-05	7.32E-01	1.77E-06	4.43E-05
Road 13	13	2000-2100	2.77E-01	1.92E-07	4.74E-06	2.56E-01	1.77E-07	4.36E-06	6.68E-01	4.64E-07	1.14E-05	6.15E-01	4.26E-07	1.05E-05
Road 13	13	2100-2200	2.71E-01	1.88E-07	4.64E-06	2.54E-01	1.76E-07	4.33E-06	6.54E-01	4.54E-07	1.12E-05	6.11E-01	4.24E-07	1.04E-05
Road 13	13	2200-2300	2.71E-01	1.88E-07	4.64E-06	2.54E-01	1.76E-07	4.33E-06	6.54E-01	4.54E-07	1.12E-05	6.11E-01	4.24E-07	1.04E-05
Road 13	13	2300-0000	2.67E-01	1.75E-07	4.31E-06	2.54E-01	1.67E-07	4.11E-06	6.36E-01	4.16E-07	1.03E-05	6.06E-01	3.97E-07	9.78E-06
Road 14	14	0000-0100	2.22E-01	2.10E-06	2.00E-02	1.11E-01	1.89E-06	1.48E-01	8.20E-07	1.40E-05	1.30E-01	7.23E-07	1.23E-05	
Road 14	14	0100-0200	2.57E-02	9.54E-08	1.63E-06	2.32E-02	8.61E-08	1.47E-06	1.52E-01	5.65E-07	9.64E-06	1.35E-01	5.00E-07	8.52E-06
Road 14	14	0200-0300	2.89E-02	8.08E-08	1.38E-06	2.61E-02	7.28E-08	1.24E-06	1.71E-01	4.78E-07	8.15E-06	1.52E-01	4.24E-07	7.23E-06
Road 14	14	0300-0400	3.27E-02	7.42E-08	1.26E-06	2.94E-02	6.66E-08	1.14E-06	1.94E-01	4.41E-07	7.52E-06	1.72E-01	3.91E-07	6.67E-06
Road 14	14	0400-0500	3.29E-02	8.12E-08	1.38E-06	2.93E-02	7.23E-08	1.23E-06	1.67E-01	4.12E-07	7.02E-06	1.45E-01	3.58E-07	6.11E-06
Road 14	14	0500-0600	3.98E-02	2.08E-07	1.84E-06	3.57E-02	1.87E-07	1.65E-06	2.03E-01	1.06E-06	9.37E-06	1.82E-01	9.54E-07	8.41E-06
Road 14	14	0600-0700	3.01E-02	2.56E-07	4.37E-06	2.73E-02	2.32E-07	3.96E-06	1.76E-01	1.49E-06	2.55E-05	1.56E-01	1.32E-06	2.26E-05
Road 14	14	0700-0800	4.29E-02	7.60E-07	1.30E-05	3.89E-02	6.90E-07	1.18E-05	2.15E-01	3.81E-06	6.49E-05	1.91E-01	3.39E-06	5.78E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	4.19E-02	8.54E-07	1.46E-05	3.82E-02	7.78E-07	1.33E-05	2.04E-01	4.16E-06	7.10E-05	1.83E-01	3.73E-06	6.36E-05
Road 14	14	0900-1000	4.71E-02	8.16E-07	1.39E-05	4.31E-02	7.47E-07	1.27E-05	2.22E-01	3.85E-06	6.56E-05	2.01E-01	3.48E-06	5.94E-05
Road 14	14	1000-1100	5.17E-02	7.90E-07	1.35E-05	4.67E-02	7.13E-07	1.22E-05	2.31E-01	3.54E-06	6.03E-05	2.09E-01	3.15E-06	5.37E-05
Road 14	14	1100-1200	5.05E-02	7.34E-07	1.25E-05	4.60E-02	6.67E-07	1.14E-05	2.30E-01	3.34E-06	5.70E-05	2.07E-01	3.01E-06	5.13E-05
Road 14	14	1200-1300	7.78E-02	1.53E-06	2.61E-05	7.13E-02	1.40E-06	2.39E-05	3.15E-01	6.19E-06	1.06E-04	2.87E-01	5.66E-06	9.65E-05
Road 14	14	1300-1400	8.07E-02	1.68E-06	2.86E-05	7.41E-02	1.54E-06	2.63E-05	3.32E-01	6.91E-06	1.18E-04	3.04E-01	6.32E-06	1.08E-04
Road 14	14	1400-1500	8.02E-02	1.73E-06	2.95E-05	7.36E-02	1.59E-06	2.71E-05	3.26E-01	7.02E-06	1.20E-04	2.99E-01	6.44E-06	1.10E-04
Road 14	14	1500-1600	7.42E-02	1.64E-06	2.80E-05	6.85E-02	1.51E-06	2.58E-05	3.22E-01	7.13E-06	1.22E-04	2.96E-01	6.57E-06	1.12E-04
Road 14	14	1600-1700	7.55E-02	1.69E-06	2.89E-05	6.93E-02	1.55E-06	2.65E-05	3.15E-01	7.07E-06	1.21E-04	2.88E-01	6.47E-06	1.10E-04
Road 14	14	1700-1800	5.95E-02	1.41E-06	2.41E-05	5.45E-02	1.29E-06	2.20E-05	2.85E-01	6.73E-06	1.15E-04	2.61E-01	6.21E-06	1.06E-04
Road 14	14	1800-1900	4.51E-02	1.04E-06	1.77E-05	4.16E-02	9.57E-07	1.63E-05	2.32E-01	5.35E-06	9.09E-05	2.13E-01	4.89E-06	8.34E-05
Road 14	14	1900-2000	3.29E-02	5.64E-07	9.59E-06	3.02E-02	5.17E-07	8.79E-06	2.10E-01	3.60E-06	6.12E-05	1.93E-01	3.30E-06	5.61E-05
Road 14	14	2000-2100	3.32E-02	4.56E-07	7.75E-06	3.04E-02	4.18E-07	7.11E-06	2.12E-01	2.91E-06	4.95E-05	1.94E-01	2.67E-06	4.54E-05
Road 14	14	2100-2200	2.91E-02	3.92E-07	6.66E-06	2.67E-02	3.59E-07	6.11E-06	2.06E-01	2.77E-06	4.71E-05	1.89E-01	2.54E-06	4.32E-05
Road 14	14	2200-2300	2.92E-02	3.92E-07	6.66E-06	2.67E-02	3.59E-07	6.11E-06	2.06E-01	2.77E-06	4.71E-05	1.89E-01	2.54E-06	4.32E-05
Road 14	14	2300-0000	2.70E-02	3.63E-07	6.17E-06	2.47E-02	3.32E-07	5.65E-06	2.06E-01	2.77E-06	4.71E-05	1.89E-01	2.54E-06	4.32E-05
Road 15	15	0000-0100	3.96E-02	5.75E-08	5.52E-07	3.59E-02	5.21E-08	4.82E-07	1.55E-02	2.25E-07	2.09E-06	1.38E-02	2.00E-07	1.86E-06
Road 15	15	0100-0200	4.83E-02	5.08E-08	4.70E-07	4.38E-02	4.60E-08	4.26E-07	1.70E-01	1.79E-07	1.66E-06	1.52E-01	1.59E-07	1.48E-06
Road 15	15	0200-0300	5.73E-02	4.47E-08	4.51E-07	5.14E-02	4.02E-08	4.06E-07	1.66E-01	1.30E-07	1.31E-06	1.49E-01	1.16E-07	1.17E-06
Road 15	15	0300-0400	6.44E-02	4.73E-08	4.38E-07	5.77E-02	4.24E-08	3.93E-07	2.01E-01	1.48E-07	1.37E-06	1.78E-01	1.31E-07	1.21E-06
Road 15	15	0400-0500	6.26E-02	4.89E-08	4.53E-07	5.60E-02	4.37E-08	4.05E-07	1.99E-01	1.55E-07	1.44E-06	1.76E-01	1.37E-07	1.27E-06
Road 15	15	0500-0600	5.16E-02	5.92E-08	5.46E-07	4.62E-02	5.29E-08	4.88E-07	1.82E-01	2.09E-07	1.93E-06	1.62E-01	1.86E-07	1.69E-06
Road 15	15	0600-0700	5.96E-02	2.89E-07	2.68E-06	5.42E-02	2.63E-07	2.43E-06	2.08E-01	1.01E-06	9.33E-06	1.86E-01	9.02E-07	8.35E-06
Road 15	15	0700-0800	5.72E-02	3.12E-07	2.89E-06	5.22E-02	2.85E-07	2.64E-06	1.98E-01	1.08E-06	1.00E-05	1.77E-01	9.77E-07	9.04E-06
Road 15	15	0800-0900	6.26E-02	6.26E-07	1.16E-05	5.70E-02	5.70E-07	5.27E-06	2.14E-01	2.14E-06	1.98E-05	1.94E-01	1.94E-06	1.79E-05
Road 15	15	0900-1000	6.92E-02	3.04E-07	2.81E-06	6.30E-02	2.76E-07	2.56E-06	2.28E-01	1.00E-06	9.27E-06	2.06E-01	9.04E-07	8.37E-06
Road 15	15	1000-1100	6.74E-02	2.84E-07	2.63E-06	6.16E-02	2.59E-07	2.40E-06	2.24E-01	9.42E-07	8.72E-06	2.03E-01	8.54E-07	7.91E-06
Road 15	15	1100-1200	6.74E-02	2.84E-07	2.63E-06	6.16E-02	2.59E-07	2.40E-06	2.24E-01	9.42E-07	8.72E-06	2.03E-01	8.54E-07	7.91E-06
Road 15	15	1200-1300	7.29E-02	3.07E-07	2.84E-06	6.65E-02	2.80E-07	2.59E-06	2.42E-01	1.02E-06	9.42E-06	2.19E-01	9.23E-07	8.55E-06
Road 15	15	1300-1400	7.77E-02	5.38E-07	4.98E-06	7.11E-02	4.92E-07	4.56E-06	2.67E-01	1.85E-06	1.71E-05	2.44E-01	1.69E-06	1.56E-05
Road 15	15	1400-1500	7.72E-02	5.51E-07	5.10E-06	7.06E-02	5.04E-07	4.67E-06	2.63E-01	1.88E-06	1.74E-05	2.39E-01	1.71E-06	1.58E-05
Road 15	15	1500-1600	7.61E-02	5.61E-07	5.20E-06	6.98E-02	5.15E-07	4.77E-06	2.60E-01	1.92E-06	1.78E-05	2.38E-01	1.75E-06	1.62E-05
Road 15	15	1600-1700	7.61E-02	5.61E-07	5.20E-06	6.98E-02	5.15E-07	4.77E-06	2.60E-01	1.92E-06	1.78E-05	2.38E-01	1.75E-06	1.62E-05
Road 15	15	1700-1800	6.13E-02	4.72E-07	4.37E-06	5.62E-02	4.33E-07	4.01E-06	2.27E-01	1.75E-06	1.62E-05	2.07E-01	1.60E-06	1.48E-05
Road 15	15	1800-1900	5.18E-02	3.90E-07	3.61E-06	4.75E-02	3.58E-07	3.31E-06	2.14E-01	1.61E-06	1.49E-05	1.96E-01	1.48E-06	1.36E-05
Road 15	15	1900-2000	3.05E-02	1.58E-07	1.46E-06	2.83E-02	1.46E-07	1.35E-06	1.42E-01	7.32E-07	6.78E-06	1.30E-01	6.71E-07	6.21E-06
Road 15	15	2000-2100	3.11E-02	1.28E-07	1.18E-06	2.85E-02	1.17E-07	1.08E-06	1.44E-01	5.93E-07	5.67E-06	1.34E-01	5.51E-07	5.10E-06
Road 15	15	2100-2200	3.12E-02	1.28E-07	1.18E-06	2.86E-02	1.17E-07	1.08E-06	1.44E-01	5.93E-07	5.67E-06	1.34E-01	5.51E-07	5.10E-06
Road 15	15	2200-2300	2.98E-02	1.21E-07	1.09E-06	2.84E-02	1.12E-07	1.04E-06	1.39E-01	5.47E-07	5.07E-06	1.31E-01	5.17E-07	4.78E-06
Road 15	15	2300-0000	3.29E-02	1.01E-07	9.35E-07	3.13E-02	9.59E-08	8.88E-07	1.44E-01	4.42E-07	4.09E-06	1.36E-01	4.16E-07	3.86E-06
Road 16	16	0000-0100	1.14E-02	8.53E-08	1.03E-06	1.07E-02	8.04E-08	9.70E-07	1.27E-01	9.50E-07	1.14E-05	1.20E-01	8.97E-07	1.08E-05
Road 16	16	0100-0200	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	0000-0100	7.60E-02	1.28E-08	2.82E-05	1.46E-01	2.45E-08	5.39E-05	1.17E-01	2.86E-01	4.82E-08	1.11E-01		
Road 37	37	0100-0200	6.52E-02	1.17E-08	2.69E-05	6.31E-02	1.14E-08	2.61E-05	2.97E-01	9.30E-02	5.35E-08	1.23E-01		
Road 37	37	0200-0300	4.43E-02	7.98E-09	1.83E-05	4.27E-02	7.68E-09	1.76E-05	2.24E-01	4.03E-08	9.25E-08	2.12E-01		
Road 37	37	0300-0400	3.76E-02	1.52E-09	1.30E-05	3.62E-02	5.01E-09	1.12E-05	2.46E-01	6.79E-08	2.01E-01	2.79E-08		
Road 37	37	0400-0500	3.84E-02	4.14E-09	9.51E-09	3.68E-02	3.98E-09	9.12E-09	2.33E-01	5.51E-08	5.78E-08	2.14E-01		
Road 37	37	0500-0600	4.06E-09	9.31E-09	3.62E-02	3.92E-09	9.01E-09	2.30E-01	2.49E-08	5.72E-08	2.17E-01	2.36E-08		
Road 37	37	0600-0700	3.32E-02	2.34E-09	7.69E-09	3.24E-02	3.34E-09	7.67E-09	2.18E-01	2.26E-08	5.18E-08	2.16E-01		
Road 37	37	0700-0800	2.98E-02	3.19E-07	5.94E-06	1.16E-02	2.78E-08	4.08E-08	2.18E-01	1.71E-08	3.92E-08	2.14E-01		
Road 38	38	0000-0100	6.51E-02	1.05E-07	8.56E-07	6.04E-02	9.70E-08	7.94E-07	2.69E-01	4.32E-07	3.54E-06	2.48E-01		
Road 38	38	0100-0200	5.72E-02	1.96E-08	6.77E-07	6.26E-02	8.81E-08	3.04E-06	2.98E-01	1.02E-07	3.52E-06	2.98E-01		
Road 38	38	0200-0300	8.11E-02	7.97E-08	6.52E-07	7.49E-02	7.35E-08	6.02E-07	2.86E-01	2.81E-07	2.30E-06	2.63E-01		
Road 38	38	0300-0400	8.75E-02	7.56E-08	6.19E-07	8.03E-02	6.93E-08	5.68E-07	2.94E-01	2.54E-07	2.08E-06	2.70E-01		
Road 38	38	0400-0500	8.61E-02	1.04E-08	8.51E-08	7.90E-02	9.54E-09	7.81E-08	2.72E-01	3.29E-08	2.69E-07	2.51E-01		
Road 38	38	0500-0600	8.21E-02	1.09E-07	8.91E-07	7.53E-02	9.97E-08	8.16E-07	3.09E-01	4.09E-07	3.35E-06	2.83E-01		
Road 38	38	0600-0700	7.57E-02	1.84E-07	1.51E-06	7.10E-02	1.73E-07	1.41E-06	3.15E-01	7.67E-07	6.28E-06	2.93E-01		
Road 38	38	0700-0800	7.45E-02	3.76E-07	3.08E-06	6.99E-02	3.47E-07	2.85E-06	3.11E-01	1.57E-06	1.29E-05	2.90E-01		
Road 38	38	0800-0900	9.40E-02	6.01E-07	4.92E-06	8.80E-02	5.62E-07	4.60E-06	3.34E-01	2.14E-06	1.75E-05	3.09E-01		
Road 38	38	0900-1000	1.06E-01	6.24E-07	5.10E-06	9.92E-02	5.86E-07	4.80E-06	3.56E-01	2.10E-06	1.72E-05	3.31E-01		
Road 38	38	1000-1100	1.01E-01	6.02E-07	4.93E-06	9.47E-02	5.66E-07	4.64E-06	3.38E-01	2.01E-06	1.65E-05	3.16E-01		
Road 38	38	1100-1200	1.10E-01	5.79E-07	4.74E-06	1.03E-01	5.41E-07	4.43E-06	3.59E-01	1.89E-06	1.55E-05	3.33E-01		
Road 38	38	1200-1300	1.44E-01	4.93E-07	4.04E-06	1.35E-01	4.61E-07	3.78E-06	4.01E-01	1.37E-06	1.12E-05	3.72E-01		
Road 38	38	1300-1400	1.44E-01	4.93E-07	4.04E-06	1.35E-01	4.61E-07	3.78E-06	4.01E-01	1.37E-06	1.12E-05	3.72E-01		
Road 38	38	1400-1500	1.38E-01	4.72E-07	3.87E-06	1.29E-01	4.42E-07	3.62E-06	3.84E-01	1.31E-06	1.07E-05	3.56E-01		
Road 38	38	1500-1600	1.44E-01	5.38E-07	4.40E-06	1.37E-01	5.14E-07	4.20E-06	3.85E-01	1.44E-06	1.18E-05	3.57E-01		
Road 38	38	1600-1700	1.42E-01	5.13E-07	4.20E-06	1.35E-01	4.88E-07	4.00E-06	3.77E-01	1.36E-06	1.12E-05	3.50E-01		
Road 38	38	1700-1800	1.42E-01	5.13E-07	4.20E-06	1.35E-01	4.88E-07	4.00E-06	3.77E-01	1.36E-06	1.12E-05	3.50E-01		
Road 38	38	1800-1900	1.26E-01	3.86E-07	3.16E-06	1.18E-01	3.63E-07	2.97E-06	3.68E-01	1.06E-06	8.68E-06	3.42E-01		
Road 38	38	1900-2000	1.03E-01	1.53E-07	1.25E-06	9.78E-02	1.46E-07	1.20E-06	3.22E-01	4.78E-07	3.91E-06	3.06E-01		
Road 38	38	2000-2100	1.04E-01	1.33E-07	1.09E-06	9.96E-02	1.27E-07	1.04E-06	3.42E-01	4.37E-07	3.57E-06	3.27E-01		
Road 38	38	2100-2200	1.04E-01	1.33E-07	1.09E-06	9.96E-02	1.27E-07	1.04E-06	3.42E-01	4.37E-07	3.57E-06	3.27E-01		
Road 38	38	2200-2300	9.98E-02	1.19E-07	9.75E-07	9.65E-02	1.15E-07	9.42E-07	3.33E-01	3.98E-07	3.24E-06	3.20E-01		
Road 38	38	2300-0000	9.78E-02	1.13E-07	9.24E-07	9.45E-02	1.09E-07	8.93E-07	3.26E-01	3.77E-07	3.08E-06	3.14E-01		
Road 39	39	0000-0100	1.07E-01	2.50E-08	2.13E-07	1.02E-01	2.39E-08	2.04E-07	3.75E-01	8.77E-08	7.47E-07	3.54E-01		
Road 39	39	0100-0200	1.01E-01	1.78E-08	1.52E-07	1.05E-01	1.85E-08	1.58E-07	3.60E-01	6.20E-08	5.28E-07	3.68E-01		
Road 39	39	0200-0300	1.21E-01	1.05E-08	8.94E-08	1.17E-01	1.01E-08	8.63E-08	3.77E-01	3.26E-08	2.78E-07	3.64E-01		
Road 39	39	0300-0400	1.15E-01	1.22E-08	1.03E-07	1.10E-01	1.16E-08	9.87E-08	3.93E-01	4.16E-08	3.54E-07	3.76E-01		
Road 39	39	0400-0500	1.18E-01	1.44E-08	1.23E-07	1.12E-01	1.37E-08	1.17E-07	3.90E-01	4.76E-08	4.06E-07	3.71E-01		
Road 39	39	0500-0600	1.18E-01	1.39E-08	1.18E-07	1.12E-01	1.32E-08	1.13E-07	3.91E-01	4.61E-08	3.93E-07	3.72E-01		
Road 39	39	0600-0700	1.23E-01	6.23E-08	5.30E-07	1.17E-01	5.95E-08	5.07E-07	4.14E-01	2.10E-07	1.79E-06	3.92E-01		
Road 39	39	0700-0800	1.24E-01	1.34E-07	1.14E-06	1.18E-01	1.28E-07	1.09E-06	4.16E-01	4.49E-07	3.82E-06	3.93E-01		
Road 39	39	0800-0900	1.27E-01	1.58E-07	1.34E-06	1.21E-01	1.50E-07	1.28E-06	4.26E-01	5.31E-07	4.52E-06	4.03E-01		
Road 39	39	0900-1000	1.33E-01	1.85E-07	1.58E-06	1.28E-01	1.78E-07	1.52E-06	4.16E-01	5.80E-07	4.94E-06	3.94E-01		
Road 39	39	1000-1100	1.35E-01	1.86E-07	1.58E-06	1.28E-01	1.77E-07	1.50E-06	4.16E-01	5.80E-07	4.94E-06	3.94E-01		
Road 39	39	1100-1200	1.34E-01	1.76E-07	1.49E-06	1.27E-01	1.67E-07	1.42E-06	4.16E-01	5.47E-07	4.66E-06	3.94E-01		
Road 39	39	1200-1300	6.60E-02	1.70E-08	1.45E-07	6.31E-02	1.63E-08	1.39E-07	2.77E-01	7.15E-08	6.09E-07	2.61E-01		
Road 39	39	1300-1400	7.06E-02	1.90E-08	1.62E-07	6.78E-02	1.82E-08	1.55E-07	2.91E-01	7.82E-08	6.66E-07	2.75E-01		
Road 39	39	1400-1500	6.98E-02	1.87E-08	1.59E-07	6.70E-02	1.80E-08	1.53E-07	2.88E-01	7.73E-08	6.58E-07	2.72E-01		
Road 39	39	1500-1600	7.01E-02	2.04E-08	1.73E-07	6.76E-02	1.97E-08	1.67E-07	2.96E-01	8.60E-08	7.32E-07	2.80E-01		
Road 39	39	1600-1700	6.59E-02	1.98E-08	1.69E-07	6.32E-02	1.90E-08	1.62E-07	2.76E-01	8.31E-08	7.09E-07	2.61E-01		
Road 39	39	1700-1800	6.59E-02	1.98E-08	1.69E-07	6.32E-02	1.90E-08	1.62E-07	2.76E-01	8.31E-08	7.09E-07	2.61E-01		
Road 39	39	1800-1900	3.64E-02	1.25E-08	1.07E-07	3.49E-02	1.20E-08	1.02E-07	2.04E-01	7.01E-08	5.97E-07	1.93E-01		
Road 39	39	1900-2000	3.08E-02	8.27E-09	7.04E-08	2.95E-02	7.93E-09	6.75E-08	1.98E-01	5.32E-08	4.52E-07	1.87E-01		
Road 39	39	2000-2100	3.02E-02	6.34E-09	5.40E-08	2.92E-02	6.12E-09	5.21E-08	2.14E-01	4.49E-08	3.82E-07	2.02E-01		
Road 39	39	2100-2200	3.02E-02	6.34E-09	5.40E-08	2.92E-02	6.12E-09	5.21E-08	2.14E-01	4.49E-08	3.82E-07	2.02E-01		
Road 39	39	2200-2300	2.68E-02	5.40E-09	4.60E-08	2.60E-02	5.25E-09	4.47E-08	2.05E-01	4.13E-08	3.51E-07	1.96E-01		
Road 39	39	2300-0000	2.68E-02	5.40E-09	4.60E-08	2.60E-02	5.25E-09	4.47E-08	2.05E-01	4.13E-08	3.51E-07	1.96E-01		
Road 40	40	0000-0100	5.97E-02	1.77E-07	8.60E-07	5.53E-02	1.64E-07	7.97E-07	2.62E-01	7.78E-07	3.78E-06	2.43E-01		
Road 40	40	0100-0200	7.00E-02	1.52E-07	3.77E-07	6.47E-02	1.40E-07	3.47E-07	2.91E-01	6.54E-07	1.62E-06	2.69E-01		
Road 40	40	0200-0300	7.16E-02	1.08E-07	1.04E-06	6.63E-02	1.00E-07	9.64E-07	2.98E-01	4.51E-07	4.34E-06	2.76E-01		
Road 40	40	0300-0400	8.35E-02	1.28E-07	6.23E-07	7.62E-02	1.17E-07	5.71E-07	3.21E-01	4.92E-07	2.40E-06	2.97E-01		
Road 40	40	0400-0500	8.38E-02	1.37E-07	6.66E-07	7.63E-02	1.25E-07	6.07E-07	3.21E-01	5.26E-07	2.55E-06	2.97E-01		
Road 40	40	0500-0600	7.70E-02	1.84E-07	8.95E-07	7.05E-02	1.68E-07	8.19E-07	3.04E-01	7.25E-07	3.53E-06	2.82E-01		
Road 40	40	0600-0700	7.14E-02	4.66E-07	2.26E-06	6.53E-02	4.26E-07	2.07E-06	2.84E-01	1.85E-06	8.99E-06	2.63E-01		
Road 40	40	0700-0800	9.96E-02	1.02E-06	4.95E-06	9.24E-02	9.44E-07	4.59E-06	3.71E-01	3.78E-06	1.84E-05	3.41E-01		
Road 40	40	0800-0900	9.57E-02	1.10E-06	5.36E-06	8.93E-02	1.03E-06	5.00E-06	3.46E-01	3.98E-06	1.94E-05	3.19E-01		
Road 40	40	0900-1000	1.08E-01	1.13E-06	5.50E-06	1.00E-01	1.05E-06	5.11E-06	3.76E-01	3.93E-06	1.91E-05	3.48E-01		
Road 40	40	1000-1100	1.17E-01	1.12E-06	5.46E-06	1.08E-01	1.04E-06	5.05E-06	3.85E-01	3.70E-06	1.80E-05	3.56E-01		
Road 40	40	1100-1200	1.14E-01	1.05E-06	5.10E-06	1.06E-01	9.77E-07	4.75E-06	3.77E-01	3.48E-06	1.69E-05	3.48E-01		
Road 40	40	1200-1300	1.25E-01	9.26E-07	4.50E-06	1.16E-01	8.57E-07	4.17E-06	4.01E-01	2.96E-06	1.44E-05	3.71E-01		
Road 40	40	1300-1400	1.42E-01	9.86E-07	4.80E-06	1.33E-01	9.24E-07	4.50E-06	4.26E-01	2.95E-06	1.44E-05	3.98E-01		
Road 40	40	1400-1500	1.39E-01	9.82E-07	4.78E-06	1.31E-01	9.23E-07	4.49E-06	4.18E-01	2.95E-06	1.43E-05	3.92E-01		
Road 40	40	1500-1600	1.39E-01	1.03E-06	4.97E-06	1.31E-01	9.71E-07	4.67E-06	4.02E-01	2.98E-06	1.43E-05	3.77E-01		
Road 40	40	1600-1700	1.36E-01	9.70E-07	4.72E-06	1.27E-01	9.10E-07	4.43E-06	3.91E-01	2.79E-06	1.36E-05	3.67E-01		
Road 40	40	1700-1800	1.26E-01	9.13E-07	4.44E-06	1.20E-01	8.64E-07	4.20E-06	4.03E-01	2.91E-06	1.41E-05	3.81E-01		
Road 40	40	1800-1900	1.07E-01	7.57E-07	3.68E-06	1.01E-01	7.16E-07	3.48E-06	3.32E-01	2.35E-06	1.14E-05	3.14E-01		
Road 40	40	1900-2000	7.31E-02	2.84E-07	1.38E-06	6.93E-02	2.70E-07	1.31E-06	2.66E-01	1.03E-06	5.03E-06	2.52E-01		
Road 40	40	2000-2100	7.54E-02	2.40E-07	1.17E-06	7.13E-02	2.27E-07	1.10E-06	2.95E-01	9.38E-07	4.56E-06	2.75E-01		
Road 40	40	2100-2200	7.12E-02	2.27E-07	1.10E-06	6.73E-02	2.14E-07	1.04E-06	2.79E-01	8.87E-07	4.31E-06	2.60E-01		
Road 40	40	2200-2300	7.02E-02	2.24E-07	1.04E-06	6.77E-02	2.06E-07	1.00E-06	2.77E-01	8.83E-07	4.09E-06	2.67E-01		
Road 40	40	2300-0000	7.54E-02	1.88E-07	9.13E-07	7.28E-02	1.81E-07	8.82E-07	2.82E-01	7.02E-07	3.42E-06	2.72E-01		

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\Appendix A\Scenario A 3.5.3 Emission Factor in 2033-5.8.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	2.63E-02	4.95E-08	1.47E-05	2.38E-02	4.48E-08	4.20E-05	1.90E-01	1.01E-01	1.90E-07	1.78E-06	8.88E-02	1.67E-07
Road 41	41	0100-0200	3.32E-02	4.62E-08	4.34E-07	3.01E-02	4.18E-08	3.93E-07	1.15E-01	1.60E-07	1.50E-06	1.02E-01	1.42E-07	1.33E-06
Road 41	41	0200-0300	3.89E-02	4.46E-08	4.18E-07	3.53E-02	4.04E-08	3.79E-07	1.26E-01	1.44E-07	1.35E-06	1.22E-01	1.29E-07	1.21E-06
Road 41	41	0300-0400	4.36E-02	4.37E-08	4.10E-07	3.93E-02	3.94E-08	3.70E-07	1.36E-01	1.36E-07	1.28E-06	1.20E-01	1.21E-07	1.13E-06
Road 41	41	0400-0500	4.28E-02	4.52E-08	4.24E-07	3.82E-02	4.03E-08	3.78E-07	1.35E-01	1.43E-07	1.34E-06	1.18E-01	1.25E-07	1.17E-06
Road 41	41	0500-0600	3.41E-02	5.07E-08	4.76E-07	3.03E-02	4.50E-08	4.23E-07	1.19E-01	1.77E-07	1.66E-06	1.03E-01	1.53E-07	1.44E-06
Road 41	41	0600-0700	2.49E-02	6.58E-08	1.18E-06	2.21E-02	5.85E-08	1.05E-06	1.01E-01	2.69E-07	4.83E-06	9.05E-02	2.39E-07	4.29E-06
Road 41	41	0700-0800	3.30E-02	2.05E-07	1.93E-06	2.99E-02	1.86E-07	1.75E-06	1.17E-01	7.27E-07	6.82E-06	1.04E-01	6.45E-07	6.05E-06
Road 41	41	0800-0900	3.04E-02	2.11E-07	1.98E-06	2.77E-02	1.92E-07	1.80E-06	1.07E-01	7.39E-07	6.93E-06	9.53E-02	6.60E-07	6.19E-06
Road 41	41	0900-1000	2.49E-02	5.58E-08	1.18E-06	2.27E-02	5.09E-08	1.08E-06	1.02E-01	2.29E-07	4.85E-06	9.11E-02	2.04E-07	4.33E-06
Road 41	41	1000-1100	3.80E-02	2.09E-07	1.96E-06	3.42E-02	1.88E-07	1.77E-06	1.31E-01	7.19E-07	6.75E-06	1.16E-01	6.39E-07	6.00E-06
Road 41	41	1100-1200	3.80E-02	2.09E-07	1.96E-06	3.42E-02	1.88E-07	1.77E-06	1.31E-01	7.19E-07	6.75E-06	1.16E-01	6.39E-07	6.00E-06
Road 41	41	1200-1300	1.91E-02	8.07E-08	7.57E-07	1.72E-02	7.26E-08	6.82E-07	9.56E-02	4.04E-07	3.79E-06	8.74E-02	3.69E-07	3.47E-06
Road 41	41	1300-1400	2.42E-02	8.24E-08	7.74E-07	2.18E-02	7.41E-08	6.97E-07	1.02E-01	3.47E-07	3.26E-06	9.31E-02	3.17E-07	2.98E-06
Road 41	41	1400-1500	4.16E-02	2.57E-07	2.42E-06	3.83E-02	2.37E-07	2.22E-06	1.37E-01	8.52E-07	7.99E-06	1.26E-01	7.81E-07	7.32E-06
Road 41	41	1500-1600	3.96E-02	2.51E-07	2.35E-06	3.65E-02	2.31E-07	2.16E-06	1.33E-01	8.42E-07	7.89E-06	1.22E-01	7.71E-07	7.23E-06
Road 41	41	1600-1700	3.99E-02	2.56E-07	2.40E-06	3.66E-02	2.35E-07	2.20E-06	1.32E-01	8.46E-07	7.94E-06	1.21E-01	7.73E-07	7.25E-06
Road 41	41	1700-1800	3.47E-02	2.33E-07	2.19E-06	3.22E-02	2.17E-07	2.03E-06	1.21E-01	8.14E-07	7.64E-06	1.12E-01	7.51E-07	7.04E-06
Road 41	41	1800-1900	2.76E-02	1.86E-07	1.74E-06	2.56E-02	1.72E-07	1.61E-06	1.07E-01	7.21E-07	6.76E-06	9.93E-02	6.67E-07	6.25E-06
Road 41	41	1900-2000	1.91E-02	8.07E-08	7.57E-07	1.76E-02	7.44E-08	6.98E-07	8.21E-02	3.47E-07	3.26E-06	7.64E-02	3.15E-07	2.95E-06
Road 41	41	2000-2100	2.07E-02	7.03E-08	6.60E-07	1.90E-02	6.46E-08	6.07E-07	9.06E-02	3.08E-07	2.89E-06	8.14E-02	2.77E-07	2.60E-06
Road 41	41	2100-2200	1.97E-02	6.72E-08	6.31E-07	1.83E-02	6.25E-08	5.87E-07	8.70E-02	2.97E-07	2.79E-06	7.74E-02	2.64E-07	2.48E-06
Road 41	41	2200-2300	1.99E-02	6.52E-08	6.12E-07	1.84E-02	6.06E-08	5.69E-07	8.76E-02	2.87E-07	2.70E-06	7.80E-02	2.56E-07	2.40E-06
Road 41	41	2300-0000	2.31E-02	6.02E-08	5.64E-07	2.20E-02	5.73E-08	5.38E-07	9.28E-02	2.41E-07	2.27E-06	8.74E-02	2.28E-07	2.14E-06
Road 42	42	0000-0100	4.35E-02	1.25E-08	2.55E-06	3.93E-02	9.10E-08	2.31E-06	1.47E-01	3.41E-07	8.65E-06	1.31E-01	3.02E-07	7.66E-06
Road 42	42	0100-0200	3.17E-02	1.34E-08	1.22E-06	2.87E-02	8.88E-08	8.07E-06	1.07E-01	3.62E-07	3.29E-06	9.54E-02	2.95E-07	2.68E-06
Road 42	42	0200-0300	6.33E-02	8.83E-08	2.24E-06	5.73E-02	8.00E-08	2.03E-06	1.86E-01	2.60E-07	6.58E-06	1.66E-01	2.32E-07	5.89E-06
Road 42	42	0300-0400	7.11E-02	8.68E-08	2.20E-06	6.41E-02	7.82E-08	1.98E-06	2.02E-01	2.46E-07	6.25E-06	1.80E-01	2.20E-07	5.57E-06
Road 42	42	0400-0500	6.99E-02	8.28E-08	2.10E-06	6.31E-02	7.47E-08	1.89E-06	2.00E-01	2.37E-07	6.00E-06	1.78E-01	2.11E-07	5.34E-06
Road 42	42	0500-0600	5.49E-02	9.97E-08	2.53E-06	4.87E-02	8.86E-08	2.25E-06	1.73E-01	3.15E-07	7.99E-06	1.51E-01	2.74E-07	6.95E-06
Road 42	42	0600-0700	4.18E-02	1.36E-07	3.45E-06	3.74E-02	1.23E-07	3.12E-06	1.54E-01	5.02E-07	1.27E-05	1.41E-01	4.62E-07	1.17E-05
Road 42	42	0700-0800	4.18E-02	1.36E-07	3.45E-06	3.74E-02	1.23E-07	3.12E-06	1.54E-01	5.02E-07	1.27E-05	1.41E-01	4.62E-07	1.17E-05
Road 42	42	0800-0900	6.44E-02	5.46E-07	1.39E-05	5.87E-02	4.98E-07	1.26E-05	1.97E-01	1.67E-06	4.24E-05	1.77E-01	1.50E-06	3.81E-05
Road 42	42	0900-1000	1.33E-02	5.43E-07	1.38E-05	6.72E-02	4.97E-07	1.26E-05	2.21E-01	1.64E-06	4.15E-05	2.01E-01	1.49E-06	3.77E-05
Road 42	42	1000-1100	7.90E-02	5.27E-07	1.34E-05	7.18E-02	4.64E-07	1.18E-05	2.34E-01	1.51E-06	3.83E-05	2.10E-01	1.36E-06	3.45E-05
Road 42	42	1100-1200	1.02E-01	5.35E-07	1.36E-05	9.33E-02	4.90E-07	1.24E-05	2.88E-01	1.51E-06	3.84E-05	2.63E-01	1.38E-06	3.50E-05
Road 42	42	1200-1300	1.02E-01	5.35E-07	1.36E-05	9.33E-02	4.90E-07	1.24E-05	2.88E-01	1.51E-06	3.84E-05	2.63E-01	1.38E-06	3.50E-05
Road 42	42	1300-1400	1.03E-01	5.72E-07	1.45E-05	9.47E-02	5.27E-07	1.34E-05	2.95E-01	1.64E-06	4.16E-05	2.71E-01	1.51E-06	3.82E-05
Road 42	42	1400-1500	1.03E-01	5.72E-07	1.45E-05	9.47E-02	5.27E-07	1.34E-05	2.95E-01	1.64E-06	4.16E-05	2.71E-01	1.51E-06	3.82E-05
Road 42	42	1500-1600	9.84E-02	5.58E-07	1.42E-05	9.10E-02	5.16E-07	1.31E-05	2.91E-01	1.65E-06	4.18E-05	2.68E-01	1.52E-06	3.86E-05
Road 42	42	1600-1700	9.11E-02	5.32E-07	1.35E-05	8.42E-02	4.92E-07	1.25E-05	2.91E-01	1.70E-06	4.31E-05	2.68E-01	1.56E-06	3.97E-05
Road 42	42	1700-1800	8.96E-02	5.23E-07	1.33E-05	8.32E-02	4.86E-07	1.23E-05	2.65E-01	1.55E-06	3.92E-05	2.45E-01	1.43E-06	3.63E-05
Road 42	42	1800-1900	8.04E-02	4.57E-07	1.16E-05	7.42E-02	4.22E-07	1.07E-05	2.30E-01	1.31E-06	3.32E-05	2.11E-01	1.20E-06	3.05E-05
Road 42	42	1900-2000	4.58E-02	1.21E-07	3.08E-06	4.22E-02	1.12E-07	2.84E-06	1.60E-01	4.25E-07	1.08E-05	1.46E-01	3.86E-07	9.80E-06
Road 42	42	2000-2100	4.58E-02	1.21E-07	3.08E-06	4.22E-02	1.12E-07	2.84E-06	1.60E-01	4.25E-07	1.08E-05	1.46E-01	3.86E-07	9.80E-06
Road 42	42	2100-2200	4.32E-02	1.18E-07	2.99E-06	4.13E-02	1.10E-07	2.79E-06	1.55E-01	4.14E-07	1.05E-05	1.43E-01	3.82E-07	9.69E-06
Road 42	42	2200-2300	4.32E-02	1.18E-07	2.99E-06	4.13E-02	1.10E-07	2.79E-06	1.55E-01	4.14E-07	1.05E-05	1.43E-01	3.82E-07	9.69E-06
Road 42	42	2300-0000	5.19E-02	1.08E-07	2.74E-06	4.95E-02	1.03E-07	2.61E-06	1.67E-01	3.48E-07	8.83E-06	1.58E-01	3.30E-07	8.37E-06
Road 43	43	0000-0100	4.26E-02	4.07E-09	4.16E-08	3.86E-02	3.69E-09	3.77E-08	1.94E-01	1.28E-08	1.31E-07	1.20E-01	1.14E-08	1.17E-07
Road 43	43	0100-0200	3.05E-02	3.81E-09	3.90E-08	2.77E-02	3.46E-09	3.54E-08	1.88E-01	1.20E-08	1.23E-07	1.14E-01	1.07E-08

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.29E-02	4.60E-07	7.19E-06	5.92E-01	2.11E-05	3.30E-04	2.72E+00	9.71E-05	1.52E-03
Road 1	1	0100-0200	1.34E-02	4.78E-07	7.47E-06	6.15E-01	2.19E-05	3.43E-04	2.82E+00	1.01E-04	1.58E-03
Road 1	1	0200-0300	1.39E-02	4.96E-07	7.75E-06	6.38E-01	2.28E-05	3.56E-04	2.93E+00	1.04E-04	1.64E-03
Road 1	1	0300-0400	1.44E-02	5.14E-07	8.04E-06	6.61E-01	2.36E-05	3.69E-04	3.03E+00	1.08E-04	1.69E-03
Road 1	1	0400-0500	1.49E-02	5.32E-07	8.32E-06	6.84E-01	2.44E-05	3.82E-04	3.14E+00	1.12E-04	1.75E-03
Road 1	1	0500-0600	1.54E-02	5.50E-07	8.61E-06	7.07E-01	2.53E-05	3.95E-04	3.24E+00	1.16E-04	1.81E-03
Road 1	1	0600-0700	1.59E-02	5.68E-07	8.89E-06	7.30E-01	2.61E-05	4.08E-04	3.35E+00	1.19E-04	1.87E-03
Road 1	1	0700-0800	1.64E-02	5.86E-07	9.18E-06	7.53E-01	2.69E-05	4.21E-04	3.45E+00	1.23E-04	1.93E-03
Road 1	1	0800-0900	1.69E-02	6.04E-07	9.46E-06	7.76E-01	2.77E-05	4.34E-04	3.56E+00	1.27E-04	1.99E-03
Road 1	1	0900-1000	1.74E-02	6.22E-07	9.75E-06	7.99E-01	2.86E-05	4.47E-04	3.66E+00	1.31E-04	2.05E-03
Road 1	1	1000-1100	1.79E-02	6.40E-07	1.00E-05	8.22E-01	2.94E-05	4.60E-04	3.77E+00	1.35E-04	2.11E-03
Road 1	1	1100-1200	1.84E-02	6.58E-07	1.03E-05	8.45E-01	3.02E-05	4.73E-04	3.87E+00	1.38E-04	2.17E-03
Road 1	1	1200-1300	1.89E-02	6.76E-07	1.06E-05	8.68E-01	3.10E-05	4.86E-04	3.98E+00	1.42E-04	2.23E-03
Road 1	1	1300-1400	1.94E-02	6.94E-07	1.08E-05	8.91E-01	3.19E-05	4.99E-04	4.08E+00	1.46E-04	2.29E-03
Road 1	1	1400-1500	1.99E-02	7.12E-07	1.11E-05	9.14E-01	3.27E-05	5.12E-04	4.19E+00	1.50E-04	2.35E-03
Road 1	1	1500-1600	2.04E-02	7.30E-07	1.14E-05	9.37E-01	3.35E-05	5.25E-04	4.29E+00	1.54E-04	2.41E-03
Road 1	1	1600-1700	2.09E-02	7.48E-07	1.17E-05	9.60E-01	3.44E-05	5.38E-04	4.40E+00	1.57E-04	2.47E-03
Road 1	1	1700-1800	2.14E-02	7.66E-07	1.20E-05	9.83E-01	3.52E-05	5.51E-04	4.50E+00	1.61E-04	2.53E-03
Road 1	1	1800-1900	2.19E-02	7.84E-07	1.23E-05	1.01E+00	3.60E-05	5.64E-04	4.61E+00	1.65E-04	2.59E-03
Road 1	1	1900-2000	2.24E-02	8.02E-07	1.25E-05	1.03E+00	3.69E-05	5.77E-04	4.71E+00	1.69E-04	2.65E-03
Road 1	1	2000-2100	2.29E-02	8.20E-07	1.28E-05	1.05E+00	3.77E-05	5.90E-04	4.82E+00	1.73E-04	2.71E-03
Road 1	1	2100-2200	2.34E-02	8.38E-07	1.31E-05	1.08E+00	3.85E-05	6.03E-04	4.92E+00	1.76E-04	2.77E-03
Road 1	1	2200-2300	2.39E-02	8.56E-07	1.34E-05	1.10E+00	3.94E-05	6.16E-04	5.03E+00	1.80E-04	2.83E-03
Road 1	1	2300-2400	2.44E-02	8.74E-07	1.37E-05	1.12E+00	4.02E-05	6.29E-04	5.13E+00	1.84E-04	2.89E-03
Road 2	2	0000-0100	1.29E-02	4.60E-07	7.19E-06	5.92E-01	2.11E-05	3.30E-04	2.72E+00	9.71E-05	1.52E-03
Road 2	2	0100-0200	1.34E-02	4.78E-07	7.47E-06	6.15E-01	2.19E-05	3.43E-04	2.82E+00	1.01E-04	1.58E-03
Road 2	2	0200-0300	1.39E-02	4.96E-07	7.75E-06	6.38E-01	2.28E-05	3.56E-04	2.93E+00	1.04E-04	1.64E-03
Road 2	2	0300-0400	1.44E-02	5.14E-07	8.04E-06	6.61E-01	2.36E-05	3.69E-04	3.03E+00	1.08E-04	1.69E-03
Road 2	2	0400-0500	1.49E-02	5.32E-07	8.32E-06	6.84E-01	2.44E-05	3.82E-04	3.14E+00	1.12E-04	1.75E-03
Road 2	2	0500-0600	1.54E-02	5.50E-07	8.61E-06	7.07E-01	2.53E-05	3.95E-04	3.24E+00	1.16E-04	1.81E-03
Road 2	2	0600-0700	1.59E-02	5.68E-07	8.89E-06	7.30E-01	2.61E-05	4.08E-04	3.35E+00	1.19E-04	1.87E-03
Road 2	2	0700-0800	1.64E-02	5.86E-07	9.18E-06	7.53E-01	2.69E-05	4.21E-04	3.45E+00	1.23E-04	1.93E-03
Road 2	2	0800-0900	1.69E-02	6.04E-07	9.46E-06	7.76E-01	2.77E-05	4.34E-04	3.56E+00	1.27E-04	1.99E-03
Road 2	2	0900-1000	1.74E-02	6.22E-07	9.75E-06	7.99E-01	2.86E-05	4.47E-04	3.66E+00	1.31E-04	2.05E-03
Road 2	2	1000-1100	1.79E-02	6.40E-07	1.00E-05	8.22E-01	2.94E-05	4.60E-04	3.77E+00	1.35E-04	2.11E-03
Road 2	2	1100-1200	1.84E-02	6.58E-07	1.03E-05	8.45E-01	3.02E-05	4.73E-04	3.87E+00	1.38E-04	2.17E-03
Road 2	2	1200-1300	1.89E-02	6.76E-07	1.06E-05	8.68E-01	3.10E-05	4.86E-04	3.98E+00	1.42E-04	2.23E-03
Road 2	2	1300-1400	1.94E-02	6.94E-07	1.08E-05	8.91E-01	3.19E-05	4.99E-04	4.08E+00	1.46E-04	2.29E-03
Road 2	2	1400-1500	1.99E-02	7.12E-07	1.11E-05	9.14E-01	3.27E-05	5.12E-04	4.19E+00	1.50E-04	2.35E-03
Road 2	2	1500-1600	2.04E-02	7.30E-07	1.14E-05	9.37E-01	3.35E-05	5.25E-04	4.29E+00	1.54E-04	2.41E-03
Road 2	2	1600-1700	2.09E-02	7.48E-07	1.17E-05	9.60E-01	3.44E-05	5.38E-04	4.40E+00	1.57E-04	2.47E-03
Road 2	2	1700-1800	2.14E-02	7.66E-07	1.20E-05	9.83E-01	3.52E-05	5.51E-04	4.50E+00	1.61E-04	2.53E-03
Road 2	2	1800-1900	2.19E-02	7.84E-07	1.23E-05	1.01E+00	3.60E-05	5.64E-04	4.61E+00	1.65E-04	2.59E-03
Road 2	2	1900-2000	2.24E-02	8.02E-07	1.25E-05	1.03E+00	3.69E-05	5.77E-04	4.71E+00	1.69E-04	2.65E-03
Road 2	2	2000-2100	2.29E-02	8.20E-07	1.28E-05	1.05E+00	3.77E-05	5.90E-04	4.82E+00	1.73E-04	2.71E-03
Road 2	2	2100-2200	2.34E-02	8.38E-07	1.31E-05	1.08E+00	3.85E-05	6.03E-04	4.92E+00	1.76E-04	2.77E-03
Road 2	2	2200-2300	2.39E-02	8.56E-07	1.34E-05	1.10E+00	3.94E-05	6.16E-04	5.03E+00	1.80E-04	2.83E-03
Road 2	2	2300-2400	2.44E-02	8.74E-07	1.37E-05	1.12E+00	4.02E-05	6.29E-04	5.13E+00	1.84E-04	2.89E-03
Road 3	3	0000-0100	1.32E-02	4.72E-07	7.38E-06	6.07E-01	2.16E-05	3.38E-04	2.79E+00	9.96E-05	1.56E-03
Road 3	3	0100-0200	1.37E-02	4.91E-07	7.67E-06	6.31E-01	2.25E-05	3.52E-04	2.89E+00	1.04E-04	1.62E-03
Road 3	3	0200-0300	1.43E-02	5.09E-07	7.96E-06	6.55E-01	2.33E-05	3.65E-04	3.00E+00	1.07E-04	1.68E-03
Road 3	3	0300-0400	1.48E-02	5.27E-07	8.25E-06	6.79E-01	2.42E-05	3.78E-04	3.11E+00	1.11E-04	1.74E-03
Road 3	3	0400-0500	1.53E-02	5.45E-07	8.53E-06	7.02E-01	2.50E-05	3.91E-04	3.22E+00	1.15E-04	1.80E-03
Road 3	3	0500-0600	1.58E-02	5.63E-07	8.82E-06	7.25E-01	2.58E-05	4.04E-04	3.32E+00	1.18E-04	1.86E-03
Road 3	3	0600-0700	1.63E-02	5.81E-07	9.10E-06	7.48E-01	2.67E-05	4.17E-04	3.43E+00	1.22E-04	1.92E-03
Road 3	3	0700-0800	1.68E-02	5.99E-07	9.39E-06	7.71E-01	2.75E-05	4.30E-04	3.53E+00	1.26E-04	1.98E-03
Road 3	3	0800-0900	1.73E-02	6.17E-07	9.67E-06	7.94E-01	2.83E-05	4.43E-04	3.64E+00	1.30E-04	2.04E-03
Road 3	3	0900-1000	1.78E-02	6.35E-07	9.96E-06	8.17E-01	2.92E-05	4.56E-04	3.74E+00	1.33E-04	2.10E-03
Road 3	3	1000-1100	1.83E-02	6.53E-07	1.02E-05	8.40E-01	3.00E-05	4.69E-04	3.85E+00	1.37E-04	2.16E-03
Road 3	3	1100-1200	1.88E-02	6.71E-07	1.05E-05	8.63E-01	3.08E-05	4.82E-04	3.95E+00	1.41E-04	2.22E-03
Road 3	3	1200-1300	1.93E-02	6.89E-07	1.08E-05	8.86E-01	3.17E-05	4.95E-04	4.06E+00	1.45E-04	2.28E-03
Road 3	3	1300-1400	1.98E-02	7.07E-07	1.11E-05	9.09E-01	3.25E-05	5.08E-04	4.16E+00	1.48E-04	2.34E-03
Road 3	3	1400-1500	2.03E-02	7.25E-07	1.13E-05	9.32E-01	3.33E-05	5.21E-04	4.27E+00	1.52E-04	2.40E-03
Road 3	3	1500-1600	2.08E-02	7.43E-07	1.16E-05	9.55E-01	3.42E-05	5.34E-04	4.37E+00	1.56E-04	2.46E-03
Road 3	3	1600-1700	2.13E-02	7.61E-07	1.19E-05	9.78E-01	3.50E-05	5.47E-04	4.48E+00	1.60E-04	2.52E-03
Road 3	3	1700-1800	2.18E-02	7.79E-07	1.22E-05	1.00E+00	3.58E-05	5.60E-04	4.58E+00	1.63E-04	2.58E-03
Road 3	3	1800-1900	2.23E-02	7.97E-07	1.25E-05	1.02E+00	3.67E-05	5.73E-04	4.69E+00	1.67E-04	2.64E-03
Road 3	3	1900-2000	2.28E-02	8.15E-07	1.27E-05	1.05E+00	3.75E-05	5.86E-04	4.79E+00	1.71E-04	2.70E-03
Road 3	3	2000-2100	2.33E-02	8.33E-07	1.30E-05	1.07E+00	3.83E-05	5.99E-04	4.90E+00	1.75E-04	2.76E-03
Road 3	3	2100-2200	2.38E-02	8.51E-07	1.33E-05	1.09E+00	3.92E-05	6.12E-04	5.00E+00	1.79E-04	2.82E-03
Road 3	3	2200-2300	2.43E-02	8.69E-07	1.36E-05	1.12E+00	4.00E-05	6.25E-04	5.11E+00	1.82E-04	2.88E-03
Road 3	3	2300-2400	2.48E-02	8.87E-07	1.39E-05	1.14E+00	4.09E-05	6.38E-04	5.21E+00	1.86E-04	2.94E-03
Road 4	4	0000-0100	1.29E-02	4.60E-07	7.19E-06	5.92E-01	2.11E-05	3.30E-04	2.72E+00	9.71E-05	1.52E-03
Road 4	4	0100-0200	1.34E-02	4.78E-07	7.47E-06	6.15E-01	2.19E-05	3.43E-04	2.82E+00	1.01E-04	1.58E-03
Road 4	4	0200-0300	1.39E-02	4.96E-07	7.75E-06	6.38E-01	2.28E-05	3.56E-04	2.93E+00	1.04E-04	1.64E-03
Road 4	4	0300-0400	1.44E-02	5.14E-07	8.04E-06	6.61E-01	2.36E-05	3.69E-04	3.03E+00	1.08E-04	1.69E-03
Road 4	4	0400-0500	1.49E-02	5.32E-07	8.32E-06	6.84E-01	2.44E-05	3.82E-04	3.14E+00	1.12E-04	1.75E-03
Road 4	4	0500-0600	1.54E-02	5.50E-07	8.61E-06	7.07E-01	2.53E-05	3.95E-04	3.24E+00	1.16E-04	1.81E-03
Road 4	4	0600-0700	1.59E-02	5.68E-07	8.89E-06	7.30E-01	2.61E-05	4.08E-04	3.35E+00	1.19E-04	1.87E-03
Road 4	4	0700-0800	1.64E-02	5.86E-07	9.18E-06	7.53E-01	2.69E-05	4.21E-04	3.45E+00	1.23E-04	1.93E-03
Road 4	4	0800-0900	1.69E-02	6.04E-07	9.46E-06	7.76E-01	2.77E-05	4.34E-04	3.56E+00	1.27E-04	1.99E-03
Road 4	4	0900-1000	1.74E-02	6.22E-07	9.75E-06	7.99E-01	2.86E-05	4.47E-04	3.66E+00	1.31E-04	2.05E-03
Road 4	4	1000-1100	1.79E-02	6.40E-07	1.00E-05	8.22E-01	2.94E-05	4.60E-04	3.77E+00	1.35E-04	2.11E-03
Road 4	4	1100-1200	1.84E-02	6.58E-07	1.03E-05	8.45E-01	3.02E-05	4.73E-04	3.87E+00	1.38E-04	2.17E-03
Road 4	4	1200-1300	1.89E-02	6.76E-07	1.06E-05	8.68E-01	3.10E-05	4.86E-04	3.98E+00	1.42E-04	2.23E-03
Road 4	4	1300-1400	1.94E-02	6.94E-07	1.08E-05	8.91E-01	3.19E-05	4.99E-04	4.08E+00	1.46E-04	2.29E-03
Road 4	4	1400-1500	1.99E-02	7.12E-07	1.11E-05	9.14E-01	3.27E-05	5.12E-04	4.19E+00	1.50E-04	2.35E-03
Road 4	4	1500-1600	2.04E-02	7.30E-07	1.14E-05	9.37E-01	3.35E-05	5.25E-04	4.29E+00	1.54E-04	2.41E-03
Road 4	4	1600-1700	2.09E-02	7.48E-07	1.17E-05	9.60E-01	3.44E-05	5.38E-04	4.40E+00	1.57E-04	2.47E-03
Road 4	4	1700-1800	2.14E-02	7.66E-07	1.20E-05	9.83E-01	3.52E-05	5.51E-04	4.50E+00	1.61E-04	2.53E-03
Road 4	4	1800-1900	2.19E-02	7.84E-07	1.23E-05	1.01E+00	3.60E-05	5.64E-04	4.61E+00	1.65E-04	2.59E-03
Road 4	4	1900-2000	2.24E-02	8.02E-07	1.25E-05	1.03E+00	3.69E-05	5.77E-04	4.71E+00	1.69E-04	2.65E-03
Road 4	4	2000-2100	2.29E-02	8.20E-07	1.28E-05	1.05E+00	3.77E-05	5.90E-04	4.82E+00	1.73E-04	2.71E-03
Road 4	4	2100-2200	2.34E-02	8.38E-07	1.31E-05	1.08E+00	3.85E-05	6.03E-04	4.92E+00	1.76E-04	2.77E-03
Road 4	4	2200-2300	2.39E-02	8.56E-07	1.34E-05	1.10E+00	3.94E-05	6.16E-04	5.03E+00	1.80E-04	2.83E-03
Road 4	4	2300-2400	2.44E-02	8.74E-07	1.37E-05	1.12E+00	4.02E-05	6.29E-04	5.13E+00	1.84E-04	2.89E-03
Road 5	5	0000-0100	1.32E-02	4.72E-07	7.38E-06	6.07E-01	2.16E-05	3.38E-04	2.79E+00	9.96E-05	1.56E-03
Road 5	5	0100-0200	1.37E-02	4.91E-07	7.67E-06	6.31E-01	2.25E-05	3.52E-04	2.89E+00	1.04E-04	1.62E-03
Road 5	5	0200-0300	1.43E-02	5.09E-07	7.96E-06	6.55E-01	2.33E-05	3.65E-04	3.00E+00	1.07E-04	1.68E-03
Road 5	5	0300-0400	1.48E-02	5.27E-07	8.25E-06	6.79E-01	2.42E-05	3.78E-04	3.11E+00	1.11E-04	1.74E-03
Road 5	5	0400-0500	1.53E-02	5.45E-07	8.53E-06	7.02E-01	2.50E-05	3.91E-04	3.22E+00	1.15E-04	1.80E-03
Road 5	5	0500-0600	1.58E-02	5.63E-07	8.82E-06	7.25E-01	2.58E-05	4.04E-04	3.32E+00	1.18E-04	1.86E-03
Road 5	5	0600-0700	1.63E-02	5.81E-07	9.10E-06	7.48E-01	2.67E-05	4.17E-04	3.43E+00	1.22E-04	1.92E-03
Road 5	5	0700-0800	1.68E-02	5.99E-07	9.39E-06	7.71E-01	2.75E-05	4.30E-04	3.53E+00	1.26E-04	1.98E-03
Road 5	5	0800-0900	1.73E-02	6.17E-07	9.67E-06	7.94E-01	2.83E-05	4.43E-04	3.64E+00	1.30E-04	2.04E-03
Road 5	5	0900-1000	1.78E-02	6.35E-07	9.96E-06	8.17E-01	2.92E-05	4.56E-04	3.74E+00	1.33E-04	2.10E-03
Road 5	5	1000-1100	1.83E-02	6.53E-07	1.02E-05	8.40E-01	3.00E-05	4.69E-04	3.85E+00	1.37E-04	2.16E-03
Road 5	5	1100-1200	1.88E-02	6.71E-07	1.05E-05	8.63E-01	3.08E-05	4.82E-04	3.95E+00	1.41E-04	2.22E-03
Road 5	5	1200-1300	1.93E-02	6.89E-07	1.08E-05	8.86E-01	3.17E-05	4.95E-04	4.06E+00	1.45E-04	2.28E-03
Road 5	5	1300-1400	1.98E-02	7.07E-07	1.11E-05	9.09E-01	3.25E-05	5.08E-04	4.16E+00	1.48E-04	2.34E-03
Road 5	5	1400-1500	2.03E-02	7.25E-07	1.13E-05	9.32E-01	3.33E-05	5.21E-04	4.27E+00	1.52E-04	2.40E-03
Road 5	5	1500-1600	2.08E-02	7.43E-07	1.16E-05	9.55E-01	3.42E-05	5.34E-04	4.37E+00	1.56E-04	2.46E-03
Road 5	5	1600-1700	2.13E-02	7.61E-07	1.19E-05	9.78E-01	3.50E-05	5.47E-04	4.48E+00	1.60E-04	2.52E-03
Road 5	5	1700-1800	2.18E-02	7.79E-07	1.22E-05	1.00E+00	3.58E-05	5.60E-04	4.58E+00	1.63E-04	2.58E-03
Road 5	5	1800-1900	2.23E-02	7.97E-07	1.25E-05	1.02E+00	3.67E-05	5.73E-04	4.69E+00	1.67E-04	2.64E-03
Road 5	5	1900-2000	2.28E-02	8.15E-07	1.27E-05	1.05E+00	3.75E-05	5.86E-04	4.79E+00	1.71E-04	2.70E-03
Road 5	5	2000-2100	2.33E-02	8.33E-07	1.30E-05	1.07E+00	3.83E-05	5.99E-04	4.90E+00	1.75E-04	2.76E-03
Road 5	5	2100-2200	2.38E-02	8.51E-07	1.33E-05	1.09E+00	3.92E-05	6.12E-04	5.00E+00	1.79E-04	2.82E-03
Road 5	5	2200-2300	2.43E-02	8.69E-07	1.36E-05	1.12E+00	4.00E-05	6.25E-04	5.11E+00	1.82E-04	2.88E-03
Road 5	5	2300-2400	2.48E-02	8.87E-07	1.39E-05	1.14E+00	4.09E-05	6.38E-04	5.21E+00	1.86E-04	2.94E-03
Road 6	6	0000-0100	1.29E-02	4.60E-07	7.19E-06	5.92E-01	2.11E-05	3.30E-04	2.72E+00	9.71E-05	1.52E-03
Road 6	6	0100-0200	1.34E-02	4.78E-07	7.47E-06	6.15E-01	2.19E-05	3.43E-04	2.82E+00	1.01E-04	1.58E-03
Road 6	6	0200-0300	1.39E-02	4.96E-07	7.75E-06	6.38E-01	2.28E-05	3.56E-04	2.93E+00	1.04E-04	1.64E-03
Road 6	6	0300-0400	1.44E-02	5.14E-07	8.04E-06	6.61E-01	2.36E-05	3.69E-04	3.03E+00	1.08E-04	1.69E-03
Road 6	6	0400-0500	1.49E-02	5.32E-07	8.32E-06	6.84E-01	2.44E-05	3.82E-04	3.14E+00	1.12E-04	1.75E-03
Road 6	6	0500-0600	1.54E-02	5.50E-07	8.61E-06	7.07E-01	2.53E-05	3.95E-04	3.24E+00	1.16E-04	1.81E-03
Road 6	6	0600-0700	1.59E-02	5.68E-07	8.89E-06	7.30E-01	2.61E-05	4.08E-04	3.35E+00	1.19E-04	1.87E-03
Road 6	6	0700-0800	1.64E-02	5.86E-07	9.18E-06	7.53E-01	2.69E-05	4.21E-04	3.45E+00	1.23E-04	1.93E-03
Road 6	6	0800-0900	1.69E-02	6.04E-07	9.46E-06	7.76E-01	2.77E-05	4.34E-04	3.56E+00	1.27E-04	1.99E-03
Road 6	6	0900-1000	1.74E-02	6.22E-07	9.75E-06	7.99E-01	2.86E-05	4.47E-04	3.66E+00	1.31E-04	2.05E-03
Road 6	6	1000-1100	1.79E-02	6.40E-07	1.00E-05	8.22E-01	2.94E-05	4.60E-04	3.77E+00	1.35E-04	2.11E-03
Road 6	6	1100-1200	1.84E-02	6.58E-07	1.03E-05	8.45E-01	3.02E-05	4.73E-04	3.87E+00	1.38E-04	2.17E-03
Road 6	6	1200-1300	1.89E-02	6.76E-07	1.06E-05	8.68E-01	3.10E-05	4.86E-04	3.98E+00	1.42E-04	2.23E-03
Road 6	6	1300-1400	1.94E-02	6.94E-07	1.08E-05	8.91E-01	3.19E-05	4.99E-04	4.08E+00	1.46E-04	2.29E-03
Road 6	6	1400-1500	1.99E-02	7.12E-07	1.11E-05	9.14E-01	3.27E-05	5.12E-04	4.19E+00	1.50E-04	2.35E-03
Road 6	6	1500-1600	2.04E-02	7.30E-07	1.14E-05	9.37E-01	3.35E-05	5.25E-04	4.29E+00	1.54E-04	2.41E-03
Road 6	6	1600-1700	2.09E-02	7.48E-07	1.17E-05	9.60E-01	3.44E-05	5.38E-04	4.40E+00	1.57E-04	2.47E-03
Road 6	6	1700-1800	2.14E-02	7.66E-07	1.20E-05	9.83E-01	3.52E-05	5.51E-04	4.50E+00	1.61E-04	2.53E-03
Road 6	6	1800-1900	2.19E-02	7.84E-07	1.23E-05	1.01E+00	3.60E-05	5.64E-04	4.61E+00	1.65E-04	2.59E-03
Road 6	6	1900-2000	2.24E-02	8.02E-07	1.25E-05	1.03E+00	3.69E-05	5.77E-04	4.71E+00	1.69E-04	2.65E-03
Road 6	6	2000-2100	2.29E-02	8.20E-07	1.28E-05	1.05E+00	3.77E-05	5.90E-04	4.82E+00	1.73E-04	2.71E-03
Road 6	6	2100-2200	2.34E-02	8.38E-07	1.31E-05	1.08E+00	3.85E-05	6.03E-04	4.92E+00	1.76E-04	2.77E-03
Road 6	6	2200-2300	2.39E-02	8.56E-07	1.34E-05	1.10E+00	3.94E-05	6.16E-04	5.03E+00	1.80E-04	2.83E-03
Road 6	6	2300-2400	2.44E-02	8.74E-07	1.37E-05	1.12E+00	4.02E-05	6.29E-04	5.13E+00	1.84E-04	2.89E-03
Road 7	7	0000-0100	1.32E-02	4.72E-07	7.38E-06	6.07E-01	2.16E-05	3.38E-04	2.79E+00	9.96E-05	1.56E-03
Road 7	7	0100-0200	1.37E-02	4.91E-07	7.67E-06	6.31E-01	2.25E-05	3.52E-04	2.89E+00	1.04E-04	1.62E-03
Road 7	7	0200-0300	1.43E-02	5.09E-07	7.96E-06	6.55E-01	2.33E-05	3.65E-04	3.00E+00	1.07E-04	1.68E-03
Road 7	7	0300-0400	1.48E-02	5.27E-07	8.25E-06	6.79E-01	2.42E-05	3.78E-04	3.11E+00	1.11E-04	1.74E-03
Road 7	7	0400-0500	1.53E-02	5.45E-07	8.53E-06	7.02E-01	2.50E-05	3.91E-04	3.22E+00	1.15E-04	1.80E-03
Road 7	7	0500-0600	1.58E-02	5.63E-07	8.82E-06	7.25E-01	2.58E-05	4.04E-04	3.32E+00	1.18E-04	1.86E-03
Road 7	7	0600-0700	1.63E-02	5.81E-07	9.10E-06	7.48E-01	2.67E-05	4.17E-04	3.43E+00	1.22E-04	1.92E-03
Road 7	7	0700-0800	1.68E-02	5.99E-07	9.39E-06	7.71E-01	2.75E-05	4.30E-04	3.53E+00	1.26E-04	1.98E-03
Road 7	7	0800-0900	1.73E-02	6.17E-07	9.67E-06	7.94E-01	2.83E-05	4.43E-04	3.64E+00	1.30E-04	2.04E-03
Road 7	7	0900-1000	1.78E-02	6.35E-07	9.96E-06	8.17E-01	2.92E-05	4.56E-04	3.74E+00	1.33E-04	2.10E-03
Road 7	7	1000-1100	1.83E-02	6.53E-07	1.02E-05	8.40E-01	3.00E-05	4.69E-04	3.85E+00	1.37E-04	2.16E-03
Road 7	7	1100-1200	1.88E-02	6.71E-07	1.05E-05	8.63E-01	3.08E-05	4.82E-04	3.95E+00	1.41E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 31	31	0000-0100	2.34E-02	4.79E-08	0.077	3.77E-07	3.37E-06	1.68E-01	3.40E-07	3.03E-06
Road 31	31	0100-0200	2.72E-02	3.81E-08	3.40E-07	2.46E-02	2.66E-07	2.38E-06	1.69E-01	2.37E-07
Road 31	31	0200-0300	3.08E-02	3.36E-08	3.00E-07	2.75E-02	3.00E-08	2.68E-06	1.70E-01	1.86E-07
Road 31	31	0300-0400	3.43E-02	3.32E-08	2.78E-07	2.66E-02	2.80E-08	2.50E-07	1.96E-01	1.79E-07
Road 31	31	0400-0500	3.38E-02	3.35E-08	2.99E-07	3.02E-02	2.99E-08	2.66E-07	1.96E-01	1.75E-07
Road 31	31	0500-0600	2.98E-02	4.72E-08	4.22E-07	2.64E-02	4.18E-08	3.74E-07	1.98E-01	3.13E-07
Road 31	31	0600-0700	2.69E-02	6.98E-08	6.27E-07	2.35E-02	7.30E-08	6.72E-07	2.00E-01	5.38E-07
Road 31	31	0700-0800	3.11E-02	2.14E-07	1.91E-06	1.85E-02	2.03E-01	1.40E-06	1.25E-05	1.73E-31
Road 31	31	0800-0900	2.91E-02	2.29E-07	2.04E-06	2.51E-02	1.98E-07	1.46E-06	1.31E-05	1.59E-01
Road 31	31	0900-1000	3.18E-02	2.29E-07	2.04E-06	2.51E-02	2.16E-07	1.59E-06	1.43E-05	1.74E-01
Road 31	31	1000-1100	3.47E-02	2.25E-07	2.01E-06	3.05E-02	1.98E-07	1.46E-06	1.31E-05	1.67E-01
Road 31	31	1100-1200	3.47E-02	2.14E-07	1.91E-06	3.05E-02	1.88E-07	1.68E-06	1.94E-01	1.20E-06
Road 31	31	1200-1300	3.51E-02	2.16E-07	1.93E-06	3.09E-02	1.91E-07	1.69E-06	1.96E-01	1.21E-06
Road 31	31	1300-1400	3.44E-02	2.01E-07	1.80E-06	3.01E-02	1.76E-07	1.57E-06	1.86E-01	1.09E-06
Road 31	31	1400-1500	3.42E-02	2.08E-07	1.86E-06	3.01E-02	1.82E-07	1.64E-06	1.89E-01	1.13E-06
Road 31	31	1500-1600	3.51E-02	2.03E-07	1.81E-06	3.09E-02	1.77E-07	1.57E-06	1.86E-01	1.09E-06
Road 31	31	1600-1700	3.28E-02	2.11E-07	1.88E-06	2.94E-02	1.89E-07	1.67E-06	1.97E-01	1.16E-06
Road 31	31	1700-1800	2.74E-02	1.89E-07	1.69E-06	2.45E-02	1.70E-07	1.50E-06	1.77E-01	1.04E-06
Road 31	31	1800-1900	2.36E-02	1.68E-07	1.50E-06	2.11E-02	1.52E-07	1.34E-06	1.58E-01	9.31E-07
Road 31	31	1900-2000	1.83E-02	9.34E-08	8.34E-07	1.64E-02	8.37E-08	7.48E-07	1.81E-01	9.23E-07
Road 31	31	2000-2100	1.89E-02	7.64E-08	6.83E-07	1.72E-02	6.97E-08	6.22E-07	1.90E-01	7.68E-07
Road 31	31	2100-2200	1.76E-02	7.05E-08	6.30E-07	1.60E-02	6.47E-08	5.78E-07	1.78E-01	7.13E-07
Road 31	31	2200-2300	1.61E-02	6.52E-08	6.27E-07	1.47E-02	5.92E-08	5.69E-07	1.63E-01	6.58E-07
Road 31	31	2300-0000	1.98E-02	5.89E-08	5.26E-07	1.80E-02	5.36E-08	4.79E-07	1.82E-01	4.37E-06
Road 32	32	0000-0100	1.57E-02	1.42E-07	9.42E-06	1.43E-02	1.45E-01	1.32E-06	8.55E-05	1.29E-31
Road 32	32	0100-0200	1.64E-02	1.45E-07	1.29E-06	1.49E-02	1.66E-07	1.48E-06	1.31E-05	1.51E-01
Road 32	32	0200-0300	1.75E-02	7.68E-08	5.10E-06	1.56E-02	6.85E-08	4.55E-06	1.61E-01	7.09E-07
Road 32	32	0300-0400	1.85E-02	6.46E-08	4.29E-06	1.66E-02	5.80E-08	3.85E-06	1.84E-01	6.43E-07
Road 32	32	0400-0500	1.81E-02	6.46E-08	4.29E-06	1.66E-02	5.80E-08	3.85E-06	1.84E-01	6.43E-07
Road 32	32	0500-0600	2.03E-02	1.38E-07	9.14E-06	1.79E-02	1.22E-07	8.08E-06	1.88E-01	1.27E-06
Road 32	32	0600-0700	2.14E-02	3.14E-07	2.09E-05	1.87E-02	2.74E-07	1.82E-05	1.96E-01	2.87E-06
Road 32	32	0700-0800	2.13E-02	7.38E-07	4.90E-05	1.84E-02	6.38E-07	4.24E-05	1.94E-01	6.72E-06
Road 32	32	0800-0900	2.13E-02	7.38E-07	4.90E-05	1.84E-02	6.38E-07	4.24E-05	1.94E-01	6.72E-06
Road 32	32	0900-1000	2.36E-02	7.19E-07	4.78E-05	2.06E-02	6.29E-07	4.17E-05	2.00E-01	6.09E-06
Road 32	32	1000-1100	2.55E-02	6.58E-07	4.37E-05	2.24E-02	5.78E-07	3.84E-05	2.01E-01	5.19E-06
Road 32	32	1100-1200	2.29E-02	4.07E-07	2.70E-05	1.99E-02	3.53E-07	2.34E-05	1.47E-01	2.62E-06
Road 32	32	1200-1300	2.29E-02	4.07E-07	2.70E-05	1.99E-02	3.53E-07	2.34E-05	1.47E-01	2.62E-06
Road 32	32	1300-1400	2.29E-02	4.44E-07	2.95E-05	2.01E-02	3.90E-07	2.59E-05	1.48E-01	2.87E-06
Road 32	32	1400-1500	2.29E-02	4.44E-07	2.95E-05	2.01E-02	3.90E-07	2.59E-05	1.48E-01	2.87E-06
Road 32	32	1500-1600	2.12E-02	4.21E-07	2.79E-05	1.88E-02	3.74E-07	2.48E-05	1.48E-01	2.94E-06
Road 32	32	1600-1700	2.16E-02	4.16E-07	2.76E-05	1.91E-02	3.69E-07	2.45E-05	1.48E-01	2.85E-06
Road 32	32	1700-1800	1.69E-02	3.89E-07	2.58E-05	1.50E-02	3.47E-07	2.30E-05	1.48E-01	3.41E-06
Road 32	32	1800-1900	1.31E-02	3.20E-07	2.12E-05	1.18E-02	2.90E-07	1.92E-05	1.47E-01	3.58E-06
Road 32	32	1900-2000	1.14E-02	1.62E-07	1.07E-05	1.02E-02	1.44E-07	9.57E-06	1.47E-01	1.87E-06
Road 32	32	2000-2100	1.23E-02	1.84E-07	1.22E-05	1.11E-02	1.64E-07	1.08E-05	1.47E-01	2.17E-06
Road 32	32	2100-2200	1.09E-02	1.66E-07	1.09E-05	9.82E-03	1.48E-07	9.74E-06	1.47E-01	2.24E-06
Road 32	32	2200-2300	8.19E-03	1.60E-07	1.07E-05	7.36E-03	1.42E-07	9.53E-06	1.47E-01	2.87E-06
Road 32	32	2300-0000	1.18E-02	1.28E-07	8.52E-06	1.07E-02	1.14E-07	7.60E-06	1.47E-01	1.58E-06
Road 33	33	0000-0100	1.48E-02	1.45E-07	2.18E-06	1.34E-02	1.32E-07	1.98E-06	1.19E-05	1.37E-01
Road 33	33	0100-0200	1.72E-02	1.69E-07	1.52E-06	1.55E-02	1.53E-07	1.38E-06	1.39E-05	1.59E-01
Road 33	33	0200-0300	1.95E-02	9.69E-08	1.46E-06	1.74E-02	8.63E-08	1.30E-06	1.23E-05	6.09E-07
Road 33	33	0300-0400	2.18E-02	8.82E-08	1.33E-06	1.96E-02	7.91E-08	1.19E-06	1.22E-05	5.46E-07
Road 33	33	0400-0500	2.13E-02	8.82E-08	1.33E-06	1.92E-02	7.91E-08	1.19E-06	1.22E-05	5.46E-07
Road 33	33	0500-0600	2.05E-02	1.52E-07	2.29E-06	1.81E-02	9.53E-07	1.43E-05	1.11E-01	8.21E-07
Road 33	33	0600-0700	1.97E-02	3.05E-07	4.59E-06	1.71E-02	2.66E-07	4.00E-06	1.30E-01	2.02E-06
Road 33	33	0700-0800	2.06E-02	7.86E-07	1.18E-05	1.81E-02	6.79E-07	1.02E-05	1.33E-01	5.06E-06
Road 33	33	0800-0900	2.10E-02	7.86E-07	1.18E-05	1.81E-02	6.79E-07	1.02E-05	1.33E-01	5.06E-06
Road 33	33	0900-1000	2.32E-02	7.66E-07	1.15E-05	2.02E-02	6.61E-07	9.97E-06	1.33E-01	4.52E-06
Road 33	33	1000-1100	2.50E-02	7.00E-07	1.05E-05	2.20E-02	6.04E-07	9.11E-06	1.33E-01	4.13E-06
Road 33	33	1100-1200	2.26E-02	4.34E-07	6.52E-06	1.97E-02	3.75E-07	5.65E-06	1.33E-01	2.58E-06
Road 33	33	1200-1300	2.26E-02	4.34E-07	6.52E-06	1.97E-02	3.75E-07	5.65E-06	1.33E-01	2.58E-06
Road 33	33	1300-1400	2.26E-02	4.73E-07	7.10E-06	1.98E-02	4.15E-07	6.24E-06	1.33E-01	2.84E-06
Road 33	33	1400-1500	2.26E-02	4.73E-07	7.10E-06	1.98E-02	4.15E-07	6.24E-06	1.33E-01	2.84E-06
Road 33	33	1500-1600	2.09E-02	4.49E-07	6.74E-06	1.84E-02	3.99E-07	5.99E-06	1.33E-01	2.91E-06
Road 33	33	1600-1700	2.13E-02	4.44E-07	6.66E-06	1.87E-02	3.93E-07	5.91E-06	1.33E-01	2.82E-06
Road 33	33	1700-1800	1.67E-02	4.15E-07	6.23E-06	1.47E-02	3.70E-07	5.55E-06	1.33E-01	3.38E-06
Road 33	33	1800-1900	1.29E-02	3.41E-07	5.12E-06	1.14E-02	3.09E-07	4.64E-06	1.33E-01	3.55E-06
Road 33	33	1900-2000	1.12E-02	1.73E-07	2.59E-06	9.87E-03	1.54E-07	2.31E-06	1.33E-01	1.85E-06
Road 33	33	2000-2100	1.21E-02	1.96E-07	2.94E-06	1.07E-02	1.75E-07	2.63E-06	1.33E-01	2.15E-06
Road 33	33	2100-2200	1.07E-02	1.77E-07	2.66E-06	9.46E-03	1.58E-07	2.37E-06	1.33E-01	2.22E-06
Road 33	33	2200-2300	8.03E-03	1.71E-07	2.57E-06	7.09E-03	1.52E-07	2.29E-06	1.33E-01	2.85E-06
Road 33	33	2300-0000	1.16E-02	1.37E-07	2.05E-06	1.03E-02	1.22E-07	1.83E-06	1.33E-01	1.57E-06
Road 34	34	0000-0100	1.44E-02	1.41E-07	2.12E-06	1.27E-02	1.26E-07	1.89E-06	1.19E-05	1.37E-01
Road 34	34	0100-0200	1.67E-02	1.64E-07	1.48E-06	1.48E-02	1.46E-07	1.32E-06	1.39E-05	1.54E-01
Road 34	34	0200-0300	1.89E-02	9.39E-08	1.41E-06	1.68E-02	8.37E-08	1.26E-06	1.23E-05	5.91E-07
Road 34	34	0300-0400	2.11E-02	8.55E-08	1.29E-06	1.87E-02	7.62E-08	1.14E-06	1.22E-05	5.30E-07
Road 34	34	0400-0500	2.06E-02	8.55E-08	1.29E-06	1.83E-02	7.62E-08	1.14E-06	1.22E-05	5.30E-07
Road 34	34	0500-0600	1.98E-02	1.47E-07	2.22E-06	1.72E-02	9.24E-07	1.39E-05	1.11E-01	7.96E-07
Road 34	34	0600-0700	1.91E-02	2.95E-07	4.44E-06	1.66E-02	2.58E-07	3.88E-06	1.30E-01	1.96E-06
Road 34	34	0700-0800	1.99E-02	7.61E-07	1.14E-05	1.75E-02	6.58E-07	9.89E-06	1.33E-01	4.90E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 34	34	0800-0900	1.92E-02	1.22E-07	3.17E-07	8.30E-06	1.02E-01	2.65E-06	9.24E-05	1.18E-01
Road 34	34	0900-1000	1.58E-02	3.36E-07	8.80E-06	1.38E-02	2.93E-07	7.67E-06	1.08E-01	2.30E-06
Road 34	34	1000-1100	1.76E-02	3.24E-07	8.49E-06	1.54E-02	2.84E-07	7.44E-06	1.13E-01	2.08E-06
Road 34	34	1100-1200	1.71E-02	2.98E-07	7.80E-06	1.49E-02	2.61E-07	6.83E-06	1.15E-01	2.00E-06
Road 34	34	1200-1300	3.85E-02	4.45E-07	1.17E-05	3.35E-02	3.87E-07	1.01E-05	3.11E-01	3.60E-06
Road 34	34	1300-1400	3.73E-02	4.55E-07	1.19E-05	3.27E-02	3.99E-07	1.04E-05	2.95E-01	3.60E-06
Road 34	34	1400-1500	3.77E-02	4.74E-07	1.24E-05	3.27E-02	4.17E-07	1.09E-05	3.00E-01	3.77E-06
Road 34	34	1500-1600	3.49E-02	4.51E-07	1.18E-05	3.10E-02	4.01E-07	1.05E-05	2.89E-01	3.74E-06
Road 34	34	1600-1700	3.65E-02	4.80E-07	1.26E-05	3.27E-02	4.31E-07	1.13E-05	3.13E-01	4.12E-06
Road 34	34	1700-1800	3.17E-02	4.36E-07	1.14E-05	2.84E-02	3.91E-07	1.02E-05	3.18E-01	4.38E-06
Road 34	34	1800-1900	2.87E-02	3.81E-07	9.96E-06	2.59E-02	3.44E-07	9.00E-06	3.36E-01	4.45E-06
Road 34	34	1900-2000	2.79E-02	2.84E-07	7.42E-06	2.51E-02	2.55E-07	6.67E-06	3.76E-01	3.82E-06
Road 34	34	2000-2100	2.74E-02	2.82E-07	7.38E-06	2.47E-02	2.53E-07	6.63E-06	3.69E-01	3.80E-06
Road 34	34	2100-2200	2.84E-02	2.08E-07	5.44E-06	2.57E-02	1.90E-07	4.97E-06	3.54E-01	2.60E-06
Road 34	34	2200-2300	2.76E-02	2.10E-07	5.49E-06	2.50E-02	1.92E-07	5.02E-06	3.44E-01	2.62E-06
Road 34	34	2300-0000	3.97E-02	1.89E-07	4.94E-06	3.58E-02	1.72E-07	4.50E-06	3.31E-01	2.36E-06
Road 35	35	0000-0100	3.97E-02	4.59E-08	1.12E-06	3.62E-02	4.18E-08	1.02E-06	1.40E-01	1.62E-07
Road 35	35	0100-0200	5.01E-02	4.23E-08	1.03E-06	4.53E-02	3.82E-08	9.30E-08	1.61E-01	1.36E-07
Road 35	35	0200-0300	5.92E-02	2.07E-08	9.90E-08	5.36E-02	1.64E-08	8.80E-08	1.84E-01	1.24E-07
Road 35	35	0300-0400	6.68E-02	3.99E-08	9.72E-08	6.02E-02	3.66E-08	8.75E-08	1.96E-01	1.17E-07
Road 35	35	0400-0500	6.54E-02	4.15E-08	1.01E-07	5.84E-02	3.71E-08	9.02E-08	1.95E-01	1.24E-07
Road 35	35	0500-0600	5.30E-02	2.49E-08	1.19E-07	4.70E-02	4.32E-08	1.09E-07	1.74E-01	1.56E-07
Road 35	35	0600-0700	4.22E-02	7.20E-08	1.75E-07	3.74E-02	6.56E-08	1.66E-07	1.34E-01	2.29E-07
Road 35	35	0700-0800	6.11E-02	2.40E-07	5.83E-07	5.27E-02	2.07E-07	5.04E-07	2.00E-01	7.85E-07
Road 35	35	0800-0900	5.67E-02	2.50E-07	6.09E-07	4.90E-02	2.16E-07	5.26E-07	1.86E-01	8.22E-07
Road 35	35	0900-1000	6.38E-02	2.32E-07	5.63E-07	5.51E-02	2.00E-07	4.86E-07	2.09E-01	7.58E-07
Road 35	35	1000-1100	6.97E-02	2.52E-07	6.14E-07	6.12E-02	2.22E-07	5.39E-07	2.20E-01	7.95E-07
Road 35	35	1100-1200	7.03E-02	2.44E-07	5.94E-07	6.18E-02	2.15E-07	5.22E-07	2.22E-01	7.71E-07
Road 35	35	1200-1300	7.79E-02	2.81E-07	4.40E-07	6.70E-02	1.59E-07	3.86E-07	2.22E-01	5.25E-07
Road 35	35	1300-1400	7.64E-02	1.81E-07	4.40E-07	6.70E-02	1.59E-07	3.86E-07	2.22E-01	5.25E-07
Road 35	35	1400-1500	7.74E-02	1.90E-07	4.63E-07	6.81E-02	1.68E-07	4.08E-07	2.24E-01	5.52E-07
Road 35	35	1500-1600	7.36E-02	1.90E-07	4.63E-07	6.54E-02	1.68E-07	4.08E-07	2.24E-01	5.52E-07
Road 35	35	1600-1700	7.35E-02	1.90E-07	4.63E-07	6.59E-02	1.70E-07	4.15E-07	2.12E-01	5.50E-07
Road 35	35	1700-1800	6.40E-02	1.77E-07	4.31E-07	5.74E-02	1.59E-07	3.88E-07	2.22E-01	6.15E-07
Road 35	35	1800-1900	5.26E-02	1.45E-07	3.54E-07	4.72E-02	1.30E-07	3.18E-07	2.22E-01	6.14E-07
Road 35	35	1900-2000	2.88E-02	5.29E-08	1.29E-07	2.58E-02	4.74E-08	1.15E-07	1.09E-01	2.00E-07
Road 35	35	2000-2100	3.13E-02	4.53E-08	1.10E-07	2.83E-02	4.09E-08	9.96E-08	1.20E-01	1.73E-07
Road 35	35	2100-2200	2.92E-02	4.37E-08	1.06E-07	2.62E-02	3.91E-08	9.52E-08	1.20E-01	1.79E-07
Road 35	35	2200-2300	3.13E-02	4.53E-08	1.10E-07	2.83E-02	4.09E-08	9.96E-08	1.20E-01	1.73E-07
Road 35	35	2300-0000	3.64E-02	4.16E-08	1.01E-07	3.32E-02	3.79E-08	9.23E-08	1.29E-01	1.48E-07
Road 36	36	0000-0100	5.78E-02	6.22E-08	1.57E-07	5.33E-02	5.74E-08	1.44E-07	2.55E-01	2.74E-07
Road 36	36	0100-0200	5.78E-02	6.22E-08	1.57E-07	5.33E-02	5.74E-08	1.44E-07	2.55E-01	2.74E-07
Road 36	36	0200-0300	6.62E-02	5.72E-08	1.44E-07	6.04E-02	5.22E-08	1.31E-07	2.67E-01	2.31E-07
Road 36	36	0300-0400	7.36E-02	5.82E-08	1.47E-07	6.71E-02	5.31E-08	1.34E-07	2.84E-01	2.24E-07
Road 36	36	0400-0500	7.36E-02	5.82E-08	1.47E-07	6.71E-02	5.31E-08	1.34E-07	2.84E-01	2.24E-07
Road 36	36	0500-0600	6.57E-02	7.74E-08	1.95E-07	6.01E-02	7.08E-08	1.78E-07	2.84E-01	3.35E-07
Road 36	36	0600-0700	7.80E-02	3.92E-07	9.88E-07	6.99E-02	3.52E-07	8.85E-07	3.25E-01	1.64E-06
Road 36	36	0700-0800	7.80E-02	3.92E-07	9.88E-07	6.99E-02	3.52E-07	8.85E-07	3.25E-01	1.64E-06
Road 36	36	0800-0900	7.48E-02	4.26E-07	1.07E-06	6.74E-02	3.83E-07	9.66E-07	2.97E-01	1.72E-06
Road 36	36	0900-1000	8.11E-02	4.02E-07	1.01E-06	7.31E-02	3.62E-07	9.13E-07	3.22E-01	1.60E-06
Road 36	36	1000-1100	8.95E-02	4.09E-07	1.03E-06	8.16E-02	3.73E-07	9.39E-07	3.16E-01	1.44E-06
Road 36	36	1100-1200	9.06E-02	3.96E-07	9.97E-07	8.26E-02	3.61E-07	9.10E-07	3.21E-01	1.40E-06
Road 36	36	1200-1300	1.08E-01	3.96E-07	9.97E-07	9.84E-02	3.61E-07	9.10E-07	3.52E-01	1.29E-06
Road 36	36	1300-1400	1.08E-01	3.96E-07	9.99E-07	9.84E-02	3.61E-07	9.10E-07	3.52E-01	1.29E-06
Road 36	36	1400-1500	1.05E-01	3.99E-07	1.00E-06	9.61E-02	3.64E-07	9.18E-07	3.48E-01	1.32E-06
Road 36	36	1500-1600	1.01E-01	3.98E-07	1.00E-06	9.39E-02	3.63E-07	9.16E-07	3.36E-01	1.32E-06
Road 36	36	1600-1700	1.01E-01	3.98E-07	1.00E-06	9.39E-02	3.63E-07	9.16E-07	3.36E-01	1.32E-06
Road 36	36	1700-1800	9.05E-02	3.74E-07	9.42E-07	8.38E-02	3.46E-07	8.72E-07	3.29E-01	1.36E-06
Road 36	36	1800-1900	7.37E-02	3.01E-07	7.59E-07	6.82E-02	2.79E-07	7.04E-07	3.26E-01	1.33E-06
Road 36	36	1900-2000	4.94E-02	1.31E-07	3.30E-07	4.60E-02	1.22E-07	3.07E-07	2.34E-01	6.22E-07
Road 36	36	2000-2100	5.32E-02	1.40E-07	3.53E-07	4.95E-02	1.30E-07	3.28E-07	2.52E-01	6.64E-07
Road 36	36	2100-2200	5.04E-02	1.08E-07	2.72E-07	4.83E-02	1.03E-07	2.61E-07	2.29E-01	4.91E-07
Road 36	36	2200-2300	5.13E-02	1.09E-07	2.75E-07	4.83E-02	1.03E-07	2.59E-07	2.29E-01	4.91E-07
Road 36	36	2300-0000	5.36E-02	8.69E-08	2.19E-07	5.01E-02	8.13E-08	2.05E-07	2.50E-01	4.05E-07
Road 37	37	0000-0100	4.13E-02	1.82E-08	4.18E-08	3.93E-02	1.73E-08	3.98E-08	2.42E-01	1.07E-07
Road 37	37	0100-0200	4.48E-02	1.31E-08	3.00E-08	4.26E-02	1.25E-08	2.86E-08	2.62E-01	7.68E-08
Road 37	37	0200-0300	4.83E-02	1.04E-08	2.40E-08	4.56E-02	9.86E-09	2.26E-08	2.66E-01	5.75E-08
Road 37	37	0300-0400	5.18E-02	9.47E-09	2.17E-08	4.86E-02	8.97E-09	2.06E-08	2.84E-01	5.24E-08
Road 37	37	0400-0500	5.17E-02	9.47E-09	2.17E-08	4.85E-02	8.97E-09	2.06E-08	2.84E-01	5.24E-08
Road 37	37	0500-0600	5.84E-02	1.98E-09	4.55E-09	5.50E-02	1.87E-09	4.29E-09	2.95E-01	1.00E-08
Road 37	37	0600-0700	6.19E-02	4.58E-09	1.05E-08	5.80E-02	4.29E-09	9.85E-09	3.06E-01	2.27E-08
Road 37	37	0700-0800	6.52E-02	9.91E-09	2.27E-08	6.07E-02	9.22E-09	2.11E-08	3.18E-01	4.83E-08
Road 37	37	0800-0900	6.55E-02	1.17E-08	2.67E-08	6.11E-02	1.09E-08	2.50E-08	2.91E-01	5.19E-08
Road 37	37	0900-1000	7.69E-02	1.24E-08	2.84E-08	7.23E-02	1.16E-08	2.67E-08	3.11E-01	4.99E-08
Road 37	37	1000-1100	8.21E-02	1.20E-08	2.74E-08	7.72E-02	1.12E-08	2.58E-08	3.21E-01	4.65E-08
Road 37	37	1100-1200	8.23E-02	1.13E-08	2.59E-08	7.74E-02	1.06E-08	2.44E-08	3.23E-01	4.43E-08
Road 37	37	1200-1300	7.83E-02	1.14E-08	2.62E-08	7.30E-02	1.07E-08	2.45E-08	3.08E-01	4.49E-08
Road 37	37	1300-1400	8.29E-02	1.28E-08	2.93E-08	7.80E-02	1.20E-08	2.76E-08	3.31E-01	5.10E-08
Road 37	37	1400-1500	8.01E-02	1.28E-08	2.95E-08	7.52E-02	1.21E-08	2.77E-08	3.17E-01	5.09E-08
Road 37	37	1500-1600	8.21E-02	1.36E-08	3.11E-08	7.80E-02	1.29E-08	2.96E-08	3.26E-01	5.39E-08

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/s/m	g/km/veh	g/s/m	tonne/hour	g/s/m
Road 37	37	1600-1700	7.70E-02	1.39E-08	3.19E-08	7.37E-02	1.32E-08	3.04E-08	3.08E-01	5.52E-08
Road 37	37	1700-1800	6.58E-02	1.19E-08	2.72E-08	6.27E-02	1.13E-08	2.59E-08	3.02E-01	5.46E-08
Road 37	37	1800-1900	4.49E-02	8.08E-09	1.85E-08	4.27E-02	7.70E-09	1.77E-08	2.30E-01	4.14E-08

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March) Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	1.78E-02	4.89E-07	1.18E-05	2.96E-02	8.13E-07	1.96E-05	5.44E-05	7.18E-02	1.97E-06	4.74E-05		
Road 103	103	1700-1800	1.26E-02	3.90E-07	9.37E-06	2.19E-02	5.26E-05	6.08E-02	1.88E-06	4.53E-05				
Road 103	103	1800-1900	9.08E-03	3.05E-07	7.33E-06	8.15E-03	5.41E-02	1.82E-06	4.37E-05	4.67E-02	1.57E-06	3.77E-05		
Road 103	103	1900-2000	7.94E-03	1.31E-07	5.06E-06	7.07E-03	1.87E-07	4.50E-06	5.44E-05	4.62E-02	1.22E-06	2.94E-05		
Road 103	103	2000-2100	7.68E-03	3.80E-06	6.93E-03	1.43E-03	6.00E-02	1.23E-06	2.97E-05	5.18E-02	1.07E-06	2.57E-05		
Road 103	103	2100-2200	6.65E-03	1.37E-07	3.30E-06	5.99E-03	5.73E-02	1.18E-06	2.84E-05	4.95E-02	1.02E-06	2.45E-05		
Road 103	103	2200-2300	6.54E-03	3.36E-07	1.14E-06	2.81E-06	5.80E-02	1.16E-06	2.78E-05	5.00E-02	9.83E-07	2.36E-05		
Road 103	103	2300-0000	7.25E-03	1.08E-07	2.61E-06	6.52E-03	9.76E-08	2.35E-06	5.31E-02	7.63E-07	1.84E-05			
Road 104	104	0000-0100	1.26E-02	8.61E-08	1.75E-06	1.15E-02	7.81E-08	1.59E-06	7.33E-02	5.00E-07	1.02E-05	6.42E-02	4.38E-07	8.91E-06
Road 104	104	0100-0200	1.38E-02	3.51E-08	7.68E-07	1.25E-02	3.17E-08	6.93E-07	7.97E-02	2.02E-07	6.11E-06	6.98E-02	1.77E-07	3.88E-06
Road 104	104	0200-0300	1.49E-02	4.99E-08	1.02E-06	1.33E-02	4.44E-08	9.04E-07	8.08E-02	2.31E-07	4.70E-06			
Road 104	104	0300-0400	1.61E-02	4.31E-08	8.78E-07	1.44E-02	3.86E-08	7.87E-07	8.44E-02	2.27E-07	4.61E-06	7.29E-02	1.96E-07	3.98E-06
Road 104	104	0400-0500	1.72E-02	1.44E-08	2.93E-07	1.54E-02	1.29E-08	2.62E-07	8.81E-02	7.38E-08	1.50E-06	7.75E-02	6.50E-08	1.32E-06
Road 104	104	0500-0600	1.82E-02	9.62E-08	1.96E-06	1.63E-02	8.59E-08	1.75E-06	9.25E-02	4.90E-07	9.98E-06	8.19E-02	4.34E-07	8.84E-06
Road 104	104	0600-0700	1.95E-02	2.24E-07	4.56E-06	1.75E-02	2.02E-07	4.09E-06	9.92E-02	1.14E-06	2.32E-05	8.78E-02	1.01E-06	2.06E-05
Road 104	104	0700-0800	1.98E-02	1.78E-07	4.05E-06	1.77E-02	1.59E-07	3.62E-06	1.01E-01	9.07E-07	2.06E-05	8.98E-02	8.04E-07	1.83E-05
Road 104	104	0800-0900	1.99E-02	5.51E-07	1.12E-05	4.75E-02	1.32E-06	2.68E-05	1.02E-01	2.83E-06	5.75E-05	9.11E-02	2.52E-06	5.12E-05
Road 104	104	0900-1000	2.28E-02	5.75E-07	1.17E-05	2.54E-02	6.41E-07	1.30E-05	1.17E-01	2.95E-06	5.99E-05	1.04E-01	2.63E-06	5.34E-05
Road 104	104	1000-1100	2.57E-02	3.33E-07	6.77E-06	2.86E-02	3.71E-07	7.53E-06	1.32E-01	1.71E-06	3.47E-05	1.17E-01	1.52E-06	3.09E-05
Road 104	104	1100-1200	2.85E-02	6.94E-07	1.41E-05	3.17E-02	7.72E-07	1.57E-05	1.47E-01	3.58E-06	7.25E-05	1.30E-01	3.17E-06	6.44E-05
Road 104	104	1200-1300	3.14E-02	1.44E-07	2.93E-06	3.49E-02	1.60E-07	3.26E-06	1.62E-01	7.43E-07	1.51E-05	1.43E-01	6.57E-07	1.34E-05
Road 104	104	1300-1400	3.43E-02	1.44E-07	2.93E-06	3.81E-02	1.60E-07	3.26E-06	1.77E-01	7.43E-07	1.51E-05	1.56E-01	6.57E-07	1.34E-05
Road 104	104	1400-1500	3.72E-02	1.44E-07	2.93E-06	4.14E-02	1.60E-07	3.26E-06	1.92E-01	7.43E-07	1.51E-05	1.69E-01	6.57E-07	1.34E-05
Road 104	104	1500-1600	4.02E-02	1.44E-07	2.93E-06	4.47E-02	1.60E-07	3.26E-06	2.07E-01	7.43E-07	1.51E-05	1.82E-01	6.57E-07	1.34E-05
Road 104	104	1600-1700	4.31E-02	1.44E-07	2.93E-06	4.80E-02	1.60E-07	3.26E-06	2.22E-01	7.43E-07	1.51E-05	1.96E-01	6.57E-07	1.34E-05
Road 104	104	1700-1800	4.61E-02	1.44E-07	2.93E-06	5.13E-02	1.60E-07	3.26E-06	2.37E-01	7.43E-07	1.51E-05	2.09E-01	6.57E-07	1.34E-05
Road 104	104	1800-1900	4.90E-02	1.44E-07	2.93E-06	5.46E-02	1.60E-07	3.26E-06	2.52E-01	7.43E-07	1.51E-05	2.22E-01	6.57E-07	1.34E-05
Road 104	104	1900-2000	5.19E-02	1.44E-07	2.93E-06	5.79E-02	1.60E-07	3.26E-06	2.67E-01	7.43E-07	1.51E-05	2.35E-01	6.57E-07	1.34E-05
Road 104	104	2000-2100	5.48E-02	1.44E-07	2.93E-06	6.12E-02	1.60E-07	3.26E-06	2.82E-01	7.43E-07	1.51E-05	2.48E-01	6.57E-07	1.34E-05
Road 104	104	2100-2200	5.77E-02	1.44E-07	2.93E-06	6.45E-02	1.60E-07	3.26E-06	2.97E-01	7.43E-07	1.51E-05	2.61E-01	6.57E-07	1.34E-05
Road 104	104	2200-2300	6.07E-02	1.44E-07	2.93E-06	6.78E-02	1.60E-07	3.26E-06	3.12E-01	7.43E-07	1.51E-05	2.74E-01	6.57E-07	1.34E-05
Road 104	104	2300-0000	6.36E-02	1.44E-07	2.93E-06	7.11E-02	1.60E-07	3.26E-06	3.27E-01	7.43E-07	1.51E-05	2.87E-01	6.57E-07	1.34E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April) Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 11	11	0000-0100	3.38E-02	1.89E-07	7.07E-06	3.52E-02	1.41E-06	3.41E-06	2.29E-01	1.28E-06	4.93E-06			
Road 11	11	0100-0200	3.80E-02	1.42E-07	5.46E-07	3.49E-02	1.31E-07	5.02E-07	2.58E-01	9.66E-07	3.71E-06	2.35E-01	8.79E-07	3.37E-06
Road 11	11	0200-0300	4.16E-02	1.17E-07	4.50E-07	3.89E-02	1.09E-07	4.20E-07	2.62E-01	7.40E-07	2.84E-06	2.43E-01	6.85E-07	2.63E-06
Road 11	11	0300-0400	4.53E-02	1.02E-07	4.01E-07	4.26E-02	9.76E-08	3.75E-07	2.68E-01	6.16E-07	2.36E-06	2.49E-01	5.71E-07	2.19E-06
Road 11	11	0400-0500	4.70E-02	1.17E-07	4.49E-07	4.39E-02	1.09E-07	4.20E-07	2.76E-01	6.86E-07	2.63E-06	2.55E-01	6.36E-07	2.44E-06
Road 11	11	0500-0600	4.67E-02	1.93E-07	7.40E-07	4.32E-02	1.79E-07	6.85E-07	2.88E-01	1.19E-06	4.58E-06	2.63E-01	1.09E-06	4.18E-06
Road 11	11	0600-0700	4.88E-02	1.84E-07	7.05E-07	4.51E-02	1.70E-07	6.52E-07	2.98E-01	1.12E-06	4.29E-06	2.72E-01	1.03E-06	3.95E-06
Road 11	11	0700-0800	6.23E-02	1.11E-06	4.28E-06	5.72E-02	1.02E-06	3.93E-06	3.47E-01	6.21E-06	2.38E-05	3.16E-01	5.66E-06	2.17E-05
Road 11	11	0800-0900	6.19E-02	1.21E-06	4.89E-06	5.70E-02	1.12E-06	4.50E-06	3.45E-01	6.77E-06	2.72E-05	3.14E-01	6.17E-06	2.48E-05
Road 11	11	0900-1000	6.18E-02	1.38E-06	5.31E-06	5.69E-02	1.27E-06	4.89E-06	3.44E-01	7.71E-06	2.96E-05	3.13E-01	7.02E-06	2.70E-05
Road 11	11	1000-1100	7.66E-02	1.12E-06	4.31E-06	7.04E-02	1.03E-06	3.96E-06	4.27E-01	6.25E-06	2.40E-05	3.89E-01	5.70E-06	2.19E-05
Road 11	11	1100-1200	7.65E-02	1.44E-06	5.53E-06	7.04E-02	1.32E-06	5.09E-06	4.26E-01	8.04E-06	3.09E-05	3.89E-01	7.32E-06	2.81E-05
Road 11	11	1200-1300	7.65E-02	1.44E-06	5.53E-06	7.04E-02	1.32E-06	5.09E-06	4.26E-01	8.04E-06	3.09E-05	3.89E-01	7.32E-06	2.81E-05
Road 11	11	1300-1400	7.65E-02	1.44E-06	5.53E-06	7.04E-02	1.32E-06	5.09E-06	4.26E-01	8.04E-06	3.09E-05	3.89E-01	7.32E-06	2.81E-05
Road 11	11	1400-1500	7.65E-02	1.44E-06	5.53E-06	7.04E-02	1.32E-06	5.09E-06	4.26E-01	8.04E-06	3.09E-05	3.89E-01	7.32E-06	2.81E-05
Road 11	11	1500-1600	7.65E-02	1.44E-06	5.53E-06	7.04E-02	1.32E-06	5.09E-06	4.26E-01	8.04E-06	3.09E-05	3.89E-01	7.32E-06	2.81E-05
Road 11	11	1600-1700	7.65E-02	1.44E-06	5.53E-06	7.04E-02	1.32E-06	5.09E-06	4.26E-01	8.04E-06	3.09E-05	3.89E-01	7.32E-06	2.81E-05
Road 11	11	1700-1800	7.65E-02	1.44E-06	5.53E-06	7.04E-02	1.32E-06	5.09E-06	4.26E-01	8.04E-06	3.09E-05	3.89E-01	7.32E-06	2.81E-05
Road 11	11	1800-1900	7.04E-02	1.65E-06	6.35E-06	6.47E-02	1.52E-06	5.85E-06	3.92E-01	9.22E-06	3.55E-05	3.58E-01	8.41E-06	3.23E-05
Road 11	11	1900-2000	5.32E-02	9.33E-07	3.58E-06	4.89E-02	8.66E-07	3.32E-06	2.96E-01	5.20E-06	2.00E-05	2.70E-01	4.74E-06	1.82E-05
Road 11	11	2000-2100	5.35E-02	7.36E-07	2.83E-06	5.01E-02	6.90E-07	2.65E-06	2.98E-01	4.12E-06	1.58E-05	2.72E-01	3.76E-06	1.44E-05
Road 11	11	2100-2200	5.24E-02	7.21E-07	2.77E-06	4.93E-02	6.78E-07	2.60E-06	2.92E-01	4.02E-06	1.54E-05	2.66E-01	3.67E-06	1.41E-05
Road 11	11	2200-2300	5.74E-02	2.27E-07	8.72E-07	5.40E-02	2.13E-07	8.20E-07	3.20E-01	1.27E-06	4.87E-06	2.92E-01	1.15E-06	4.44E-06
Road 11	11	2300-0000	5.06E-02	5.10E-07	1.96E-06	4.67E-02	4.70E-07	1.80E-06	3.14E-01	3.16E-06	1.21E-05	2.89E-01	2.91E-06	1.12E-05
Road 12	12	0000-0100	2.73E-02	1.71E-07	4.21E-06	2.41E-02	1.51E-07	3.73E-06	6.37E-02	3.99E-07	9.83E-06	5.64E-02	3.53E-07	8.70E-06
Road 12	12	0100-0200	2.84E-02	1.70E-07	4.18E-06	2.56E-02	1.53E-07	3.77E-06	6.63E-02	3.96E-07	9.74E-06	5.91E-02	3.53E-07	8.70E-06
Road 12	12	0200-0300	2.84E-02	1.70E-07	4.18E-06	2.56E-02	1.53E-07	3.77E-06	6.63E-02	3.96E-07	9.74E-06	5.91E-02	3.53E-07	8.70E-06
Road 12	12	0300-0400	2.83E-02	1.67E-07	4.13E-06	2.58E-02	1.52E-07	3.75E-06	6.61E-02	3.89E-07	9.48E-06	5.92E-02	3.50E-07	8.62E-06
Road 12	12	0400-0500	2.83E-02	1.67E-07	4.13E-06	2.58E-02	1.52E-07	3.75E-06	6.61E-02	3.89E-07	9.48E-06	5.92E-02	3.50E-07	8.62E-06
Road 12	12	0500-0600	2.82E-02	1.73E-07	4.26E-06	2.51E-02	1.54E-07	3.79E-06	6.55E-02	4.02E-07	9.90E-06	5.83E-02	3.57E-07	8.81E-06
Road 12	12	0600-0700	2.81E-02	1.87E-07	4.62E-06	2.51E-02	1.67E-07	4.12E-06	6.58E-02	4.37E-07	1.08E-05	5.97E-02	3.98E-07	9.80E-06
Road 12	12	0700-0800	2.81E-02	2.06E-07	5.08E-06	2.51E-02	1.84E-07	4.53E-06	6.58E-02	4.81E-07	1.18E-05	5.97E-02	4.38E-07	1.08E-05
Road 12	12	0800-0900	3.45E-02	1.87E-07	4.62E-06	3.05E-02	1.67E-07	4.12E-06	8.07E-02	4.37E-07	1.08E-05	7.32E-02	3.98E-07	9.80E-06
Road 12	12	0900-1000	3.55E-02	2.10E-07	5.09E-06	3.14E-02	1.86E-07	4.50E-06	8.31E-02	4.91E-07	1.19E-05	7.54E-02	4.46E-07	1.08E-05
Road 12	12	1000-1100	3.51E-02	2.08E-07	5.04E-06	3.10E-02	1.84E-07	4.45E-06	8.21E-02	4.86E-07	1.17E-05	7.45E-02	4.41E-07	1.07E-05
Road 12	12	1100-1200	3.59E-02	1.89E-07	4.57E-06	3.17E-02	1.67E-07	4.04E-06	8.38E-02	4.41E-07	1.07E-05	7.61E-02	4.03E-07	9.74E-06
Road 12	12	1200-1300	3.58E-02	2.10E-07	5.08E-06	3.13E-02	1.84E-07	4.45E-06	8.35E-02	4.91E-07	1.19E-05	7.58E-02	4.46E-07	1.08E-05
Road 12	12	1300-1400	3.58E-02	2.10E-07	5.08E-06	3.13E-02	1.84E-07	4.45E-06	8.35E-02	4.91E-07	1.19E-05	7.58E-02	4.46E-07	1.08E-05
Road 12	12	1400-1500	3.57E-02	1.85E-07	4.48E-06	3.12E-02	1.62E-07	3.92E-06	8.32E-02	4.31E-07	1.04E-05	7.55E-02	3.91E-07	9.45E-06
Road 12	12	1500-1600	3.57E-02	2.11E-07	5.13E-06	3.12E-02	1.84E-07	4.48E-06	8.32E-02	4.91E-07	1.19E-05	7.55E-02	4.46E-07	1.08E-05
Road 12	12	1600-1700	3.57E-02	2.11E-07	5.13E-06	3.12E-02	1.84E-07	4.48E-06	8.32E-02	4.91E-07	1.19E-05	7.55E-02	4.46E-07	1.08E-05
Road 12	12	1700-1800	3.53E-02	1.85E-07	4.48E-06	3.08E-02	1.62E-07	3.92E-06	8.22E-02	4.31E-07	1.04E-05	7.45E-02	3.91E-07	9.45E-06
Road 12	12	1800-1900	3.46E-02	2.07E-07	5.03E-06	3.00E-02	1.79E-07	4.35E-06	8.01E-02	4.79E-07	1.16E-05	7.26E-02	4.35E-07	1.05E-05
Road 12	12	1900-2000	3.43E-02	2.01E-07	4.88E-06	2.96E-02	1.73E-07	4.22E-06	7.92E-02	4.64E-07	1.13E-05	7.17E-02	4.21E-07	1.02E-05
Road 12	12	2000-2100	2.61E-02	1.86E-07	4.58E-06	2.31E-02	1.64E-07	4.06E-06	6.29E-02	4.48E-07	1.11E-05	5.69E-02	4.06E-07	1.00E-05
Road 12	12	2100-2200	2.58E-02	1.84E-07	4.54E-06	2.29E-02	1.63E-07	4.02E-06	6.23E-02	4.44E-07	1.09E-05	5.64E-02	4.02E-07	9.91E-06
Road 12	12	2200-2300	2.58E-02	1.84E-07	4.54E-06	2.29E-02	1.63E-07	4.02E-06	6.23E-02	4.44E-07	1.09E-05	5.64E-02	4.02E-07	9.91E-06
Road 12	12	2300-0000	2.61E-02	1.75E-07	4.32E-06	2.29E-02	1.53E-07	3.78E-06	6.30E-02	4.22E-07	1.04E-05	5.71E-02	3.79E-07	9.34E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May) Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	8.53E-03	1.19E-07	3.55E-06	1.32E-02	7.26E-07	1.23E-05	1.46E-05	3.34E-06	6.72E-05	1.68E-01	3.43E-06	5.84E-05
Road 1	1	0100-0200	9.21E-03	8.06E-08	4.44E-06	8.06E-03	7.05E-08	3.88E-06	9.83E-02	8.61E-07	4.74E-05	8.43E-02	7.38E-07	4.06E-05
Road 1	1	0200-0300	9.84E-03	6.30E-08	3.47E-06	8.83E-03	5.66E-08	3.11E-06	9.92E-02	6.35E-07	3.50E-05	8.76E-02	5.61E-07	3.09E-05
Road 1	1	0300-0400	1.05E-02	5.29E-08	2.91E-06	9.43E-03	4.77E-08	2.63E-06	9.99E-02	5.06E-07	2.78E-05	8.86E-02	4.48E-07	2.47E-05
Road 1	1	0400-0500	1.11E-02	6.16E-08	3.39E-06	9.96E-03	5.53E-08	3.04E-06	1.02E-01	5.65E-07	3.11E-05	8.98E-02	4.98E-07	2.74E-05
Road 1	1	0500-0600	1.18E-02	1.13E-07	6.21E-06	1.04E-02	9.97E-08	5.49E-06	1.05E-01	1.00E-06	5.52E-05	9.06E-02	8.69E-07	4.78E-05
Road 1	1	0600-0700	1.22E-02	2.51E-07	1.38E-05	1.08E-02	2.22E-07	1.22E-05	1.09E-01	2.24E-07	1.23E-05	1.09E-01	2.16E-06	1.19E-04
Road 1	1	0700-0800	1.31E-02	5.46E-07	3.00E-05	1.16E-02	4.83E-07	2.66E-05	1.08E-01	4.50E-06	2.48E-04	9.42E-02	3.91E-06	2.15E-04
Road 1	1	0800-0900	1.25E-02	6.00E-07	3.30E-05	1.10E-02	5.31E-07	2.92E-05	9.71E-02	4.67E-06	2.57E-04	8.45E-02	4.06E-06	2.24E-04
Road 1	1	0900-1000	1.41E-02	5.56E-07	3.06E-05	1.25E-02	4.92E-07	2.71E-05	1.09E-01	4.16E-06	2.29E-04	9.51E-02	3.74E-06	2.06E-04
Road 1	1	1000-1100	1.58E-02	5.39E-07	2.97E-05	1.40E-02	4.77E-07	2.63E-05	1.22E-01	4.03E-06	2.22E-04	1.06E-01	3.76E-06	2.07E-04
Road 1	1	1100-1200	1.76E-02	5.46E-07	3.01E-05	1.56E-02	4.84E-07	2.67E-05	1.36E-01	4.08E-06	2.25E-04	1.18E-01	3.81E-06	2.10E-04
Road 1	1	1200-1300	1.94E-02	5.46E-07	3.01E-05	1.72E-02	4.84E-07	2.67E-05	1.50E-01	4.08E-06	2.25E-04	1.30E-01	3.81E-06	2.10E-04
Road 1	1	1300-1400	2.12E-02	5.46E-07	3.01E-05	1.88E-02	4.84E-07	2.67E-05	1.64E-01	4.08E-06	2.25E-04	1.42E-01	3.81E-06	2.10E-04
Road 1	1	1400-1500	2.30E-02	5.46E-07	3.01E-05	2.04E-02	4.84E-07	2.67E-05	1.78E-01	4.08E-06	2.25E-04	1.54E-01	3.81E-06	2.10E-04
Road 1	1	1500-1600	2.48E-02	5.46E-07	3.01E-05	2.20E-02	4.84E-07	2.67E-05	1.92E-01	4.08E-06	2.25E-04	1.66E-01	3.81E-06	2.10E-04
Road 1	1	1600-1700	2.66E-02	5.46E-07	3.01E-05	2.36E-02	4.84E-07	2.67E-05	2.06E-01	4.08E-06	2.25E-04	1.78E-01	3.81E-06	2.10E-04
Road 1	1	1700-1800	2.84E-02	5.46E-07	3.01E-05	2.52E-02	4.84E-07	2.67E-05	2.20E-01	4.08E-06	2.25E-04	1.90E-01	3.81E-06	2.10E-04
Road 1	1	1800-1900	3.02E-02	5.56E-07	3.06E-05	2.68E-02	4.92E-07	2.71E-05	2.34E-01	4.16E-06	2.29E-04	2.02E-01	3.88E-06	2.14E-04
Road 1	1	1900-2000	3.20E-02	5.46E-07	3.01E-05	2.84E-02	4.84E-07	2.67E-05	2.48E-01	4.08E-06	2.25E-04	2.14E-01	3.81E-06	2.10E-04
Road 1	1	2000-2100	3.02E-02	3.59E-07	1.98E-05	2.68E-02	3.18E-07	1.75E-05	2.34E-01	2.76E-06	1.52E-04	2.02E-01	2.58E-06	1.42E-04
Road 1	1	2100-2200	2.84E-02	3.51E-07	1.93E-05	2.52E-02	3.11E-07	1.71E-05	2.20E-01	2.70E-06	1.48E-04	1.90E-01	2.52E-06	1.39E-04
Road 1	1	2200-2300	2.74E-02	3.51E-07	1.93E-05	2.43E-02	3.11E-07	1.71E-05	2.12E-01	2.70E-06	1.48E-04	1.83E-01	2.52E-06	1.39E-04
Road 1	1	2300-0000	2.66E-02	3.51E-07	1.93E-05	2.36E-02	3.11E-07	1.71E-05	2.06E-01	2.70E-06	1.48E-04	1.78E-01	2.52E-06	1.39E-04
Road 2	2	0000-0100	1.73E-02	3.08E-07	1.70E-05	1.42E-02	2.53E-07	1.39E-05	1.33E-01	2.37E-06	1.31E-04	1.15E-01	2.05E-06	1.13E-04
Road 2	2	0100-0200	1.79E-02	3.01E-07	1.66E-05	1.47E-02	2.47E-07	1.36E-05	1.37E-01	2.31E-06	1.27E-04	1.19E-01	2.00E-06	1.10E-04
Road 2	2	0200-0300	1.84E-02	2.94E-07	1.62E-05	1.51E-02	2.41E-07	1.33E-05	1.41E-01	2.25E-06	1.24E-04	1.22E-01	1.95E-06	1.08E-04
Road 2	2	0300-0400	1.89E-02	2.87E-07	1.58E-05	1.55E-02	2.35E-07	1.30E-05	1.45E-01	2.20E-06	1.21E-04	1.25E-01	1.90E-06	1.05E-04
Road 2	2	0400-0500	1.94E-02	2.81E-07	1.55E-05	1.59E-02	2.30E-07	1.27E-05	1.49E-01	2.15E-06	1.19E-04	1.28E-01	1.86E-06	1.03E-04
Road 2	2	0500-0600	1.99E-02	2.76E-07	1.52E-05	1.63E-02	2.26E-07	1.25E-05	1.53E-01	2.11E-06	1.16E-04	1.31E-01	1.82E-06	1.01E-04
Road 2	2	0600-0700	2.04E-02	2.71E-07	1.49E-05	1.67E-02	2.22E-07	1.22E-05	1.57E-01	2.07E-06	1.14E-04	1.34E-01	1.78E-06	9.89E-05
Road 2	2	0700-0800	2.09E-02	2.66E-07	1.46E-05	1.71E-02	2.18E-07	1.20E-05	1.61E-01	2.03E-06	1.12E-04	1.38E-01	1.75E-06	9.72E-05
Road 2	2	0800-0900	2.36E-02	2.61E-07	1.44E-05	1.93E-02	2.14E-07	1.18E-05	1.82E-01	1.99E-06	1.10E-04	1.56E-01	1.72E-06	9.54E-05
Road 2	2	0900-1000	2.63E-02	2.56E-07	1.41E-05	2.15E-02	2.10E-07	1.16E-05	2.03E-01	1.95E-06	1.08E-04	1.74E-01	1.69E-06	9.36E-05
Road 2	2	1000-1100	2.91E-02	2.51E-07	1.38E-05	2.38E-02	2.06E-07	1.13E-05	2.24E-01	1.91E-06	1.06E-04	1.92E-01	1.66E-06	9.18E-05
Road 2	2	1100-1200	3.18E-02	2.46E-07	1.36E-05	2.60E-02	2.02E-07	1.11E-05	2.45E-01	1.87E-06	1.03E-04	2.10E-01	1.63E-06	9.00E-05
Road 2	2	1200-1300	3.46E-02	2.46E-07	1.36E-05	2.83E-02	2.02E-07	1.11E-05	2.66E-01	1.87E-06	1.03E-04	2.28E-01	1.63E-06	9.00E-05
Road 2	2	1300-1400	3.74E-02	2.46E-07	1.36E-05	3.06E-02	2.02E-07	1.11E-05	2.87E-01	1.87E-06	1.03E-04	2.46E-01	1.63E-06	9.00E-05
Road 2	2	1400-1500	4.02E-02	2.46E-07	1.36E-05	3.29E-02	2.02E-07	1.11E-05	3.08E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 24	24	0800-0900	1.60E-01	3.10E-07	7.97E-01	1.64E-01	3.17E-06	3.44E-06	5.36E-01	1.04E-06	2.60E-06			
Road 24	24	0900-1000	1.65E-01	3.58E-07	8.99E-01	1.43E-01	3.12E-07	7.81E-07	6.29E-01	1.37E-06	3.43E-06	5.47E-01	1.19E-06	2.98E-06
Road 24	24	1000-1100	1.74E-01	3.73E-07	9.36E-01	1.51E-01	3.24E-07	8.13E-07	6.33E-01	1.36E-06	3.40E-06	5.50E-01	1.18E-06	2.95E-06
Road 24	24	1100-1200	1.73E-01	3.74E-07	9.37E-01	1.50E-01	3.25E-07	7.64E-07	6.31E-01	1.26E-06	3.17E-06	5.54E-01	1.11E-06	2.79E-06
Road 24	24	1200-1300	1.82E-01	3.67E-07	9.20E-01	1.58E-01	3.18E-07	8.28E-07	5.22E-01	1.05E-06	2.63E-06	5.52E-01	1.12E-06	2.80E-06
Road 24	24	1300-1400	1.83E-01	4.17E-07	1.05E-06	1.59E-01	3.62E-07	9.07E-07	6.67E-01	1.52E-06	3.81E-06	5.78E-01	1.32E-06	3.31E-06
Road 24	24	1400-1500	1.88E-01	4.24E-07	1.06E-06	1.63E-01	3.68E-07	9.21E-07	6.87E-01	1.55E-06	3.77E-06	5.81E-01	1.31E-06	3.27E-06
Road 24	24	1500-1600	1.70E-01	4.01E-07	1.00E-06	1.47E-01	3.47E-07	8.71E-07	6.61E-01	1.56E-06	3.91E-06	5.73E-01	1.35E-06	3.39E-06
Road 24	24	1600-1700	1.70E-01	3.70E-07	9.28E-01	1.51E-01	3.29E-07	8.24E-07	6.20E-01	1.35E-06	3.39E-06	5.50E-01	1.20E-06	3.00E-06
Road 24	24	1700-1800	1.51E-01	3.58E-07	8.97E-01	1.34E-01	3.17E-07	7.94E-07	5.91E-01	1.40E-06	3.51E-06	5.24E-01	1.24E-06	3.11E-06
Road 24	24	1800-1900	1.32E-01	1.80E-07	4.52E-07	1.15E-01	1.57E-07	3.93E-07	5.55E-01	7.56E-07	1.89E-06	4.83E-01	6.57E-07	1.65E-06
Road 24	24	1900-2000	1.26E-01	1.12E-07	2.81E-07	1.11E-01	9.91E-08	2.48E-07	5.32E-01	4.73E-07	1.18E-06	4.68E-01	4.16E-07	1.04E-06
Road 24	24	2000-2100	1.18E-01	1.06E-07	2.65E-07	1.04E-01	9.34E-08	2.34E-07	4.98E-01	4.47E-07	1.12E-06	4.38E-01	3.93E-07	9.84E-07
Road 24	24	2100-2200	1.12E-01	1.01E-07	2.52E-07	9.87E-02	8.87E-08	2.22E-07	4.73E-01	4.25E-07	1.06E-06	4.16E-01	3.74E-07	9.35E-07
Road 24	24	2200-2300	1.06E-01	9.55E-08	2.39E-07	9.34E-02	8.40E-08	2.10E-07	4.48E-01	4.03E-07	1.01E-06	3.94E-01	3.54E-07	8.86E-07
Road 24	24	2300-2400	1.01E-01	9.08E-08	2.27E-07	8.87E-02	7.98E-08	1.99E-07	4.25E-01	3.83E-07	9.57E-07	3.74E-01	3.36E-07	8.41E-07
Road 25	25	0000-0100	1.30E-01	5.66E-08	1.44E-07	1.15E-01	5.03E-08	1.28E-07	4.81E-02	8.66E-07	2.17E-06	4.24E-02	7.64E-07	1.91E-06
Road 25	25	0100-0200	1.31E-01	5.70E-08	1.43E-07	1.16E-01	5.07E-08	1.27E-07	4.85E-02	8.73E-07	2.18E-06	4.27E-02	7.70E-07	1.93E-06
Road 25	25	0200-0300	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	0300-0400	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	0400-0500	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	0500-0600	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	0600-0700	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	0700-0800	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	0800-0900	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	0900-1000	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	1000-1100	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	1100-1200	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	1200-1300	1.32E-01	5.74E-08	1.44E-07	1.16E-01	5.11E-08	1.28E-07	4.89E-02	8.80E-07	2.20E-06	4.31E-02	7.76E-07	1.94E-06
Road 25	25	1300-1400	1.32E-01	5.67E-07	1.45E-06	1.60E-01	4.92E-07	2.78E-06	5.83E-01	1.79E-06	4.57E-06			
Road 25	25	1400-1500	1.90E-01	5.77E-07	1.47E-06	1.66E-01	5.03E-07	1.28E-06	5.85E-01	1.78E-06	4.54E-06			
Road 25	25	1500-1600	1.81E-01	5.29E-07	1.35E-06	1.61E-01	4.69E-07	1.19E-06	5.73E-01	1.67E-06	4.26E-06			
Road 25	25	1600-1700	1.81E-01	5.29E-07	1.35E-06	1.61E-01	4.69E-07	1.19E-06	5.73E-01	1.67E-06	4.26E-06			
Road 25	25	1700-1800	1.61E-01	4.25E-07	1.08E-06	1.38E-01	3.65E-07	9.29E-07	6.52E-01	1.72E-06	4.38E-06	5.59E-01	1.48E-06	3.76E-06
Road 25	25	1800-1900	1.41E-01	4.25E-07	1.08E-06	1.38E-01	4.17E-07	1.06E-06	5.84E-01	1.76E-06	4.48E-06			
Road 25	25	1900-2000	1.37E-01	1.60E-07	4.07E-07	1.21E-01	1.42E-07	3.61E-07	5.84E-01	6.84E-07	1.74E-06	5.15E-01	6.03E-07	1.53E-06
Road 25	25	2000-2100	1.29E-01	1.51E-07	3.84E-07	1.14E-01	1.34E-07	3.41E-07	5.51E-01	6.45E-07	1.64E-06	4.86E-01	5.69E-07	1.45E-06
Road 25	25	2100-2200	1.18E-01	1.38E-07	3.51E-07	1.04E-01	1.22E-07	3.12E-07	5.04E-01	5.90E-07	1.50E-06	4.44E-01	5.20E-07	1.32E-06
Road 25	25	2200-2300	1.14E-01	1.33E-07	3.39E-07	1.01E-01	1.18E-07	3.01E-07	4.87E-01	5.70E-07	1.45E-06	4.30E-01	5.03E-07	1.28E-06
Road 25	25	2300-2400	1.09E-01	1.28E-07	3.26E-07	9.68E-02	1.14E-07	2.90E-07	4.69E-01	5.49E-07	1.40E-06	4.14E-01	4.85E-07	1.23E-06
Road 26	26	0000-0100	1.32E-01	3.72E-08	9.47E-08	1.17E-01	3.30E-08	8.40E-08	4.89E-02	5.69E-07	1.42E-06	4.31E-02	5.02E-07	1.25E-06
Road 26	26	0100-0200	1.32E-01	3.72E-08	9.47E-08	1.17E-01	3.30E-08	8.40E-08	4.89E-02	5.69E-07	1.42E-06	4.31E-02	5.02E-07	1.25E-06
Road 26	26	0200-0300	1.34E-01	2.97E-08	7.56E-08	1.19E-01	2.64E-08	6.72E-08	4.98E-02	4.55E-07	1.14E-06	4.39E-02	4.01E-07	1.00E-06
Road 26	26	0300-0400	1.34E-01	2.96E-08	7.53E-08	1.19E-01	2.63E-08	6.69E-08	4.98E-02	4.53E-07	1.13E-06	4.39E-02	3.99E-07	9.97E-07
Road 26	26	0400-0500	1.34E-01	2.96E-08	7.53E-08	1.19E-01	2.63E-08	6.69E-08	4.98E-02	4.53E-07	1.13E-06	4.39E-02	3.99E-07	9.97E-07
Road 26	26	0500-0600	1.36E-01	5.60E-08	2.10E-07	1.21E-01	4.98E-08	1.87E-07	5.05E-02	2.07E-07	7.78E-07	4.49E-02	1.84E-07	6.92E-07
Road 26	26	0600-0700	1.36E-01	5.60E-08	2.10E-07	1.21E-01	4.98E-08	1.87E-07	5.05E-02	2.07E-07	7.78E-07	4.49E-02	1.84E-07	6.92E-07
Road 26	26	0700-0800	1.68E-01	3.38E-07	1.27E-06	1.49E-01	2.99E-07	1.12E-06	6.15E-01	1.23E-06	4.63E-06	5.44E-01	1.09E-06	4.10E-06
Road 26	26	0800-0900	1.70E-01	4.09E-07	1.53E-06	1.50E-01	3.61E-07	1.36E-06	6.40E-01	1.54E-06	5.77E-06	5.66E-01	1.36E-06	5.10E-06
Road 26	26	0900-1000	1.73E-01	4.16E-07	1.56E-06	1.53E-01	3.68E-07	1.38E-06	6.52E-01	1.57E-06	5.87E-06	5.76E-01	1.39E-06	5.19E-06
Road 26	26	1000-1100	1.85E-01	4.93E-07	1.85E-06	1.62E-01	4.31E-07	1.62E-06	6.68E-01	1.78E-06	6.69E-06	5.84E-01	1.56E-06	5.84E-06
Road 26	26	1100-1200	1.83E-01	4.57E-07	1.72E-06	1.60E-01	4.00E-07	1.50E-06	6.66E-01	1.66E-06	6.24E-06	5.81E-01	1.45E-06	5.45E-06
Road 26	26	1200-1300	1.83E-01	4.57E-07	1.72E-06	1.60E-01	4.00E-07	1.50E-06	6.66E-01	1.66E-06	6.24E-06	5.81E-01	1.45E-06	5.45E-06
Road 26	26	1300-1400	1.76E-01	5.24E-07	1.97E-06	1.53E-01	4.56E-07	1.71E-06	7.18E-01	2.14E-06	8.03E-06	5.57E-01	1.66E-06	6.23E-06
Road 26	26	1400-1500	1.80E-01	5.34E-07	2.00E-06	1.57E-01	4.65E-07	1.75E-06	6.40E-01	1.90E-06	7.12E-06	5.58E-01	1.65E-06	6.20E-06
Road 26	26	1500-1600	1.74E-01	5.63E-07	2.11E-06	1.52E-01	4.91E-07	1.84E-06	6.87E-01	2.22E-06	8.34E-06	5.59E-01	1.81E-06	6.78E-06
Road 26	26	1600-1700	1.71E-01	4.93E-07	1.85E-06	1.51E-01	4.36E-07	1.64E-06	6.23E-01	1.79E-06	6.73E-06	5.45E-01	1.57E-06	5.95E-06
Road 26	26	1700-1800	1.49E-01	4.14E-07	1.55E-06	1.32E-01	3.67E-07	1.38E-06	5.38E-01	1.49E-06	5.61E-06	4.71E-01	1.31E-06	4.92E-06
Road 26	26	1800-1900	1.29E-01	4.14E-07	1.55E-06	1.12E-01	3.58E-07	1.34E-06	4.65E-01	1.49E-06	5.61E-06	4.04E-01	1.30E-06	4.88E-06
Road 26	26	1900-2000	1.26E-01	1.60E-07	4.07E-07	1.09E-01	1.38E-07	3.51E-07	4.55E-01	5.77E-07	1.47E-06	3.94E-01	5.00E-07	1.27E-06
Road 26	26	2000-2100	1.08E-01	1.11E-07	4.17E-07	9.46E-02	9.71E-08	3.65E-07	3.97E-01	4.08E-07	1.53E-06	3.47E-01	3.56E-07	1.34E-06
Road 26	26	2100-2200	1.09E-01	1.14E-07	4.29E-07	9.75E-02	1.02E-07	3.84E-07	4.53E-01	4.76E-07	1.79E-06	4.05E-01	4.26E-07	1.60E-06
Road 26	26	2200-2300	1.11E-01	1.16E-07	4.36E-07	9.87E-02	1.03E-07	3.90E-07	4.60E-01	4.83E-07	1.82E-06	4.11E-01	4.32E-07	1.63E-06
Road 26	26	2300-2400	1.17E-01	1.22E-07	4.60E-07	1.04E-01	1.08E-07	4.11E-07	4.85E-01	5.09E-07	1.92E-06	4.33E-01	4.55E-07	1.72E-06
Road 27	27	0000-0100	1.26E-01	1.41E-07	3.38E-07	1.11E-01	1.24E-07	2.98E-07	4.67E-01	5.21E-07	1.25E-06	4.12E-01	4.59E-07	1.10E-06
Road 27	27	0100-0200	1.27E-01	1.42E-07	3.41E-07	1.12E-01	1.25E-07	3.00E-07	4.71E-01	5.26E-07	1.26E-06	4.15E-01	4.64E-07	1.11E-06
Road 27	27	0200-0300	1.28E-01	1.43E-07	3.44E-07	1.13E-01	1.26E-07	3.02E-07	4.75E-01	5.30E-07	1.27E-06	4.18E-01	4.67E-07	1.12E-06
Road 27	27	0300-0400	1.28E-01	1.43E-07	3.44E-07	1.13E-01	1.26E-07	3.02E-07	4.75E-01	5.30E-07	1.27E-06	4.18E-01	4.67E-07	1.12E-06
Road 27	27	0400-0500	1.28E-01	1.43E-07	3.44E-07	1.13E-01	1.26E-07	3.02E-07	4.75E-01	5.30E-07	1.27E-06	4.18E-01	4.67E-07	1.12E-06
Road 27	27	0500-0600	1.33E-01	5.27E-08	1.62E-07	1.18E-01	4.69E-08	1.44E-07	4.93E-01	1.96E-07	6.02E-07	4.39E-01	1.74E-07	5.36E-07
Road 27	27	0600-0700	1.48E-01	1.33E-07	4.10E-07	1.31E-01	1.19E-07	3.65E-07	5.45E-01	4.92E-07	1.51E-06	4.84E-01	4.37E-07	1.34E-06
Road 27	27	0700-0800	1.65E-01	1.48E-07	4.57E-07	1.46E-01	1.32E-07	4.06E-07	6.08E-01	5.46E-07	1.68E-06	5.39E-01	4.85E-07	1.49E-06
Road 27	27	0800-0900	1.66E-01	3.85E-07	1.18E-06	1.47E-01	3.40E-07	1.05E-06	6.27E-01	1.45E-06	4.46E-06	5.53E-01	1.28E-06	3.94E-06
Road 27	27	0900-1000	1.71E-01	4.43E-07	1.36E-06	1.49E-01	3.85E-07	1.19E-06	6.51E-01	1.68E-06	5.18E-06	5.66E-01	1.46E-06	4.50E-06
Road 27	27	1000-1100	1.82E-01	4.64E-07	1.43E-06	1.58E-01	4.03E-07	1.24E-06	6.66E-01	1.70E-06	5.24E-06	5.79E-01	1.47E-06	4.53E-06
Road 27	27	1100-1200	1.81E-01	4.30E-07	1.32E-06	1.57E-01	3.74E-07	1.15E-06	6.57E-01	1.56E-06	4.81E-06	5.72E-01	1.36E-06	4.19E-06
Road 27	27	1200-1300	1.92E-01	4.54E-07	1.40E-06	1.66E-01	3.94E-07	1.21E-06	6.67E-01	1.58E-06	4.87E-06	5.79E-01	1.37E-06	4.22E-06
Road 27	27	1300-1400	1.91E-01	4.59E-07	1.41E-06	1.65E-01	3.98E-07	1.22E-06	6.66E-01	1.60E-06	4.92E-06	5.78E-01	1.39E-06	4.26E-06
Road 27	27	1400-1500	1.88E-01	4.98E-07	1.53E-06	1.64E-01	4.34E-07	1.34E-06	6.67E-01	1.76E-06	5.43E-06	5.81E-01	1.54E-06	4.74E-06
Road 27	27	1500-1600	1.70E-01	4.71E-07	1.45E-06	1.47E-01	4.08E-07	1.25E-06	6.62E-01	1.83E-06	5.64E-06	5.73E-01	1.58E-06	4.88E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.80E-01	4.59E-07	1.41E-06	1.56E-01	4.00E-07	1.23E-06	5.13E-01	5.77E-07	1.47E-06	4.53E-06		
Road 27	27	1700-1800	1.60E-01	3.69E-07	1.14E-06	1.38E-01	3.16E-07	9.74E-07	6.48E-01	1.49E-06	4.59E-06	5.55E-01	1.28E-06	3.93E-06
Road 27	27	1800-1900	1.41E-01	2.23E-07	6.86E-07	1.22E-01	1.93E-07	5.95E-07	5.89E-01	9.30E-07	2.86E-06	5.10E-01	8.06E-07	2.48E-06
Road 27	27	1900-2000	1.28E-01	1.32E-07	4.07E-07	1.13E-01	1.17E-07	3.59E-07	5.18E-01	5.33E-07	1.64E-06	4.57E-01	4.70E-07	1.45E-06
Road 27	27	2000-2100	1.25E-01	1.07E-07	3.17E-07	1.09E-01	8.99E-08	2.77E-07	5.21E-01	4.28E-07	1.32E-06	4.54E-01	3.73E-07	1.15E-06
Road 27	27	2100-2200	1.26E-01	1.07E-07	3.28E-07	1.13E-01	9.55E-08	2.94E-07	5.18E-01	4.37E-07	1.35E-06	4.63E-01	3.91E-07	1.20E-06
Road 27	27	2200-2300	1.22E-01	1.02E-07	3.15E-07	1.09E-01	9.12E-08	2.82E-07	5.04E-01	4.22E-07	1.30E-06	4.50E-01	3.77E-07	1.16E-06
Road 27	27	2300-0000	1.36E-01	8.24E-08	2.54E-07	1.20E-01	7.22E-08	2.22E-07	5.05E-01	3.05E-07	9.40E-07	4.43E-01	2.67E-07	8.23E-07
Road 28	28	0000-0100	1.61E-02	1.60E-07	9.06E-06	1.42E-02	1.41E-07	7.98E-06	1.70E-01	1.68E-06	9.55E-05	1.48E-01	1.47E-06	8.32E-05
Road 28	28	0100-0200	1.73E-02	1.13E-07	6.43E-06	1.47E-02	9.58E-08	5.47E-06	1.71E-01	1.12E-06	6.34E-05	1.46E-01	9.54E-07	5.53E-05
Road 28	28	0200-0300	1.85E-02	9.03E-08	5.13E-06	1.66E-02	8.11E-08	4.60E-06	1.72E-01	8.37E-07	4.75E-05	1.53E-01	7.45E-07	4.23E-05
Road 28	28	0300-0400	1.94E-02	7.59E-08	4.31E-06	1.76E-02	6.89E-08	3.91E-06	1.70E-01	6.65E-07	3.77E-05	1.53E-01	5.98E-07	3.39E-05
Road 28	28	0400-0500	2.01E-02	6.61E-08	3.86E-06	1.80E-02	5.92E-08	3.46E-06	1.70E-01	5.59E-07	3.26E-05	1.52E-01	5.02E-07	2.93E-05
Road 28	28	0500-0600	2.01E-02	1.50E-07	8.52E-06	1.79E-02	1.33E-07	7.56E-06	1.74E-01	1.30E-06	7.35E-05	1.53E-01	1.14E-06	6.45E-05
Road 28	28	0600-0700	2.04E-02	3.25E-07	1.85E-05	1.80E-02	2.88E-07	1.63E-05	1.75E-01	2.79E-06	1.59E-04	1.53E-01	2.45E-06	1.39E-04
Road 28	28	0700-0800	2.10E-02	7.02E-07	4.03E-05	1.85E-02	6.19E-07	3.55E-05	1.77E-01	5.92E-06	3.40E-04	1.56E-01	5.22E-06	2.99E-04
Road 28	28	0800-0900	2.05E-02	7.79E-07	4.42E-05	1.81E-02	6.86E-07	3.89E-05	1.61E-01	6.10E-06	3.46E-04	1.41E-01	5.33E-06	3.02E-04
Road 28	28	0900-1000	2.33E-02	7.82E-07	4.44E-05	2.03E-02	6.79E-07	3.86E-05	1.70E-01	5.69E-06	3.23E-04	1.46E-01	4.90E-06	2.78E-04
Road 28	28	1000-1100	2.37E-02	7.12E-07	4.38E-05	2.06E-02	6.19E-07	3.80E-05	1.72E-01	5.16E-06	3.17E-04	1.50E-01	4.50E-06	2.76E-04
Road 28	28	1100-1200	2.51E-02	7.14E-07	4.05E-05	2.19E-02	6.23E-07	3.53E-05	1.73E-01	4.93E-06	2.80E-04	1.50E-01	4.27E-06	2.42E-04
Road 28	28	1200-1300	2.36E-02	4.86E-07	2.76E-05	2.05E-02	4.22E-07	2.39E-05	1.45E-01	2.97E-06	1.68E-04	1.24E-01	2.55E-06	1.45E-04
Road 28	28	1300-1400	2.28E-02	5.02E-07	2.84E-05	2.05E-02	4.52E-07	2.56E-05	1.42E-01	3.12E-06	1.77E-04	1.28E-01	2.82E-06	1.60E-04
Road 28	28	1400-1500	2.23E-02	5.12E-07	2.91E-05	1.93E-02	4.43E-07	2.52E-05	1.42E-01	3.26E-06	1.84E-04	1.22E-01	2.79E-06	1.58E-04
Road 28	28	1500-1600	2.23E-02	5.12E-07	2.91E-05	1.93E-02	4.43E-07	2.52E-05	1.42E-01	3.26E-06	1.84E-04	1.22E-01	2.79E-06	1.58E-04
Road 28	28	1600-1700	2.29E-02	5.48E-07	3.11E-05	2.02E-02	4.83E-07	2.74E-05	1.42E-01	3.40E-06	1.94E-04	1.25E-01	2.99E-06	1.70E-04
Road 28	28	1700-1800	2.22E-02	5.56E-07	3.16E-05	1.96E-02	4.91E-07	2.79E-05	1.38E-01	3.45E-06	1.96E-04	1.21E-01	3.03E-06	1.72E-04
Road 28	28	1800-1900	1.45E-02	4.01E-07	2.28E-05	1.25E-02	3.46E-07	1.97E-05	1.23E-01	3.40E-06	1.93E-04	1.05E-01	2.90E-06	1.65E-04
Road 28	28	1900-2000	1.27E-02	2.73E-07	1.55E-05	1.11E-02	2.40E-07	1.36E-05	1.28E-01	2.76E-06	1.57E-04	1.11E-01	2.40E-06	1.36E-04
Road 28	28	2000-2100	1.28E-02	2.73E-07	1.55E-05	1.11E-02	2.40E-07	1.36E-05	1.28E-01	2.76E-06	1.57E-04	1.11E-01	2.40E-06	1.36E-04
Road 28	28	2100-2200	1.15E-02	1.93E-07	1.10E-05	1.03E-02	1.72E-07	9.78E-06	1.25E-01	2.11E-06	1.20E-04	1.10E-01	1.85E-06	1.05E-04
Road 28	28	2200-2300	1.16E-02	2.98E-07	1.70E-05	1.04E-02	2.68E-07	1.52E-05	1.25E-01	3.24E-06	1.84E-04	1.12E-01	2.88E-06	1.64E-04
Road 28	28	2300-2400	1.15E-02	1.93E-07	1.10E-05	1.03E-02	1.72E-07	9.78E-06	1.25E-01	2.11E-06	1.20E-04	1.10E-01	1.85E-06	1.05E-04
Road 29	29	0000-0100	9.57E-03	8.53E-08	5.89E-06	8.39E-03	7.48E-08	5.16E-06	1.01E-01	8.96E-07	6.18E-05	8.62E-02	7.68E-07	5.30E-05
Road 29	29	0100-0200	1.07E-02	6.25E-08	4.31E-06	9.23E-03	5.40E-08	3.72E-06	1.03E-01	5.99E-07	4.13E-05	8.80E-02	5.14E-07	3.55E-05
Road 29	29	0200-0300	1.16E-02	5.14E-08	3.55E-06	9.97E-03	4.43E-08	3.06E-06	1.04E-01	4.62E-07	3.19E-05	8.92E-02	3.98E-07	2.75E-05
Road 29	29	0300-0400	1.28E-02	4.39E-08	3.03E-06	1.16E-02	3.97E-08	2.74E-06	1.05E-01	3.60E-07	2.49E-05	9.37E-02	3.21E-07	2.21E-05
Road 29	29	0400-0500	1.32E-02	4.94E-08	3.41E-06	1.19E-02	4.46E-08	3.08E-06	1.07E-01	3.98E-07	2.75E-05	9.45E-02	3.53E-07	2.44E-05
Road 29	29	0500-0600	1.30E-02	1.11E-02	3.11E-06	1.17E-02	1.00E-02	2.80E-06	1.06E-01	9.07E-02	2.54E-05	9.41E-02	8.07E-02	2.26E-05
Road 29	29	0600-0700	1.30E-02	1.75E-07	1.21E-05	1.15E-02	1.54E-07	1.07E-05	1.01E-01	1.48E-06	1.02E-04	9.47E-02	1.28E-06	8.81E-05
Road 29	29	0700-0800	1.43E-02	3.92E-07	2.71E-05	1.25E-02	3.44E-07	2.38E-05	1.12E-01	3.09E-06	2.13E-04	9.67E-02	2.66E-06	1.83E-04
Road 29	29	0800-0900	1.53E-02	3.98E-07	2.75E-05	1.33E-02	3.45E-07	2.38E-05	1.16E-01	2.86E-06	1.98E-04	9.39E-02	2.44E-06	1.68E-04
Road 29

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2033

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyAverage				MonthlyHourMin		MonthlyAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	7.80E-03	6.34E-08	1.18E-06	1.02E-02	8.29E-08	3.12E-06	3.26E-05	7.18E-02	5.59E-05	5.12E-05		
Road 51	51	0100-0200	8.39E-03	4.43E-08	8.25E-07	7.32E-03	3.86E-08	7.20E-07	9.06E-02	7.73E-02	4.07E-07	7.59E-06		
Road 51	51	0200-0300	8.94E-03	3.44E-08	6.42E-07	8.01E-03	3.08E-08	5.75E-07	9.16E-02	3.53E-07	6.57E-06	8.05E-02	3.10E-07	5.78E-06
Road 51	51	0300-0400	9.48E-03	3.25E-08	6.05E-07	8.51E-03	2.92E-08	5.44E-07	9.22E-02	3.16E-07	5.89E-06	8.13E-02	2.47E-07	4.60E-06
Road 51	51	0400-0500	1.01E-02	3.35E-08	6.25E-07	9.05E-03	3.01E-08	5.60E-07	9.40E-02	3.12E-07	5.82E-06	8.25E-02	2.74E-07	5.11E-06
Road 51	51	0500-0600	1.09E-02	6.26E-08	1.17E-06	9.56E-03	5.50E-08	1.02E-06	9.72E-02	5.59E-07	1.04E-05	8.33E-02	4.79E-07	8.93E-06
Road 51	51	0600-0700	1.14E-02	1.04E-07	1.94E-06	1.01E-02	9.25E-08	3.45E-06	9.78E-02	1.02E-06	2.24E-05	8.37E-02	1.05E-06	1.95E-05
Road 51	51	0700-0800	1.22E-02	3.03E-07	5.66E-06	1.07E-02	2.66E-07	4.95E-06	1.01E-01	2.51E-06	4.67E-05	8.63E-02	2.14E-06	3.99E-05
Road 51	51	0800-0900	1.15E-02	3.31E-07	6.17E-06	1.01E-02	2.90E-07	5.41E-06	9.72E-02	2.79E-06	5.20E-05	8.34E-02	2.39E-06	4.46E-05
Road 51	51	0900-1000	1.10E-02	3.03E-07	5.66E-06	9.68E-03	2.66E-07	4.95E-06	9.31E-02	2.56E-06	4.78E-05	8.01E-02	2.20E-06	4.11E-05
Road 51	51	1000-1100	1.44E-02	2.89E-07	5.38E-06	1.26E-02	2.52E-07	4.70E-06	1.02E-01	2.05E-06	3.82E-05	8.77E-02	1.76E-06	3.28E-05
Road 51	51	1100-1200	1.38E-02	2.61E-07	4.87E-06	1.21E-02	2.29E-07	4.26E-06	9.72E-02	1.84E-06	3.43E-05	8.37E-02	1.58E-06	2.95E-05
Road 51	51	1200-1300	1.41E-02	2.67E-07	4.98E-06	1.24E-02	2.34E-07	4.36E-06	9.72E-02	1.84E-06	3.43E-05	8.37E-02	1.58E-06	2.95E-05
Road 51	51	1300-1400	1.45E-02	4.59E-07	8.55E-06	1.27E-02	4.03E-07	7.52E-06	9.72E-02	3.08E-06	5.74E-05	8.37E-02	2.65E-06	4.94E-05
Road 51	51	1400-1500	1.49E-02	3.56E-07	6.64E-06	1.31E-02	3.13E-07	5.84E-06	9.72E-02	2.32E-06	4.33E-05	8.37E-02	2.00E-06	3.73E-05
Road 51	51	1500-1600	1.58E-02	3.78E-07	7.03E-06	1.38E-02	3.32E-07	6.18E-06	1.03E-01	2.46E-06	4.59E-05	8.88E-02	2.12E-06	3.95E-05
Road 51	51	1600-1700	1.40E-02	4.87E-07	9.08E-06	1.23E-02	4.27E-07	7.96E-06	9.47E-02	3.29E-06	6.13E-05	8.14E-02	2.83E-06	5.27E-05
Road 51	51	1700-1800	1.73E-02	4.52E-07	8.43E-06	1.52E-02	3.98E-07	7.41E-06	1.03E-01	2.68E-06	4.99E-05	8.88E-02	2.32E-06	4.32E-05
Road 51	51	1800-1900	2.73E-02	7.13E-07	1.33E-05	2.40E-02	6.26E-07	1.17E-05	1.03E-01	2.68E-06	4.99E-05	8.88E-02	2.32E-06	4.32E-05
Road 51	51	1900-2000	2.73E-02	3.05E-07	5.68E-06	2.41E-02	2.69E-07	5.01E-06	3.82E-05	8.77E-02	1.76E-06	3.27E-05		
Road 51	51	2000-2100	2.75E-02	2.44E-07	4.55E-06	2.46E-02	2.18E-07	4.06E-06	3.53E-05	3.12E-05	5.82E-05			
Road 51	51	2100-2200	2.59E-02	2.22E-07	4.14E-06	3.32E-02	2.85E-07	5.31E-06	3.53E-05	2.70E-05	5.10E-05			
Road 51	51	2200-2300	2.62E-02	2.24E-07	4.16E-06	3.74E-02	3.21E-07	5.97E-06	3.53E-05	2.70E-05	5.10E-05			
Road 51	51	2300-0000	2.80E-02	1.77E-07	3.31E-06	2.45E-02	1.55E-07	2.89E-06	3.85E-05	2.43E-05	4.55E-05			
Road 52	52	0000-0100	6.18E-02	3.11E-08	1.59E-07	5.49E-02	2.76E-08	1.42E-07	2.57E-01	1.29E-07	6.62E-07			
Road 52	52	0100-0200	6.21E-02	1.76E-08	9.00E-08	5.52E-02	1.56E-08	8.00E-08	2.58E-01	7.32E-08	3.74E-07			
Road 52	52	0200-0300	6.07E-02	1.71E-08	8.79E-08	5.47E-02	1.55E-08	7.92E-08	2.29E-01	6.47E-08	3.32E-07			
Road 52	52	0300-0400	6.02E-02	1.45E-08	7.42E-08	5.46E-02	1.31E-08	6.74E-08	2.80E-01	6.75E-08	3.45E-07			
Road 52	52	0400-0500	6.22E-02	1.75E-08	8.77E-08	5.48E-02	1.54E-08	7.73E-08	2.61E-01	7.35E-08	3.69E-07			
Road 52	52	0500-0600	6.34E-02	3.33E-08	1.71E-07	5.64E-02	2.97E-08	1.52E-07	2.42E-01	1.27E-07	6.52E-07			
Road 52	52	0600-0700	6.50E-02	7.81E-08	4.00E-07	5.76E-02	6.91E-08	3.54E-07	2.58E-01	3.10E-07	1.59E-06			
Road 52	52	0700-0800	7.09E-02	2.17E-07	1.11E-06	6.22E-02	1.90E-07	9.74E-07	2.58E-01	7.90E-07	4.05E-06			
Road 52	52	0800-0900	7.01E-02	2.17E-07	1.11E-06	6.22E-02	1.92E-07	9.86E-07	2.70E-01	8.36E-07	4.28E-06			
Road 52	52	0900-1000	7.40E-02	2.60E-07	1.33E-06	6.49E-02	2.28E-07	1.17E-06	2.58E-01	9.06E-07	4.64E-06			
Road 52	52	1000-1100	7.38E-02	2.76E-07	1.41E-06	6.47E-02	2.42E-07	1.24E-06	2.58E-01	9.64E-07	4.94E-06			
Road 52	52	1100-1200	7.73E-02	2.51E-07	1.29E-06	6.80E-02	2.21E-07	1.13E-06	2.87E-01	9.32E-07	4.78E-06			
Road 52	52	1200-1300	7.91E-02	2.67E-07	1.37E-06	6.88E-02	2.32E-07	1.19E-06	2.87E-01	9.68E-07	4.96E-06			
Road 52	52	1300-1400	7.94E-02	2.73E-07	1.40E-06	6.91E-02	2.38E-07	1.22E-06	2.87E-01	9.89E-07	5.07E-06			
Road 52	52	1400-1500	8.07E-02	3.04E-07	1.56E-06	7.03E-02	2.65E-07	1.36E-06	2.93E-01	1.10E-06	5.66E-06			
Road 52	52	1500-1600	7.30E-02	2.87E-07	1.47E-06	6.33E-02	2.49E-07	1.27E-06	2.58E-01	1.01E-06	5.20E-06			
Road 52	52	1600-1700	6.37E-02	2.10E-07	1.08E-06	5.46E-02	1.80E-07	9.23E-07	2.64E-01	8.71E-07	4.46E-06			
Road 52	52	1700-1800	6.37E-02	2.10E-07	1.08E-06	5.46E-02	1.80E-07	9.23E-07	2.64E-01	8.71E-07	4.46E-06			
Road 52	52	1800-1900	5.63E-02	1.29E-07	6.63E-07	4.90E-02	1.13E-07	5.78E-07	2.41E-01	5.55E-07	2.84E-06			
Road 52	52	1900-2000	5.14E-02	6.19E-08	3.17E-07	4.50E-02	5.43E-08	2.78E-07	2.20E-01	2.65E-07	1.36E-06			
Road 52	52	2000-2100	5.15E-02	5.37E-08	2.77E-07	4.83E-02	5.03E-08	2.59E-07	2.20E-01	2.29E-07	1.18E-06			
Road 52	52	2100-2200	5.12E-02	5.33E-08	2.73E-07	4.92E-02	5.12E-08	2.63E-07	2.20E-01	2.29E-07	1.18E-06			
Road 52	52	2200-2300	5.66E-02	5.01E-08	2.57E-07	4.96E-02	4.39E-08	2.25E-07	2.17E-01	1.92E-07	9.86E-07			
Road 53	53	0000-0100	8.20E-02	3.83E-08	8.90E-07	7.25E-02	3.39E-08	7.87E-07	3.36E-01	1.57E-07	3.64E-06			
Road 53	53	0100-0200	8.24E-02	2.34E-08	5.43E-07	7.27E-02	2.06E-08	4.79E-07	3.36E-01	9.54E-08	2.21E-06			
Road 53	53	0200-0300	8.44E-02	2.02E-08	4.69E-07	7.63E-02	1.82E-08	4.24E-07	3.42E-01	8.17E-08	1.90E-06			
Road 53	53	0300-0400	8.65E-02	1.69E-08	3.93E-07	7.84E-02	1.53E-08	3.56E-07	3.48E-01	6.80E-08	1.58E-06			
Road 53	53	0400-0500	8.92E-02	2.08E-08	4.83E-07	8.02E-02	1.87E-08	4.34E-07	3.56E-01	8.29E-08	1.92E-06			
Road 53	53	0500-0600	9.70E-02	3.87E-08	8.98E-07	8.60E-02	3.42E-08	7.96E-07	3.85E-01	1.53E-07	3.56E-06			
Road 53	53	0600-0700	1.08E-01	9.51E-08	2.21E-06	9.55E-02	8.42E-08	1.96E-06	4.21E-01	3.72E-07	8.66E-06			
Road 53	53	0700-0800	1.21E-01	2.52E-07	5.85E-06	1.06E-01	2.22E-07	5.15E-06	4.72E-01	9.87E-07	2.29E-05			
Road 53	53	0800-0900	1.21E-01	2.52E-07	5.85E-06	1.06E-01	2.22E-07	5.15E-06	4.72E-01	9.87E-07	2.29E-05			
Road 53	53	0900-1000	1.32E-01	2.82E-07	6.54E-06	1.14E-01	2.45E-07	5.69E-06	5.08E-01	1.08E-06	2.52E-05			
Road 53	53	1000-1100	1.40E-01	2.99E-07	6.93E-06	1.21E-01	2.59E-07	6.01E-06	5.44E-01	1.16E-06	2.69E-05			
Road 53	53	1100-1200	1.42E-01	2.70E-07	6.27E-06	1.24E-01	2.36E-07	5.47E-06	5.44E-01	1.04E-06	2.41E-05			
Road 53	53	1200-1300	1.23E-01	2.84E-07	6.60E-06	1.08E-01	2.49E-07	5.79E-06	4.92E-01	1.14E-06	2.64E-05			
Road 53	53	1300-1400	1.23E-01	3.01E-07	7.00E-06	1.08E-01	2.64E-07	6.13E-06	4.68E-01	1.14E-06	2.66E-05			
Road 53	53	1400-1500	1.25E-01	2.95E-07	6.86E-06	1.09E-01	2.58E-07	6.00E-06	4.68E-01	1.10E-06	2.56E-05			
Road 53	53	1500-1600	1.14E-01	2.96E-07	6.87E-06	1.00E-01	2.60E-07	6.04E-06	4.58E-01	1.19E-06	2.76E-05			
Road 53	53	1600-1700	1.15E-01	2.98E-07	6.92E-06	1.01E-01	2.61E-07	6.07E-06	4.31E-01	1.12E-06	2.60E-05			
Road 53	53	1700-1800	9.69E-02	2.51E-07	5.83E-06	8.51E-02	2.20E-07	5.12E-06	3.76E-01	9.74E-07	2.26E-05			
Road 53	53	1800-1900	6.76E-02	1.72E-07	3.98E-06	5.84E-02	1.48E-07	3.44E-06	2.94E-01	7.48E-07	1.73E-05			
Road 53	53	1900-2000	5.75E-02	1.11E-07	2.59E-06	5.07E-02	9.83E-08	2.28E-06	2.53E-01	4.91E-07	1.14E-05			
Road 53	53	2000-2100	5.65E-02	8.40E-08	1.95E-06	4.94E-02	7.54E-08	1.75E-06	2.48E-01	3.69E-07	8.58E-06			
Road 53	53	2100-2200	5.55E-02	7.95E-08	1.85E-06	4.96E-02	7.11E-08	1.65E-06	2.48E-01	3.55E-07	8.26E-06			
Road 53	53	2200-2300	5.82E-02	6.36E-08	1.48E-06	5.10E-02	5.58E-08	1.29E-06	2.80E-01	3.06E-07	7.12E-06			
Road 54	54	0000-0100	6.29E-02	5.62E-08	1.28E-06	5.49E-02	4.91E-08	1.12E-06	2.66E-01	2.38E-07	5.41E-06			
Road 54	54	0100-0200	6.28E-02	5.66E-08	1.29E-06	5.48E-02	4.94E-08	1.12E-06	2.66E-01	2.40E-07	5.45E-06			
Road 54	54	0200-0300	6.04E-02	5.49E-08	1.25E-06	5.27E-02	4.79E-08	1.09E-06	2.57E-01	2.34E-07	5.31E-06			
Road 54	54	0300-0400	6.03E-02	5.48E-08	1.25E-06	5.26E-02	4.78E-08	1.09E-06	2.57E-01	2.33E-07	5.31E-06			
Road 54	54	0400-0500	6.27E-02	2.95E-08	6.73E-07	5.47E-02	2.57E-08	5.87E-07	2.67E-01	1.26E-07	2.86E-06			
Road 54	54	0500-0600	6.08E-02	2.98E-08	6.79E-07	5.30E-02	2.60E-08	5.92E-07	2.58E-01	1.26E-07	2.88E-06			
Road 54	54	0600-0700	9.06E-02	1.42E-07	3.23E-06	7.90E-02	1.24E-07	2.82E-06	3.85E-01	6.04E-07	1.37E-05			
Road 54	54	0700-0800	1.05E-01	3.43E-07	7.81E-06	9.23E-02	3.02E-07	6.89E-06	4.08E-01	1.34E-06	3.04E-05	3.55E-01	1.16E-06	2.65E-05

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\Appendix A 3.5.3 Emission Factor in 2033-5.8.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2033

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyAverage				MonthlyHourMin		MonthlyAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 54	54	0800-0900	1.02E-01	3.83E-07	7.87E-06	1.01E-02	3.79E-07	7.79E-06	4.03E-01	1.51E-06	3.09E-05			
Road 54	54	0900-1000	1.17E-01	4.23E-07	9.64E-06	1.02E-01	3.67E-07	8.37E-06	4.63E-01	1.67E-06	3.81E-05	3.99E-01	1.44E-06	3.28E-05
Road 54	54	1000-1100	1.30E-01	4.33E-07	9.87E-06	1.14E-01	3.80E-07	8.65E-06	4.90E-01	1.63E-06	3.72E-05	4.26E-01	1.42E-06	3.23E-05
Road 54	54	1100-1200	1.28E-01	4.03E-07	9.18E-06	1.13E-01	3.55E-07	8.10E-06	4.87E-01	1.53E-06	3.50E-05	4.27E-01	1.34E-06	3.06E-05
Road 54	54	1200-1300	1.60E-01	3.45E-07	7.86E-06	1.40E-01	3.02E-07	6.88E-06	5.69E-01	1.23E-06	2.80E-05	4.96E-01	1.07E-06	2.44E-05
Road 54	54	1300-1400	1.56E-01	3.69E-07	8.40E-06	1.37E-01	3.23E-07	7.36E-06	5.79E-01	1.37E-06	3.12E-05	5.05E-01	1.19E-06	2.72E-05
Road 54	54	1400-1500	1.58E-01	3.78E-07	8.61E-06	1.38E-01	3.30E-07	7.51E-06	5.72E-01	1.37E-06	3.12E-05	5.00E-01	1.20E-06	2.73E-05
Road 54	54	1500-1600	1.45E-01	3.57E-07	8.13E-06	1.27E-01	3.14E-07	7.16E-06	5.70E-01	1.40E-06	3.21E-05	5.00E-01	1.23E-06	2.81E-05
Road 54	54	1600-1700	1.49E-01	3.53E-07	8.04E-06	1.31E-01	3.09E-07	7.06E-06	5.51E-01	1.30E-06	2.97E-05	4.82E-01	1.14E-06	2.59E-05
Road 54	54	1700-1800	1.58E-01	2.89E-07	6.56E-06	1.39E-01	2.54E-07	5.77E-06	5.70E-01	1.04E-06	2.37E-05	4.82E-01	8.81E-07	2.00E-05
Road 54	54	1800-1900	1.03E-01	1.93E-07	4.41E-06	8.95E-02	1.67E-07	3.82E-06	4.91E-01	9.18E-07	2.10E-05	4.26E-01	7.97E-07	1.82E-05
Road 54	54	1900-2000	9.18E-02	1.25E-07	2.84E-06	8.10E-02	1.10E-07	2.51E-06	4.54E-01	6.19E-07	1.41E-05	4.01E-01	5.46E-07	1.24E-05
Road 54	54	2000-2100	8.21E-02	1.32E-07	3.00E-06	7.27E-02	1.17E-07	2.66E-06	4.54E-01	7.32E-07	1.67E-05	4.01E-01	6.47E-07	1.47E-05
Road 54	54	2100-2200	8.60E-02	9.35E-08	2.13E-06	7.73E-02	8.41E-08	1.91E-06	4.54E-01	4.94E-07	1.12E-05	4.01E-01	4.36E-07	9.91E-06
Road 54	54	2200-2300	9.01E-02	8.89E-08	2.03E-06	8.07E-02	7.96E-08	1.81E-06	3.60E-01	3.55E-07	8.10E-06	3.19E-01	3.14E-07	7.17E-06
Road 54	54	2300-0000	9.21E-02	1.13E-07	2.58E-06	8.24E-02	1.01E-07	2.31E-06	3.60E-01	4.42E-07	1.00E-05	3.19E-01	2.77E-07	6.31E-06
Road 101	101	0000-0100	7.76E-03	6.85E-08	2.71E-06	6.85E-03	6.05E-08	2.40E-06	5.70E-02	5.03E-07	1.99E-05	4.85E-02	4.28E-07	1.70E-05
Road 101	101	0100-0200	8.51E-03	4.90E-08	1.94E-06	7.51E-03	4.33E-08	1.71E-06	5.91E-02	3.41E-07	1.35E-05	5.02E-02	2.89E-07	1.15E-05
Road 101	101	0200-0300	9.23E-03	3.96E-08	1.57E-06	8.27E-03	3.54E-08	1.40E-06	6.27E-02	2.69E-07	1.06E-05	5.42E-02	2.32E-07	9.21E-06
Road 101	101	0300-0400	9.89E-03	3.32E-08	1.31E-06	8.91E-03	2.99E-08	1.18E-06	6.22E-02	2.09E-07	8.26E-06	5.42E-02	1.82E-07	7.20E-06
Road 101	101	0400-0500	1.07E-02	3.94E-08	1.56E-06	9.58E-03	3.53E-08	1.40E-06	6.44E-02	2.38E-07	9.41E-06	5.60E-02	2.07E-07	8.18E-06
Road 101	101	0500-0600	1.16E-02	7.46E-08	2.96E-06	1.02E-02	6.56E-08	2.60E-06	6.77E-02	4.36E-07	1.72E-05	5.87E-02	3.77E-07	1.49E-05
Road 101	101	0600-0700	1.23E-02	1.76E-07	6.72E-06	1.08E-02	1.55E-07	5.91E-06	6.77E-02	9.54E-07	3.64E-05	5.87E-02	8.27E-07	3.16E-05
Road 101	101	0700-0800	1.33E-02	3.73E-07	1.48E-05	1.17E-02	3.28E-07	1.30E-05	7.27E-02	2.04E-06	8.08E-05	6.20E-02	1.74E-06	6.89E-05
Road 101	101	0800-0900	1.27E-02	4.16E-07	1.65E-05	1.13E-02	3.68E-07	1.46E-05	6.52E-02	2.15E-06	8.50E-05	5.66E-02	1.85E-06	7.33E-05
Road 101	101	0900-1000	1.48E-02	4.63E-07	1.83E-05	1.31E-02	4.09E-07	1.62E-05	6.77E-02	2.12E-06	8.37E-05	5.87E-02	1.83E-06	7.24E-05
Road 101	101	1000-1100	1.71E-02	4.12E-07	1.63E-05	1.51E-02	3.64E-07	1.44E-05	8.03E-02	1.94E-06	7.67E-05	6.98E-02	1.68E-06	6.67E-05
Road 101	101	1100-1200	1.63E-02	3.71E-07	1.47E-05	1.46E-02	3.32E-07	1.32E-05	7.82E-02	1.78E-06	7.05E-05	6.79E-02	1.54E-06	6.13E-05
Road 101	101	1200-1300	2.23E-02	5.91E-07	2.34E-05	1.97E-02	5.23E-07	2.07E-05	9.57E-02	2.54E-06	1.01E-04	8.37E-02	2.22E-06	8.79E-05
Road 101	101	1300-1400	2.23E-02	5.91E-07	2.34E-05	1.97E-02	5.23E-07	2.07E-05	9.57E-02	2.54E-06	1.01E-04	8.37E-02	2.22E-06	8.79E-05
Road 101	101	1400-1500	2.24E-02	6.21E-07	2.46E-05	1.98E-02	5.50E-07	2.18E-05	9.48E-02	2.63E-06	1.04E-04	8.29E-02	2.30E-06	9.11E-05
Road 101	101	1500-1600	2.32E-02	6.26E-07	2.48E-05	2.05E-02	5.54E-07	2.19E-05	9.57E-02	2.58E-06	1.02E-04	8.37E-02	2.26E-06	8.94E-05
Road 101	101	1600-1700	2.13E-02	6.26E-07	2.48E-05	1.88E-02	5.50E-07	2.18E-05	9.00E-02	2.64E-06	1.05E-04	7.80E-02	2.29E-06	9.07E-05
Road 101	101	1700-1800	1.59E-02	5.05E-07	2.00E-05	1.40E-02	4.46E-07	1.76E-05	8.37E-02	2.66E-06	1.05E-04	7.25E-02	2.30E-06	9.11E-05
Road 101	101	1800-1900	1.08E-02	3.12E-07	1.23E-05	9.53E-03	2.75E-07	1.09E-05	7.27E-02	2.09E-06	8.29E-05	6.20E-02	1.79E-06	7.09E-05
Road 101	101	1900-2000	9.76E-03	2.45E-07	9.70E-06	8.58E-03	2.15E-07	8.52E-06	5.70E-02	1.43E-06	5.66E-05	4.85E-02	1.21E-06	4.81E-05
Road 101	101	2000-2100	9.54E-03	1.89E-07	7.38E-06	8.49E-03	1.66E-07	6.56E-06	6.20E-02	1.21E-06	4.79E-05	5.34E-02	1.04E-06	4.13E-05
Road 101	101	2100-2200	9.73E-03	1.71E-07	6.78E-06	8.72E-03	1.54E-07	6.08E-06	6.20E-02	1.09E-06	4.32E-05	5.34E-02	9.41E-07	3.72E-05
Road 101	101	2200-2300	8.70E-03	1.64E-07	6.48E-06	7.72E-03	1.45E-07	5.75E-06	5.96E-02	1.12E-06	4.43E-05	5.11E-02	9.60E-07	3.80E-05
Road 101	101	2300-0000	9.81E-03	1.39E-07	5.52E-06	8.51E-03	1.21E-07	4.79E-06	6.35E-02	9.02E-07	3.57E-05	5.29E-02	7.51E-07	2.98E-05
Road 102	102	0000-0100	1.22E-02	5.85E-08	2.17E-06	1.07E-02	5.14E-08	1.91E-06	6.88E-02	3.31E-07	1.23E-05	5.84E-02	2.81E-07	1.04E-05
Road 102	102	0100-0200	1.22E-02	5.85E-08	2.17E-06	1.07E-02	5.14E-08	1.91E-06	6.88E-02	3.31E-07	1.23E-05	5.84E-02	2.81E-07	1.04E-05
Road 102	102	0200-0300	1.29E-02	4.61E-08	1.71E-06	1.17E-02	4.17E-08	1.55E-06	7.01E-02	2.50E-07	9.29E-06	6.19E-02	2.21E-07	8.20E-06
Road 102	102	0300-0400	1.48E-02	4.69E-08	1.74E-06	1.33E-02	4.22E-08	1.57E-06	7.53E-02	2.39E-07	8.88E-06	6.60E-02	2.10E-07	7.79E-06
Road 102	102	0400-0500	1.58E-02	8.83E-08	3.28E-06	1.40E-02	7.84E-08	2.91E-06	7.86E-02	4.39E-07	1.63E-05	6.79E-02	3.79E-07	1.41E-05
Road 102	102	0500-0600	1.58E-02	1.32E-07	4.91E-06	1.40E-02	1.17E-07	4.35E-06	7.72E-02	6.45E-07	2.40E-05	6.79E-02	5.56E-07	2.07E-05
Road 102	102	0600-0700	1.77E-02	4.39E-07	1.63E-05	1.56E-02	3.88E-07	1.44E-05	8.37E-02	2.08E-06	7.73E-05	7.23E-02	1.80E-06	6.68E-05
Road 102	102	0700-0800	1.76E-02	4.95E-07	1.84E-05	1.55E-02	4.37E-07	1.62E-05	8.37E-02	2.35E-06	8.74E-05	7.23E-02	2.03E-06	7.53E-05
Road 102	102	0800-0900	1.70E-02	4.95E-07	1.84E-05	1.50E-02	4.37E-07	1.62E-05	8.07E-02	2.35E-06	8.74E-05	6.97E-02	2.03E-06	7.53E-05
Road 102	102	0900-1000	1.76E-02	4.95E-07	1.84E-05	1.55E-02	4.37E-07	1.62E-05	8.37E-02	2.35E-06	8.74E-05	7.23E-02	2.03E-06	7.53E-05
Road 102	102	1000-1100	2.76E-02	5.30E-07	1.97E-05	1.99E-02	4.67E-07	1.73E-05	9.50E-02	2.23E-06	8.29E-05	8.28E-02	1.94E-06	7.22E-05
Road 102	102	1100-1200	2.27E-02	4.81E-07	1.79E-05	1.94E-02	4.30E-07	1.60E-05	9.37E-02	2.08E-06	7.71E-05	8.27E-02	1.83E-06	6.80E-05
Road 102	102	1200-1300	2.31E-02	4.71E-07	1.75E-05	1.97E-02	4.21E-07	1.57E-05	9.37E-02	2.04E-06	7.56E-05	8.27E-02	1.79E-06	6.66E-05
Road 102	102	1300-1

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2033

Road Name	Road ID	Hour	NO_x Emission				NO Emission			
			Monthly/Hour/Lim		Monthly/Hour/Average		Monthly/Hour/Lim		Monthly/Hour/Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 17	17	1600-1700	6.76E-02	1.70E-06	4.17E-05	2.88E-03	7.23E-06	1.21E-04	2.41E-01	6.04E-06
Road 17	17	1700-1800	4.89E-02	1.27E-06	3.70E-05	3.08E-05	2.44E-01	6.31E-06	1.84E-04	2.01E-01
Road 17	17	1800-1900	2.82E-02	6.87E-07	2.01E-05	2.41E-02	5.87E-07	1.72E-05	1.62E-01	3.94E-06
Road 17	17	1900-2000	1.82E-02	4.30E-07	9.75E-06	1.55E-02	2.44E-07	8.29E-06	1.30E-01	2.38E-06
Road 17	17	2000-2100	1.66E-02	2.38E-07	6.94E-06	1.44E-02	2.07E-07	1.87E-05	5.47E-05	1.12E-01
Road 17	17	2100-2200	1.56E-02	2.25E-07	6.57E-06	1.37E-02	1.97E-07	1.75E-05	5.11E-05	1.05E-01
Road 17	17	2200-2300	1.58E-02	2.28E-07	6.32E-06	1.39E-02	2.00E-07	1.68E-05	4.92E-05	1.01E-01
Road 17	17	2300-0000	1.67E-02	1.75E-07	5.11E-06	1.46E-02	1.52E-07	1.40E-05	4.26E-05	8.77E-02
Road 18	18	0000-0100	1.07E-02	6.11E-08	2.39E-06	9.19E-03	5.27E-08	2.06E-06	1.06E-01	6.05E-07
Road 18	18	0100-0200	1.17E-02	1.40E-07	2.58E-06	1.01E-02	1.21E-07	2.23E-06	1.46E-01	1.74E-06
Road 18	18	0200-0300	1.29E-02	3.59E-08	1.40E-06	1.13E-02	3.14E-08	1.23E-06	1.11E-01	3.09E-07
Road 18	18	0300-0400	1.41E-02	3.11E-08	1.22E-06	1.22E-02	2.70E-08	1.06E-06	1.23E-01	2.72E-07
Road 18	18	0400-0500	1.47E-02	1.63E-07	6.25E-06	1.29E-02	1.43E-07	5.48E-06	1.29E-01	1.43E-06
Road 18	18	0500-0600	1.50E-02	6.23E-08	2.44E-06	1.29E-02	5.38E-08	2.10E-06	1.60E-01	6.64E-07
Road 18	18	0600-0700	1.51E-02	1.34E-07	5.23E-06	1.26E-02	1.12E-07	4.39E-06	1.96E-01	1.74E-06
Road 18	18	0700-0800	1.58E-02	3.31E-07	1.29E-05	1.36E-02	2.86E-07	1.11E-05	1.83E-01	3.84E-06
Road 18	18	0800-0900	1.58E-02	3.31E-07	1.29E-05	1.33E-02	2.80E-07	1.09E-05	1.67E-01	3.50E-06
Road 18	18	0900-1000	1.77E-02	3.13E-07	1.52E-05	2.68E-02	1.05E-05	2.13E-06	8.32E-05	1.02E-01
Road 18	18	1000-1100	1.98E-02	2.96E-07	1.42E-05	2.68E-02	1.05E-05	2.13E-06	8.32E-05	1.02E-01
Road 18	18	1100-1200	1.94E-02	2.83E-07	1.11E-05	1.64E-02	2.40E-07	9.37E-06	2.71E-01	3.96E-06
Road 18	18	1200-1300	2.96E-02	5.62E-07	2.20E-05	2.49E-02	4.73E-07	1.85E-05	1.59E-01	3.02E-06
Road 18	18	1300-1400	2.94E-02	2.31E-07	9.04E-06	1.96E-02	1.54E-07	6.03E-06	1.70E-01	1.34E-06
Road 18	18	1400-1500	2.96E-02	4.16E-07	2.41E-05	2.48E-02	3.48E-07	2.02E-05	3.31E-01	1.92E-05
Road 18	18	1500-1600	2.78E-02	5.97E-07	2.33E-05	2.31E-02	4.96E-07	1.94E-05	3.40E-01	1.33E-05
Road 18	18	1600-1700	2.85E-02	6.20E-07	2.42E-05	2.36E-02	5.14E-07	2.00E-05	3.46E-01	1.35E-05
Road 18	18	1700-1800	2.84E-02	2.02E-01	1.87E-05	2.36E-02	1.68E-07	1.55E-05	3.31E-01	3.06E-05
Road 18	18	1800-1900	1.72E-02	3.85E-07	1.50E-05	1.47E-02	3.29E-07	1.29E-05	3.46E-01	1.35E-05
Road 18	18	1900-2000	1.55E-02	2.65E-07	1.03E-05	1.32E-02	2.26E-07	8.82E-06	3.35E-01	1.30E-05
Road 18	18	2000-2100	1.32E-02	2.26E-07	8.82E-06	1.13E-02	1.93E-07	7.54E-06	3.31E-01	1.29E-05
Road 18	18	2100-2200	1.42E-02	1.90E-07	7.42E-06	1.25E-02	1.67E-07	6.52E-06	1.30E-01	1.74E-06
Road 18	18	2200-2300	1.44E-02	1.84E-07	7.19E-06	1.26E-02	1.61E-07	6.29E-06	1.34E-01	1.71E-06
Road 18	18	2300-0000	1.52E-02	1.03E-07	4.02E-06	1.33E-02	9.03E-08	3.52E-06	1.34E-01	9.07E-07
Road 19	19	0000-0100	1.11E-02	1.03E-07	2.97E-06	9.58E-03	8.52E-07	2.45E-05	7.71E-02	7.17E-07
Road 19	19	0100-0200	1.21E-02	7.40E-08	2.13E-06	1.04E-02	6.38E-08	1.84E-06	9.35E-02	5.72E-07
Road 19	19	0200-0300	1.32E-02	3.00E-08	7.21E-07	1.14E-02	2.59E-08	6.22E-07	1.01E-01	2.30E-07
Road 19	19	0300-0400	1.44E-02	5.18E-08	1.49E-06	1.25E-02	4.50E-08	1.30E-06	9.95E-02	3.59E-07
Road 19	19	0400-0500	1.52E-02	6.04E-08	1.74E-06	1.31E-02	5.22E-08	1.50E-06	1.02E-01	4.07E-07
Road 19	19	0500-0600	1.58E-02	1.06E-07	3.05E-06	1.36E-02	9.15E-08	2.63E-06	1.04E-01	7.03E-07
Road 19	19	0600-0700	1.63E-02	2.41E-07	6.95E-06	1.37E-02	2.03E-07	5.84E-06	1.07E-01	1.59E-06
Road 19	19	0700-0800	1.79E-02	5.45E-07	1.57E-05	1.51E-02	4.57E-07	1.32E-05	1.13E-01	3.43E-06
Road 19	19	0800-0900	1.77E-02	5.38E-07	1.55E-05	1.49E-02	4.52E-07	1.30E-05	1.11E-01	3.37E-06
Road 19	19	0900-1000	1.98E-02	6.05E-07	1.74E-05	1.70E-02	5.17E-07	1.49E-05	1.14E-01	3.48E-06
Road 19	19	1000-1100	2.24E-02	6.06E-07	1.74E-05	1.90E-02	5.13E-07	1.48E-05	1.13E-01	3.06E-06
Road 19	19	1100-1200	2.19E-02	5.96E-07	1.71E-05	1.53E-02	4.16E-07	1.19E-05	1.14E-01	3.10E-06
Road 19	19	1200-1300	3.16E-02	7.04E-07	2.03E-05	2.66E-02	5.93E-07	1.71E-05	1.63E-01	3.63E-06
Road 19	19	1300-1400	3.20E-02	7.61E-07	2.19E-05	2.68E-02	6.38E-07	1.84E-05	1.56E-01	3.71E-06
Road 19	19	1400-1500	3.12E-02	7.42E-07	2.13E-05	2.62E-02	6.23E-07	1.79E-05	1.56E-01	3.71E-06
Road 19	19	1500-1600	3.00E-02	7.60E-07	2.19E-05	2.49E-02	6.32E-07	1.82E-05	1.55E-01	3.92E-06
Road 19	19	1600-1700	3.08E-02	7.79E-07	2.24E-05	2.57E-02	6.49E-07	1.87E-05	1.54E-01	3.89E-06
Road 19	19	1700-1800	2.77E-02	7.00E-07	2.01E-05	2.31E-02	5.84E-07	1.68E-05	1.54E-01	3.89E-06
Road 19	19	1800-1900	1.82E-02	4.47E-07	1.29E-05	1.56E-02	3.82E-07	1.10E-05	1.33E-01	3.27E-06
Road 19	19	1900-2000	1.64E-02	3.63E-07	8.71E-06	1.39E-02	3.08E-07	7.39E-06	1.33E-01	2.95E-06
Road 19	19	2000-2100	1.53E-02	3.39E-07	8.14E-06	1.30E-02	2.88E-07	6.91E-06	1.33E-01	2.95E-06
Road 19	19	2100-2200	1.52E-02	2.21E-07	6.35E-06	1.34E-02	1.94E-07	5.58E-06	1.34E-01	1.92E-06
Road 19	19	2200-2300	1.47E-02	2.13E-07	6.14E-06	1.29E-02	1.87E-07	5.40E-06	1.29E-01	1.87E-06
Road 19	19	2300-0000	1.47E-02	1.01E-07	3.96E-06	1.29E-02	8.89E-08	3.47E-06	1.29E-01	8.89E-07
Road 20	20	0000-0100	4.41E-02	4.52E-08	8.33E-07	3.84E-02	3.94E-08	7.26E-07	1.78E-01	1.82E-06
Road 20	20	0100-0200	4.56E-02	3.22E-08	5.94E-07	3.97E-02	2.81E-08	5.18E-07	1.82E-01	1.29E-06
Road 20	20	0200-0300	4.73E-02	4.76E-07	8.77E-06	4.27E-02	4.30E-07	7.92E-06	1.89E-01	1.90E-05
Road 20	20	0300-0400	4.88E-02	2.22E-08	4.09E-07	4.26E-02	1.94E-08	3.57E-07	1.93E-01	8.77E-07
Road 20	20	0400-0500	5.03E-02	2.64E-08	4.87E-07	4.37E-02	2.30E-08	4.23E-07	1.98E-01	1.04E-06
Road 20	20	0500-0600	5.24E-02	5.01E-08	9.24E-07	4.46E-02	4.27E-08	7.87E-07	2.05E-01	1.96E-06
Road 20	20	0600-0700	5.64E-02	2.21E-07	4.07E-06	4.75E-02	1.86E-07	3.43E-06	2.30E-01	9.02E-06
Road 20	20	0700-0800	6.38E-02	2.90E-07	5.35E-06	5.43E-02	2.47E-07	4.55E-06	2.61E-01	1.19E-06
Road 20	20	0800-0900	6.42E-02	3.48E-07	6.41E-06	5.46E-02	2.96E-07	5.45E-06	2.63E-01	1.42E-06
Road 20	20	0900-1000	7.23E-02	3.92E-07	7.23E-06	6.15E-02	3.33E-07	6.14E-06	2.96E-01	1.60E-06
Road 20	20	1000-1100	7.23E-02	4.03E-07	7.43E-06	6.33E-02	2.71E-07	5.01E-06	2.98E-01	1.66E-06
Road 20	20	1100-1200	7.21E-02	3.77E-07	6.95E-06	6.14E-02	3.21E-07	5.91E-06	2.72E-01	1.42E-06
Road 20	20	1200-1300	7.94E-02	4.15E-07	7.65E-06	6.76E-02	3.53E-07	6.51E-06	2.99E-01	1.56E-06
Road 20	20	1300-1400	7.61E-02	4.12E-07	7.59E-06	6.42E-02	3.47E-07	6.40E-06	2.86E-01	1.54E-06
Road 20	20	1400-1500	7.79E-02	4.22E-07	7.74E-06	6.57E-02	3.54E-07	6.53E-06	2.85E-01	1.54E-06
Road 20	20	1500-1600	7.11E-02	3.90E-07	7.36E-06	6.14E-02	2.84E-07	5.35E-06	2.46E-01	1.35E-06
Road 20	20	1600-1700	7.52E-02	3.95E-07	7.28E-06	6.20E-02	3.25E-07	6.00E-06	2.81E-01	1.47E-06
Road 20	20	1700-1800	6.15E-02	2.99E-07	5.51E-06	5.16E-02	2.51E-07	4.63E-06	2.56E-01	1.25E-06
Road 20	20	1800-1900	4.95E-02	1.78E-07	3.28E-06	4.25E-02	1.53E-07	2.81E-06	2.41E-01	7.42E-06
Road 20	20	1900-2000	4.72E-02	1.15E-07	2.12E-06	4.04E-02	9.84E-08	1.81E-06	1.99E-01	4.85E-07
Road 20	20	2000-2100	4.36E-02	8.42E-08	1.55E-06	3.78E-02	7.29E-08	1.34E-06	1.91E-01	3.69E-07
Road 20	20	2100-2200	4.56E-02	8.68E-08	1.60E-06	3.90E-02	7.43E-08	1.37E-06	1.96E-01	3.73E-07
Road 20	20	2200-2300	4.72E-02	8.30E-08	1.53E-06	4.15E-02	7.30E-08	1.34E-06	2.03E-01	3.57E-07
Road 20	20	2300-0000	4.90E-02	6.93E-08	1.28E-06	4.30E-02	6.08E-08	1.12E-06	1.93E-01	2.74E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2033

Road Name	Road ID	Hour	NO_x Emission				NO Emission			
			Monthly/Hour/Lim		Monthly/Hour/Average		Monthly/Hour/Lim		Monthly/Hour/Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 21	21	0000-0100	1.25E-02	9.15E-08	1.21E-06	1.08E-02	7.92E-08	1.05E-06	9.39E-02	6.87E-07
Road 21	21	0100-0200	1.36E-02	6.55E-08	8.66E-07	1.17E-02	5.67E-08	7.50E-07	9.59E-02	4.63E-07
Road 21	21	0200-0300	1.48E-02	5.29E-08	7.00E-07	1.29E-02	4.64E-08	6.13E-07	9.91E-02	3.55E-07
Road 21	21	0300-0400	1.59E-02	4.58E-08	6.05E-07	1.38E-02	3.98E-08	5.25E-07	1.02E-01	2.93E-07
Road 21	21	0400-0500	1.68E-02	5.35E-08	7.08E-07	1.45E-02	4.63E-08	6.12E-07	1.05E-01	3.34E-07
Road 21	21	0500-0600	1.77E-02	9.80E-08	1.29E-06	1.50E-02	8.31E-08	1.10E-06	1.09E-01	6.07E-07
Road 21	21	0600-0700	1.82E-02	2.17E-07	2.87E-06	1.53E-02	1.83E-07	2.42E-06	1.11E-01	1.32E-06
Road 21	21	0700-0800	2.04E-02	5.00E-07	6.61E-06	1.69E-02	4.16E-07	5.50E-06	1.18E-01	2.90E-06
Road 21	21	0800-0900	2.21E-02	6.33E-07	8.37E-06	1.88E-02	5.38E-07	7.11E-06	1.20E-01	3.43E-06
Road 21	21	0900-1000	2.56E-02	5.97E-07	7.89E-06	2.28E-02	5.32E-07	7.03E-06	1.37E-01	3.19E-06
Road 21	21	1000-1100	2.54E-02	5.79E-07	7.65E-06	2.16E-02	4.92E-07	6.51E-06	1.28E-01	2.91E-06
Road 21	21	1100-1200	2.44E-02	5.25E-07	6.94E-06	2.07E-02	4.46E-07	5.90E-06	1.27E-01	2.73E-06
Road 21	21	1200-1300	3.40E-02	6.42E-07	8.48E-06	2.89E-02	5.46E-07	7.21E-06	1.57E-01	2.96E-06
Road 21	21	1300-1400	3.42E-02	6.97E-07	9.21E-06	2.89E-02	5.88E-07	7.77E-06	1.60E-01	3.25E-06
Road 21	21	1400-1500	3.44E-02	7.18E-07	9.50E-06	2.91E-02	6.06E-07	8.01E-06	1.59E-01	3.31E-06
Road 21	21	1500-1600	3.21E-02	6.92E-07	9.15E-06	2.68E-02	5.77E-07	7.66E-06	1.57E-01	3.43E-06
Road 21	21	1600-1700	3.30E-02	7.05E-07	9.31E-06	2.72E-02	5.79E-07	7.66E-06	1.57E-01	3.36E-06
Road 21	21	1700-1800	2.63E-02	5.71E-07	7.55E-06	2.21E-02	4.78E-07	6.32E-06	1.46E-01	3.17E-06
Road 21	21	1800-1900	1.98E-02	1.93E-05	5.20E-06	1.68E-02	5.71E-07	4.60E-06	1.24E-01	3.37E-06
Road 21	21	1900-2000	1.76E-02	2.60E-07	3.44E-06	1.51E-02	2.23E-07	2.94E-06	1.24E-01	1.83E-06
Road 21	21	2000-2100	1.70E-02	1.97E-07	2.61E-06	1.47E-02	1.70E-07	2.25E-06	1.26E-01	1.46E-06
Road 21	21	2100-2200	1.64E-02	1.91E-07	2.52E-06	1.41E-02	1.64E-07	2.16E-06	1.21E-01	1.41E-06
Road 21	21	2200-2300	1.66E-02	1.93E-07	2.55E-06	1.42E-02	1.66E-07	2.19E-06	1.22E-01	1.43E-06
Road 21	21	2300-0000	1.80E-02	1.52E-07	2.00E-06	1.56E-02	1.32E-07	1.73E-06	1.35E-01	1.14E-06
Road 22	22	0000-0100	1.31E-01	1.28E-06	1.31E-06	1.01E-02	9.88E-08	1.01E-07	7.81E-02	7.64E-08
Road 22	22	0100-0200	1.28E-01	8.30E-08	1.48E-06	1.10E-01	7.31E-08	1.30E-06	4.67E-01	3.10E-07
Road 22	22	0200-0300	1.25E-01	8.30E-08	1.48E-06	1.10E-01	7.31E-08	1.30E-06	4.67E-01	3.10E-07
Road 22	22	0300-0400	1.27E-01	1.27E-06	1.11E-01	6.23E-08	1.11E-06	4.76E-01	2.66E-07	4.75E-06
Road 22	22	0400-0500	1.28E-01	8.52E-08	1.52E-06	1.13E-01	7.50E-08	1.34E-06	4.77E-01	3.17E-07
Road 22	22	0500-0600	1.48E-01	1.77E-07	3.16E-06	1.26E-01	1.51E-07	2.70E-06	5.48E-01	6.56E-07
Road 22	22	0600-0700	1.64E-01	4.46E-07	7.95E-06	1.39E-01	3.77E-07	6.73E-06	6.02E-01	1.63E-06
Road 22	22	0700-0800	1.80E-01	1.08E-06	1.92E-05	1.52E-01	9.12E-07	1.62E-05	6.60E-01	3.96E-06
Road 22	22	0800-0900	1.90E-01	1.31E-06	2.34E-05	1.62E-01	1.12E-06	2.00E-05	7.08E-01	4.89E-06
Road 22	22	0900-1000	1.93E-01	1.46E-06	2.60E-05	1.66E-01	1.25E-06	2.24E-05	7.22E-01	5.47E-06
Road 22	22	1000-1100	2.08E-01	1.44E-06	2.57E-05	1.77E-01	1.23E-06	2.19E-05	7.46E-01	5.17E-06
Road 22	22	1100-1200	2.08E-01	1.44E-06	2.57E-05	1.77E-01	1.23E-06	2.19E-05	7.46E-01	5.17E-06
Road 22	22	1200-1300	2.16E-01	1.54E-06	2.75E-05	1.83E-01	1.30E-06	2.32E-05	7.45E-01	5.31E-06
Road 22	22	1300-1400	2.07E-01	1.48E-06	2.64E-05	1.76E-01	1.26E-06	2.25E-05	7.43E-01	5.30E-06
Road 22	22	1400-1500	2.12E-01	1.69E-06	3.01E-05	1.79E-01	1.42E-06	2.54E-05	7.43E-01	5.90E-06
Road 22	22	1500-1600	1.93E-01	1.60E-06	2.85E-05	1.61E-01	1.33E-06	2.38E-05	7.39E-01	6.13E-06
Road 22	22	1600-1700	1.72E-01	1.23E-06	2.20E-05	1.44E-01	1.04E-06	1.85E-05	6.87E-01	4.92E-06
Road 22	22	1700-1800	1.72E-01	1.23E-06	2.20E-05	1.44E-01	1.04E-06	1.85E-05	6.87E-01	4.92E-06
Road 22	22	1800-1900	1.33E-01	7.02E-07	1.25E-05	1.11E-01	6.02E-07	1.07E-05	5.52E-01	2.92E-06
Road 22	22	1900-2000	1.13E-01	5.94E-07	1.06E-05	9.40E-02	5.09E-07	9.07E-06	5.20E-01	2.73E-06
Road 22	22	2000-2100	1.18E-01	3.36E-07	6.00E-06	1.03E-01	2.91E-07	5.19E-06	4.94E-01	1.40E-06
Road 22	22	2100-2200	1.20E-01	3.48E-07	6.20E-06	1.05E-01	3.06E-07	5.46E-06	4.94E-01	1.43E-06
Road 22	22	2200-2300	1.20E-01	3.32E-07	5.93E-06	1.04E-01	2.92E-07	5.21E-06	4.91E-01	1.36E-06
Road 22	22	2300-0000	1.27E-01	2.65E-07	4.72E-06	1.11E-01	2.32E-07	4.14E-06	4.76E-01	9.92E-07
Road 23	23	0000-0100	1.25E-01	3.46E-08	6.38E-07	1.09E-01	3.01E-08	5.56E-07	4.67E-01	1.29E-07
Road 23	23	0100-0200	1.27E-01	2.46E-08	4.53E-07	1.11E-01	2.14E-08	3.94E-07	4.74E-01	9.18E-08
Road 23	23	0200-0300	1.29E-01	1.97E-08	3.64E-07	1.14E-01	1.74E-08	3.21E-07	4.80E-01	7.34E-08
Road 23	23	0300-0400	1.25E-01	1.62E-08	2.99E-07	1.09E-01	1.41E-08	2.61E-07	4.66E-01	6.03E-08
Road 23	23	0400-0500	1.33E-01	3.03E-08	5.58E-07	1.16E-01	2.64E-08	4.86E-07	4.96E-01	1.13E-07
Road 23	23	0500-0600	1.37E-01	3.83E-08	7.07E-07	1.17E-01	3.26E-08	6.03E-07	5.07E-01	1.42E-07
Road 23	23	0600-0700	1.43E-01	9.12E-08	1.68E-06	1.21E-01	7.73E-08	1.43E-06	5.29E-01	3.37E-07
Road 23	23	0700-0800	1.63E-01	2.66E-07	4.90E-06	1.38E-01	2.26E-07	4.17E-06	6.16E-01	1.00E-06
Road 23	23	0800-0900	1.61E-01	2.66E-07	4.90E-06	1.38E-01	2.26E-07	4.17E-06	6.16E-01	1.00E-06
Road 23	23	0900-1000	1.62E-01	2.96E-07	5.46E-06	1.39E-01	2.51E-07	4.64E-06	6.16E-01	1.12E-06
Road 23	23	1000-1100	1.74E-01	2.52E-07	4.65E-06	1.49E-01	2.14E-07	3.95E-06	6.35E-01	9.19E-07
Road 23	23	1100-1200	1.74E-01	2.52E-07	4.65E-06	1.49E-01	2.14E-07	3.95E-06	6.35E-01	9.19E-07
Road 23	23	1200-1300	1.84E-01	2.66E-07	4.91E-06	1.57E-01	2.26E-07	4.17E-06	6.70E-01	9.70E-07
Road 23	23	1300-1400	1.84E-01	2.66E-07	4.91E-06	1.57E-01	2.26E-07	4.17E-06	6.70E-01	9.70E-07
Road 23	23	1400-1500	1.84E-01	2.66E-07	4.91E-06	1.57E-01	2.26E-07	4.17E-06	6.70E-01	9.70E-07
Road 23	23	1500-1600	1.63E-01	2.36E-07	4.36E-06	1.39E-01	2.01E-07	3.71E-06	5.94E-01	8.61E-07
Road 23	23	1600-1700	1.74E-01	3.19E-07	5.88E-06	1.48E-01	2.71E-07	5.00E-06	6.35E-01	1.16E-06
Road 23	23	1700-1800	1.74E-01	3.19E-07	5.88E-06	1.48E-01	2.71E-07	5.00E-06	6.35E-01	1.16E-06
Road 23	23	1800-1900	1.29E-01	2.36E-07	4.36E-06	1.10E-01	2.01E-07	3.71E-06	4.71E-01	8.61E-07
Road 23	23	1900-2000	1.02E-01	1.87E-07	3.45E-06	8.70E-02	1.59E-07	2.93E-06	4.71E-01	8.61E-07
Road 23	23	2000-2100	1.02E-01	1.87E-07	3.45E-06	8.70E-02	1.59E-07	2.93E-06	4.71E-01	8.61E-07
Road 23	23	2100-2200	1.02E-01	1.87E-07	3.45E-06	8.70E-02	1.59E-07	2.93E-06	4.71E-01	8.61E-07
Road 23	23	2200-2300	1.02E-01	1.87E-07	3.45E-06	8.70E-02	1.59E-07	2.93E-06	4.71E-01	8.61E-07
Road 23	23	2300-0000	1.02E-01	1.87E-07	3.45E-06	8.70E-02	1.59E-07	2.93E-06	4.71E-01	8.61E-07
Road 24	24	0000-0100	1.29E-01	2.96E-06	7.41E-08	1.13E-01	2.58E-06	6.46E-08	4.80E-01	1.10E-05
Road 24	24	0100-0200	1.31E-01	2.37E-06	5.93E-08	1.16E-01	2.09E-06	5.23E-08	4.91E-01	8.87E-06
Road 24	24	0200-0300	1.34E-01	2.03E-06	5.10E-08	1.16E-01	1.78E-06	4.45E-08	4.94E-01	7.55E-06
Road 24	24	0300-0400	1.35E-01	2.42E-06	6.08E-08	1.17E-01	2.11E-06	5.29E-08	5.01E-01	8.99E-06
Road 24	24	0400-0500	1.36E-01	2.42E-06	6.08E-08	1.17E-01	2.11E-06	5.29E-08	5.01E-01	8.99E-06
Road 24	24	0500-0600	1.52E-01	1.15E-06	2.88E-08	1.29E-01	9.73E-07	2.44E-07	5.60E-01	4.23E-06
Road 24	24	0600-0700	1.72E-01	2.75E-07	6.89E-06	1.42E-01	2.30E-07	5.76E-07	6.21E-01	1.01E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2033

Road Name	Road ID	Hour	NO_x Emission				NO Emission			
			Monthly/Hour/Lim		Monthly/Hour/Average		Monthly/Hour/Lim		Monthly/Hour/Average	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 34	34	0800-0900	1.33E-02	3.46E-07	9.06E-06	1.12E-02	2.90E-07	7.60E-06	9.37E-02	2.43E-06
Road 34	34	0900-1000	1.48E-02	3.16E-07	8.27E-06	1.25E-02	2.66E-07	6.97E-06	1.00E-01	2.14E-06
Road 34	34	1000-1100	1.66E-02	3.06E-07	8.00E-06	1.42E-02	2.61E-07	6.82E-06	1.05E-01	1.94E-06
Road 34	34	1100-1200	1.61E-02	2.81E-07	7.36E-06	1.34

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 44	44	0800-0900	1.27E-02	3.61E-07	7.25E-05	9.58E-06	3.68E-02	1.04E-06	2.71E-04	1.67E-05
Road 44	44	0900-1000	1.41E-02	3.26E-07	2.02E-05	1.19E-02	2.75E-02	1.70E-06	1.01E-04	1.39E-02
Road 44	44	1000-1100	1.57E-02	3.14E-07	1.94E-05	1.34E-02	2.68E-02	1.65E-06	1.00E-04	1.39E-02
Road 44	44	1100-1200	1.50E-02	3.47E-07	1.76E-05	1.25E-02	2.38E-02	1.47E-06	1.06E-04	1.20E-02
Road 44	44	1200-1300	1.82E-02	2.79E-06	1.52E-04	3.76E-02	2.32E-02	1.18E-05	9.65E-04	2.39E-02
Road 44	44	1300-1400	1.84E-02	4.64E-07	2.86E-05	1.51E-02	3.82E-02	2.36E-06	1.45E-04	1.19E-02
Road 44	44	1400-1500	1.87E-02	3.11E-06	1.54E-04	4.16E-02	2.57E-02	1.20E-05	3.24E-06	2.59E-02
Road 44	44	1500-1600	1.79E-02	4.93E-07	3.05E-05	1.46E-02	4.03E-02	2.49E-06	1.54E-04	1.26E-02
Road 44	44	1600-1700	2.17E-02	6.37E-07	3.94E-05	1.80E-02	5.29E-02	3.27E-06	2.02E-04	1.67E-02
Road 44	44	1700-1800	2.13E-02	3.70E-06	2.29E-04	4.46E-02	3.72E-02	1.05E-05	6.47E-04	2.13E-02
Road 44	44	1800-1900	2.23E-02	8.17E-07	5.05E-05	1.85E-02	6.79E-02	4.19E-06	2.59E-04	2.14E-02
Road 44	44	1900-2000	2.38E-02	6.90E-07	4.29E-05	1.98E-02	5.64E-02	3.51E-06	2.18E-04	1.81E-02
Road 44	44	2000-2100	2.44E-02	7.07E-07	4.37E-05	2.03E-02	5.78E-02	3.59E-06	2.22E-04	1.85E-02
Road 44	44	2100-2200	2.75E-02	1.52E-07	9.42E-06	2.28E-02	1.26E-02	6.97E-07	4.32E-05	3.58E-03
Road 44	44	2200-2300	2.77E-02	1.51E-07	9.32E-06	2.30E-02	1.24E-02	6.77E-07	4.18E-05	3.47E-03
Road 44	44	2300-2400	2.79E-02	1.52E-07	3.76E-06	2.32E-02	1.25E-02	6.82E-07	1.69E-05	3.50E-03
Road 45	45	0000-0100	7.88E-03	5.90E-08	7.27E-07	8.75E-04	3.24E-02	2.43E-07	2.99E-06	3.60E-03
Road 45	45	0100-0200	8.43E-03	4.11E-08	5.05E-07	9.36E-04	2.26E-02	1.10E-07	1.35E-06	2.51E-03
Road 45	45	0200-0300	9.11E-03	3.24E-08	3.99E-07	1.01E-03	1.78E-02	6.34E-08	7.81E-07	1.98E-03
Road 45	45	0300-0400	9.75E-03	2.74E-08	3.37E-07	1.08E-03	1.51E-02	4.24E-08	5.22E-07	1.68E-03
Road 45	45	0400-0500	1.06E-02	3.26E-08	4.01E-07	9.03E-03	2.78E-02	8.55E-08	1.05E-06	2.38E-02
Road 45	45	0500-0600	1.14E-02	1.23E-07	2.56E-06	9.58E-03	5.21E-02	5.62E-07	1.17E-05	4.39E-02
Road 45	45	0600-0700	1.19E-02	1.36E-07	1.68E-06	1.01E-02	5.46E-02	6.24E-07	7.68E-06	4.63E-02
Road 45	45	0700-0800	1.29E-02	2.96E-07	3.64E-06	1.08E-02	4.75E-02	1.09E-06	1.34E-05	4.00E-02
Road 45	45	0800-0900	1.24E-02	3.31E-07	4.08E-06	1.04E-02	5.31E-02	1.42E-06	1.75E-05	4.46E-02
Road 45	45	0900-1000	1.52E-02	2.86E-07	3.52E-06	1.30E-02	4.44E-02	8.35E-07	1.03E-05	3.81E-02
Road 45	45	1000-1100	1.46E-02	2.60E-07	3.20E-06	1.25E-02	4.04E-02	7.59E-07	9.34E-06	3.47E-02
Road 45	45	1100-1200	1.46E-02	2.60E-07	3.20E-06	1.25E-02	4.04E-02	7.59E-07	9.34E-06	3.47E-02
Road 45	45	1200-1300	1.78E-02	3.93E-07	4.83E-06	1.45E-02	3.23E-07	7.13E-09	8.77E-08	2.63E-05
Road 45	45	1300-1400	1.77E-02	3.93E-07	4.83E-06	1.45E-02	3.23E-07	7.13E-09	8.77E-08	2.63E-05
Road 45	45	1400-1500	1.81E-02	4.30E-07	5.29E-06	1.48E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	1500-1600	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	1600-1700	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	1700-1800	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	1800-1900	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	1900-2000	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	2000-2100	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	2100-2200	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	2200-2300	1.73E-02	4.30E-07	5.29E-06	1.41E-02	3.52E-07	8.36E-09	1.03E-07	3.08E-05
Road 45	45	2300-0000	8.30E-03	1.21E-07	1.49E-06	7.55E-04	1.75E-02	2.55E-07	3.13E-06	2.28E-03
Road 46	46	0000-0100	7.22E-03	1.00E-07	6.17E-07	8.02E-04	1.44E-02	2.00E-07	1.23E-06	1.60E-03
Road 46	46	0100-0200	7.81E-03	1.93E-08	3.59E-07	6.88E-03	3.07E-07	7.18E-02	1.78E-07	3.30E-06
Road 46	46	0200-0300	8.51E-03	1.54E-08	2.86E-07	7.41E-03	1.34E-07	2.49E-02	7.40E-07	2.09E-06
Road 46	46	0300-0400	9.18E-03	1.32E-08	2.44E-07	7.97E-03	1.14E-07	2.12E-02	7.00E-07	1.78E-06
Road 46	46	0400-0500	1.01E-02	1.57E-08	2.92E-07	8.55E-03	1.24E-07	2.31E-02	6.51E-07	1.02E-07	1.89E-06
Road 46	46	0500-0600	1.09E-02	2.95E-08	5.48E-07	9.13E-03	2.48E-07	6.66E-02	1.81E-07	3.35E-06
Road 46	46	0600-0700	1.14E-02	3.09E-08	3.83E-07	9.63E-03	2.61E-07	6.98E-02	1.81E-07	3.35E-06
Road 46	46	0700-0800	1.23E-02	1.44E-07	2.68E-06	1.03E-02	1.21E-07	2.25E-06	8.56E-07	1.59E-05
Road 46	46	0800-0900	1.18E-02	1.61E-07	2.99E-06	9.88E-03	1.35E-07	2.50E-06	8.57E-07	1.59E-05
Road 46	46	0900-1000	1.45E-02	1.44E-07	2.68E-06	1.23E-02	1.21E-07	2.25E-06	8.56E-07	1.59E-05
Road 46	46	1000-1100	1.49E-02	1.44E-07	2.68E-06	1.27E-02	1.21E-07	2.25E-06	8.56E-07	1.59E-05
Road 46	46	1100-1200	1.43E-02	1.31E-07	2.43E-06	1.19E-02	1.09E-07	2.02E-06	6.63E-07	1.23E-05
Road 46	46	1200-1300	1.85E-02	2.63E-06	4.89E-05	1.52E-02	2.16E-06	4.00E-05	9.17E-07	1.70E-05
Road 46	46	1300-1400	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	1400-1500	1.22E-02	1.74E-07	3.23E-06	9.96E-03	1.43E-07	2.65E-06	1.06E-06	1.96E-05
Road 46	46	1500-1600	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	1600-1700	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	1700-1800	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	1800-1900	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	1900-2000	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	2000-2100	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	2100-2200	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	2200-2300	1.16E-02	1.66E-07	3.08E-06	9.48E-03	1.36E-07	2.53E-06	1.06E-06	1.96E-05
Road 46	46	2300-0000	2.54E-02	1.85E-07	5.85E-06	2.21E-02	1.61E-07	5.09E-06	1.24E-06	2.60E-05
Road 47	47	0000-0100	1.74E-02	4.78E-07	9.58E-06	1.48E-02	4.06E-02	1.11E-06	2.23E-04	1.89E-02
Road 47	47	0100-0200	1.88E-02	5.16E-07	1.01E-05	1.60E-02	4.38E-02	1.20E-06	2.35E-04	2.00E-02
Road 47	47	0200-0300	2.02E-02	4.66E-07	9.17E-06	1.72E-02	3.96E-02	1.06E-06	2.09E-04	1.78E-02
Road 47	47	0300-0400	2.14E-02	4.93E-07	9.70E-06	1.82E-02	4.19E-02	1.12E-06	2.21E-04	1.88E-02
Road 47	47	0400-0500	2.26E-02	5.21E-07	1.03E-05	1.92E-02	4.43E-02	1.19E-06	2.34E-04	1.99E-02
Road 47	47	0500-0600	2.37E-02	1.29E-07	2.69E-06	2.02E-02	1.10E-02	6.09E-07	1.27E-05	3.83E-03
Road 47	47	0600-0700	2.63E-02	6.24E-08	1.95E-06	2.21E-02	5.29E-02	1.26E-07	3.94E-06	4.45E-02
Road 47	47	0700-0800	2.90E-02	1.65E-07	5.15E-06	2.45E-02	1.39E-07	4.34E-06	1.11E-06	2.70E-05
Road 47	47	0800-0900	2.90E-02	1.65E-07	5.15E-06	2.45E-02	1.39E-07	4.34E-06	1.11E-06	2.70E-05
Road 47	47	0900-1000	3.40E-02	1.71E-07	5.34E-06	2.87E-02	1.45E-07	4.52E-06	1.50E-01	7.53E-06
Road 47	47	1000-1100	3.87E-02	1.75E-07	5.46E-06	3.26E-02	1.47E-07	4.60E-06	1.50E-01	7.53E-06
Road 47	47	1100-1200	3.66E-02	1.56E-07	4.88E-06	3.06E-02	1.31E-07	4.08E-06	1.51E-07	1.72E-05
Road 47	47	1200-1300	2.80E-02	4.54E-07	1.42E-05	2.32E-02	3.77E-07	1.18E-05	1.28E-01	2.09E-06
Road 47	47	1300-1400	3.87E-02	1.45E-07	4.52E-06	3.25E-02	1.22E-07	3.81E-06	1.28E-01	2.09E-06
Road 47	47	1400-1500	2.90E-02	5.12E-07	1.60E-05	2.38E-02	4.21E-07	1.32E-05	1.28E-01	2.09E-06
Road 47	47	1500-1600	2.85E-02	5.14E-07	1.61E-05	2.33E-02	4.20E-07	1.31E-05	1.98E-06	6.19E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 1	1	0000-0100	7.83E-03	1.05E-07	5.80E-06	8.86E-03	9.23E-08	5.08E-08	8.79E-02	1.18E-05
Road 1	1	0100-0200	8.42E-03	7.37E-08	4.06E-06	7.35E-03	6.44E-08	3.54E-06	8.88E-02	7.78E-06
Road 1	1	0200-0300	9.06E-03	5.80E-08	3.19E-06	7.87E-03	5.04E-08	2.78E-06	9.03E-02	5.78E-07
Road 1	1	0300-0400	9.60E-03	4.86E-08	2.68E-06	8.43E-03	4.26E-08	2.35E-06	9.09E-02	4.60E-07
Road 1	1	0400-0500	1.04E-02	5.75E-08	3.17E-06	8.90E-03	4.94E-08	2.72E-06	9.41E-02	5.22E-07
Road 1	1	0500-0600	1.07E-02	1.03E-07	5.65E-06	9.27E-03	8.89E-08	4.90E-06	9.39E-02	9.01E-07
Road 1	1	0600-0700	1.13E-02	2.32E-07	1.28E-05	9.80E-03	2.01E-07	1.11E-05	9.61E-02	1.97E-06
Road 1	1	0700-0800	1.23E-02	5.13E-07	2.82E-05	1.05E-02	4.37E-07	2.41E-05	1.01E-01	4.19E-06
Road 1	1	0800-0900	1.18E-02	5.66E-07	3.12E-05	1.00E-02	4.81E-07	2.65E-05	9.09E-02	4.37E-06
Road 1	1	0900-1000	1.38E-02	5.32E-07	2.93E-05	1.21E-02	4.60E-07	2.53E-05	9.36E-02	2.18E-06
Road 1	1	1000-1100	1.50E-02	5.12E-07	2.82E-05	1.27E-02	4.33E-07	2.38E-05	1.04E-01	3.56E-06
Road 1	1	1100-1200	1.42E-02	4.55E-07	2.53E-05	1.22E-02	3.95E-07	2.17E-05	1.04E-01	3.56E-06
Road 1	1	1200-1300	1.62E-02	4.74E-07	2.61E-05	1.36E-02	5.87E-07	3.23E-05	1.10E-01	4.76E-06
Road 1	1	1300-1400	1.58E-02	4.62E-07	2.54E-05	1.32E-02	5.73E-07	3.15E-05	1.07E-01	4.64E-06
Road 1	1	1400-1500	1.62E-02	7.49E-07	4.12E-05	1.36E-02	6.31E-07	3.47E-05	1.11E-01	5.15E-06
Road 1	1	1500-1600	1.62E-02	7.21E-07	3.97E-05	1.36E-02	6.07E-07	3.34E-05	1.11E-01	5.15E-06
Road 1	1	1600-1700	1.62E-02	8.22E-07	4.52E-05	1.38E-02	7.01E-07	3.86E-05	1.11E-01	5.62E-06
Road 1	1	1700-1800	2.01E-02	7.04E-07	3.88E-05	1.11E-02	5.93E-07	3.26E-05	1.02E-01	5.93E-06
Road 1	1	1800-1900	9.29E-03	1.55E-07	8.53E-06	1.13E-03	5.02E-08	2.76E-06	4.35E-02	2.60E-06
Road 1	1	1900-2000	8.55E-03	4.38E-07	2.41E-05	7.47E-03	3.83E-07	2.11E-05	9.20E-02	4.71E-06
Road 1	1	2000-2100	8.39E-03	3.34E-07	1.84E-05	7.22E-03	2.88E-07	1.58E-05	9.83E-02	3.92E-06
Road 1	1	2100-2200	7.26E-03	2.88E-07	1.58E-05	6.20E-03	2.46E-07	1.35E-05	9.05E-02	3.59E-06
Road 1	1	2200-2300	7.09E-03	2.74E-07	1.51E-05	6.17E-03	2.38E-07	1.31E-05	8.82E-02	3.40E-06
Road 1	1	2300-0000	7.59E-03	2.19E-07	1.21E-05	6.79E-03	1.96E-07	1.08E-05	9.19E-02	2.65E-06
Road 2	2	0000-0100	9.62E-03	1.33E-07	6.76E-06	8.44E-03	1.17E-07	5.93E-06	9.64E-02	1.34E-06
Road 2	2	0100-0200	1.03E-02	8.47E-08	4.29E-06	9.03E-03	7.43E-08	3.76E-06	9.38E-02	7.72E-07
Road 2	2	0200-0300	1.10E-02	7.31E-08	3.70E-06	9.58E-03	6.39E-08	3.24E-06	9.83E-02	6.56E-07
Road 2	2	0300-0400	1.16E-02	6.16E-08	3.12E-06	1.02E-02	5.41E-08	2.74E-06	9.93E-02	5.26E-07
Road 2	2	0400-0500	1.22E-02	6.98E-08	3.54E-06	1.07E-02	6.13E-08	3.10E-06	1.03E-01	5.91E-07
Road 2	2	0500-0600	1.29E-02	1.31E-07	6.63E-06	1.12E-02	1.14E-07	5.75E-06	1.03E-01	1.04E-06
Road 2	2	0600-0700	1.36E-02	2.98E-07	1.50E-05	1.18E-02	2.57E-07	1.30E-05	1.05E-01	2.28E-06
Road 2	2	0700-0800	1.47E-02	6.52E-07	3.30E-05	1.27E-02	5.62E-07	2.84E-05	1.09E-01	4.82E-06
Road 2	2	0800-0900	1.42E-02	7.30E-07	3.69E-05	1.23E-02	6.29E-07	3.18E-05	1.06E-01	5.43E-06
Road 2	2	0900-1000	1.66E-02	6.90E-07	3.49E-05	1.44E-02	5.94E-07	3.00E-05	1.12E-01	2.89E-06
Road 2	2	1000-1100	1.80E-02	6.64E-07	3.36E-05	1.56E-02	5.72E-07	2.89E-05	1.17E-01	4.56E-06
Road 2	2	1100-1200	1.71E-02	5.90E-07	2.98E-05	1.48E-02	5.08E-07	2.57E-05	1.17E-01	4.56E-06
Road 2	2	1200-1300	1.95E-02	6.14E-07	3.10E-05	1.64E-02	7.61E-07	3.85E-05	1.23E-01	6.18E-06
Road 2	2	1300-1400	1.90E-02	5.99E-07	3.03E-05	1.60E-02	7.43E-07	3.76E-05	1.20E-01	6.01E-06
Road 2	2	1400-1500	1.95E-02	9.71E-07	4.91E-05	1.64E-02	8.18E-07	4.14E-05	1.24E-01	6.67E-06
Road 2	2	1500-1600	1.95E-02	9.35E-07	4.73E-05	1.64E-02	7.87E-07	3.98E-05	1.24E-01	6.67E-06
Road 2	2	1600-1700	1.95E-02	1.07E-06	5.41E-05	1.64E-02	9.09E-07	4.60E-05	1.24E-01	7.41E-06
Road 2	2	1700-1800	2.42E-02	9.13E-07	4.62E-05	1.34E-02	7.69E-07	3.89E-05	1.14E-01	6.59E-06
Road 2	2	1800-1900	1.12E-02	2.01E-07	1.02E-05	1.36E-03	6.51E-08	3.29E-06	5.24E-02	3.12E-06
Road 2	2	1900-2000	1.03E-02	5.68E-07	2.87E-05	9.00E-03	4.97E-07	2.51E-05	1.11E-01	5.66E-06
Road 2	2	2000-2100	1.01E-02	4.33E-07	2.19E-05	8.68E-03	3.73E-07	1.88E-05	1.18E-01	4.99E-06
Road 2	2	2100-2200	8.74E-03	3.74E-07	1.89E-05	7.46E-03	3.19E-07	1.61E-05	1.09E-01	4.66E-06
Road 2	2	2200-2300	8.54E-03	3.55E-07	1.80E-05	7.43E-03	3.09E-07	1.56E-05	1.06E-01	4.41E-06
Road 2	2	2300-0000	9.14E-03	2.84E-07	1.44E-05	8.18E-03	2.54E-07	1.28E-05	1.11E-01	3.45E-06
Road 3	3	0000-0100	1.06E-02	9.44E-08	5.79E-07	9.15E-03	8.52E-08	5.23E-07	1.32E-01	1.18E-06
Road 3	3	0100-0200	1.13E-02	5.98E-08	3.67E-07	9.76E-03	5.40E-08	3.31E-07	1.41E-01	7.49E-07
Road 3	3	0200-0300	1.21E-02	5.29E-08	3.24E-07	1.04E-02	4.78E-08	2.93E-07	1.51E-01	6.63E-07
Road 3	3	0300-0400	1.28E-02	4.77E-08	2.92E-07	1.10E-02	4.31E-08	2.64E-07	1.59E-01	5.97E-07
Road 3	3	0400-0500	1.35E-02	5.06E-08	3.10E-07	1.16E-02	4.57E-08	2.80E-07	1.68E-01	6.34E-07
Road 3	3	0500-0600	1.42E-02	1.14E-07	6.98E-07	1.22E-02	1.03E-07	6.30E-07	1.77E-01	1.43E-06
Road 3	3	0600-0700	1.49E-02	2.58E-07	1.58E-06	1.28E-02	2.33E-07	1.43E-06	1.86E-01	3.23E-06
Road 3	3	0700-0800	1.61E-02	5.64E-07	3.45E-06	1.38E-02	5.09E-07	3.12E-06	2.00E-01	7.05E-06
Road 3	3	0800-0900	1.56E-02	6.32E-07	3.87E-06	1.34E-02	5.70E-07	3.49E-06	1.94E-01	7.91E-06
Road 3	3	0900-1000	1.83E-02	5.97E-07	3.65E-06	1.57E-02	5.39E-07	3.30E-06	2.28E-01	3.17E-06
Road 3	3	1000-1100	1.98E-02	5.75E-07	3.52E-06	1.70E-02	5.19E-07	3.18E-06	2.47E-01	4.91E-06
Road 3	3	1100-1200	1.88E-02	5.11E-07	3.13E-06	1.62E-02	4.61E-07	2.82E-06	2.34E-01	4.91E-06
Road 3	3	1200-1300	2.14E-02	5.31E-07	3.25E-06	1.84E-02	6.59E-07	4.04E-06	2.66E-01	6.66E-06
Road 3	3	1300-1400	2.09E-02	5.19E-07	3.18E-06	1.80E-02	6.43E-07	3.94E-06	2.61E-01	6.48E-06
Road 3	3	1400-1500	2.14E-02	8.42E-07	5.16E-06	1.84E-02	7.08E-07	4.34E-06	2.67E-01	7.20E-06
Road 3	3	1500-1600	2.14E-02	8.10E-07	4.97E-06	1.84E-02	6.82E-07	4.18E-06	2.67E-01	7.20E-06
Road 3	3	1600-1700	2.14E-02	9.24E-07	5.66E-06	1.84E-02	7.78E-07	4.77E-06	2.67E-01	8.06E-06
Road 3	3	1700-1800	2.66E-02	7.91E-07	4.85E-06	1.48E-02	6.66E-07	4.08E-06	2.51E-01	6.91E-06
Road 3	3	1800-1900	1.23E-02	2.26E-07	1.38E-06	1.50E-03	7.32E-08	4.49E-07	7.21E-02	4.37E-06
Road 3	3	1900-2000	1.13E-02	6.39E-07	3.92E-06	9.90E-03	5.59E-07	3.43E-06	1.52E-01	8.58E-06
Road 3	3	2000-2100	1.11E-02	4.87E-07	2.99E-06	9.55E-03	4.19E-07	2.57E-06	1.52E-01	6.54E-06
Road 3	3	2100-2200	9.61E-03	4.21E-07	2.58E-06	8.21E-03	3.59E-07	2.20E-06	1.34E-01	5.60E-06
Road 3	3	2200-2300	9.39E-03	3.99E-07	2.45E-06	8.17E-03	3.47E-07	2.13E-06	1.31E-01	5.41E-06
Road 3	3	2300-0000	1.00E-02	3.19E-07	1.96E-06	8.99E-03	2.86E-07	1.75E-06	1.47E-01	4.68E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/s/m²	g/km/veh	g/s/m²	tonne/hour	g/s/m²
Road 103	103	1600-1700	1.74E-02	4.78E-07	9.58E-06	1.48E-02	4.06E-02	1.11E-06	2.23E-04	1.89E-02
Road 103	103	1700-1800	1.22E-02	3.77E-07	9.07E-06	1.01E-02	3.13E-07	7.52E-06	6.73E-02	2.35E-06
Road 103	103	1800-1900	8.63E-03	2.90E-07	6.97E-06	7.32E-03	2.46E-07	5.91E-06	5.03E-02	1.69E-06
Road 103	103	1900-2000	7.57E-03	1.92E-07	4.82E-06	6.38E-03	1.69E-07	4.07E-06	5.06E-02	1.34E-06
Road 103	103	2000-2100	7.26E-03	1.49E-07	3.59E-06	6.11E-03	1.26E-07	3.03E-06	4.85E-02	9.97E-07
Road 103	103	2100-2200	6.21E-03	1.28E-07	3.08E-06	5.22E-03	1.08E-07	2.57E-06	4.15E-02	8.53E-07
Road 103	103	2200-2300	6.11E-03	1.25E-07	3.01E-06	5.27E-03	1.04E-07	2.51E-06	4.08E-02	8.38E-07
Road 103	103	2300-0000	6.83E-03	1.02E-07	2.46E-06	5.89E-03	8.81E-08	2.12E-06	5.44E-02	8.12E-07
Road 104	104	0000-0100	1.21E-02	8.25E-08	1.68E-06	1.04E-02	7.11E-08	1.45E-06	6.88E-02	4.69E-06
Road 104	104	0100-0200	1.30E-02	1.05E-07	2.14E-06	1.12E-02	9.04E-08	1.84E-06	7.40E-02	5.97E-06
Road 104	104	0200-0300	1.41E-02	4.70E-08	9.58E-07	1.21E-02	4.05E-08	8.25E-07	8.02E-02	2.67E-06
Road 104	104	0300-0400	1.49E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (June) Year 2033

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	3.19E-02	1.79E-07	6.37E-07	3.25E-01	1.82E-06	6.48E-06	1.04E+00	2.18E-01	2.22E-06	4.68E-06		
Road 11	11	0100-0200	3.58E-02	1.34E-07	5.15E-07	3.31E-01	1.24E-06	4.75E-06	1.04E+00	9.02E-07	3.46E-06	2.22E-06	8.31E-07	3.19E-06
Road 11	11	0200-0300	3.96E-02	1.11E-07	4.28E-07	3.63E-02	1.02E-07	3.92E-07	2.47E-01	6.96E-07	2.67E-06	2.27E-01	6.38E-07	2.45E-06
Road 11	11	0300-0400	4.31E-02	1.09E-06	3.78E-07	3.98E-02	9.11E-08	3.52E-07	5.75E-01	2.21E-06	2.33E-01	5.33E-01	2.05E-06	2.06E-06
Road 11	11	0400-0500	4.49E-02	1.12E-07	4.29E-07	4.11E-02	1.02E-07	3.93E-07	2.61E-01	6.49E-07	2.49E-06	2.39E-01	5.95E-07	2.28E-06
Road 11	11	0500-0600	4.39E-02	1.81E-07	6.96E-07	4.06E-02	1.68E-07	6.44E-07	2.67E-01	1.10E-06	4.24E-06	2.47E-01	1.02E-06	3.91E-06
Road 11	11	0600-0700	4.66E-02	2.00E-07	7.70E-07	4.32E-02	1.85E-07	7.12E-07	2.85E-01	1.22E-06	4.69E-06	2.64E-01	1.13E-06	4.34E-06
Road 11	11	0700-0800	6.00E-02	1.07E-06	4.12E-06	5.43E-02	9.72E-07	3.73E-06	3.50E-01	6.26E-06	2.41E-05	3.17E-01	5.67E-06	2.18E-05
Road 11	11	0800-0900	5.97E-02	1.23E-06	4.71E-06	5.41E-02	1.11E-06	4.28E-06	3.05E-01	6.29E-06	2.42E-05	2.76E-01	5.68E-06	2.18E-05
Road 11	11	0900-1000	6.96E-02	1.23E-06	4.27E-06	6.37E-02	1.12E-06	3.91E-06	3.57E-01	6.29E-06	2.19E-05	3.27E-01	5.76E-06	1.96E-05
Road 11	11	1000-1100	7.44E-02	1.15E-06	4.41E-06	6.64E-02	1.02E-06	3.93E-06	3.31E-01	5.11E-06	1.96E-05	2.93E-01	4.52E-06	1.74E-05
Road 11	11	1100-1200	7.40E-02	1.08E-06	4.16E-06	6.70E-02	9.82E-07	3.77E-06	3.32E-01	4.87E-06	1.87E-05	2.99E-01	4.38E-06	1.68E-05
Road 11	11	1200-1300	7.58E-02	1.08E-06	4.16E-06	6.91E-02	9.82E-07	3.77E-06	3.42E-01	4.87E-06	1.87E-05	3.08E-01	4.38E-06	1.68E-05
Road 11	11	1300-1400	1.17E-01	2.47E-06	9.50E-06	1.06E-01	2.25E-06	8.62E-06	4.48E-01	9.45E-06	3.63E-05	4.02E-01	8.49E-06	3.26E-05
Road 11	11	1400-1500	1.14E-01	2.49E-06	9.55E-06	1.02E-01	2.23E-06	8.57E-06	3.68E-01	8.05E-06	3.09E-05	3.30E-01	7.23E-06	2.77E-05
Road 11	11	1500-1600	1.09E-01	2.49E-06	9.56E-06	9.93E-02	2.26E-06	8.68E-06	4.32E-01	9.84E-06	3.78E-05	3.89E-01	8.85E-06	3.40E-05
Road 11	11	1700-1800	9.37E-02	2.25E-06	8.63E-06	8.52E-02	2.04E-06	7.85E-06	4.17E-01	1.00E-05	3.84E-05	3.75E-01	9.00E-06	3.45E-05
Road 11	11	1800-1900	6.68E-02	1.57E-06	6.02E-06	6.13E-02	1.44E-06	5.52E-06	4.17E-01	7.69E-06	2.95E-05	3.68E-01	6.79E-06	2.60E-05
Road 11	11	1900-2000	5.13E-02	8.99E-07	3.45E-06	4.76E-02	8.34E-07	3.19E-06	3.89E-01	6.81E-06	2.61E-05	3.58E-01	6.27E-06	2.40E-05
Road 11	11	2000-2100	5.13E-02	7.06E-07	2.71E-06	4.75E-02	6.54E-07	2.51E-06	3.08E-01	4.24E-06	1.62E-05	2.83E-01	3.90E-06	1.49E-05
Road 11	11	2100-2200	5.07E-02	6.98E-07	2.68E-06	4.69E-02	6.47E-07	2.48E-06	3.03E-01	4.17E-06	1.60E-05	2.80E-01	3.86E-06	1.48E-05
Road 11	11	2200-2300	4.49E-02	4.27E-07	1.64E-06	4.15E-02	3.95E-07	1.51E-06	2.68E-01	2.55E-06	9.78E-06	2.48E-01	2.36E-06	9.04E-06
Road 11	11	2300-0000	4.72E-02	4.75E-07	1.82E-06	4.37E-02	4.39E-07	1.68E-06	2.82E-01	2.84E-06	1.09E-05	2.61E-01	2.63E-06	1.01E-05
Road 12	12	0000-0100	2.62E-01	1.56E-07	3.88E-06	2.42E-01	1.44E-07	3.58E-06	2.31E-01	1.38E-07	3.42E-06	2.13E-01	1.27E-07	3.16E-06
Road 12	12	0100-0200	2.62E-01	1.56E-07	3.82E-06	2.32E-01	1.37E-07	3.36E-06	2.04E-01	1.20E-07	2.94E-06	1.79E-01	1.06E-07	2.59E-06
Road 12	12	0200-0300	2.62E-01	1.56E-07	3.85E-06	2.31E-01	1.38E-07	3.39E-06	6.03E-01	3.60E-07	8.87E-06	5.32E-01	3.17E-07	7.82E-06
Road 12	12	0300-0400	2.62E-01	1.55E-07	3.82E-06	2.32E-01	1.37E-07	3.38E-06	5.34E-01	3.16E-07	7.78E-06	4.71E-01	2.79E-07	6.88E-06
Road 12	12	0400-0500	2.62E-01	1.56E-07	3.84E-06	2.31E-01	1.37E-07	3.38E-06	5.34E-01	3.16E-07	7.78E-06	4.71E-01	2.79E-07	6.88E-06
Road 12	12	0500-0600	2.58E-01	1.58E-07	3.90E-06	2.26E-01	1.38E-07	3.42E-06	5.31E-01	3.26E-07	8.03E-06	4.66E-01	2.86E-07	7.04E-06
Road 12	12	0600-0700	2.57E-01	1.72E-07	4.23E-06	2.28E-01	1.52E-07	3.75E-06	5.31E-01	3.56E-07	8.76E-06	4.70E-01	3.15E-07	7.75E-06
Road 12	12	0700-0800	3.27E-01	7.93E-07	1.96E-05	2.83E-01	6.86E-07	1.69E-05	5.31E-01	1.29E-06	3.17E-05	4.59E-01	1.11E-06	2.74E-05
Road 12	12	0800-0900	3.27E-01	7.93E-07	1.96E-05	2.83E-01	6.86E-07	1.69E-05	5.31E-01	1.29E-06	3.17E-05	4.59E-01	1.11E-06	2.74E-05
Road 12	12	0900-1000	3.40E-01	8.06E-07	1.99E-05	2.88E-01	6.83E-07	1.69E-05	5.31E-01	1.26E-06	3.11E-05	4.59E-01	1.09E-06	2.69E-05
Road 12	12	1000-1100	3.40E-01	8.06E-07	1.99E-05	2.88E-01	6.83E-07	1.69E-05	5.31E-01	1.26E-06	3.11E-05	4.59E-01	1.09E-06	2.69E-05
Road 12	12	1100-1200	3.40E-01	8.06E-07	1.99E-05	2.88E-01	6.83E-07	1.69E-05	5.31E-01	1.26E-06	3.11E-05	4.59E-01	1.09E-06	2.69E-05
Road 12	12	1200-1300	3.39E-01	8.07E-07	1.99E-05	2.88E-01	6.85E-07	1.69E-05	5.31E-01	1.26E-06	3.11E-05	4.59E-01	1.09E-06	2.69E-05
Road 12	12	1300-1400	3.40E-01	8.07E-07	1.99E-05	2.88E-01	6.85E-07	1.69E-05	5.31E-01	1.26E-06	3.11E-05	4.59E-01	1.09E-06	2.69E-05
Road 12	12	1400-1500	3.43E-01	8.24E-07	2.03E-05	2.86E-01	6.87E-07	1.69E-05	5.31E-01	1.28E-06	3.15E-05	4.60E-01	1.11E-06	2.73E-05
Road 12	12	1500-1600	3.38E-01	8.14E-07	2.01E-05	2.88E-01	6.94E-07	1.71E-05	5.31E-01	1.28E-06	3.15E-05	4.60E-01	1.11E-06	2.73E-05
Road 12	12	1600-1700	3.32E-01	8.06E-07	1.99E-05	2.80E-01	6.80E-07	1.68E-05	5.31E-01	1.29E-06	3.17E-05	4.60E-01	1.12E-06	2.76E-05
Road 12	12	1700-1800	3.32E-01	8.06E-07	1.99E-05	2.80E-01	6.80E-07	1.68E-05	7.69E-01	1.86E-06	4.60E-05	6.49E-01	1.57E-06	3.88E-05
Road 12	12	1800-1900	3.17E-01	7.68E-07	1.89E-05	2.80E-01	6.79E-07	1.67E-05	7.28E-01	1.77E-06	4.35E-05	6.44E-01	1.56E-06	3.85E-05
Road 12	12	1900-2000	3.17E-01	7.68E-07	1.89E-05	2.80E-01	6.79E-07	1.67E-05	7.28E-01	1.77E-06	4.35E-05	6.44E-01	1.56E-06	3.85E-05
Road 12	12	2000-2100	2.44E-01	1.73E-07	4.27E-06	2.12E-01	1.51E-07	3.72E-06	5.87E-01	4.18E-07	1.03E-05	5.13E-01	3.65E-07	8.99E-06
Road 12	12	2100-2200	2.42E-01	1.73E-07	4.25E-06	2.11E-01	1.50E-07	3.70E-06	5.84E-01	4.16E-07	1.02E-05	5.09E-01	3.63E-07	8.95E-06
Road 12	12	2200-2300	2.38E-01	1.57E-07	3.87E-06	2.13E-01	1.43E-07	3.53E-06	5.55E-01	3.73E-07	9.20E-06	5.08E-01	3.41E-07	8.41E-06
Road 12	12	2300-0000	2.49E-01	1.56E-07	3.91E-06	2.21E-01	1.38E-07	3.46E-06	5.75E-01	3.60E-07	9.00E-06	5.09E-01	3.19E-07	7.97E-06
Road 13	13	0000-0100	2.72E-01	1.66E-07	4.09E-06	2.42E-01	1.48E-07	3.64E-06	2.31E-01	1.41E-07	3.47E-06	2.13E-01	1.30E-07	3.20E-06
Road 13	13	0100-0200	2.61E-01	1.56E-07	3.86E-06	2.32E-01	1.37E-07	3.41E-06	2.04E-01	1.21E-07	2.99E-06	1.79E-01	1.07E-07	2.64E-06
Road 13	13	0200-0300	2.61E-01	1.56E-07	3.89E-06	2.29E-01	1.37E-07	3.42E-06	5.97E-01	3.58E-07	8.91E-06	5.31E-01	3.17E-07	7.88E-06
Road 13	13	0300-0400	2.61E-01	1.54E-07	3.86E-06	2.31E-01	1.37E-07	3.42E-06	5.98E-01	3.53E-07	8.83E-06	5.29E-01	3.12E-07	7.81E-06
Road 13	13	0400-0500	2.61E-01	1.54E-07	3.86E-06	2.31E-01	1.37E-07	3.43E-06	5.98E-01	3.53E-07	8.83E-06	5.29E-01	3.12E-07	7.81E-06
Road 13	13	0500-0600	2.56E-01	1.57E-07	3.92E-06	2.24E-01	1.37E-07	3.43E-06	5.88E-01	3.61E-07	9.02E-06	5.14E-01	3.15E-07	7.88E-06
Road 13	13	0600-0700	2.53E-01	1.68E-07	4.21E-06	2.23E-01	1.49E-07	3.73E-06	5.88E-01	3.90E-07	9.80E-06	5.19E-01	3.45E-07	8.65E-06
Road 13	13	0700-0800	3.24E-01	7.85E-07	1.94E-05	2.79E-01	6.76E-07	1.67E-05	5.88E-01	1.42E-06	3.51E-05	5.09E-01	1.23E-06	3.04E-05
Road 13	13	0800-0900	3.24E-01	7.85E-07	1.94E-05	2.79E-01	6.76E-07	1.67E-05	5.88E-01	1.42E-06	3.51E-05	5.09E-01	1.23E-06	3.04E-05
Road 13	13	0900-1000	3.36E-01	8.07E-07	2.02E-05	2.82E-01	6.76E-07	1.69E-05	5.88E-01	1.41E-06	3.52E-05	5.09E-01	1.22E-06	3.04E-05
Road 13	13	1000-1100	3.42E-01	8.21E-07	2.03E-05	2.86E-01	6.87E-07	1.70E-05	5.88E-01	1.41E-06	3.52E-05	5.09E-01	1.22E-06	3.04E-05
Road 13	13	1100-1200	3.37E-01	7.98E-07	1.99E-05	2.82E-01	6.74E-07	1.68E-05	5.88E-01	1.41E-06	3.52E-05	5.09E-01	1.22E-06	3.04E-05
Road 13	13	1200-1300	3.36E-01	7.99E-07	2.00E-05	2.84E-01	6.77E-07	1.69E-05	5.88E-01	1.41E-06	3.52E-05	5.09E-01	1.22E-06	3.04E-05
Road 13	13	1300-1400	3.40E-01	8.13E-07	2.03E-05	2.85E-01	6.82E-07	1.71E-05	5.79E-01	1.39E-06	3.46E-05	5.09E-01	1.22E-06	3.04E-05
Road 13	13	1400-1500	3.40E-01	8.13E-07	2.04E-05	2.86E-01	6.84E-07	1.71E-05	5.79E-01	1.39E-06	3.46E-05	5.09E-01	1.22E-06	3.04E-05
Road 13	13	1500-1600	3.34E-01	8.04E-07	2.01E-05	2.84E-01	6.84E-07	1.71E-05	5.56E-01	1.34E-06	3.35E-05	4.61E-01	1.11E-06	2.77E-05
Road 13	13	1600-1700	3.32E-01	8.01E-07	2.00E-05	2.84E-01	6.85E-07	1.71E-05	5.56E-01	1.34E-06	3.35E-05	4.61E-01	1.11E-06	2.77E-05
Road 13	13	1700-1800	3.14E-01	7.62E-07	1.90E-05	2.77E-01	6.72E-07	1.68E-05	5.34E-01	1.29E-06	3.23E-05	4.61E-01	1.12E-06	2.81E-05
Road 13	13	1800-1900	3.14E-01	7.62E-07	1.90E-05	2.77E-01	6.72E-07	1.68E-05	5.34E-01	1.29E-06	3.23E-05	4.61E-01	1.12E-06	2.81E-05
Road 13	13	1900-2000	2.28E-01	1.71E-07	4.28E-06	2.02E-01	1.52E-07	3.80E-06	5.36E-01	4.03E-07	1.01E-05	4.75E-01	3.57E-07	8.93E-06
Road 13	13	2000-2100	2.38E-01	1.69E-07	4.23E-06	2.06E-01	1.47E-07	3.67E-06	5.58E-01	3.97E-07	9.93E-06	4.83E-01	3.44E-07	8.60E-06
Road 13	13	2100-2200	2.38E-01	1.69E-07	4.23E-06	2.06E-01	1.47E-07	3.67E-06	5.58E-01	3.97E-07	9.93E-06	4.83E-01	3.44E-07	8.60E-06
Road 13	13	2200-2300	2.34E-01	1.65E-07	4.13E-06	2.07E-01	1.46E-07	3.65E-06	5.46E-01	3.85E-07	9.63E-06	4.82E-01	3.40E-07	8.50E-06
Road 13	13	2300-0000	2.30E-01	1.50E-07	3.75E-06	2.08E-01	1.36E-07	3.40E-06	5.37E-01	3.50E-07	8.75E-06	4.88E-01	3.18E-07	7.95E-06
Road 14	14	0000-0100	1.91E-02	1.06E-07	1.81E-06	1.69E-02	9.35E-08	1.59E-06	1.24E-01	6.85E-07	1.17E-05	1.07E-02	5.93E-07	1.01E-05
Road 14	14	0100-0200	2.22E-02	8.23E-08	1.40E-06	1.94E-02	7.21E-08	1.23E-06	1.28E-01	4.74E-07	8.08E-06	1.10E-02	4.08E-07	6.96E-06
Road 14	14	0200-0300	2.52E-02	7.02E-08	1.20E-06	2.16E-02	6.10E-08	1.04E-06	1.33E-01	3.71E-07	6.32E-06	1.15E-02	3.21E-07	5.46E-06
Road 14	14	0300-0400	2.80E-02	6.34E-08	1.08E-06	2.47E-02	5.60E-08	9.55E-07	1.37E-01	3.10E-07	5.28E-06	1.19E-02	2.69E-07	4.59E-06
Road 14	14	0400-0500	2.84E-02	7.01E-08	1.19E-06	2.46E-02	6.07E-08	1.03E-06	1.40E-01	3.46E-07	5.89E-06	1.19E-02	2.94E-07	5.01E-06
Road 14	14	0500-0600	2.54E-02	1.77E-07	3.01E-06	2.22E-02	1.54E-07	2.63E-06	1.37E-01	9.53E-07	1.62E-05	1.16E-02	8.01E-07	1.37E-05
Road 14	14	0600-0700	2.61E-02	2.12E-07	3.78E-06	2.27E-02	1.93E-07	3.29E-06	1.40E-01	1.14E-06	2.03E-05	1.18E-02	9.61E-07	1.71E-05
Road 14	14	0700-0800	3.88E-02	6.88E-07	1.17E-05	3.32E-02	5.89E-07	1.00E-05	1.91E-01	3.38E-06	5.76E-05	1.61E-02	2.85E-06	4.85E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (June) Year 2033

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	3.80E-02	7.75E-07	1.36E-06	1.48E-01	3.77E-07	1.16E-05	6.28E-01	1.62E-05	4.93E-05	5.37E-01	1.37E-06	4.21E-06
Road 14	14	0900-1000	4.39E-02	7.60E-07	1.30E-05	3.71E-02	6.42E-07	1.10E-05	2.05E-01	3.55E-06	6.06E-05	1.71E-01	2.96E-06	5.05E-05
Road 14	14	1000-1100	4.79E-02	7.33E-07	1.25E-05	3.99E-02	6.10E-07	1.04E-05	2.12E-01	3.25E-06	5.53E-05	1.75E-01	2.67E-06	4.56E-05
Road 14	14	1100-1200	4.63E-02	6.73E-07	1.15E-05	3.94E-02	5.72E-07	9.78E-06	2.09E-01	3.04E-06	5.18E-05	1.76E-01	2.56E-06	4.36E-05
Road 14	14	1200-1300	7.16E-02	1.41E-06	2.40E-05	6.11E-02	1.20E-06	2.05E-05	2.88E-01	5.69E-06	9.70E-05	2.45E-01	4.82E-06	8.22E-05
Road 14	14	1300-1400	7.47E-02	1.56E-06	2.65E-05	6.36E-02	1.32E-06	2.26E-05	3.07E-01	6.38E-06	1.09E-04	2.60E-01	5.41E-06	9.22E-05
Road 14	14	1400-1500	7.44E-02	1.60E-06	2.72E-05	6.22E-02	1.34E-06	2.28E-05	3.02E-01	6.49E-06	1.11E-04	2.51E-01	5.40E-06	9.20E-05
Road 14	14	1500-1600	6.89E-02	1.53E-06	2.61E-05	5.94E-02	1.32E-06	2.24E-05	2.98E-01	6.61E-06	1.13E-04	2.56E-01	5.66E-06	9.66E-05
Road 14	14	1600-1700	6.99E-02	1.57E-06	2.67E-05	5.98E-02	1.34E-06	2.28E-05	2.91E-01	6.53E-06	1.11E-04	2.48E-01	5.55E-06	9.46E-05
Road 14	14	1700-1800	5.56E-02	1.31E-06	2.23E-05	4.98E-02	1.18E-06	2.00E-05	2.64E-01	6.22E-06	1.06E-04	2.32E-01	5.47E-06	9.30E-05
Road 14	14	1800-1900	4.11E-02	9.46E-07	1.61E-05	3.59E-02	8.26E-07	1.41E-05	2.10E-01	4.84E-06	8.24E-05	1.82E-01	4.19E-06	7.14E-05
Road 14	14	1900-2000	2.97E-02	5.09E-07	8.67E-06	2.60E-02	4.45E-07	7.60E-06	1.84E-01	3.15E-06	5.38E-05	1.59E-01	2.73E-06	4.66E-05
Road 14	14	2000-2100	2.88E-02	3.87E-07	6.57E-06	2.54E-02	3.42E-07	5.81E-06	1.72E-01	2.31E-06	3.93E-05	1.51E-01	2.03E-06	3.46E-05
Road 14	14	2100-2200	2.68E-02	3.61E-07	6.15E-06	2.30E-02	3.09E-07	5.27E-06	1.74E-01	2.35E-06	4.00E-05	1.47E-01	1.98E-06	3.38E-05
Road 14	14	2200-2300	2.64E-02	3.39E-07	5.78E-06	2.32E-02	2.98E-07	5.08E-06	1.70E-01	2.18E-06	3.72E-05	1.47E-01	1.89E-06	3.23E-05
Road 14	14	2300-0000	2.72E-02	3.56E-07	6.06E-06	2.32E-02	3.04E-07	5.17E-06	1.41E-01	1.84E-06	3.13E-05	1.27E-01	1.66E-06	2.83E-05
Road 15	15	0000-0100	3.45E-02	5.01E-08	4.63E-07	3.04E-02	4.42E-08	4.09E-07	1.32E-01	1.92E-07	1.78E-06	1.15E-01	1.66E-07	1.54E-06
Road 15	15	0100-0200	4.20E-02	4.61E-08	4.08E-07	3.69E-02	3.88E-08	3.59E-07	1.45E-01	1.52E-07	1.41E-06	1.26E-01	1.32E-07	1.22E-06
Road 15	15	0200-0300	4.93E-02	4.19E-08	3.88E-07	4.34E-02	3.68E-08	3.41E-07	1.45E-01	1.23E-07	1.14E-06	1.27E-01	1.08E-07	1.00E-06
Road 15	15	0300-0400	5.53E-02	4.06E-08	3.76E-07	4.88E-02	3.58E-08	3.32E-07	1.70E-01	1.25E-07	1.16E-06	1.49E-01	1.09E-07	1.01E-06
Road 15	15	0400-0500	5.37E-02	4.19E-08	3.88E-07	4.70E-02	3.67E-08	3.40E-07	1.68E-01	1.31E-07	1.21E-06	1.46E-01	1.14E-07	1.05E-06
Road 15	15	0500-0600	5.45E-02	5.08E-08	4.71E-07	4.88E-02	4.54E-08	4.21E-07	1.80E-01	1.68E-07	1.56E-06	1.56E-01	1.45E-07	1.35E-06
Road 15	15	0600-0700	5.34E-02	2.59E-07	2.40E-06	4.56E-02	2.21E-07	2.05E-06	1.83E-01	8.88E-07	8.22E-06	1.54E-01	7.48E-07	6.93E-06
Road 15	15	0700-0800	5.19E-02	2.84E-07	2.63E-06	4.48E-02	2.45E-07	2.27E-06	1.78E-01	9.73E-07	9.01E-06	1.52E-01	8.30E-07	7.69E-06
Road 15	15	0800-0900	5.85E-02	2.62E-07	2.43E-06	5.05E-02	2.26E-07	2.10E-06	1.85E-01	8.29E-07	7.68E-06	1.61E-01	7.21E-07	6.68E-06
Road 15	15	0900-1000	6.49E-02	2.85E-07	2.64E-06	5.43E-02	2.38E-07	2.20E-06	2.13E-01	9.34E-07	8.64E-06	1.77E-01	7.75E-07	7.18E-06
Road 15	15	1000-1100	6.19E-02	2.60E-07	2.41E-06	5.21E-02	2.19E-07	2.03E-06	2.04E-01	8.60E-07	7.96E-06	1.71E-01	7.18E-07	6.65E-06
Road 15	15	1100-1200	6.29E-02	2.64E-07	2.44E-06	5.29E-02	2.22E-07	2.06E-06	2.07E-01	8.68E-07	8.04E-06	1.73E-01	7.28E-07	6.74E-06
Road 15	15	1200-1300	7.34E-02	5.08E-07	4.70E-06	6.11E-02	4.23E-07	3.92E-06	2.52E-01	1.74E-06	1.62E-05	2.09E-01	1.44E-06	1.34E-05
Road 15	15	1300-1400	7.32E-02	5.22E-07	4.84E-06	6.06E-02	4.32E-07	4.00E-06	2.48E-01	1.77E-06	1.64E-05	2.05E-01	1.46E-06	1.35E-05
Road 15	15	1400-1500	7.32E-02	5.22E-07	4.84E-06	6.06E-02	4.32E-07	4.00E-06	2.48E-01	1.77E-06	1.64E-05	2.05E-01	1.46E-06	1.35E-05
Road 15	15	1500-1600	7.09E-02	5.23E-07	4.84E-06	5.86E-02	4.47E-07	4.14E-06	2.42E-01	1.78E-06	1.65E-05	2.05E-01	1.52E-06	1.40E-05
Road 15	15	1600-1700	7.09E-02	5.23E-07	4.84E-06	6.06E-02	4.47E-07	4.14E-06	2.42E-01	1.78E-06	1.65E-05	2.05E-01	1.52E-06	1.40E-05
Road 15	15	1700-1800	5.72E-02	4.41E-07	4.08E-06	4.87E-02	3.75E-07	3.47E-06	2.08E-01	1.60E-06	1.48E-05	1.75E-01	1.35E-06	1.25E-05
Road 15	15	1800-1900	4.72E-02	4.41E-07	4.08E-06	4.02E-02	3.75E-07	3.47E-06	2.08E-01	1.60E-06	1.48E-05	1.75E-01	1.35E-06	1.25E-05
Road 15	15	1900-2000	2.73E-02	1.41E-07	1.31E-06	2.42E-02	1.25E-07	1.16E-06	1.25E-01	6.46E-07	5.98E-06	1.10E-01	5.67E-07	5.25E-06
Road 15	15	2000-2100	2.80E-02	1.15E-07	1.06E-06	2.42E-02	9.94E-08	9.20E-07	1.32E-01	5.40E-07	5.00E-06	1.12E-01	4.60E-07	4.26E-06
Road 15	15	2100-2200	2.69E-02	1.11E-07	1.03E-06	2.32E-02	9.56E-08	8.85E-07	1.26E-01	5.19E-07	4.81E-06	1.07E-01	4.42E-07	4.09E-06
Road 15	15	2200-2300	2.68E-02	1.05E-07	9.76E-07	2.36E-02	9.30E-08	8.61E-07	1.23E-01	4.83E-07	4.47E-06	1.07E-01	4.20E-07	3.88E-06
Road 15	15	2300-0000	2.94E-02	9.02E-08	8.35E-07	2.68E-02	8.22E-08	7.61E-07	1.27E-01	3.88E-07	3.59E-06	1.14E-01	3.50E-07	3.24E-06
Road 16	16	0000-0100	1.03E-02	5.12E-08	4.74E-07	1.09E-02	5.42E-08	5.02E-07	1.26E-01	6.27E-07	5.80E-06	1.10E-02	5.47E-07	5.06E-06
Road 16	16

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Mean		Monthly Average		Monthly Hour Mean		Monthly Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	7.31E-02	1.72E-08	0.0002	2.64E-01	6.23E-08	0.0007	1.11E-01	2.66E-01	4.48E-08	1.03E-07
Road 37	37	1700-1800	6.30E-02	1.13E-08	2.60E-08	5.91E-02	1.07E-08	2.44E-08	2.82E-02	4.72E-08	1.08E-07	
Road 37	37	1800-1900	4.24E-02	7.64E-09	1.75E-08	4.02E-02	7.23E-09	1.66E-08	2.10E-01	3.78E-08	8.67E-08	1.97E-01
Road 37	37	1900-2000	3.57E-02	6.42E-09	1.13E-08	3.38E-02	4.68E-09	1.07E-08	1.97E-01	2.72E-08	6.25E-08	1.85E-01
Road 37	37	2000-2100	3.64E-02	3.93E-09	9.01E-09	3.44E-02	3.71E-09	8.51E-09	2.12E-01	2.28E-08	5.24E-08	1.98E-01
Road 37	37	2100-2200	3.59E-02	3.90E-09	8.94E-09	3.39E-02	3.67E-09	8.43E-09	2.14E-01	2.32E-08	5.32E-08	1.98E-01
Road 37	37	2200-2300	3.13E-02	2.92E-09	7.48E-09	2.96E-02	3.07E-09	7.05E-09	1.98E-01	2.06E-08	4.72E-08	1.87E-01
Road 37	37	2300-0000	3.43E-02	2.70E-09	6.19E-09	3.24E-02	2.59E-09	5.94E-09	2.07E-01	1.62E-08	3.72E-08	1.98E-01
Road 38	38	0000-0100	5.81E-02	9.35E-08	7.65E-07	5.34E-02	8.58E-08	7.03E-07	2.37E-02	3.52E-07	2.88E-06	2.19E-01
Road 38	38	0100-0200	5.16E-02	8.31E-08	6.80E-07	4.74E-02	7.63E-08	6.24E-07	2.21E-02	3.29E-07	2.69E-06	2.19E-01
Road 38	38	0200-0300	7.76E-02	7.13E-08	5.84E-07	6.52E-02	6.41E-08	5.25E-07	2.54E-02	2.34E-07	1.92E-06	2.04E-01
Road 38	38	0300-0400	7.70E-02	6.65E-08	5.45E-07	6.99E-02	6.04E-08	4.94E-07	2.58E-02	2.23E-07	1.82E-06	2.36E-01
Road 38	38	0400-0500	7.82E-02	6.88E-08	7.13E-07	6.47E-02	5.27E-08	2.65E-07	2.44E-02	2.14E-07	2.21E-06	2.19E-01
Road 38	38	0500-0600	7.31E-02	9.68E-08	7.92E-07	6.65E-02	8.82E-08	7.22E-07	2.71E-01	3.59E-07	2.93E-06	2.21E-01
Road 38	38	0600-0700	6.89E-02	1.68E-07	1.37E-06	6.36E-02	1.55E-07	1.27E-06	2.59E-01	6.31E-07	5.17E-06	2.36E-01
Road 38	38	0700-0800	7.18E-02	2.68E-07	2.19E-06	6.57E-02	2.45E-07	2.00E-06	3.13E-01	1.17E-06	9.57E-06	2.86E-01
Road 38	38	0800-0900	8.76E-02	5.60E-07	4.58E-06	7.88E-02	5.04E-07	4.12E-06	3.07E-01	1.96E-06	1.60E-05	2.77E-01
Road 38	38	0900-1000	1.00E-01	5.93E-07	4.85E-06	8.95E-02	5.29E-07	4.33E-06	3.35E-01	1.98E-06	1.62E-05	2.98E-01
Road 38	38	1000-1100	1.04E-01	5.68E-07	4.66E-06	9.18E-02	5.02E-07	4.12E-06	3.84E-01	2.10E-06	1.72E-05	3.38E-01
Road 38	38	1100-1200	1.03E-01	5.44E-07	4.45E-06	9.25E-02	4.86E-07	3.98E-06	3.35E-01	1.76E-06	1.44E-05	3.00E-01
Road 38	38	1200-1300	1.35E-01	4.62E-07	3.78E-06	1.20E-01	4.12E-07	3.38E-06	3.82E-01	1.31E-06	1.07E-05	3.41E-01
Road 38	38	1300-1400	1.37E-01	4.99E-07	4.09E-06	1.23E-01	4.47E-07	3.68E-06	3.93E-01	1.43E-06	1.17E-05	3.52E-01
Road 38	38	1400-1500	1.35E-01	4.94E-07	4.04E-06	1.21E-01	4.42E-07	3.62E-06	3.87E-01	1.41E-06	1.16E-05	3.47E-01
Road 38	38	1500-1600	1.37E-01	5.01E-07	4.11E-06	1.23E-01	4.48E-07	3.68E-06	3.93E-01	1.43E-06	1.17E-05	3.52E-01
Road 38	38	1600-1700	1.34E-01	4.84E-07	3.97E-06	1.20E-01	4.33E-07	3.55E-06	3.84E-01	1.38E-06	1.13E-05	3.44E-01
Road 38	38	1700-1800	1.17E-01	3.60E-07	2.95E-06	1.06E-01	3.26E-07	2.67E-06	3.43E-01	1.05E-06	8.61E-06	3.11E-01
Road 38	38	1800-1900	9.63E-02	1.44E-07	1.18E-06	8.52E-02	1.33E-07	1.09E-06	4.05E-01	6.06E-07	4.97E-06	3.58E-01
Road 38	38	1900-2000	9.63E-02	1.44E-07	1.18E-06	8.52E-02	1.33E-07	1.09E-06	4.05E-01	6.06E-07	4.97E-06	3.58E-01
Road 38	38	2000-2100	9.88E-02	1.26E-07	1.03E-06	9.02E-02	1.15E-07	9.43E-07	3.22E-01	4.11E-07	3.36E-06	2.94E-01
Road 38	38	2100-2200	9.88E-02	1.26E-07	1.03E-06	9.02E-02	1.15E-07	9.43E-07	3.26E-01	4.16E-07	3.40E-06	2.98E-01
Road 38	38	2200-2300	9.29E-02	1.11E-07	9.07E-07	8.54E-02	1.02E-07	8.34E-07	2.98E-01	3.56E-07	2.91E-06	2.74E-01
Road 38	38	2300-0000	8.63E-02	1.02E-07	8.34E-07	7.98E-02	9.45E-08	7.72E-07	2.77E-01	3.27E-07	2.68E-06	2.56E-01
Road 39	39	0000-0100	1.00E-01	2.34E-08	1.99E-07	9.52E-02	2.23E-08	1.89E-07	8.03E-08	8.84E-07	7.52E-06	6.44E-07
Road 39	39	0100-0200	1.03E-01	1.67E-08	1.42E-07	9.75E-02	1.58E-08	1.35E-07	4.85E-02	7.88E-07	6.71E-06	4.13E-07
Road 39	39	0200-0300	1.32E-01	1.41E-08	1.20E-07	1.25E-01	1.34E-08	1.14E-07	3.08E-02	3.29E-07	2.80E-06	2.63E-07
Road 39	39	0300-0400	1.07E-01	1.13E-08	9.66E-08	1.02E-01	1.08E-08	9.18E-08	3.60E-01	3.81E-06	3.24E-05	3.06E-06
Road 39	39	0400-0500	1.01E-01	1.35E-08	1.15E-07	1.04E-01	1.28E-08	1.09E-07	3.38E-01	4.52E-06	3.85E-05	3.49E-06
Road 39	39	0500-0600	1.01E-01	1.50E-08	1.27E-07	1.04E-01	1.42E-08	1.21E-07	3.38E-01	5.02E-06	4.27E-05	3.49E-06
Road 39	39	0600-0700	1.15E-01	5.84E-08	4.97E-07	1.09E-01	5.51E-08	4.69E-07	3.81E-01	1.94E-06	1.65E-05	3.61E-06
Road 39	39	0700-0800	1.18E-01	1.28E-07	1.09E-06	1.11E-01	1.20E-07	1.02E-06	3.92E-01	4.23E-06	3.60E-05	3.68E-06
Road 39	39	0800-0900	1.32E-01	1.80E-07	1.53E-06	1.20E-01	1.67E-07	1.43E-06	4.20E-01	5.85E-06	4.98E-05	3.81E-06
Road 39	39	0900-1000	1.29E-01	1.80E-07	1.53E-06	1.20E-01	1.67E-07	1.43E-06	4.26E-01	5.85E-06	4.98E-05	3.96E-06
Road 39	39	1000-1100	1.30E-01	1.76E-07	1.50E-06	1.22E-01	1.62E-07	1.38E-06	4.31E-01	5.72E-06	4.87E-05	4.01E-06
Road 39	39	1100-1200	1.34E-01	1.64E-07	1.40E-06	1.25E-01	1.52E-07	1.29E-06	4.45E-01	5.33E-06	4.54E-05	4.14E-06
Road 39	39	1200-1300	6.31E-02	1.63E-08	1.39E-07	5.87E-02	1.52E-08	1.29E-07	2.09E-01	5.29E-07	4.51E-06	1.94E-06
Road 39	39	1300-1400	6.79E-02	1.82E-08	1.55E-07	6.32E-02	1.69E-08	1.44E-07	2.25E-01	5.90E-07	5.03E-06	2.09E-06
Road 39	39	1400-1500	6.79E-02	1.82E-08	1.55E-07	6.32E-02	1.69E-08	1.44E-07	2.25E-01	5.90E-07	5.03E-06	2.09E-06
Road 39	39	1500-1600	6.77E-02	1.97E-08	1.68E-07	6.30E-02	1.83E-08	1.56E-07	2.24E-01	6.39E-07	5.45E-06	2.08E-06
Road 39	39	1600-1700	6.33E-02	1.91E-08	1.63E-07	5.89E-02	1.78E-08	1.51E-07	2.09E-01	6.20E-07	5.29E-06	1.94E-06
Road 39	39	1700-1800	5.47E-02	1.47E-08	1.25E-07	5.09E-02	1.37E-08	1.16E-07	1.81E-01	4.87E-07	4.15E-06	1.68E-06
Road 39	39	1800-1900	4.50E-02	1.21E-08	1.03E-07	4.19E-02	1.13E-08	9.58E-08	1.49E-01	4.01E-07	3.41E-06	1.38E-06
Road 39	39	1900-2000	4.50E-02	1.21E-08	1.03E-07	4.19E-02	1.13E-08	9.58E-08	1.49E-01	4.01E-07	3.41E-06	1.38E-06
Road 39	39	2000-2100	4.62E-02	1.06E-08	8.99E-08	4.30E-02	9.84E-09	8.34E-08	1.53E-01	3.50E-07	2.97E-06	1.42E-06
Road 39	39	2100-2200	4.62E-02	1.06E-08	8.99E-08	4.30E-02	9.84E-09	8.34E-08	1.53E-01	3.50E-07	2.97E-06	1.42E-06
Road 39	39	2200-2300	4.34E-02	9.34E-09	7.63E-08	4.04E-02	8.69E-09	7.10E-08	1.44E-01	3.10E-07	2.53E-06	1.34E-06
Road 39	39	2300-0000	4.03E-02	8.57E-09	7.01E-08	3.75E-02	7.97E-09	6.52E-08	1.34E-01	2.84E-07	2.32E-06	1.24E-06
Road 40	40	0000-0100	5.32E-02	1.58E-07	7.67E-07	4.88E-02	1.45E-07	7.04E-07	2.30E-02	6.83E-07	3.31E-06	2.12E-01
Road 40	40	0100-0200	6.23E-02	1.85E-07	8.97E-07	5.71E-02	1.70E-07	8.24E-07	2.69E-02	7.99E-07	3.87E-06	2.48E-01
Road 40	40	0200-0300	8.64E-02	1.49E-07	7.23E-07	7.92E-02	1.37E-07	6.64E-07	3.73E-02	6.43E-07	3.12E-06	2.44E-01
Road 40	40	0300-0400	7.34E-02	1.13E-07	5.48E-07	6.66E-02	1.02E-07	4.97E-07	3.16E-02	4.88E-07	2.36E-06	2.07E-01
Road 40	40	0400-0500	7.44E-02	1.21E-07	5.91E-07	6.66E-02	1.09E-07	5.29E-07	2.62E-02	4.29E-07	2.09E-06	2.38E-01
Road 40	40	0500-0600	6.84E-02	1.63E-07	7.95E-07	6.22E-02	1.49E-07	7.23E-07	2.65E-02	6.34E-07	3.08E-06	2.42E-01
Road 40	40	0600-0700	6.48E-02	2.40E-07	1.16E-06	5.91E-02	2.19E-07	1.06E-06	2.51E-02	9.30E-07	4.50E-06	2.38E-01
Road 40	40	0700-0800	9.22E-02	9.42E-07	4.58E-06	8.22E-02	8.40E-07	4.08E-06	3.38E-02	3.45E-06	1.68E-05	3.04E-01
Road 40	40	0800-0900	8.89E-02	1.02E-06	4.98E-06	7.96E-02	9.16E-07	4.46E-06	3.16E-02	3.61E-06	1.76E-05	2.83E-01
Road 40	40	0900-1000	1.00E-01	1.06E-06	5.15E-06	8.66E-02	9.26E-07	4.50E-06	3.15E-02	3.02E-06	1.47E-05	2.73E-01
Road 40	40	1000-1100	1.01E-01	9.33E-07	4.55E-06	8.74E-02	8.01E-07	3.91E-06	3.45E-02	3.18E-06	1.55E-05	2.98E-01
Road 40	40	1100-1200	1.07E-01	9.83E-07	4.78E-06	9.52E-02	8.75E-07	4.26E-06	3.52E-02	3.24E-06	1.58E-05	3.13E-01
Road 40	40	1200-1300	1.32E-01	9.50E-07	4.62E-06	1.17E-01	8.46E-07	4.12E-06	3.82E-02	2.75E-06	1.34E-05	3.41E-01
Road 40	40	1300-1400	1.34E-01	9.27E-07	4.51E-06	1.19E-01	8.27E-07	4.02E-06	3.99E-02	2.77E-06	1.35E-05	3.56E-01
Road 40	40	1400-1500	1.31E-01	9.23E-07	4.49E-06	1.15E-01	8.13E-07	3.95E-06	3.96E-02	2.79E-06	1.36E-05	3.53E-01
Road 40	40	1500-1600	1.32E-01	9.50E-07	4.62E-06	1.17E-01	8.46E-07	4.12E-06	3.82E-02	2.75E-06	1.34E-05	3.41E-01
Road 40	40	1600-1700	1.28E-01	9.14E-07	4.45E-06	1.14E-01	8.16E-07	3.97E-06	3.86E-02	2.76E-06	1.34E-05	3.45E-01
Road 40	40	1700-1800	1.19E-01	8.63E-07	4.20E-06	1.06E-01	7.67E-07	3.73E-06	3.80E-02	2.74E-06	1.33E-05	3.39E-01
Road 40	40	1800-1900	1.00E-01	3.31E-07	3.47E-06	6.35E-02	2.99E-07	3.13E-06	2.61E-01	8.62E-07	9.04E-06	2.24E-01
Road 40	40	1900-2000	6.84E-02	2.66E-07	1.29E-06	6.30E-02	2.45E-07	1.19E-06	2.61E-01	1.01E-06	4.93E-06	2.40E-01
Road 40	40	2000-2100	7.02E-02	2.23E-07	1.09E-06	6.43E-02	2.05E-07	9.95E-07	2.70E-01	8.57E-07	4.17E-06	2.47E-01
Road 40	40	2100-2200	7.02E-02	2.23E-07	1.09E-06	6.43E-02	2.05E-07	9.95E-07	2.70E-01	8.57E-07	4.17E-06	2.47E-01
Road 40	40	2200-2300	6.51E-02	1.98E-07	9.65E-07	5.98E-02	1.82E-07	8.86E-07	2.53E-01	7.71E-07	3.75E-06	2.33E-01
Road 40	40	2300-0000	6.97E-02	1.78E-07	8.44E-07	6.52E-02	1.62E-07	7.90E-07	2.58E-01	6.42E-07	3.12E-06	2.42E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Mean		Monthly Average		Monthly Hour Mean		Monthly Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	2.26E-02	4.26E-08	4.00E-07	3.77E-08	3.54E-07	8.39E-02	1.58E-07	1.48E-06	7.25E-02	1.37E-07	1.28E-06
Road 41	41	0100-0200	2.87E-02	4.00E-08	3.75E-07	2.52E-02	3.51E-08	3.29E-07	9.65E-02	1.34E-07	1.26E-06	8.33E-02	1.16E-07	1.09E-06
Road 41	41	0200-0300	3.39E-02	3.89E-08	3.65E-07	2.96E-02	3.39E-08	3.18E-07	1.08E-01	1.23E-07	1.16E-06	9.25E-02	1.06E-07	9.93E-07
Road 41	41	0300-0400	3.74E-02	3.75E-08	3.52E-07	3.31E-02	3.32E-08	3.11E-07	1.14E-01	1.14E-07	1.07E-06	9.98E-02	1.00E-07	9.40E-07
Road 41	41	0400-0500	3.70E-02	3.90E-08	3.66E-07	3.21E-02	3.39E-08	3.18E-07	1.14E-01	1.21E-07	1.13E-06	9.80E-02	1.04E-07	9.72E-07
Road 41	41	0500-0600	2.91E-02	4.33E-08	4.06E-07	2.54E-02	3.78E-08	3.55E-07	9.84E-02	1.46E-07	1.37E-06	8.44E-02	1.25E-07	1.18E-06
Road 41	41	0600-0700	2.15E-02	5.68E-08	5.32E-07	1.87E-02	4.97E-08	4.66E-07	8.45E-02	2.24E-07	2.10E-06	7.39E-02	1.96E-07	1.78E-06
Road 41	41	0700-0800	2.99E-02	1.86E-07	1.74E-06	2.56E-02	1.59E-07	1.49E-06	1.03E-01	6.43E-07	6.04E-06	8.67E-02	5.39E-07	5.06E-06
Road 41	41	0800-0900	2.76E-02	1.91E-07	1.79E-06	2.36E-02	1.63E-07	1.53E-06	9.48E-02	6.56E-07	6.16E-06	7.96E-02	5.51E-07	5.17E-06
Road 41	41	0900-1000	2.50E-02	1.93E-07	1.82E-06	2.13E-02	1.65E-07	1.55E-06	8.59E-02	6.62E-07	6.22E-06	7.21E-02	5.56E-07	5.22E-06
Road 41	41	1000-1100	3.52E-02	1.93E-07	1.81E-06	2.93E-02	1.61E-07	1.51E-06	1.06E-01	5.82E-07	5.47E-06	8.89E-02	4.88E-07	4.59E-06
Road 41	41	1100-1200	3.50E-02	1.85E-07	1.74E-06	2.97E-02	1.57E-07	1.48E-06	1.15E-01	6.09E-07	5.72E-06	9.65E-02	5.11E-07	4.79E-06
Road 41	41	1200-1300	3.31E-02	1.85E-07	1.74E-06	2.77E-02	1.55E-07	1.46E-06	1.26E-01	7.04E-07	6.61E-06	1.06E-01	5.91E-07	5.55E-06
Road 41	41	1300-1400	3.88E-02	2.33E-07	2.19E-06	3.31E-02	1.99E-07	1.87E-06	1.28E-01	7.72E-07	7.25E-06	1.09E-01	6.54E-07	6.14E-06
Road 41	41	1400-1500	3.83E-02	2.37E-07	2.22E-06	3.21E-02	1.98E-07	1.86E-06	1.27E-01	7.86E-07	7.38E-06	1.07E-01	6.62E-07	6.21E-06
Road 41	41	1500-1600	3.82E-02	2.32E-07	2.18E-06	3.17E-02	2.06E-07	1.93E-06	1.26E-01	7.68E-07	7.21E-06	1.04E-01	6.77E-07	6.35E-06
Road 41	41	1600-1700	3.69E-02	2.36E-07	2.22E-06	3.15E-02	2.02E-07	1.90E-06	1.22E-01	7.79E-07	7.31E-06	1.03E-01	6.60E-07	6.20E-06
Road 41	41	1700-1800	3.21E-02	2.16E-07	2.03E-06	2.71E-02	1.82E-07	1.71E-06	1.12E-01	7.51E-07	7.04E-06	9.31E-02	6.25E-07	5.87E-06
Road 41	41	1800-1900	2.81E-02	1.86E-07	1.77E-06	2.45E-02	1.62E-07	1.54E-06	1.08E-01	7.15E-07	6.73E-06	9.08E-02	6.02E-07	5.66E-06
Road 41	41	1900-2000	1.72E-02	7.28E-08	6.83E-07	1.50E-02	6.36E-08	5.97E-07	7.28E-02	3.08E-07	2.89E-06	6.23E-02	2.64E-07	2.47E-06
Road 41	41	2000-2100	1.86E-02	6.32E-08	5.93E-07	1.61E-02	5.47E-08	5.13E-07	7.94E-02	2.70E-07	2.53E-06	6.71E-02	2.28E-07	2.14E-06
Road 41	41	2100-2200	1.81E-02	6.18E-08	5.80E-07	1.56E-02	5.33E-08	5.00E-07	7.82E-02	2.67E-07	2.50E-06	6.61E-02	2.26E-07	2.12E-06
Road 41	41	2200-2300	1.76E-02	5.98E-08	5.60E-07	1.51E-02	5.14E-08	4.82E-07	7.52E-02	2.56E-07	2.40E-06	6.36E-02	2.17E-07	2.03E-06
Road 41	41	2300-0000	2.07E-02	5.39E-08	5.05E-07	1.78E-02	4.88E-08	4.58E-07	8.14E-02	2.12E-07	1.99E-06	7.26E-02	1.89E-07	1.77E-06
Road 42	42	0000-0100	3.75E-02	6.66E-08	2.20E-06	3.22E-02	5.71E-08	1.95E-06	1.24E-01	2.86E-07	7.24E-06	1.07E-01	2.45E-07	6.20E-06
Road 42	42	0100-0200	4.64E-02	6.48E-08	2.14E-06	3.98E-02	5.55E-08	1.89E-06	1.53E-01	2.78E-07	7.04E-06	1.32E-01	2.38E-07	6.03E-06
Road 42	42	0200-0300	5.52E-02	7.70E-08	1.95E-06	4.81E-02	6.71E-08	1.70E-06	1.60E-01	2.23E-07	5.65E-06	1.37E-01	1.92E-07	4.86E-06
Road 42	42	0300-0400	6.10E-02	6.24E-08	1.74E-06	5.40E-02	6.59E-08	1.67E-06	1.71E-01	2.08E-07	5.28E-06	1.50E-01	1.80E-07	4.56E-06
Road 42	42	0400-0500	6.02E-02	6.00E-08	1.74E-06	5.46E-02	6.24E-08	1.67E-06	1.71E-01	2.08E-07	5.28E-06	1.50E-01	1.80E-07	4.56E-06
Road 42	42	0500-0600	4.68E-02	8.51E-08	2.16E-06	4.09E-02	7.44E-08	1.89E-06	1.44E-01	2.62E-07	6.64E-06	1.24E-01	2.25E-07	5.72E-06
Road 42	42	0600-0700	3.62E-02	1.18E-07	2.99E-06	3.16E-02	1.03E-07	2.61E-06	1.27E-01	4.13E-07	1.05E-05	1.08E-01	3.53E-07	8.95E-06
Road 42	42	0700-0800	5.84E-02	2.48E-07	6.28E-06	5.22E-02	2.21E-07	5.61E-06	1.31E-01	5.56E-07	1.41E-05	1.17E-01	4.98E-07	1.26E-05
Road 42	42	0800-0900	5.84E-02	4.96E-07	1.26E-05	5.00E-02	4.24E-07	1.08E-05	1.76E-01	1.49E-06	3.79E-05	1.49E-01	1.26E-06	3.20E-05
Road 42	42	0900-1000	6.84E-02	5.06E-07	1.28E-05	5.76E-02	4.27E-07	1.08E-05	2.05E-01	1.52E-06	3.84E-05	1.71E-01	1.26E-06	3.20E-05
Road 42	42	1000-1100	7.24E-02	4.68E-07	1.19E-05	6.15E-02	3.98E-07	1.01E-05	2.13E-01	1.38E-06	3.49E-05	1.79E-01	1.16E-06	2.94E-05
Road 42	42	1100-1200	9.35E-02	4.90E-07	1.24E-05	7.97E-02	4.19E-07	1.06E-05	2.64E-01	1.38E-06	3.51E-05	2.24E-01	1.18E-06	2.99E-05
Road 42	42	1200-1300	1.40E-01	4.70E-07	1.19E-05	1.19E-01	4.00E-07	1.01E-05	3.95E-01	1.33E-06	3.36E-05	3.34E-01	1.13E-06	2.86E-05
Road 42	42	1300-1400	1.44E-01	4.77E-07	1.21E-05	1.22E-01	4.06E-07	1.03E-05	4.06E-01	1.35E-06	3.41E-05	3.43E-01	1.14E-06	2.90E-05
Road 42	42	1400-1500	9.47E-02	5.27E-07	1.34E-05	7.95E-02	4.42E-07	1.12E-05	2.71E-01	1.51E-06	3.82E-05	2.27E-01	1.26E-06	3.20E-05
Road 42	42	1500-1600	9.13E-02	5.18E-07	1.31E-05	7.87E-02	4.46E-07	1.13E-05	2.69E-01	1.53E-06	3.88E-05	2.31E-01	1.31E-06	3.33E-05
Road 42	42	1600-1700	8.16E-02	5.32E-07	1.35E-05	7.03E-02	4.58E-07	1.16E-05	2.41E-01	1.57E-06	3.97E-05	2.07E-01	1.35E-06	3.42E-05
Road 42	42	1700-1800	8.30E-02	4.85E-07	1.23E-05	7.01E-02	4.10E-07	1.04E-05	2.45E-01	1.43E-06	3.62E-05	2.05E-01	1.20E-06	3.04E-05
Road 42	42	1800-1900	7.34E-02	4.17E-07	1.06E-05	6.40E-02	3.64E-07	9.23E-06	2.09E-01	1.19E-06	3.02E-05	1.81E-01	1.03E-06	2.62E-05
Road 42	42	1900-2000	2.72E-02	4.88E-07	1.24E-05	2.37E-02	4.25E-07	1.08E-05	7.52E-02	1.35E-06	3.42E-05	6.56E-02	1.17E-06	2.96E-05
Road 42	42	2000-2100	4.12E-02	1.09E-07	2.77E-06	3.57E-02	9.47E-08	2.40E-06	1.42E-01	3.77E-07	9.56E-06	1.22E-01	3.22E-07	8.17E-06
Road 42	42	2100-2200	4.08E-02	1.08E-07	2.74E-06	3.54E-02	9.37E-08	2.37E-06	1.41E-01	3.73E-07	9.47E-06	1.21E-01	3.19E-07	8.08E-06
Road 42	42	2200-2300	3.95E-02	1.05E-07	2.66E-06	3.43E-02	9.08E-08	2.30E-06	1.37E-01	3.62E-07	9.17E-06	1.17E-01	3.09E-07	7.84E-06
Road 42	42	2300-0000	4.65E-02	9.69E-08	2.46E-06	4.23E-02	8.80E-08	2.23E-06	1.48E-01	3.09E-07	7.83E-06	1.33E-01	2.78E-07	7.04E-06
Road 43	43	0000-0100	3.68E-02	3.51E-09	3.59E-08	3.26E-02	3.11E-09	3.19E-08	1.14E-01	1.08E-08	1.11E-07	9.96E-02	9.51E-09	9.73E-08
Road 43	43	0100-0200	3.82E-02	3.27E-09	3.34E-08	3.39E-02	2.90E-09	2.96E-08	1.18E-01	1.01E-08	1.03E-07	1.03E-01	8.86E-09	9.05E-08
Road 43	43	0200-0300	4.86E-02	3.32E-09	3.40E-08	4.24E-02	2.90E-09	2.97E-08	1.38E-01	9.44E-09	9.66E-08	1.20E-01	8.19E-09	8.38E-08
Road 43	43	0300-0400	5.11E-02	3.24E-09	3.31E-08	4.53E-02	2.86E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAve			MonthlyHourMin			MonthlyHourAve		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	1.11E-02	3.95E-07	7.99E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0100-0200	1.09E-02	3.88E-07	7.85E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0200-0300	1.07E-02	3.81E-07	7.71E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0300-0400	1.06E-02	3.77E-07	7.63E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0400-0500	1.06E-02	3.77E-07	7.63E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0500-0600	1.07E-02	3.81E-07	7.71E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0600-0700	1.09E-02	3.88E-07	7.85E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0700-0800	1.11E-02	3.95E-07	7.99E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0800-0900	1.13E-02	4.02E-07	8.13E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	0900-1000	1.14E-02	4.06E-07	8.21E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1000-1100	1.15E-02	4.09E-07	8.28E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1100-1200	1.15E-02	4.09E-07	8.28E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1200-1300	1.15E-02	4.09E-07	8.28E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1300-1400	1.15E-02	4.09E-07	8.28E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1400-1500	1.15E-02	4.09E-07	8.28E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1500-1600	1.15E-02	4.09E-07	8.28E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1600-1700	1.15E-02	4.09E-07	8.28E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1700-1800	1.14E-02	4.06E-07	8.21E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1800-1900	1.13E-02	4.02E-07	8.13E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	1900-2000	1.11E-02	3.95E-07	7.99E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	2000-2100	1.09E-02	3.88E-07	7.85E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	2100-2200	1.07E-02	3.81E-07	7.71E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	2200-2300	1.06E-02	3.77E-07	7.63E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		
Road 1	1	2300-2400	1.06E-02	3.77E-07	7.63E-05	6.75E-02	8.60E-06	2.64E-06	5.70E-05	6.65E-02	2.36E-06	4.74E-05		

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAve			MonthlyHourMin			MonthlyHourAve		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 7	7	1600-1700	1.84E-02	3.22E-07	3.78E-05	1.55E-02	2.71E-07	3.18E-06	1.30E-01	2.27E-06	2.67E-05	1.08E-01	1.89E-06	2.22E-05
Road 7	7	1700-1800	1.41E-02	2.80E-07	3.29E-06	1.20E-02	2.38E-07	2.80E-06	1.21E-01	2.40E-06	2.82E-05	1.01E-01	2.02E-06	2.37E-05
Road 7	7	1800-1900	1.10E-02	2.39E-07	2.80E-06	9.37E-03	2.04E-07	2.39E-06	1.05E-01	2.29E-06	2.68E-05	8.88E-02	1.93E-06	2.26E-05
Road 7	7	1900-2000	9.73E-03	1.68E-07	1.97E-06	8.50E-03	1.47E-07	1.72E-06	1.08E-01	1.87E-06	2.19E-05	9.35E-02	1.61E-06	1.89E-05
Road 7	7	2000-2100	9.59E-03	1.29E-07	1.51E-06	8.62E-03	1.16E-07	1.36E-06	1.14E-01	1.54E-06	1.81E-05	1.02E-01	1.37E-06	1.61E-05
Road 7	7	2100-2200	8.51E-03	1.14E-07	1.33E-06	7.53E-03	1.01E-07	1.18E-06	1.06E-01	1.42E-06	1.67E-05	9.28E-02	1.24E-06	1.46E-05
Road 7	7	2200-2300	8.70E-03	1.13E-07	1.32E-06	8.05E-03	1.04E-07	1.22E-06	1.09E-01	1.42E-06	1.67E-05	1.02E-01	1.32E-06	1.54E-05
Road 7	7	2300-0000	9.08E-03	8.86E-08	1.04E-06	8.04E-03	7.85E-08	9.20E-07	1.10E-01	1.07E-06	1.26E-05	9.62E-02	9.38E-07	1.10E-05
Road 8	8	0000-0100	1.90E-02	1.03E-08	2.08E-07	1.72E-02	9.29E-09	1.88E-07	3.07E-01	1.66E-07	3.36E-06	2.77E-01	1.50E-07	3.02E-06
Road 8	8	0100-0200	1.84E-02	6.65E-09	1.34E-07	1.75E-02	6.32E-09	1.28E-07	2.97E-01	1.07E-07	2.16E-06	2.82E-01	1.02E-07	2.06E-06
Road 8	8	0200-0300	1.89E-02	4.87E-09	9.86E-08	1.78E-02	4.59E-09	9.28E-08	2.90E-01	7.47E-08	1.51E-06	2.72E-01	7.01E-08	1.42E-06
Road 8	8	0300-0400	1.94E-02	3.96E-09	8.02E-08	1.82E-02	3.71E-09	7.51E-08	2.91E-01	5.93E-08	1.20E-06	2.72E-01	5.56E-08	1.12E-06
Road 8	8	0400-0500	2.01E-02	4.51E-09	9.12E-08	1.88E-02	4.23E-09	8.56E-08	2.91E-01	6.53E-08	1.32E-06	2.72E-01	6.11E-08	1.23E-06
Road 8	8	0500-0600	2.11E-02	8.23E-09	1.66E-07	1.95E-02	7.63E-09	1.54E-07	3.00E-01	1.17E-07	2.37E-06	2.78E-01	1.09E-07	2.20E-06
Road 8	8	0600-0700	2.18E-02	1.83E-08	3.70E-07	1.96E-02	1.65E-08	3.33E-07	3.04E-01	2.55E-07	5.16E-06	2.73E-01	2.29E-07	4.63E-06
Road 8	8	0700-0800	2.21E-02	3.93E-08	7.95E-07	1.96E-02	3.48E-08	7.05E-07	2.95E-01	5.24E-07	1.06E-05	2.61E-01	4.64E-07	9.40E-06
Road 8	8	0800-0900	2.24E-02	4.31E-08	8.72E-07	1.91E-02	3.69E-08	7.46E-07	2.95E-01	5.68E-07	1.15E-05	2.52E-01	4.85E-07	9.80E-06
Road 8	8	0900-1000	2.43E-02	3.99E-08	8.07E-07	2.10E-02	3.45E-08	6.97E-07	3.05E-01	5.00E-07	1.01E-05	2.63E-01	4.31E-07	8.71E-06
Road 8	8	1000-1100	1.88E-02	2.96E-08	5.98E-07	1.61E-02	2.54E-08	5.14E-07	2.66E-01	4.20E-07	8.49E-06	2.29E-01	3.61E-07	7.30E-06
Road 8	8	1100-1200	1.82E-02	2.66E-07	1.04E-05	2.32E-02	3.39E-07	1.32E-05	2.58E-01	3.77E-06	1.47E-04	3.29E-01	4.81E-06	1.87E-04
Road 8	8	1200-1300	2.75E-02	1.08E-07	2.18E-06	2.34E-02	9.16E-08	1.85E-06	2.30E-01	9.01E-07	1.82E-05	1.95E-01	7.64E-07	1.54E-05
Road 8	8	1300-1400	2.75E-02	1.08E-07	2.18E-06	2.22E-02	8.68E-08	1.75E-06	2.30E-01	9.01E-07	1.82E-05	1.86E-01	7.28E-07	1.47E-05
Road 8	8	1400-1500	2.78E-02	1.18E-07	2.40E-06	2.26E-02	9.70E-08	1.96E-06	2.32E-01	9.87E-07	1.97E-05	1.89E-01	8.09E-07	1.63E-05
Road 8	8	1500-1600	2.64E-02	1.16E-07	2.34E-06	2.22E-02	9.70E-08	1.96E-06	2.26E-01	9.91E-07	2.01E-05	1.89E-01	8.28E-07	1.67E-05
Road 8	8	1600-1700	2.68E-02	1.22E-07	2.46E-06	2.27E-02	1.03E-07	2.08E-06	2.34E-01	1.06E-06	2.14E-05	1.99E-01	8.90E-07	1.80E-05
Road 8	8	1700-1800	2.72E-02	1.22E-07	2.46E-06	2.31E-02	1.03E-07	2.08E-06	2.32E-01	1.04E-06	2.10E-05	1.98E-01	8.90E-07	1.80E-05
Road 8	8	1800-1900	1.87E-02	9.26E-08	1.87E-06	1.60E-02	7.93E-08	1.60E-06	2.27E-01	1.12E-06	2.27E-05	1.93E-01	9.59E-07	1.94E-05
Road 8	8	1900-2000	1.81E-02	7.07E-08	1.43E-06	1.58E-02	6.20E-08	1.25E-06	2.20E-01	8.61E-07	1.74E-05	1.92E-01	7.52E-07	1.52E-05
Road 8	8	2000-2100	1.68E-02	5.07E-08	1.02E-06	1.49E-02	4.51E-08	9.11E-07	2.32E-01	7.00E-07	1.42E-05	2.05E-01	6.19E-07	1.25E-05
Road 8	8	2100-2200	1.76E-02	5.01E-08	1.04E-06	1.53E-02	4.35E-08	9.04E-07	2.35E-01	6.69E-07	1.39E-05	2.04E-01	5.80E-07	1.20E-05
Road 8	8	2200-2300	1.76E-02	4.16E-08	8.64E-07	1.52E-02	3.60E-08	7.48E-07	2.29E-01	5.41E-07	1.12E-05	1.98E-01	4.68E-07	9.72E-06
Road 8	8	2300-0000	1.77E-02	3.22E-08	6.68E-07	1.52E-02	2.77E-08	5.76E-07	2.29E-01	4.16E-07	8.64E-06	1.97E-01	3.60E-07	7.48E-06
Road 9	9	0000-0100	1.41E-02	6.66E-08	4.95E-07	1.27E-02	6.00E-08	4.45E-07	1.22E-01	5.75E-07	4.27E-06	1.08E-01	5.10E-07	3.78E-06
Road 9	9	0100-0200	1.38E-02	4.25E-08	3.16E-07	1.28E-02	3.93E-08	2.92E-07	1.13E-01	3.49E-07	2.59E-06	1.04E-01	3.19E-07	2.37E-06
Road 9	9	0200-0300	1.40E-02	2.58E-08	1.91E-07	1.30E-02	2.39E-08	1.77E-07	1.14E-01	2.11E-07	1.56E-06	1.06E-01	1.94E-07	1.44E-06
Road 9	9	0300-0400	1.57E-02	2.81E-08	2.08E-07	1.46E-02	2.62E-08	1.95E-07	1.15E-01	2.05E-07	1.52E-06	1.06E-01	1.90E-07	1.41E-06
Road 9	9	0400-0500	1.66E-02	3.26E-08	2.42E-07	1.53E-02	3.02E-08	2.24E-07	1.18E-01	2.32E-07	1.72E-06	1.08E-01	2.12E-07	1.57E-06
Road 9	9	0500-0600	1.84E-02	3.44E-08	2.54E-07	1.70E-02	3.17E-08	2.35E-07	1.31E-01	2.44E-07	1.81E-06	1.21E-01	2.26E-07	1.67E-06
Road 9	9	0600-0700	2.31E-02	1.67E-07	1.24E-06	2.07E-02	1.50E-07	1.11E-06	1.52E-01	1.10E-06	8.16E-06	1.34E-01	9.74E-07	7.23E-06
Road 9	9	0700-0800	3.20E-02	4.70E-07	3.49E-06	2.83E-02	4.17E-07	3.09E-06	1.92E-01	2.82E-06	2.10E-05	1.68E-01	2.47E-06	1.83E-05
Road 9	9	0800-0900	3.72E-02	5.25E-07	3.90E-06	3.21E-02	4.54E-07	3.37E-06	2.08E-01	2.94E-06	2.18E-05	1.78E-01	2.51E-06	1.86E-05
Road 9	9	0900-1000	3.95E-02	4.85E-07	3.60E-06	3.23E-02	3.96E-07	2.94E-06	2.11E-01	2.59E-06	1.92E-05	1.72E-01	2.11E-06	1.57E-05
Road 9	9	1000-1100	2.12E-02	2.91E-07	2.16E-06	1.73E-02	2.37E-07	1.76E-06	1.32E-01	1.81E-06	1.34E-05	1.08E-01	1.48E-06	1.10E-05
Road 9	9	1100-1200	2.16E-02	4.57E-07	3.81E-06	2.35E-02	3.88E-07	3.24E-06	1.35E-01	2.86E-06	2.39E-05	1.47E-01	2.43E-06	2.03E-05
Road 9	9	1200-1300	2.76E-02	4.57E-07	3.81E-06	2.49E-02	4.12E-07	3.44E-06	1.72E-01	2.86E-06	2.39E-05	1.55E-01	2.57E-06	2.15E-05
Road 9	9	1300-1400	3.14E-02	8.72E-07	7.29E-06	2.69E-02	7.48E-07	6.26E-06	1.96E-01	5.45E-06	4.56E-05	1.68E-01	4.68E-06	3.91E-05
Road 9	9	1400-1500	3.28E-02	9.11E-07	7.62E-06	2.81E-02	7.80E-07	6.53E-06	2.04E-01	5.67E-06	4.74E-05	1.75E-01	4.86E-06	4.07E-05
Road 9	9	1500-1600	3.28E-02	9.11E-07	7.62E-06	2.81E-02	7.80E-07	6.53E-06	2.04E-01	5.67E-06	4.74E-05	1.75E-01	4.86E-06	4.07E-05
Road 9	9	1600-1700	3.28E-02	9.11E-07	7.62E-06	2.81E-02	7.80E-07	6.53E-06	2.04E-01	5.67E-06	4.74E-05	1.75E-01	4.86E-06	4.07E-05
Road 9	9	1700-1800	3.28E-02	9.11E-07	7.62E-06	2.81E-02	7.80E-07	6.53E-06	2.04E-01	5.67E-06	4.74E-05	1.75E-01	4.86E-06	4.07E-05
Road 9	9	1800-1900	3.14E-02	8.72E-07	7.29E-06	2.69E-02	7.48E-07	6.26E-06	1.96E-01	5.45E-06	4.56E-05	1.68E-01	4.68E-06	3.91E-05
Road 9	9	1900-2000	3.14E-02	8.72E-07	7.29E-06	2.69E-02	7.48E-07	6.26E-06	1.96E-01	5.45E-06	4.56E-05	1.68E-01	4.68E-06	3.91E-05
Road 9	9	2000-2100	3.14E-02	8.72E-07	7.29E-06	2.69E-02	7.48E-07	6.26E-06	1.96E-01	5.45E-06	4.56E-05	1.68E-01	4.68E-06	3.91E-05
Road 9	9	2100-2200	3.14E-02	8.72E-07	7.29E-06	2.69E-02	7.48E-07	6.26E-06	1.96E-01	5.45E-06	4.56E-05	1.68E-01	4.68E-06	3.91E-05
Road 9	9	2200-2300	3.14E-02	8.72E-07	7.29E-06	2.69E-02	7.48E-07	6.26E-06	1.96E-01	5.45E-06	4.56E-05	1.68E-01	4.68E-06	3.91E-05
Road 9	9	2300-0000	3.14E-02	8.72E-07	7.29E-06	2.69E-02	7.48E-07	6.26E-06	1.96E-01	5.45E-06	4.56E-05	1.68E-01	4.68E-06	3.91E-05
Road 10	10	0000-0100	1.16E-02	6.76E-08	5.06E-07	1.02E-02	7.48E-08	9.88E-07	1.02E-01	5.94E-07	4.45E-06	9.00E-02	6.57E-07	8.68E-06
Road 10	10	0100-0200	1.09E-02	6.36E-08	4.76E-07	9.60E-03	7.04E-08	9.28E-07	9.60E-02	5.58E-07	4.18E-06	8.45E-02	6.17E-07	8.15E-06
Road 10	10	0200-0300	1.03E-02	5.99E-08	4.48E-07	9.04E-03	6.63E-08	8.74E-07	9.04E-02	5.26E-07	3.94E-06	7.96E-02	5.81E-07	7.68E-06
Road 10	10	0300-0400	1.26E-02	3.30E-08	2.76E-07	1.11E-02	2.91E-08	2.43E-07	1.02E-01	2.68E-07	2.24E-06	8.99E-02	2.36E-07	1.97E-06
Road 10	10	0400-0500	1.35E-02	3.88E-08	3.25E-07	1.19E-02	3.42E-08	2.86E-07	1.09E-01	3.14E-07	2.63E-06	9.63E-02	2.77E-07	2.32E-06
Road 10	10	0500-0600	1.42E-02	4.96E-08	4.15E-07	1.25E-02	4.37E-08	3.65E-07	1.14E-01	4.01E-07	3.35E-06	1.01E-01	3.53E-07	2.95E-06
Road 10	10	0600-0700	1.49E-02	7.26E-08	5.44E-07	1.31E-02	6.40E-08	4.79E-07	1.20E-01	5.86E-07	4.39E-06	1.06E-01	5.16E-07	3.87E-06
Road 10	10	0700-0800	1.56E-02	1.06E-07	7.95E-07	1.37E-02	9.34E-08	7.00E-07	1.26E-01	8.56E-07	6.42E-06	1.11E-01	7.54E-07	5.65E-06
Road 10	10	0800-0900	1.63E-02	1.55E-07	1.16E-06	1.43E-02	1.37E-07	1.02E-06	1.31E-01	1.25E-06	9.38E-06	1.15E-01	1.10E-06	8.25E-06
Road 10	10	0900-1000	1.70E-02	2.26E-07	1.69E-06	1.49E-02	1.99E-07	1.49E-06	1.37E-01	1.82E-06	1.37E-05	1.20E-01	1.61E-06	1.20E-05
Road 10	10	1000-1100	1.77E-02	3.29E-07	2.47E-06	1.55E-02	2.89E-07	2.17E-06	1.43E-01	2.65E-06	1.99E-05	1.25E-01	2.34E-06	1.75E-05
Road 10	10	1100-1200	1.84E-02	4.77E-07	3.58E-06	1.61E-02	4.19E-07	3.14E-06	1.49E-01	3.85E-06	2.89E-05	1.30E-01	3.39E-06	2.54E-05
Road 10	10	1200-1300	2.39E-02	4.77E-07	3.58E-06	1.73E-02	3.45E-07	2.59E-06	1.93E-01	3.85E-06	2.89E-05	1.40E-01	2.79E-06	2.09E-05
Road 10	10	1300-1400	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	1400-1500	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	1500-1600	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	1600-1700	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	1700-1800	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	1800-1900	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	1900-2000	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	2000-2100	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	2100-2200	2.72E-02	5.93E-07	4.67E-06	1.96E-02	4.27E-07	3.36E-06	2.20E-01	4.79E-06	3.77E-05	1.58E-01	3.44E-06	2.71E-05
Road 10	10	2200-2300	2.74E-02	5.97E-07	4.70E-06	1.97E-02	4.30E-07	3.38E-06	2.21E-01	4.82E-06	3.79E-05	1.59E-01	3.46E-06	2.73E-05
Road 10	10	2300-0000	2.74E-02	5.97E-07	4.70E-06	1.97E-02	4.30E-07	3.38E-06	2.21E-01	4.82E-06	3.79E-05	1.59E-01	3.46E-06	2.73E-05
Road 11	11	0000-0100	3.16E-02	1.77E-07	3.78E-06	4.04E-02	2.98E-07	6.40E-06	4.99E-06	2.79E-07	5.97E-06	6.38E-06	3.57E-07	7.66E-06
Road 11	11	0100-0200	3.47E-02	1.30E-07	4.99E-06	3.32E-02	1.24E-07	4.77E-06	2.33E-01	8.73E-06	3.35E-06	2.23E-01	8.35E-06	3.21E-06
Road 11	11	0200-0300	3.76E-02	1.06E-07	4.07E-06	3.63E-02	1.02E-07	3.92E-06	2.35E-01	6.62E-06	2.54E-06	2.27E-01	6.39E-06	2.45E-06
Road 11	11	0300-0400	3.65E-02	9.50E-08	3.64E-06	3.98E-02	9.11E-08	3.50E-06	2.47E-01	6.43E-06	2.47E-06	2.34E-01	6.09E-06	2.34E-06
Road 11	11	0400-0500	4.30E-02	1.07E-07	4.11E-06	4.11E-02	1.02E-07	3.93E-06	2.50E-01	6.21E-06	2.39E-06	2.39E-01	5.96E-06	2.29E-06
Road 11	11	0500-0600	4.32E-02	1.78E-07	6.85E-06	4.14E-02	1.71E-07	6.57E-06	2.62E-01	1.08E-06	4.16E-06	2.51E-01	1.04E-06	3.99E-06
Road 11	11	0600-0700	4.58E-02	1.94E-07	7.51E-06	4.40E-02	1.86E-07	7.20E-06	2.78E-01	1.18E-06	4.55E-06	2.67E-01	1.13E-06	4.37E-06
Road 11	11	0700-0800	5.90E-02	1.06E-06	4.05E-06	5.47E-02	9.80E-07	3.76E-06	3.26E-01	5.83E-06	2.24E-05	3.02E-01	5.41E-06	2.08E-05
Road 11	11	0800-0900	5.97E-02	1.23E-06	4.72E-06	5.42E-02	1.12E-06	4.28E-06	3.05E-01	6.28E-06	2.41E-05	2.77E-01	5.70E-06	2.19E-05
Road 11	11	0900-1000	5.98E-02	1.23E-06	4.72E-06	5.44E-02	1.12E-06	4.28E-06	3.06E-01	6.28E-06	2.41E-05	2.78E-01	5.70E-06	2.19E-05
Road 11	11	1000-1100	7.41E-02	1.14E-06	4.39E-06	6.66E-02	1.03E-06	3.94E-06	3.29E-01	5.08E-06	1.95E-05	2.95E-01	4.55E-06	1.75E-05
Road 11	11	1100-1200	7.40E-02	1.09E-06	4.17E-06	6.72E-02	9.85E-07	3.78E-06	3.33E-01	4.88E-06	1.87E-05	3.01E-01	4.41E-06	1.69E-05
Road 11	11	1200-1300	7.41E-02	1.10E-06	4.22E-06	6.74E-02	1.00E-06	3.84E-06	3.29E-01	4.88E-06	1.87E-05	2.99E-01	4.44E-06	1.70E-05
Road 11	11	1300-1400	1.17E-01	2.48E-06	9.52E-06	1.06E-01	2.26E-06	8.68E-06	4.49E-01	9.54E-06	3.64E-05	4.06E-01	8.63E-06	3.30E-05
Road 11	11	1400-1500	1.15E-01	2.52E-06	9.66E-06	1.04E-01	2.28E-06	8.74E-06	4.49E-01	9.87E-06	3.78E-05	4.07E-01	8.94E-06	3.42E-05
Road 11	11	1500-1600	1.16E-01	2.50E-06	9.58E-06	1.05E-01	2.26E-06	8.66E-06	4.49E-01	9.69E-06	3.71E-05	4.06E-01	8.76E-06	3.36E-05
Road 11	11	1600-1700	1.10E-01	2.42E-06	9.28E-06	1.00E-01	2.20E-06	8.44E-06	4.49E-01	9.87E-06	3.78E-05	4.07E-01	8.94E-06	3.42E-05
Road 11	11	1700-1800	1.05E-01	2.30E-06	8.82E-06	9.54E-02	2.09E-06	8.02E-06	4.49E-01	9.87E-06	3.78E-05	4.07E-01	8.94E-06	3.42E-05
Road 11	11	1800-1900	1.01E-01	2.22E-06	8.52E-06	9.21E-02	2.02E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			Monthly Hour Mix		Monthly Average		Monthly Hour Mix		Monthly Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 31	31	0000-0100	2.03E-02	4.10E-08	1.66E-07	3.23E-01	6.52E-07	2.64E-06	5.13E-03	1.04E-08	4.19E-08
Road 31	31	0100-0200	2.27E-02	3.18E-08	2.84E-07	2.10E-02	2.94E-08	2.63E-07	1.94E-04	2.72E-10	2.43E-09
Road 31	31	0200-0300	2.49E-02	2.72E-08	2.43E-07	2.35E-02	2.56E-08	2.29E-07	1.53E-01	1.67E-07	1.49E-06
Road 31	31	0300-0400	2.74E-02	3.29E-08	2.24E-07	2.57E-02	2.35E-08	2.10E-07	1.42E-01	1.27E-07	1.13E-06
Road 31	31	0400-0500	2.73E-02	2.70E-08	2.42E-07	2.53E-02	2.51E-08	2.24E-07	1.57E-01	1.55E-07	1.39E-06
Road 31	31	0500-0600	2.46E-02	3.89E-08	3.47E-07	2.28E-02	3.61E-08	3.22E-07	1.60E-01	2.53E-07	2.26E-06
Road 31	31	0600-0700	2.21E-02	5.04E-08	6.28E-07	1.99E-02	4.53E-08	5.64E-07	1.61E-01	3.68E-07	4.58E-06
Road 31	31	0700-0800	2.62E-02	1.81E-07	1.61E-06	2.33E-02	1.61E-07	1.43E-06	1.69E-01	1.17E-06	1.04E-05
Road 31	31	0800-0900	2.62E-02	1.98E-07	1.77E-06	2.16E-02	1.70E-07	1.52E-06	1.68E-01	1.27E-06	1.13E-05
Road 31	31	0900-1000	2.81E-02	2.02E-07	1.80E-06	2.61E-02	1.88E-07	1.68E-06	1.69E-01	1.22E-06	1.08E-05
Road 31	31	1000-1100	3.10E-02	2.01E-07	1.79E-06	2.91E-02	1.89E-07	1.68E-06	1.69E-01	1.10E-06	9.78E-06
Road 31	31	1100-1200	3.07E-02	1.89E-07	1.69E-06	2.62E-02	1.61E-07	1.44E-06	1.69E-01	1.04E-06	9.32E-06
Road 31	31	1200-1300	3.11E-02	1.90E-07	1.69E-06	2.66E-02	1.62E-07	1.44E-06	1.69E-01	1.03E-06	9.21E-06
Road 31	31	1300-1400	3.08E-02	1.89E-07	1.68E-06	2.64E-02	1.61E-07	1.43E-06	1.69E-01	1.04E-06	9.21E-06
Road 31	31	1400-1500	3.10E-02	1.89E-07	1.69E-06	2.64E-02	1.61E-07	1.43E-06	1.68E-01	1.02E-06	9.12E-06
Road 31	31	1500-1600	3.17E-02	1.94E-07	1.73E-06	2.88E-02	1.76E-07	1.57E-06	1.69E-01	1.03E-06	9.21E-06
Road 31	31	1600-1700	2.96E-02	1.90E-07	1.70E-06	2.50E-02	1.61E-07	1.44E-06	1.68E-01	1.08E-06	9.64E-06
Road 31	31	1700-1800	2.50E-02	1.72E-07	1.54E-06	2.13E-02	1.47E-07	1.31E-06	1.68E-01	1.15E-06	1.03E-05
Road 31	31	1800-1900	2.13E-02	1.59E-07	1.34E-06	1.81E-02	1.35E-07	1.14E-06	1.68E-01	1.25E-06	1.06E-05
Road 31	31	1900-2000	1.60E-02	8.19E-08	7.32E-07	1.41E-02	7.18E-08	6.42E-07	1.57E-01	8.03E-07	7.18E-06
Road 31	31	2000-2100	1.65E-02	6.65E-08	5.95E-07	1.49E-02	6.00E-08	5.37E-07	1.64E-01	6.61E-07	5.91E-06
Road 31	31	2100-2200	1.56E-02	6.24E-08	5.58E-07	1.40E-02	5.60E-08	5.01E-07	1.64E-01	6.57E-07	5.87E-06
Road 31	31	2200-2300	1.62E-02	4.89E-08	5.62E-07	1.47E-02	4.44E-08	5.10E-07	1.64E-01	4.96E-07	5.71E-06
Road 31	31	2300-0000	1.73E-02	5.16E-08	4.61E-07	1.54E-02	4.60E-08	4.11E-07	1.58E-01	4.71E-07	4.21E-06
Road 32	32	0000-0100	1.35E-02	1.23E-07	8.14E-07	1.22E-02	1.11E-07	7.36E-07	1.50E-01	1.36E-06	9.05E-06
Road 32	32	0100-0200	1.28E-02	6.48E-08	4.27E-07	1.15E-02	5.84E-08	3.85E-07	1.50E-01	7.60E-07	5.01E-06
Road 32	32	0200-0300	1.41E-02	6.19E-08	4.11E-06	1.33E-02	5.82E-08	3.87E-06	1.43E-01	6.27E-07	4.16E-05
Road 32	32	0300-0400	1.48E-02	5.18E-08	3.44E-06	1.39E-02	4.85E-08	3.22E-06	1.44E-01	5.03E-07	3.34E-05
Road 32	32	0400-0500	1.52E-02	4.01E-08	2.66E-06	1.42E-02	3.75E-08	2.49E-06	1.44E-01	3.79E-07	2.52E-05
Road 32	32	0500-0600	1.66E-02	1.13E-07	7.50E-06	1.54E-02	1.05E-07	6.95E-06	1.43E-01	9.74E-07	6.46E-05
Road 32	32	0600-0700	1.75E-02	2.57E-07	1.71E-05	1.58E-02	2.32E-07	1.54E-05	1.43E-01	2.10E-06	1.39E-04
Road 32	32	0700-0800	1.82E-02	6.38E-07	4.24E-05	1.58E-02	5.54E-07	3.68E-05	1.42E-01	4.98E-06	3.31E-04
Road 32	32	0800-0900	1.84E-02	6.38E-07	4.24E-05	1.58E-02	5.46E-07	3.62E-05	1.50E-01	5.20E-06	3.45E-04
Road 32	32	0900-1000	2.08E-02	6.35E-07	4.21E-05	1.80E-02	5.49E-07	3.64E-05	1.50E-01	4.58E-06	3.04E-04
Road 32	32	1000-1100	2.32E-02	6.20E-07	4.12E-05	2.01E-02	5.37E-07	3.56E-05	1.50E-01	4.01E-06	2.66E-04
Road 32	32	1100-1200	2.26E-02	5.82E-07	4.96E-05	3.29E-05	1.63E-03	4.20E-06	2.79E-04	1.38E-01	3.54E-06
Road 32	32	1200-1300	2.03E-02	6.60E-07	2.39E-05	1.73E-02	3.06E-07	2.03E-05	1.29E-01	2.28E-06	1.52E-04
Road 32	32	1300-1400	2.13E-02	1.34E-07	8.90E-06	1.81E-02	2.28E-07	1.51E-05	1.29E-01	1.62E-06	1.08E-04
Road 32	32	1400-1500	2.07E-02	4.01E-07	2.66E-05	1.76E-02	3.42E-07	2.27E-05	1.30E-01	2.51E-06	1.67E-04
Road 32	32	1500-1600	1.99E-02	3.89E-07	2.58E-05	1.64E-02	3.20E-07	2.12E-05	1.30E-01	2.54E-06	1.68E-04
Road 32	32	1600-1700	1.54E-02	3.54E-07	2.35E-05	1.31E-02	3.02E-07	2.00E-05	1.26E-01	2.90E-06	1.92E-04
Road 32	32	1700-1800	1.54E-02	3.54E-07	2.35E-05	1.31E-02	3.02E-07	2.00E-05	1.26E-01	2.90E-06	1.92E-04
Road 32	32	1800-1900	1.18E-02	2.87E-07	1.91E-05	1.01E-02	2.46E-07	1.63E-05	1.26E-01	3.06E-06	2.03E-04
Road 32	32	1900-2000	1.08E-02	1.60E-07	1.06E-05	9.17E-03	1.36E-07	9.04E-06	1.26E-01	1.87E-06	1.24E-04
Road 32	32	2000-2100	1.06E-02	1.60E-07	1.58E-03	9.06E-03	1.37E-07	1.35E-03	1.26E-01	1.90E-06	1.87E-02
Road 32	32	2100-2200	9.68E-03	1.45E-07	9.61E-06	8.56E-03	1.28E-07	8.50E-06	1.26E-01	1.89E-06	1.25E-04
Road 32	32	2200-2300	1.02E-02	1.42E-07	9.39E-06	9.03E-03	1.26E-07	8.31E-06	1.26E-01	1.76E-06	1.16E-04
Road 32	32	2300-0000	1.03E-02	1.12E-07	7.43E-06	9.15E-03	9.95E-08	6.60E-06	1.11E-01	1.21E-06	8.03E-05
Road 33	33	0000-0100	1.28E-02	1.25E-07	1.89E-06	1.15E-02	1.13E-07	1.70E-06	9.47E-02	9.24E-07	1.39E-05
Road 33	33	0100-0200	1.28E-02	1.25E-07	1.89E-06	1.15E-02	1.13E-07	1.70E-06	9.47E-02	9.24E-07	1.39E-05
Road 33	33	0200-0300	1.57E-02	7.81E-08	1.17E-06	1.48E-02	7.34E-08	1.10E-06	9.54E-02	4.73E-07	7.12E-06
Road 33	33	0300-0400	1.75E-02	7.07E-08	1.06E-06	1.64E-02	6.62E-08	9.95E-07	9.89E-02	3.99E-07	6.01E-06
Road 33	33	0400-0500	1.74E-02	7.18E-08	1.08E-06	1.63E-02	6.73E-08	1.01E-06	9.85E-02	4.06E-07	6.11E-06
Road 33	33	0500-0600	1.68E-02	1.25E-07	1.88E-06	1.56E-02	1.74E-06	1.02E-06	9.37E-02	6.98E-07	1.04E-05
Road 33	33	0600-0700	1.61E-02	2.49E-07	3.75E-06	1.43E-02	2.21E-07	3.33E-06	9.09E-02	1.41E-06	2.12E-05
Road 33	33	0700-0800	1.82E-02	6.79E-07	1.02E-05	1.55E-02	5.81E-06	8.82E-06	3.29E-06	4.96E-05	
Road 33	33	0800-0900	1.82E-02	6.79E-07	1.02E-05	1.55E-02	5.81E-07	8.74E-06	3.29E-06	4.96E-05	
Road 33	33	0900-1000	2.01E-02	6.84E-07	1.03E-05	1.81E-02	5.91E-07	8.83E-06	3.20E-06	4.82E-05	
Road 33	33	1000-1100	2.37E-02	6.46E-07	9.73E-06	2.13E-02	5.58E-07	8.34E-06	3.13E-06	4.71E-05	
Road 33	33	1100-1200	2.32E-02	6.40E-07	9.63E-06	2.09E-02	5.53E-07	8.26E-06	3.13E-06	4.71E-05	
Road 33	33	1200-1300	2.01E-02	2.96E-07	8.28E-06	1.57E-02	2.56E-07	7.16E-06	2.45E-06	3.42E-05	
Road 33	33	1300-1400	2.09E-02	8.38E-07	1.26E-05	1.88E-02	7.24E-06	1.09E-05	3.13E-06	4.71E-05	
Road 33	33	1400-1500	2.07E-02	8.41E-07	1.26E-05	1.86E-02	7.27E-06	1.09E-05	3.13E-06	4.71E-05	
Road 33	33	1500-1600	1.79E-02	7.26E-07	1.09E-05	1.61E-02	6.27E-06	9.42E-06	3.13E-06	4.71E-05	
Road 33	33	1600-1700	1.46E-02	5.91E-07	8.89E-06	1.31E-02	5.11E-06	7.68E-06	3.13E-06	4.71E-05	
Road 33	33	1700-1800	1.46E-02	5.91E-07	8.89E-06	1.31E-02	5.11E-06	7.68E-06	3.13E-06	4.71E-05	
Road 33	33	1800-1900	1.87E-02	5.59E-07	8.41E-06	1.60E-02	4.79E-07	7.21E-06	1.15E-02	3.44E-06	5.17E-05
Road 33	33	1900-2000	1.87E-02	5.59E-07	8.41E-06	1.60E-02	4.79E-07	7.21E-06	1.15E-02	3.44E-06	5.17E-05
Road 33	33	2000-2100	1.87E-02	5.59E-07	8.41E-06	1.60E-02	4.79E-07	7.21E-06	1.15E-02	3.44E-06	5.17E-05
Road 33	33	2100-2200	1.24E-02	2.52E-07	3.80E-06	1.29E-02	2.24E-07	3.37E-06	1.13E-01	2.30E-06	3.46E-05
Road 33	33	2200-2300	1.51E-02	2.49E-07	3.75E-06	1.31E-02	2.17E-07	3.26E-06	1.18E-01	1.95E-06	2.93E-05
Road 33	33	2300-0000	1.60E-02	2.23E-07	3.36E-06	1.39E-02	1.94E-07	2.92E-06	1.18E-01	1.65E-06	2.48E-05
Road 34	34	0000-0100	8.81E-03	4.25E-08	1.11E-06	7.63E-03	3.68E-08	9.61E-07	1.11E-01	5.35E-07	1.40E-05
Road 34	34	0100-0200	4.25E-02	1.11E-06	8.19E-06	3.93E-02	1.03E-06	7.58E-06	3.40E-02	8.90E-07	6.56E-06
Road 34	34	0200-0300	9.69E-03	4.25E-08	1.31E-06	8.39E-03	3.68E-08	1.13E-06	1.11E-01	4.88E-07	1.50E-05
Road 34	34	0300-0400	1.07E-02	3.02E-08	7.90E-07	1.00E-02	2.82E-08	7.37E-07	1.05E-01	2.96E-07	7.74E-06
Road 34	34	0400-0500	1.12E-02	3.43E-08	8.97E-07	1.03E-02	3.17E-08	8.29E-07	8.23E-02	2.53E-07	6.61E-06
Road 34	34	0500-0600	1.19E-02	1.51E-08	3.95E-07	1.10E-02	1.40E-08	3.67E-07	8.23E-02	1.04E-07	2.72E-06
Road 34	34	0600-0700	1.11E-02	1.22E-07	3.21E-06	9.95E-03	1.10E-07	2.88E-06	8.64E-02	9.55E-07	2.50E-05
Road 34	34	0700-0800	1.27E-02	2.86E-07	7.49E-06	1.12E-02	2.53E-07	6.62E-06	9.27E-02	2.09E-06	5.47E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2033

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			Monthly Hour Mix		Monthly Average		Monthly Hour Mix		Monthly Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 34	34	0800-0900	1.23E-02	3.18E-07	1.04E-02	2.71E-07	7.10E-06	8.53E-02	2.22E-06	5.80E-05	7.10E-01
Road 34	34	0900-1000	1.39E-02	2.96E-07	7.75E-06	1.22E-02	2.55E-07	6.68E-06	9.35E-02	5.21E-05	7.91E-02
Road 34	34	1000-1100	1.57E-02	2.89E-07	7.56E-06	1.32E-02	2.43E-07	6.36E-06	9.91E-02	1.82E-06	4.77E-05
Road 34	34	1100-1200	1.51E-02	2.63E-07	6.88E-06	1.28E-02	2.23E-07	5.85E-06	9.93E-02	1.74E-06	4.54E-05
Road 34	34	1200-1300	3.41E-02	3.94E-07	1.03E-05	2.91E-02	3.36E-07	8.80E-06	2.75E-01	3.18E-06	8.31E-05
Road 34	34	1300-1400	3.35E-02	4.09E-07	1.07E-05	2.88E-02	3.51E-07	9.19E-06	2.64E-01	3.22E-06	8.43E-05
Road 34	34	1400-1500	3.41E-02	4.29E-07	1.12E-05	2.91E-02	3.66E-07	9.57E-06	2.71E-01	3.40E-06	8.91E-05
Road 34	34	1500-1600	3.23E-02	4.17E-07	1.09E-05	2.71E-02	3.50E-07	9.17E-06	2.67E-01	3.45E-06	9.03E-05
Road 34	34	1600-1700	3.30E-02	4.34E-07	1.14E-05	2.79E-02	3.66E-07	9.59E-06	2.82E-01	3.71E-06	9.70E-05
Road 34	34	1700-1800	2.99E-02	3.98E-07	1.04E-05	2.47E-02	3.40E-07	8.90E-06	2.90E-01	3.99E-06	1.04E-04
Road 34	34	1800-1900	2.59E-02	3.43E-07	8.99E-06	2.22E-02	2.95E-07	7.71E-06	3.02E-01	4.00E-06	1.05E-04
Road 34	34	1900-2000	2.45E-02	2.49E-07	6.53E-06	2.15E-02	2.19E-07	5.73E-06	3.29E-01	3.35E-06	8.76E-05
Road 34	34	2000-2100	2.48E-02	1.44E-07	3.78E-06	2.19E-02	1.26E-07	3.30E-06	3.32E-01	1.92E-06	5.04E-05
Road 34	34	2100-2200	2.34E-02	1.85E-07	4.83E-06	2.09E-02	1.64E-07	4.30E-06	3.13E-01	2.48E-06	6.49E-05
Road 34	34	2200-2300	2.47E-02	1.88E-07	4.93E-06	2.20E-02	1.67E-07	4.39E-06	3.30E-01	2.51E-06	6.59E-05
Road 34	34	2300-0000	2.35E-02	1.79E-07	4.69E-06	2.09E-02	1.59E-07	4.17E-06	3.14E-01	2.39E-06	6.27E-05
Road 35	35	0000-0100	4.19E-02	3.53E-08	8.60E-08	3.89E-02	3.28E-08	7.98E-08	1.32E-01	1.11E-07	2.70E-07
Road 35	35	0100-0200	4.80E-02	3.53E-08	8.60E-08	4.46E-02	3.28E-08	7.98E-08	1.32E-01	1.11E-07	2.70E-07
Road 35	35	0200-0300	4.80E-02	3.82E-08	9.02E-08	4.46E-02	3.55E-08	8.38E-08	1.32E-01	1.05E-07	2.48E-07
Road 35	35	0300-0400	5.39E-02	3.22E-08	7.84E-08	5.05E-02	3.02E-08	7.34E-08	1.55E-01	9.27E-08	2.26E-07
Road 35	35	0400-0500	5.29E-02	3.36E-08	8.16E-08	4.91E-02	3.11E-08	7.57E-08	1.55E-01	9.81E-08	2.39E-07
Road 35	35	0500-0600	4.37E-02	4.03E-08	9.80E-08	4.06E-02	3.74E-08	9.10E-08	1.38E-01	1.27E-07	3.09E-07
Road 35	35	0600-0700	4.27E-02	4.03E-08	9.80E-08	3.96E-02	3.74E-08	9.10E-08	1.38E-01	1.30E-07	3.16E-07
Road 35	35	0700-0800	4.91E-02	2.21E-07	5.48E-07	4.56E-02	2.05E-07	5.08E-07	1.56E-01	7.02E-07	1.74E-06
Road 35	35	0800-0900	4.91E-02	2.21E-07	5.48E-07	4.56E-02	2.05E-07	5.08E-07	1.56E-01	7.02E-07	1.74E-06
Road 35	35	0900-1000	5.20E-02	2.16E-07	5.26E-07	5.30E-02	2.18E-07	5.48E-07	1.95E-01	8.17E-07	2.06E-06
Road 35	35	1000-1100	5.20E-02	2.16E-07	5.26E-07	5.30E-02	2.18E-07	5.48E-07	1.95E-01	8.17E-07	2.06E-06
Road 35	35	1100-1200	6.22E-02	2.16E-07	5.26E-07	5.30E-02	1.84E-07	4.48E-07	1.95E-01	6.78E-07	1.65E-06
Road 35	35	1200-1300	6.22E-02	2.16E-07	5.26E-07	5.30E-02	1.84E-07	4.48E-07	1.95E-01	6.78E-07	1.65E-06
Road 35	35	1300-1400	6.85E-02	1.62E-07	3.95E-07	5.89E-02	1.39E-07	3.39E-07	1.98E-01	4.68E-07	1.14E-06
Road 35	35	1400-1500	7.00E-02	1.72E-07	4.19E-07	5.96E-02	1.47E-07	3.57E-07	2.01E-01	4.96E-07	1.21E-06
Road 35	35	1500-1600	6.64E-02	1.72E-07	4.18E-07	5.60E-02	1.45E-07	3.53E-07	1.90E-01	4.93E-07	1.20E-06
Road 35	35	1600-1700	6.64E-02	1.72E-07	4.18E-07	5.60E-02	1.45E-07	3.53E-07	1.90E-01	4.93E-07	1.20E-06
Road 35	35	1700-1800	5.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.18E-06
Road 35	35	1800-1900	5.83E-02	1.63E-07	3.97E-07	4.99E-02	1.40E-07	3.40E-07	1.73E-01	4.85E-07	1.18E-06
Road 35	35	1900-2000	2.53E-02	4.64E-08	1.13E-07	2.22E-02	4.07E-08	9.90E-08	9.32E-02	1.71E-07	4.16E-07
Road 35	35	2000-2100	2.82E-02	4.18E-08	1.02E-07	2.54E-02	3.77E-08	9.17E-08	1.04E-01	1.54E-07	3.74E-07
Road 35	35	2100-2200	2.74E-02	2.54E-08	6.18E-08	2.46E-02	2.28E-08	5.55E-08	1.01E-01	9.36E-08	2.28E-07
Road 35	35	2200-2300	2.81E-02	4.05E-08	9.86E-08	2.45E-02	3.53E-08	8.60E-08	1.05E-01	1.51E-07	3.68E-07
Road 35	35	2300-0000	3.20E-02	3.66E-08	8.90E-08	2.85E-02	3.26E-08	7.94E-08	1.11E-01	1.26E-07	3.08E-07
Road 36	36	0000-0100	5.44E-02	1.44E-07	3.51E-07	4.84E-02	1.28E-07	3.12E-07	1.88E-01	4.98E-07	1.21E-06
Road 36	36	0100-0200	5.01E-02	5.40E-08	1.36E-07	4.75E-02	5.11E-08	1.29E-07	2.17E-01	2.34E-07	5.89E-07
Road 36	36	0200-0300	5.58E-02	4.82E-08	1.21E-07	5.33E-02	4.61E-08	1.16E-07	2.23E-01	1.93E-07	4.85E-07
Road 36	36	0300-0400	5.58E-02	4.82E-08	1.21E-07	5.33E-02	4.61E-08	1.16E-07	2.23E-01	1.93E-07	4.85E-07
Road 36	36	0400-0500	6.19E-02	4.90E-08	1.23E-07	5.85E-02	4.63E-08	1.17E-07	2.37E-01	1.87E-07	4.72E-07
Road 36	36	0500-0600	5.69E-02	6.71E-08	1.69E-07	5.41E-02	6.38E-08	1.61E-07	2.42E-01	2.86E-07	7.20E-07
Road 36	36	0600-0700	5.26E-02	1.38E-07	3.47E-07	4.97E-02	1.30E-07	3.27E-07	2.24E-01	5.89E-07	1.48E-06
Road 36	36	0700-0800	6.87E-02	3.45E-07	8.70E-07	6.33E-02	3.18E-07	8.02E-07	2.82E-01	1.42E-06	3.57E-06
Road 36	36	0800-0900	6.75E-02	3.84E-07	9.67E-07	6.09E-02	3.46E-07	8.72E-07	2.64E-01	1.50E-06	3.78E-06
Road 36	36	0900-1000	7.29E-02	3.92E-07	9.87E-07	6.77E-02	3.64E-07	9.17E-07	2.64E-01	1.42E-06	3.58E-06
Road 36	36	1000-1100	8.25E-02	3.77E-07	9.48E-07	7.35E-02	3.36E-07	8.46E-07	2.89E-01	1.32E-06	3.32E-06
Road 36	36	1100-1200	8.30E-02	3.63E-07	9.14E-07	7.46E-02	3.26E-07	8.21E-07	2.91E-01	1.27E-06	3.21E-06
Road 36	36	1200-1300	7.29E-02	3.90E-07	8.43E-07	6.49E-02	3.47E-07	7.50E-07	2.84E-01	1.52E-06	3.28E-06
Road 36	36	1300-1400	1.00E-01	3.67E-07	9.25E-07	9.03E-02	3.32E-07	8.35E-07	3.23E-01	1.19E-06	2.99E-06
Road 36	36	1400-1500	9.79E-02	3.71E-07	9.34E-07	8.78E-02	3.33E-07	8.38E-07	3.20E-01	1.21E-06	3.05E-06
Road 36	36	1500-1600	9.43E-02	3.70E-07	9.32E-07	8.47E-02	3.32E-07	8.37E-07	3.12E-01	1.22E-06	3.08E-06
Road 36	36	1600-1700	8.89E-02	3.71E-07	9.34E-07	7.98E-02	3.33E-07	8.38E-07	3.20E-01	1.33E-06	3.36E-06
Road 36	36	1700-1800	8.89E-02	3.71E-07	9.34E-07	7.98E-02	3.33E-07	8.38E-07	3.20E-01	1.33E-06	3.36E-06
Road 36	36	1800-1900	6.52E-02	3.26E-07	8.21E-07	5.85E-02	2.93E-07	7.37E-07	2.10E-01	1.05E-06	2.65E-06
Road 36	36	1900-2000	6.52E-02	3.26E-07	8.21E-07	5.85E-02	2.93E-07	7.37E-07	2.10E-01	1.05E-06	2.65E-06
Road 36	36	2000-2100	6.52E-02	3.26E-07	8.21E-07	5.85E-02	2.93E-07	7.37E-07	2.10E-01	1.05E-06	2.65E-06
Road 36	36	2100-2200	4.66E-02	9.98E-08	2.51E-07	4.18E-02	8.96E-08	2.26E-07	1.68E-01	3.60E-07	9.07E-07
Road 36	36	2200-2300	4.66E-02	9.98E-08	2.51E-07	4.18E-02	8.96E-08	2.26E-07	1.68E-01	3.60E-07	9.07E-07
Road 36	36	2300-0000	4.88E-02	7.91E-08	1.99E-07	4.53E-02	7.34E-08	1.85E-07	2.22E-01	3.61E-07	9.09E-07
Road 37	37	0000-0100	3.84E-02	1.85E-09	4.63E-09	3.47E-02	1.67E-09	4.19E-09	1.26E-01	6.07E-09	1.52E-08
Road 37	37	0100-0200	3.84E-02	1.85E-09	4.63E-09	3.47E-02	1.67E-09	4.19E-09	1.26E-01	6.07E-09	1.52E-08
Road 37	37	0200-0300	4.26E-02	1.85E-09	4.63E-09	3.85E-02	1.67E-09	4.19E-09	1.40E-01	6.07E-09	1.52E-08
Road 37	37	0300-0400	4.26E-02	1.85E-09	4.63E-09	3.85E-02	1.67E-09	4.19E-09	1.40E-01	6.07E-09	1.52E-08
Road 37	37	0400-0500	4.26E-02	1.85E-09	4.63E-09	3.85E-02	1.67E-09	4.19E-09	1.40E-01	6.07E-09	1.52E-08
Road 37	37	0500-0600	4.26E-02	1.85E-09	4.63E-09	3.85E-02	1.67E-09	4.19E-09	1.40E-01	6.07E-09	1.52E-08
Road 37	37	0600-0700	4.26E-02	1.85E-09	4.63E-09	3.85E-02	1.67E-09	4.19E-09	1.40E-01	6.07E-09	1.52E-08
Road 37	37	0700-0800	6.00E-02	9.11E-09	2.09E-08	5.70E-02	8.66E-09	1.99E-08	2.80E-01	4.25E-08	9.76E-08
Road 37	37	0800-0900	6.11E-02	1.09E-08	2.50E-08	5.74E-02	1.02E-08	2.34E-08	2.64E-01	4.70E-08	1.08E-07
Road 37	37	0900-1000	7.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July) Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	1.60E-02	4.41E-07	1.56E-05	8.92E-02	7.27E-06	2.00E-04	4.80E-05	5.97E-12	1.64E-06	3.95E-05		
Road 103	103	1700-1800	1.14E-02	3.54E-07	8.51E-06	9.72E-03	3.01E-07	7.24E-06	6.26E-02	1.94E-06	4.66E-05	5.16E-02	1.60E-06	3.84E-05
Road 103	103	1800-1900	8.13E-03	2.73E-07	6.57E-06	6.94E-03	2.33E-07	5.60E-06	4.68E-02	1.57E-06	3.78E-05	3.85E-02	1.29E-06	3.11E-05
Road 103	103	1900-2000	6.92E-03	3.13E-07	4.46E-06	6.07E-03	1.80E-07	3.84E-06	4.53E-02	1.20E-06	2.86E-05	3.81E-02	1.01E-06	2.41E-05
Road 103	103	2000-2100	6.61E-03	1.36E-07	3.27E-06	5.93E-03	1.22E-07	2.94E-06	4.91E-02	1.01E-06	2.43E-05	4.27E-02	8.78E-07	2.11E-05
Road 103	103	2100-2200	5.83E-03	1.20E-07	2.89E-06	5.12E-03	1.06E-07	2.54E-06	4.79E-02	9.89E-07	2.38E-05	4.09E-02	8.38E-07	2.01E-05
Road 103	103	2200-2300	5.80E-03	1.19E-07	2.78E-06	4.99E-03	9.35E-08	2.24E-06	4.92E-02	9.82E-07	2.36E-05	4.22E-02	8.05E-07	1.94E-05
Road 103	103	2300-0000	6.27E-03	9.37E-08	2.25E-06	5.55E-03	8.30E-08	2.00E-06	4.89E-02	7.31E-07	1.76E-05	4.15E-02	6.20E-07	1.49E-05
Road 104	104	0000-0100	1.09E-02	7.43E-08	1.51E-06	9.85E-03	6.71E-08	1.37E-06	6.08E-02	4.14E-07	8.43E-06	5.34E-02	3.64E-07	7.42E-06
Road 104	104	0100-0200	1.14E-02	5.44E-08	1.16E-06	9.66E-03	4.62E-08	9.85E-07	5.91E-02	2.82E-07	6.02E-06	5.18E-02	2.48E-07	5.29E-06
Road 104	104	0200-0300	1.20E-02	4.01E-08	8.17E-07	1.13E-02	3.77E-08	7.68E-07	6.13E-02	2.05E-07	4.17E-06	5.68E-02	1.90E-07	3.87E-06
Road 104	104	0300-0400	1.29E-02	3.45E-08	7.03E-07	1.20E-02	3.23E-08	6.58E-07	6.38E-02	1.71E-07	3.49E-06	5.88E-02	1.58E-07	3.21E-06
Road 104	104	0400-0500	1.38E-02	3.98E-08	8.11E-07	1.28E-02	3.72E-08	7.58E-07	6.60E-02	1.92E-07	3.91E-06	6.08E-02	1.76E-07	3.58E-06
Road 104	104	0500-0600	1.50E-02	7.89E-08	1.61E-06	1.39E-02	7.31E-08	1.49E-06	7.14E-02	3.76E-07	7.63E-06	6.49E-02	3.42E-07	6.96E-06
Road 104	104	0600-0700	1.60E-02	1.83E-07	3.73E-06	1.44E-02	1.65E-07	3.36E-06	7.44E-02	8.54E-07	1.74E-05	6.56E-02	7.53E-07	1.53E-05
Road 104	104	0700-0800	1.74E-02	4.27E-07	8.70E-06	1.57E-02	3.84E-07	7.82E-06	8.07E-02	1.98E-06	4.03E-05	7.24E-02	1.78E-06	3.62E-05
Road 104	104	0800-0900	1.73E-02	4.77E-07	9.71E-06	1.48E-02	4.08E-07	8.30E-06	7.76E-02	2.14E-06	4.36E-05	6.50E-02	1.80E-06	3.66E-05
Road 104	104	0900-1000	2.01E-02	5.03E-07	1.02E-05	1.74E-02	4.35E-07	8.87E-06	8.81E-02	2.21E-06	4.49E-05	7.51E-02	1.88E-06	3.83E-05
Road 104	104	1000-1100	2.30E-02	5.21E-07	1.06E-05	1.98E-02	4.48E-07	9.12E-06	9.68E-02	2.21E-06	4.49E-05	8.27E-02	1.88E-06	3.82E-05
Road 104	104	1100-1200	2.22E-02	4.76E-07	9.69E-06	1.89E-02	4.06E-07	8.26E-06	9.43E-02	2.02E-06	4.11E-05	7.92E-02	1.70E-06	3.45E-05
Road 104	104	1200-1300	1.39E-02	2.85E-07	5.81E-06	1.18E-02	2.42E-07	4.93E-06	6.83E-02	1.41E-06	2.86E-05	5.65E-02	1.16E-06	2.37E-05
Road 104	104	1300-1400	1.40E-02	2.93E-07	5.97E-06	1.19E-02	2.49E-07	5.07E-06	6.86E-02	1.44E-06	2.93E-05	5.68E-02	1.19E-06	2.43E-05
Road 104	104	1400-1500	1.45E-02	3.34E-07	6.80E-06	1.23E-02	2.84E-07	5.77E-06	7.09E-02	1.64E-06	3.34E-05	5.87E-02	1.35E-06	2.75E-05
Road 104	104	1500-1600	1.38E-02	3.16E-07	6.44E-06	1.15E-02	2.64E-07	5.37E-06	6.76E-02	1.55E-06	3.16E-05	5.60E-02	1.28E-06	2.61E-05
Road 104	104	1600-1700	1.43E-02	3.51E-07	7.15E-06	1.20E-02	2.95E-07	6.00E-06	7.03E-02	1.72E-06	3.51E-05	5.82E-02	1.43E-06	2.91E-05
Road 104	104	1700-1800	7.25E-03	2.26E-07	4.60E-06	6.18E-03	1.93E-07	3.92E-06	4.36E-02	1.36E-06	2.77E-05	3.57E-02	1.11E-06	2.27E-05
Road 104	104	1800-2000	6.17E-03	1.53E-07	3.11E-06	5.37E-03	1.33E-07	2.71E-06	4.29E-02	1.06E-06	2.16E-05	3.60E-02	8.90E-07	1.81E-05
Road 104	104	2000-2100	5.02E-03	9.66E-08	1.97E-06	4.39E-03	8.45E-08	1.72E-06	4.55E-02	8.75E-07	1.78E-05	3.84E-02	7.39E-07	1.50E-05
Road 104	104	2100-2200	4.96E-03	9.27E-08	1.89E-06	4.25E-03	7.94E-08	1.62E-06	4.51E-02	8.43E-07	1.72E-05	3.87E-02	7.23E-07	1.47E-05
Road 104	104	2200-2300	4.96E-03	9.27E-08	1.89E-06	4.25E-03	7.94E-08	1.62E-06	4.51E-02	8.43E-07	1.72E-05	3.87E-02	7.23E-07	1.47E-05
Road 104	104	2300-0000	5.36E-03	8.01E-08	1.92E-06	4.76E-03	7.11E-08	1.71E-06	4.88E-02	7.29E-07	1.75E-05	4.33E-02	6.47E-07	1.55E-05
Road 105	105	0000-0100	1.88E-02	5.57E-09	2.32E-07	1.70E-02	5.04E-09	2.10E-07	9.36E-02	2.77E-08	1.15E-06	8.30E-02	2.46E-08	1.02E-06
Road 105	105	0100-0200	1.96E-02	3.86E-09	1.61E-07	1.82E-02	3.57E-09	1.49E-07	9.84E-02	1.88E-08	7.83E-07	8.63E-02	1.70E-08	7.06E-07
Road 105	105	0200-0300	2.01E-02	2.77E-09	1.15E-07	1.87E-02	2.56E-09	1.07E-07	1.01E-01	1.35E-08	5.61E-07	8.87E-02	1.22E-08	5.06E-07
Road 105	105	0300-0400	2.19E-02	2.59E-09	1.08E-07	2.05E-02	2.42E-09	1.01E-07	1.09E-01	1.29E-08	5.39E-07	9.64E-02	1.14E-08	4.76E-07
Road 105	105	0400-0500	2.34E-02	3.09E-09	1.29E-07	2.17E-02	2.87E-09	1.20E-07	1.09E-01	1.44E-08	6.00E-07	9.63E-02	1.27E-08	5.31E-07
Road 105	105	0500-0600	2.32E-02	3.52E-09	1.46E-07	2.15E-02	3.26E-09	1.36E-07	1.09E-01	1.64E-08	6.83E-07	9.63E-02	1.45E-08	6.04E-07
Road 105	105	0600-0700	2.77E-02	1.42E-08	2.95E-07	2.57E-02	1.31E-08	2.73E-07	1.29E-01	6.62E-08	1.38E-06	1.14E-01	5.85E-08	1.22E-06
Road 105	105	0700-0800	3.01E-02	3.71E-08	7.72E-07	2.79E-02	3.44E-08	7.16E-07	1.40E-01	1.73E-07	3.60E-06	1.24E-01	1.53E-07	3.19E-06
Road 105	105	0800-0900	3.01E-02	3.71E-08	7.72E-07	2.79E-02	3.44E-08	7.16E-07	1.40E-01	1.73E-07	3.60E-06	1.24E-01	1.53E-07	3.19E-06
Road 105	105	0900-1000	3.61E-02	4.13E-08	1.72E-06	3.12E-02	3.57E-08	1.49E-06	1.68E-01	1.92E-07	8.00E-06	1.49E-01	1.70E-07	7.09E-06
Road 105	105	1000-1100	4.10E-02	4.30E-08	1.79E-06	3.45E-02	3.62E-08	1.51E-06	1.91E-01	2.00E-07	8.33E-06	1.69E-01	1.77E-07	7.38E-06
Road 105	105	1100-1200	3.82E-02	3.98E-08	1.66E-06	3.21E-02	3.35E-08	1.40E-06	1.78E-01	1.85E-07	7.71E-06	1.57E-01	1.64E-07	6.83E-06
Road 105	105	1200-1300	9.31E-02	7.29E-07	3.04E-05	7.83E-02	6.21E-07	2.59E-05	3.28E-01	2.57E-06	1.07E-04	2.89E-01	2.28E-06	9.13E-05
Road 105	105	1300-1400	9.28E-02	8.19E-07	3.41E-05	7.99E-02	7.05E-07	2.94E-05	3.20E-01	2.83E-06	1.18E-04	2.76E-01	2.43E-06	1.01E-04
Road 105	105	1400-1500	8.51E-02	7.51E-07	3.13E-05	7.32E-02	6.46E-07	2.69E-05	3.20E-01	2.83E-06	1.18E-04	2.75E-01	2.43E-06	1.01E-04
Road 105	105	1500-1600	8.77E-02	8.01E-07	3.34E-05	7.37E-02	6.73E-07	2.80E-05	3.14E-01	2.86E-06	1.19E-04	2.63E-01	2.40E-06	1.00E-04
Road 105	105	1600-1700	8.82E-02	7.44E-07	3.10E-05	7.45E-02	6.28E-07	2.62E-05	3.24E-01	2.73E-06	1.14E-04	2.73E-01	2.31E-06	9.61E-05
Road 105	105	1700-1800	1.44E-02	3.54E-07	7.37E-06	1.21E-02	2.98E-07	6.21E-06	5.30E-02	1.30E-06	2.71E-05	4.47E-02	1.10E-06	2.29E-05
Road 105	105	1800-1900	6.09E-02	3.22E-07	2.68E-06	5.13E-02	2.71E-07	2.26E-06	2.24E-01	1.18E-06	9.85E-06	1.89E-01	9.98E-07	8.32E-06
Road 105	105	1900-2000	6.92E-02	3.13E-07	2.60E-06	5.83E-02	2.64E-07	2.19E-06	2.54E-01	1.15E-06	9.56E-06	2.14E-01	9.69E-07	8.07E-06
Road 105	105	2000-2100	6.61E-02	1.36E-07	3.27E-06	5.57E-02	1.14E-07	2.75E-06	2.43E-01	5.00E-07	1.20E-05	2.05E-01	4.22E-07	1.01E-05
Road 105	105	2100-2200	5.83E-02	1.20E-07	2.89E-06	4.91E-02	1.01E-07	2.43E-06	2.42E-01	4.98E-07	1.19E-05	2.04E-01	4.20E-07	1.01E-05
Road 105	105	2200-2300	5.80E-02	1.19E-07	2.78E-06	4.88E-02	1.00E-07	2.34E-06	2.40E-01	4.94E-07	1.18E-05	2.02E-01	4.16E-07	9.98E-06
Road 105	105	2300-0000	6.27E-02	9.37E-08	2.25E-06	5.28E-02	7.89E-08	1.90E-06	2.60E-01	3.89E-07	9.34E-06	2.19E-01	3.26E-07	7.83E-06
Road 106	106	0000-0100	1.09E-02	7.43E-08	1.51E-06	9.85E-03	6.71E-08	1.37E-06	6.08E-02	4.14E-07	8.43E-06	5.34E-02	3.64E-07	7.42E-06
Road 106	106	0100-0200	1.14E-02	5.44E-08	1.16E-06	9.66E-03	4.62E-08	9.85E-07	5.91E-02	2.82E-07	6.02E-06	5.18E-02	2.48E-07	5.29E-06
Road 106	106	0200-0300	1.20E-02	4.01E-08	8.17E-07	1.13E-02	3.77E-08	7.68E-07	6.13E-02	2.05E-07	4.17E-06	5.68E-02	1.90E-07	3.87E-06
Road 106	106	0300-0400	1.29E-02	3.45E-08	7.03E-07	1.20E-02	3.23E-08	6.58E-07	6.38E-02	1.71E-07	3.49E-06	5.88E-02	1.58E-07	3.21E-06
Road 106	106	0400-0500	1.38E-02	3.98E-08	8.11E-07	1.28E-02	3.72E-08	7.58E-07	6.60E-02	1.92E-07	3.91E-06	6.08E-02	1.76E-07	3.58E-06
Road 106	106	0500-0600	1.50E-02	7.89E-08	1.61E-06	1.39E-02	7.31E-08	1.49E-06	7.14E-02	3.76E-07	7.63E-06	6.49E-02	3.42E-07	6.96E-06
Road 106	106	0600-0700	1.60E-02	1.83E-07	3.73E-06	1.44E-02	1.65E-07	3.36E-06	7.44E-02	8.54E-07	1.74E-05	6.56E-02	7.53E-07	1.53E-05
Road 106	106	0700-0800	1.74E-02	4.27E-07	8.70E-06	1.57E-02	3.84E-07	7.82E-06	8.07E-02	1.98E-06	4.03E-05	7.24E-02	1.78E-06	3.62E-05
Road 106	106	0800-0900	1.73E-02	4.77E-07	9.71E-06	1.48E-02	4.08E-07	8.30E-06	7.76E-02	2.14E-06	4.36E-05	6.50E-02	1.80E-06	3.66E-05
Road 106	106	0900-1000	2.01E-02	5.03E-07	1.02E-05	1.74E-02	4.35E-07	8.87E-06	8.81E-02	2.21E-06	4.49E-05	7.51E-02	1.88E-06	3.83E-05
Road 106	106	1000-1100	2.30E-02	5.21E-07	1.06E-05	1.98E-02	4.48E-07	9.12E-06	9.68E-02	2.21E-06	4.49E-05	8.27E-02	1.88E-06	3.82E-05
Road 106	106	1100-1200	4.07E-02	4.11E-07	1.30E-05	3.47E-02	3.50E-07	1.73E-06	5.47E-02	1.45E-06	1.46E-06	4.60E-05		
Road 106	106	1200-1300	3.83E-02	2.46E-07	7.79E-06	3.26E-02	2.09E-07	1.04E-06	5.15E-02	1.30E-06	1.37E-06	4.33E-05		
Road 106	106	1300-1400	7.24E-02	1.16E-06	3.66E-05	6.22E-02	9.96E-07	3.14E-05	2.78E-01	4.45E-06	1.41E-04	3.81E-01	6.10E-06	1.93E-04
Road 106	106	1400-1500	7.32E-02	1.21E-06	3.82E-05	6.24E-02	1.03E-06	3.26E-05	2.75E-01	4.54E-06	1.43E-04	2.33E-01	3.84E-06	1.21E-04
Road 106	106	1500-1600	6.78E-02	1.01E-06	3.66E-05	5.82E-02	8.67E-07	3.14E-05	2.58E-01	3.84E-06	1.39E-04	2.21E-01	3.29E-06	1.19E-04
Road 106	106	1600-1700	6.77E-02	1.16E-06	3.65E-05	5.72E-02	9.77E-07	3.09E-05	2.57E-01	4.38E-06	1.38E-04	2.15E-01	3.68E-06	1.16E-04
Road 106	106	1700-1800	5.16E-02	9.18E-07	2.90E-05	4.41E-02	7.85E-07	2.48E-05	2.22E-01	3.95E-06	1.25E-04	1.88E-01	3.35E-06	1.06E-04
Road 106	106	1800-1900	3.39E-02	5.75E-07	1.82E-05	2.92E-02	4.93E-07	1.56E-05	1.52E-01	2.58E-06	8.16E-05	1.31E-01	2.21E-06	6.98E-05
Road 106	106	1900-2000	2.62E-02	3.36E-07	1.06E-05	2.30E-02	2.95E-07	9.32E-06	1.23E-01	1.58E-06	4.98E-05	1.06E-01	1.36E-06	4.30E-05
Road 106	106	2000-2100	2.45E-02	2.45E-07	7.74E-06	2.21E-02	2.21E-07	6.98E-06	1.23E-01	1.24E-06	3.90E-05	1.10E-01	1.10E-06	3.47E-05
Road 106	106	2100-2200	2.39E-02	2.27E-07	7.62E-06	2.12E-02	2.01E-07	6.75E-06	1.23E-01	1.17E-06	3.92E-05	1.09E-01	1.04E-06	3.49E-05
Road 106	106	2200-2300	2.36E-02	2.25E-07	7.12E-06	2.05E-02	1.95E-07	6.15E-06	1.23E-01	1.17E-06	3.54E-05	9.95E-02	9.51E-07	3.00E-05
Road 106	106	2300-0000	2.34E-02	1.71E-07	5.39E-06	2.08E-02	1.52E-07	4.80E-06	1.31E-01	8.26E-07	2.61E-05	9.88E-02	7.21E-07	2.28E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August) Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	7.77E-03	1.05E-07	5.75E-06	6.89E-03	9.26E-08	5.10E-06	8.74E-02	1.18E-06	6.47E-05	7.58E-02	1.02E-06	5.62E-05
Road 1	1	0100-0200	8.36E-03	7.32E-08	4.03E-06	7.55E-03	6.61E-08	3.64E-06	8.83E-02	7.73E-07	4.26E-05	7.83E-02	6.86E-07	3.78E-05
Road 1	1	0200-0300	8.87E-03	5.68E-08	3.13E-06	8.13E-03	5.21E-08	2.87E-06	8.84E-02	5.66E-07	3.12E-05	7.98E-02	5.11E-07	2.81E-05
Road 1	1	0300-0400	9.57E-03	4.84E-08	2.67E-06	8.65E-03	4.38E-08	2.41E-06	9.04E-02	4.57E-07	2.52E-05	8.04E-02	4.07E-07	2.24E-05
Road 1	1	0400-0500	1.00E-02	5.57E-08	3.07E-06	9.14E-03	5.07E-08	2.79E-06	9.09E-02	5.04E-07	2.78E-05	8.15E-02	4.52E-07	2.49E-05
Road 1	1	0500-0600	1.03E-02	9.86E-08	5.43E-06	9.61E-03	9.22E-08	5.08E-06	8.97E-02	8.61E-07	4.74E-05	8.31E-02	7.97E-07	4.39E-05
Road 1	1	0600-0700	1.08E-02	2.23E-07	1.23E-05	1.03E-02	2.08E-07	1.14E-05	9.18E-02	1.88E-06	1.04E-04	8.66E-02	1.73E-06	9.55E-05
Road 1	1	0700-0800	1.17E-02	4.88E-07	2.69E-05	1.07E-02	4.43E-07	2.44E-05	9.55E-02	3.97E-06	2.18E-04	8.55E-02	3.55E-06	1.96E-04
Road 1	1	0800-0900	1.17E-02	5.61E-07	3.09E-05	1.02E-02	4.89E-07	2.69E-05	9.02E-02	4.33E-06	2.39E-04	7.73E-02	3.71E-06	2.04E-04
Road 1	1	0900-1000	1.38E-02	5.12E-07	2.82E-05	1.19E-02	4.39E-07	2.42E-05	9.55E-02	3.54E-06	1.95E-04	8.21E-02	3.03E-06	1.66E-04
Road 1	1	1000-1100	1.51E-02	5.17E-07	2.84E-05	1.30E-02	4.44E-07	2.46E-05	1.06E-01	3.63E-06	1.99E-04	9.08E-02	3.12E-06	1.69E-04
Road 1	1	1100-1200	1.45E-02	4.69E-07	2.58E-05	1.25E-02	4.04E-07	2.22E-05	1.07E-01	3.46E-06	1.90E-04	9.03E-02	2.92E-06	1.61E-04
Road 1	1	1200-1300	1.40E-02	4.53E-07	2.49E-05	1.20E-02	3.90E-07	2.14E-05	1.04E-01	3.36E-06	1.84E-04	8.74E-02	2.83E-06	1.55E-04
Road 1	1	1300-1400	1.60E-02	6.92E-07	3.81E-05	1.39E-02	6.02E-07	3.31E-05	1.09E-01	4.72E-06	2.59E-04	9.48E-02	4.09E-06	2.25E-04
Road 1	1	1400-1500	1.65E-02	7.62E-07	4.19E-05	1.39E-02	6.45E-07	3.55E-05	1.14E-01	5.26E-06	2.89E-04	9.48E-02	4.39E-06	2.42E-04
Road 1	1	1500-1600	1.57E-02	7.14E-07	3.93E-05	1.31E-02	6.04E-07	3.32E-05	1.07E-01	4.93E-06	2.71E-04	9.03E-02	4.11E-06	2.26E-04
Road 1	1	1600-1700	1.69E-02	8.57E-07	4.72E-05	1.39E-02	7.07E-07	3.89E-05	1.16E-01	5.89E-06	3.24E-04	9.42E-02	4.77E-06	2.63E-04
Road 1	1	1700-1800	1.24E-02	7.16E-07	3.94E-05	1.05E-02	6.06E-07	3.33E-05	1.04E-01	6.03E-06	3.32E-04	8.66E-02	5.02E-06	2.76E-04
Road 1	1	1800-1900	9.34E-03	5.46E-07	3.00E-05	8.13E-03	4.44E-07	2.77E-05	8.45E-02	4.94E-06	2.72E-04	7.56E-02	4.43E-06	2.43E-04
Road 1	1	1900-2000	8.67E-03	4.44E-07	2.44E-05	7.41E-03	3.79E-07	2.09E-05	9.36E-02	4.79E-06	2.64E-04	7.88E-02	4.02E-06	2.22E-04
Road 1	1	2000-2100	8.22E-03	3.27E-07	1.80E-05	7.38E-03	2.94E-07	1.62E-05	9.62E-02	3.83E-06	2.11E-04	8.53E-02	3.40E-06	1.87E-04
Road 1	1	2100-2200	7.42E-03	2.94E-07	1.62E-05	6.36E-03	2.52E-07	1.39E-05	9.29E-02	3.68E-06	2.03E-04	7.93E-02	3.14E-06	1.73E-04
Road 1	1	2200-2300	7.25E-03	2.87E-07	1.58E-05	6.18E-03	2.45E-07	1.34E-05	9.04E-02	3.58E-06	1.97E-04	7.70E-02	3.05E-06	1.68E-04
Road 1	1	2300-0000	7.89E-03	2.28E-07	1.25E-05	6.84E-03	1.98E-07	1.09E-05	9.61E-02	2.77E-06	1.53E-04	8.18E-02	2.36E-06	1.30E-04
Road 2	2	0000-0100	9.52E-03	1.32E-07	6.69E-06	8.45E-03	1.17E-07	5.94E-06	9.56E-02	1.33E-06	6.72E-05	8.32E-02	1.15E-06	5.85E-05
Road 2	2	0100-0200	1.02E-02	8.84E-08	4.48E-06	9.18E-03	7.96E-08	4.03E-06	9.58E-02	8.31E-07	4.21E-05	8.47E-02	7.35E-07	3.72E-05
Road 2	2	0200-0300	1.08E-02	7.18E-08	3.64E-06	9.89E-03	6.60E-08	3.34E-06	9.66E-02	6.44E-07	3.26E-05	8.75E-02	5.84E-07	2.96E-05
Road 2	2	0300-0400	1.16E-02	6.13E-08	3.11E-06	1.05E-02	5.55E-08	2.81E-06	9.87E-02	5.23E-07	2.65E-05	8.81E-02	4.67E-07	2.36E-05
Road 2	2	0400-0500	1.21E-02	2.09E-08	1.06E-06	1.10E-02	1.89E-08	9.58E-07	1.01E-01	1.74E-07	8.82E-06	9.22E-02	1.59E-07	8.06E-06
Road 2	2	0500-0600	1.24E-02	1.26E-07	6.36E-06	1.16E-02	1.18E-07	5.96E-06	9.79E-02	9.93E-07	5.03E-05	8.09E-02	9.22E-07	4.67E-05
Road 2	2	0600-0700	1.30E-02	2.84E-07	1.44E-05	1.22E-02	2.65E-07	1.34E-05	9.98E-02	2.18E-06	1.10E-04	9.23E-02	2.01E-06	1.02E-04
Road 2	2	0700-0800	1.40E-02	4.23E-07	2.15E-05	1.31E-02	3.96E-07	2.01E-05	1.07E-01	3.24E-06	1.64E-04	9.92E-02	2.99E-06	1.52E-04
Road 2	2	0800-0900	1.40E-02	7.22E-07	3.66E-05	1.23E-02	6.36E-07	3.19E-05	9.94E-02	5.12E-06	2.59E-04	8.55E-02	4.40E-06	2.23E-04
Road 2	2	0900-1000	1.58E-02	7.41E-07	3.76E-05	1.40E-02	6.57E-07	3.33E-05	1.14E-01	5.34E-06	2.71E-04	9.85E-02	4.61E-06	2.34E-04
Road 2	2	1000-1100	1.74E-02	7.18E-07	3.64E-05	1.54E-02	6.36E-07	3.22E-05	1.25E-01	5.16E-06	2.62E-04	1.08E-01	4.46E-06	2.26E-04
Road 2	2	1100-1200	1.78E-02	6.47E-07	3.28E-05	1.55E-02	5.63E-07	2.85E-05	1.15E-01	4.18E-06	2.12E-04	9.89E-02	3.60E-06	1.82E-04
Road 2	2	1200-1300	2.01E-02	8.83E-07	4.47E-05	1.75E-02	7.70E-07	3.90E-05	1.14E-01	5.02E-06	2.54E-04	9.85E-02	4.33E-06	2.19E-04
Road 2	2	1300-1400	2.02E-02	1.17E-07	5.94E-06	1.75E-02	1.02E-07	5.16E-06	1.14E-01	6.62E-07	3.35E-05	9.84E-02	5.73E-07	2.90E-05
Road 2	2	1400-1500	2.05E-02	9.85E-07	4.99E-05	1.75E-02	8.53E-07	4.32E-05	1.16E-01	5.57E-06	2.82E-04	9.75E-02	4.68E-06	2.37E-04
Road 2	2	1500-1600	1.94E-02	9.55E-07	4.84E-05	1.62E-02	7.96E-07	4.03E-05	1.16E-01	5.70E-06	2.89E-04	9.52E-02	4.69E-06	2.37E-04
Road 2	2	1600-1700	1.50E-02	8.52E-07	4.32E-05	1.28E-02	7.26E-07	3.68E-05	1.05E-01	5.96E-06	3.02E-04	8.82E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for Year 2033

AERMOD model (August)

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 24	24	0800-0900	1.51E-01	2.92E-07	7.07E-05	1.62E-01	3.12E-07	7.56E-05	1.72E-01	3.32E-07	8.03E-05	4.92E-01	9.73E-07	2.44E-04
Road 24	24	0900-1000	1.52E-01	3.31E-07	8.30E-05	1.35E-01	2.93E-07	7.35E-05	5.81E-01	1.26E-06	3.17E-04	5.14E-01	1.12E-06	2.80E-04
Road 24	24	1000-1100	1.68E-01	3.60E-07	9.02E-05	1.43E-01	3.05E-07	7.65E-05	6.10E-01	1.31E-06	3.27E-04	5.18E-01	1.11E-06	2.78E-04
Road 24	24	1100-1200	1.67E-01	3.31E-07	8.37E-05	1.56E-01	3.52E-07	8.77E-05	6.48E-01	1.46E-06	3.66E-04	5.27E-01	1.06E-06	2.66E-04
Road 24	24	1200-1300	1.77E-01	3.58E-07	8.99E-05	1.50E-01	3.03E-07	7.60E-05	6.27E-01	1.26E-06	3.15E-04	5.24E-01	1.06E-06	2.66E-04
Road 24	24	1300-1400	1.77E-01	4.04E-07	1.01E-04	1.51E-01	3.44E-07	8.62E-05	6.45E-01	1.47E-06	3.69E-04	5.49E-01	1.25E-06	3.14E-04
Road 24	24	1400-1500	1.83E-01	3.31E-07	8.29E-05	1.56E-01	3.52E-07	8.77E-05	6.48E-01	1.47E-06	3.67E-04	5.49E-01	1.24E-06	3.11E-04
Road 24	24	1500-1600	1.65E-01	3.88E-07	9.72E-05	1.38E-01	3.26E-07	8.16E-05	6.04E-01	1.42E-06	3.56E-04	5.17E-01	1.27E-06	3.17E-04
Road 24	24	1600-1700	1.67E-01	3.63E-07	9.11E-05	1.38E-01	3.00E-07	7.52E-05	6.09E-01	1.32E-06	3.32E-04	5.03E-01	1.09E-06	2.74E-04
Road 24	24	1700-1800	1.62E-01	3.58E-07	8.99E-05	1.35E-01	2.98E-07	7.49E-05	5.98E-01	1.32E-06	3.32E-04	5.03E-01	1.11E-06	2.77E-04
Road 24	24	1800-1900	1.21E-01	1.65E-07	4.13E-05	1.07E-01	1.46E-07	3.66E-05	9.43E-01	1.28E-06	3.21E-04	4.39E-01	5.98E-07	1.50E-04
Road 24	24	1900-2000	1.20E-01	1.07E-07	2.68E-05	1.03E-01	9.18E-08	2.30E-05	4.85E-01	4.32E-07	1.08E-04	4.16E-01	3.71E-07	9.29E-05
Road 24	24	2000-2100	1.21E-01	1.25E-07	3.14E-05	1.03E-01	1.06E-07	2.67E-05	4.48E-01	4.62E-07	1.16E-04	3.82E-01	3.94E-07	9.87E-05
Road 24	24	2100-2200	1.13E-01	8.23E-08	2.06E-05	9.82E-02	7.17E-08	1.80E-05	4.65E-01	3.39E-07	8.50E-05	4.04E-01	2.95E-07	7.39E-05
Road 24	24	2200-2300	1.27E-01	8.09E-08	2.03E-05	1.08E-01	6.88E-08	1.72E-05	5.46E-01	3.47E-07	8.70E-05	4.01E-01	2.56E-07	6.41E-05
Road 24	24	2300-0000	1.29E-01	7.35E-08	1.84E-05	1.10E-01	6.25E-08	1.57E-05	5.46E-01	3.11E-07	7.80E-05	4.01E-01	2.28E-07	5.72E-05
Road 25	25	0000-0100	1.18E-01	3.67E-08	9.36E-06	1.10E-01	3.38E-08	8.63E-06	4.41E-01	1.36E-07	3.47E-05	4.07E-01	1.25E-07	3.20E-05
Road 25	25	0100-0200	1.19E-01	3.67E-08	9.36E-06	1.10E-01	3.38E-08	8.63E-06	4.41E-01	1.36E-07	3.47E-05	4.07E-01	1.25E-07	3.20E-05
Road 25	25	0200-0300	1.19E-01	3.67E-08	9.36E-06	1.10E-01	3.38E-08	8.63E-06	4.41E-01	1.36E-07	3.47E-05	4.07E-01	1.25E-07	3.20E-05
Road 25	25	0300-0400	1.21E-01	2.50E-08	6.37E-06	1.10E-01	2.28E-08	5.80E-06	4.48E-01	9.26E-08	2.36E-05	4.08E-01	8.43E-08	2.15E-05
Road 25	25	0400-0500	1.21E-01	2.94E-08	7.49E-06	1.11E-01	2.69E-08	6.86E-06	4.49E-01	1.09E-07	2.78E-05	4.11E-01	9.95E-08	2.54E-05
Road 25	25	0500-0600	1.21E-01	5.61E-08	1.43E-05	1.13E-01	5.24E-08	1.34E-05	4.62E-01	2.14E-07	5.46E-05	4.19E-01	1.95E-07	4.97E-05
Road 25	25	0600-0700	1.38E-01	1.26E-07	3.47E-05	1.21E-01	1.12E-07	3.07E-05	5.01E-01	4.62E-07	1.27E-04	4.64E-01	4.28E-07	1.17E-04
Road 25	25	0700-0800	1.50E-01	3.27E-07	8.35E-05	1.38E-01	3.00E-07	7.65E-05	5.04E-01	1.10E-06	2.81E-04	4.66E-01	1.02E-06	2.60E-04
Road 25	25	0800-0900	1.59E-01	4.17E-07	1.06E-04	1.40E-01	3.68E-07	9.38E-05	5.09E-01	1.33E-06	3.40E-04	5.03E-01	1.32E-06	3.36E-04
Road 25	25	0900-1000	1.67E-01	4.62E-07	1.18E-04	1.43E-01	3.97E-07	1.02E-04	5.09E-01	1.41E-06	3.60E-04	5.03E-01	1.39E-06	3.55E-04
Road 25	25	1000-1100	1.77E-01	5.15E-07	1.31E-04	1.50E-01	4.37E-07	1.11E-04	6.41E-01	1.86E-06	4.74E-04	5.44E-01	1.58E-06	4.02E-04
Road 25	25	1100-1200	1.76E-01	4.78E-07	1.22E-04	1.52E-01	4.14E-07	1.06E-04	6.39E-01	1.74E-06	4.43E-04	5.54E-01	1.51E-06	3.84E-04
Road 25	25	1200-1300	1.81E-01	5.08E-07	1.29E-04	1.56E-01	4.38E-07	1.12E-04	6.56E-01	1.84E-06	4.68E-04	5.56E-01	1.56E-06	3.97E-04
Road 25	25	1300-1400	1.79E-01	5.48E-07	1.40E-04	1.52E-01	4.67E-07	1.19E-04	6.50E-01	1.99E-06	5.09E-04	5.54E-01	1.70E-06	4.34E-04
Road 25	25	1400-1500	1.85E-01	5.62E-07	1.43E-04	1.56E-01	4.75E-07	1.21E-04	6.55E-01	1.99E-06	5.07E-04	5.54E-01	1.68E-06	4.29E-04
Road 25	25	1500-1600	1.67E-01	5.08E-07	1.30E-04	1.41E-01	4.29E-07	1.09E-04	6.05E-01	1.84E-06	4.70E-04	5.17E-01	1.57E-06	4.00E-04
Road 25	25	1600-1700	1.77E-01	5.19E-07	1.32E-04	1.47E-01	4.29E-07	1.09E-04	6.40E-01	1.88E-06	4.80E-04	5.32E-01	1.56E-06	3.97E-04
Road 25	25	1700-1800	1.55E-01	4.07E-07	1.04E-04	1.34E-01	3.41E-07	8.70E-05	6.24E-01	1.64E-06	4.19E-04	5.23E-01	1.37E-06	3.49E-04
Road 25	25	1800-1900	1.17E-01	3.60E-07	2.94E-06	1.07E-01	3.27E-07	2.68E-06	3.42E-01	1.05E-06	8.59E-06	3.11E-01	9.55E-07	7.81E-06
Road 25	25	1900-2000	9.69E-02	1.45E-07	1.19E-06	8.87E-02	1.33E-07	1.09E-06	3.27E-01	4.73E-07	3.87E-06	2.89E-01	4.31E-07	3.53E-06
Road 25	25	2000-2100	9.74E-02	1.19E-07	9.74E-07	8.92E-02	1.09E-07	8.92E-07	3.29E-01	4.03E-07	3.30E-06	2.91E-01	3.55E-07	2.91E-06
Road 25	25	2100-2200	9.98E-02	1.27E-07	1.04E-06	9.14E-02	1.17E-07	9.56E-07	3.25E-01	4.15E-07	3.40E-06	2.87E-01	3.66E-07	3.00E-06
Road 25	25	2200-2300	1.38E-01	1.15E-07	9.41E-07	1.26E-01	1.05E-07	8.60E-07	3.44E-01	3.61E-07	2.96E-06	3.04E-01	3.19E-07	2.61E-06
Road 25	25	2300-0000	1.29E-01	1.27E-07	1.04E-06	1.18E-01	1.16E-07	9.54E-07	3.44E-01	3.39E-07	2.78E-06	3.04E-01	2.99E-07	2.45E-06
Road 26	26	0100-0200	1.20E-01	3.39E-08	1.27E-06	1.11E-01	3.12E-08	1.17E-06	4.41E-01	1.24E-07	4.65E-06	4.07E-01	1.14E-07	4.34E-06
Road 26	26	0200-0300	1.20E-01	2.67E-08	1.00E-06	1.11E-01	2.46E-08	9.24E-07	4.45E-01	9.89E-08	3.71E-06	4.10E-01	9.11E-08	3.42E-06
Road 26	26	0300-0400	1.24E-01	2.67E-08	1.00E-06	1.14E-01	2.46E-08	9.24E-07	4.45E-01	9.89E-08	3.71E-06	4.10E-01	9.11E-08	3.42E-06
Road 26	26	0400-0500	1.22E-01	2.71E-08	1.02E-06	1.12E-01	2.47E-08	9.28E-07	4.53E-01	1.00E-07	3.77E-06	4.13E-01	9.15E-08	3.43E-06
Road 26	26	0500-0600	1.20E-01	4.94E-08	1.85E-06	1.12E-01	4.61E-08	1.73E-06	4.66E-01	1.91E-07	7.17E-06	4.17E-01	1.71E-07	6.40E-06
Road 26	26	0600-0700	1.38E-01	1.26E-07	4.73E-06	1.29E-01	1.18E-07	4.42E-06	4.77E-01	4.37E-07	1.64E-05	4.27E-01	3.91E-07	1.47E-05
Road 26	26	0700-0800	1.50E-01	3.00E-07	1.13E-05	1.39E-01	2.79E-07	1.05E-05	5.46E-01	1.01E-06	3.81E-05	5.08E-01	1.02E-06	3.82E-05
Road 26	26	0800-0900	1.59E-01	3.82E-07	1.44E-05	1.41E-01	3.38E-07	1.27E-05	5.99E-01	1.44E-06	5.40E-05	5.30E-01	1.27E-06	4.78E-05
Road 26	26	0900-1000	1.67E-01	4.17E-07	1.57E-05	1.43E-01	3.58E-07	1.35E-05	6.04E-01	1.51E-06	5.68E-05	5.30E-01	1.32E-06	4.98E-05
Road 26	26	1000-1100	1.79E-01	4.77E-07	1.79E-05	1.53E-01	4.08E-07	1.53E-05	6.46E-01	1.72E-06	6.47E-05	5.66E-01	1.51E-06	5.67E-05
Road 26	26	1100-1200	1.78E-01	4.45E-07	1.67E-05	1.52E-01	3.79E-07	1.42E-05	6.44E-01	1.61E-06	6.04E-05	5.64E-01	1.41E-06	5.29E-05
Road 26	26	1200-1300	1.83E-01	4.86E-07	1.82E-05	1.56E-01	4.15E-07	1.56E-05	6.61E-01	1.75E-06	6.58E-05	5.64E-01	1.50E-06	5.62E-05
Road 26	26	1300-1400	1.68E-01	5.02E-07	1.88E-05	1.44E-01	4.29E-07	1.61E-05	6.66E-01	1.99E-06	7.46E-05	5.26E-01	1.57E-06	5.88E-05
Road 26	26	1400-1500	1.76E-01	5.20E-07	1.95E-05	1.48E-01	4.39E-07	1.65E-05	6.94E-01	5.27E-06	1.97E-04	5.66E-01	4.30E-06	1.61E-04
Road 26	26	1500-1600	1.68E-01	4.85E-07	1.82E-05	1.40E-01	4.04E-07	1.52E-05	6.13E-01	1.76E-06	6.62E-05	5.11E-01	1.47E-06	5.52E-05
Road 26	26	1600-1700	1.68E-01	4.85E-07	1.82E-05	1.40E-01	4.04E-07	1.52E-05	6.13E-01	1.76E-06	6.62E-05	5.11E-01	1.47E-06	5.52E-05
Road 26	26	1700-1800	1.42E-01	3.71E-07	1.39E-05	1.19E-01	3.11E-07	1.16E-05	5.29E-01	1.38E-06	5.18E-05	4.41E-01	1.15E-06	4.32E-05
Road 26	26	1800-1900	1.19E-01	3.60E-07	2.16E-06	1.07E-01	3.27E-07	1.96E-06	3.42E-01	1.05E-06	6.31E-06	3.11E-01	9.55E-07	5.73E-06
Road 26	26	1900-2000	1.20E-01	1.07E-07	1.93E-06	1.03E-01	9.18E-08	1.65E-06	4.85E-01	4.32E-07	7.78E-06	4.16E-01	3.71E-07	6.68E-06
Road 26	26	2000-2100	1.21E-01	1.25E-07	2.25E-06	1.03E-01	1.06E-07	1.92E-06	4.48E-01	4.62E-07	8.32E-06	3.82E-01	3.94E-07	7.09E-06
Road 26	26	2100-2200	1.13E-01	8.23E-08	1.48E-06	9.82E-02	7.17E-08	1.29E-06	4.65E-01	3.39E-07	6.10E-06	4.04E-01	2.95E-07	5.31E-06
Road 26	26	2200-2300	1.27E-01	8.09E-08	1.46E-06	1.08E-01	6.88E-08	1.24E-06	5.46E-01	3.47E-07	6.25E-06	4.01E-01	2.56E-07	4.61E-06
Road 26	26	2300-0000	1.29E-01	7.35E-08	1.32E-06	1.10E-01	6.25E-08	1.13E-06	5.46E-01	3.11E-07	5.60E-06	4.01E-01	2.28E-07	4.11E-06
Road 27	27	0000-0100	1.15E-01	3.67E-08	9.36E-06	1.07E-01	3.38E-08	8.63E-06	4.41E-01	1.36E-07	3.47E-05	4.07E-01	1.25E-07	3.20E-05
Road 27	27	0100-0200	1.16E-01	3.67E-08	9.36E-06	1.07E-01	3.38E-08	8.63E-06	4.41E-01	1.36E-07	3.47E-05	4.07E-01	1.25E-07	3.20E-05
Road 27	27	0200-0300	1.16E-01	3.67E-08	9.36E-06	1.07E-01	3.38E-08	8.63E-06	4.41E-01	1.36E-07	3.47E-05	4.07E-01	1.25E-07	3.20E-05
Road 27	27	0300-0400	1.21E-01	2.50E-08	6.37E-06	1.10E-01	2.28E-08	5.80E-06	4.48E-01	9.26E-08	2.36E-05	4.08E-01	8.43E-08	2.15E-05
Road 27	27	0400-0500	1.21E-01	2.94E-08	7.49E-06	1.11E-01	2.69E-08	6.86E-06	4.49E-01	1.09E-07	2.78E-05	4.11E-01	9.95E-08	2.54E-05
Road 27	27	0500-0600	1.17E-01	5.61E-08	1.43E-05	1.09E-01	5.24E-08	1.34E-05	4.62E-01	2.14E-07	5.46E-05	4.19E-01	1.95E-07	4.97E-05
Road 27	27	0600-0700	1.31E-01	1.18E-07	3.64E-05	1.22E-01	1.10E-07	3.39E-05	4.51E-01	4.07E-07	1.25E-04	4.64E-01	4.28E-07	1.32E-04
Road 27	27	0700-0800	1.48E-01	3.23E-07	8.57E-05	1.36E-01	2.97E-07	7.88E-05	4.98E-01	1.09E-06	2.89E-04	4.66E-01	1.02E-06	2.71E-04
Road 27	27	0800-0900	1.55E-01	3.59E-07	1.11E-04	1.37E-01	3.18E-07	9.78E-05	5.85E-01	1.35E-06	4.17E-04	5.18E-01	1.20E-06	3.69E-04
Road 27	27	0900-1000	1.58E-01	4.09E-07	1.26E-04	1.40E-01	3.62E-07	1.11E-04	5.85E-01	1.51E-06	4.66E-04	5.18E-01	1.34E-06	4.12E-04
Road 27	27	1000-1100	1.76E-01	4.62E-07	1.42E-04	1.50E-01	3.94E-07	1.21E-04	6.41E-01	1.68E-06	5.17E-04	5.44E-01	1.43E-06	4.40E-04
Road 27	27	1100-1200	1.76E-01	4.20E-07	1.29E-04	1.52E-01	3.63E-07	1.12E-04	6.39E-01	1.52E-06	4.68E-04	5.54E-01	1.32E-06	4.07E-04
Road 27	27	1200-1300	1.81E-01	4.86E-07	1.49E-04	1.56E-01	4.17E-07	1.28E-04	6.56E-01	1.75E-06	5.38E-04	5.56E-01	1.49E-06	4.57E-04
Road 27	27	1300-1400	1.68E-01	5.02E-07	1.54E-04	1.44E-01	4.29E-07	1.32E-04	6.66E-01	1.99E-06	6.11E-04	5.26E-01	1.57E-06	4.82E-04
Road 27	27	1400-1500	1.83E-01	4.86E-07	1.49E-04	1.56E-01	4.10E-07	1.26E-04	6.50E-01	1.72E-06	5.29E-04	5.48E-01	1.45E-06	4.47E-04
Road 27	27	1500-1600	1.65E-01	4.55E-07	1.40E-04	1.37E-01	3.79E-07	1.17E-04	6.04E-01	1.67E-06	5.45E-04	5.33E-01	1.47E-06	4.53E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for Year 2033

AERMOD model (August)

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	1.71E-01	4.04E-07	1.07E-04	1.47E-01	3.47E-07	9.21E-05	6.44E-01	1.52E-06	4.03E-04	5.06E-01	1.38E-06	4.24E-04
Road 27	27	1700-1800	1.52E-01	3.50E-07	1.08E-04	1.28E-01	2.94E-07	9.06E-05	6.15E-01	1.42E-06	4.36E-04	5.17E-01	1.19E-06	3.66E-04
Road 27	27	1800-1900	1.29E-01	2.04E-07	6.27E-07	1.14E-01	1.80E-07	5.55E-07	5.39E-01	8.50E-07	2.62E-06	4.77E-01	7.53E-07	2.32E-06
Road 27	27	1900-2000	1.22E-01	1.26E-07	3.87E-07	1.05E-01	1.08E-07	3.32E-07	4.92E-01	5.07E-07	1.56E-06	4.23E-01	4.36E-07	1.34E-06
Road 27	27	2000-2100	1.15E-01	9.42E-08	2.90E-07	1.02E-01	8.35E-08	2.57E-07	4.76E-01	3.91E-07	1.20E-06	4.22E-01	3.47E-07	1.07E-06
Road 27	27	2100-2200	1.21E-01	1.02E-07	3.13E-07	1.05E-01	8.86E-08	2.73E-07	4.94E-01	4.17E-07	1.28E-06	4.29E-01	3.63E-07	1.12E-06
Road 27	27	2200-2300	1.30E-01	9.54E-08	2.94E-07	1.13E-01	8.29E-08	2.55E-07	5.10E-01	4.79E-07	8.08E-07	2.14E-01	2.01E-07	6.20E-07
Road 27	27	2300-0000	1.27E-01	7.67E-08	2.36E-07	1.11E-01	6.68E-08	2.06E-07	4.70E-01	2.84E-07	8.74E-07	4.09E-01	2.47E-07	7.61E-07
Road 28	28	0000-0100	1.47E-02	1.46E-07	8.26E-06	1.31E-02	1.30E-07	7.36E-06	1.54E-01	1.52E-06	8.65E-05	1.36E-01	1.34E-06	7.63E-05
Road 28	28	0100-0200	1.77E-02	1.03E-07	5.84E-06	1.57E-02	9.11E-08	5.17E-06	1.85E-01	1.07E-06	6.07E-05	1.64E-01	9.52E-07	5.41E-05
Road 28	28	0200-0300	1.66E-02	8.09E-08	4.59E-06	1.47E-02	7.43E-08	4.22E-06	1.53E-01	7.45E-07	4.23E-05	1.39E-01	6.79E-07	3.85E-05
Road 28	28	0300-0400	1.82E-02	7.12E-08	4.04E-06	1.61E-02	6.31E-08	3.58E-06	1.58E-01	6.20E-07	3.52E-05	1.39E-01	5.44E-07	3.09E-05
Road 28	28	0400-0500	1.82E-02	2.86E-08	1.62E-06	1.61E-02	2.54E-08	1.44E-06	1.05E-02	7.14E-09	4.05E-07	1.39E-01	2.18E-07	1.24E-05
Road 28	28	0500-0600	1.77E-02	1.32E-07	7.50E-06	1.65E-02	1.23E-07	6.98E-06	1.51E-02	1.13E-08	6.41E-07	5.25E-02	3.92E-08	2.22E-06
Road 28	28	0600-0700	1.80E-02	2.87E-07	1.63E-05	1.68E-02	2.68E-07	1.52E-05	1.53E-01	2.45E-06	1.39E-04	1.42E-01	2.27E-06	1.29E-04
Road 28	28	0700-0800	1.91E-02	6.29E-07	3.57E-05	1.78E-02	5.86E-07	3.33E-05	1.62E-01	5.32E-06	3.02E-04	1.50E-01	4.95E-06	2.81E-04
Road 28	28	0800-0900	1.92E-02	7.27E-07	4.13E-05	1.95E-02	7.38E-07	4.19E-05	1.66E-01	6.28E-06	3.56E-04	1.52E-01	5.76E-06	3.27E-04
Road 28	28	0900-1000	2.15E-02	7.22E-07	4.10E-05	1.90E-02	6.38E-07	3.62E-05	1.56E-01	5.24E-06	2.98E-04	1.37E-01	4.60E-06	2.61E-04
Road 28	28	1000-1100	2.10E-02	1.08E-07	6.14E-06	1.85E-02	9.54E-08	5.42E-06	1.52E-01	7.85E-07	4.46E-05	1.34E-01	6.90E-07	3.92E-05
Road 28	28	1100-1200	2.25E-02	6.97E-07	3.96E-05	2.07E-02	6.42E-07	3.64E-05	1.50E-01	4.62E-06	2.63E-04	1.32E-01	4.07E-06	2.31E-04
Road 28	28	1200-1300	2.31E-02	4.73E-07	2.69E-05	2.13E-02	4.35E-07	2.47E-05	1.54E-01	3.15E-06	1.79E-04	1.36E-01	2.78E-06	1.58E-04
Road 28	28	1300-1400	2.38E-02	4.98E-07	2.83E-05	2.19E-02	4.58E-07	2.60E-05	1.58E-01	3.31E-06	1.88E-04	1.40E-01	2.93E-06	1.66E-04
Road 28	28	1400-1500	2.16E-02	4.95E-07	2.81E-05	1.80E-02	4.12E-07	2.34E-05	1.37E-01	3.14E-06	1.78E-04	1.13E-01	2.59E-06	1.47E-04
Road 28	28	1500-1600	2.25E-02	5.40E-07	3.06E-05	1.89E-02	4.51E-07	2.56E-05	1.41E-01	3.37E-06	1.91E-04	1.16E-01	2.79E-06	1.58E-04
Road 28	28	1600-1700	2.25E-02	5.40E-07	3.06E-05	1.89E-02	4.51E-07	2.56E-05	1.41E-01	3.37E-06	1.91E-04	1.16E-01	2.79E-06	1.58E-04
Road 28	28	1700-1800	1.92E-02	4.62E-07	2.61E-05	1.60E-02	3.84E-07	2.18E-05	1.22E-01	2.93E-06	1.66E-04	1.01E-01	2.42E-06	1.37E-04
Road 28	28	1800-1900	1.32E-02	3.67E-07	2.08E-05	1.17E-02	3.24E-07	1.84E-05	1.11E-01	3.09E-06	1.75E-04	9.73E-02	2.70E-06	1.53E-04
Road 28	28	1900-2000	1.20E-02	2.59E-07	1.47E-05	1.03E-02	2.22E-07	1.26E-05	1.21E-01	2.61E-06	1.48E-04	1.02E-01	2.21E-06	1.25E-04
Road 28	28	2000-2100	1.17E-02	1.37E-07	7.78E-06	1.01E-02	1.18E-07	6.70E-06	1.21E-01	1.42E-06	8.06E-05	1.02E-01	1.19E-06	6.75E-05
Road 28	28	2100-2200	1.10E-02	1.84E-07	1.05E-05	9.50E-03	1.59E-07	9.05E-06	1.19E-01	2.00E-06	1.13E-04	1.01E-01	1.70E-06	9.66E-05
Road 28	28	2200-2300	1.14E-02	1.85E-07	1.05E-05	9.55E-03	1.55E-07	8.82E-06	1.27E-01	2.07E-06	1.17E-04	1.05E-01	1.70E-06	9.67E-05
Road 28	28	2300-0000	1.18E-02	1.68E-07	9.55E-06	9.92E-03	1.41E-07	8.02E-06	1.27E-01	1.80E-06	1.02E-04	1.06E-01	1.51E-06	8.58E-05
Road 29	29	0000-0100	8.70E-03	7.75E-08	5.35E-06	7.72E-03	6.88E-08	4.75E-06	9.03E-02	8.05E-07	5.55E-05	7.85E-02	6.99E-07	4.83E-05
Road 29	29	0100-0200	9.69E-03	5.66E-08	3.90E-06	8.88E-03	5.19E-08	3.58E-06	9.16E-02	5.35E-07	3.69E-05	8.28E-02	4.83E-07	3.34E-05
Road 29	29	0200-0300	1.06E-02	3.47E-08	2.39E-06	9.73E-03	3.18E-08	2.19E-06	9.16E-02	3.00E-07	2.07E-05	8.28E-02	2.72E-07	1.87E-05
Road 29	29	0300-0400	1.20E-02	4.11E-08	2.84E-06	1.06E-02	3.63E-08	2.51E-06	9.75E-02	3.34E-07	2.30E-05	8.45E-02	2.89E-07	2.00E-05
Road 29	29	0400-0500	1.20E-02	4.50E-08	3.11E-06	1.09E-02	4.08E-08	2.81E-06	9.57E-02	3.58E-07	2.47E-05	8.53E-02	3.19E-07	2.20E-05
Road 29	29	0500-0600	1.14E-02	2.78E-08	1.92E-06	1.03E-02	2.51E-08	1.73E-06	9.26E-02	2.24E-07	1.55E-05	8.14E-02	1.97E-07	1.36E-05
Road 29	29	0600-0700	1.14E-02	1.54E-07	1.06E-05	1.07E-02	1.44E-07	9.91E-06	9.48E-02	1.28E-06	8.82E-05	8.72E-02	1.18E-06	8.11E-05
Road 29	29	0700-0800	1.26E-02	3.47E-07	2.40E-05	1.17E-02	3.21E-07	2.22E-05	9.80E-02	2.69E-06	1.86E-04	8.95E-02	2.46E-06	1.70E-04
Road 29	29	0800-0900	1.34E-02	3.98E-07	2.75E-05	1.25E-02	3.68E-07	2.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for Year 2033
AERMOD model (August)

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly/Hour/Min		Monthly/Hour/Average		Monthly/Hour/Min		Monthly/Hour/Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	7.11E-03	5.78E-08	0.06	9.58E-03	8.02E-02	0.08	1.22E-05	6.94E-02	5.64E-07
Road 51	51	0100-0200	7.60E-03	4.01E-08	2.47E-07	6.92E-03	3.65E-08	6.80E-08	8.09E-02	2.28E-02	4.26E-08
Road 51	51	0200-0300	8.03E-03	3.09E-08	5.77E-07	7.35E-03	2.83E-08	5.27E-07	8.12E-02	3.13E-07	5.83E-07
Road 51	51	0300-0400	8.62E-03	3.02E-08	4.88E-07	7.80E-03	2.73E-08	4.41E-07	8.29E-02	2.51E-07	4.05E-07
Road 51	51	0400-0500	9.16E-03	3.05E-08	5.68E-07	8.29E-03	2.76E-08	5.14E-07	8.41E-02	2.80E-07	5.21E-07
Road 51	51	0500-0600	9.47E-03	5.45E-08	1.02E-06	8.84E-03	5.08E-08	9.47E-07	8.28E-02	4.76E-07	8.87E-07
Road 51	51	0600-0700	1.01E-02	1.24E-07	2.32E-06	9.41E-03	1.16E-07	2.16E-06	8.35E-02	1.03E-06	1.92E-06
Road 51	51	0700-0800	1.09E-02	2.72E-07	5.06E-06	9.95E-03	2.47E-07	4.60E-06	8.80E-02	2.18E-06	4.06E-06
Road 51	51	0800-0900	1.08E-02	3.11E-07	5.79E-06	9.43E-03	2.71E-07	5.04E-06	8.36E-02	2.40E-06	4.47E-06
Road 51	51	0900-1000	1.03E-02	2.91E-07	5.42E-06	8.86E-03	2.50E-07	4.66E-06	7.85E-02	2.22E-06	4.13E-06
Road 51	51	1000-1100	1.41E-02	2.83E-07	5.28E-06	1.19E-02	2.38E-07	4.44E-06	1.06E-01	2.13E-06	3.97E-06
Road 51	51	1100-1200	1.34E-02	2.55E-07	4.75E-06	1.12E-02	2.12E-07	3.96E-06	1.00E-01	1.90E-06	3.54E-06
Road 51	51	1200-1300	1.42E-02	2.99E-07	5.57E-06	1.19E-02	2.51E-07	4.68E-06	1.06E-01	2.24E-06	4.17E-06
Road 51	51	1300-1400	1.32E-02	4.61E-07	8.21E-06	1.06E-02	3.70E-07	6.59E-06	9.42E-02	3.29E-06	5.86E-06
Road 51	51	1400-1500	1.39E-02	4.64E-07	8.65E-06	1.16E-02	3.88E-07	7.23E-06	1.03E-01	3.45E-06	6.43E-06
Road 51	51	1500-1600	1.66E-02	4.52E-07	8.43E-06	1.39E-02	3.78E-07	7.05E-06	1.23E-01	3.36E-06	6.27E-06
Road 51	51	1600-1700	1.66E-02	4.52E-07	8.43E-06	1.39E-02	3.78E-07	7.05E-06	1.23E-01	3.36E-06	6.27E-06
Road 51	51	1700-1800	1.66E-02	4.52E-07	8.43E-06	1.39E-02	3.78E-07	7.05E-06	1.23E-01	3.36E-06	6.27E-06
Road 51	51	1800-1900	1.51E-02	4.52E-07	8.43E-06	1.26E-02	3.78E-07	7.05E-06	1.12E-01	3.36E-06	6.27E-06
Road 51	51	1900-2000	2.60E-02	2.90E-07	5.40E-06	2.17E-02	2.42E-07	4.51E-06	1.93E-01	2.15E-06	4.01E-06
Road 51	51	2000-2100	2.53E-02	2.24E-07	4.17E-06	2.24E-02	1.98E-07	3.69E-06	1.99E-01	1.76E-06	3.28E-06
Road 51	51	2100-2200	2.48E-02	2.24E-07	3.98E-06	2.20E-02	1.98E-07	3.52E-06	1.96E-01	1.76E-06	3.13E-06
Road 51	51	2200-2300	2.42E-02	2.22E-07	3.79E-06	2.14E-02	1.96E-07	3.35E-06	1.90E-01	1.74E-06	2.98E-06
Road 51	51	2300-0000	2.61E-02	1.66E-07	3.09E-06	2.27E-02	1.44E-07	2.68E-06	2.02E-01	1.28E-06	2.38E-06
Road 52	52	0000-0100	5.65E-02	2.84E-08	1.46E-07	5.05E-02	2.54E-08	1.30E-07	2.13E-01	1.07E-07	5.49E-07
Road 52	52	0100-0200	5.65E-02	2.84E-08	2.03E-07	5.05E-02	2.54E-08	1.82E-07	2.13E-01	1.07E-07	7.68E-07
Road 52	52	0200-0300	5.45E-02	1.54E-08	7.90E-08	5.05E-02	1.43E-08	7.31E-08	2.06E-01	5.82E-08	2.97E-07
Road 52	52	0300-0400	5.53E-02	1.33E-08	6.82E-08	5.09E-02	1.22E-08	6.27E-08	2.09E-01	5.02E-08	2.58E-07
Road 52	52	0400-0500	5.53E-02	1.33E-08	7.31E-08	5.09E-02	1.22E-08	6.73E-08	2.09E-01	5.02E-08	2.76E-07
Road 52	52	0500-0600	5.60E-02	2.94E-08	1.51E-07	5.23E-02	2.75E-08	1.41E-07	2.16E-01	1.13E-07	5.82E-07
Road 52	52	0600-0700	5.84E-02	7.01E-08	3.59E-07	5.32E-02	6.39E-08	3.27E-07	2.19E-01	2.63E-07	1.35E-06
Road 52	52	0700-0800	6.32E-02	1.88E-07	9.64E-07	5.76E-02	1.71E-07	8.77E-07	2.37E-01	7.04E-07	3.61E-06
Road 52	52	0800-0900	6.60E-02	2.04E-07	1.05E-06	5.83E-02	1.80E-07	9.24E-07	2.54E-01	7.87E-07	4.03E-06
Road 52	52	0900-1000	6.83E-02	2.40E-07	1.23E-06	6.05E-02	2.12E-07	1.09E-06	2.63E-01	9.30E-07	4.77E-06
Road 52	52	1000-1100	1.34E-01	3.84E-07	1.97E-06	1.14E-01	3.27E-07	1.68E-06	5.00E-01	1.43E-06	7.35E-06
Road 52	52	1100-1200	7.45E-02	2.42E-07	1.24E-06	6.47E-02	2.10E-07	1.08E-06	2.77E-01	8.99E-07	4.62E-06
Road 52	52	1200-1300	7.73E-02	2.60E-07	1.33E-06	6.53E-02	2.20E-07	1.12E-06	2.87E-01	9.65E-07	4.95E-06
Road 52	52	1300-1400	7.85E-02	2.95E-07	1.51E-06	6.64E-02	2.50E-07	1.28E-06	2.85E-01	1.07E-06	5.50E-06
Road 52	52	1400-1500	7.85E-02	2.95E-07	1.51E-06	6.64E-02	2.50E-07	1.28E-06	2.85E-01	1.07E-06	5.50E-06
Road 52	52	1500-1600	7.07E-02	2.78E-07	1.42E-06	5.94E-02	2.33E-07	1.20E-06	2.81E-01	1.10E-06	5.65E-06
Road 52	52	1600-1700	7.28E-02	2.86E-07	1.46E-06	6.12E-02	2.40E-07	1.23E-06	2.89E-01	1.14E-06	5.81E-06
Road 52	52	1700-1800	6.10E-02	2.01E-07	1.03E-06	5.12E-02	1.69E-07	8.65E-07	2.42E-01	7.98E-07	4.08E-06
Road 52	52	1800-1900	5.15E-02	1.18E-07	6.07E-07	4.56E-02	1.05E-07	5.38E-07	2.16E-01	4.98E-07	2.55E-06
Road 52	52	1900-2000	4.70E-02	5.66E-08	2.90E-07	4.17E-02	5.02E-08	2.57E-07	1.99E-01	2.40E-07	1.22E-06
Road 52	52	2000-2100	4.93E-02	6.10E-08	3.13E-07	4.29E-02	5.31E-08	2.72E-07	2.08E-01	2.57E-07	1.32E-06
Road 52	52	2100-2200	4.93E-02	6.10E-08	3.13E-07	4.29E-02	5.31E-08	2.72E-07	2.08E-01	2.57E-07	1.32E-06
Road 52	52	2200-2300	5.26E-02	4.66E-08	2.39E-07	4.59E-02	4.06E-08	2.09E-07	2.22E-01	1.97E-07	1.01E-06
Road 52	52	2300-0000	5.26E-02	4.66E-08	2.39E-07	4.59E-02	4.06E-08	2.09E-07	2.22E-01	1.97E-07	1.01E-06
Road 53	53	0000-0100	7.53E-02	3.52E-08	8.17E-07	6.72E-02	3.14E-08	7.29E-07	2.68E-01	1.25E-07	2.91E-06
Road 53	53	0100-0200	7.53E-02	3.52E-08	8.17E-07	6.72E-02	3.14E-08	7.29E-07	2.68E-01	1.25E-07	2.91E-06
Road 53	53	0200-0300	7.65E-02	1.83E-08	4.24E-07	7.04E-02	1.68E-08	3.91E-07	3.06E-01	7.31E-08	1.70E-06
Road 53	53	0300-0400	7.93E-02	1.55E-08	3.60E-07	7.21E-02	1.41E-08	3.28E-07	3.18E-01	6.22E-08	1.45E-06
Road 53	53	0400-0500	7.93E-02	1.55E-08	3.60E-07	7.21E-02	1.41E-08	3.28E-07	3.18E-01	6.22E-08	1.45E-06
Road 53	53	0500-0600	8.52E-02	3.39E-08	7.89E-07	7.99E-02	3.18E-08	7.39E-07	3.33E-01	1.33E-07	3.08E-06
Road 53	53	0600-0700	9.62E-02	8.49E-08	1.97E-06	8.98E-02	7.93E-08	1.84E-06	3.71E-01	3.27E-07	7.61E-06
Road 53	53	0700-0800	1.11E-01	2.28E-07	5.31E-06	1.03E-01	2.12E-07	4.93E-06	4.26E-01	8.77E-07	2.04E-06
Road 53	53	0800-0900	1.14E-01	2.37E-07	5.50E-06	9.94E-02	2.07E-07	4.81E-06	4.41E-01	9.18E-07	2.13E-06
Road 53	53	0900-1000	1.22E-01	2.61E-07	6.06E-06	1.07E-01	2.29E-07	5.32E-06	4.71E-01	1.01E-06	2.34E-06
Road 53	53	1000-1100	1.41E-01	3.82E-07	8.87E-06	1.23E-01	3.34E-07	7.75E-06	5.44E-01	1.47E-06	3.42E-06
Road 53	53	1100-1200	1.38E-01	2.63E-07	6.11E-06	1.16E-01	2.20E-07	5.12E-06	5.32E-01	1.01E-06	2.35E-06
Road 53	53	1200-1300	1.29E-01	2.72E-07	6.31E-06	1.12E-01	2.36E-07	5.48E-06	4.97E-01	1.05E-06	2.43E-06
Road 53	53	1300-1400	1.32E-01	4.61E-07	1.07E-05	1.15E-01	4.00E-07	9.29E-06	5.08E-01	1.77E-06	4.11E-06
Road 53	53	1400-1500	1.39E-01	4.64E-07	1.08E-05	1.21E-01	4.03E-07	9.36E-06	5.34E-01	1.78E-06	4.13E-06
Road 53	53	1500-1600	1.66E-01	4.52E-07	1.05E-05	1.44E-01	3.92E-07	9.10E-06	6.37E-01	1.73E-06	4.03E-06
Road 53	53	1600-1700	1.66E-01	4.52E-07	1.05E-05	1.44E-01	3.92E-07	9.10E-06	6.37E-01	1.73E-06	4.03E-06
Road 53	53	1700-1800	1.66E-01	4.52E-07	1.05E-05	1.44E-01	3.92E-07	9.10E-06	6.37E-01	1.73E-06	4.03E-06
Road 53	53	1800-1900	1.51E-01	4.52E-07	1.05E-05	1.31E-01	3.92E-07	9.10E-06	5.79E-01	1.73E-06	4.03E-06
Road 53	53	1900-2000	2.60E-01	2.90E-07	6.73E-06	2.25E-01	2.51E-07	5.83E-06	9.97E-01	1.11E-06	2.58E-06
Road 53	53	2000-2100	2.53E-01	2.24E-07	5.20E-06	2.32E-01	2.05E-07	4.77E-06	1.03E+00	9.08E-07	2.11E-06
Road 53	53	2100-2200	2.48E-01	2.24E-07	4.96E-06	2.28E-01	2.05E-07	4.55E-06	1.01E+00	9.08E-07	2.01E-06
Road 53	53	2200-2300	2.42E-01	2.22E-07	4.72E-06	2.22E-01	2.03E-07	4.33E-06	9.85E-01	9.00E-07	1.92E-06
Road 53	53	2300-0000	2.61E-01	1.66E-07	3.85E-06	2.39E-01	1.52E-07	3.53E-06	1.06E+00	6.74E-07	1.56E-06
Road 54	54	0000-0100	5.77E-02	2.90E-08	1.49E-07	5.16E-02	2.59E-08	1.33E-07	2.18E-01	1.09E-07	5.61E-07
Road 54	54	0100-0200	5.77E-02	2.90E-08	2.07E-07	5.16E-02	2.59E-08	1.86E-07	2.18E-01	1.09E-07	7.84E-07
Road 54	54	0200-0300	5.57E-02	1.57E-08	8.07E-08	5.16E-02	1.46E-08	7.47E-08	2.11E-01	5.94E-08	3.04E-07
Road 54	54	0300-0400	5.65E-02	1.36E-08	6.97E-08	5.20E-02	1.25E-08	6.41E-08	2.14E-01	5.13E-08	2.63E-07
Road 54	54	0400-0500	5.65E-02	1.36E-08	7.47E-08	5.20E-02	1.25E-08	6.87E-08	2.14E-01	5.13E-08	2.82E-07
Road 54	54	0500-0600	5.72E-02	3.00E-08	1.54E-07	5.34E-02	2.81E-08	1.44E-07	2.21E-01	1.16E-07	5.94E-07
Road 54	54	0600-0700	5.96E-02	7.16E-08	3.67E-07	5.43E-02	6.53E-08	3.34E-07	2.24E-01	2.69E-07	1.38E-06
Road 54	54	0700-0800	6.46E-02	1.92E-07	9.85E-07	5.89E-02	1.75E-07	8.96E-07	2.42E-01	7.20E-07	3.69E-06
Road 54	54	0800-0900	6.74E-02	2.08E-07	1.07E-06	5.96E-02	1.84E-07	9.44E-07	2.60E-01	8.04E-07	4.12E-06
Road 54	54	0900-1000	6.98E-02	2.45E-07	1.26E-06	6.18E-02	2.17E-07	1.11E-06	2.69E-01	9.50E-07	4.87E-06
Road 54	54	1000-1100	1.37E-01	3.92E-07	2.01E-06	1.17E-01	3.34E-07	1.71E-06	5.11E-01	1.46E-06	7.51E-06
Road 54	54	1100-1200	7.61E-02	2.47E-07	1.27E-06	6.61E-02	2.15E-07	1.10E-06	2.83E-01	9.19E-07	4.72E-06
Road 54	54	1200-1300	7.90E-02	2.66E-07	1.36E-06	6.67E-02	2.24E-07	1.15E-06	2.93E-01	9.86E-07	5.06E-06
Road 54	54	1300-1400	8.02E-02	3.01E-07	1.54E-06	6.79E-02	2.55E-07	1.30E-06	2.91E-01	1.09E-06	5.62E-06
Road 54	54	1400-1500	8.02E-02	3.01E-07	1.54E-06	6.79E-02	2.55E-07	1.30E-06	2.91E-01	1.09E-06	5.62E-06
Road 54	54	1500-1600	7.22E-02	2.84E-07	1.46E-06	6.07E-02	2.39E-07	1.23E-06	2.87E-01	1.13E-06	5.77E-06
Road 54	54	1600-1700	7.44E-02	2.92E-07	1.50E-06	6.25E-02	2.45E-07	1.26E-06	2.95E-01	1.16E-06	5.94E-06
Road 54	54	1700-1800	6.23E-02	2.05E-07	1.05E-06	5.23E-02	1.73E-07	8.84E-07	2.47E-01	8.15E-07	4.17E-06
Road 54	54	1800-1900	5.26E-02	1.21E-07	6.20E-07	4.42E-02	1.02E-07	5.21E-07	2.21E-01	5.08E-07	2.60E-06
Road 54	54	1900-2000	4.80E-02	5.78E-08	2.96E-07	4.03E-02	4.86E-08	2.49E-07	2.03E-01	2.45E-07	1.25E-06
Road 54	54	2000-2100	5.04E-02	6.23E-08	3.20E-07	4.23E-02	5.23E-08	2.68E-07	2.12E-01	2.62E-07	1.35E-06
Road 54	54	2100-2200	5.04E-02	6.23E-08	3.20E-07	4.23E-02	5.23E-08	2.68E-07	2.12E-01	2.62E-07	1.35E-06
Road 54	54	2200-2300	5.38E-02	4.76E-08	2.44E-07	4.52E-02	4.00E-08	2.05E-07	2.26E-01	2.01E-07	1.03E-06
Road 54	54	2300-0000	5.38E-02	4.76E-08	2.44E-07	4.52E-02	4.00E-08	2.05E-07	2.26E-01	2.01E-07	1.03E-06
Road 55	55	0000-0100	7.11E-03	5.78E-08	0.06	9.58E-03	8.02E-02	0.08	1.22E-05	6.94E-02	5.64E-07
Road 55	55	0100-0200	7.60E-03	4.01E-08	2.47E-07	6.92E-03	3.65E-08	6.80E-08	8.09E-02	2.28E-02	4.26E-08
Road 55	55	0200-0300	8.03E-03	3.09E-08	5.77E-07	7.35E-03	2.83E-08	5.27E-07	8.12E-02	3.13E-07	5.83E-07
Road 55	55	0300-0400	8.62E-03	3.02E-08	4.88E-07	7.80E-03	2.73E-08	4.41E-07	8.29E-02	2.51E-07	4.05E-07
Road 55	55	0400-0500	9.16E-03	3.05E-08	5.68E-07	8.29E-03	2.76E-08	5.14E-07	8.41E-02	2.80E-07	5.21E-07
Road 55	55	0500-0600	9.47E-03	5.45E-08	1.02E-06	8.84E-03	5.08E-08	9.47E-07	8.28E-02	4.76E-07	8.87E-07
Road 55	55	0600-0700	1.01E-02	1.24E-07	2.32E-06	9.41E-03	1.16E-07	2.16E-06	8.35E-02	1.03E-06	1.92E-06
Road 55	55	0700-0800	1.09E-02	2.72E-07	5.06E-06	9.95E-03	2.47E-07	4.60E-06	8.80E-02	2.18E-06	4.06E-06
Road 55	55	0800-0900	1.08E-02	3.11E-07	5.79E-06	9.43E-03	2.71E-07	5.04E-06	8.36E-02	2.40E-06	4.47E-06
Road 55	55	0900-1000	1.03E-02	2.91E-07	5.42E-06	8.86E-03	2.50E-07	4.66E-06	7.85E-02	2.22E-06	4.13E-06
Road 55	55	1000-1100	1.41E-02	2.83E-07	5.28E-06	1.19E-02	2.38E-07	4.44E-06	1.06E-01	2.13E-06	3.97E-06
Road 55	55	1100-1200	1.34E-02	2.55E-07	4.75E-06	1.12E-02	2.12E-07	3.96E-06	1.00E-01	1.90E-06	3.54E-06
Road 55	55	1200-1300	1.42E-02	2.99E-07	5.57E-06	1.19E-02	2.51E-07	4.68E-06	1.06E-01	2.24E-06	4.17E-06
Road 55	55	1300-1400	1.32E-02	4.61E-07	8.21E-06	1.06E-02	3.70E-07	6.59E-06	9.42E-02	3.29E-06	5.86E-06
Road 55	55	1400-1500	1.39E-02	4.64E-07	8.65E-06	1.16E-02	3.88E-07	7.23E-06	1.03E-01	3.45E-06	6.43E-06
Road 55	55	1500-1600	1.66E-02	4.52E-07	8.43E-06	1.39E-02	3.78E-07	7.05E-06	1.23E-01	3.36E-06	6.27E-06
Road 55	55	1600-1700	1.66E-02	4.52E-07	8.43E-06	1.39E-02	3.78E-07	7.05E-06	1.23E-01	3.36E-06	6.27E-06
Road 55	55	1700-1800	1.66E-02	4.52E-07	8.43E-06	1.39E-02	3.78E-07	7.05E-06	1.23E-01	3.36E-06	6.27E-06
Road 55	55	1800-1900	1.51E-02	4.52E-07	8.43E-06	1.26E-02	3.78E-07	7.05E-06	1.12E-01	3.36E-06	6.27E-06
Road 55	55	1900-2000	2.60E-02	2.90E-07	5.40E-06	2.17E-02	2.42E-07	4.51E-06	1.93E-01	2.15E-06	4.01E-06
Road 55	55	2000-2100	2.53E-02	2.24E-07	4.17E-06	2.24E-02	1.98E-07	3.69E-06	1.99E-01	1.76E-06	3.28E-06
Road 55	55	2100-2200	2.48E-02	2.24E-07	3.98E-06	2.20E-02	1.98E-07	3.52E-06	1.96E-01	1.76E-06	3.13E-06
Road 55	55	2200-2300	2.42E-02	2.22E-07	3.79E-06	2.14E-02	1.96E-07	3.35E-06	1.90E-01	1.74E-06	2.98E-06
Road 55	55	2300-0000	2.61E-02	1.66E-07	3.09E-06	2.27E-02	1.44E-07	2.68E-06	2.02E-01	1.28E-06	2.38E-06
Road 56	56	0000-0100	5.65E-02	2.84E-08	1.46E-07	5.05E-02	2.54E-08	1.30E-07	2.13E-01	1.07E-07	5.49E-07
Road 56	56	0100-0200	5.65E-02	2.84E-08	2.03E-07	5.05E-02	2.54E-08	1.82E-07	2.13E-01	1.07E-07	7.68E-07
Road 56	56	0200-0300	5.45E-02	1.54E-08	7.90E-08	5.05E-02	1.43E-08	7.31E-08	2.06E-01	5.82E-08	2.97E-07
Road 56	56	0300-0400	5.53E-02	1.33E-08	6.82E-08	5.09E-02	1.22E-08	6.27E-08	2.09E-01	5.02E-08	2.58E-07
Road 56	56	0400-0500	5.53E-02	1.33E-08	7.31E-08	5.09E-02	1.22E-08	6.73E-08	2.09E-01	5.02E-08	2.76E-07
Road 56	56	0500-0600	5.60E-02	2.94E-08	1.51E-07	5.23E-02	2.75E-08	1.41E-07	2.16E-01	1.13E-07	5.82E-07
Road 56	56	0600-0700	5.84E-02	7.01E-08	3.59E-07	5.32E-02	6.39E-08	3.27E-07	2.19E-01	2.63E-07	1.35E-06
Road 56	56	0700-0800	6.32E-02	1.88E-07	9.64E-07	5.76E-02	1.71E-07	8.77E-07	2.37E-01	7.04E-07	3.61E-06
Road 56	56	0800-0900	6.60E-02	2.04E-07	1.05E-06	5.83E-02	1.80E-07	9.24E-07	2.54E-01	7.87E-07	4.03E-06
Road 56	56	0900-1000	6.83E-02	2.40E-07	1.23E-06	6.05E-02	2.12E-07	1.09E-06	2.63E-01	9.30E-07	4.77E-06
Road 56	56	1000-1100	1.34E-01	3.84E-07	1.97E-06	1.14E-01	3.27E-07	1.68E-06	5.00E-01	1.43E-06	7.35E-06
Road 56	56	1100-1200	7.45E-02	2.42E-07	1.24E-06	6.47E-02	2.10E-07	1.08E-06	2.77E-01	8.99E-07	4.62E-06
Road 56	56	1200-1300	7.73E-02	2.60E-07	1.33E-06	6.53E-02	2.20E-07	1.12E-06	2.87E-01	9.65E-07	4.95E-06
Road 56	56	1300-1400	7.85E-02	2.95E-07	1.51E-06	6.64E-02	2.50E-07	1.28E-06	2.85E-01	1.07E-06	5.50E-06
Road 56	56	1400-1500	7.85E-02	2.95E-07	1.51E-06	6.64E-02	2.50E-07	1.28E-06	2.85E-01	1.07E-06	5.50E-06
Road 56	56	1500-1600	7.07E-02	2.78E-07	1.42E-06	5.94E-02	2.33E-07	1.20E-06	2.81E-01	1.10E-06	5.65E-06
Road 56	56	1600-1700	7.28E-02	2.86E-07	1.46E-06	6.12E-02	2.40E-07	1.23E-06	2.89E-01	1.14E-06	5.81E-06
Road 56	56	1700-1800	6.10E-02	2.01E-07	1.03E-06	5.12E-02	1.69E-07	8.65E-07	2.42E-01	7.98E-07	4.08E-06
Road 56	56	1800-1900	5.15E-02	1.18E-07	6.07E-07	4.56E-02	1.05E-07	5.38E-07	2.16E-01	4.98E-07	2.55E-06
Road 56	56	1900-2000	4.70E-02	5.66E-08	2.90E-07	4.17E-02	5.02E-08	2.57E-07	1.99E-01	2.40E-07	1.22E-06
Road 56	56	2000-2100	4.93E-02	6.10E-08	3.13E-07	4.29E-02	5.31E-08	2.72E-07	2.08E-01	2.57E-07	1.32E-06
Road 56	56	2100-2200	4.93E-02	6.10E-08	3.13E-07	4.29E-02	5.31E-08	2.72E-07	2.08E-01	2.57E-07	1.32E-06
Road 56	56	2200-2300	5.26E-02	4.66E-08	2.39E-07	4.59E-02	4.06E-08	2.09E-07	2.22E-01	1.97E-07	1.01E-06
Road 56	56	2300-0000	5.26E-02	4.66E-08	2.39E-07	4.59E-02	4.06E-08	2.09E-07	2.22E-01	1.97E-07	1.01E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for Year 2033
AERMOD model (September)

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly/Hour/Min		Monthly/Hour/Average		Monthly/Hour/Min		Monthly/Hour/Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	9.15E-03	1.23E-07	6.78E-07	7.53E-03	1.01E-07	5.58E-06	1.05E-01	1.41E-06	6.25E-05
Road 1	1	0100-0200	9.81E-03	8.59E-08	4.73E-06	8.24E-03	7.22E-08	3.97E-06	1.06E-01	9.28E-07	5.11E-05
Road 1	1	0200-0300	1.05E-02	6.75E-08	3.72E-06	8.88E-03	5.69E-08	3.13E-06	1.07E-01	6.88E-07	3.79E-05
Road 1	1	0300-0400	1.13E-02	5.91E-08	3.26E-06	9.46E-03	4.79E-08	2.64E-06	1.10E-01	5.55E-07	3.06E-05
Road 1	1	0400-0500	1.20E-02	6.68E-08	3.68E-06	9.99E-03	5.55E-08	3.05E-06	1.12E-01	6.21E-07	3.42E-05
Road 1	1	0500-0600	1.25E-02	1.20E-07	6.62E-06	1.04E-02	1.00E-07	5.52E-06	1.13E-01	1.08E-06	5.94E-05
Road 1	1	0600-0700	1.32E-02	2.67E-07	1.47E-05	1.10E-02	2.25E-07	1.24E-05	1.13E-01	2.32E-06	1.28E-04
Road 1	1	0700-0800	1.39E-02	5.77E-07	3.17E-05	1.17E-02	4.87E-07	2.68E-05	1.15E-01	4.79E-06	2.64E-04
Road 1	1	0800-0900	1.33E-02	6.40E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September)

Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²
			tonne/hour		tonne/hour		tonne/hour		tonne/hour		tonne/hour		tonne/hour	
Road 17	17	1600-1700	7.00E-02	1.76E-06	1.95E-01	4.24E-06	3.08E-01	7.51E-06	1.22E-04	2.46E-01	6.18E-06	1.81E-04		
Road 17	17	1700-1800	5.13E-02	1.33E-06	3.89E-05	4.22E-02	1.09E-06	3.20E-05	2.57E-01	6.66E-06	1.95E-04	2.09E-01	5.43E-06	1.59E-04
Road 17	17	1800-1900	3.02E-02	7.35E-07	2.15E-05	2.50E-02	6.10E-07	1.78E-05	1.74E-01	4.24E-06	1.24E-04	1.43E-01	3.48E-06	1.02E-04
Road 17	17	1900-2000	1.95E-02	4.35E-07	1.04E-05	1.61E-02	2.95E-07	8.61E-06	1.40E-01	2.57E-06	7.52E-05	1.04E-01	2.09E-06	6.12E-05
Road 17	17	2000-2100	1.78E-02	2.55E-07	7.46E-06	1.47E-02	2.12E-07	6.18E-06	1.42E-01	2.03E-06	5.94E-05	1.15E-01	1.65E-06	4.83E-05
Road 17	17	2100-2200	1.72E-02	2.47E-07	7.22E-06	1.43E-02	2.05E-07	6.00E-06	1.35E-01	1.94E-06	5.68E-05	1.10E-01	1.59E-06	4.64E-05
Road 17	17	2200-2300	1.73E-02	2.29E-07	7.26E-06	1.44E-02	1.90E-07	5.71E-06	1.36E-01	1.80E-06	5.42E-05	1.11E-01	1.51E-06	4.42E-05
Road 17	17	2300-0000	1.82E-02	1.90E-07	5.56E-06	1.50E-02	1.57E-07	4.59E-06	1.31E-01	1.11E-06	4.18E-05	1.11E-01	1.66E-06	3.88E-05
Road 18	18	0000-0100	1.15E-02	6.59E-08	2.58E-06	9.64E-03	5.53E-08	2.16E-06	1.15E-01	1.15E-06	4.50E-05	9.43E-02	5.41E-07	2.11E-05
Road 18	18	0100-0200	1.38E-02	3.82E-08	1.49E-06	1.16E-02	3.21E-08	1.25E-06	1.15E-01	1.15E-06	4.50E-05	9.43E-02	5.27E-07	2.06E-05
Road 18	18	0200-0300	1.38E-02	3.82E-08	1.49E-06	1.16E-02	3.21E-08	1.25E-06	9.75E-02	2.71E-07	1.06E-05	9.43E-02	2.62E-07	1.02E-05
Road 18	18	0300-0400	1.50E-02	3.32E-08	1.29E-06	1.25E-02	2.77E-08	1.08E-06	9.75E-02	2.16E-07	8.45E-06	9.43E-02	2.09E-07	8.13E-06
Road 18	18	0400-0500	1.56E-02	3.46E-08	1.35E-06	1.30E-02	2.88E-08	1.12E-06	9.75E-02	2.16E-07	8.45E-06	9.43E-02	2.09E-07	8.13E-06
Road 18	18	0500-0600	1.55E-02	6.46E-08	2.52E-06	1.29E-02	5.39E-08	2.10E-06	1.01E-01	4.21E-07	1.64E-05	9.43E-02	3.92E-07	1.53E-05
Road 18	18	0600-0700	1.57E-02	1.39E-07	5.44E-06	1.32E-02	1.17E-07	4.57E-06	1.25E-01	1.11E-06	4.32E-05	1.03E-01	9.11E-07	3.56E-05
Road 18	18	0700-0800	1.68E-02	2.98E-07	1.16E-05	1.41E-02	2.50E-07	9.77E-06	1.25E-01	2.22E-06	8.68E-05	1.03E-01	1.83E-06	7.17E-05
Road 18	18	0800-0900	1.63E-02	3.41E-07	1.33E-05	1.38E-02	2.89E-07	1.13E-05	1.17E-01	2.45E-06	9.58E-05	9.75E-02	2.04E-06	7.99E-05
Road 18	18	0900-1000	1.87E-02	3.29E-07	1.29E-05	1.59E-02	2.80E-07	1.09E-05	1.28E-01	2.26E-06	8.82E-05	1.07E-01	1.89E-06	7.39E-05
Road 18	18	1000-1100	2.09E-02	2.23E-07	1.26E-05	1.77E-02	1.01E-07	5.72E-06	1.41E-01	1.51E-06	8.57E-05	1.19E-01	6.87E-07	3.89E-05
Road 18	18	1100-1200	2.02E-02	2.95E-07	1.15E-05	1.73E-02	2.53E-07	9.88E-06	1.34E-01	1.96E-06	7.68E-05	1.14E-01	1.68E-06	6.57E-05
Road 18	18	1200-1300	3.00E-02	5.70E-07	2.23E-05	2.60E-02	4.95E-07	1.93E-05	7.55E-02	1.43E-06	5.61E-05	6.42E-02	1.22E-06	4.77E-05
Road 18	18	1300-1400	3.00E-02	6.03E-07	2.36E-05	2.58E-02	5.19E-07	2.03E-05	1.01E-01	2.03E-06	7.95E-05	8.57E-02	1.72E-06	6.75E-05
Road 18	18	1400-1500	3.02E-02	2.45E-07	9.56E-06	2.58E-02	2.09E-07	8.17E-06	1.38E-01	1.12E-06	4.38E-05	1.18E-01	9.56E-07	3.74E-05
Road 18	18	1500-1600	2.85E-02	6.12E-07	2.39E-05	2.40E-02	5.16E-07	2.02E-05	1.37E-01	2.93E-06	1.15E-04	1.17E-01	2.51E-06	9.84E-05
Road 18	18	1600-1700	2.95E-02	6.42E-07	2.51E-05	2.48E-02	5.42E-07	2.12E-05	1.37E-01	2.98E-06	1.17E-04	1.17E-01	2.55E-06	9.98E-05
Road 18	18	1700-1800	2.92E-02	6.36E-07	2.49E-05	2.45E-02	5.35E-07	2.09E-05	1.37E-01	2.98E-06	1.17E-04	1.17E-01	2.55E-06	9.98E-05
Road 18	18	1800-1900	1.84E-02	4.11E-07	1.61E-05	1.52E-02	3.41E-07	3.15E-06	1.23E-04	1.15E-01	2.58E-06	1.01E-04		
Road 18	18	1900-2000	1.66E-02	2.82E-07	1.10E-05	1.37E-02	2.34E-07	9.11E-06	1.15E-01	1.95E-06	7.61E-05	9.51E-02	1.61E-06	6.29E-05
Road 18	18	2000-2100	1.56E-02	2.09E-07	8.15E-06	1.30E-02	1.73E-07	6.75E-06	1.07E-01	1.43E-06	5.58E-05	8.83E-02	1.19E-06	4.63E-05
Road 18	18	2100-2200	1.56E-02	2.09E-07	8.15E-06	1.30E-02	1.73E-07	6.75E-06	1.07E-01	1.43E-06	5.58E-05	8.83E-02	1.19E-06	4.63E-05
Road 18	18	2200-2300	1.57E-02	2.01E-07	7.84E-06	1.31E-02	1.67E-07	6.49E-06	1.06E-01	1.35E-06	5.27E-05	8.75E-02	1.12E-06	4.37E-05
Road 18	18	2300-0000	1.58E-02	1.82E-07	7.09E-06	1.32E-02	1.51E-07	5.87E-06	1.06E-01	1.22E-06	4.76E-05	8.75E-02	1.01E-06	3.95E-05
Road 19	19	0000-0100	1.20E-02	1.11E-07	3.20E-06	1.00E-02	9.31E-08	2.68E-06	1.17E-01	1.08E-06	3.11E-05	9.98E-02	9.24E-07	2.66E-05
Road 19	19	0100-0200	1.29E-02	7.92E-08	2.28E-06	1.08E-02	6.63E-08	1.91E-06	1.17E-01	1.08E-06	3.11E-05	9.98E-02	9.24E-07	2.66E-05
Road 19	19	0200-0300	1.41E-02	3.67E-08	1.06E-06	1.18E-02	3.07E-08	8.84E-07	1.17E-01	1.08E-06	3.11E-05	9.98E-02	9.24E-07	2.66E-05
Road 19	19	0300-0400	1.53E-02	5.52E-08	1.59E-06	1.28E-02	4.61E-08	1.33E-06	1.07E-01	3.86E-07	1.11E-05	8.71E-02	3.14E-07	9.06E-06
Road 19	19	0400-0500	1.60E-02	6.39E-08	1.84E-06	1.34E-02	5.33E-08	1.53E-06	1.09E-01	4.34E-07	1.25E-05	8.86E-02	3.53E-07	1.02E-05
Road 19	19	0500-0600	1.64E-02	1.13E-07	3.25E-06	1.37E-02	9.45E-08	2.72E-06	1.09E-01	7.59E-07	2.18E-05	8.86E-02	6.17E-07	1.77E-05
Road 19	19	0600-0700	1.69E-02	2.51E-07	7.23E-06	1.43E-02	2.11E-07	6.06E-06	4.79E-05	9.22E-02	1.37E-06	3.94E-05		
Road 19	19	0700-0800	1.84E-02	5.09E-07	1.61E-05	1.56E-02	4.73E-07	1.36E-05	1.05E-01	2.92E-06	9.24E-05	2.93E-06	8.43E-05	
Road 19	19	0800-0900	1.84E-02	5.09E-07	1.61E-05	1.56E-02	4.73E-07	1.36E-05	1.05E-01	2.92E-06	9.24E-05	2.93E-06	8.43E-05	
Road 19	19	0900-1000	2.09E-02	6.36E-07	1.83E-05	1.77E-02	5.40E-07	1.56E-05	1.01E-01	3.09E-06	8.90E-05			
Road 19	19	1000-1100	2.36E-02	6.38E-07	1.84E-05	2.00E-02	5.42E-07	1.56E-05	1.28E-01	3.46E-06	9.95E-05	1.07E-01	2.91E-06	8.37E-05
Road 19	19	1100-1200	2.32E-02	3.74E-07	1.08E-05	1.97E-02	3.18E-07	9.16E-06	1.28E-01	2.06E-06	5.94E-05	1.07E-01	1.72E-06	4.95E-05
Road 19	19	1200-1300	3.21E-02	7.15E-07	2.06E-05	2.79E-02	6.20E-07	1.79E-05	1.56E-01	3.47E-06	1.00E-04	1.35E-01	3.00E-06	8.64E-05
Road 19	19	1300-1400	3.25E-02	7.75E-07	2.23E-05	2.80E-02	6.67E-07	1.92E-05	1.59E-01	3.79E-06	1.09E-04	1.36E-01	3.25E-06	9.36E-05
Road 19	19	1400-1500	3.27E-02	7.27E-07	2.25E-05	2.82E-02	6.25E-07	1.94E-05	1.60E-01	3.56E-06	1.10E-04	1.37E-01	3.05E-06	9.43E-05
Road 19	19	1500-1600	3.08E-02	7.79E-07	2.25E-05	2.59E-02	6.57E-07	1.89E-05	1.59E-01	4.04E-06	1.16E-04	1.33E-01	3.38E-06	9.73E-05
Road 19	19	1600-1700	3.19E-02	8.06E-07	2.32E-05	2.63E-02	6.65E-07	1.92E-05	1.60E-01	4.04E-06	1.16E-04	1.31E-01	3.31E-06	9.52E-05
Road 19	19	1700-1800	3.18E-02	8.03E-07	2.31E-05	2.62E-02	6.62E-07	1.91E-05	1.60E-01	4.04E-06	1.16E-04	1.31E-01	3.31E-06	9.52E-05
Road 19	19	1800-1900	1.95E-02	4.78E-07	1.38E-05	1.61E-02	3.96E-07	1.14E-05	1.07E-01	2.62E-06	7.56E-05			
Road 19	19	1900-2000	1.75E-02	3.24E-07	9.32E-06	1.45E-02	2.68E-07	7.05E-06	1.08E-01	2.00E-06	5.75E-05			
Road 19	19	2000-2100	1.72E-02	2.22E-07	6.39E-06	1.42E-02	1.84E-07	5.30E-06	1.08E-01	1.40E-06	4.03E-05			
Road 19	19	2100-2200	1.67E-02	2.42E-07	6.97E-06	1.39E-02	2.00E-07	5.76E-06	1.08E-01	1.57E-06	4.51E-05			
Road 19	19	2200-2300	1.68E-02	2.31E-07	6.66E-06	1.40E-02	1.92E-07	5.54E-06	1.34E-01	1.84E-06	5.29E-05	1.09E-01	1.50E-06	4.31E-05
Road 19	19	2300-0000	1.81E-02	2.06E-07	5.93E-06	1.50E-02	1.71E-07	4.92E-06	1.34E-01	1.53E-06	4.40E-05	1.09E-01	1.24E-06	3.57E-05
Road 20	20	0000-0100	4.73E-02	4.85E-08	8.93E-07	4.01E-02	4.11E-08	7.57E-07	1.92E-01	1.96E-06	3.62E-05	1.63E-01	1.66E-06	3.04E-05
Road 20	20	0100-0200	4.86E-02	3.43E-08	6.32E-07	4.14E-02	2.93E-08	5.40E-07	1.95E-01	1.38E-06	2.54E-05	1.66E-01	1.41E-06	2.59E-05
Road 20	20	0200-0300	5.02E-02	2.74E-08	5.05E-07	4.28E-02	2.34E-08	4.31E-07	1.95E-01	1.06E-06	1.95E-05	1.66E-01	1.13E-06	2.08E-05
Road 20	20	0300-0400	5.19E-02	2.36E-08	4.35E-07	4.36E-02	1.98E-08	3.65E-07	1.95E-01	8.88E-07	1.64E-05	1.66E-01	9.53E-07	1.76E-05
Road 20	20	0400-0500	5.31E-02	2.79E-08	5.14E-07	4.46E-02	2.34E-08	4.32E-07	2.09E-01	1.10E-06	2.03E-05	1.78E-01	9.38E-07	1.73E-05
Road 20	20	0500-0600	5.58E-02	9.55E-08	4.56E-07	4.35E-02	8.02E-07	2.13E-07	2.03E-07	3.75E-06	1.78E-01	1.70E-07	3.13E-06	1.49E-05
Road 20	20	0600-0700	5.86E-02	2.82E-07	2.32E-06	4.58E-02	2.20E-07	1.81E-06	2.09E-01	1.01E-06	8.29E-06	1.63E-01	7.84E-07	6.46E-06
Road 20	20	0700-0800	6.54E-02	2.98E-07	5.49E-06	5.56E-02	2.53E-07	4.66E-06	2.51E-01	1.14E-06	2.11E-05	9.67E-07	1.78E-05	
Road 20	20	0800-0900	6.60E-02	3.58E-07	6.60E-06	5.62E-02	3.05E-07	5.62E-06	2.59E-01	1.41E-06	2.59E-05	2.20E-01	1.19E-06	2.20E-05
Road 20	20	0900-1000	7.29E-02	3.52E-07	6.48E-06	6.21E-02	2.99E-07	5.51E-06	2.58E-01	1.24E-06	2.28E-05	2.19E-01	1.05E-06	1.94E-05
Road 20	20	1000-1100	7.60E-02	4.23E-07	7.80E-06	6.45E-02	3.59E-07	6.62E-06	2.85E-01	1.58E-06	2.92E-05	2.41E-01	1.34E-06	2.48E-05
Road 20	20	1100-1200	7.50E-02	3.92E-07	7.23E-06	6.45E-02	3.37E-07	6.22E-06	2.83E-01	1.48E-06	2.73E-05	2.43E-01	1.27E-06	2.34E-05
Road 20	20	1200-1300	8.03E-02	3.98E-07	7.34E-06	6.91E-02	3.42E-07	6.31E-06	3.03E-01	1.50E-06	2.77E-05	2.60E-01	1.29E-06	2.38E-05
Road 20	20	1300-1400	7.73E-02	4.18E-07	7.71E-06	6.72E-02	3.63E-07	6.70E-06	2.90E-01	1.57E-06	2.89E-05	2.52E-01	1.36E-06	2.51E-05
Road 20	20	1400-1500	7.93E-02	4.27E-07	7.87E-06	6.80E-02	3.66E-07	6.75E-06	2.90E-01	1.56E-06	2.88E-05	2.48E-01	1.34E-06	2.46E-05
Road 20	20	1500-1600	7.28E-02	4.06E-07	7.54E-06	6.34E-02	3.53E-07	6.57E-06	2.73E-01	1.52E-06	2.83E-05	2.38E-01	1.33E-06	2.46E-05
Road 20	20	1600-1700	7.78E-02	4.08E-07	7.53E-06	6.43E-02	3.37E-07	6.22E-06	2.91E-01	1.53E-06	2.81E-05	2.40E-01	1.26E-06	2.32E-05
Road 20	20	1700-1800	6.46E-02	3.14E-07	5.80E-06	5.33E-02	2.59E-07	4.78E-06	2.70E-01	1.31E-06	2.42E-05	2.22E-01	1.08E-06	1.99E-05
Road 20	20	1800-1900	5.28E-02	1.89E-07	3.49E-06	4.36E-02	1.56E-07	2.88E-06	2.21E-01	7.91E-07	1.46E-05	1.82E-01	6.51E-07	1.20E-05
Road 20	20	1900-2000	5.01E-02	1.22E-07	2.25E-06	4.17E-02	1.02E-07	1.87E-06	2.12E-01	5.16E-07	9.52E-06	1.76E-01	4.28E-07	7.89E-06
Road 20	20	2000-2100	4.75E-02	9.16E-08	1.69E-06	3.94E-02	7.61E-08	1.40E-06	2.09E-01	4.04E-07	7.45E-06	1.72E-01	3.33E-07	6.14E-06
Road 20	20	2100-2200	4.82E-02	1.52E-07	1.75E-06	4.02E-02	1.26E-07	1.45E-06	2.12E-01	6.70E-07	7.54E-06	1.75E-01	5.54E-07	6.23E-06
Road 20	20	2200-2300	5.13E-02	9.02E-08	1.66E-06	4.29E-02	7.54E-08	1.39E-06	2.05E-01	3.60E-07	6.64E-06	1.70E-01	2.99E-07	5.51E-06
Road 20	20	2300-0000	5.33E-02	7.54E-08	1.39E-06	4.41E-02	6.25E-08	1.15E-06	2.11E-01	2.99E-07	5.50E-06	1.74E-01	2.46E-07	4.53E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September)

Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²	g/km/veh	g/s/m²
			tonne/hour		tonne/hour		tonne/hour		tonne/hour		tonne/hour		tonne/hour	
Road 21	21	0000-0100	1.35E-02	9.85E-08	1.30E-06	1.11E-02	8.29E-08	1.10E-06	1.02E-01	7.50E-07	9.91E-06	8.39E-02	6.14E-07	8.11E-06
Road 21	21	0100-0200	1.45E-02	7.00E-08	9.26E-07	1.23E-02	5.94E-08	7.85E-07	1.04E-01	5.01E-07	6.62E-06	8.57E-02	4.14E-07	5.47E-06
Road 21	21	0200-0300	1.57E-02	5.63E-08	7.45E-07	1.32E-02	4.73E-08	6.26E-07	1.07E-01	3.82E-07	5.05E-06	8.74E-02	3.13E-07	4.14E-06
Road 21	21	0300-0400	1.70E-02	4.88E-08	6.45E-07	1.42E-02	4.07E-08	5.38E-07	1.10E-01	3.16E-07	4.18E-06	8.96E-02	2.57E-07	3.40E-06
Road 21	21	0400-0500	1.78E-02	5.66E-08	7.48E-07	1.48E-02	4.72E-08	6.24E-07	1.12E-01	3.56E-07	4.71E-06	9.12E-02	2.90E-07	3.84E-06
Road 21	21	0500-0600	1.83E-02	1.01E-07	1.34E-06	1.53E-02	8.49E-08	1.12E-06	1.14E-01	6.31E-07	8.35E-06	9.29E-02	5.15E-07	6.81E-06
Road 21	21	0600-0700	1.89E-02	2.26E-07	2.99E-06	1.58E-02	1.91E-07	2.52E-06	1.18E-01	1.41E-06	1.86E-05	9.63E-02	1.17E-06	1.54E-05
Road 21	21	0700-0800	2.09E-02	5.13E-07	6.78E-06	1.77E-02	4.34E-07	5.74E-06	1.22E-01	2.99E-06	3.96E-05	1.01E-01	2.48E-06	3.28E-05
Road 21	21	0800-0900	2.28E-02	6.53E-07	8.63E-06	1.93E-02	5.54E-07	7.32E-06	1.24E-01	3.55E-06	4.69E-05	1.04E-01	2.97E-06	3.92E-05
Road 21	21	0900-1000	2.48E-02	6.30E-07	8.33E-06	2.10E-02	5.35E-07	7.07E-06	1.35E-01	3.43E-06	4.53E-05	1.13E-01	2.87E-06	3.79E-05
Road 21	21	1000-1100	2.67E-02	6.08E-07	8.04E-06	2.26E-02	5.15E-07	6.81E-06	1.35E-01	3.07E-06	4.06E-05	1.13E-01	2.58E-06	3.41E-05
Road 21	21	1100-1200	2.54E-02	5.47E-07	7.23E-06	2.18E-02	4.69E-07	6.20E-06	1.33E-01	2.86E-06	3.78E-05	1.13E-01	2.43E-06	3.22E-05
Road 21	21	1200-1300	2.44E-02	5.50E-07	7.27E-06	2.34E-02	5.27E-07	6.97E-06	1.29E-01	2.90E-06	3.83E-05	1.24E-01	2.80E-06	3.70E-05
Road 21	21	1300-1400	3.47E-02	7.08E-07	9.35E-06	3.02E-02	6.15E-07	8.13E-06	1.63E-01	3.32E-06	4.38E-05	1.41E-01	2.87E-06	3.79E-05
Road 21	21	1400-1500	3.51E-02	7.32E-07	9.67E-06	3.01E-02	6.27E-07	8.29E-06	1.62E-01	3.38E-06	4.47E-05	1.38E-01	2.88E-06	3.81E-05
Road 21	21	1500-1600	3.29E-02	7.10E-07	9.38E-06	2.84E-02	6.14E-07	8.12E-06	1.54E-01	3.33E-06	4.40E-05	1.32E-01	2.84E-06	3.76E-05
Road 21	21	1600-1700	3.42E-02	7.29E-07	9.64E-06	2.82E-02	6.02E-07	7.96E-06	1.64E-01	3.49E-06	4.61E-05	1.34E-01	2.86E-06	3.78E-05
Road 21	21	1700-1800	2.77E-02	6.01E-07	7.95E-06	2.28E-02	4.95E-07	6.54E-06	1.55E-01	3.35E-06	4.43E-05	1.26E-01	2.73E-06	3.61E-05
Road 21	21	1800-1900	2.16E-02	2.12E-07	2.93E-06	1.77E-02	1.68E-07	2.32E-06	1.21E-01	1.19E-06	1.64E-05	9.85E-02	9.41E-07	1.30E-05
Road 21	21	1900-2000	1.88E-02	2.77E-07	3.66E-06	1.56E-02	2.30E-07	3.04E-06	1.33E-01	1.96E-06	2.59E-05	1.09E-01	1.60E-06	2.12E-05
Road 21	21	2000-2100	1.86E-02	2.15E-07	2.85E-06	1.54E-02	1.78E-07	2.35E-06	1.39E-01	1.61E-06	2.13E-05	1.13E-01	1.31E-06	1.73E-05
Road 21	21	2100-2200	1.80E-02	2.12E-07	2.77E-06	1.50E-02	1.76E-07	2.30E-06	1.32E-01	1.55E-06	2.03E-05	1.08E-01	1.27E-06	1.67E-05
Road 21	21	2200-2300	1.83E-02	2.00E-07	2.64E-06	1.52E-02	1.67E-07	2.20E-06	1.34E-01	1.47E-06	1.94E-05	1.09E-01	1.20E-06	1.58E-05
Road 21	21	2300-0000	1.96E-02	1.65E-07	2.18E-06	1.62E-02	1.38E-07	1.82E-06	1.44E-01	1.21E-06	1.60E-05	1.16E-01	9.77E-07	1.29E-05
Road 22	22	0000-0100	1.41E-02	1.72E-07	3.06E-06	1.16E-02	1.41E-07	2.52E-06	1.06E-01	1.29E-06	2.30E-05	7.76E-01	5.38E-06	9.60E-05
Road 22	22	0100-0200	1.42E-02	1.19E-07	2.12E-06	1.17E-02	9.74E-08	1.74E-06	1.07E-01	8.94E-07	1.59E-05	7.83E-01	6.57E-06	1.17E-04
Road 22	22	0200-0300	1.43E-02	7.72E-08	1.38E-06	1.18E-02	6.36E-08	1.14E-06	1.07E-01	5.79E-07	1.03E-05	7.89E-01	4.26E-06	7.59E-05
Road 22	22	0300-0400	1.44E-02	5.23E-08	9.35E-07	1.19E-02	4.31E-08	7.70E-07	1.08E-01	3.92E-07	7.00E-06	7.95E-01	2.89E-06	5.16E-05
Road 22	22	0400-0500	1.45E-02	6.47E-08	1.16E-06	1.20E-02	5.33E-08	9.52E-07	1.09E-01	4.85E-07	8.66E-06	8.01E-01	3.57E-06	6.38E-05
Road 22	22	0500-0600	1.53E-02	1.83E-07	3.27E-06	1.29E-02	1.54E-07	2.75E-06	5.67E-01	6.79E-07	1.21E-05	4.76E-01	5.69E-07	1.02E-05
Road 22	22	0600-0700	1.71E-02	4.63E-07	8.26E-06	1.44E-02	3.89E-07	2.21E-01	5.44E-07	1.47E-06	2.62E-05	4.57E-01	1.23E-06	2.20E-05
Road 22	22	0700-0800	1.96E-02	1.31E-06	1.97E-05	1.65E-02	1.10E-06	1.66E-05	6.23E-01	4.16E-06	6.27E-05	5.24E-01	3.49E-06	5.26E-05
Road 22	22	0800-0900	1.96E-02	1.35E-06	2.03E-05	1.65E-02	1.14E-06	1.71E-05	6.23E-01	4.30E-06	6.47E-05	5.24E-01	3.61E-06	5.43E-05
Road 22	22	0900-1000	2.09E-02	6.36E-07	1.83E-05	1.77E-02	5.40E-07	1.56E-05	1.01E-01	3.09E-06	8.90E-05			
Road 22	22	1000-1100	2.36E-02	6.38E-07	1.84E-05	2.00E-02	5.42E-07	1.56E-05	1.28E-01	3.46E-06	9.95E-05	1.07E-01	2.91E-06	8.37E-05
Road 22	22	1100-1200	2.32E-02	3.74E-07	1.08E-05	1.97E-02	3.18E-07	9.16E-06	1.28E-01	2.06E-06	5.94E-05	1.07E-01	1.72E-06	4.95E-05
Road 22	22	1200-1300	3.21E-02	7.15E-07	2.06E-05	2.79E-02	6.20E-07	1.79E-05	1.56E-01	3.47E-06	1.00E-04	1.35E-01	3.00E-06	8.64E-05
Road 22	22	1300-1400	3.25E-02	7.75E-07	2.23E-05	2.80E-02	6.67E-07	1.92E-05	1.59E-01	3.79E-06	1.09E-04	1.36E-01	3.25E-06	9.36E-05
Road 22	22	1400-1500	2.26E-02	4.38E-07	2.91E-06	1.92E-02	3.72E-07	2.47E-06	1.34E-01	1.47E-06	2.62E-05	7.56E-01	6.01E-06	1.07E-04
Road 22	22	1500-1600	2.15E-02	4.26E-07	2.83E-06	1.78E-02	3.54E-07	2.36E-06	1.32E-01	1.54E-06	2.61E-05	7.47E-01	6.47E-06	1.15

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for Year 2033
AERMOD model (September)

Road Name	Road ID	Hour	NO_x Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 44	44	0800-0900	1.32E-02	3.74E-07	2.11E-06	1.25E-02	2.83E-06	1.74E-05	8.21E-02	2.33E-06	1.44E-05
Road 44	44	0900-1000	1.47E-02	3.42E-07	2.11E-06	1.25E-02	2.90E-07	1.79E-06	8.21E-02	2.07E-06	1.28E-05
Road 44	44	1000-1100	1.66E-02	3.32E-07	2.05E-06	1.40E-02	2.81E-07	1.73E-06	1.12E-01	2.25E-06	1.39E-05
Road 44	44	1100-1200	1.57E-02	3.92E-07	1.84E-06	1.32E-02	2.53E-07	1.56E-06	1.12E-01	2.13E-06	1.31E-05
Road 44	44	1200-1300	1.88E-02	4.66E-07	2.88E-06	1.60E-02	3.96E-07	2.44E-06	1.23E-01	3.04E-06	1.88E-05
Road 44	44	1300-1400	1.89E-02	4.71E-07	2.95E-06	1.61E-02	4.06E-07	2.51E-06	1.24E-01	3.13E-06	1.93E-05
Road 44	44	1400-1500	1.91E-02	4.75E-07	3.18E-06	1.62E-02	4.38E-07	2.93E-06	1.24E-01	3.38E-06	2.26E-05
Road 44	44	1500-1600	1.85E-02	5.09E-07	3.15E-06	1.53E-02	4.22E-07	2.61E-06	1.25E-01	3.45E-06	2.13E-05
Road 44	44	1600-1700	2.26E-02	6.63E-07	4.10E-06	1.87E-02	5.51E-07	3.40E-06	2.04E-01	5.98E-06	3.70E-05
Road 44	44	1700-1800	2.34E-02	7.72E-07	4.66E-06	1.92E-02	6.33E-07	3.82E-06	2.11E-01	6.96E-06	4.20E-05
Road 44	44	1800-1900	2.40E-02	8.78E-07	5.43E-06	1.97E-02	7.23E-07	4.46E-06	2.16E-01	7.91E-06	4.89E-05
Road 44	44	1900-2000	2.41E-02	9.73E-07	5.93E-06	1.98E-02	7.98E-07	4.86E-06	2.17E-01	8.77E-06	5.34E-05
Road 44	44	2000-2100	2.42E-02	1.05E-06	6.06E-06	1.99E-02	8.62E-07	4.98E-06	2.18E-01	9.48E-06	5.47E-05
Road 44	44	2100-2200	2.43E-02	1.13E-06	6.20E-06	2.00E-02	9.31E-07	5.09E-06	2.19E-01	1.02E-05	5.60E-05
Road 44	44	2200-2300	2.44E-02	1.21E-06	6.41E-06	2.01E-02	9.98E-07	5.26E-06	2.20E-01	1.10E-05	5.78E-05
Road 44	44	2300-0000	2.45E-02	1.29E-06	6.41E-06	2.01E-02	1.06E-06	5.26E-06	2.21E-01	1.17E-05	5.78E-05
Road 44	44	0000-0100	2.46E-02	1.37E-06	6.41E-06	2.02E-02	1.13E-06	5.26E-06	2.22E-01	1.24E-05	5.78E-05
Road 44	44	0100-0200	2.47E-02	1.45E-06	6.41E-06	2.03E-02	1.19E-06	5.26E-06	2.23E-01	1.31E-05	5.78E-05
Road 44	44	0200-0300	2.48E-02	1.53E-06	6.41E-06	2.04E-02	1.26E-06	5.26E-06	2.24E-01	1.38E-05	5.78E-05
Road 44	44	0300-0400	2.49E-02	1.61E-06	6.41E-06	2.04E-02	1.32E-06	5.26E-06	2.25E-01	1.45E-05	5.78E-05
Road 44	44	0400-0500	2.50E-02	1.69E-06	6.41E-06	2.05E-02	1.38E-06	5.26E-06	2.26E-01	1.52E-05	5.78E-05
Road 44	44	0500-0600	2.51E-02	1.77E-06	6.41E-06	2.06E-02	1.45E-06	5.26E-06	2.27E-01	1.59E-05	5.78E-05
Road 44	44	0600-0700	2.52E-02	1.85E-06	6.41E-06	2.07E-02	1.52E-06	5.26E-06	2.28E-01	1.67E-05	5.78E-05
Road 44	44	0700-0800	2.53E-02	1.93E-06	6.41E-06	2.08E-02	1.59E-06	5.26E-06	2.29E-01	1.74E-05	5.78E-05
Road 45	45	0000-0100	8.50E-03	6.37E-08	7.84E-07	6.41E-03	9.70E-07	7.71E-06	5.78E-02	7.11E-06	5.85E-05
Road 45	45	0100-0200	9.06E-03	4.41E-08	5.43E-07	7.63E-03	3.72E-08	4.58E-07	9.76E-02	4.75E-07	5.85E-06
Road 45	45	0200-0300	9.72E-03	4.65E-08	4.25E-07	8.14E-03	3.89E-08	3.56E-07	1.04E-01	4.98E-07	4.56E-06
Road 45	45	0300-0400	1.05E-02	2.93E-08	3.61E-07	8.66E-03	2.43E-08	2.99E-07	1.01E-01	2.84E-07	3.50E-06
Road 45	45	0400-0500	1.11E-02	3.43E-08	4.22E-07	9.22E-03	2.84E-08	3.49E-07	1.03E-01	3.17E-07	3.91E-06
Road 45	45	0500-0600	1.18E-02	6.28E-08	7.73E-07	9.79E-03	5.21E-08	6.42E-07	1.04E-01	5.52E-07	6.80E-06
Road 45	45	0600-0700	1.24E-02	4.41E-07	1.74E-06	1.04E-02	3.70E-07	1.46E-06	1.06E-01	3.77E-06	1.49E-05
Road 45	45	0700-0800	1.33E-02	3.06E-07	3.77E-06	1.11E-02	2.56E-07	3.15E-06	1.07E-01	2.46E-06	3.03E-05
Road 45	45	0800-0900	1.29E-02	3.43E-07	4.22E-06	1.08E-02	2.88E-07	3.54E-06	1.08E-01	2.87E-06	3.53E-05
Road 45	45	0900-1000	1.41E-02	3.85E-07	4.74E-06	1.21E-02	3.30E-07	4.06E-06	1.09E-01	2.97E-06	3.65E-05
Road 45	45	1000-1100	1.61E-02	3.03E-07	3.73E-06	1.36E-02	2.56E-07	3.15E-06	1.10E-01	2.07E-06	2.55E-05
Road 45	45	1100-1200	1.52E-02	2.71E-07	3.33E-06	1.29E-02	2.30E-07	2.83E-06	1.11E-01	1.98E-06	2.43E-05
Road 45	45	1200-1300	1.82E-02	4.48E-07	2.76E-06	1.54E-02	3.80E-07	2.34E-06	1.19E-01	2.93E-06	1.81E-05
Road 45	45	1300-1400	1.82E-02	4.05E-07	4.98E-06	1.55E-02	3.44E-07	4.23E-06	1.24E-01	2.75E-06	3.38E-05
Road 45	45	1400-1500	1.85E-02	4.40E-07	5.41E-06	1.57E-02	3.73E-07	4.59E-06	1.24E-01	2.94E-06	3.62E-05
Road 45	45	1500-1600	1.79E-02	4.92E-07	5.46E-06	1.52E-02	4.18E-07	4.64E-06	1.25E-01	3.43E-06	3.81E-05
Road 45	45	1600-1700	1.90E-02	4.92E-07	6.05E-06	1.58E-02	4.09E-07	5.03E-06	1.68E-01	4.35E-06	5.35E-05
Road 45	45	1700-1800	1.57E-02	4.07E-07	5.01E-06	1.31E-02	3.39E-07	4.17E-06	1.68E-01	4.35E-06	5.35E-05
Road 45	45	1800-1900	1.57E-02	4.07E-07	5.01E-06	1.31E-02	3.39E-07	4.17E-06	1.68E-01	4.35E-06	5.35E-05
Road 45	45	1900-2000	1.57E-02	4.07E-07	5.01E-06	1.31E-02	3.39E-07	4.17E-06	1.68E-01	4.35E-06	5.35E-05
Road 45	45	2000-2100	1.57E-02	4.07E-07	5.01E-06	1.31E-02	3.39E-07	4.17E-06	1.68E-01	4.35E-06	5.35E-05
Road 45	45	2100-2200	1.57E-02	4.07E-07	5.01E-06	1.31E-02	3.39E-07	4.17E-06	1.68E-01	4.35E-06	5.35E-05
Road 45	45	2200-2300	1.57E-02	4.07E-07	5.01E-06	1.31E-02	3.39E-07	4.17E-06	1.68E-01	4.35E-06	5.35E-05
Road 45	45	2300-0000	1.57E-02	4.07E-07	5.01E-06	1.31E-02	3.39E-07	4.17E-06	1.68E-01	4.35E-06	5.35E-05
Road 46	46	0000-0100	2.84E-02	1.37E-06	7.84E-06	2.37E-02	1.14E-06	6.53E-06	2.56E-01	1.24E-05	7.05E-05
Road 46	46	0100-0200	3.03E-02	1.45E-06	8.36E-06	2.53E-02	1.21E-06	6.97E-06	2.73E-01	1.31E-05	7.52E-05
Road 46	46	0200-0300	3.24E-02	1.55E-06	8.93E-06	2.70E-02	1.29E-06	7.44E-06	2.92E-01	1.40E-05	8.04E-05
Road 46	46	0300-0400	3.50E-02	1.68E-06	9.64E-06	2.92E-02	1.40E-06	8.03E-06	3.15E-01	1.51E-05	8.67E-05
Road 46	46	0400-0500	3.70E-02	1.77E-06	1.02E-05	3.09E-02	1.48E-06	8.50E-06	3.33E-01	1.60E-05	9.18E-05
Road 46	46	0500-0600	3.94E-02	1.89E-06	1.08E-05	3.29E-02	1.58E-06	9.05E-06	3.55E-01	1.70E-05	9.77E-05
Road 46	46	0600-0700	4.13E-02	1.98E-06	1.14E-05	3.45E-02	1.65E-06	9.50E-06	3.72E-01	1.78E-05	1.03E-04
Road 46	46	0700-0800	4.43E-02	2.13E-06	1.22E-05	3.70E-02	1.77E-06	1.02E-05	3.99E-01	1.91E-05	1.10E-04
Road 46	46	0800-0900	4.32E-02	2.07E-06	1.19E-05	3.61E-02	1.73E-06	9.94E-06	3.89E-01	1.87E-05	1.07E-04
Road 46	46	0900-1000	4.72E-02	2.26E-06	1.30E-05	3.94E-02	1.89E-06	1.08E-05	4.25E-01	2.03E-05	1.17E-04
Road 46	46	1000-1100	5.38E-02	2.58E-06	1.48E-05	4.49E-02	2.15E-06	1.24E-05	4.84E-01	2.32E-05	1.33E-04
Road 46	46	1100-1200	5.07E-02	2.43E-06	1.40E-05	4.23E-02	2.03E-06	1.17E-05	4.56E-01	2.19E-05	1.26E-04
Road 46	46	1200-1300	6.07E-02	2.91E-06	1.67E-05	5.07E-02	2.43E-06	1.40E-05	5.46E-01	2.62E-05	1.51E-04
Road 46	46	1300-1400	6.30E-02	3.02E-06	1.74E-05	5.26E-02	2.52E-06	1.45E-05	5.67E-01	2.72E-05	1.56E-04
Road 46	46	1400-1500	6.17E-02	2.96E-06	1.70E-05	5.15E-02	2.47E-06	1.42E-05	5.55E-01	2.66E-05	1.53E-04
Road 46	46	1500-1600	6.00E-02	3.07E-06	1.70E-05	5.01E-02	2.56E-06	1.42E-05	5.40E-01	2.76E-05	1.53E-04
Road 46	46	1600-1700	6.34E-02	3.24E-06	1.79E-05	5.29E-02	2.71E-06	1.50E-05	5.70E-01	2.92E-05	1.61E-04
Road 46	46	1700-1800	5.24E-02	2.68E-06	1.48E-05	4.37E-02	2.24E-06	1.24E-05	4.71E-01	2.41E-05	1.33E-04
Road 46	46	1800-1900	5.24E-02	2.68E-06	1.48E-05	4.37E-02	2.24E-06	1.24E-05	4.71E-01	2.41E-05	1.33E-04
Road 46	46	1900-2000	5.24E-02	2.68E-06	1.48E-05	4.37E-02	2.24E-06	1.24E-05	4.71E-01	2.41E-05	1.33E-04
Road 46	46	2000-2100	5.24E-02	2.68E-06	1.48E-05	4.37E-02	2.24E-06	1.24E-05	4.71E-01	2.41E-05	1.33E-04
Road 46	46	2100-2200	5.24E-02	2.68E-06	1.48E-05	4.37E-02	2.24E-06	1.24E-05	4.71E-01	2.41E-05	1.33E-04
Road 46	46	2200-2300	5.24E-02	2.68E-06	1.48E-05	4.37E-02	2.24E-06	1.24E-05	4.71E-01	2.41E-05	1.33E-04
Road 46	46	2300-0000	5.24E-02	2.68E-06	1.48E-05	4.37E-02	2.24E-06	1.24E-05	4.71E-01	2.41E-05	1.33E-04
Road 47	47	0000-0100	2.76E-02	1.41E-06	7.84E-06	2.30E-02	1.18E-06	6.53E-06	2.49E-01	1.27E-05	7.05E-05
Road 47	47	0100-0200	2.94E-02	1.50E-06	8.36E-06	2.45E-02	1.25E-06	6.97E-06	2.65E-01	1.35E-05	7.52E-05
Road 47	47	0200-0300	3.15E-02	1.61E-06	8.93E-06	2.62E-02	1.34E-06	7.44E-06	2.83E-01	1.45E-05	8.04E-05
Road 47	47	0300-0400	3.40E-02	1.74E-06	9.64E-06	2.83E-02	1.45E-06	8.03E-06	3.06E-01	1.56E-05	8.67E-05
Road 47	47	0400-0500	3.59E-02	1.84E-06	1.02E-05	3.00E-02	1.53E-06	8.50E-06	3.24E-01	1.66E-05	9.18E-05
Road 47	47	0500-0600	3.83E-02	1.96E-06	1.08E-05	3.19E-02	1.64E-06	9.05E-06	3.44E-01	1.76E-05	9.77E-05
Road 47	47	0600-0700	4.01E-02	2.05E-06	1.14E-05	3.35E-02	1.71E-06	9.50E-06	3.61E-01	1.85E-05	1.03E-04
Road 47	47	0700-0800	4.30E-02	2.20E-06	1.22E-05	3.59E-02	1.84E-06	1.02E-05	3.88E-01	1.98E-05	1.10E-04
Road 47	47	0800-0900	4.20E-02	2.14E-06	1.19E-05	3.50E-02	1.79E-06	9.94E-06	3.78E-01	1.93E-05	1.07E-04
Road 47	47	0900-1000	4.58E-02	2.34E-06	1.30E-05	3.82E-02	1.95E-06	1.08E-05	4.13E-01	2.11E-05	1.17E-04
Road 47	47	1000-1100	5.22E-02	2.67E-06	1.48E-05	4.36E-02	2.23E-06	1.24E-05	4.70E-01	2.40E-05	1.33E-04
Road 47	47	1100-1200	4.92E-02	2.51E-06	1.40E-05	4.10E-02	2.09E-06	1.17E-05	4.43E-01	2.26E-05	1.26E-04
Road 47	47	1200-1300	5.89E-02	3.01E-06	1.67E-05	4.91E-02	2.51E-06	1.40E-05	5.30E-01	2.71E-05	1.51E-04
Road 47	47	1300-1400	6.11E-02	3.12E-06	1.74E-05	5.10E-02	2.61E-06	1.45E-05	5.50E-01	2.81E-05	1.56E-04
Road 47	47	1400-1500	5.99E-02	3.06E-06	1.70E-05	4.99E-02	2.55E-06	1.42E-05	5.38E-01	2.75E-05	1.53E-04
Road 47	47	1500-1600	5.82E-02	3.17E-06	1.70E-05	4.86E-02	2.65E-06	1.42E-05	5.24E-01	2.85E-05	1.53E-04
Road 47	47	1600-1700	6.15E-02	3.35E-06	1.79E-05	5.13E-02	2.80E-06	1.50E-05	5.53E-01	3.01E-05	1.61E-04
Road 47	47	1700-1800	5.09E-02	2.77E-06	1.48E-05	4.24E-02	2.31E-06	1.24E-05	4.57E-01	2.49E-05	1.33E-04
Road 47	47	1800-1900	5.09E-02	2.77E-06	1.48E-05	4.24E-02	2.31E-06	1.24E-05	4.57E-01	2.49E-05	1.33E-04
Road 47	47	1900-2000	5.09E-02	2.77E-06	1.48E-05	4.24E-02	2.31E-06	1.24E-05	4.57E-01	2.49E-05	1.33E-04
Road 47	47	2000-2100	5.09E-02	2.77E-06	1.48E-05	4.24E-02	2.31E-06	1.24E-05	4.57E-01	2.49E-05	1.33E-04
Road 47	47	2100-2200	5.09E-02	2.77E-06	1.48E-05	4.24E-02	2.31E-06	1.24E-05	4.57E-01	2.49E-05	1.33E-04
Road 47	47	2200-2300	5.09E-02	2.77E-06	1.48E-05	4.24E-02	2.31E-06	1.24E-05	4.57E-01	2.49E-05	1.33E-04
Road 47	47	2300-0000	5.09E-02	2.77E-06	1.48E-05	4.24E-02	2.31E-06	1.24E-05	4.57E-01	2.49E-05	1.33E-04
Road 48	48	0000-0100	1.82E-02	4.98E-07	2.91E-06	1.52E-02	3.58E-06	2.09E-05	9.22E-02	2.52E-06	1.47E-05
Road 48	48	0100-0200	1.99E-02	4.64E-07	2.91E-06	1.52E-02	2.70E-07	1.69E-06	9.22E-02	2.15E-06	1.35E-05
Road 48	48	0200-0300	2.14E-02	4.39E-07	2.91E-06	1.52E-02	2.55E-07	1.69E-06	9.22E-02	2.03E-06	1.35E-05
Road 48	48	0300-0400	2.32E-02	4.76E-07	2.91E-06	1.52E-02	2.77E-07	1.69E-06	9.22E-02	2.20E-06	1.35E-05
Road 48	48	0400-0500	2.45E-02	5.02E-07	2.91E-06	1.52E-02	2.92E-07	1.69E-06	9.22E-02	2.32E-06	1.35E-05
Road 48	48	0500-0600	2.61E-02	5.35E-07	2.91E-06	1.52E-02	3.11E-07	1.69E-06	9.22E-02	2.47E-06	1.35E-05
Road 48	48	0600-0700	2.73E-02	5.60E-07	2.91E-06	1.52E-02	3.26E-07	1.69E-06	9.22E-02	2.59E-06	1.35E-05
Road 48	48	0700-0800	2.93E-02	6.01E-07	2.91E-06	1.52E-02	3.50E-07	1.69E-06	9.22E-02	2.78E-06	1.35E-05
Road 48	48	0800-0900	2.29E-02	3.92E-07	9.25E-06	1.29E-02	2.28E-06	5.38E-05	7.76E-02	1.98E-06	4.67E-05
Road 48	48	0900-1000	2.49E-02	4.26E-07	9.25E-06	1.40E-02	2.48E-06	5.84E-05	7.76E-02	2.15E-06	5.07E-05
Road 48	48	1000-1100	2.56E-02	4.37E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1100-1200	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1200-1300	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1300-1400	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1400-1500	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1500-1600	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1600-1700	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1700-1800	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1800-1900	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	1900-2000	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	2000-2100	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	2100-2200	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	2200-2300	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 48	48	2300-0000	2.56E-02	4.38E-07	9.25E-06	1.44E-02	2.55E-06	6.01E-05	7.76E-02	2.21E-06	5.21E-05
Road 49	49	0000-0100	1.27E-02	6.92E-08	1.75E-06	1.04E-02	5.68E-08	1.43E-06	1.60E-01	8.70E-07	2.19E-05
Road 49	49	0100-0200	1.25E-02	4.41E-08	1.11E-06	1.06E-02	3.73E-08	9.40E-07	1.52E-01	5.35E-07	1.35E-05
Road 49	49	0200-0300	1.31E-02	3.44E-08	8.67E-07	1.11E-02	2.91E-08	7.34E-07	1.59E-01	4.18E-07	1.05E-05
Road 49	49	0300-0400	1.36E-02	2.74E-08	6.91E-07	1.13E-02	2.27E-08	5.73E-07	1.52E-01	3.05E-07	7.70E-06
Road 49	49	0400-0500	1.48E-02	3.25E-08	8.20E-07	1.22E-02	2.68E-08	6.77E-07	1.57E-01	3.44E-07	8.69E-06
Road 49	49	0500-0600	1.42E-02	3.19E-08	5.36E-06	1.17E-02	2.63E-08	4.42E-06	1.52E-01	3.41E-07	5.73E-05
Road 49	49	0600-0700	1.97E-02	1.58E-07	4.00E-06	1.65E-02	1.33E-07	3.36E-06	1.83E-01	1.47E-06	3.72E-05
Road 49	49	0700-0800	2.52E-02	4.08E-07	1.03E-05	2.11E-02	3.41E-07	8.61E-06	2.15E-01	3.48E-06	8.79E-05
Road 49	49	0800-0900	2.52E-02	4.08E-07	1.03E-05	2.11E-02	3.41E-07	8.61E-06	2.15E-01	3.48E-06	8.79E-05
Road 49	49	0900-1000	2.57E-02	3.79E-07	9.56E-06	2.17E-02	3.20E-07	8.09E-06	2.09E-01	3.09E-06	7.79E-05
Road 49	49	1000-1100	2.76E-02	3.45E-07	8.71E-06	2.34E-02	2.92E-07	7.37E-06	2.16E-01	2.70E-06	6.80E-05
Road 49	49	1100-1200	2.47E-02	2.94E-07	7.41E-06	2.09E-02	2.49E-07	6.27E-06	2.22E-01	2.64E-06	6.66E-05
Road 49	49	1200-1300	3.28E-02	3.20E-07	8.07E-06	2.78E-02	2.72E-07	6.85E-06	2.42E-01	2.36E-06	5.96E-05
Road 49	49	1300-1400	3.29E-02	3.23E-07	8.14E-06	2.79E-02	2.74E-07	6.92E-06	2.43E-01	2.38E-06	6.02E-05
Road 49	49	1400-1500	3.29E-02	3.23E-07	8.14E-06	2.79E-02	2.74E-07	6.92E-06	2.43E-01	2.38E-06	6.02E-05
Road 49	49	1500-1600	3.34E-02	3.60E-07	9.08E-06	2.76E-02	2.98E-07	7.52E-06	2.48E-01	2.68E-06	6.76E-05
Road 49	49	1600-1700	3.56E-02	3.17E-07	1.05E-05	2.96E-02	3.46E-07	8.74E-06	2.52E-01	7.46E-06	2.07E-04
Road 49	49	1700-1800	3.79E-02	3.37E-07	1.12E-05	3.15E-02	3.68E-07	9.30E-06	2.68E-01	7.94E-06	2.21E-04
Road 49	49	1800-1900	2.76E-02	3.48E-07	7.18E-06	2.30E-02	3.79E-07	6.06E-06	2.68E-01	3.38E-06	8.85E-05
Road 49	49	1900-2000	2.76E-02	3.48E-07	7.18E-06	2.30E-02	3.79E-07	6.06E-06	2.68E-01	3.38E-06	8.85E-05
Road 49	49	2000-2100	2.76E-02	3.48E-07	7.18E-06	2.30E-02	3.79E-07	6.06E-06	2.68E-01	3.38E-06	8.85E-05
Road 49	49	2100-2200	2.76E-02	3.48E-07	7.18E-06	2.30E-02	3.79E-07	6.06E-06	2.68E-01	3.38E-06	8.85E-05
Road 49	49	2200-2300	2.76E-02	3.48E-07	7.18E-06	2.30E-02	3.79E-07	6.06E-06	2.68E-01	3.38E-06	8.85E-05
Road 49	49	2300-0000	2.76E-02	3.48E-07	7.18E-06	2.30E-02	3.79E-07	6.06E-06	2.68E-01	3.38E-06	8.85E-05
Road 50	50	0000-0100	6.36E-02	1.71E-06	3.54E-06	5.30E-02	1.43E-06	2.95E-06	3.41E-01	9.22E-06	1.90E-05
Road 50	50	0100-0200	6.99E-02	1.57E-06	3.47E-06	5.82E-02	1.31E-06	2.89E-06	3.75E-01	8.46E-06	1.86E-05
Road 50	50	0200-0300	7.70E-02	1.53E-06	3.41E-06	6.42E-02	1.28E-06	2.84E-06	4.13E-01	8.23E-06	1.83E-05
Road 50	50	0300-0400	8.62E-02	1.72E-06	3.82E-06	7.18E-02	1.43E-06	3.18E-06	4.62E-01	9.22E-06	2.05E-05
Road 50	50	0400-0500	9.25E-02	1.85E-06	4.11E-06	7.71E-02	1.54E-06	3.42E-06	4.96E-01	9.90E-06	2.20E-05
Road 50	50	0500-0600	9.77E-02	1.95E-06	4.34E-06	8.14E-02	1.63E-06	3.62E-06	5.24E-01	1.05E-05	2.33E-05
Road 50	50	0600-0700	1.02E-01	2.04E-06	4.54E-06	8.52E-02	1.70E-06	3.78E-06	5.48E-01	1.09E-05	2.43E-05
Road 50	50	0700-0800	1.07E-01	2.14E-06	4.76E-06	8.92E-02	1.78E-06	3.97E-06	5.74E-01	1.15E-05	2.55E-05
Road 50	50	0800-0900	1.04E-01	2.08E-06	4.62E-06	8.67E-02	1.73E-06	3.85E-06	5.58E-01	1.11E-05	2.48E-05
Road 50	50	0900-1000	1.14E-01	2.28E-06	5.07E-06	9.50E-02	1.90E-06	4.22E-06	6.12E-01	1.22E-05	2.72E-05
Road 50	50	1000-1100	1.30E-01	2.60E-06	5.78E-06	1.08E-01	2.17E-06	4.81E-06	6.98E-01	1.39E-05	3.10E-05
Road 50	50	1100-1200	1.23E-01	2.45E-06	5.44E-06	1.02E-01	2.04E-06	4.53E-06	6.58E-01	1.31E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	3.53E-02	1.98E-07	1.97E-07	7.36E-02	4.12E-07	4.09E-07	1.47E-06	8.23E-12	8.17E-12	3.06E-06	1.71E-11	1.70E-11
Road 11	11	0100-0200	3.90E-02	1.46E-07	5.60E-07	3.63E-02	1.36E-07	5.22E-07	2.64E-02	9.89E-08	3.80E-06	2.44E-02	9.13E-07	3.51E-06
Road 11	11	0200-0300	4.28E-02	1.21E-07	4.63E-07	3.99E-02	1.12E-07	4.31E-07	2.69E-02	7.57E-08	2.91E-06	2.49E-02	7.01E-07	2.69E-06
Road 11	11	0300-0400	4.71E-02	1.30E-07	4.13E-07	4.39E-02	1.21E-07	3.84E-07	2.96E-02	8.17E-08	2.59E-06	2.74E-02	7.56E-07	2.40E-06
Road 11	11	0400-0500	4.83E-02	1.20E-07	4.62E-07	4.51E-02	1.12E-07	4.31E-07	2.82E-02	7.02E-08	2.70E-06	2.62E-02	6.53E-07	2.50E-06
Road 11	11	0500-0600	4.80E-02	1.98E-07	7.62E-07	4.49E-02	1.86E-07	7.13E-07	2.96E-02	1.22E-07	4.69E-06	2.74E-02	1.13E-06	4.35E-06
Road 11	11	0600-0700	5.09E-02	1.98E-07	4.75E-07	4.07E-02	1.58E-07	3.78E-07	3.18E-02	2.74E-08	1.05E-06	2.54E-02	2.52E-06	9.68E-06
Road 11	11	0700-0800	6.46E-02	1.61E-06	6.44E-06	5.96E-02	1.07E-06	4.10E-06	3.59E-02	6.42E-06	2.46E-05	3.29E-02	5.90E-06	2.26E-05
Road 11	11	0800-0900	6.42E-02	1.32E-06	5.07E-06	5.96E-02	1.23E-06	4.71E-06	3.30E-02	6.80E-06	2.61E-05	3.05E-02	6.28E-06	2.41E-05
Road 11	11	0900-1000	7.34E-02	1.98E-06	6.87E-06	6.82E-02	1.84E-06	6.37E-06	3.77E-02	1.02E-06	3.53E-06	3.50E-02	9.45E-07	3.28E-06
Road 11	11	1000-1100	7.82E-02	1.21E-06	4.63E-06	7.30E-02	1.13E-06	4.32E-06	3.49E-02	5.39E-06	2.07E-05	3.24E-02	5.00E-06	1.92E-05
Road 11	11	1100-1200	7.83E-02	1.15E-06	4.41E-06	7.36E-02	1.08E-06	4.14E-06	3.54E-02	5.19E-06	1.99E-05	3.31E-02	4.85E-06	1.86E-05
Road 11	11	1200-1300	8.14E-02	1.21E-06	4.63E-06	7.67E-02	1.14E-06	4.35E-06	3.67E-02	5.47E-06	2.09E-05	3.45E-02	5.11E-06	1.95E-05
Road 11	11	1300-1400	1.23E-01	2.59E-06	9.95E-06	1.16E-01	2.44E-06	9.38E-06	4.22E-02	8.91E-07	3.42E-06	3.98E-02	8.39E-07	3.22E-06
Road 11	11	1400-1500	1.20E-01	2.61E-06	1.00E-05	1.13E-01	2.46E-06	9.46E-06	4.16E-02	9.03E-07	3.47E-06	3.92E-02	8.51E-07	3.27E-06
Road 11	11	1500-1600	1.20E-01	2.61E-06	1.00E-05	1.13E-01	2.46E-06	9.46E-06	4.16E-02	9.03E-07	3.47E-06	3.92E-02	8.51E-07	3.27E-06
Road 11	11	1600-1700	1.15E-01	2.61E-06	1.00E-05	1.08E-01	2.46E-06	9.46E-06	3.98E-02	9.03E-07	3.47E-06	3.75E-02	8.51E-07	3.27E-06
Road 11	11	1700-1800	9.78E-02	2.35E-06	9.01E-06	9.30E-02	2.23E-06	8.57E-06	4.38E-02	1.05E-06	4.03E-06	4.13E-02	9.93E-06	3.81E-05
Road 11	11	1800-1900	7.00E-02	1.65E-06	6.32E-06	6.65E-02	1.56E-06	5.98E-06	3.13E-02	7.36E-07	2.82E-06	2.97E-02	6.98E-07	2.68E-06
Road 11	11	1900-2000	5.37E-02	1.98E-07	7.62E-07	5.10E-02	1.88E-07	7.24E-07	2.40E-02	8.85E-08	3.41E-06	2.28E-02	8.41E-07	3.24E-06
Road 11	11	2000-2100	5.37E-02	7.39E-07	2.84E-06	5.13E-02	7.06E-07	2.71E-06	3.25E-02	4.48E-06	1.72E-05	3.08E-02	4.23E-06	1.63E-05
Road 11	11	2100-2200	5.28E-02	7.27E-07	2.79E-06	5.03E-02	6.92E-07	2.66E-06	3.19E-02	4.39E-06	1.69E-05	3.03E-02	4.16E-06	1.60E-05
Road 11	11	2200-2300	4.88E-02	6.72E-07	2.46E-06	4.52E-02	6.95E-07	2.54E-06	2.95E-02	4.06E-06	1.49E-05	2.74E-02	4.11E-06	1.50E-05
Road 11	11	2300-0000	5.20E-02	5.24E-07	2.01E-06	4.83E-02	4.87E-07	1.87E-06	3.15E-02	3.17E-06	1.22E-05	2.93E-02	2.95E-06	1.13E-05
Road 12	12	0000-0100	2.92E-01	1.83E-07	4.51E-06	2.57E-01	1.61E-07	3.97E-06	1.77E-01	1.11E-07	2.73E-06	1.56E-01	9.78E-08	2.41E-06
Road 12	12	0100-0200	2.96E-01	1.76E-07	4.34E-06	2.68E-01	1.58E-07	3.91E-06	1.79E-01	1.07E-07	2.64E-06	1.62E-01	9.61E-08	2.37E-06
Road 12	12	0200-0300	2.95E-01	1.76E-07	4.34E-06	2.66E-01	1.59E-07	3.91E-06	6.80E-01	4.06E-07	1.00E-05	6.13E-01	3.66E-07	9.02E-06
Road 12	12	0300-0400	2.98E-01	1.76E-07	4.34E-06	2.68E-01	1.58E-07	3.91E-06	6.16E-01	3.64E-07	8.98E-06	5.55E-01	3.28E-07	8.09E-06
Road 12	12	0400-0500	2.97E-01	1.76E-07	4.34E-06	2.67E-01	1.58E-07	3.91E-06	6.13E-01	3.62E-07	8.93E-06	5.52E-01	3.26E-07	8.04E-06
Road 12	12	0500-0600	2.96E-01	1.81E-07	4.47E-06	2.67E-01	1.64E-07	4.04E-06	6.87E-01	4.21E-07	1.04E-05	6.21E-01	3.81E-07	9.39E-06
Road 12	12	0600-0700	2.99E-01	1.99E-07	4.91E-06	2.65E-01	1.77E-07	4.37E-06	6.73E-01	4.48E-07	1.10E-05	5.97E-01	3.97E-07	9.79E-06
Road 12	12	0700-0800	3.12E-01	1.98E-07	4.88E-06	2.77E-01	1.76E-07	4.32E-06	6.82E-01	4.33E-07	1.07E-05	6.05E-01	3.84E-07	9.47E-06
Road 12	12	0800-0900	3.65E-01	8.85E-07	2.18E-05	3.27E-01	7.92E-07	1.95E-05	8.43E-01	2.04E-06	5.03E-05	7.54E-01	1.83E-06	4.50E-05
Road 12	12	0900-1000	3.69E-01	8.84E-07	2.18E-05	3.32E-01	7.97E-07	1.96E-05	8.49E-01	2.04E-06	5.02E-05	7.66E-01	1.84E-06	4.53E-05
Road 12	12	1000-1100	3.67E-01	8.84E-07	2.18E-05	3.30E-01	7.97E-07	1.96E-05	8.46E-01	2.04E-06	5.02E-05	7.62E-01	1.84E-06	4.53E-05
Road 12	12	1100-1200	3.71E-01	8.79E-07	2.17E-05	3.38E-01	8.01E-07	1.97E-05	8.52E-01	2.02E-06	4.97E-05	7.77E-01	1.84E-06	4.53E-05
Road 12	12	1200-1300	3.67E-01	8.72E-07	2.15E-05	3.34E-01	7.94E-07	1.96E-05	8.41E-01	2.00E-06	4.93E-05	7.66E-01	1.82E-06	4.50E-05
Road 12	12	1300-1400	3.61E-01	8.72E-07	2.15E-05	3.28E-01	7.94E-07	1.96E-05	8.28E-01	2.00E-06	4.93E-05	7.55E-01	1.82E-06	4.50E-05
Road 12	12	1400-1500	3.62E-01	8.69E-07	2.14E-05	3.32E-01	7.97E-07	1.97E-05	8.34E-01	2.00E-06	4.93E-05	7.65E-01	1.84E-06	4.53E-05
Road 12	12	1500-1600	3.61E-01	8.68E-07	2.14E-05	3.30E-01	7.94E-07	1.96E-05	8.33E-01	2.00E-06	4.94E-05	7.62E-01	1.83E-06	4.52E-05
Road 12	12	1600-1700	3.50E-01	8.57E-07	2.11E-05	3.23E-01	7.91E-07	1.95E-05	8.09E-01	1.98E-06	4.89E-05	7.47E-01	1.83E-06	4.52E-05
Road 12	12	1700-1800	3.54E-01	8.57E-07	2.11E-05	3.23E-01	7.83E-07	1.93E-05	8.18E-01	1.98E-06	4.89E-05	7.47E-01	1.81E-06	4.47E-05
Road 12	12	1800-1900	3.46E-01	8.39E-07	2.07E-05	3.18E-01	7.70E-07	1.90E-05	8.03E-01	1.93E-06	4.76E-05	7.31E-01	1.77E-06	4.37E-05
Road 12	12	1900-2000	3.52E-01	8.39E-07	2.07E-05	3.24E-01	7.70E-07	1.90E-05	8.17E-01	1.93E-06	4.76E-05	7.44E-01	1.77E-06	4.37E-05
Road 12	12	2000-2100	2.63E-01	1.87E-07	4.62E-06	2.43E-01	1.73E-07	4.26E-06	6.34E-01	4.51E-07	1.11E-05	5.85E-01	4.17E-07	1.03E-05
Road 12	12	2100-2200	2.63E-01	1.88E-07	4.63E-06	2.41E-01	1.72E-07	4.23E-06	6.35E-01	4.52E-07	1.11E-05	5.82E-01	4.14E-07	1.02E-05
Road 12	12	2200-2300	2.72E-01	1.82E-07	4.47E-06	2.49E-01	1.67E-07	4.10E-06	6.57E-01	4.39E-07	1.08E-05	6.02E-01	4.03E-07	9.91E-06
Road 12	12	2300-0000	2.73E-01	1.84E-07	4.53E-06	2.42E-01	1.63E-07	4.02E-06	6.60E-01	4.37E-07	1.08E-05	5.77E-01	3.88E-07	9.56E-06
Road 13	13	0000-0100	2.90E-01	1.82E-07	4.54E-06	2.55E-01	1.60E-07	3.99E-06	6.68E-01	4.19E-07	1.05E-05	5.87E-01	3.68E-07	9.20E-06
Road 13	13	0100-0200	2.90E-01	1.82E-07	4.54E-06	2.55E-01	1.60E-07	3.99E-06	6.68E-01	4.19E-07	1.05E-05	5.87E-01	3.68E-07	9.20E-06
Road 13	13	0200-0300	2.94E-01	1.75E-07	4.38E-06	2.65E-01	1.58E-07	3.95E-06	6.73E-01	4.02E-07	1.00E-05	6.06E-01	3.62E-07	9.04E-06
Road 13	13	0300-0400	2.97E-01	1.75E-07	4.38E-06	2.67E-01	1.58E-07	3.94E-06	6.78E-01	4.01E-07	1.00E-05	6.11E-01	3.61E-07	9.02E-06
Road 13	13	0400-0500	2.97E-01	1.74E-07	4.35E-06	2.67E-01	1.57E-07	3.92E-06	6.77E-01	3.98E-07	9.95E-06	6.10E-01	3.58E-07	8.96E-06
Road 13	13	0500-0600	2.93E-01	1.80E-07	4.49E-06	2.65E-01	1.62E-07	4.05E-06	6.70E-01	4.14E-07	1.03E-05	6.04E-01	3.73E-07	9.34E-06
Road 13	13	0600-0700	2.94E-01	1.96E-07	4.90E-06	2.62E-01	1.75E-07	4.37E-06	6.73E-01	4.48E-07	1.12E-05	6.01E-01	4.00E-07	1.00E-05
Road 13	13	0700-0800	3.06E-01	1.96E-07	4.90E-06	2.73E-01	1.75E-07	4.37E-06	6.76E-01	4.33E-07	1.08E-05	6.05E-01	3.87E-07	9.68E-06
Road 13	13	0800-0900	3.62E-01	8.77E-07	2.19E-05	3.23E-01	7.82E-07	1.95E-05	8.43E-01	2.01E-06	5.01E-05	7.40E-01	1.79E-06	4.48E-05
Road 13	13	0900-1000	3.65E-01	8.76E-07	2.19E-05	3.28E-01	7.88E-07	1.96E-05	8.49E-01	2.01E-06	5.01E-05	7.52E-01	1.80E-06	4.51E-05
Road 13	13	1000-1100	3.68E-01	8.71E-07	2.18E-05	3.35E-01	7.98E-07	1.99E-05	8.56E-01	2.00E-06	4.99E-05	7.66E-01	1.80E-06	4.51E-05
Road 13	13	1100-1200	3.63E-01	8.66E-07	2.16E-05	3.31E-01	7.87E-07	1.97E-05	8.49E-01	2.00E-06	4.99E-05	7.59E-01	1.80E-06	4.51E-05
Road 13	13	1200-1300	3.63E-01	8.66E-07	2.16E-05	3.31E-01	7.87E-07	1.97E-05	8.49E-01	2.00E-06	4.99E-05	7.59E-01	1.80E-06	4.51E-05
Road 13	13	1300-1400	3.61E-01	8.62E-07	2.16E-05	3.30E-01	7.88E-07	1.97E-05	8.49E-01	2.00E-06	4.93E-05	7.54E-01	1.80E-06	4.51E-05
Road 13	13	1400-1500	3.58E-01	8.55E-07	2.14E-05	3.27E-01	7.82E-07	1.95E-05	8.43E-01	2.01E-06	5.01E-05	7.47E-01	1.79E-06	4.48E-05
Road 13	13	1500-1600	3.57E-01	8.58E-07	2.14E-05	3.26E-01	7.84E-07	1.96E-05	8.42E-01	2.01E-06	5.01E-05	7.47E-01	1.80E-06	4.49E-05
Road 13	13	1600-1700	3.56E-01	8.56E-07	2.14E-05	3.27E-01	7.89E-07	1.97E-05	8.31E-01	1.99E-06	4.89E-05	7.49E-01	1.80E-06	4.51E-05
Road 13	13	1700-1800	3.50E-01	8.42E-07	2.10E-05	3.22E-01	7.76E-07	1.94E-05	8.18E-01	1.96E-06	4.84E-05	7.44E-01	1.79E-06	4.46E-05
Road 13	13	1800-1900	3.44E-01	8.33E-07	2.08E-05	3.15E-01	7.64E-07	1.91E-05	8.04E-01	1.94E-06	4.75E-05	7.18E-01	1.74E-06	4.35E-05
Road 13	13	1900-2000	3.48E-01	8.33E-07	2.08E-05	3.19E-01	7.64E-07	1.91E-05	8.13E-01	1.94E-06	4.75E-05	7.40E-01	1.74E-06	4.35E-05
Road 13	13	2000-2100	2.59E-01	1.84E-07	4.61E-06	2.37E-01	1.69E-07	4.21E-06	6.08E-01	4.33E-07	1.08E-05	5.55E-01	3.95E-07	9.88E-06
Road 13	13	2100-2200	2.59E-01	1.84E-07	4.61E-06	2.37E-01	1.69E-07	4.21E-06	6.08E-01	4.33E-07	1.08E-05	5.55E-01	3.92E-07	9.79E-06
Road 13	13	2200-2300	2.67E-01	1.89E-07	4.72E-06	2.37E-01	1.68E-07	4.19E-06	6.25E-01	4.41E-07	1.10E-05	5.70E-01	4.03E-07	1.01E-05
Road 13	13	2300-0000	2.71E-01	1.90E-07	4.74E-06	2.41E-01	1.69E-07	4.22E-06	6.34E-01	4.45E-07	1.11E-05	5.77E-01	4.05E-07	1.01E-05
Road 14	14	0000-0100	2.24E-02	1.24E-07	2.12E-06	1.96E-02	1.09E-07	1.85E-06	1.48E-01	8.23E-07	1.40E-05	1.27E-01	7.05E-07	1.20E-05
Road 14	14	0100-0200	2.52E-02	9.36E-08	1.60E-06	2.26E-02	8.40E-08	1.43E-06	1.48E-01	5.50E-07	9.38E-06	1.31E-01	4.86E-07	8.28E-06
Road 14	14	0200-0300	2.83E-02	7.99E-08	1.36E-06	2.54E-02	7.19E-08	1.22E-06	1.34E-01	3.78E-07	6.44E-06	1.18E-01	3.33E-07	5.68E-06
Road 14	14	0300-0400	3.18E-02	7.22E-08	1.23E-06	2.87E-02	6.50E-08	1.11E-06	1.58E-01	3.59E-07	6.11E-06	1.41E-01	3.19E-07	5.43E-06
Road 14	14	0400-0500	3.18E-02	7.86E-08	1.34E-06	2.87E-02	7.09E-08	1.21E-06	1.59E-01	3.93E-07	6.70E-06	1.42E-01	3.51E-07	5.98E-06
Road 14	14	0500-0600	3.23E-02	2.04E-07	3.48E-06	2.92E-02	1.84E-07	3.14E-06	1.61E-01	1.01E-06	1.73E-05	1.44E-01	9.06E-07	1.54E-05
Road 14	14	0600-0700	3.02E-02	2.57E-07	4.37E-06	2.69E-02	2.29E-07	3.90E-06	1.75E-01	1.48E-06	2.53E-05	1.53E-01	1.30E-06	2.22E-05
Road 14	14	0700-0800	4.34E-02	7.70E-07	1.31E-05	3.85E-02	6.82E-07	1.16E-05	2.16E-01	3.83E-06	6.53E-05	1.89E-01	3.35E-06	5.71E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	4.25E-02	8.67E-07	1.48E-05	1.80E-02	7.74E-07	1.32E-05	2.06E-01	4.20E-06	7.16E-05	1.82E-01	3.71E-06	6.33E-05
Road 14	14	0900-1000	4.77E-02	8.27E-07	1.41E-05	4.29E-02	7.42E-07	1.27E-05	2.25E-01	3.89E-06	6.63E-05	2.00E-01	3.47E-06	5.91E-05
Road 14	14	1000-1100	5.16E-02	7.89E-07	1.34E-05	4.65E-02	7.10E-07	1.21E-05	2.30E-01	3.52E-06	6.00E-05	2.06E-01	3.15E-06	5.37E-05
Road 14	14	1100-1200	5.06E-02	7.35E-07	1.25E-05	4.60E-02	6.68E-07	1.14E-05	2.30E-01	3.34E-06	5.70E-05	2.08E-01	3.02E-06	5.13E-05
Road 14	14	1200-1300	7.76E-02	1.53E-06	2.60E-05	7.04E-02	1.39E-06	2.36E-05	3.14E-01	6.18E-06	1.05E-04	2.84E-01	5.60E-06	9.54E-05
Road 14	14	1300-1400	8.00E-02	1.66E-06	2.84E-05	7.29E-02	1.52E-06	2.59E-05	3.29E-01	6.85E-06	1.17E-04	2.99E-01	6.23E-06	1.06E-04
Road 14	14	1400-1500	7.95E-02	1.71E-06	2.92E-05	7.26E-02	1.57E-06	2.67E-05	3.28E-01	7.06E-06	1.20E-04	2.98E-01	6.39E-06	1.09E-04
Road 14	14	1500-1600	7.44E-02	1.65E-06	2.81E-05	6.74E-02	1.49E-06	2.55E-05	3.23E-01	7.15E-06	1.22E-04	2.92E-01	6.47E-06	1.10E-04
Road 14	14	1600-1700	7.52E-02	1.66E-06	2.88E-05	6.91E-02	1.55E-06	2.64E-05	3.14E-01	7.04E-06	1.20E-04	2.88E-01	6.45E-06	1.10E-04
Road 14	14	1700-1800	5.95E-02	1.42E-06	2.38E-05	5.47E-02	1.30E-06	2.18E-05	2.92E-01	6.98E-06	1.17E-04	2.68E-01	6.41E-06	1.07E-04
Road 14	14	1800-1900	4.45E-02	1.02E-06	1.74E-05	4.08E-02	9.40E-07	1.60E-05	2.28E-01	5.25E-06	8.96E-05	2.09E-01	4.80E-06	8.19E-05
Road 14	14	1900-2000	3.21E-02	5.50E-07	9.37E-06	2.92E-02	5.00E-07	8.53E-06	2.00E-01	3.43E-06	5.84E-05	1.81E-01	3.10E-06	5.28E-05
Road 14	14	2000-2100	3.12E-02	3.19E-08	5.43E-07	2.84E-02	2.90E-08	4.94E-07	1.98E-01	2.02E-06	3.44E-05	1.80E-01	1.84E-06	3.13E-05
Road 14	14	2100-2200	2.89E-02	3.89E-07	6.64E-06	2.64E-02	3.56E-07	6.07E-06	1.90E-01	2.56E-06	4.35E-05	1.72E-01	2.31E-06	3.95E-05
Road 14	14	2200-2300	3.02E-02	3.89E-07	6.63E-06	2.67E-02	3.44E-07	5.86E-06	1.97E-01	2.54E-06	4.32E-05	1.72E-01	2.22E-06	3.78E-05
Road 14	14	2300-0000	3.03E-02	3.81E-07	6.49E-06	2.68E-02	3.38E-07	5.76E-06	1.97E-01	2.48E-06	4.22E-05	1.72E-01	2.16E-06	3.68E-05
Road 15	15	0000-0100	4.00E-02	5.80E-08	5.37E-07	3.51E-02	5.09E-08	4.72E-07	1.56E-01	2.27E-07	2.10E-06	1.35E-01	1.96E-07	1.81E-06
Road 15	15	0100-0200	4.74E-02	4.98E-08	4.61E-07	4.28E-02	4.50E-08	4.17E-07	1.66E-01	1.74E-07	1.61E-06	1.48E-01	1.56E-07	1.44E-06
Road 15	15	0200-0300	5.37E-02	4.72E-08	4.38E-07	5.01E-02	4.40E-08	4.08E-07	1.74E-01	1.53E-07	1.42E-06	1.62E-01	1.43E-07	1.32E-06
Road 15	15	0300-0400	6.27E-02	4.60E-08	4.26E-07	5.62E-02	4.13E-08	3.83E-07	1.94E-01	1.43E-07	1.32E-06	1.73E-01	1.27E-07	1.18E-06
Road 15	15	0400-0500	6.14E-02	4.79E-08	4.44E-07	5.57E-02	4.35E-08	4.03E-07	1.94E-01	1.51E-07	1.40E-06	1.75E-01	1.36E-07	1.26E-06
Road 15	15	0500-0600	5.09E-02	5.82E-08	5.39E-07	4.60E-02	5.25E-08	4.86E-07	1.79E-01	2.04E-07	1.89E-06	1.62E-01	1.85E-07	1.71E-06
Road 15	15	0600-0700	4.03E-02	8.58E-07	7.93E-06	3.56E-02	7.58E-07	7.00E-06	1.32E-01	2.81E-06	2.60E-05	1.16E-01	2.47E-06	2.29E-05
Road 15	15	0700-0800	6.06E-02	2.94E-07	2.72E-06	5.35E-02	2.60E-07	2.40E-06	2.10E-01	1.02E-06	9.44E-06	1.83E-01	8.90E-07	8.24E-06
Road 15	15	0800-0900	5.81E-02	3.17E-07	2.94E-06	5.18E-02	2.83E-07	2.62E-06	2.01E-01	1.10E-06	1.01E-05	1.77E-01	9.70E-07	8.98E-06
Road 15	15	0900-1000	5.34E-02	3.17E-07	2.94E-06	4.76E-02	2.82E-07	2.61E-06	1.85E-01	1.10E-06	1.01E-05	1.63E-01	9.68E-07	8.96E-06
Road 15	15	1000-1100	6.95E-02	3.05E-07	2.82E-06	6.28E-02	2.76E-07	2.55E-06	2.29E-01	1.00E-06	9.29E-06	2.06E-01	9.03E-07	8.36E-06
Road 15	15	1100-1200	6.74E-02	2.84E-07	2.63E-06	6.15E-02	2.59E-07	2.40E-06	2.24E-01	9.41E-07	8.71E-06	2.03E-01	8.55E-07	7.92E-06
Road 15	15	1200-1300	7.84E-02	2.84E-07	2.63E-06	7.15E-02	2.59E-07	2.40E-06	2.47E-01	8.94E-07	8.28E-06	2.18E-01	8.12E-07	7.52E-06
Road 15	15	1300-1400	7.71E-02	5.34E-07	4.94E-06	7.05E-02	4.88E-07	4.52E-06	2.65E-01	1.84E-06	1.70E-05	2.42E-01	1.68E-06	1.55E-05
Road 15	15	1400-1500	7.63E-02	5.34E-07	5.04E-06	7.00E-02	5.00E-07	4.63E-06	2.60E-01	1.85E-06	1.72E-05	2.38E-01	1.70E-06	1.57E-05
Road 15	15	1500-1600	8.42E-02	5.48E-07	5.05E-06	7.72E-02	5.02E-07	4.64E-06	2.87E-01	1.87E-06	1.72E-05	2.63E-01	1.71E-06	1.58E-05
Road 15	15	1600-1700	7.53E-02	5.56E-07	5.14E-06	6.96E-02	5.13E-07	4.75E-06	2.58E-01	1.90E-06	1.76E-05	2.37E-01	1.75E-06	1.62E-05
Road 15	15	1700-1800	6.06E-02	4.67E-07	4.33E-06	5.52E-02	4.25E-07	3.94E-06	2.24E-01	1.73E-06	1.60E-05	2.03E-01	1.57E-06	1.45E-05
Road 15	15	1800-1900	5.14E-02	3.87E-07	3.58E-06	4.68E-02	3.52E-07	3.26E-06	1.90E-01	1.43E-06	1.32E-05	1.71E-01	1.29E-06	1.19E-05
Road 15	15	1900-2000	2.98E-02	1.54E-07	1.43E-06	2.71E-02	1.40E-07	1.30E-06	1.38E-01	7.12E-07	6.59E-06	1.24E-01	6.42E-07	5.94E-06
Road 15	15	2000-2100	3.03E-02	2.71E-07	1.15E-06	2.78E-02	1.14E-07	1.06E-06	1.44E-01	5.91E-07	5.48E-06	1.31E-01	5.37E-07	4.98E-06
Road 15	15	2100-2200	3.07E-02	2.12E-07	1.21E-06	2.81E-02	1.17E-07	1.07E-06	1.46E-01	5.99E-07	5.55E-06	1.33E-01	5.44E-07	5.04E-06
Road 15	15	2200-2300	3.07E-02	1.21E-07	1.12E-06	2.72E-02	1.07E-07	9.92E-07	1.43E-01	5.64E-07	5.22E-06	1.25E-01	4.93E-07	4.57E-06
Road 15	15	2300

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) — Year 2033

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	7.57E-02	1.27E-08	0.00	3.01E-01	5.02E-08	0.00	2.58E-01	4.30E-08	1.15E-07	2.85E-01	4.80E-08	1.10E-07
Road 37	37	1700-1800	6.48E-02	1.17E-08	2.68E-08	6.26E-02	1.13E-08	2.59E-08	2.92E-02	5.26E-08	1.21E-07	2.80E-01	5.05E-08	1.16E-07
Road 37	37	1800-1900	4.38E-02	7.89E-09	1.81E-08	4.23E-02	7.61E-09	1.75E-08	2.18E-01	3.92E-08	9.00E-08	2.09E-01	3.76E-08	8.63E-08
Road 37	37	1900-2000	3.70E-02	1.32E-09	1.28E-08	3.54E-02	4.91E-09	1.13E-08	2.05E-01	2.84E-08	6.57E-08	1.95E-01	2.70E-08	6.19E-08
Road 37	37	2000-2100	3.76E-02	4.06E-09	9.32E-09	3.64E-02	3.93E-08	9.01E-09	2.21E-01	2.38E-08	5.47E-08	2.12E-01	2.28E-08	5.24E-08
Road 37	37	2100-2200	3.70E-02	4.01E-09	9.21E-09	3.57E-02	3.87E-09	8.89E-09	2.22E-01	2.41E-08	5.53E-08	2.12E-01	2.30E-08	5.27E-08
Road 37	37	2200-2300	3.34E-02	3.62E-09	7.46E-09	3.26E-02	2.16E-01	2.23E-08	5.11E-08	2.07E-01	2.07E-08	4.76E-08		
Road 37	37	2300-0000	3.71E-02	2.91E-09	6.68E-09	3.50E-02	2.75E-09	6.31E-09	2.11E-01	1.66E-08	3.81E-08	1.99E-01	1.56E-08	3.58E-08
Road 38	38	0000-0100	6.54E-02	1.05E-07	6.60E-07	5.93E-02	9.53E-08	7.80E-07	2.41E-01	3.88E-07	3.17E-06			
Road 38	38	0100-0200	7.40E-02	1.03E-07	6.60E-07	6.26E-02	8.71E-08	5.57E-07	2.41E-01	3.35E-07	2.97E-06			
Road 38	38	0200-0300	7.97E-02	7.83E-08	6.41E-07	7.32E-02	7.20E-08	5.89E-07	2.73E-01	2.24E-07	2.56E-07			
Road 38	38	0300-0400	8.56E-02	7.40E-08	6.05E-07	7.87E-02	6.80E-08	5.57E-07	2.85E-01	2.46E-07	2.02E-06			
Road 38	38	0400-0500	8.11E-02	1.07E-07	8.80E-07	7.52E-02	9.96E-08	8.16E-07	3.00E-01	3.98E-07	3.26E-06			
Road 38	38	0500-0600	7.56E-02	1.84E-07	1.51E-06	7.03E-02	1.71E-07	1.40E-06	3.10E-01	7.53E-07	6.17E-06			
Road 38	38	0600-0700	5.51E-02	4.42E-08	3.62E-07	4.78E-02	3.84E-08	3.14E-07	2.87E-01	2.30E-07	1.88E-06			
Road 38	38	0800-0900	9.48E-02	6.06E-07	4.96E-06	8.76E-02	5.60E-07	4.58E-06	3.32E-01	2.12E-06	1.73E-05			
Road 38	38	0900-1000	1.06E-01	6.29E-07	5.15E-06	9.86E-02	5.83E-07	4.77E-06	3.29E-01	1.94E-06	1.59E-05			
Road 38	38	1000-1100	1.10E-01	6.01E-07	4.92E-06	1.02E-01	5.57E-07	4.56E-06	3.24E-01	1.77E-06	1.45E-05			
Road 38	38	1100-1200	1.10E-01	5.79E-07	4.74E-06	1.03E-01	5.41E-07	4.43E-06	3.57E-01	1.87E-06	1.53E-05			
Road 38	38	1200-1300	1.44E-01	4.92E-07	4.03E-06	1.34E-01	4.58E-07	3.75E-06	4.03E-01	1.37E-06	1.12E-05			
Road 38	38	1300-1400	1.45E-01	5.26E-07	4.31E-06	1.35E-01	4.90E-07	4.01E-06	3.79E-01	1.37E-06	1.12E-05			
Road 38	38	1400-1500	1.43E-01	5.21E-07	4.26E-06	1.33E-01	4.86E-07	3.98E-06	3.88E-01	1.41E-06	1.16E-05			
Road 38	38	1500-1600	1.44E-01	5.40E-07	4.42E-06	1.35E-01	5.04E-07	4.13E-06	4.25E-01	1.59E-06	1.30E-05			
Road 38	38	1600-1700	1.42E-01	5.12E-07	4.19E-06	1.33E-01	4.81E-07	3.94E-06	4.09E-01	1.48E-06	1.21E-05			
Road 38	38	1700-1800	1.42E-01	5.31E-07	4.35E-06	1.32E-01	4.94E-07	4.04E-06	3.11E-01	1.16E-06	9.51E-06			
Road 38	38	1800-1900	1.24E-01	3.81E-07	3.12E-06	1.17E-01	3.58E-07	2.93E-06	3.41E-01	1.04E-06	8.55E-06			
Road 38	38	1900-2000	1.01E-01	1.51E-07	1.24E-06	9.53E-02	1.43E-07	1.17E-06	3.11E-01	4.65E-07	3.81E-06			
Road 38	38	2000-2100	1.03E-01	1.32E-07	1.08E-06	8.80E-02	1.13E-07	9.24E-07	3.48E-01	4.46E-07	3.65E-06			
Road 38	38	2100-2200	1.03E-01	1.32E-07	1.08E-06	8.80E-02	1.25E-07	1.02E-06	3.38E-01	4.31E-07	3.53E-06			
Road 38	38	2200-2300	1.02E-01	1.21E-07	9.95E-07	9.37E-02	1.12E-07	9.16E-07	3.31E-01	3.92E-07	3.21E-06			
Road 38	38	2300-0000	1.11E-01	2.49E-07	2.04E-06	1.01E-01	2.27E-07	1.86E-06	3.31E-01	7.43E-07	6.08E-06			
Road 39	39	0000-0100	1.07E-01	2.51E-08	2.14E-07	1.01E-01	2.37E-08	2.02E-07	3.74E-01	8.81E-08	7.50E-07			
Road 39	39	0100-0200	1.09E-01	1.77E-08	1.51E-07	1.04E-01	1.69E-08	1.44E-07	3.66E-01	5.94E-08	5.06E-07			
Road 39	39	0200-0300	1.11E-01	1.42E-08	1.21E-07	1.07E-01	1.37E-08	1.17E-07	3.79E-01	4.85E-08	4.13E-07			
Road 39	39	0300-0400	1.13E-01	1.20E-08	1.02E-07	1.08E-01	1.15E-08	9.77E-08	3.86E-01	4.09E-08	3.48E-07			
Road 39	39	0400-0500	1.16E-01	1.42E-08	1.21E-07	1.10E-01	1.36E-08	1.16E-07	3.91E-01	4.79E-08	4.08E-07			
Road 39	39	0500-0600	1.18E-01	3.27E-08	2.77E-07	1.13E-01	3.13E-08	2.66E-07	3.98E-01	1.10E-07	9.38E-07			
Road 39	39	0600-0700	1.23E-01	6.23E-08	5.31E-07	1.17E-01	5.92E-08	5.04E-07	4.13E-01	2.10E-07	1.79E-06			
Road 39	39	0700-0800	1.24E-01	1.34E-07	1.14E-06	1.18E-01	1.27E-07	1.08E-06	4.13E-01	4.46E-07	3.80E-06			
Road 39	39	0800-0900	1.24E-01	1.66E-07	1.41E-06	1.18E-01	1.58E-07	1.34E-06	4.13E-01	5.52E-07	4.70E-06			
Road 39	39	0900-1000	1.34E-01	1.86E-07	1.59E-06	1.27E-01	1.78E-07	1.51E-06	4.39E-01	6.13E-07	5.21E-06			
Road 39	39	1000-1100	1.34E-01	1.86E-07	1.59E-06	1.27E-01	1.78E-07	1.51E-06	4.39E-01	6.13E-07	5.21E-06			
Road 39	39	1100-1200	1.34E-01	1.86E-07	1.59E-06	1.27E-01	1.78E-07	1.51E-06	4.39E-01	6.13E-07	5.21E-06			
Road 39	39	1200-1300	6.57E-02	1.70E-08	1.44E-07	6.27E-02	1.62E-08	1.38E-07	2.59E-01	6.68E-08	5.69E-07			
Road 39	39	1300-1400	7.02E-02	1.89E-08	1.61E-07	6.73E-02	1.81E-08	1.54E-07	2.86E-01	7.68E-08	6.54E-07			
Road 39	39	1400-1500	7.58E-02	1.91E-08	1.63E-07	7.24E-02	1.82E-08	1.55E-07	2.98E-01	7.51E-08	6.39E-07			
Road 39	39	1500-1600	7.00E-02	2.04E-08	1.73E-07	6.72E-02	1.95E-08	1.66E-07	2.74E-01	7.98E-08	6.80E-07			
Road 39	39	1600-1700	6.56E-02	1.98E-08	6.30E-02	1.90E-08	1.62E-07	2.76E-01	8.32E-08	7.09E-07	6.04E-06			
Road 39	39	1700-1800	1.01E-01	1.54E-07	1.31E-06	9.68E-02	1.47E-07	1.25E-06	3.11E-01	4.74E-07	4.04E-06			
Road 39	39	1800-1900	3.59E-02	1.24E-08	1.05E-07	3.46E-02	1.19E-08	1.01E-07	1.98E-01	6.55E-08	5.58E-07			
Road 39	39	1900-2000	3.02E-02	8.11E-09	6.91E-08	2.89E-02	7.76E-09	6.61E-08	1.89E-01	5.08E-08	4.33E-07			
Road 39	39	2000-2100	2.98E-02	6.26E-09	5.33E-08	2.88E-02	6.03E-09	5.13E-08	2.06E-01	4.32E-08	3.68E-07			
Road 39	39	2100-2200	2.98E-02	6.26E-09	5.33E-08	2.88E-02	6.03E-09	5.13E-08	2.06E-01	4.32E-08	3.68E-07			
Road 39	39	2200-2300	2.69E-02	5.42E-09	4.62E-08	2.53E-02	5.11E-09	4.35E-08	2.03E-01	4.09E-08	3.48E-07			
Road 39	39	2300-0000	2.91E-02	6.45E-09	5.50E-08	2.74E-02	6.07E-09	5.17E-08	2.28E-01	5.06E-08	4.31E-07			
Road 40	40	0000-0100	5.99E-02	1.77E-07	8.63E-07	5.43E-02	1.61E-07	7.82E-07	2.57E-01	7.60E-07	3.68E-06			
Road 40	40	0100-0200	6.89E-02	1.49E-07	7.25E-07	6.33E-02	1.37E-07	6.66E-07	2.68E-01	5.79E-07	2.82E-06			
Road 40	40	0200-0300	7.52E-02	1.46E-07	7.09E-07	6.96E-02	1.35E-07	6.57E-07	2.84E-01	5.52E-07	2.68E-06			
Road 40	40	0300-0400	8.16E-02	1.25E-07	6.10E-07	7.52E-02	1.15E-07	5.62E-07	2.98E-01	4.58E-07	2.23E-06			
Road 40	40	0400-0500	8.13E-02	1.33E-07	6.46E-07	7.48E-02	1.22E-07	5.94E-07	2.86E-01	4.68E-07	2.27E-06			
Road 40	40	0500-0600	7.60E-02	1.82E-07	8.83E-07	7.04E-02	1.68E-07	8.18E-07	2.95E-01	7.04E-07	3.43E-06			
Road 40	40	0600-0700	5.14E-02	4.46E-08	2.17E-07	4.66E-02	4.04E-08	1.97E-07	2.86E-01	2.48E-07	1.21E-06			
Road 40	40	0700-0800	1.00E-01	1.02E-06	4.98E-06	9.16E-02	9.36E-07	4.56E-06	3.66E-01	3.74E-06	1.82E-05			
Road 40	40	0800-0900	9.65E-02	1.11E-06	5.41E-06	8.89E-02	1.02E-06	4.98E-06	3.43E-01	3.95E-06	1.92E-05			
Road 40	40	0900-1000	1.13E-01	1.14E-06	5.55E-06	1.04E-01	1.05E-06	5.11E-06	3.36E-01	3.38E-06	1.65E-05			
Road 40	40	1000-1100	1.17E-01	1.12E-06	5.45E-06	1.08E-01	1.03E-06	5.03E-06	3.80E-01	3.64E-06	1.77E-05			
Road 40	40	1100-1200	1.14E-01	1.05E-06	5.11E-06	1.06E-01	9.78E-07	4.76E-06	3.48E-01	3.20E-06	1.56E-05			
Road 40	40	1200-1300	1.23E-01	4.49E-07	2.19E-06	1.14E-01	4.16E-07	2.03E-06	3.87E-01	1.41E-06	6.88E-06			
Road 40	40	1300-1400	1.41E-01	9.80E-07	4.76E-06	1.32E-01	9.14E-07	4.44E-06	4.22E-01	2.92E-06	1.42E-05			
Road 40	40	1400-1500	1.39E-01	9.76E-07	4.75E-06	1.29E-01	9.12E-07	4.44E-06	4.01E-01	2.82E-06	1.37E-05			
Road 40	40	1500-1600	1.39E-01	1.03E-06	4.89E-06	1.29E-01	9.57E-07	4.55E-06	4.26E-01	3.17E-06	1.50E-05			
Road 40	40	1600-1700	1.35E-01	9.67E-07	4.70E-06	1.27E-01	9.07E-07	4.41E-06	4.09E-01	2.92E-06	1.42E-05			
Road 40	40	1700-1800	1.26E-01	9.08E-07	4.42E-06	1.18E-01	8.55E-07	4.16E-06	3.99E-01	2.88E-06	1.40E-05			
Road 40	40	1800-1900	1.06E-01	7.22E-07	3.51E-06	9.95E-02	6.77E-07	3.29E-06	3.34E-01	2.27E-06	1.10E-05			
Road 40	40	1900-2000	7.18E-02	2.79E-07	1.36E-06	6.76E-02	2.63E-07	1.28E-06	2.74E-01	1.07E-06	5.18E-06			
Road 40	40	2000-2100	7.39E-02	2.35E-07	1.14E-06	7.02E-02	2.23E-07	1.09E-06	2.84E-01	9.03E-07	4.39E-06			
Road 40	40	2100-2200	7.39E-02	2.35E-07	1.14E-06	6.96E-02	2.21E-07	1.08E-06	2.84E-01	9.03E-07	4.39E-06			
Road 40	40	2200-2300	7.15E-02	2.18E-07	1.06E-06	6.57E-02	2.00E-07	9.73E-07	2.78E-01	8.47E-07	4.12E-06			
Road 40	40	2300-0000	7.82E-02	1.95E-07	9.46E-07	7.16E-02	1.78E-07	8.67E-07	2.89E-01	7.19E-07	3.50E-06	2.65E-01	6.59E-07	3.21E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) — Year 2033

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	2.66E-02	5.01E-08	4.70E-07	2.33E-02	4.39E-08	4.11E-07	1.01E-01	1.91E-07	1.79E-06	8.65E-02	1.63E-07	1.53E-06
Road 41	41	0100-0200	3.27E-02	4.54E-08	4.26E-07	2.93E-02	4.08E-08	3.83E-07	1.12E-01	1.56E-07	1.46E-06	9.88E-02	1.37E-07	1.29E-06
Road 41	41	0200-0300	3.82E-02	4.37E-08	4.10E-07	3.44E-02	3.93E-08	3.69E-07	1.23E-01	1.40E-07	1.32E-06	1.09E-01	1.25E-07	1.17E-06
Road 41	41	0300-0400	4.25E-02	4.27E-08	4.00E-07	3.84E-02	3.85E-08	3.62E-07	1.31E-01	1.32E-07	1.24E-06	1.17E-01	1.18E-07	1.11E-06
Road 41	41	0400-0500	4.13E-02	4.36E-08	4.09E-07	3.73E-02	3.94E-08	3.69E-07	1.29E-01	1.36E-07	1.28E-06	1.15E-01	1.22E-07	1.14E-06
Road 41	41	0500-0600	3.36E-02	4.99E-08	4.68E-07	3.03E-02	4.50E-08	4.23E-07	1.16E-01	1.72E-07	1.62E-06	1.03E-01	1.53E-07	1.44E-06
Road 41	41	0600-0700	2.49E-02	6.60E-08	6.18E-07	2.25E-02	5.88E-08	5.52E-07	1.01E-01	2.66E-07	2.50E-06	9.16E-02	2.32E-07	2.18E-06
Road 41	41	0700-0800	3.34E-02	2.08E-07	1.95E-06	2.96E-02	1.84E-07	1.73E-06	1.17E-01	7.29E-07	6.84E-06	1.03E-01	6.38E-07	5.99E-06
Road 41	41	0800-0900	3.09E-02	2.14E-07	2.01E-06	2.76E-02	1.91E-07	1.79E-06	1.07E-01	7.44E-07	6.98E-06	9.49E-02	6.57E-07	6.17E-06
Road 41	41	0900-1000	2.68E-02	2.11E-07	1.98E-06	2.39E-02	1.77E-07	1.66E-06	1.05E-01	7.38E-07	6.93E-06	9.21E-02	6.38E-07	5.98E-06
Road 41	41	1000-1100	3.79E-02	2.08E-07	1.95E-06	3.41E-02	1.87E-07	1.76E-06	1.26E-01	6.90E-07	6.47E-06	1.12E-01	6.16E-07	5.78E-06
Road 41	41	1100-1200	3.79E-02	2.02E-07	1.90E-06	3.41E-02	1.82E-07	1.71E-06	1.26E-01	6.72E-07	6.31E-06	1.12E-01	6.06E-07	5.69E-06
Road 41	41	1200-1300	4.26E-02	1.90E-07	1.78E-06	3.84E-02	1.71E-07	1.61E-06	1.41E-01	6.31E-07	5.92E-06	1.26E-01	5.63E-07	5.29E-06
Road 41	41	1300-1400	4.18E-02	2.52E-07	2.36E-06	3.81E-02	2.29E-07	2.15E-06	1.39E-01	8.35E-07	7.84E-06	1.26E-01	7.58E-07	7.11E-06
Road 41	41	1400-1500	4.12E-02	2.55E-07	2.40E-06	3.77E-02	2.34E-07	2.19E-06	1.37E-01	8.46E-07	7.94E-06	1.24E-01	7.70E-07	7.23E-06
Road 41	41	1500-1600	4.10E-02	2.54E-07	2.38E-06	3.76E-02	2.33E-07	2.18E-06	1.36E-01	8.41E-07	7.90E-06	1.23E-01	7.64E-07	7.18E-06
Road 41	41	1600-1700	3.98E-02	2.55E-07	2.39E-06	3.65E-02	2.34E-07	2.19E-06	1.32E-01	8.46E-07	7.94E-06	1.20E-01	7.71E-07	7.24E-06
Road 41	41	1700-1800	3.45E-02	2.32E-07	2.18E-06	3.17E-02	2.13E-07	2.00E-06	1.20E-01	8.09E-07	7.59E-06	1.10E-01	7.40E-07	6.95E-06
Road 41	41	1800-1900	2.72E-02	2.08E-07	1.95E-06	2.50E-02	1.91E-07	1.79E-06	1.02E-01	7.84E-07	7.36E-06	9.41E-02	7.19E-07	6.75E-06
Road 41	41	1900-2000	1.86E-02	7.87E-08	7.39E-07	1.71E-02	7.24E-08	6.72E-07	7.95E-02	3.36E-07	3.15E-06	7.14E-02	3.02E-07	2.83E-06
Road 41	41	2000-2100	2.01E-02	6.83E-08	6.41E-07	1.86E-02	6.32E-08	5.93E-07	8.70E-02	2.96E-07	2.78E-06	7.94E-02	2.70E-07	2.53E-06
Road 41	41	2100-2200	1.95E-02	6.65E-08	6.24E-07	1.79E-02	6.15E-08	5.77E-07	8.44E-02	2.88E-07	2.70E-06	7.72E-02	2.63E-07	2.46E-06
Road 41	41	2200-2300	1.75E-02	6.36E-08	5.97E-07	1.61E-02	5.88E-08	5.52E-07	7.58E-02	2.76E-07	2.58E-06	6.93E-02	2.52E-07	2.36E-06
Road 41	41	2300-0000	2.05E-02	6.71E-08	6.30E-07	1.88E-02	6.21E-08	5.83E-07	8.87E-02	2.91E-07	2.73E-06	8.11E-02	2.66E-07	2.49E-06
Road 42	42	0000-0100	2.44E-02	6.34E-08	5.95E-07	2.15E-02	5.60E-08	5.26E-07	9.84E-02	2.56E-07	2.40E-06	8.52E-02	2.22E-07	2.08E-06
Road 42	42	0100-0200	2.58E-02	5.85E-08	8.90E-08	2.26E-02	5.17E-08	4.85E-07	9.61E-02	2.18E-07	2.04E-06	8.32E-02	1.89E-07	1.77E-06
Road 42	42	0200-0300	6.21E-02	8.66E-08	2.20E-06	5.58E-02	7.79E-08	1.98E-06	1.81E-01	2.53E-07	6.41E-06	1.62E-01	2.26E-07	5.72E-06
Road 42	42	0300-0400	6.94E-02	8.47E-08	2.15E-06	6.26E-02	7.64E-08	1.94E-06	1.96E-01	2.39E-07	6.06E-06	1.76E-01	2.14E-07	5.43E-06
Road 42	42	0400-0500	7.26E-02	8.64E-08	2.19E-06	6.47E-02	7.69E-08	1.95E-06	2.05E-01	2.44E-07	6.19E-06	1.83E-01	2.17E-07	5.52E-06
Road 42	42	0500-0600	5.40E-02	9.82E-08	2.49E-06	4.88E-02	8.86E-08	2.25E-06	1.69E-01	3.07E-07	7.79E-06	1.51E-01	2.74E-07	6.95E-06
Road 42	42	0600-0700	4.19E-02	1.37E-07	3.46E-06	3.74E-02	1.22E-07	3.09E-06	1.50E-01	4.89E-07	1.24E-05	1.32E-01	4.29E-07	1.09E-05
Road 42	42	0700-0800	2.72E-02	2.64E-07	6.68E-06	2.47E-02	2.39E-07	6.05E-06	1.41E-01	1.37E-06	3.46E-05	1.28E-01	1.24E-06	3.14E-05
Road 42	42	0800-0900	6.53E-02	5.55E-07	1.41E-05	5.84E-02	4.96E-07	1.26E-05	1.99E-01	1.69E-06	4.28E-05	1.76E-01	1.50E-06	3.80E-05
Road 42	42	0900-1000	7.43E-02	5.50E-07	1.40E-05	6.64E-02	4.91E-07	1.25E-05	2.24E-01	1.66E-06	4.20E-05	2.00E-01	1.48E-06	3.75E-05
Road 42	42	1000-1100	7.92E-02	5.12E-07	1.30E-05	7.19E-02	4.65E-07	1.18E-05	2.34E-01	1.51E-06	3.84E-05	2.11E-01	1.37E-06	3.47E-05
Road 42	42	1100-1200	7.92E-02	5.12E-07	1.30E-05	7.19E-02	4.65E-07	1.18E-05	2.34E-01	1.51E-06	3.84E-05	2.11E-01	1.37E-06	3.47E-05
Road 42	42	1200-1300	1.02E-01	5.34E-07	1.35E-05	9.22E-02	4.84E-07	1.23E-05	2.88E-01	1.51E-06	3.83E-05	2.60E-01	1.37E-06	3.47E-05
Road 42	42	1300-1400	1.03E-01	5.31E-07	1.34E-05	9.31E-02	4.81E-07	1.22E-05	2.91E-01	1.50E-06	3.81E-05	2.62E-01	1.36E-06	3.45E-05
Road 42	42	1400-1500	1.02E-01	5.67E-07	1.44E-05	9.33E-02	5.19E-07	1.32E-05	2.92E-01	1.63E-06	4.13E-05	2.67E-01	1.48E-06	3.77E-05
Road 42	42	1500-1600	9.88E-02	5.61E-07	1.42E-05	8.95E-02	5.08E-07	1.29E-05	2.92E-01	1.66E-06	4.20E-05	2.64E-01	1.50E-06	3.80E-05
Road 42	42	1600-1700	8.91E-02	5.20E-07	1.32E-05	8.20E-02	4.79E-07	1.21E-05	2.63E-01	1.54E-06	3.90E-05	2.41E-01	1.41E-06	3.58E-05
Road 42	42	1700-1800	8.91E-02	5.20E-07	1.32E-05	8.20E-02	4.79E-07	1.21E-05	2.63E-01	1.54E-06	3.90E-05	2.41E-01	1.41E-06	3.58E-05
Road 42	42	1800-1900	7.91E-02	4.50E-07	1.14E-05	7.28E-02	4.14E-07	1.05E-05	2.26E-01	1.29E-06	3.26E-05	2.08E-01	1.18E-06	2.99E-05
Road 42	42	1900-2000	5.91E-02	2.47E-07	6.26E-06	5.44E-02	2.27E-07	5.76E-06	1.69E-01	7.06E-07	1.79E-05	1.55E-01	6.49E-07	1.65E-05
Road 42	42	2000-2100	5.48E-02	2.14E-07	5.42E-06	5.04E-02	1.96E-07	4.98E-06	1.56E-01	6.11E-07	1.55E-05	1.44E-01	5.61E-07	1.42E-05
Road 42	42	2100-2200	5.51E-02	1.06E-07	2.69E-06	5.07E-02	9.75E-08	2.47E-06	1.57E-01	3.02E-07	7.68E-06	1.44E-01	2.78E-07	7.05E-06
Road 42	42	2200-2300	5.08E-02	1.06E-07	2.69E-06	4.67E-02	9.75E-08	2.47E-06	1.45E-01	3.02E-07	7.68E-06	1.33E-01	2.78E-07	7.05E-06
Road 42	42	2300-0000	5.48E-02	1.03E-07	2.61E-06	5.04E-02	9.46E-08	2.40E-06	1.56E-01	2.93E-07	7.45E-06	1.44E-01	2.70E-07	6.84E-06
Road 43	43	0000-0100	3.44E-02	3.74E-09	3.38E-08	3.16E-02	3.43E-09	3.10E-08	1.30E-01	1.41E-08	1.28E-07	1.19E-01	1.29E-08	1.17E-07
Road 43	43	0100-0200	3.44E-02	3.74E-09	3.38E-08	3.16E-02	3.43E-09	3.10E-08	1.30E-01	1.41E-08	1.28E-07	1.19E-01	1.29E-08	1.17E-07
Road 43	43	0200-0300	5.46E-02	3.74E-09	3.83E-08	4.92E-02	3.37E-09	3.44E-08	1.56E-01	1.07E-08	1.09E-07	1.40E-01	9.56E-09	9.79E-08
Road 43	43	0300-0400	5.81E-02	3.68E-09	3.77E-08	5.25E-02	3.32E-09	3.40E-08	1.63E-01	1.03E-08	1.05E-07	1.46E-01	9.27E-09	9.48E-08
Road 43	43	0400-0500	5.66E-02	7.32E-09	3.83E-08	5.10E-02	6.60E-09	3.45E-08	1.61E-01	2.08E-08	1.09E-07	1.44E-01	1.87E-08	9.79E-08
Road 43	43	0500-0600	4.96E-02	4.10E-09	4.20E-08	4.48E-02	3.70E-09	3.79E-08	1.49E-01	1.23E-08

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			Monthly Hour Mean		Monthly Average				Monthly Hour Mean		Monthly Average			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/day	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/day
Road 1	1	0000-0100	1.31E-02	4.64E-07	3.09E-05	1.75E-02	6.20E-07	4.12E-05	8.93E-02	3.07E-06	6.15E-05			
Road 1	1	0100-0200	1.45E-02	4.22E-07	2.87E-05	1.34E-02	3.89E-07	2.65E-05	9.93E-02	2.88E-06	5.71E-05			
Road 1	1	0200-0300	1.61E-02	4.23E-07	2.87E-05	1.23E-02	3.23E-07	2.19E-05	1.10E-01	2.89E-06	5.71E-05			
Road 1	1	0300-0400	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	0400-0500	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	0500-0600	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	0600-0700	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	0700-0800	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	0800-0900	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	0900-1000	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	1000-1100	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	1100-1200	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	1200-1300	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	1300-1400	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	1400-1500	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 1	1	1500-1600	1.55E-02	5.48E-07	1.10E-05	1.43E-02	5.06E-07	1.01E-05	1.32E-01	4.66E-06	9.33E-05			
Road 1	1	1600-1700	1.67E-02	6.36E-07	1.28E-05	1.54E-02	5.87E-07	1.17E-05	1.53E-01	5.83E-06	1.17E-04			
Road 1	1	1700-1800	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 1	1	1800-1900	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 1	1	1900-2000	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 1	1	2000-2100	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 1	1	2100-2200	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 1	1	2200-2300	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 1	1	2300-2400	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 2	2	0000-0100	1.31E-02	4.64E-07	3.09E-05	1.75E-02	6.20E-07	4.12E-05	8.93E-02	3.07E-06	6.15E-05			
Road 2	2	0100-0200	1.45E-02	4.22E-07	2.87E-05	1.34E-02	3.89E-07	2.65E-05	9.93E-02	2.88E-06	5.71E-05			
Road 2	2	0200-0300	1.61E-02	4.23E-07	2.87E-05	1.23E-02	3.23E-07	2.19E-05	1.10E-01	2.89E-06	5.71E-05			
Road 2	2	0300-0400	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	0400-0500	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	0500-0600	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	0600-0700	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	0700-0800	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	0800-0900	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	0900-1000	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	1000-1100	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	1100-1200	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	1200-1300	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	1300-1400	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	1400-1500	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 2	2	1500-1600	1.55E-02	5.48E-07	1.10E-05	1.43E-02	5.06E-07	1.01E-05	1.32E-01	4.66E-06	9.33E-05			
Road 2	2	1600-1700	1.67E-02	6.36E-07	1.28E-05	1.54E-02	5.87E-07	1.17E-05	1.53E-01	5.83E-06	1.17E-04			
Road 2	2	1700-1800	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 2	2	1800-1900	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 2	2	1900-2000	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 2	2	2000-2100	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 2	2	2100-2200	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 2	2	2200-2300	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 2	2	2300-2400	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 3	3	0000-0100	1.31E-02	4.64E-07	3.09E-05	1.75E-02	6.20E-07	4.12E-05	8.93E-02	3.07E-06	6.15E-05			
Road 3	3	0100-0200	1.45E-02	4.22E-07	2.87E-05	1.34E-02	3.89E-07	2.65E-05	9.93E-02	2.88E-06	5.71E-05			
Road 3	3	0200-0300	1.61E-02	4.23E-07	2.87E-05	1.23E-02	3.23E-07	2.19E-05	1.10E-01	2.89E-06	5.71E-05			
Road 3	3	0300-0400	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	0400-0500	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	0500-0600	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	0600-0700	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	0700-0800	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	0800-0900	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	0900-1000	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	1000-1100	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	1100-1200	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	1200-1300	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	1300-1400	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	1400-1500	1.64E-02	4.30E-07	2.92E-05	1.23E-02	3.23E-07	2.19E-05	1.12E-01	2.94E-06	5.82E-05			
Road 3	3	1500-1600	1.55E-02	5.48E-07	1.10E-05	1.43E-02	5.06E-07	1.01E-05	1.32E-01	4.66E-06	9.33E-05			
Road 3	3	1600-1700	1.67E-02	6.36E-07	1.28E-05	1.54E-02	5.87E-07	1.17E-05	1.53E-01	5.83E-06	1.17E-04			
Road 3	3	1700-1800	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 3	3	1800-1900	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 3	3	1900-2000	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 3	3	2000-2100	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 3	3	2100-2200	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 3	3	2200-2300	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			
Road 3	3	2300-2400	1.72E-02	6.45E-07	1.29E-05	1.58E-02	5.95E-07	1.19E-05	1.58E-01	5.91E-06	1.18E-04			

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\Appendix A\Appendix 3.5.3 Emission Factor in 2033-5.8.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) Year 2033

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			Monthly Hour Mean		Monthly Average				Monthly Hour Mean		Monthly Average			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/day	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/day
Road 7	7	1600-1700	2.07E-02	3.64E-07	4.27E-06	1.91E-02	3.36E-07	3.94E-06	1.48E-01	2.59E-06	3.04E-05			
Road 7	7	1700-1800	1.61E-02	3.19E-07	3.74E-06	1.46E-02	2.90E-07	3.40E-06	1.39E-01	2.75E-06	3.22E-05			
Road 7	7	1800-1900	1.26E-02	2.75E-07	3.22E-06	1.14E-02	2.49E-07	2.91E-06	1.23E-01	2.67E-06	3.13E-05			
Road 7	7	1900-2000	1.17E-02	2.02E-07	2.37E-06	1.05E-02	1.82E-07	2.13E-06	1.32E-01	2.29E-06	2.68E-05			
Road 7	7	2000-2100	1.17E-02	1.57E-07	1.84E-06	1.04E-02	1.41E-07	1.65E-06	1.42E-01	1.92E-06	2.25E-05			
Road 7	7	2100-2200	1.02E-02	1.37E-07	1.61E-06	9.26E-03	1.24E-07	1.45E-06	1.31E-01	1.75E-06	2.05E-05			
Road 7	7	2200-2300	1.03E-02	1.34E-07	1.57E-06	9.32E-03	1.21E-07	1.42E-06	1.35E-01	1.77E-06	2.07E-05			
Road 7	7	2300-0000	1.11E-02	1.08E-07	1.27E-06	1.00E-02	9.77E-08	1.15E-06	1.38E-01	1.35E-06	1.58E-05			
Road 8	8	0000-0100	2.33E-02	1.26E-08	2.55E-07	2.12E-02	1.14E-08	2.31E-07	3.79E-01	2.05E-07	4.14E-06			
Road 8	8	0100-0200	2.27E-02	8.35E-09	1.69E-07	2.07E-02	7.54E-09	1.53E-07	3.70E-01	1.36E-07	2.75E-06			
Road 8	8	0200-0300	2.44E-02	6.29E-09	1.27E-07	2.17E-02	5.60E-09	1.13E-07	3.97E-01	1.02E-07	2.06E-06			
Road 8	8	0300-0400	2.50E-02	5.11E-09	1.03E-07	2.20E-02	4.50E-09	9.09E-08	4.07E-01	8.32E-08	1.68E-06			
Road 8	8	0400-0500	2.62E-02	1.02E-08	2.07E-07	2.30E-02	8.94E-09	1.81E-07	4.26E-01	1.66E-07	3.35E-06			
Road 8	8	0500-0600	2.62E-02	1.02E-08	2.07E-07	2.30E-02	8.94E-09	1.81E-07	4.26E-01	1.66E-07	3.35E-06			
Road 8	8	0600-0700	2.69E-02	2.25E-08	4.56E-07	2.48E-02	2.08E-08	4.22E-07	3.77E-01	3.17E-07	6.41E-06			
Road 8	8	0700-0800	2.75E-02	3.31E-08	6.71E-07	2.54E-02	3.06E-08	6.21E-07	3.86E-01	4.65E-07	9.41E-06			
Road 8	8	0800-0900	2.61E-02	5.03E-08	1.02E-06	2.40E-02	4.62E-08	9.34E-07	3.46E-01	6.67E-07	1.35E-05			
Road 8	8	0900-1000	2.80E-02	4.59E-08	9.27E-07	2.58E-02	4.24E-08	8.57E-07	3.52E-01	5.77E-07	1.17E-05			
Road 8	8	1000-1100	2.86E-02	2.62E-08	5.30E-07	2.64E-02	2.41E-08	4.88E-07	3.56E-01	3.26E-07	6.60E-06			
Road 8	8	1100-1200	2.91E-02	3.98E-08	8.05E-07	2.68E-02	3.66E-08	7.41E-07	3.55E-01	4.84E-07	9.80E-06			
Road 8	8	1200-1300	2.98E-02	2.62E-08	5.30E-07	2.74E-02	2.41E-08	4.88E-07	3.60E-01	3.16E-07	6.40E-06			
Road 8	8	1300-1400	3.04E-02	2.62E-08	5.30E-07	2.80E-02	2.41E-08	4.88E-07	3.64E-01	3.14E-07	6.35E-06			
Road 8	8	1400-1500	3.06E-02	2.62E-08	5.30E-07	2.82E-02	2.41E-08	4.88E-07	3.66E-01	3.14E-07	6.35E-06			
Road 8	8	1500-1600	2.96E-02	2.35E-07	5.11E-06	2.72E-02	2.16E-07	4.70E-06	3.57E-01	2.84E-06	6.17E-05			
Road 8	8	1600-1700	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 8	8	1700-1800	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 8	8	1800-1900	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 8	8	1900-2000	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 8	8	2000-2100	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 8	8	2100-2200	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 8	8	2200-2300	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 8	8	2300-2400	3.07E-02	2.62E-07	5.69E-06	2.82E-02	2.41E-07	5.24E-06	3.68E-01	3.14E-06	6.82E-05			
Road 9	9	0000-0100	1.39E-02	1.02E-07	1.21E-06	1.26E-02	9.21E-08	1.22E-06	1.07E-01	7.84E-07	1.04E-05			
Road 9	9	0100-0200	1.50E-02	7.23E-08	9.55E-07	1.39E-02	6.70E-08	8.85E-07	1.08E-01	5.24E-07	6.92E-06			
Road 9	9	0200-0300	1.62E-02	5.82E-08	7.69E-07	1.50E-02	5.37E-08	7.09E-07	1.12E-01	4.01E-07	5.31E-06			
Road 9	9	0300-0400	1.75E-02	5.02E-08	6.64E-07	1.61E-02	4.61E-08	6.10E-07	1.15E-01	3.31E-07	4.37E-06			
Road 9	9	0400-0500	1.83E-02	5.81E-08	7.68E-07	1.70E-02	5.42E-08	7.16E-07	1.17E-01	3.71E-07	4.91E-06			
Road 9	9	0500-0600	1.89E-02	1.05E-07	1.39E-06	1.76E-02	9.74E-08	1.29E-06	1.20E-01	6.65E-07	8.78E-06			
Road 9	9	0600-0700	2.86E-02	2.07E-07	2.74E-06	2.63E-02	1.91E-07	2.53E-06	1.63E-01	1.18E-06	1.56E-05			
Road 9	9	0700-0800	3.81E-02	9.14E-07	2.25E-05	3.51E-02	8.43E-07	2.07E-05	2.17E-01	5.21E-06	1.28E-04			
Road 9	9	0800-0900	3.61E-02	1.39E-06	3.43E-05	3.32E-02	1.28E-06	3.16E-05	2.05E-01	7.92E-06	1.95E-04			
Road 9	9	0900-1000	4.28E-02	6.04E-07	1.49E-05	3.94E-02	5.56E-07	1.37E-05	2.43E-01	3.43E-06	8.46E-05			
Road 9	9	1000-1100	4.28E-02	6.04E-07	1.49E-05	3.94E-02	5.56E-07	1.37E-05	2.43E-01	3.43E-06	8.46E-05			
Road 9	9	1100-1200	4.28E-02	6.04E-07	1.49E-05	3.94E-02	5.56E-07	1.37E-05	2.43E-01	3.43E-06	8.46E-05			
Road 9	9	1200-1300	1.04E-01	1.89E-06	1.40E-05	9.76E-02	1.77E-06	1.31E-05	4.43E-01	8.02E-06	5.95E-05			
Road 9	9	1300-1400	1.20E-01	2.31E-06	1.71E-05	1.13E-01	2.16E-06	1.60E-05	5.13E-01	9.82E-06	7.29E-05			
Road 9	9	1400-1500	1.24E-01	2.38E-06	1.76E-05	1.16E-01	2.23E-06	1.65E-05	5.30E-01	1.01E-05	7.52E-05			
Road 9	9	1500-1600	1.30E-01	2.67E-06	1.98E-05	1.22E-01	2.50E-06	1.85E-05	5.74E-01	1.18E-05	8.73E-05			
Road 9	9	1600-1700	1.40E-01	2.92E-06	2.17E-05	1.30E-01	2.70E-06	2.00E-05	6.24E-01	1.30E-05	9.68E-05			
Road 9	9	1700-1800	1.37E-01	2.71E-06	2.01E-05	1.28E-01	2.53E-06	1.87E-05	6.14E-01	1.21E-05	9.02E-05			
Road 9	9	1800-1900	6.11E-02	1.33E-06	9.85E-06	5.54E-02	1.20E-06	8.93E-06	3.40E-01	7.39E-06	5.49E-05			
Road 9	9	1900-2000	4.10E-02	8.63E-07	6.40E-06	3.72E-02	7.83E-07	5.81E-06	2.46E-01	5.18E-06	3.84E-05			
Road 9	9	2000-2100	3.68E-02	1.28E-06	9.47E-06	3.34E-02	1.16E-06	8.59E-06	2.31E-01	8.03E-06	5.95E-05			
Road 9	9	2100-2200	3.52E-02	9.23E-07	6.84E-06	3.19E-02	8.37E-07	6.20E-06	2.21E-01	5.79E-06	4.29E-05			
Road 9	9	2200-2300	3.52E-02	9.23E-07	6.84E-06	3.19E-02	8.37E-07	6.20E-06	2.21E-01	5.79E-06	4.29E-05			
Road 9	9	2300-0000	9.10E-02	1.06E-07	7.13E-07	8.48E-02	9.90E-08	6.64E-07	3.31E-01	3.66E-07	2.45E-06			
Road 10	10	0000-0100	7.10E-02	1.08E-07	7.21E-07	6.60E-02	9.99E-08	6.69E-07	2.83E-01	4.28E-07	2.87E-06			
Road 10	10	0100-0200	7.90E-02	8.94E-08	5.99E-07	7.35E-02	8.32E-08	5.57E-07	3.02E-01	3.76E-07	2.79E-06			
Road 10	10	0200-0300	8.73E-02	8.21E-08	5.51E-07	8.13E-02	7.64E-08	5.13E-07	3.04E-01	3.43E-07	2.56E-06			
Road 10	10	0300-0400	9.39E-02	7.81E-08	5.23E-07	8.76E-02	7.29E-08	4.88E-07	3.09E-01	2.57E-07	1.72E-06			
Road 10	10	0400-0500	9.34E-02	8.25E-08	5.53E-07	8.83E-02	7.80E-08	5.23E-07	3.12E-01	2.76E-07	1.85E-06			
Road 10	10	0500-0600	8.80E-02	1.11E-07	7.46E-07	8.33E-02	1.05E-07	7.06E-07	3.21E-01	4.06E-07	2.72E-06			
Road 10	10	0600-0700	8.18E-02	2.28E-07	1.53E-06	7.75E-02	2.16E-07	1.45E-06	3.16E-01	8.81E-07	5.91E-06			
Road 10	10	0700-0800	1.02E-01	5.56E-07	3.73E-06	9.66E-02	5.26E-07	3.53E-06	3.56E-01	1.94E-06	1.30E-05			
Road 10	10	0800-0900	2.61E-02	5.56E-07	3.73E-06	2.47E-02	5.26E-07	3.53E-06	2.83E-01	6.03E-06	4.04E-05			
Road 10	10	0900-1000	1.62E-02	3.44E-07	2.31E-06	1.53E-02	3.26E-07	2.19E-06	1.75E-01	3.73E-06	2.50E-05			
Road 10	10	1000-1100	1.77E-02	3.76E-07	2.52E-06	1.68E-02	3.56E-07	2.39E-06	1.91E-01	4.07E-06	2.73E-05			
Road 10	10	1100-1200	1.88E-02	3.98E-07	2.67E-06	1.78E-02	3.77E-07	2.53E-06	2.03E-01	4.31E-06	2.89E-05			
Road 10	10	1200-1300	1.88E-02	3.98E-07	2.67E-06	1.78E-02	3.77E-07	2.53E-06	2.03E-01	4.31E-06	2.89E-05			
Road 10	10	1300-1400	1.99E-02	4.20E-07	2.82E-06	1.88E-02	3.98E-07	2.67E-06	2.14E-01	4.53E-06	3.04E-05			
Road 10	10	1400-1500	1.98E-02	4.95E-07	3.32E-06	1.87E-02	4.69E-07	3.15E-06	2.13E-01	5.33E-06	3.58E-05			
Road 10	10	1500-1600	1.88E-02	5.07E-07	3.40E-06	1.78E-02	4.80E-07	3.22E-06	2.03E-01	5.47E-06	3.67E-05			
Road 10	10	1600-1700	1.98E-02	5.07E-07	3.40E-06	1.87E-02	4.80E-07	3.22E-06	2.14E-01	5.47E-06	3.67E-05			
Road 10	10	1700-1800	1.98E-02	5.07E-07	3.40E-06	1.87E-02	4.80E-07	3.22E-06	2.14E-01	5.47E-06	3.67E-05			
Road 10	10	1800-1900	1.98E-02	5.07E-07	3.40E-06	1.87E-02	4.80E-07	3.22E-06	2.14E-01	5.47E-06	3.67E-05			
Road 10	10	1900-2000	8.31E-02	1.26E-07	8.46E-07	7.87E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/km/veh	g/s/m²	tonne/hour	g/km/veh
Road 31	31	0000-0100	2.49E-02	5.02E-08	4.07E-07	3.00E-01	4.03E-01	8.12E-07	3.60E-06	1.79E-01
Road 31	31	0100-0200	2.85E-02	3.98E-08	3.56E-07	2.69E-01	2.79E-01	2.49E-06	1.83E-01	2.56E-01
Road 31	31	0200-0300	3.20E-02	3.49E-08	3.12E-07	2.96E-02	3.22E-08	2.88E-07	2.01E-01	2.79E-06
Road 31	31	0300-0400	3.52E-02	3.92E-08	3.44E-07	2.96E-02	2.64E-02	2.93E-07	1.85E-01	1.66E-06
Road 31	31	0400-0500	3.46E-02	3.43E-08	3.06E-07	3.23E-02	3.20E-08	2.86E-07	1.90E-01	1.88E-06
Road 31	31	0500-0600	3.05E-02	4.83E-08	4.31E-07	2.83E-02	4.48E-08	4.01E-07	2.03E-01	3.20E-06
Road 31	31	0600-0700	2.72E-02	8.02E-08	7.16E-07	2.03E-01	5.44E-02	1.77E-06	2.03E-01	5.44E-02
Road 31	31	0700-0800	3.11E-02	2.15E-07	1.92E-06	2.87E-02	1.98E-07	1.85E-06	1.29E-06	1.15E-05
Road 31	31	0800-0900	2.94E-02	2.31E-07	2.06E-06	2.70E-02	2.12E-07	1.89E-06	1.24E-06	9.75E-06
Road 31	31	0900-1000	3.23E-02	2.03E-07	1.81E-06	2.98E-02	1.87E-07	1.67E-06	1.32E-06	8.29E-06
Road 31	31	1000-1100	3.51E-02	2.27E-07	2.03E-06	3.25E-02	2.10E-07	1.87E-06	1.44E-06	9.29E-06
Road 31	31	1100-1200	3.48E-02	2.15E-07	1.92E-06	3.23E-02	2.00E-07	1.78E-06	1.43E-06	8.84E-06
Road 31	31	1200-1300	3.52E-02	2.27E-07	2.03E-06	3.26E-02	2.10E-07	1.87E-06	1.44E-06	9.29E-06
Road 31	31	1300-1400	3.45E-02	2.02E-07	1.80E-06	3.20E-02	1.87E-07	1.67E-06	1.41E-06	8.29E-06
Road 31	31	1400-1500	3.46E-02	2.10E-07	1.88E-06	3.20E-02	1.94E-07	1.73E-06	1.41E-06	8.59E-06
Road 31	31	1500-1600	3.27E-02	2.32E-07	2.07E-06	3.03E-02	2.15E-07	1.92E-06	1.34E-06	9.52E-06
Road 31	31	1600-1700	3.34E-02	2.15E-07	1.92E-06	3.09E-02	1.99E-07	1.78E-06	1.37E-06	8.84E-06
Road 31	31	1700-1800	2.83E-02	1.96E-07	1.75E-06	2.58E-02	1.78E-07	1.59E-06	1.14E-06	7.90E-06
Road 31	31	1800-1900	2.44E-02	2.11E-07	1.88E-06	2.19E-02	1.89E-07	1.69E-06	9.68E-07	8.37E-06
Road 31	31	1900-2000	1.92E-02	9.78E-08	8.74E-07	1.73E-02	8.80E-08	7.86E-07	7.60E-07	3.88E-06
Road 31	31	2000-2100	1.99E-02	8.05E-08	7.19E-07	1.79E-02	7.23E-08	6.45E-07	7.88E-07	3.18E-06
Road 31	31	2100-2200	1.86E-02	7.44E-08	6.65E-07	1.68E-02	6.70E-08	5.98E-07	7.40E-07	2.95E-06
Road 31	31	2200-2300	1.90E-02	7.38E-08	6.59E-07	1.71E-02	6.64E-08	5.93E-07	7.56E-07	2.93E-06
Road 31	31	2300-0000	2.10E-02	6.26E-08	5.59E-07	1.90E-02	5.67E-08	5.06E-07	8.37E-07	2.50E-06
Road 32	32	0000-0100	1.66E-02	1.51E-07	1.00E-05	1.51E-02	1.36E-07	9.03E-06	6.67E-07	6.00E-06
Road 32	32	0100-0200	1.72E-02	1.47E-07	9.72E-06	1.56E-02	1.32E-07	8.75E-06	6.91E-07	5.83E-06
Road 32	32	0200-0300	1.82E-02	8.00E-08	5.31E-06	1.68E-02	7.37E-08	4.89E-06	1.89E-01	1.74E-02
Road 32	32	0300-0400	1.91E-02	6.69E-08	4.44E-06	1.75E-02	6.13E-08	4.07E-06	1.91E-02	1.75E-02
Road 32	32	0400-0500	1.85E-02	6.72E-08	4.46E-06	1.72E-02	6.25E-08	4.15E-06	1.85E-02	1.72E-02
Road 32	32	0500-0600	2.08E-02	1.41E-07	9.35E-06	1.92E-02	1.31E-07	8.67E-06	1.92E-02	1.92E-02
Road 32	32	0600-0700	2.16E-02	3.18E-07	2.11E-05	2.00E-02	2.93E-07	1.95E-05	2.00E-02	2.00E-02
Road 32	32	0700-0800	2.15E-02	7.45E-07	4.95E-05	1.97E-02	6.83E-07	4.54E-05	1.78E-01	6.59E-06
Road 32	32	0800-0900	2.15E-02	7.45E-07	4.95E-05	1.97E-02	6.83E-07	4.54E-05	1.78E-01	6.59E-06
Road 32	32	0900-1000	2.40E-02	7.30E-07	4.85E-05	2.21E-02	6.75E-07	4.48E-05	1.61E-01	5.58E-06
Road 32	32	1000-1100	2.56E-02	6.60E-07	4.38E-05	2.38E-02	6.13E-07	4.07E-05	1.86E-01	4.79E-06
Road 32	32	1100-1200	2.56E-02	6.60E-07	4.38E-05	2.38E-02	6.13E-07	4.07E-05	1.86E-01	4.79E-06
Road 32	32	1200-1300	2.30E-02	4.07E-07	2.70E-05	2.15E-02	3.81E-07	2.53E-05	1.67E-01	2.96E-06
Road 32	32	1300-1400	2.29E-02	3.67E-07	2.44E-05	2.14E-02	3.42E-07	2.27E-05	1.66E-01	2.66E-06
Road 32	32	1400-1500	2.31E-02	4.48E-07	2.98E-05	2.14E-02	4.15E-07	2.76E-05	1.67E-01	3.23E-06
Road 32	32	1500-1600	2.16E-02	4.28E-07	2.84E-05	1.98E-02	3.92E-07	2.60E-05	1.54E-01	3.04E-06
Road 32	32	1600-1700	2.16E-02	4.28E-07	2.84E-05	1.98E-02	3.92E-07	2.60E-05	1.54E-01	3.04E-06
Road 32	32	1700-1800	1.75E-02	4.03E-07	2.67E-05	1.59E-02	3.66E-07	2.43E-05	1.38E-01	2.84E-06
Road 32	32	1800-1900	1.36E-02	3.31E-07	2.20E-05	1.23E-02	3.00E-07	1.99E-05	1.07E-01	2.33E-06
Road 32	32	1900-2000	1.14E-02	2.64E-07	1.75E-05	1.03E-02	2.39E-07	1.59E-05	8.92E-02	1.86E-06
Road 32	32	2000-2100	1.29E-02	1.94E-07	1.29E-05	1.16E-02	1.76E-07	1.17E-05	1.01E-01	1.37E-06
Road 32	32	2100-2200	1.25E-02	1.36E-07	9.04E-06	1.13E-02	1.23E-07	8.18E-06	9.75E-02	1.28E-06
Road 32	32	2200-2300	1.25E-02	1.36E-07	9.04E-06	1.13E-02	1.23E-07	8.18E-06	9.75E-02	1.28E-06
Road 32	32	2300-0000	1.27E-02	1.36E-07	9.06E-06	1.14E-02	1.23E-07	8.20E-06	9.86E-02	1.28E-06
Road 33	33	0000-0100	1.57E-02	1.54E-07	2.32E-06	1.42E-02	1.39E-07	2.09E-06	1.71E-01	1.68E-06
Road 33	33	0100-0200	1.62E-02	1.01E-07	1.52E-06	1.47E-02	9.13E-08	1.37E-06	1.77E-01	1.10E-06
Road 33	33	0200-0300	2.03E-02	1.01E-07	1.52E-06	1.87E-02	9.30E-08	1.40E-06	1.29E-01	1.28E-06
Road 33	33	0300-0400	2.26E-02	9.12E-08	1.37E-06	2.07E-02	8.37E-08	1.26E-06	1.33E-01	1.22E-06
Road 33	33	0400-0500	2.21E-02	1.01E-07	1.52E-06	2.03E-02	9.30E-08	1.40E-06	1.29E-01	1.28E-06
Road 33	33	0500-0600	2.10E-02	1.55E-07	2.34E-06	1.95E-02	1.44E-07	2.17E-06	1.20E-01	8.90E-07
Road 33	33	0600-0700	1.99E-02	3.08E-07	4.63E-06	1.83E-02	2.84E-07	4.28E-06	1.13E-01	1.75E-06
Road 33	33	0700-0800	2.13E-02	7.94E-07	1.19E-05	1.95E-02	7.30E-07	1.10E-05	1.20E-01	4.49E-06
Road 33	33	0800-0900	2.13E-02	7.94E-07	1.19E-05	1.95E-02	7.30E-07	1.10E-05	1.20E-01	4.49E-06
Road 33	33	0900-1000	2.41E-02	7.87E-07	1.18E-05	2.23E-02	7.27E-07	1.09E-05	1.38E-01	4.50E-06
Road 33	33	1000-1100	2.68E-02	7.35E-07	1.10E-05	2.48E-02	6.80E-07	1.02E-05	1.54E-01	4.21E-06
Road 33	33	1100-1200	2.63E-02	7.26E-07	1.09E-05	2.43E-02	6.72E-07	1.01E-05	1.51E-01	4.16E-06
Road 33	33	1200-1300	2.60E-02	7.18E-07	1.08E-05	2.40E-02	6.64E-07	9.96E-06	1.49E-01	4.11E-06
Road 33	33	1300-1400	2.70E-02	7.46E-07	1.12E-05	2.50E-02	6.90E-07	1.04E-05	1.55E-01	4.28E-06
Road 33	33	1400-1500	2.76E-02	7.62E-07	1.14E-05	2.55E-02	7.05E-07	1.06E-05	1.58E-01	4.37E-06
Road 33	33	1500-1600	2.76E-02	7.62E-07	1.14E-05	2.55E-02	7.05E-07	1.06E-05	1.58E-01	4.37E-06
Road 33	33	1600-1700	2.76E-02	7.62E-07	1.14E-05	2.55E-02	7.05E-07	1.06E-05	1.58E-01	4.37E-06
Road 33	33	1700-1800	2.76E-02	7.62E-07	1.14E-05	2.55E-02	7.05E-07	1.06E-05	1.58E-01	4.37E-06
Road 33	33	1800-1900	2.16E-02	5.96E-07	8.94E-06	1.99E-02	5.51E-07	8.26E-06	1.24E-01	3.42E-06
Road 33	33	1900-2000	1.72E-02	4.75E-07	7.12E-06	1.59E-02	4.39E-07	6.58E-06	9.86E-02	2.72E-06
Road 33	33	2000-2100	1.72E-02	4.75E-07	7.12E-06	1.59E-02	4.39E-07	6.58E-06	9.86E-02	2.72E-06
Road 33	33	2100-2200	1.77E-02	2.93E-07	4.40E-06	1.61E-02	2.66E-07	3.99E-06	1.01E-01	1.67E-06
Road 33	33	2200-2300	1.94E-02	2.94E-07	4.41E-06	1.78E-02	2.67E-07	4.00E-06	1.11E-01	1.67E-06
Road 33	33	2300-0000	1.91E-02	2.93E-07	4.39E-06	1.75E-02	2.66E-07	3.99E-06	1.09E-01	1.67E-06
Road 34	34	0000-0100	1.01E-02	7.37E-08	1.93E-06	9.01E-03	6.63E-08	1.73E-06	6.31E-02	1.66E-06
Road 34	34	0100-0200	1.13E-02	5.40E-08	1.41E-06	1.04E-02	4.98E-08	1.31E-06	9.36E-02	2.49E-06
Road 34	34	0200-0300	1.29E-02	4.48E-08	1.17E-06	1.16E-02	4.09E-08	1.07E-06	1.08E-01	2.79E-06
Road 34	34	0300-0400	1.40E-02	3.93E-08	1.03E-06	1.28E-02	3.59E-08	9.39E-07	1.11E-01	2.90E-06
Road 34	34	0400-0500	1.43E-02	4.40E-08	1.15E-06	1.33E-02	4.02E-08	1.05E-06	1.15E-01	3.54E-06
Road 34	34	0500-0600	1.38E-02	7.28E-08	1.90E-06	1.27E-02	6.65E-08	1.74E-06	1.11E-01	5.85E-06
Road 34	34	0600-0700	1.38E-02	1.53E-07	4.00E-06	1.27E-02	1.40E-07	3.66E-06	1.11E-01	1.23E-05
Road 34	34	0700-0800	1.52E-02	3.43E-07	8.98E-06	1.40E-02	3.15E-07	8.24E-06	1.22E-01	2.77E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/km/veh	g/s/m²	tonne/hour	g/km/veh
Road 34	34	0800-0900	1.44E-02	3.73E-07	9.77E-06	1.31E-02	3.41E-07	8.92E-06	1.03E-01	2.69E-06
Road 34	34	0900-1000	1.61E-02	3.42E-07	8.95E-06	1.48E-02	3.15E-07	8.24E-06	1.11E-01	2.36E-06
Road 34	34	1000-1100	1.78E-02	3.28E-07	8.59E-06	1.65E-02	3.03E-07	7.93E-06	1.15E-01	2.11E-06
Road 34	34	1100-1200	1.71E-02	2.99E-07	7.83E-06	1.59E-02	2.77E-07	7.26E-06	1.15E-01	2.00E-06
Road 34	34	1200-1300	3.86E-02	4.46E-07	1.17E-05	3.61E-02	4.17E-07	1.09E-05	3.11E-01	3.60E-06
Road 34	34	1300-1400	3.75E-02	4.57E-07	1.20E-05	3.50E-02	4.27E-07	1.12E-05	2.99E-01	3.64E-06
Road 34	34	1400-1500	3.81E-02	4.79E-07	1.25E-05	3.52E-02	4.43E-07	1.16E-05	3.01E-01	3.80E-06
Road 34	34	1500-1600	3.55E-02	4.59E-07	1.20E-05	3.28E-02	4.24E-07	1.11E-05	2.94E-01	3.80E-06
Road 34	34	1600-1700	3.72E-02	4.89E-07	1.28E-05	3.44E-02	4.52E-07	1.18E-05	3.19E-01	4.19E-06
Road 34	34	1700-1800	3.28E-02	4.51E-07	1.18E-05	3.03E-02	4.17E-07	1.09E-05	3.30E-01	4.54E-06
Road 34	34	1800-1900	2.97E-02	3.94E-07	1.03E-05	2.69E-02	3.57E-07	9.34E-06	3.47E-01	4.61E-06
Road 34	34	1900-2000	2.97E-02	3.94E-07	1.03E-05	2.69E-02	3.57E-07	9.34E-06	3.47E-01	4.61E-06
Road 34	34	2000-2100	2.79E-02	2.15E-07	5.77E-06	2.54E-02	2.00E-07	5.36E-06	3.26E-01	2.52E-06
Road 34	34	2100-2200	2.90E-02	2.21E-07	5.93E-06	2.64E-02	2.05E-07	5.51E-06	3.39E-01	2.59E-06
Road 34	34	2200-2300	2.90E-02	2.21E-07	5.93E-06	2.64E-02	2.05E-07	5.51E-06	3.39E-01	2.59E-06
Road 34	34	2300-0000	2.90E-02	2.21E-07	5.93E-06	2.64E-02	2.05E-07	5.51E-06	3.39E-01	2.59E-06
Road 35	35	0000-0100	5.25E-02	4.42E-08	1.08E-07	4.87E-02	4.11E-08	9.99E-08	1.70E-01	1.43E-07
Road 35	35	0100-0200	5.25E-02	4.42E-08	1.08E-07	4.87E-02	4.11E-08	9.99E-08	1.70E-01	1.43E-07
Road 35	35	0200-0300	6.16E-02	2.23E-08	5.43E-08	5.72E-02	2.07E-08	5.04E-08	1.99E-01	7.22E-08
Road 35	35	0300-0400	6.91E-02	4.13E-08	1.00E-07	6.36E-02	3.80E-08	9.25E-08	2.03E-01	1.22E-07
Road 35	35	0400-0500	6.69E-02	4.25E-08	1.03E-07	6.25E-02	3.96E-08	9.64E-08	2.00E-01	1.27E-07
Road 35	35	0500-0600	5.41E-02	5.00E-08	1.22E-07	5.01E-02	4.62E-08	1.12E-07	1.78E-01	1.64E-07
Road 35	35	0600-0700	4.22E-02	2.38E-08	5.77E-08	3.95E-02	2.23E-08	5.40E-08	1.66E-01	9.36E-08
Road 35	35	0700-0800	6.12E-02	2.40E-07	5.85E-07	5.65E-02	2.22E-07	5.40E-07	2.00E-01	7.87E-07
Road 35	35	0800-0900	5.72E-02	2.53E-07	6.15E-07	5.26E-02	2.32E-07	5.65E-07	1.88E-01	8.32E-07
Road 35	35	0900-1000	6.42E-02	2.24E-07	5.45E-07	5.91E-02	2.06E-07	5.01E-07	2.08E-01	7.26E-07
Road 35	35	1000-1100	7.04E-02	2.55E-07	6.20E-07	6.52E-02	2.36E-07	5.74E-07	2.22E-01	8.05E-07
Road 35	35	1100-1200	7.06E-02	2.45E-07	5.96E-07	6.55E-02	2.28E-07	5.54E-07	2.23E-01	7.76E-07
Road 35	35	1200-1300	7.29E-02	2.61E-07	6.41E-07	6.77E-02	2.42E-07	5.95E-07	2.31E-01	8.27E-07
Road 35	35	1300-1400	7.67E-02	1.82E-07	4.42E-07	7.17E-02	1.70E-07	4.13E-07	2.22E-01	5.26E-07
Road 35	35	1400-1500	7.81E-02	1.92E-07	4.68E-07	7.30E-02	1.79E-07	4.35E-07	2.26E-01	5.55E-07
Road 35	35	1500-1600	7.49E-02	1.94E-07	4.71E-07	6.91E-02	1.79E-07	4.35E-07	2.16E-01	5.59E-07
Road 35	35	1600-1700	7.49E-02	1.94E-07	4.71E-07	6.91E-02	1.79E-07	4.35E-07	2.16E-01	5.59E-07
Road 35	35	1700-1800	6.62E-02	1.81E-07	4.51E-07	6.03E-02	1.69E-07	4.11E-07	1.98E-01	5.25E-07
Road 35	35	1800-1900	5.93E-02	1.62E-07	4.04E-07	5.40E-02	1.51E-07	3.68E-07	1.77E-01	4.70E-07
Road 35	35	1900-2000	5.20E-02	5.54E-08	1.35E-07	4.73E-02	5.18E-08	1.26E-07	1.55E-01	1.61E-07
Road 35	35	2000-2100	3.40E-02	5.04E-08	1.23E-07	3.09E-02	4.71E-08	1.15E-07	1.01E-01	1.46E-07
Road 35	35	2100-2200	3.29E-02	4.76E-08	1.16E-07	3.00E-02	4.45E-08	1.09E-07	9.80E-02	1.38E-07
Road 35	35	2200-2300	3.29E-02	4.76E-08	1.16E-07	3.00E-02	4.45E-08	1.09E-07	9.80E-02	1.38E-07
Road 35	35	2300-0000	3.87E-02	4.42E-08	1.08E-07	3.51E-02	4.13E-08	1.01E-07	1.15E-01	1.34E-07
Road 36	36	0100-0200	5.98E-02	6.44E-08	1.62E-07	5.63E-02	6.07E-08	1.53E-07	2.61E-01	2.81E-07
Road 36	36	0200-0300	6.83E-02	5.90E-08	1.49E-07	6.40E-02	5.53E-08	1.39E-07	2.74E-01	2.37E-07
Road 36	36	0300-0400	7.50E-02	5.93E-08	1.49E-07	7.08E-02	5.60E-08	1.41E-07	2.84E-01	2.24E-07
Road 36	36	0400-0500	7.50E-02	5.93E-08	1.49E-07	7.08E-02	5.60E-08	1.41E-07	2.88E-01	2.27E-07
Road 36	36	0500-0600	6.67E-02	7.87E-08	1.98E-07	6.32E-02	7.45E-08	1.88E-07	2.88E-01	3.40E-07
Road 36	36	0600-0700	5.06E-02	5.26E-08	1.32E-07	4.80E-02	4.98E-08	1.25E-07	2.44E-01	2.53E-07
Road 36	36	0700-0800	7.81E-02	3.93E-07	9.89E-07	7.35E-02	3.70E-07	9.31E-07	3.26E-01	1.64E-06
Road 36	36	0800-0900	7.54E-02	4.29E-07	1.08E-06	7.08E-02	4.03E-07	1.01E-06	3.01E-01	1.71E-06
Road 36	36	0900-1000	8.16E-02	4.22E-07	1.06E-06	7.68E-02	3.97E-07	9.98E-07	3.26E-01	1.68E-06
Road 36	36	1000-1100	9.02E-02	4.12E-07	1.04E-06	8.53E-02	3.89E-07	9.80E-07	3.19E-01	1.46E-06
Road 36	36	1100-1200	9.08E-02	4.29E-07	1.08E-06	8.58E-02	4.05E-07	1.02E-06	3.51E-01	1.66E-06
Road 36	36	1200-1300	9.08E-02	4.29E-07	1.08E-06	8.58E-02	4.05E-07	1.02E-06	3.51E-01	1.66E-06
Road 36	36	1300-1400	1.08E-01	3.97E-07	1.00E-06	1.03E-01	3.76E-07	9.54E-07	3.51E-01	1.29E-06
Road 36	36	1400-1500	1.06E-01	4.01E-07	1.01E-06	1.00E-01	3.79E-07	9.55E-07	3.47E-01	1.31E-06
Road 36	36	1500-1600	1.03E-01	4.03E-07	1.01E-06	9.71E-02	3.81E-07	9.60E-07	3.40E-01	1.34E-06
Road 36	36	1600-1700	1.03E-01	4.03E-07	1.01E-06	9.71E-02	3.81E-07	9.60E-07	3.40E-01	1.34E-06
Road 36	36	1700-1800	9.26E-02	3.84E-07	9.66E-07	8.69E-02	3.63E-07	9.14E-07	3.26E-01	1.36E-06
Road 36	36	1800-1900	8.06E-02	3.31E-07	8.32E-07	7.56E-02	3.12E-07	7.85E-07	2.84E-01	1.17E-06
Road 36	36	1900-2000	7.08E-02	2.91E-07	7.31E-07	6.64E-02	2.74E-07	6.90E-07	2.49E-01	1.03E-06
Road 36	36	2000-2100	7.08E-02	2.91E-07	7.31E-07	6.64E-02	2.74E-07	6.90E-07	2.49E-01	1.03E-06
Road 36	36	2100-2200	5.21E-02	1.11E-07	2.80E-07	4.89E-02	1.04E-07	2.63E-07	1.83E-01	3.91E-07
Road 36	36	2200-2300	5.21E-02	1.11E-07	2.80E-07	4.89E-02	1.04E-07	2.63E-07	1.83E-01	3.91E-07
Road 36	36	2300-0000	5.21E-02	1.11E-07	2.80E-07	4.89E-02	1.04E-07	2.63E-07	1.83E-01	3.91E-07
Road 37	37	0000-0100	4.25E-02	1.88E-08	4.30E-08	4.04E-02	1.78E-08	4.09E-08	2.51E-01	1.11E-07
Road 37	37	0100-0200	4.25E-02	1.88E-08	4.30E-08	4.04E-02	1.78E-08	4.09E-08	2.51E-01	1.11E-07
Road 37	37	0200-0300	4.92E-02	1.06E-08	2.44E-08	4.71E-02	1.02E-08	2.34E-08	2.71E-01	5.85E-08
Road 37	37	0300-0400	5.25E-02	9.11E-10	2.09E-09	5.03E-02	8.72E-10	2.00E-09	2.81E-01	4.87E-09
Road 37	37	0400-0500	5.67E-02	9.83E-10	2.26E-09	5.43E-02	9.41E-10	2.16E-09	3.03E-01	5.25E-09
Road 37	37	0500-0600	5.90E-02	2.01E-09	4.60E-09	5.68E-02	1.93E-09	4.43E-09	2.99E-01	1.02E-08
Road 37	37	0600-0700	6.23E-02	4.61E-09	1.06E-08	5.98E-02	4.43E-09	1.02E-08	3.10E-01	2.29E-08
Road 37	37	0700-0800	6.53E-02	9.92E-09	2.28E-08	6.27E-02	9.52E-09	2.19E-08	3.16E-01	4.81E-08
Road 37	37	0800-0900	6.58E-02	1.17E-08	2.69E-08	6.31E-02	1.12E-08	2.58E-08	2.95E-01	5.24E-08
Road 37	37	0900-1000	7.74E-02	1.24E-08	2.86E-08	7.46E-02	1.20E-08	2.75E-08	3.15E-01	5.07E-08
Road 37	37	1000-1100	8.20E-02	1.28E-08	2.76E-08	7.94E-02	1.24E-08	2.68E-08	3.21E-01	4.97E-08
Road 37	37	1100-1200	8.24E-02	1.13E-08	2.60E-08	7.95E-02	1.09E-08	2.50E-08	3.22E-01	4.42E-08
Road 37	37	1200-1300	7.83E-02	1.14E-08	2.62E-08	7.57E-02	1.10E-08	2.54E-08	3.06E-01	4.46E-08
Road 37	37	1300-1400	8.30E-02	1.28E-08	2.93E-08	8.04E-02	1.24E-08	2.83E-08	3.24E-01	4.81E-08
Road 37	37	1400-1500	8.03E-02	1.29E-08	2.96E-08	7.73E-02	1.24E-08	2.85E-08	3.14E-01	5.04E-08
Road 37	37	1500-1600	8.26E-02	1.37E-08	3.13E-08	7.98E-02	1.32E-08	3.03E-08	3.26E-01	5.39E-08

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/km/veh	g/s/m²	tonne/hour	g/km/veh
Road 37	37	1600-1700	7.76E-02	1.31E-08	2.83E-08	7.37E-02	1.26E-08	2.68E-08	3.04E-01	5.12E-08
Road 37	37	1700-1800	6.67E-02	1.20E-08	2.78E-08	6.40E-02	1.15E-08	2.65E-08	3.05E-01	5.50E-08
Road 37	37	1800-1900	4.54E-02	8.18E-09	1.88E-08	4.34E-02	7.81E-09	1.79E-08	2.31E-01	4.15E-08
Road 37	37	1900-2000	3.87E-02	5.36E-09	1.23E-08	3.68E-02	5.09E-09	1.17E-08	2.21E-01	3.06E-08
Road 37	37	2000-2100	3.94E-02	4.25E-09	9

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	1.81E-02	4.98E-07	1.25E-05	1.12E-02	8.13E-02	2.29E-04	5.52E-05	7.62E-02	2.09E-06	5.03E-05
Road 103	103	1700-1800	1.30E-02	4.03E-07	1.18E-02	3.66E-07	8.81E-06	7.34E-02	2.27E-06	5.46E-05	6.51E-02	2.01E-06	4.84E-05
Road 103	103	1800-1900	9.39E-03	3.15E-07	7.58E-06	8.47E-03	2.85E-07	6.84E-06	5.59E-02	1.88E-06	4.52E-05	4.91E-02	1.65E-06	3.96E-05
Road 103	103	1900-2000	8.33E-03	3.12E-07	5.31E-06	7.47E-03	2.80E-07	4.76E-06	5.77E-02	1.53E-06	3.68E-05	4.97E-02	1.32E-06	3.17E-05
Road 103	103	2000-2100	8.10E-03	1.67E-07	4.01E-06	7.21E-03	1.48E-07	3.57E-06	5.46E-02	1.12E-06	2.70E-05	4.86E-02	1.00E-06	2.41E-05
Road 103	103	2100-2200	7.04E-03	1.45E-07	3.49E-06	6.33E-03	1.31E-07	3.14E-06	6.41E-02	1.27E-06	3.05E-05	5.31E-02	1.10E-06	2.63E-05
Road 103	103	2200-2300	6.89E-03	1.38E-07	3.31E-06	6.21E-03	1.24E-07	2.98E-06	2.97E-02	5.94E-07	1.07E-05	2.57E-02	5.14E-07	1.07E-05
Road 103	103	2300-0000	7.72E-03	1.15E-07	2.78E-06	6.93E-03	1.04E-07	2.49E-06	9.68E-02	2.33E-06	5.53E-05	8.27E-02	1.99E-06	4.73E-05
Road 104	104	0000-0100	1.34E-02	9.16E-08	1.86E-06	1.21E-02	8.27E-08	1.68E-06	7.93E-02	5.41E-07	1.10E-05	6.91E-02	4.71E-07	9.59E-06
Road 104	104	0100-0200	1.44E-02	6.48E-08	1.32E-06	1.30E-02	5.85E-08	1.19E-06	7.93E-02	3.57E-07	7.26E-06	6.89E-02	3.10E-07	6.31E-06
Road 104	104	0200-0300	1.55E-02	5.19E-08	1.06E-06	1.43E-02	4.78E-08	9.73E-07	8.49E-02	2.84E-07	5.79E-06	7.55E-02	2.53E-07	5.14E-06
Road 104	104	0300-0400	1.66E-02	4.46E-08	9.09E-07	1.52E-02	4.09E-08	8.32E-07	8.79E-02	2.36E-07	4.81E-06	7.80E-02	2.09E-07	4.26E-06
Road 104	104	0400-0500	1.74E-02	4.66E-08	9.51E-07	1.61E-02	4.28E-08	8.73E-07	9.96E-02	2.67E-07	5.44E-06	8.97E-02	2.40E-07	4.91E-06
Road 104	104	0500-0600	1.87E-02	9.84E-08	2.00E-06	1.73E-02	9.12E-08	1.85E-06	9.43E-02	4.96E-07	1.01E-05	8.43E-02	4.44E-07	9.04E-06
Road 104	104	0600-0700	1.97E-02	2.26E-07	4.61E-06	1.82E-02	2.09E-07	4.26E-06	8.66E-02	9.94E-07	2.02E-05	7.74E-02	8.89E-07	1.81E-05
Road 104	104	0700-0800	2.21E-02	2.55E-07	5.19E-06	2.04E-02	2.35E-07	4.79E-06	8.13E-02	9.34E-07	1.90E-05	7.27E-02	8.35E-07	1.70E-05
Road 104	104	0800-0900	2.01E-02	5.56E-07	1.13E-05	1.85E-02	5.10E-07	1.04E-05	9.39E-02	2.59E-06	5.26E-05	8.39E-02	2.31E-06	4.70E-05
Road 104	104	0900-1000	2.31E-02	5.79E-07	1.18E-05	2.14E-02	5.35E-07	1.09E-05	1.03E-01	2.58E-06	5.26E-05	9.40E-02	2.35E-06	4.79E-05
Road 104	104	1000-1100	2.60E-02	6.50E-07	1.32E-05	2.41E-02	6.02E-07	1.22E-05	1.16E-01	2.88E-06	5.87E-05	1.06E-01	2.64E-06	5.37E-05
Road 104	104	1100-1200	2.52E-02	5.40E-07	1.10E-05	2.34E-02	5.02E-07	1.02E-05	1.22E-01	2.62E-06	5.34E-05	1.13E-01	2.43E-06	4.94E-05
Road 104	104	1200-1300	2.57E-02	6.58E-07	1.47E-05	2.39E-02	6.12E-07	1.36E-05	1.30E-01	3.33E-06	7.28E-05	1.21E-01	3.09E-06	6.75E-05
Road 104	104	1300-1400	2.52E-02	6.48E-07	1.44E-05	2.34E-02	6.02E-07	1.34E-05	1.29E-01	3.32E-06	7.39E-05	1.20E-01	3.08E-06	6.85E-05
Road 104	104	1400-1500	2.62E-02	6.74E-07	1.50E-05	2.43E-02	6.25E-07	1.39E-05	1.32E-01	3.40E-06	7.57E-05	1.23E-01	3.16E-06	7.03E-05
Road 104	104	1500-1600	2.62E-02	6.74E-07	1.50E-05	2.43E-02	6.25E-07	1.39E-05	1.32E-01	3.40E-06	7.57E-05	1.23E-01	3.16E-06	7.03E-05
Road 104	104	1600-1700	1.62E-02	3.97E-07	8.08E-06	1.49E-02	3.66E-07	7.45E-06	1.29E-01	3.16E-06	6.43E-05	1.19E-01	2.91E-06	5.92E-05
Road 104	104	1700-1800	1.38E-02	4.26E-07	1.25E-02	3.89E-07	9.36E-06	7.80E-02	2.41E-06	5.80E-05	6.92E-02	2.14E-06	5.14E-05	4.56E-02
Road 104	104	1800-1900	2.61E-07	5.52E-06	7.56E-03	2.36E-07	4.80E-06	5.23E-02	1.63E-06	3.32E-05	4.58E-02	1.43E-06	2.90E-05	3.16E-02
Road 104	104	1900-2000	7.45E-03	1.85E-07	3.76E-06	6.67E-03	1.65E-07	3.36E-06	5.42E-02	1.39E-06	2.77E-05	4.72E-02	1.17E-06	2.38E-05
Road 104	104	2000-2100	7.22E-03	1.79E-07	3.64E-06	6.45E-03	1.60E-07	3.25E-06	5.25E-02	1.30E-06	2.68E-05	4.57E-02	1.13E-06	2.30E-05
Road 104	104	2100-2200	6.08E-03	1.17E-07	2.38E-06	5.46E-03	1.05E-07	2.14E-06	5.47E-02	1.05E-06	2.14E-05	4.92E-02	9.47E-07	1.93E-05
Road 104	104	2200-2300	5.91E-03	1.11E-07	2.25E-06	5.31E-03	9.98E-08	2.02E-06	5.25E-02	9.86E-07	2.00E-05	4.72E-02	8.87E-07	1.80E-05
Road 104	104	2300-0000	7.49E-03	1.11E-07	2.69E-06	6.73E-03	1.00E-07	2.42E-06	9.39E-02	1.39E-06	3.34E-05	8.02E-02	1.19E-06	2.87E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 11	11	0000-0100	3.80E-02	2.13E-07	1.87E-06	3.47E-02	1.67E-06	5.41E-06	2.66E-01	1.49E-06	5.72E-06
Road 11	11	0100-0200	4.26E-02	1.59E-07	6.12E-07	3.94E-02	1.47E-06	4.37E-06	2.72E-01	1.02E-06	3.91E-06
Road 11	11	0200-0300	4.70E-02	1.33E-07	5.09E-07	4.33E-02	1.22E-07	4.69E-07	3.12E-01	8.80E-07	3.38E-06
Road 11	11	0300-0400	5.18E-02	1.39E-07	4.55E-07	4.81E-02	1.29E-07	4.22E-07	3.20E-01	8.59E-07	2.81E-06
Road 11	11	0400-0500	5.31E-02	1.32E-07	5.08E-07	4.94E-02	1.23E-07	4.73E-07	3.12E-01	7.78E-07	2.99E-06
Road 11	11	0500-0600	5.18E-02	2.14E-07	8.22E-07	4.83E-02	2.00E-07	7.67E-07	3.83E-01	1.59E-06	6.11E-06
Road 11	11	0600-0700	6.89E-02	3.28E-07	7.31E-06	6.48E-02	3.08E-06	6.87E-06	4.52E-01	2.15E-06	4.79E-06
Road 11	11	0700-0800	6.92E-02	1.24E-06	4.75E-06	6.43E-02	1.15E-06	4.41E-06	4.03E-01	7.22E-06	2.76E-05
Road 11	11	0800-0900	6.86E-02	1.41E-06	5.42E-06	6.41E-02	1.32E-06	5.07E-06	3.70E-01	7.62E-06	2.92E-05
Road 11	11	0900-1000	7.80E-02	1.48E-06	5.68E-06	7.31E-02	1.37E-06	5.26E-06	3.72E-01	7.06E-06	2.71E-05
Road 11	11	1000-1100	8.31E-02	1.28E-06	4.92E-06	7.77E-02	1.20E-06	4.60E-06	3.83E-01	5.91E-06	2.27E-05
Road 11	11	1100-1200	8.34E-02	1.22E-06	4.69E-06	7.80E-02	1.14E-06	4.39E-06	3.90E-01	5.72E-06	2.19E-05
Road 11	11	1200-1300	8.24E-02	1.22E-06	4.69E-06	7.71E-02	1.14E-06	4.39E-06	3.90E-01	5.72E-06	2.19E-05
Road 11	11	1300-1400	1.31E-01	2.77E-06	3.06E-05	1.23E-01	2.59E-06	4.17E-05	4.73E-01	9.99E-06	3.83E-05
Road 11	11	1400-1500	1.28E-01	2.79E-06	1.07E-05	1.20E-01	2.62E-06	1.01E-05	5.03E-01	1.10E-05	4.22E-05
Road 11	11	1500-1600	1.27E-01	2.83E-06	1.08E-05	1.19E-01	2.65E-06	1.02E-05	5.03E-01	1.12E-05	4.29E-05
Road 11	11	1600-1700	1.23E-01	2.80E-06	1.08E-05	1.15E-01	2.61E-06	1.00E-05	4.99E-01	1.14E-05	4.36E-05
Road 11	11	1700-1800	1.05E-01	2.52E-06	9.67E-06	9.81E-02	2.36E-06	9.04E-06	4.41E-01	1.06E-05	4.07E-05
Road 11	11	1800-1900	7.64E-02	1.80E-06	6.89E-06	7.12E-02	1.67E-06	6.40E-06	9.11E-01	2.15E-05	8.23E-05
Road 11	11	1900-2000	5.85E-02	1.03E-06	3.94E-06	5.46E-02	9.56E-07	3.67E-06	3.54E-01	6.20E-06	2.38E-05
Road 11	11	2000-2100	5.87E-02	8.08E-07	3.10E-06	5.50E-02	7.57E-07	2.91E-06	3.71E-01	5.10E-06	1.96E-05
Road 11	11	2100-2200	5.77E-02	7.95E-07	2.03E-06	5.39E-02	7.42E-07	1.89E-06	3.66E-01	5.03E-06	1.28E-05
Road 11	11	2200-2300	5.27E-02	7.26E-07	2.66E-06	4.92E-02	6.77E-07	2.48E-06	3.34E-01	4.59E-06	1.68E-05
Road 11	11	2300-0000	5.54E-02	5.58E-07	2.14E-06	5.18E-02	5.22E-07	2.00E-06	3.54E-01	3.57E-06	1.37E-05
Road 12	12	0000-0100	3.15E-01	1.98E-07	4.87E-06	2.86E-01	1.79E-07	4.41E-06	3.09E-01	1.94E-07	4.77E-06
Road 12	12	0100-0200	3.24E-01	1.48E-07	4.48E-06	2.94E-01	1.34E-07	4.06E-06	3.12E-01	1.42E-07	4.31E-06
Road 12	12	0200-0300	3.30E-01	1.97E-07	4.85E-06	2.98E-01	1.78E-07	4.38E-06	7.61E-01	4.54E-07	1.12E-05
Road 12	12	0300-0400	3.33E-01	1.97E-07	4.85E-06	3.04E-01	1.79E-07	4.42E-06	7.65E-01	4.52E-07	1.11E-05
Road 12	12	0400-0500	3.32E-01	1.97E-07	4.85E-06	3.04E-01	1.79E-07	4.42E-06	7.65E-01	4.52E-07	1.11E-05
Road 12	12	0500-0600	3.25E-01	1.99E-07	4.91E-06	2.96E-01	1.82E-07	4.47E-06	7.45E-01	4.56E-07	1.12E-05
Road 12	12	0600-0700	3.24E-01	1.85E-07	3.76E-06	2.96E-01	1.69E-07	3.42E-06	7.45E-01	4.25E-07	8.62E-06
Road 12	12	0700-0800	3.57E-01	3.76E-07	1.57E-06	3.30E-01	3.47E-07	1.45E-06	8.31E-01	8.74E-07	3.65E-06
Road 12	12	0800-0900	3.76E-01	3.30E-07	3.47E-06	3.48E-01	3.05E-07	3.21E-06	8.76E-01	7.69E-07	8.09E-06
Road 12	12	0900-1000	4.14E-02	4.75E-08	1.98E-06	3.83E-02	4.39E-08	1.83E-06	9.65E-02	1.11E-07	4.62E-06
Road 12	12	1000-1100	4.64E-02	4.87E-08	2.03E-06	4.29E-02	4.51E-08	1.88E-06	1.09E-01	1.14E-07	4.74E-06
Road 12	12	1100-1200	4.32E-02	3.81E-08	1.59E-06	4.00E-02	3.52E-08	1.47E-06	1.01E-01	8.91E-08	3.72E-06
Road 12	12	1200-1300	1.05E-01	8.23E-07	9.83E-07	9.70E-02	7.62E-07	9.11E-07	2.44E-01	1.92E-06	2.29E-06
Road 12	12	1300-1400	1.04E-01	9.17E-07	3.82E-06	9.70E-02	8.56E-07	3.57E-06	3.91E-01	3.45E-06	1.44E-05
Road 12	12	1400-1500	1.03E-01	9.07E-07	3.78E-06	9.56E-02	8.47E-07	3.53E-06	3.87E-01	3.42E-06	1.42E-05
Road 12	12	1500-1600	9.64E-02	8.80E-07	3.67E-06	8.91E-02	8.13E-07	3.39E-06	3.78E-01	3.45E-06	1.44E-05
Road 12	12	1600-1700	9.94E-02	8.38E-07	3.49E-06	9.18E-02	7.74E-07	3.23E-06	3.65E-01	3.08E-06	1.28E-05
Road 12	12	1700-1800	9.22E-02	7.66E-07	3.19E-06	8.52E-02	7.08E-07	2.95E-06	3.39E-01	2.82E-06	1.17E-05
Road 12	12	1800-1900	6.97E-02	3.68E-07	1.53E-06	6.33E-02	3.34E-07	1.39E-06	2.95E-01	1.56E-06	6.50E-06
Road 12	12	1900-2000	6.70E-02	2.32E-07	9.66E-07	6.07E-02	2.10E-07	8.75E-07	3.97E-01	2.48E-06	1.03E-05
Road 12	12	2000-2100	6.37E-02	1.81E-07	7.52E-07	5.81E-02	1.65E-07	6.86E-07	2.87E-01	1.63E-06	6.78E-06
Road 12	12	2100-2200	6.76E-02	1.67E-07	6.97E-07	6.18E-02	1.53E-07	6.38E-07	2.66E-01	1.52E-06	6.34E-06
Road 12	12	2200-2300	6.68E-02	1.66E-07	6.91E-07	6.10E-02	1.52E-07	6.32E-07	2.64E-01	1.51E-06	6.28E-06
Road 12	12	2300-0000	6.48E-02	1.28E-07	5.33E-07	5.92E-02	1.17E-07	4.87E-07	2.56E-01	1.17E-06	4.87E-06
Road 13	13	0000-0100	3.88E-02	2.13E-07	1.87E-06	3.54E-02	1.67E-06	5.41E-06	2.66E-01	1.49E-06	5.72E-06
Road 13	13	0100-0200	4.26E-02	1.59E-07	6.12E-07	3.94E-02	1.47E-06	4.37E-06	2.72E-01	1.02E-06	3.91E-06
Road 13	13	0200-0300	4.70E-02	1.33E-07	5.09E-07	4.33E-02	1.22E-07	4.69E-07	3.12E-01	8.80E-07	3.38E-06
Road 13	13	0300-0400	5.18E-02	1.39E-07	4.55E-07	4.81E-02	1.29E-07	4.22E-07	3.20E-01	8.59E-07	2.81E-06
Road 13	13	0400-0500	5.31E-02	1.32E-07	5.08E-07	4.94E-02	1.23E-07	4.73E-07	3.12E-01	7.78E-07	2.99E-06
Road 13	13	0500-0600	5.18E-02	2.14E-07	8.22E-07	4.83E-02	2.00E-07	7.67E-07	3.83E-01	1.59E-06	6.11E-06
Road 13	13	0600-0700	6.89E-02	3.28E-07	7.31E-06	6.48E-02	3.08E-06	6.87E-06	4.52E-01	2.15E-06	4.79E-06
Road 13	13	0700-0800	6.92E-02	1.24E-06	4.75E-06	6.43E-02	1.15E-06	4.41E-06	4.03E-01	7.22E-06	2.76E-05
Road 13	13	0800-0900	6.86E-02	1.41E-06	5.42E-06	6.41E-02	1.32E-06	5.07E-06	3.70E-01	7.62E-06	2.92E-05
Road 13	13	0900-1000	7.80E-02	1.48E-06	5.68E-06	7.31E-02	1.37E-06	5.26E-06	3.72E-01	7.06E-06	2.71E-05
Road 13	13	1000-1100	8.31E-02	1.28E-06	4.92E-06	7.77E-02	1.20E-06	4.60E-06	3.83E-01	5.91E-06	2.27E-05
Road 13	13	1100-1200	8.34E-02	1.22E-06	4.69E-06	7.80E-02	1.14E-06	4.39E-06	3.90E-01	5.72E-06	2.19E-05
Road 13	13	1200-1300	8.24E-02	1.22E-06	4.69E-06	7.71E-02	1.14E-06	4.39E-06	3.90E-01	5.72E-06	2.19E-05
Road 13	13	1300-1400	1.31E-01	2.77E-06	3.06E-05	1.23E-01	2.59E-06	4.17E-05	4.73E-01	9.99E-06	3.83E-05
Road 13	13	1400-1500	1.28E-01	2.79E-06	1.07E-05	1.20E-01	2.62E-06	1.01E-05	5.03E-01	1.10E-05	4.22E-05
Road 13	13	1500-1600	1.27E-01	2.83E-06	1.08E-05	1.19E-01	2.65E-06	1.02E-05	5.03E-01	1.12E-05	4.29E-05
Road 13	13	1600-1700	1.23E-01	2.80E-06	1.08E-05	1.15E-01	2.61E-06	1.00E-05	4.99E-01	1.14E-05	4.36E-05
Road 13	13	1700-1800	1.05E-01	2.52E-06	9.67E-06	9.81E-02	2.36E-06	9.04E-06	4.41E-01	1.06E-05	4.07E-05
Road 13	13	1800-1900	7.64E-02	1.80E-06	6.89E-06	7.12E-02	1.67E-06	6.40E-06	9.11E-01	2.15E-05	8.23E-05
Road 13	13	1900-2000	5.85E-02	1.03E-06	3.94E-06	5.46E-02	9.56E-07	3.67E-06	3.54E-01	6.20E-06	2.38E-05
Road 13	13	2000-2100	5.87E-02	8.08E-07	3.10E-06	5.50E-02	7.57E-07	2.91E-06	3.71E-01	5.10E-06	1.96E-05
Road 13	13	2100-2200	5.77E-02	7.95E-07	2.03E-06	5.39E-02	7.42E-07	1.89E-06	3.66E-01	5.03E-06	1.28E-05
Road 13	13	2200-2300	5.27E-02	7.26E-07	2.66E-06	4.92E-02	6.77E-07	2.48E-06	3.34E-01	4.59E-06	1.68E-05
Road 13	13	2300-0000	5.54E-02	5.58E-07	2.14E-06	5.18E-02	5.22E-07	2.00E-06	3.54E-01	3.57E-06	1.37E-05
Road 14	14	0000-0100	2.45E-02	1.36E-07	2.31E-06	2.19E-02	1.22E-07	2.07E-06	1.69E-01	9.41E-07	1.60E-05
Road 14	14	0100-0200	2.82E-02	1.05E-07	1.79E-06	2.54E-02	9.41E-08	1.60E-06	1.73E-01	6.42E-07	1.09E-05
Road 14	14	0200-0300	3.19E-02	9.00E-08	1.53E-06	2.86E-02	8.07E-08	1.37E-06	1.76E-01	4.96E-07	8.43E-06
Road 14	14	0300-0400	3.50E-02	8.16E-08	1.39E-06	3.26E-02	7.39E-08	1.26E-06	1.64E-01	3.72E-07	6.33E-06
Road 14	14	0400-0500	3.56E-02	8.85E-08	1.51E-06	3.26E-02	8.04E-08	1.37E-06	1.87E-01	4.07E-07	6.94E-06
Road 14	14	0500-0600	3.28E-02	1.27E-07	2.84E-06	2.95E-02	1.15E-07	2.56E-06	1.53E-01	5.94E-07	1.33E-05
Road 14	14	0600-0700	3.31E-02	2.81E-07	4.80E-06	2.99E-02	2.54E-07	4.32E-06	1.22E-01	1.04E-06	1.77E-05
Road 14	14	0700-0800	4.73E-02	8.37E-07	1.43E-05	4.28E-02	7.58E-07	1.29E-05	2.43E-01	4.31E-06	7.34E-05
Road 14	14	0800-0900	4.91E-02	7.34E-07	1.25E-05	4.44E-02	6.64E-07	1.13E-05	2.52E-01	3.77E-06	6.42E-05
Road 14	14	0900-1000	5.18E-02	3.39E-07	7.31E-06	4.68E-02	3.07E-07	6.61E-06	2.66E-01	1.74E-06	3.75E-05
Road 14	14	1000-1100	5.58E-02	3.47E-07	7.48E-06	5.04E-02	3.13E-07	6.76E-06	2.86E-01	1.78E-06	3.84E-05
Road 14	14	1100-1200	5.20E-02	2.43E-07	5.24E-06	4.70E-02	2.19E-07	4.73E-06	2.66E-01	1.24E-06	2.68E-05
Road 14	14	1200-1300	1.26E-01	5.25E-07	1.13E-05	1.14E-01	4.75E-07	1.02E-05	6.47E-01	2.69E-06	5.81E-05
Road 14	14	1300-1400	1.24E-01	5.17E-07	1.11E-05	1.12E-01	4.67E-07	1.01E-05	6.37E-01	2.65E-06	5.72E-05
Road 14	14	1400-1500	1.23E-01	5.12E-07	1.10E-05	1.11E-01	4.62E-07	9.97E-06	6.30E-01	2.62E-06	5.66E-05
Road 14	14	1500-1600	1.15E-01	4.79E-07	1.03E-05	1.04E-01	4.33E-07	9.33E-06	5.89E-01	2.45E-06	5.29E-05
Road 14	14	1600-1700	1.09E-01	4.54E-07	9.79E-06	9.87E-02	4.10E-07	8.84E-06	5.58E-01	2.32E-06	5.01E-05
Road 14	14	1700-1800	1.01E-01	4.21E-07	9.08E-06	9.15E-02	3.80E-07	8.20E-06	5.17E-01	2.15E-06	4.64E-05
Road 14	14	1800-1900	7.46E-02	1.72E-06	6.61E-06	6.76E-02	1.56E-06	5.99E-06	3.82E-01	8.82E-06	3.39E-05
Road 14	14	1900-2000	5.31E-02	4.02E-07	1.77E-06	4.81E-02	3.64E-07	1.60E-06	2.72E-01	2.06E-06	9.06E-06
Road 14	14	2000-2100	2.96E-02	2.96E-07	9.36E-06	2.66E-02	8.41E-06	1.54E-06	4.87E-05	1.35E-01	1.36E-06	4.28E-05
Road 14	14	2100-2200	2.87E-02	2.84E-07	9.08E-06	2.58E-02	8.25E-06	1.49E-06	4.72E-05	1.30E-01	1.32E-06	4.14E-05
Road 14	14	2200-2300	2.77E-02	2.84E-07	8.26E-06	2.52E-02	2.41E-07	7.61E-06	1.42E-01	1.35E-06	4.26E-05	1.29E-01	1.23E-06	3.87E-05
Road 14	14	2300-0000	2.84E-02	2.07E-07	6.54E-06	2.57E-02	1.88E-07	5.93E-06	1.42E-01	1.04E-06	3.28E-05	1.26E-01	9.19E-07	2.90E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2033

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	1.37E-02	4.86E-07	1.78E-06	1.24E-02	6.68E-08	1.21E-01	1.63E-06	8.99E-05	1.04E-01	1.40E-06	7.70E-05
Road 1	1	0100-0200	1.10E-02	9.59E-08	5.28E-06	9.72E-03	8.51E-08	4.69E-06	1.22E-01	1.08E-06	5.94E-05	1.05E-01	9.23E-07	5.08E-05
Road 1	1	0200-0300	1.18E-02	7.56E-08	4.16E-06	1.05E-02	6.70E-08	3.69E-06	1.26E-01	8.06E-07	4.44E-05	1.07E-01	6.87E-07	3.78E-05
Road 1	1	0300-0400	1.26E-02	6.38E-08	3.51E-06	1.13E-02	5.71E-08	3.15E-06	1.28E-01	6.46E-07	3.56E-05	1.10E-01	5.58E-07	3.07E-05
Road 1	1	0400-0500	1.33E-02	7.39E-08	4.07E-06	1.19E-02	6.63E-08	3.65E-06	1.29E-01	7.18E-07	3.95E-05	1.12E-01	6.20E-07	3.41E-05
Road 1	1	0500-0600	1.39E-02	1.34E-07	7.35E-06	1.25E-02	1.19E-07	6.58E-06	1.31E-01	1.25E-06	6.91E-05	1.13E-01	1.08E-06	5.96E-05
Road 1	1	0600-0700	1.46E-02	3.00E-07	6.65E-06	1.31E-02	2.68E-07	5.94E-06	1.25E-01	2.59E-06	5.74E-05	1.08E-01	2.35E-06	5.20E-05
Road 1	1	0700-0800	1.54E-02	6.38E-07	3.51E-06	1.38E-02	5.72E-07	3.15E-06	1.33E-01	5.54E-06	3.05E-05	1.15E-01	4.79E-06	2.63E-05
Road 1	1	0800-0900	1.46E-02	7.01E-07	3.86E-06	1.32E-02	6.33E-07	3.49E-06	1.19E-01	5.71E-06	3.14E-05	1.04E-01	4.99E-06	2.75E-05
Road 1	1	0900-1000	1.22E-02	5.39E-07	5.32E-06	1.10E-02	4.86E-07	4.80E-06	1.24E-01	5.47E-06	5.40E-05	1.08E-01	4.76E-06	4.70E-05
Road 1	1	1000-1100	1.79E-02	6.12E-07	3.37E-05	1.62E-02	5.54E-07	3.05E-05	1.29E-01	4.41E-06	2.43E-04	1.14E-01	3.89E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Detailed) — Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 24	24	0800-0900	1.83E-01	3.54E-07	0.077	1.66E-01	3.22E-07	0.070	3.30E-01	6.28E-01	3.05E-06	2.99E-01	5.67E-01	1.16E-07
Road 24	24	0900-1000	1.83E-01	3.99E-07	1.00E-06	1.68E-01	3.65E-07	9.14E-07	7.00E-01	1.52E-06	3.82E-06	6.40E-01	1.39E-06	3.49E-06
Road 24	24	1000-1100	1.95E-01	4.18E-07	1.05E-06	1.78E-01	3.81E-07	9.56E-07	7.10E-01	1.52E-06	3.81E-06	6.47E-01	1.38E-06	3.47E-06
Road 24	24	1100-1200	1.95E-01	4.18E-07	9.76E-07	1.77E-01	3.95E-07	8.89E-07	7.11E-01	1.43E-06	3.57E-06	6.46E-01	1.29E-06	3.24E-06
Road 24	24	1200-1300	2.04E-01	4.12E-07	1.03E-06	1.85E-01	3.75E-07	9.39E-07	7.13E-01	1.44E-06	3.61E-06	6.48E-01	1.31E-06	3.29E-06
Road 24	24	1300-1400	2.05E-01	4.68E-07	1.17E-06	1.85E-01	4.21E-07	1.06E-06	7.48E-01	1.70E-06	4.27E-06	6.73E-01	1.53E-06	3.85E-06
Road 24	24	1400-1500	2.10E-01	4.58E-07	1.14E-06	1.90E-01	4.15E-07	1.03E-06	7.48E-01	1.68E-06	4.21E-06	6.73E-01	1.52E-06	3.81E-06
Road 24	24	1500-1600	1.89E-01	4.45E-07	1.12E-06	1.72E-01	4.06E-07	1.02E-06	7.35E-01	1.73E-06	4.35E-06	6.71E-01	1.58E-06	3.96E-06
Road 24	24	1600-1700	1.93E-01	4.19E-07	1.05E-06	1.75E-01	3.80E-07	9.53E-07	7.04E-01	1.53E-06	3.84E-06	6.37E-01	1.39E-06	3.48E-06
Road 24	24	1700-1800	1.94E-01	3.91E-07	9.81E-07	1.76E-01	3.54E-07	8.89E-07	7.06E-01	1.42E-06	3.57E-06	6.40E-01	1.29E-06	3.24E-06
Road 24	24	1800-1900	1.49E-01	2.03E-07	5.09E-07	1.35E-01	1.83E-07	4.60E-07	5.42E-01	7.39E-07	1.85E-06	4.92E-01	6.71E-07	1.68E-06
Road 24	24	1900-2000	1.45E-01	1.29E-07	3.24E-07	1.30E-01	1.16E-07	2.93E-07	5.27E-01	4.70E-07	1.18E-06	4.74E-01	4.22E-07	1.06E-06
Road 24	24	2000-2100	1.34E-01	1.20E-07	3.01E-07	1.20E-01	1.08E-07	2.72E-07	4.87E-01	4.37E-07	1.10E-06	4.38E-01	3.92E-07	9.86E-07
Road 24	24	2100-2200	1.27E-01	9.58E-08	2.41E-07	1.14E-01	8.62E-08	2.17E-07	4.60E-01	3.48E-07	8.74E-07	4.14E-01	3.12E-07	7.84E-07
Road 24	24	2200-2300	1.51E-01	1.91E-07	4.81E-07	1.36E-01	1.72E-07	4.33E-07	5.48E-01	6.94E-07	1.74E-06	4.93E-01	6.25E-07	1.57E-06
Road 24	24	2300-2400	1.53E-01	2.72E-07	6.85E-07	1.38E-01	2.45E-07	6.17E-07	5.55E-01	9.87E-07	2.48E-06	4.99E-01	8.88E-07	2.23E-06
Road 25	25	0000-0100	1.50E-01	4.66E-08	1.19E-07	1.37E-01	4.22E-08	1.08E-07	5.63E-01	1.74E-07	4.43E-07	5.08E-01	1.57E-07	4.00E-07
Road 25	25	0100-0200	1.51E-01	4.66E-08	1.19E-07	1.37E-01	4.22E-08	1.08E-07	5.63E-01	1.74E-07	4.43E-07	5.08E-01	1.57E-07	4.00E-07
Road 25	25	0200-0300	1.53E-01	4.72E-08	9.45E-08	1.38E-01	4.26E-08	8.53E-08	5.70E-01	1.76E-07	3.52E-07	5.14E-01	1.59E-07	3.17E-07
Road 25	25	0300-0400	1.55E-01	3.19E-08	8.14E-08	1.40E-01	2.88E-08	7.35E-08	5.74E-01	1.19E-07	3.02E-07	5.18E-01	1.07E-07	2.73E-07
Road 25	25	0400-0500	1.55E-01	3.77E-08	9.61E-08	1.42E-01	3.44E-08	8.78E-08	5.77E-01	1.40E-07	3.57E-07	5.27E-01	1.28E-07	3.26E-07
Road 25	25	0500-0600	1.64E-01	7.34E-08	1.87E-07	1.49E-01	6.66E-08	1.70E-07	6.06E-01	2.71E-07	6.91E-07	5.51E-01	2.47E-07	6.31E-07
Road 25	25	0600-0700	1.73E-01	1.77E-07	4.50E-07	1.57E-01	1.61E-07	4.10E-07	6.39E-01	6.53E-07	1.66E-06	5.81E-01	5.96E-07	1.52E-06
Road 25	25	0700-0800	1.91E-01	4.18E-07	1.06E-06	1.74E-01	3.81E-07	9.72E-07	7.06E-01	1.54E-06	3.93E-06	6.42E-01	1.41E-06	3.58E-06
Road 25	25	0800-0900	1.98E-01	4.32E-07	1.10E-06	1.80E-01	3.93E-07	1.00E-06	7.31E-01	1.59E-06	4.06E-06	6.64E-01	1.45E-06	3.70E-06
Road 25	25	0900-1000	2.06E-01	5.98E-07	1.52E-06	1.88E-01	5.45E-07	1.39E-06	7.45E-01	2.16E-06	5.51E-06	6.79E-01	1.97E-06	5.02E-06
Road 25	25	1000-1100	2.05E-01	5.58E-07	1.42E-06	1.87E-01	5.07E-07	1.29E-06	7.43E-01	2.02E-06	5.14E-06	6.77E-01	1.84E-06	4.70E-06
Road 25	25	1100-1200	2.05E-01	5.58E-07	1.42E-06	1.87E-01	5.07E-07	1.29E-06	7.43E-01	2.02E-06	5.14E-06	6.77E-01	1.84E-06	4.70E-06
Road 25	25	1200-1300	2.07E-01	6.36E-07	1.62E-06	1.86E-01	5.72E-07	1.46E-06	7.54E-01	2.31E-06	5.90E-06	6.78E-01	2.08E-06	5.31E-06
Road 25	25	1300-1400	2.07E-01	6.36E-07	1.62E-06	1.86E-01	5.72E-07	1.46E-06	7.54E-01	2.31E-06	5.90E-06	6.78E-01	2.08E-06	5.31E-06
Road 25	25	1400-1500	2.12E-01	6.44E-07	1.64E-06	1.92E-01	5.82E-07	1.48E-06	7.70E-01	2.34E-06	5.97E-06	6.99E-01	2.12E-06	5.41E-06
Road 25	25	1500-1600	2.11E-01	6.44E-07	1.64E-06	1.91E-01	5.82E-07	1.48E-06	7.70E-01	2.34E-06	5.97E-06	6.99E-01	2.12E-06	5.41E-06
Road 25	25	1600-1700	2.05E-01	5.99E-07	1.53E-06	1.86E-01	5.43E-07	1.38E-06	7.44E-01	2.17E-06	5.54E-06	6.74E-01	1.97E-06	5.03E-06
Road 25	25	1700-1800	1.80E-01	4.75E-07	1.21E-06	1.63E-01	4.29E-07	1.09E-06	6.57E-01	1.73E-06	4.42E-06	5.95E-01	1.56E-06	3.99E-06
Road 25	25	1800-1900	1.57E-01	1.84E-07	4.69E-07	1.41E-01	1.65E-07	4.22E-07	6.32E-01	7.39E-07	1.88E-06	5.68E-01	6.64E-07	1.69E-06
Road 25	25	1900-2000	1.57E-01	1.84E-07	4.69E-07	1.41E-01	1.65E-07	4.22E-07	6.32E-01	7.39E-07	1.88E-06	5.68E-01	6.64E-07	1.69E-06
Road 25	25	2000-2100	1.46E-01	1.36E-07	3.46E-07	1.32E-01	1.23E-07	3.14E-07	6.05E-01	5.65E-07	1.44E-06	5.47E-01	5.11E-07	1.30E-06
Road 25	25	2100-2200	1.48E-01	1.42E-07	3.62E-07	1.34E-01	1.28E-07	3.28E-07	6.08E-01	5.84E-07	1.49E-06	5.50E-01	5.28E-07	1.35E-06
Road 25	25	2200-2300	1.64E-01	1.37E-07	3.48E-07	1.49E-01	1.24E-07	3.16E-07	6.07E-01	5.05E-07	1.29E-06	5.49E-01	4.57E-07	1.17E-06
Road 25	25	2300-0000	1.58E-01	1.08E-07	2.76E-07	1.43E-01	9.81E-08	2.50E-07	5.85E-01	4.01E-07	1.02E-06	5.30E-01	3.63E-07	9.26E-07
Road 26	26	0000-0100	1.52E-01	4.30E-08	1.10E-07	1.39E-01	3.91E-08	9.98E-08	5.71E-01	1.61E-07	4.11E-07	5.16E-01	1.45E-07	3.71E-07
Road 26	26	0100-0200	1.53E-01	4.30E-08	1.61E-07	1.39E-01	3.91E-08	1.46E-07	5.74E-01	1.61E-07	6.03E-07	5.19E-01	1.45E-07	5.43E-07
Road 26	26	0200-0300	1.55E-01	3.44E-08	1.29E-07	1.40E-01	3.11E-08	1.17E-07	5.74E-01	1.28E-07	4.79E-07	5.18E-01	1.15E-07	4.32E-07
Road 26	26	0300-0400	1.56E-01	3.48E-08	1.30E-07	1.41E-01	3.14E-08	1.17E-07	5.77E-01	1.29E-07	4.81E-07	5.21E-01	1.16E-07	4.34E-07
Road 26	26	0400-0500	1.57E-01	3.48E-08	1.30E-07	1.43E-01	3.17E-08	1.19E-07	5.82E-01	1.29E-07	4.84E-07	5.30E-01	1.18E-07	4.41E-07
Road 26	26	0500-0600	1.58E-01	6.47E-08	2.43E-07	1.44E-01	5.89E-08	2.21E-07	5.85E-01	2.40E-07	9.00E-07	5.32E-01	2.18E-07	8.20E-07
Road 26	26	0600-0700	1.74E-01	1.56E-07	3.97E-07	1.58E-01	1.42E-07	3.62E-07	6.43E-01	5.76E-07	1.47E-06	5.85E-01	5.25E-07	1.34E-06
Road 26	26	0700-0800	1.92E-01	3.85E-07	1.45E-06	1.75E-01	3.51E-07	1.32E-06	6.59E-01	1.32E-06	4.98E-06	5.99E-01	1.20E-06	4.53E-06
Road 26	26	0800-0900	1.94E-01	4.66E-07	1.75E-06	1.77E-01	4.24E-07	1.59E-06	7.31E-01	1.76E-06	6.59E-06	6.65E-01	1.60E-06	6.00E-06
Road 26	26	0900-1000	2.07E-01	5.52E-07	2.07E-06	1.89E-01	5.04E-07	1.89E-06	7.80E-01	2.08E-06	7.80E-06	7.09E-01	1.89E-06	7.09E-06
Road 26	26	1000-1100	2.07E-01	5.52E-07	2.07E-06	1.89E-01	5.04E-07	1.89E-06	7.49E-01	2.08E-06	6.82E-06	6.82E-01	1.82E-06	6.65E-06
Road 26	26	1100-1200	2.06E-01	5.15E-07	1.93E-06	1.87E-01	4.67E-07	1.75E-06	7.50E-01	1.87E-06	7.03E-06	6.79E-01	1.70E-06	6.37E-06
Road 26	26	1200-1300	2.06E-01	5.15E-07	2.06E-06	1.87E-01	4.67E-07	1.87E-06	7.50E-01	1.87E-06	7.50E-06	6.79E-01	1.70E-06	6.81E-06
Road 26	26	1300-1400	1.98E-01	5.88E-07	2.21E-06	1.79E-01	5.33E-07	2.00E-06	7.49E-01	2.22E-06	8.35E-06	6.78E-01	2.02E-06	7.59E-06
Road 26	26	1400-1500	2.01E-01	5.96E-07	2.24E-06	1.82E-01	5.40E-07	2.03E-06	7.60E-01	2.25E-06	8.47E-06	6.88E-01	2.05E-06	7.70E-06
Road 26	26	1500-1600	2.00E-01	5.75E-07	2.16E-06	1.81E-01	5.21E-07	1.96E-06	7.56E-01	2.17E-06	8.17E-06	6.84E-01	1.96E-06	7.39E-06
Road 26	26	1600-1700	1.94E-01	5.58E-07	2.09E-06	1.75E-01	5.04E-07	1.89E-06	7.32E-01	2.10E-06	7.91E-06	6.62E-01	1.90E-06	7.15E-06
Road 26	26	1700-1800	1.67E-01	4.42E-07	1.66E-06	1.51E-01	4.00E-07	1.50E-06	6.31E-01	1.67E-06	6.28E-06	5.71E-01	1.51E-06	5.67E-06
Road 26	26	1800-1900	1.33E-01	1.63E-07	4.12E-07	1.20E-01	1.47E-07	3.72E-07	5.02E-01	6.17E-07	1.56E-06	4.53E-01	5.56E-07	1.40E-06
Road 26	26	1900-2000	1.33E-01	1.63E-07	4.12E-07	1.20E-01	1.47E-07	3.72E-07	5.02E-01	6.17E-07	1.56E-06	4.53E-01	5.56E-07	1.40E-06
Road 26	26	2000-2100	1.26E-01	1.27E-07	3.21E-07	1.14E-01	1.15E-07	2.91E-07	4.77E-01	4.82E-07	1.22E-06	4.31E-01	4.35E-07	1.10E-06
Road 26	26	2100-2200	1.26E-01	1.32E-07	3.34E-07	1.14E-01	1.19E-07	3.02E-07	4.77E-01	5.00E-07	1.27E-06	4.31E-01	4.51E-07	1.14E-06
Road 26	26	2200-2300	1.27E-01	1.32E-07	3.34E-07	1.15E-01	1.19E-07	3.02E-07	4.82E-01	5.00E-07	1.27E-06	4.36E-01	4.51E-07	1.14E-06
Road 26	26	2300-2400	1.34E-01	1.01E-07	2.78E-07	1.21E-01	9.14E-08	2.52E-07	5.07E-01	3.83E-07	1.05E-06	4.58E-01	3.46E-07	9.53E-07
Road 27	27	0000-0100	1.45E-01	5.68E-08	1.75E-07	1.32E-01	5.15E-08	1.59E-07	5.15E-01	2.01E-07	6.20E-07	4.67E-01	1.82E-07	5.62E-07
Road 27	27	0100-0200	1.46E-01	5.68E-08	1.75E-07	1.32E-01	5.15E-08	1.59E-07	5.15E-01	2.01E-07	6.20E-07	4.67E-01	1.82E-07	5.62E-07
Road 27	27	0200-0300	1.49E-01	3.24E-08	9.96E-08	1.35E-01	2.93E-08	9.01E-08	5.58E-01	1.21E-07	3.72E-07	5.04E-01	1.09E-07	3.35E-07
Road 27	27	0300-0400	1.51E-01	2.77E-08	8.53E-08	1.38E-01	2.51E-08	7.73E-08	5.63E-01	1.02E-07	3.14E-07	5.09E-01	9.24E-08	2.84E-07
Road 27	27	0400-0500	1.52E-01	3.23E-08	9.96E-08	1.39E-01	2.93E-08	9.01E-08	5.63E-01	1.21E-07	3.72E-07	5.09E-01	1.09E-07	3.35E-07
Road 27	27	0500-0600	1.54E-01	6.10E-08	1.88E-07	1.40E-01	5.55E-08	1.71E-07	5.72E-01	2.27E-07	6.98E-07	5.20E-01	2.06E-07	6.35E-07
Road 27	27	0600-0700	1.70E-01	1.53E-07	4.72E-07	1.55E-01	1.40E-07	4.30E-07	6.28E-01	5.67E-07	1.75E-06	5.71E-01	5.16E-07	1.59E-06
Road 27	27	0700-0800	1.88E-01	3.80E-07	1.71E-06	1.72E-01	3.47E-07	1.56E-06	6.48E-01	1.31E-06	5.91E-06	5.89E-01	1.19E-06	5.37E-06
Road 27	27	0800-0900	1.90E-01	4.38E-07	1.35E-06	1.73E-01	4.00E-07	1.23E-06	7.16E-01	1.66E-06	5.09E-06	6.52E-01	1.51E-06	4.64E-06
Road 27	27	0900-1000	1.91E-01	4.95E-07	1.52E-06	1.75E-01	4.53E-07	1.39E-06	7.38E-01	1.91E-06	5.86E-06	6.66E-01	1.72E-06	5.30E-06
Road 27	27	1000-1100	2.04E-01	4.85E-07	1.49E-06	1.87E-01	4.44E-07	1.37E-06	7.89E-01	1.87E-06	5.76E-06	7.23E-01	1.71E-06	5.27E-06
Road 27	27	1100-1200	2.04E-01	4.85E-07	1.49E-06	1.87E-01	4.44E-07	1.37E-06	7.89E-01	1.87E-06	5.76E-06	7.23E-01	1.71E-06	5.27E-06
Road 27	27	1200-1300	2.16E-01	5.11E-07	1.57E-06	1.96E-01	4.64E-07	1.43E-06	7.55E-01	1.78E-06	5.48E-06	6.81E-01	1.61E-06	4.97E-06
Road 27	27	1300-1400	2.08E-01	5.11E-07	1.57E-06	1.89E-01	4.64E-07	1.43E-06	7.71E-01	1.89E-06	5.82E-06	6.96E-01	1.71E-06	5.27E-06
Road 27	27	1400-1500	2.10E-01	5.57E-07	1.71E-06	1.92E-01	5.08E-07	1.56E-06	7.46E-01	1.97E-06	6.08E-06	6.80E-01	1.80E-06	5.54E-06
Road 27	27	1500-1600	1.90E-01	5.24E-07	1.61E-06	1.73E-01	4.78E-07	1.47E-06	7.37E-01	2.04E-06	6.28E-06	6.72E-01	1.86E-06	5.72E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Detailed) — Year 2033

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	2.04E-01	5.20E-07	1.60E-06	1.84E-01	4.70E-07	1.45E-06	7.41E-01	1.89E-06	5.81E-06	6.69E-01	1.71E-06	5.25E-06
Road 27	27	1700-1800	1.79E-01	4.12E-07	1.27E-06	1.61E-01	3.71E-07	1.14E-06	7.24E-01	1.67E-06	5.13E-06	6.52E-01	1.50E-06	4.62E-06
Road 27	27	1800-1900	1.58E-01	2.50E-07	7.70E-07	1.44E-01	2.27E-07	6.98E-07	6.62E-01	1.05E-06	3.22E-06	6.00E-01	9.47E-07	2.92E-06
Road 27	27	1900-2000	1.47E-01	1.52E-07	4.68E-07	1.33E-01	1.37E-07	4.22E-07	5.96E-01	6.14E-07	1.89E-06	5.36E-01	5.52E-07	1.70E-06
Road 27	27	2000-2100	1.44E-01	1.18E-07	3.63E-07	1.30E-01	1.07E-07	3.29E-07	5.98E-01	4.91E-07	1.51E-06	5.41E-01	4.44E-07	1.37E-06
Road 27	27	2100-2200	1.46E-01	1.23E-07	3.79E-07	1.31E-01	1.11E-07	3.42E-07	5.99E-01	5.06E-07	1.56E-06	5.39E-01	4.56E-07	1.40E-06
Road 27	27	2200-2300	1.54E-01	1.32E-07	3.71E-07	1.39E-01	1.19E-07	3.34E-07	5.72E-01	4.90E-07	1.38E-06	5.17E-01	4.43E-07	1.24E-06
Road 27	27	2300-0000	1.55E-01	9.37E-08	2.88E-07	1.41E-01	8.50E-08	2.62E-07	5.77E-01	3.48E-07	1.07E-06	5.22E-01	3.15E-07	9.70E-07
Road 28	28	0000-0100	1.89E-02	1.87E-07	1.06E-05	1.70E-02	1.68E-07	9.52E-06	2.04E-01	2.02E-06	1.15E-04	1.80E-01	1.78E-06	1.01E-04
Road 28	28	0100-0200	2.02E-02	1.32E-07	7.51E-06	1.81E-02	1.18E-07	6.75E-06	2.06E-01	1.34E-06	7.67E-05	1.81E-01	1.18E-06	6.61E-05
Road 28	28	0200-0300	2.17E-02	1.06E-07	6.00E-06	1.95E-02	9.48E-08	5.38E-06	2.07E-01	1.01E-06	5.72E-05	1.82E-01	8.85E-07	5.02E-05
Road 28	28	0300-0400	2.30E-02	9.01E-08	5.12E-06	2.09E-02	8.18E-08	4.64E-06	2.08E-01	8.13E-07	4.61E-05	1.85E-01	7.24E-07	4.11E-05
Road 28	28	0400-0500	2.30E-02	1.02E-07	5.77E-06	2.09E-02	9.25E-08	5.24E-06	2.08E-01	9.19E-07	5.20E-05	1.85E-01	8.02E-07	4.54E-05
Road 28	28	0500-0600	2.35E-02	1.76E-07	9.96E-06	2.13E-02	1.59E-07	9.01E-06	2.09E-01	1.56E-06	8.84E-05	1.85E-01	1.38E-06	7.84E-05
Road 28	28	0600-0700	2.37E-02	3.78E-07	2.14E-05	2.14E-02	3.42E-07	1.94E-05	2.09E-01	3.34E-06	1.89E-04	1.85E-01	2.96E-06	1.68E-04
Road 28	28	0700-0800	2.42E-02	8.18E-07	4.62E-05	2.25E-02	7.60E-07	4.30E-05	2.09E-01	7.06E-06	3.99E-04	1.85E-01	6.26E-06	3.54E-04
Road 28	28	0800-0900	2.36E-02	8.94E-07	5.07E-05	2.14E-02	8.12E-07	4.61E-05	1.89E-01	7.16E-06	4.06E-04	1.68E-01	6.39E-06	3.63E-04
Road 28	28	0900-1000	2.62E-02	8.79E-07	4.99E-05	2.39E-02	8.00E-07	4.54E-05	1.94E-01	6.50E-06	3.69E-04	1.74E-01	5.83E-06	3.31E-04
Road 28	28	1000-1100	2.89E-02	8.35E-07	4.74E-05	2.62E-02	7.58E-07	4.30E-05	1.96E-01	5.66E-06	3.21E-04	1.78E-01	5.15E-06	2.92E-04
Road 28	28	1100-1200	2.84E-02	8.08E-07	4.58E-05	2.57E-02	7.30E-07	4.14E-05	1.99E-01	5.66E-06	3.21E-04	1.77E-01	5.04E-06	2.86E-04
Road 28	28	1200-1300	2.67E-02	5.48E-07	3.11E-05	2.41E-02	4.96E-07	2.81E-05	1.66E-01	3.41E-06	1.94E-04	1.48E-01	3.03E-06	1.72E-04
Road 28	28	1300-1400	2.66E-02	5.45E-07	3.20E-05	2.40E-02	4.91E-07	2.89E-05	1.66E-01	3.40E-06	1.98E-04	1.47E-01	3.02E-06	1.77E-04
Road 28	28	1400-1500	2.66E-02	5.94E-07	3.37E-05	2.40E-02	5.34E-07	3.03E-05	1.66E-01	3.71E-06	2.10E-04	1.44E-01	3.30E-06	1.87E-04
Road 28	28	1500-1600	2.50E-02	5.72E-07	3.25E-05	2.27E-02	5.20E-07	2.95E-05	1.61E-01	3.69E-06	2.09E-04	1.44E-01	3.30E-06	1.87E-04
Road 28	28	1600-1700	2.60E-02	6.23E-07	3.53E-05	2.34E-02	5.61E-07	3.19E-05	1.65E-01	3.96E-06	2.25E-04	1.46E-01	3.51E-06	1.99E-04
Road 28	28	1700-1800	2.66E-02	6.26E-07	3.55E-05	2.40E-02	5.65E-07	3.20E-05	1.68E-01	3.96E-06	2.25E-04	1.47E-01	3.46E-06	1.96E-04
Road 28	28	1800-1900	1.64E-02	4.54E-07	2.58E-05	1.47E-02	4.09E-07	2.32E-05	1.41E-01	3.92E-06	2.22E-04	1.25E-01	3.48E-06	1.97E-04
Road 28	28	1900-2000	1.47E-02	3.17E-07	1.80E-05	1.31E-02	2.84E-07	1.61E-05	1.52E-01	3.28E-06	1.86E-04	1.33E-01	2.88E-06	1.63E-04
Road 28	28	2000-2100	1.48E-02	3.20E-07	1.82E-05	1.32E-02	2.86E-07	1.62E-05	1.52E-01	3.28E-06	1.86E-04	1.33E-01	2.88E-06	1.63E-04
Road 28	28	2100-2200	1.35E-02	2.27E-07	1.29E-05	1.20E-02	2.02E-07	1.15E-05	1.52E-01	2.55E-06	1.44E-04	1.32E-01	2.22E-06	1.26E-04
Road 28	28	2200-2300	1.37E-02	2.72E-07	1.54E-05	1.22E-02	2.42E-07	1.37E-05	1.52E-01	3.02E-06	1.71E-04	1.32E-01	2.62E-06	1.49E-04
Road 28	28	2300-0000	1.42E-02	2.68E-07	1.52E-05	1.26E-02	2.38E-07	1.35E-05	1.52E-01	2.87E-06	1.63E-04	1.32E-01	2.49E-06	1.41E-04
Road 29	29	0000-0100	1.13E-02	1.01E-07	6.97E-06	1.01E-02	8.99E-08	6.21E-06	1.25E-01	1.12E-06	7.71E-05	1.08E-01	9.59E-07	6.62E-05
Road 29	29	0100-0200	1.29E-02	7.38E-08	5.09E-06	1.15E-02	6.58E-08	4.54E-06	1.28E-01	7.32E-07	5.04E-05	1.10E-01	6.40E-07	4.42E-05
Road 29	29	0200-0300	1.41E-02	6.08E-08	4.19E-06	1.25E-02	5.42E-08	3.73E-06	1.28E-01	5.51E-07	3.80E-05	1.10E-01	4.91E-07	3.38E-05
Road 29	29	0300-0400	1.54E-02	5.27E-08	3.63E-06	1.39E-02	4.75E-08	3.28E-06	1.34E-01	4.58E-07	3.16E-05	1.16E-01	3.98E-07	2.75E-05
Road 29	29	0400-0500	1.58E-02	5.91E-08	4.08E-06	1.43E-02	5.33E-08	3.68E-06	1.35E-01	5.04E-07	3.48E-05	1.17E-01	4.39E-07	3.03E-05
Road 29	29	0500-0600	1.58E-02	7.34E-08	5.06E-06	1.43E-02	6.61E-08	4.56E-06	1.35E-01	6.25E-07	4.31E-05	1.17E-01	5.45E-07	3.76E-05
Road 29	29	0600-0700	1.53E-02	2.06E-07	1.42E-05	1.37E-02	1.85E-07	1.27E-05	1.36E-01	1.84E-06	1.27E-04	1.18E-01	1.59E-06	1.09E-04
Road 29	29	0700-0800	1.66E-02	4.56E-07	3.14E-05	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission		
			MonthlyHourMin Average			MonthlyHourMin Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	9.34E-03	7.59E-08	1.42E-06	9.25E-03	6.71E-08	1.25E-06
Road 51	51	0100-0200	1.00E-02	5.28E-08	9.84E-07	8.85E-03	4.67E-08	8.71E-07
Road 51	51	0200-0300	1.07E-02	4.14E-08	7.72E-07	9.48E-03	3.65E-08	6.80E-07
Road 51	51	0300-0400	1.14E-02	3.47E-08	6.48E-07	1.02E-02	3.11E-08	5.79E-07
Road 51	51	0400-0500	1.21E-02	4.03E-08	7.52E-07	1.09E-02	3.63E-08	6.76E-07
Road 51	51	0500-0600	1.28E-02	7.39E-08	1.38E-06	1.15E-02	6.62E-08	1.23E-06
Road 51	51	0600-0700	1.36E-02	1.68E-07	3.13E-06	1.22E-02	1.50E-07	2.79E-06
Road 51	51	0700-0800	1.43E-02	3.55E-07	6.61E-06	1.28E-02	3.18E-07	5.92E-06
Road 51	51	0800-0900	1.35E-02	3.86E-07	7.20E-06	1.22E-02	3.49E-07	6.50E-06
Road 51	51	0900-1000	1.48E-02	3.47E-07	6.47E-06	1.34E-02	3.15E-07	5.86E-06
Road 51	51	1000-1100	1.64E-02	3.29E-07	6.13E-06	1.48E-02	2.97E-07	5.54E-06
Road 51	51	1100-1200	1.57E-02	2.99E-07	5.57E-06	1.42E-02	2.70E-07	5.03E-06
Road 51	51	1200-1300	1.59E-02	2.98E-07	5.55E-06	1.44E-02	2.69E-07	5.01E-06
Road 51	51	1300-1400	1.89E-02	4.17E-07	7.77E-06	1.71E-02	3.77E-07	7.02E-06
Road 51	51	1400-1500	1.59E-02	7.85E-07	1.46E-05	1.44E-02	7.09E-07	1.32E-05
Road 51	51	1500-1600	1.57E-02	7.56E-07	1.41E-05	1.42E-02	6.83E-07	1.27E-05
Road 51	51	1600-1700	1.87E-02	8.54E-07	1.59E-05	1.69E-02	7.72E-07	1.44E-05
Road 51	51	1700-1800	3.40E-02	5.07E-07	9.44E-06	3.05E-02	4.55E-07	8.47E-06
Road 51	51	1800-1900	3.09E-02	4.44E-07	8.27E-06	2.77E-02	3.98E-07	7.42E-06
Road 51	51	1900-2000	3.16E-02	3.53E-07	6.58E-06	2.84E-02	3.17E-07	5.90E-06
Road 51	51	2000-2100	3.20E-02	2.83E-07	5.27E-06	2.88E-02	2.55E-07	4.72E-06
Road 51	51	2100-2200	3.02E-02	2.60E-07	4.85E-06	2.71E-02	2.34E-07	4.37E-06
Road 51	51	2200-2300	3.15E-02	2.62E-07	4.89E-06	2.84E-02	2.37E-07	4.40E-06
Road 51	51	2300-2400	3.21E-02	2.04E-07	3.79E-06	2.90E-02	1.84E-07	3.42E-06
Road 52	52	0000-0100	7.15E-02	3.60E-08	1.84E-07	6.47E-02	3.26E-08	1.67E-07
Road 52	52	0100-0200	7.18E-02	2.96E-08	1.51E-07	6.52E-02	2.68E-08	1.37E-07
Road 52	52	0200-0300	7.02E-02	1.98E-08	1.02E-07	6.34E-02	1.79E-08	9.19E-08
Road 52	52	0300-0400	7.06E-02	1.70E-08	8.71E-08	6.38E-02	1.54E-08	7.87E-08
Road 52	52	0400-0500	7.09E-02	2.08E-08	1.03E-07	6.47E-02	1.90E-08	9.43E-08
Road 52	52	0500-0600	7.32E-02	3.85E-08	1.97E-07	6.67E-02	3.51E-08	1.80E-07
Road 52	52	0600-0700	7.59E-02	9.11E-08	4.67E-07	6.90E-02	8.29E-08	4.25E-07
Road 52	52	0700-0800	8.08E-02	2.08E-07	1.07E-06	7.35E-02	1.89E-07	9.72E-07
Road 52	52	0800-0900	8.01E-02	2.48E-07	1.27E-06	7.28E-02	2.25E-07	1.15E-06
Road 52	52	0900-1000	8.23E-02	2.89E-07	1.48E-06	7.53E-02	2.64E-07	1.35E-06
Road 52	52	1000-1100	8.71E-02	2.83E-07	1.45E-06	7.91E-02	2.57E-07	1.32E-06
Road 52	52	1100-1200	8.71E-02	2.83E-07	1.45E-06	7.91E-02	2.57E-07	1.32E-06
Road 52	52	1200-1300	8.88E-02	2.99E-07	1.53E-06	8.07E-02	2.72E-07	1.39E-06
Road 52	52	1300-1400	9.01E-02	3.39E-07	1.74E-06	8.14E-02	3.06E-07	1.57E-06
Road 52	52	1400-1500	8.12E-02	3.19E-07	1.63E-06	7.41E-02	2.91E-07	1.49E-06
Road 52	52	1500-1600	8.12E-02	3.19E-07	1.63E-06	7.41E-02	2.91E-07	1.49E-06
Road 52	52	1600-1700	7.12E-02	2.35E-07	1.20E-06	6.42E-02	2.12E-07	1.09E-06
Road 52	52	1700-1800	1.96E-02	1.46E-07	7.48E-07	1.72E-02	1.28E-07	6.57E-07
Road 52	52	1800-1900	1.96E-02	9.14E-07	1.69E-06	7.90E-02	3.87E-06	7.23E-06
Road 52	52	1900-2000	1.64E-02	1.34E-07	2.74E-06	1.44E-02	1.18E-07	2.41E-06
Road 52	52	2000-2100	5.89E-02	7.09E-08	3.64E-07	5.33E-02	6.43E-08	3.29E-07
Road 52	52	2100-2200	5.97E-02	7.39E-08	3.79E-07	5.38E-02	6.66E-08	3.41E-07
Road 52	52	2200-2300	6.55E-02	7.10E-08	3.64E-07	5.94E-02	6.43E-08	3.30E-07
Road 52	52	2300-0000	6.45E-02	5.71E-08	2.93E-07	5.85E-02	5.18E-08	2.66E-07
Road 53	53	0000-0100	9.55E-02	4.46E-08	1.04E-06	8.62E-02	4.02E-08	9.35E-07
Road 53	53	0100-0200	9.58E-02	3.95E-08	9.22E-07	8.65E-02	3.56E-08	8.31E-07
Road 53	53	0200-0300	9.87E-02	2.36E-08	5.48E-07	8.89E-02	2.12E-08	4.93E-07
Road 53	53	0300-0400	1.02E-01	2.02E-08	4.70E-07	9.23E-02	1.82E-08	4.23E-07
Road 53	53	0400-0500	1.05E-01	2.39E-08	5.55E-07	9.48E-02	2.15E-08	5.00E-07
Road 53	53	0500-0600	1.12E-01	4.47E-08	1.04E-06	1.02E-01	4.06E-08	9.44E-07
Road 53	53	0600-0700	1.26E-01	1.11E-07	2.58E-06	1.14E-01	1.01E-07	2.34E-06
Road 53	53	0700-0800	1.41E-01	2.59E-07	6.02E-06	1.27E-01	2.34E-07	5.47E-06
Road 53	53	0800-0900	1.39E-01	2.89E-07	6.71E-06	1.27E-01	2.64E-07	6.13E-06
Road 53	53	0900-1000	1.49E-01	3.19E-07	7.40E-06	1.36E-01	2.90E-07	6.74E-06
Road 53	53	1000-1100	1.62E-01	3.29E-07	7.57E-06	1.48E-01	3.00E-07	6.91E-06
Road 53	53	1100-1200	1.60E-01	3.05E-07	7.09E-06	1.46E-01	2.78E-07	6.46E-06
Road 53	53	1200-1300	1.39E-01	3.20E-07	7.44E-06	1.26E-01	2.90E-07	6.74E-06
Road 53	53	1300-1400	1.39E-01	3.40E-07	7.90E-06	1.26E-01	3.08E-07	7.17E-06
Road 53	53	1400-1500	1.38E-01	3.49E-07	8.12E-06	1.26E-01	3.17E-07	7.38E-06
Road 53	53	1500-1600	1.28E-01	3.32E-07	7.71E-06	1.16E-01	3.01E-07	7.00E-06
Road 53	53	1600-1700	1.31E-01	3.39E-07	7.87E-06	1.18E-01	3.05E-07	7.08E-06
Road 53	53	1700-1800	1.02E-01	2.75E-07	6.38E-06	9.27E-02	2.49E-07	5.78E-06
Road 53	53	1800-1900	7.65E-02	1.94E-07	4.51E-06	6.89E-02	1.75E-07	4.06E-06
Road 53	53	1900-2000	6.66E-02	1.29E-07	3.00E-06	5.98E-02	1.16E-07	2.69E-06
Road 53	53	2000-2100	6.44E-02	9.85E-08	2.29E-06	5.77E-02	8.82E-08	2.05E-06
Road 53	53	2100-2200	6.44E-02	9.85E-08	2.29E-06	5.77E-02	8.82E-08	2.05E-06
Road 53	53	2200-2300	6.50E-02	9.32E-08	2.17E-06	5.85E-02	8.39E-08	1.95E-06
Road 53	53	2300-0000	6.68E-02	7.33E-08	1.70E-06	6.03E-02	6.61E-08	1.54E-06
Road 54	54	0000-0100	7.33E-02	6.56E-08	1.50E-06	6.61E-02	5.91E-08	1.35E-06
Road 54	54	0100-0200	7.41E-02	4.42E-08	1.01E-06	6.68E-02	3.99E-08	9.09E-07
Road 54	54	0200-0300	7.83E-02	3.50E-08	7.98E-07	7.04E-02	3.15E-08	7.17E-07
Road 54	54	0300-0400	7.86E-02	2.84E-08	6.48E-07	7.14E-02	2.58E-08	5.89E-07
Road 54	54	0400-0500	8.55E-02	3.47E-08	7.92E-07	7.79E-02	3.16E-08	7.21E-07
Road 54	54	0500-0600	9.08E-02	7.33E-08	1.67E-06	8.25E-02	6.66E-08	1.52E-06
Road 54	54	0600-0700	1.06E-01	3.93E-07	8.96E-06	1.09E-01	3.57E-07	8.14E-06
Road 54	54	0700-0800	1.20E-01	3.93E-07	8.96E-06	1.09E-01	3.57E-07	8.14E-06

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2033

Road Name	Road ID	Hour	NO_2 Emission			NO Emission		
			MonthlyHourMin Average			MonthlyHourMin Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 54	54	0800-0900	1.17E-01	4.40E-07	1.00E-05	1.07E-01	4.02E-07	9.17E-06
Road 54	54	0900-1000	1.33E-01	4.79E-07	1.09E-05	1.21E-01	4.35E-07	9.92E-06
Road 54	54	1000-1100	1.47E-01	4.89E-07	1.11E-05	1.34E-01	4.45E-07	1.01E-05
Road 54	54	1100-1200	1.45E-01	4.55E-07	1.04E-05	1.32E-01	4.15E-07	9.45E-06
Road 54	54	1200-1300	1.80E-01	3.89E-07	8.86E-06	1.63E-01	3.52E-07	8.02E-06
Road 54	54	1300-1400	1.76E-01	4.15E-07	9.47E-06	1.59E-01	3.76E-07	8.58E-06
Road 54	54	1400-1500	1.71E-01	4.23E-07	9.65E-06	1.55E-01	3.83E-07	8.73E-06
Road 54	54	1500-1600	1.62E-01	4.00E-07	9.13E-06	1.47E-01	3.63E-07	8.28E-06
Road 54	54	1600-1700	1.70E-01	4.01E-07	9.13E-06	1.53E-01	3.61E-07	8.23E-06
Road 54	54	1700-1800	1.41E-01	3.23E-07	7.35E-06	1.27E-01	2.91E-07	6.64E-06
Road 54	54	1800-1900	1.17E-01	2.18E-07	4.98E-06	1.05E-01	1.97E-07	4.49E-06
Road 54	54	1900-2000	1.06E-01	1.44E-07	3.28E-06	9.54E-02	1.29E-07	2.95E-06
Road 54	54	2000-2100	9.37E-02	1.08E-07	2.47E-06	8.43E-02	9.72E-08	2.22E-06
Road 54	54	2100-2200	1.00E-01	1.09E-07	2.49E-06	8.22E-02	2.99E-07	3.97E-06
Road 54	54	2200-2300	1.05E-01	1.04E-07	2.37E-06	9.50E-02	9.37E-08	2.14E-06
Road 54	54	2300-2400	1.01E-01	8.16E-08	1.86E-06	9.12E-02	7.35E-08	1.68E-06
Road 101	101	0000-0100	9.29E-03	8.20E-08	5.13E-06	9.05E-03	7.98E-08	4.99E-06
Road 101	101	0100-0200	1.01E-02	5.84E-08	2.31E-06	8.98E-03	5.17E-08	2.05E-06
Road 101	101	0200-0300	1.11E-02	4.68E-08	1.85E-06	9.78E-03	4.12E-08	1.63E-06
Road 101	101	0300-0400	1.19E-02	4.00E-08	1.58E-06	1.07E-02	3.58E-08	1.42E-06
Road 101	101	0400-0500	1.28E-02	4.73E-08	1.87E-06	1.15E-02	4.25E-08	1.68E-06
Road 101	101	0500-0600	1.37E-02	8.78E-08	3.48E-06	1.23E-02	7.88E-08	3.12E-06
Road 101	101	0600-0700	1.46E-02	2.02E-07	8.00E-06	1.31E-02	1.81E-07	7.16E-06
Road 101	101	0700-0800	1.54E-02	4.32E-07	1.71E-05	1.39E-02	3.90E-07	1.54E-05
Road 101	101	0800-0900	1.48E-02	4.84E-07	1.92E-05	1.33E-02	4.35E-07	1.72E-05
Road 101	101	0900-1000	1.62E-02	4.24E-07	1.68E-05	1.45E-02	3.82E-07	1.51E-05
Road 101	101	1000-1100	1.93E-02	4.66E-07	1.84E-05	1.76E-02	4.24E-07	1.68E-05
Road 101	101	1100-1200	1.85E-02	4.23E-07	1.68E-05	1.68E-02	3.84E-07	1.52E-05
Road 101	101	1200-1300	2.51E-02	6.65E-07	2.63E-05	2.28E-02	6.05E-07	2.40E-05
Road 101	101	1300-1400	2.51E-02	6.65E-07	2.63E-05	2.28E-02	6.05E-07	2.40E-05
Road 101	101	1400-1500	2.51E-02	6.98E-07	2.76E-05	2.29E-02	6.37E-07	2.52E-05
Road 101	101	1500-1600	2.42E-02	7.10E-07	2.81E-05	2.18E-02	6.40E-07	2.54E-05
Road 101	101	1600-1700	2.42E-02	7.10E-07	2.81E-05	2.18E-02	6.40E-07	2.54E-05
Road 101	101	1700-1800	1.79E-02	5.69E-07	2.25E-05	1.60E-02	5.09E-07	2.02E-05
Road 101	101	1800-1900	1.29E-02	4.17E-07	1.65E-05	1.14E-02	3.68E-07	1.46E-05
Road 101	101	1900-2000	1.14E-02	2.87E-07	1.14E-05	1.02E-02	2.55E-07	1.01E-05
Road 101	101	2000-2100	1.12E-02	2.19E-07	8.67E-06	1.00E-02	1.95E-07	7.72E-06
Road 101	101	2100-2200	1.04E-02	1.95E-07	7.73E-06	9.24E-03	1.74E-07	6.87E-06
Road 101	101	2200-2300	1.14E-02	1.62E-07	6.43E-06	1.02E-02	1.45E-07	5.73E-06
Road 101	101	2300-0000	1.12E-02	1.26E-07	4.99E-06	1.00E-02	1.13E-07	4.46E-06
Road 102	102	0000-0100	1.43E-02	6.89E-08	2.56E-06	1.28E-02	6.17E-08	2.29E-06
Road 102	102	0100-0200	1.55E-02	5.52E-08	2.05E-06	1.38E-02	4.92E-08	1.83E-06
Road 102	102	0200-0300	1.70E-02	4.17E-08	1.55E-06	1.52E-02	3.72E-08	1.38E-06
Road 102	102	0300-0400	1.75E-02	3.57E-08	2.07E-06	1.58E-02	5.03E-08	1.87E-06
Road 102	102	0400-0500	1.86E-02	1.06E-07	3.86E-06	1.67E-02	9.34E-08	3.47E-06
Road 102	102	0500-0600	1.86E-02	1.06E-07	3.86E-06	1.67E-02	9.34E-08	3.47E-06
Road 102	102	0600-0700	2.05E-02	5.10E-07	1.90E-05	1.85E-02	4.60E-07	1.71E-05
Road 102	102	0700-0800	1.98E-02	5.76E-07	2.14E-05	1.80E-02	5.23E-07	1.94E-05
Road 102	102	0800-0900	1.98E-02	5.76E-07	2.14E-05	1.80E-02	5.23E-07	1.94E-05
Road 102	102	0900-1000	2.08E-02	5.05E-07	1.88E-05	1.88E-02	4.57E-07	1.70E-05
Road 102	102	1000-1100	2.58E-02	6.05E-07	2.25E-05	2.34E-02	5.49E-07	2.04E-05
Road 102	102	1100-1200	2.51E-02	5.56E-07	2.06E-05	2.27E-02	5.03E-07	1.87E-05
Road 102	102	1200-1300	2.51E-02	5.56E-07	2.06E-05	2.27E-02	5.03E-07	1.87E-05
Road 102	102	1300-1400	2.20E-02	5.65E-07	2.10E-05	1.98E-02	5.09E-07	1.89E-05
Road 102	102	1400-1500	2.21E-02	5.24E-07	2.02E-05	2.01E-02	5.14E-07	1.98E-05
Road 102	102	1500-1600	2.16E-02	6.24E-07	2.32E-05	1.94E-02	5.61E-07	2.08E-05
Road 102	102	1600-1700	2.16E-02	6.24E-07	2.32E-05	1.94E-02	5.61E-07	2.08E-05
Road 102	102	1700-1800	1.97E-02	5.02E-07	1.86E-05	1.40E-02	4.48E-07	1.66E-05
Road 102	102	1800-1900	1.97E-02	1.12E-07	4.16E-06	1.40E-02	1.00E-07	3.71E-06
Road 102	102	1900-2000	9.97E-03	2.63E-07	9.77E-06	8.84E-03	2.33E-07	8.66E-06
Road 102	102	2000-2100	9.74E-03	2.00E-07	7.43E-06	8.66E-03	1.78E-07	6.60E-06
Road 102	102	2100-2200	8.80E-03	1.81E-07	6.73E-06	7.76E-03	1.60E-07	5.93E-06
Road 102	102	2200-2300	8.72E-03	1.48E-07	5.42E-06	7.73E-03	1.31E-07	4.80E-06
Road 102	102	2300-0000	9.66E-03	1.44E-07	5.35E-06	8.59E-03	1.28E-07	4.76E-06
Road 103	103	0000-0100	9.13E-03	9.20E-08	2.21E-06	8.06E-03	8.13E-08	1.95E-06
Road 103	103	0100-0200	9.96E-03	6.58E-08	1.58E-06	8.80E-03	5.81E-08	1.40E-06
Road 103	103	0200-0300	1.09E-02	5.25E-08	1.26E-06	9.61E-03	4.64E-08	1.11E-06
Road 103	103	0300-0400	1.17E-02	4.49E-08	1.08E-06	1.05E-02	4.02E-08	9.67E-07
Road 103	103	0400-0500	1.26E-02	5.32E-08	1.28E-06	1.13E-02	4.78E-08	1.15E-06
Road 103	103	0500-0600	1.35E-02	9.86E-08	2.37E-06	1.21E-02	8.85E-08	2.13E-06
Road 103	103	0600-0700	1.44E-02	2.27E-07	5.45E-06	1.29E-02	2.03E-07	4.88E-06
Road 103	103	0700-0800	1.52E-02	4.86E-07	1.17E-05	1.37E-02	4.36E-07	1.05E-05
Road 103	103	0800-0900	1.47E-02	5.47E-07	1.31E-05	1.33E-02	4.95E-07	1.19E-05
Road 103	103	0900-1000	1.68E-02	5.24E-07	1.26E-05	1.51E-02	4.73E-07	1.14E-05
Road 103	103	1000-1100	1.92E-02	5.19E-07	1.25E-05	1.72E-02	4.69E-07	1.12E-05
Road 103	103	1100-1200	1.82E-02	4.71E-07	1.13E-05	1.65E-02	4.27E-07	1.03E-05
Road 103	103	1200-1300	1.91E-02	4.44E-07	1.07E-05	1.72E-02	4.00E-07	9.63E-06
Road 103	103	1300-1400	1.90E-02	4.58E-07	1.10E-05	1.72E-02	4.13E-07	9.94E-06
Road 103	103	1400-1500	1.94E-02	4.93E-07	1.18E-05	1.76E-02	4.47E-07	1.07E-05
Road 103	103	1500-1600	1.83E-02	4.74E-07	1.14E-05	1.65E-02	4.28E-07	1.03E-05

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	6.54E-03	9.09E-08	1.83E-06	5.10E-02	7.08E-07	1.42E-02	1.38E-03	1.91E-08	3.84E-07	1.49E-03	2.07E-08	4.17E-07
Road 1	1	0100-0200	7.21E-03	6.51E-08	1.31E-06	5.28E-02	4.77E-07	9.59E-03	1.54E-03	1.39E-08	2.79E-07	1.67E-03	1.51E-08	3.03E-07
Road 1	1	0200-0300	7.91E-03	5.23E-08	1.05E-06	5.51E-02	3.64E-07	7.31E-03	1.70E-03	1.12E-08	2.26E-07	1.84E-03	1.22E-08	2.45E-07
Road 1	1	0300-0400	8.59E-03	4.48E-08	9.01E-07	5.68E-02	2.96E-07	5.96E-03	1.86E-03	9.72E-09	1.95E-07	2.02E-03	1.06E-08	2.12E-07
Road 1	1	0400-0500	9.19E-03	5.26E-08	1.06E-06	6.07E-02	3.35E-07	6.73E-03	2.01E-03	1.15E-08	2.31E-07	2.18E-03	1.25E-08	2.51E-07
Road 1	1	0500-0600	9.68E-03	9.57E-08	1.92E-06	5.99E-02	5.92E-07	1.19E-02	2.14E-03	2.11E-08	4.24E-07	2.32E-03	2.29E-08	4.61E-07
Road 1	1	0600-0700	1.02E-02	2.17E-07	4.35E-06	6.18E-02	1.31E-06	2.62E-02	2.27E-03	4.81E-08	9.66E-07	2.47E-03	5.22E-08	1.05E-03
Road 1	1	0700-0800	1.09E-02	4.67E-07	9.38E-06	6.29E-02	2.69E-06	5.40E-02	2.45E-03	1.05E-07	2.10E-06	2.66E-03	1.14E-07	2.28E-03
Road 1	1	0800-0900	1.05E-02	5.18E-07	1.04E-05	6.07E-02	2.99E-06	6.01E-02	2.36E-03	1.16E-07	2.34E-06	2.57E-03	1.27E-07	2.55E-03
Road 1	1	0900-1000	1.17E-02	4.76E-07	9.56E-06	6.08E-02	2.47E-06	4.96E-02	2.76E-03	1.12E-07	2.25E-06	3.00E-03	1.22E-07	2.44E-03
Road 1	1	1000-1100	1.29E-02	4.76E-07	9.56E-06	6.08E-02	2.24E-06	4.50E-02	3.04E-03	1.12E-07	2.25E-06	3.31E-03	1.22E-07	2.44E-03
Road 1	1	1100-1200	1.57E-02	2.99E-07	5.57E-06	1.42E-02	2.70E-07	5.03E-03	3.69E-03	7.03E-08	1.31E-06	4.02E-03	7.66E-08	1.43E-06
Road 1	1	1200-1300	1.59E-02	2.98E-07	5.55E-06	1.44E-02	2.69E-07	5.01E-03	3.74E-03	7.00E-08	1.30E-06	4.08E-03	7.63E-08	1.42E-06
Road 1	1	1300-1400	1.89E-02	4.17E-07	7.77E-06	1.71E-02	3.77E-07	7.02E-03	4.44E-03	9.79E-08	1.82E-06	4.84E-03	1.07E-07	1.98E-06
Road 1	1	1400-1500	1.59E-02	7.85E-07	1.46E-05	1.44E-02	7.09E-07	1.32E-02	3.73E-03	1.84E-07	3.42E-06	4.07E-03	2.00E-07	3.73E-06
Road 1	1	1500-1600	1.57E-02	7.56E-07	1.41E-05	1.42E-02	6.83E-07	1.27E-02	3.69E-03	1.77E-07	3.30E-06	4.02E-03	1.93E-07	3.59E-06
Road 1	1	1600-1700	1.87E-02	8.54E-07	1.59E-05	1.69E-02	7.72E-07	1.44E-02	4.38E-03	2.00E-07	3.72E-06	4.77E-03	2.18E-07	4.05E-06
Road 1	1	1700-1800	3.40E-02	5.07E-07	9.44E-06	3.05E-02	4.55E-07	8.49E-06	3.72E-03	5.54E-08	1.03E-06	4.04E-03	2.00E-07	4.01E-03
Road 1	1	1800-1900	3.09E-02	4.44E-07	8.27E-06	2.77E-02	3.98E-07	7.38E-06	3.38E-03	4.85E-08	9.03E-07	3.67E-03	5.27E-08	9.81E-07
Road 1	1	1900-2000	3.16E-02	3.53E-07	6.58E-06	2.84E-02	3.17E-07	5.90E-06	4.44E-03	4.96E-08	9.24E-07	4.82E-03	5.38E-08	1.00E-06
Road 1	1	2000-2100	3.20E-02	2.83E-07	5.27E-06	2.88E-02	2.55E-07	4.75E-06	4.14E-03	3.66E-08	6.83E-07	5.39E-03	4.76E-08	8.87E-07
Road 1	1	2100-2200	3.02E-02	2.60E-07	4.85E-06	2.71E-02	2.34E-07	4.37E-06	3.91E-03	3.37E-08	6.29E-07	5.09E-03	4.39E-08	8.18E-07
Road 1	1	2200-2300	3.15E-02	2.62E-07	4.89E-06	2.84E-02	2.37E-07	4.40E-06	4.08E-03	3.39E-08	6.32E-07	5.31E-03	4.41E-08	8.23E-07
Road 1	1	2300-2400	3.21E-02	2.04E-07	3.79E-06	2.90E-02	1.84E-07	3.42E-06	4.15E-03	2.64E-08	4.91E-07	5.40E-03	3.43E-08	6.39E-07
Road 2	2	0000-0100	8.74E-03	1.20E-07	2.21E-03	5.62E-02	7.69E-07	1.42E-02	1.93E-03	2.64E-08	4.89E-04	2.10E-03	2.87E-08	5.31E-04
Road 2	2	0100-0200	9.55E-03	8.56E-08	1.58E-03	5.84E-02	5.24E-07	9.68E-03	2.13E-03	1.91E-08	3.53E-04	2.31E-03	2.07E-08	3.83E-04
Road 2	2	0200-0300	1.04E-02	5.68E-08	1.05E-03	6.07E-02	3.32E-07	6.13E-03	2.32E-03	1.27E-08	2.34E-04	2.52E-03	1.37E-08	2.54E-04
Road 2	2	0300-0400	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 12	12	1200-1300	3.70E-01	8.80E-07	7.92E-03	1.88E-01	1.88E-06	2.59E-02	6.17E-03	5.55E-04	2.82E-02	6.71E-03	6.04E-04	6.04E-04
Road 12	12	1300-1400	3.69E-01	8.83E-07	7.94E-03	1.89E-01	1.89E-06	1.70E-02	2.59E-02	6.19E-06	5.57E-04	2.81E-02	6.72E-06	6.05E-04
Road 12	12	1400-1500	3.66E-01	8.78E-07	7.90E-03	1.87E-01	1.88E-06	1.69E-02	2.59E-02	6.20E-06	5.58E-04	2.80E-02	6.73E-06	6.06E-04
Road 12	12	1500-1600	3.65E-01	8.78E-07	7.90E-03	1.86E-01	1.88E-06	1.69E-02	2.58E-02	6.20E-06	5.58E-04	2.80E-02	6.73E-06	6.06E-04
Road 12	12	1600-1700	3.65E-01	8.76E-07	7.91E-03	1.86E-01	1.88E-06	1.69E-02	2.58E-02	6.22E-06	5.59E-04	2.80E-02	6.76E-06	6.08E-04
Road 12	12	1700-1800	3.61E-01	8.77E-07	7.89E-03	1.84E-01	1.88E-06	1.69E-02	2.57E-02	6.24E-06	5.61E-04	2.79E-02	6.78E-06	6.10E-04
Road 12	12	1800-1900	3.58E-01	8.68E-07	7.81E-03	1.83E-01	1.86E-06	1.67E-02	2.55E-02	6.17E-06	5.55E-04	2.77E-02	6.71E-06	6.03E-04
Road 12	12	1900-2000	2.62E-01	1.97E-07	1.77E-03	5.84E-01	4.40E-07	3.96E-03	2.09E-02	1.57E-06	1.41E-04	2.27E-02	1.71E-06	1.53E-04
Road 12	12	2000-2100	2.74E-01	1.95E-07	1.75E-03	6.11E-01	4.35E-07	3.91E-03	2.19E-02	1.56E-06	1.40E-04	2.38E-02	1.69E-06	1.52E-04
Road 12	12	2100-2200	2.73E-01	1.95E-07	1.75E-03	6.06E-01	4.32E-07	3.88E-03	2.16E-02	1.54E-06	1.39E-04	2.35E-02	1.67E-06	1.50E-04
Road 12	12	2200-2300	2.75E-01	1.94E-07	1.74E-03	6.06E-01	4.27E-07	3.84E-03	2.16E-02	1.52E-06	1.37E-04	2.35E-02	1.65E-06	1.48E-04
Road 12	12	2300-2400	2.71E-01	1.94E-07	1.74E-03	6.02E-01	4.30E-07	3.86E-03	2.14E-02	1.52E-06	1.37E-04	2.33E-02	1.65E-06	1.48E-04
Road 13	13	0000-0100	2.96E-01	1.79E-07	1.61E-03	6.57E-01	3.98E-07	3.58E-03	2.36E-02	1.43E-06	1.28E-04	2.56E-02	1.55E-06	1.40E-04
Road 13	13	0100-0200	2.96E-01	1.79E-07	1.61E-03	6.57E-01	3.98E-07	3.58E-03	2.36E-02	1.43E-06	1.28E-04	2.56E-02	1.55E-06	1.40E-04
Road 13	13	0200-0300	3.00E-01	1.79E-07	1.64E-03	6.63E-01	3.98E-07	3.64E-03	2.39E-02	1.41E-06	1.29E-04	2.59E-02	1.54E-06	1.40E-04
Road 13	13	0300-0400	3.00E-01	1.79E-07	1.64E-03	6.63E-01	3.98E-07	3.64E-03	2.39E-02	1.41E-06	1.29E-04	2.59E-02	1.54E-06	1.40E-04
Road 13	13	0400-0500	3.02E-01	1.80E-07	1.65E-03	6.37E-01	3.78E-07	3.45E-03	2.38E-02	1.41E-06	1.29E-04	2.59E-02	1.54E-06	1.40E-04
Road 13	13	0500-0600	2.95E-01	1.81E-07	1.65E-03	6.26E-01	3.84E-07	3.50E-03	2.32E-02	1.43E-06	1.30E-04	2.52E-02	1.55E-06	1.41E-04
Road 13	13	0600-0700	2.92E-01	1.95E-07	1.77E-03	6.29E-01	4.19E-07	3.82E-03	2.25E-02	1.50E-06	1.37E-04	2.45E-02	1.63E-06	1.49E-04
Road 13	13	0700-0800	3.64E-01	8.69E-07	7.92E-03	7.71E-01	1.84E-06	1.68E-02	2.56E-02	6.11E-06	5.58E-04	2.78E-02	6.64E-06	6.06E-04
Road 13	13	0800-0900	3.59E-01	8.69E-07	7.93E-03	7.62E-01	1.85E-06	1.68E-02	2.53E-02	6.14E-06	5.60E-04	2.75E-02	6.67E-06	6.08E-04
Road 13	13	0900-1000	3.62E-01	8.68E-07	7.92E-03	7.69E-01	1.85E-06	1.68E-02	2.55E-02	6.14E-06	5.60E-04	2.78E-02	6.68E-06	6.09E-04
Road 13	13	1000-1100	3.68E-01	8.71E-07	7.95E-03	7.82E-01	1.85E-06	1.69E-02	2.58E-02	6.12E-06	5.59E-04	2.82E-02	6.67E-06	6.09E-04
Road 13	13	1100-1200	3.68E-01	8.71E-07	7.95E-03	7.80E-01	1.85E-06	1.69E-02	2.58E-02	6.12E-06	5.59E-04	2.82E-02	6.68E-06	6.08E-04
Road 13	13	1200-1300	3.67E-01	8.73E-07	7.96E-03	7.78E-01	1.85E-06	1.69E-02	2.58E-02	6.14E-06	5.60E-04	2.80E-02	6.67E-06	6.09E-04
Road 13	13	1300-1400	3.66E-01	8.74E-07	7.98E-03	7.77E-01	1.86E-06	1.70E-02	2.58E-02	6.16E-06	5.61E-04	2.80E-02	6.69E-06	6.10E-04
Road 13	13	1400-1500	3.63E-01	8.74E-07	7.98E-03	7.73E-01	1.86E-06	1.70E-02	2.57E-02	6.18E-06	5.62E-04	2.78E-02	6.70E-06	6.11E-04
Road 13	13	1500-1600	3.61E-01	8.69E-07	7.93E-03	7.69E-01	1.85E-06	1.69E-02	2.56E-02	6.16E-06	5.62E-04	2.78E-02	6.69E-06	6.10E-04
Road 13	13	1600-1700	3.61E-01	8.71E-07	7.94E-03	7.68E-01	1.85E-06	1.69E-02	2.56E-02	6.16E-06	5.62E-04	2.78E-02	6.70E-06	6.11E-04
Road 13	13	1700-1800	3.58E-01	8.68E-07	7.92E-03	7.61E-01	1.85E-06	1.68E-02	2.53E-02	6.13E-06	5.59E-04	2.75E-02	6.66E-06	6.08E-04
Road 13	13	1800-1900	3.56E-01	8.63E-07	7.87E-03	7.52E-01	1.82E-06	1.66E-02	2.51E-02	6.08E-06	5.55E-04	2.73E-02	6.61E-06	6.03E-04
Road 13	13	1900-2000	2.58E-01	1.94E-07	1.75E-03	5.61E-01	4.22E-07	3.85E-03	2.01E-02	1.51E-06	1.38E-04	2.18E-02	1.64E-06	1.49E-04
Road 13	13	2000-2100	2.70E-01	1.92E-07	1.75E-03	5.85E-01	4.16E-07	3.80E-03	2.10E-02	1.49E-06	1.36E-04	2.28E-02	1.62E-06	1.48E-04
Road 13	13	2100-2200	2.69E-01	1.92E-07	1.75E-03	5.84E-01	4.16E-07	3.79E-03	2.09E-02	1.49E-06	1.36E-04	2.27E-02	1.62E-06	1.48E-04
Road 13	13	2200-2300	2.71E-01	1.92E-07	1.75E-03	5.86E-01	4.16E-07	3.77E-03	2.10E-02	1.49E-06	1.36E-04	2.28E-02	1.62E-06	1.48E-04
Road 14	14	0000-0100	2.19E-02	9.44E-08	5.87E-04	9.58E-02	4.13E-07	2.57E-03	3.29E-03	1.42E-08	8.81E-05	3.56E-03	1.54E-08	9.56E-05
Road 14	14	0100-0200	2.57E-02	8.31E-08	5.17E-04	1.04E-01	3.38E-07	2.10E-03	3.80E-03	1.23E-08	7.65E-05	4.12E-03	1.33E-08	8.30E-05
Road 14	14	0300-0400	2.83E-02	7.41E-08	4.61E-04	1.09E-01	2.85E-07	1.77E-03	4.24E-03	1.11E-08	6.91E-05	4.61E-03	1.21E-08	7.51E-05
Road 14	14	0400-0500	2.67E-02	7.26E-08	4.52E-04	1.03E-01	2.79E-07	1.74E-03	4.00E-03	1.08E-08	6.77E-05	4.35E-03	1.18E-08	7.36E-05
Road 14	14	0500-0600	2.67E-02	1.27E-07	7.92E-04	1.03E-01	5.32E-07	3.31E-03	4.01E-03	1.91E-08	1.19E-04	4.36E-03	2.08E-08	1.30E-04
Road 14	14	0600-0700	2.77E-02	2.76E-07	1.72E-03	1.21E-01	1.21E-06	7.52E-03	3.98E-03	3.97E-08	2.47E-04	4.33E-03	4.32E-08	2.69E-04
Road 14	14	0700-0800	4.03E-02	8.36E-07	5.20E-03	1.56E-01	3.22E-06	2.01E-02	5.00E-03	1.03E-07	6.44E-04	5.43E-03	1.13E-07	7.00E-04
Road 14	14	0800-0900	3.98E-02	9.50E-07	5.91E-03	1.51E-01	3.61E-06	2.25E-02	4.90E-03	1.17E-07	7.29E-04	5.33E-03	1.27E-07	7.92E-04
Road 14	14	0900-1000	4.08E-02	9.46E-07	5.89E-03	1.56E-01	3.62E-06	2.25E-02	5.04E-03	1.17E-07	7.27E-04	5.48E-03	1.27E-07	7.91E-04
Road 14	14	1000-1100	4.92E-02	8.83E-07	5.49E-03	1.77E-01	3.18E-06	1.97E-02	6.17E-03	1.11E-07	6.90E-04	6.71E-03	1.20E-07	7.50E-04
Road 14	14	1100-1200	4.83E-02	8.24E-07	5.12E-03	1.76E-01	3.01E-06	1.87E-02	5.99E-03	1.02E-07	6.36E-04	6.52E-03	1.11E-07	6.91E-04
Road 14	14	1200-1300	7.14E-02	1.52E-06	9.46E-03	2.43E-01	5.17E-06	3.22E-02	8.29E-03	1.77E-07	1.10E-03	9.00E-03	1.92E-07	1.19E-03
Road 14	14	1300-1400	7.12E-02	1.51E-06	9.40E-03	2.42E-01	5.14E-06	3.20E-02	8.26E-03	1.76E-07	1.09E-03	8.96E-03	1.91E-07	1.19E-03
Road 14	14	1400-1500	7.37E-02	1.71E-06	1.07E-02	2.54E-01	5.92E-06	3.68E-02	8.46E-03	1.97E-07	1.23E-03	9.20E-03	2.14E-07	1.33E-03
Road 14	14	1500-1600	6.85E-02	1.64E-06	1.02E-02	2.55E-01	6.10E-06	3.80E-02	8.08E-03	1.93E-07	1.20E-03	8.79E-03	2.10E-07	1.31E-03
Road 14	14	1600-1700	6.95E-02	1.70E-06	1.06E-02	2.42E-01	5.90E-06	3.67E-02	8.11E-03	1.98E-07	1.23E-03	8.82E-03	2.15E-07	1.34E-03
Road 14	14	1700-1800	5.38E-02	1.40E-06	8.73E-03	2.05E-01	5.44E-06	3.39E-02	6.45E-03	1.68E-07	1.05E-03	7.01E-03	1.83E-07	1.14E-03
Road 14	14	1800-1900	3.94E-02	1.04E-06	6.47E-03	1.47E-01	4.02E-06	2.51E-02	4.72E-03	1.24E-07	7.73E-04	5.13E-03	1.35E-07	8.40E-04
Road 14	14	1900-2000	2.71E-02	5.32E-07	3.31E-03	1.19E-01	2.33E-06	1.45E-02	3.64E-03	7.14E-08	4.44E-04	3.96E-03	7.76E-08	4.83E-04
Road 14	14	2000-2100	2.53E-02	3.89E-07	2.42E-03	1.19E-01	1.84E-06	1.14E-02	3.49E-03	5.37E-08	3.34E-04	3.80E-03	5.84E-08	3.64E-04
Road 14	14	2100-2200	2.43E-02	3.73E-07	2.32E-03	1.18E-01	1.82E-06	1.13E-02	3.32E-03	5.11E-08	3.18E-04	3.61E-03	5.56E-08	3.46E-04
Road 14	14	2200-2300	2.55E-02	3.91E-07	2.43E-03	1.18E-01	1.84E-06	1.14E-02	3.49E-03	5.36E-08	3.34E-04	3.80E-03	5.83E-08	3.63E-04
Road 14	14	2300-0000	2.55E-02	2.86E-07	1.78E-03	1.15E-01	1.29E-06	8.06E-03	3.51E-03	3.95E-08	2.46E-04	3.81E-03	4.29E-08	2.67E-04
Road 15	15	0000-0100	3.21E-02	5.67E-08	1.92E-04	1.11E-01	1.96E-07	6.63E-04	4.61E-03	8.14E-09	2.75E-05	5.01E-03	8.85E-09	2.99E-05
Road 15	15	0100-0200	4.11E-02	5.16E-08	1.74E-04	1.27E-01	1.60E-07	5.40E-04	5.83E-03	7.32E-09	2.47E-05	6.34E-03	7.96E-09	2.69E-05
Road 15	15	0200-0300	4.77E-02	4.77E-08	1.61E-04	1.39E-01	1.39E-07	4.69E-04	6.81E-03	6.80E-09	2.30E-05	7.41E-03	7.40E-09	2.50E-05
Road 15	15	0300-0400	5.44E-02	4.48E-08	1.51E-04	1.58E-01	1.30E-07	4.40E-04	7.77E-03	6.57E-09	2.22E-05	8.39E-03	7.15E-09	2.42E-05
Road 15	15	0400-0500	5.27E-02	4.78E-08	1.62E-04	1.54E-01	1.40E-07	4.74E-04	7.53E-03	6.84E-09	2.31E-05	8.19E-03	7.44E-09	2.51E-05
Road 15	15	0500-0600	4.29E-02	5.84E-08	1.98E-04	1.36E-01	1.85E-07	6.25E-04	6.18E-03	8.43E-09	2.85E-05	6.72E-03	9.16E-09	3.10E-05
Road 15	15	0600-0700	3.31E-02	8.59E-08	2.90E-04	1.22E-01	3.17E-07	1.07E-03	4.91E-03	1.27E-08	4.31E-05	5.33E-03	1.38E-08	4.67E-05
Road 15	15	0700-0800	5.22E-02	3.03E-07	1.02E-03	1.91E-01	9.42E-07	3.18E-03	6.77E-03	3.88E-08	1.31E-04	7.28E-03	4.22E-08	1.43E-04
Road 15	15	0800-0900	5.01E-02	3.28E-07	1.11E-03	1.55E-01	1.01E-06	3.44E-03	6.33E-03	4.16E-08	1.42E-04	6.94E-03	4.55E-08	1.54E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)
Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 15	15	0900-1000	5.54E-02	3.15E-07	1.07E-03	1.70E-01	9.70E-07	3.28E-03	7.20E-03	4.10E-08	1.39E-04	7.83E-03	4.46E-08	1.51E-04
Road 15	15	1000-1100	5.99E-02	3.05E-07	1.03E-03	1.77E-01	9.01E-07	3.07E-03	7.84E-03	4.01E-08	1.36E-04	8.51E-03	4.36E-08	1.47E-04
Road 15	15	1100-1200	5.99E-02	2.94E-07	9.93E-04	1.79E-01	8.77E-07	2.96E-03	7.80E-03	3.83E-08	1.29E-04	8.47E-03	4.16E-08	1.40E-04
Road 15	15	1200-1300	7.13E-02	5.26E-07	1.78E-03	2.21E-01	1.63E-06	5.50E-03	9.08E-03	6.70E-08	2.26E-04	9.86E-03	7.28E-08	2.46E-04
Road 15	15	1300-1400	7.28E-02	5.67E-07	1.91E-03	2.34E-01	1.82E-06	6.13E-03	9.21E-03	7.13E-08	2.41E-04	1.00E-02	7.74E-08	2.62E-04
Road 15	15	1400-1500	7.22E-02	5.78E-07	1.95E-03	2.28E-01	1.82E-06	6.16E-03	9.12E-03	7.30E-08	2.47E-04	9.91E-03	7.93E-08	2.68E-04
Road 15	15	1500-1600	6.80E-02	5.58E-07	1.89E-03	2.27E-01	1.87E-06	6.31E-03	8.76E-03	7.19E-08	2.43E-04	9.52E-03	7.82E-08	2.64E-04
Road 15	15	1600-1700	6.88E-02	5.73E-07	1.94E-03	2.18E-01	1.82E-06	6.14E-03	8.78E-03	7.31E-08	2.47E-04	9.54E-03	7.95E-08	2.69E-04
Road 15	15	1700-1800	5.76E-02	4.98E-07	1.68E-03	1.94E-01	1.71E-06	5.77E-03	7.31E-03	6.47E-08	2.19E-04	7.96E-03	7.03E-08	2.38E-04
Road 15	15	1800-1900	4.75E-02	4.14E-07	1.40E-03	1.57E-01	1.37E-06	4.62E-03	6.04E-03	5.26E-08	1.78E-04	6.56E-03	5.72E-08	1.93E-04
Road 15	15	1900-2000	2.71E-02	1.66E-07	5.61E-04	1.11E-01	6.79E-07	2.29E-03	3.99E-03	2.44E-08	8.25E-05	4.33E-03	2.65E-08	8.96E-05
Road 15	15	2000-2100	2.75E-02	1.33E-07	4.50E-04	1.17E-01	5.65E-07	1.91E-03	4.05E-03	1.96E-08	6.62E-05	4.40E-03	2.13E-08	7.20E-05
Road 15	15	2100-2200	2.66E-02	1.29E-07	4.37E-04	1.15E-01	5.61E-07	1.90E-03	3.88E-03	1.89E-08	6.38E-05	4.22E-03	2.05E-08	6.94E-05
Road 15	15	2200-2300	2.61E-02	1.22E-07	4.11E-04	1.13E-01	5.31E-07	1.78E-03	3.78E-03	1.76E-08	5.96E-05	4.11E-03	1.91E-08	6.47E-05
Road 15	15	2300-0000	2.91E-02	1.05E-07	3.54E-04	1.15E-01	4.16E-07	1.40E-03	4.28E-03	1.54E-08	5.21E-05	4.66E-03	1.68E-08	5.67E-05
Road 16	16	0000-0100	9.02E-03	6.04E-08	6.75E-04	5.94E-02	3.98E-07	4.45E-03	1.94E-03	1.30E-08	1.45E-04	2.11E-03	1.41E-08	1.58E-04
Road 16	16	0100-0200	1.01E-02	4.42E-08	4.95E-04	6.15E-02	2.71E-07	3.03E-03	2.18E-03	9.60E-09	1.07E-04	2.37E-03	1.04E-08	1.17E-04
Road 16	16	0200-0300	1.12E-02	3.63E-08	4.06E-04	6.46E-02	2.10E-07	2.35E-03	2.42E-03	7.86E-09	8.82E-05	2.64E-03	8.57E-09	9.58E-05
Road 16	16	0300-0400	1.23E-02	3.17E-08	3.55E-04	6.72E-02	1.74E-07	1.95E-03	2.67E-03	6.88E-09	7.70E-05	2.91E-03	7.52E-09	8.41E-05
Road 16	16	0400-0500	1.28E-02	3.64E-08	4.07E-04	6.89E-02	1.96E-07	2.19E-03	2.82E-03	8.01E-09	8.96E-05	3.06E-03	8.70E-09	9.73E-05
Road 16	16	0500-0600	1.29E-02	6.34E-08	7.09E-04	7.08E-02	3.47E-07	3.88E-03	2.86E-03	1.40E-08	1.57E-04	3.11E-03	1.52E-08	1.70E-04
Road 16	16	0600-0700	1.33E-02	1.39E-07	1.55E-03	7.29E-02	7.62E-07	8.52E-03	2.95E-03	3.08E-08	3.45E-04	3.21E-03	3.36E-08	3.75E-04
Road 16	16	0700-0800	1.31E-02	3.35E-07	1.15E-03	7.18E-02	1.84E-06	2.02E-02	2.90E-03	7.43E-08	2.56E-04	3.16E-03	8.10E-08	2.78E-04
Road 16	16	0800-0900	2.02E-02	4.99E-07	5.58E-03	9.17E-02	2.27E-06	2.54E-02	3.54E-03	8.75E-08	9.79E-04	3.85E-03	9.53E-08	1.07E-03
Road 16	16	0900-1000	2.05E-02	4.29E-07	4.80E-03	9.33E-02	1.96E-06	2.19E-02	3.96E-03	8.29E-08	9.28E-04	4.30E-03	9.02E-08	1.01E-03
Road 16	16	1000-1100	2.09E-02	3.85E-07	4.31E-03	9.14E-02	1.68E-06	1.88E-02	4.30E-03	7.92E-08	8.86E-04	4.68E-03	8.62E-08	9.64E-04
Road 16	16	1100-1200	2.09E-02	3.46E-07	3.87E-03	9.14E-02	1.51E-06	1.69E-02	4.30E-03	7.12E-08	7.96E-04	4.68E-03	7.75E-08	8.67E-04
Road 16	16	1200-1300	3.52E-02	7.25E-07	8.10E-03	1.34E-01	2.76E-06	3.09E-02	6.11E-03	1.26E-07	1.41E-03	6.65E-03	1.37E-07	1.53E-03
Road 16	16	1300-1400	3.76E-02	8.13E-07	9.10E-03	1.47E-01	3.19E-06	3.57E-02	6.33E-03	1.37E-07	1.53E-03	6.90E-03	1.49E-07	1.67E-03
Road 16	16	1400-1500	3.98E-02	8.98E-07	1.01E-02	1.52E-01	3.42E-06	3.83E-02	6.46E-03	1.46E-07	1.63E-03	7.01E-03	1.58E-07	1.77E-03
Road 16	16	1500-1600	3.80E-02	8.83E-07	9.88E-03	1.56E-01	3.63E-06	4.06E-02	6.21E-03	1.44E-07	1.61E-03	6.76E-03	1.57E-07	1.75E-03
Road 16	16	1600-1700	4.02E-02	9.06E-07	1.01E-02	1.53E-01	3.45E-06	3.86E-02	6.32E-03	1.42E-07	1.59E-03	6.88E-03	1.55E-07	1.73E-03
Road 16	16	1700-1800	3.04E-02	7.73E-07	8.64E-03	1.33E-01	3.38E-06	3.78E-02	4.91E-03	1.25E-07	1.40E-03	5.34E-03	1.36E-07	1.52E-03
Road 16	16	1800-1900	2.02E-02	5.16E-07	5.77E-03	9.18E-02	2.34E-06	2.62E-02	3.49E-03	8.90E-08	9.95E-04	3.80E-03	9.69E-08	1.08E-03
Road 16	16	1900-2000	1.28E-02	2.51E-07	2.81E-03	6.66E-02	1.31E-06	1.46E-02	2.63E-03	5.17E-08	5.78E-04	2.87E-03	5.63E-08	6.30E-04
Road 16	16	2000-2100	1.13E-02	1.73E-07	1.94E-03	6.62E-02	1.02E-06	1.14E-02	2.49E-03	3.81E-08	4.27E-04	2.70E-03	4.13E-08	4.64E-04
Road 16	16	2100-2200	1.07E-02	1.57E-07	1.76E-03	6.45E-02	9.48E-07	1.06E-02	2.26E-03	3.33E-08	3.72E-04	2.46E-03	3.62E-08	4.05E-04
Road 16	16	2200-2300	1.07E-02	1.57E-07	1.76E-03	6.45E-02	9.48E-07	1.06E-02	2.26E-03	3.33E-08	3.72E-04	2.46E-03	3.62E-08	4.05E-04
Road 16	16	2300-0000	1.14E-02	1.27E-07	1.42E-03	6.57E-02	7.33E-07	8.20E-03	2.50E-03	2.79E-08	3.12E-04	2.72E-03	3.03E-08	3.39E-04
Road 17	17	0000-0100	1.10E-02	9.53E-08	1.02E-03	6.57E-02	5.68E-07	6.06E-03	2.46E-03	2.13E-08	2.27E-04	2.67E-03	2.31E-08	2.46E-04
Road 17	17	0100-0200	1.23E-02	9.53E-08	1.02E-03	7.33E-02	5.68E-07	6.06E-03	2.74E-03	2.13E-08	2.27E-04	2.97E-03	2.31E-08	2.46E-04
Road 17	17	0200-0300	1.33E-02	5.62E-08	6.00E-04	7.16E-02	3.03E-07	3.24E-03	2.97E-03	1.26E-08	1.34E-04	3.24E-03	1.37E-08	1.46E-04
Road 17	17	0300-0400	1.43E-02	4.87E-08	5.19E-04	7.39E-02	2.51E-07	2.68E-03	3.23E-03	1.10E-08	1.17E-04	3.51E-03	1.19E-08	1.27E-04
Road 17	17	0400-0500	1.51E-02	5.67E-08	6.05E-04	7.64E-02	2.87E-07	3.06E-03	3.41E-03	1.28E-08	1.36E-04	3.71E-03	1.39E-08	1.48E-04
Road 17	17	0500-0600	1.55E-02	1.01E-07	1.08E-03	7.91E-02	5.16E-07	5.51E-03	3.52E-03	2.30E-08	2.45E-04	3.82E-03	2.50E-08	2.66E-04
Road 17	17	0600-0700	1.56E-02	2.07E-07	2.21E-03	8.04E-02	1.06E-06	1.13E-02	3.58E-03	4.72E-08	5.02E-04	3.89E-03	5.11E-08	5.44E-04
Road 17	17	0700-0800	3.96E-02	1.14E-06	2.22E-02	1.64E-01	4.72E-06	9.04E-02	5.25E-03	1.51E-07	1.62E-03	5.71E-03	1.64E-07	1.76E-03
Road 17	17	0800-0900	7.45E-02	2.50E-06	2.67E-02	2.88E-01	9.66E-06	1.03E-01	6.88E-03	2.31E-07	2.47E-03	7.48E-03	2.51E-07	2.68E-03
Road 17	17	0900-1000	5.83E-02	1.72E-06	1.84E-02	2.30E-01	6.81E-06	7.26E-02	6.74E-03	1.99E-07	2.13E-03	7.30E-03	2.16E-07	2.31E-03
Road 17	17	1000-1100	4.96E-02	1.02E-06	1.09E-02	1.96E-01	4.04E-06	4.30E-02	5.73E-03	1.18E-07	1.26E-03	6.21E-03	1.28E-07	1.37E-03
Road 17	17	1100-1200	4.02E-02	1.01E-06	1.07E-02	1.61E-01	4.02E-06	4.29E-02	5.99E-03	1.50E-07	1.60E-03	6.51E-03	1.63E-07	1.74E-03
Road 17	17	1200-1300	5.35E-02	1.22E-06	1.31E-02	1.93E-01	4.42E-06	4.72E-02	7.87E-03	1.80E-07	1.92E-03	8.55E-03	1.95E-07	2.08E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 35	35	1200-1300	7.29E-02	1.71E-07	1.52E-04	1.89E-01	4.44E-07	3.95E-04	1.00E-02	2.36E-08	2.10E-05	1.99E-02	4.68E-08	2.27E-05
Road 35	35	1300-1400	7.24E-02	1.73E-07	1.54E-04	1.91E-01	4.57E-07	4.05E-04	1.00E-02	2.39E-08	2.13E-05	1.09E-02	2.60E-08	2.31E-05
Road 35	35	1400-1500	7.30E-02	1.81E-07	1.61E-04	1.92E-01	4.76E-07	4.23E-04	9.92E-03	2.46E-08	2.19E-05	1.08E-02	2.68E-08	2.38E-05
Road 35	35	1500-1600	7.13E-02	1.80E-07	1.60E-04	1.92E-01	4.83E-07	4.29E-04	9.73E-03	2.45E-08	2.17E-05	1.06E-02	2.67E-08	2.37E-05
Road 35	35	1600-1700	7.06E-02	1.86E-07	1.65E-04	1.90E-01	5.35E-08	4.10E-04	2.53E-03	7.26E-09	1.56E-05	1.06E-02	2.73E-08	2.43E-05
Road 35	35	1700-1800	6.21E-02	1.74E-07	1.55E-04	1.69E-01	4.72E-07	4.22E-04	8.45E-03	2.37E-08	2.11E-05	9.21E-03	2.59E-08	2.30E-05
Road 35	35	1800-1900	5.61E-02	1.66E-07	1.47E-04	1.48E-01	4.37E-07	3.88E-04	7.56E-03	2.24E-08	1.99E-05	8.24E-03	2.44E-08	2.16E-05
Road 35	35	1900-2000	2.81E-02	5.14E-08	4.56E-05	9.65E-02	1.76E-07	1.56E-04	4.20E-03	7.67E-09	6.81E-06	4.57E-03	8.34E-09	7.41E-06
Road 35	35	2000-2100	3.18E-02	4.59E-08	4.07E-05	1.44E-01	4.30E-07	3.82E-04	4.75E-03	6.85E-09	6.08E-06	5.17E-03	7.45E-09	6.62E-06
Road 35	35	2100-2200	3.08E-02	4.54E-08	4.03E-05	1.07E-01	1.58E-07	1.41E-04	4.44E-03	6.55E-09	5.81E-06	4.82E-03	7.12E-09	6.32E-06
Road 35	35	2200-2300	3.12E-02	4.48E-08	3.98E-05	1.08E-01	1.55E-07	1.37E-04	4.43E-03	6.36E-09	5.65E-06	4.81E-03	6.91E-09	6.14E-06
Road 35	35	2300-0000	3.63E-02	4.14E-08	3.67E-05	1.16E-01	1.32E-07	1.18E-04	5.24E-03	5.97E-09	5.30E-06	5.70E-03	6.49E-09	5.77E-06
Road 36	36	0000-0100	4.75E-02	7.24E-08	6.66E-05	2.06E-01	3.11E-07	2.86E-04	8.30E-03	1.26E-08	1.16E-05	9.03E-03	1.38E-08	1.26E-05
Road 36	36	0100-0200	5.54E-02	6.04E-08	5.56E-05	2.12E-01	2.33E-07	2.14E-04	9.38E-03	1.02E-08	9.41E-06	1.05E-02	1.15E-08	1.02E-05
Road 36	36	0200-0300	6.35E-02	5.55E-08	5.10E-05	2.26E-01	1.98E-07	1.82E-04	1.04E-02	9.08E-09	8.35E-06	1.13E-02	9.89E-09	9.09E-06
Road 36	36	0300-0400	7.01E-02	5.26E-08	4.84E-05	2.35E-01	1.76E-07	1.62E-04	1.08E-02	8.07E-09	7.42E-06	1.22E-02	9.17E-09	8.43E-06
Road 36	36	0400-0500	6.97E-02	5.59E-08	5.14E-05	2.39E-01	1.91E-07	1.76E-04	1.13E-02	9.06E-09	8.33E-06	1.23E-02	9.87E-09	9.07E-06
Road 36	36	0500-0600	6.17E-02	7.28E-08	6.70E-05	2.39E-01	2.86E-07	2.63E-04	1.14E-02	1.27E-08	1.17E-05	1.23E-02	1.38E-08	1.27E-05
Road 36	36	0600-0700	5.58E-02	1.27E-07	1.16E-04	2.46E-01	5.59E-07	5.14E-04	1.02E-02	2.30E-08	2.12E-05	1.11E-02	2.51E-08	2.31E-05
Road 36	36	0700-0800	7.21E-02	3.68E-07	3.39E-04	2.73E-01	1.39E-06	1.28E-03	1.16E-02	5.93E-08	5.45E-05	1.26E-02	6.45E-08	5.93E-05
Road 36	36	0800-0900	6.94E-02	4.01E-07	3.69E-04	2.51E-01	1.45E-06	1.33E-03	9.94E-03	5.74E-08	5.28E-05	1.08E-02	6.25E-08	5.74E-05
Road 36	36	0900-1000	7.96E-02	4.07E-07	3.74E-04	2.69E-01	1.37E-06	1.26E-03	9.68E-03	4.95E-08	4.55E-05	1.05E-02	5.38E-08	4.95E-05
Road 36	36	1000-1100	8.06E-02	3.72E-07	3.42E-04	2.73E-01	1.26E-06	1.16E-03	9.68E-03	4.47E-08	4.11E-05	1.05E-02	4.85E-08	4.46E-05
Road 36	36	1100-1200	8.45E-02	3.76E-07	3.45E-04	2.72E-01	1.21E-06	1.12E-03	9.73E-03	4.32E-08	3.98E-05	1.06E-02	4.70E-08	4.32E-05
Road 36	36	1200-1300	9.98E-02	3.55E-07	3.27E-04	2.96E-01	1.05E-06	9.68E-04	1.12E-02	4.00E-08	3.68E-05	1.22E-02	4.34E-08	3.99E-05
Road 36	36	1300-1400	1.02E-01	3.79E-07	3.48E-04	3.04E-01	1.13E-06	1.04E-03	1.15E-02	4.28E-08	3.93E-05	1.25E-02	4.64E-08	4.26E-05
Road 36	36	1400-1500	9.94E-02	3.16E-07	2.91E-04	2.96E-01	9.40E-07	8.64E-04	1.12E-02	3.56E-08	3.27E-05	1.22E-02	3.87E-08	3.55E-05
Road 36	36	1500-1600	1.01E-01	3.91E-07	3.60E-04	3.10E-01	1.21E-06	1.11E-03	1.09E-02	4.23E-08	3.89E-05	1.18E-02	4.60E-08	4.23E-05
Road 36	36	1600-1700	9.69E-02	3.82E-07	3.51E-04	2.96E-01	1.17E-06	1.07E-03	1.13E-02	4.47E-08	4.11E-05	1.23E-02	4.85E-08	4.46E-05
Road 36	36	1700-1800	8.71E-02	3.61E-07	3.31E-04	2.89E-01	1.20E-06	1.10E-03	1.17E-02	4.83E-08	4.44E-05	1.27E-02	5.25E-08	4.83E-05
Road 36	36	1800-1900	7.12E-02	2.94E-07	2.70E-04	2.34E-01	9.65E-07	8.87E-04	1.01E-02	4.18E-08	3.84E-05	1.10E-02	4.54E-08	4.17E-05
Road 36	36	1900-2000	4.72E-02	1.04E-07	9.59E-05	1.96E-01	4.31E-07	3.96E-04	7.48E-03	1.64E-08	1.51E-05	8.01E-03	1.76E-08	1.62E-05
Road 36	36	2000-2100	4.92E-02	1.04E-07	9.59E-05	2.08E-01	4.41E-07	4.06E-04	7.47E-03	1.58E-08	1.45E-05	8.12E-03	1.72E-08	1.58E-05
Road 36	36	2100-2200	4.87E-02	1.04E-07	9.54E-05	2.10E-01	4.48E-07	4.12E-04	7.61E-03	1.62E-08	1.49E-05	8.29E-03	1.76E-08	1.62E-05
Road 36	36	2200-2300	4.58E-02	9.38E-08	8.62E-05	2.01E-01	4.12E-07	3.79E-04	7.27E-03	1.49E-08	1.37E-05	7.91E-03	1.62E-08	1.49E-05
Road 36	36	2300-0000	5.21E-02	8.43E-08	7.75E-05	2.15E-01	3.43E-07	3.16E-04	8.11E-03	1.31E-08	1.21E-05	8.83E-03	1.43E-08	1.31E-05
Road 37	37	0000-0100	3.86E-02	5.67E-08	5.21E-05	1.68E-01	2.47E-07	2.27E-04	6.48E-03	9.51E-09	8.75E-06	7.06E-03	1.04E-08	9.53E-06
Road 37	37	0100-0200	4.17E-02	1.22E-09	1.02E-06	2.15E-01	6.28E-09	5.26E-06	7.05E-03	2.05E-10	1.72E-07	7.68E-03	2.24E-10	1.88E-07
Road 37	37	0200-0300	4.56E-02	9.74E-10	8.16E-07	2.27E-01	4.90E-09	4.10E-06	7.51E-03	1.62E-10	1.36E-07	8.19E-03	1.77E-10	1.48E-07
Road 37	37	0300-0400	4.81E-02	8.34E-10	6.99E-07	2.35E-01	4.08E-09	3.42E-06	7.96E-03	1.38E-10	1.16E-07	8.68E-03	1.50E-10	1.26E-07
Road 37	37	0400-0500	4.79E-02	1.63E-09	1.37E-06	2.34E-01	7.96E-09	6.67E-06	7.92E-03	2.69E-10	2.26E-07	8.64E-03	2.94E-10	2.46E-07
Road 37	37	0500-0600	5.41E-02	1.84E-09	1.54E-06	2.52E-01	8.59E-09	7.19E-06	8.84E-03	3.01E-10	2.52E-07	9.64E-03	3.28E-10	2.75E-07
Road 37	37	0600-0700	5.70E-02	4.22E-09	3.54E-06	2.63E-01	1.94E-08	1.63E-05	9.27E-03	6.86E-10	5.74E-07	1.01E-02	7.48E-10	6.26E-07
Road 37	37	0700-0800	5.98E-02	9.08E-09	7.61E-06	2.69E-01	4.08E-08	3.42E-05	9.68E-03	1.47E-09	1.23E-06	1.06E-02	1.60E-09	1.34E-06
Road 37	37	0800-0900	6.01E-02	1.07E-08	8.97E-06	2.50E-01	4.46E-08	3.73E-05	8.15E-03	1.45E-09	1.22E-06	8.88E-03	1.58E-09	1.32E-06
Road 37	37	0900-1000	6.11E-02	1.06E-08	8.87E-06	2.57E-01	4.47E-08	3.75E-05	8.27E-03	1.44E-09	1.20E-06	9.01E-03	1.57E-09	1.31E-06
Road 37	37	1000-1100	7.59E-02	1.10E-08	9.25E-06	2.77E-01	4.03E-08	3.37E-05	7.87E-03	1.15E-09	9.59E-07	8.57E-03	1.25E-09	1.04E-06
Road 37	37	1100-1200	7.61E-02	1.04E-08	8.75E-06	2.80E-01	3.84E-08	3.22E-05	7.61E-03	1.05E-09	8.76E-07	8.29E-03	1.14E-09	9.53E-07
Road 37	37	1200-1300	7.23E-02	1.06E-08	8.84E-06	2.64E-01	3.86E-08	3.23E-05	7.82E-03	1.14E-09	9.56E-07	8.52E-03	1.24E-09	1.04E-06
Road 37	37	1300-1400	7.71E-02	1.06E-08	8.90E-06	2.81E-01	3.91E-08	3.28E-05	7.91E-03	1.09E-09	9.14E-07	8.61E-03	1.19E-09	9.96E-07
Road 37	37	1400-1500	7.40E-02	1.19E-08	9.94E-06	2.71E-01	4.35E-08	3.65E-05	8.09E-03	1.30E-09	1.09E-06	8.82E-03	1.41E-09	1.18E-06
Road 37	37	1500-1600	7.64E-02	1.26E-08	1.06E-05	2.85E-01	4.71E-08	3.94E-05	7.71E-03	1.27E-09	1.07E-06	8.39E-03	1.39E-09	1.16E-06
Road 37	37	1600-1700	7.17E-02	1.21E-08	1.01E-05	2.68E-01	4.51E-08	3.78E-05	8.37E-03	1.41E-09	1.18E-06	9.11E-03	1.53E-09	1.29E-06
Road 37	37	1700-1800	6.12E-02	1.10E-08	9.24E-06	2.42E-01	4.72E-08	3.95E-05	9.08E-03	1.64E-09	1.37E-06	9.90E-03	1.78E-09	1.49E-06
Road 37	37	1800-1900	4.13E-02	1.03E-08	8.63E-06	1.63E-01	4.06E-08	3.41E-05	6.11E-03	1.52E-09	1.28E-06	6.66E-03	1.66E-09	1.39E-06
Road 37	37	1900-2000	3.48E-02	4.82E-09	4.03E-06	1.78E-01	2.46E-08	2.06E-05	6.03E-03	8.35E-10	6.99E-07	6.56E-03	9.09E-10	7.61E-07
Road 37	37	2000-2100	3.55E-02	3.83E-09	3.21E-06	1.92E-01	2.07E-08	1.73E-05	5.86E-03	6.32E-10	5.29E-07	6.38E-03	6.88E-10	5.77E-07
Road 37	37	2100-2200	3.50E-02	3.79E-09	3.18E-06	1.95E-01	2.11E-08	1.77E-05	6.04E-03	6.55E-10	5.48E-07	6.58E-03	7.13E-10	5.97E-07
Road 37	37	2200-2300	3.31E-02	3.58E-09	3.00E-06	1.84E-01	1.99E-08	1.67E-05	5.81E-03	6.07E-10	5.08E-07	6.32E-03	6.60E-10	5.53E-07
Road 37	37	2300-0000	3.43E-02	2.69E-09	2.26E-06	1.97E-01	1.52E-08	1.27E-05	6.06E-03	4.76E-10	3.98E-07	6.60E-03	5.18E-10	4.34E-07
Road 38	38	0000-0100	6.32E-02	1.00E-07	2.99E-04	2.30E-01	3.64E-07	1.09E-03	9.52E-03	1.51E-08	4.50E-05	1.04E-02	1.64E-08	4.90E-05
Road 38	38	0100-0200	7.31E-02	8.60E-08	2.57E-04	2.42E-01	2.84E-07	8.50E-04	1.07E-02	1.26E-08	3.78E-05	1.17E-02	1.38E-08	4.11E-05
Road 38	38	0200-0300	7.92E-02	7.70E-08	2.30E-04	2.48E-01	2.41E-07	7.20E-04	1.16E-02	1.13E-08	3.37E-05	1.26E-02	1.23E-08	3.67E-05
Road 38	38	0300-0400	8.55E-02	7.18E-08	2.15E-04	2.58E-01	2.17E-07	6.48E-04	1.25E-02	1.05E-08	3.14E-05	1.36E-02	1.15E-08	3.44E-05
Road 38	38	0400-0500	8.51E-02	7.74E-08	2.31E-04	2.60E-01	2.36E-07	7.06E-04	1.24E-02	1.13E-08	3.38E-05	1.23E-02	1.36E-08	3.66E-05
Road 38	38	0500-0600	7.93E-02	1.04E-07	3.11E-04	2.67E-01	3.50E-07	1.05E-03	1.17E-02	1.53E-08	4.57E-05	1.27E-02	1.66E-08	4.97E-05
Road 38	38	0600-0700	7.33E-02	1.76E-07	5.26E-04	2.77E-01	6.66E-07	1.99E-03	1.09E-02	2.63E-08	7.86E-05	1.19E-02	2.86E-08	8.54E-05
Road 38	38	0700-0800	9.24E-02	5.22E-07	1.56E-03	3.08E-01	1.23E-06	3.68E-03	1.44E-02	8.12E-08	2.42E-04	1.56E-02	8.81E-08	2.63E-04
Road 38	38	0800-0900	9.22E-02	5.84E-07	1.74E-03	2.99E-01	1.89E-06	5.65E-03	1.12E-02	7.06E-08	2.11E-04	1.92E-02	2.49E-08	7.43E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 38	38	0900-1000	1.03E-01	6.07E-07	1.81E-03	3.21E-01	1.89E-06	5.64E-03	1.12E-02	6.59E-08	1.97E-04	1.28E-02	7.54E-08	2.25E-04
Road 38	38	1000-1100	1.06E-01	5.81E-07	1.74E-03	3.19E-01	1.74E-06	5.21E-03	1.14E-02	6.22E-08	1.86E-04	1.24E-02	6.76E-08	2.02E-04
Road 38	38	1100-1200	1.07E-01	5.62E-07	1.68E-03	3.23E-01	1.69E-06	5.04E-03	1.13E-02	5.93E-08	1.77E-04	1.23E-02	6.45E-08	1.93E-04
Road 38	38	1200-1300	1.34E-01	4.35E-07	1.30E-03	3.55E-01	1.15E-06	3.44E-03	1.42E-02	4.61E-08	1.38E-04	1.54E-02	5.00E-08	1.49E-04
Road 38	38	1300-1400	1.38E-01	4.64E-07	1.39E-03	3.66E-01	1.23E-06	3.68E-03	1.46E-02	4.92E-08	1.47E-04	1.58E-02	5.33E-08	1.59E-04
Road 38	38	1400-1500	1.37E-01	4.71E-07	1.41E-03	3.68E-01	1.27E-06	3.78E-03	1.42E-02	4.87E-08	1.46E-04	1.54E-02	5.29E-08	1.58E-04
Road 38	38	1500-1600	1.38E-01	4.85E-07	1.45E-03	3.81E-01	1.34E-06	4.00E-03	1.37E-02	4.81E-08	1.44E-04	1.49E-02	5.24E-08	1.56E-04
Road 38	38	1600-1700	1.33E-01	4.53E-07	1.35E-03	3.59E-01	1.22E-06	3.66E-03	1.40E-02	4.78E-08	1.43E-04	1.52E-02	5.19E-08	1.55E-04
Road 38	38	1700-1800	1.24E-01	4.36E-07	1.30E-03	3.72E-01	1.31E-06	3.91E-03	1.38E-02	4.85E-08	1.44E-04	1.49E-02	5.24E-08	1.56E-04
Road 38	38	1800-1900	1.21E-01	3.59E-07	1.07E-03	3.29E-01	1.16E-06	3.46E-03	1.21E-02	4.04E-08	1.21E-04	1.48E-02	4.38E-08	1.31E-04
Road 38	38	1900-2000	9.45E-02	1.36E-07	4.07E-04	2.92E-01	4.21E-07	1.26E-03	1.06E-02	1.53E-08	4.56E-05	1.15E-02	1.66E-08	4.96E-05
Road 38	38	2000-2100	9.80E-02	1.19E-07	3.56E-04	3.00E-01	3.65E-07	1.09E-03	1.10E-02	1.33E-08	3.99E-05	1.19E-02	1.45E-08	4.34E-05
Road 38	38	2100-2200	9.80E-02	1.21E-07	3.60E-04	3.02E-01	3.71E-07	1.11E-03	1.11E-02	1.36E-08	4.07E-05	1.20E-02	1.48E-08	4.42E-05
Road 38	38	2200-2300	9.49E-02	1.16E-07	3.48E-04	2.92E-01	3.56E-07	1.07E-03	1.08E-02	1.32E-08	3.88E-05	1.22E-02	1.41E-08	4.22E-05
Road 38	38	2300-0000	9.80E-02	9.73E-08	2.91E-04	2.85E-01	2.83E-07	8.46E-04	1.19E-02	1.18E-08	3.52E-05	1.29E-02	1.28E-08	3.83E-05
Road 39	39	0000-0100	1.01E-01	2.38E-08	7.39E-05	3.42E-01	8.03E-08	2.49E-04	9.52E-03	2.23E-09	6.94E-06	1.04E-02	2.43E-09	7.56E-06
Road 39	39	0100-0200	1.04E-01	1.70E-08	5.27E-05	3.49E-01	5.68E-08	1.77E-04	9.75E-03	1.59E-09	4.94E-06	1.06E-02	1.73E-09	5.38E-06
Road 39	39	0200-0300	1.07E-01	1.35E-08	4.21E-05	3.59E-01	4.52E-08	1.40E-04	9.97E-03	1.26E-09	3.92E-06	1.08E-02	1.38E-09	4.27E-06
Road 39	39	0300-0400	1.09E-01	1.16E-08	3.60E-05	3.62E-01	3.85E-08	1.20E-04	1.01E-02	1.08E-09	3.35E-06	1.11E-02	1.17E-09	3.65E-06
Road 39	39	0400-0500	1.11E-01	1.37E-08	4.26E-05	3.67E-01	4.53E-08	1.41E-04	1.03E-02	1.27E-09	3.95E-06	1.12E-02	1.39E-09	4.30E-06
Road 39	39	0500-0600	1.13E-01	2.55E-08	7.92E-05	3.71E-01	8.38E-08	2.60E-04	1.05E-02	2.36E-09	7.34E-06	1.14E-02	2.57E-09	7.99E-06
Road 39	39	0600-0700	1.16E-01	5.93E-08	1.84E-04	3.82E-01	1.95E-07	6.05E-04	1.07E-02	5.45E-09	1.69E-05	1.17E-02	5.94E-09	1.85E-05
Road 39	39	0700-0800	1.28E-01	1.28E-07	3.96E-04	4.22E-01	4.20E-07	1.30E-03	1.18E-02	1.18E-08	3.65E-05	1.29E-02	1.28E-08	3.97E-05
Road 39	39	0800-0900	1.21E-01	1.56E-07	4.84E-04	3.93E-01	5.08E-07	1.58E-03	1.03E-02	1.34E-08	4.15E-05	1.12E-02	1.45E-08	4.52E-05
Road 39	39	0900-1000	1.26E-01	1.77E-07	5.51E-04	4.07E-01	5.71E-07	1.77E-03	1.03E-02	1.44E-08	4.49E-05	1.12E-02	1.57E-08	4.88E-05
Road 39	39	1000-1100	1.27E-01	1.74E-07	5.40E-04	4.01E-01	5.46E-07	1.70E-03	1.07E-02	1.46E-08	4.55E-05	1.17E-02	1.59E-08	4.95E-05
Road 39	39	1100-1200	1.29E-01	1.62E-07	5.04E-04	4.06E-01	5.09E-07	1.58E-03	1.08E-02	1.36E-08	4.23E-05	1.18E-02	1.48E-08	4.60E-05
Road 39	39	1200-1300	5.89E-02	1.75E-08	5.45E-05	2.34E-01	6.96E-08	2.16E-04	7.03E-03	2.09E-09	6.51E-06	7.66E-03	2.28E-09	7.09E-06
Road 39	39	1300-1400	6.31E-02	1.95E-08	6.05E-05	2.47E-01	7.64E-08	2.37E-04	7.08E-03	2.19E-09	6.79E-06	7.71E-03	2.38E-09	7.40E-06
Road 39	39	1400-1500	6.06E-02	1.98E-08	6.14E-05	2.41E-01	7.86E-08	2.44E-04	7.39E-03	2.41E-09	7.49E-06	8.04E-03	2.62E-09	8.15E-06
Road 39	39	1500-1600	6.27E-02	2.10E-08	6.52E-05	2.52E-01	8.42E-08	2.62E-04	7.08E-03	2.37E-09	7.36E-06	7.71E-03	2.58E-09	8.02E-06
Road 39	39	1600-1700	5.91E-02	1.98E-08	6.14E-05	2.38E-01	7.98E-08	2.48E-04	7.38E-03	2.48E-09	7.68E-06	8.01E-03	2.69E-09	8.34E-06
Road 39	39	1700-1800	4.89E-02	1.89E-08	5.86E-05	2.33E-01	9.00E-08	2.80E-04	8.91E-03	3.44E-09	1.07E-05	9.71E-03	3.75E-09	1.16E-05
Road 39	39	1800-1900	3.16E-02	1.29E-08	3.99E-05	1.67E-01	6.79E-08	2.11E-04	6.78E-03	2.75E-09	8.56E-06	7.38E-03	3.00E-09	9.33E-06
Road 39	39	1900-2000	2.65E-02	8.42E-09	2.62E-05	1.57E-01	4.98E-08	1.55E-04	5.68E-03	1.81E-09	5.61E-06	6.19E-03	1.97E-09	6.11E-06
Road 39	39	2000-2100	2.69E-02	6.65E-09	2.07E-05	1.71E-01	4.23E-08	1.31E-04	5.50E-03	1.36E-09	4.23E-06	5.99E-03	1.48E-09	4.60E-06
Road 39	39	2100-2200	2.67E-02	6.66E-09	2.07E-05	1.71E-01	4.26E-08	1.32E-04	5.50E-03	1.37E-09	4.26E-06	5.99E-03	1.49E-09	4.63E-06
Road 39	39	2200-2300	2.32E-02	5.55E-09	1.72E-05	1.67E-01	3.98E-08	1.24E-04	5.15E-03	1.23E-09	3.83E-06	5.61E-03	1.34E-09	4.17E-06
Road 39	39	2300-0000	2.58E-02	4.65E-09	1.44E-05	1.75E-01	3.14E-08	9.75E-05	5.63E-03	1.01E-09	3.15E-06	6.14E-03	1.10E-09	3.43E-06
Road 40	40	0000-0100	5.72E-02	1.69E-07	3.01E-04	2.21E-01	6.55E-07	1.16E-03	9.02E-03	2.67E-08	4.74E-05	9.80E-03	2.90E-08	5.15E-05
Road 40	40	0100-0200	6.74E-02	1.81E-07	3.22E-04	2.60E-01	7.01E-07	1.24E-03	1.06E-02	2.86E-08	5.07E-05	1.15E-02	3.10E-08	5.51E-05
Road 40	40	0200-0300	7.41E-02	1.31E-07	2.32E-04	2.42E-01	4.28E-07	7.60E-04	1.12E-02	1.97E-08	3.50E-05	1.22E-02	2.15E-08	3.81E-05
Road 40	40	0300-0400	8.09E-02	1.24E-07	2.20E-04	2.52E-01	3.86E-07	6.86E-04	1.20E-02	1.84E-08	3.27E-05	1.31E-02	2.01E-08	3.56E-05
Road 40	40	0400-0500	8.04E-02	1.31E-07	2.33E-04	2.55E-01	4.17E-07	7.41E-04	1.20E-02	1.97E-08	3.50E-05	1.31E-02	2.14E-08	3.80E-05
Road 40	40	0500-0600	7.38E-02	1.76E-07	3.13E-04	2.61E-01	6.23E-07	1.11E-03	1.13E-02	2.71E-08	4.81E-05	1.23E-02	2.94E-08	5.22E-05
Road 40	40	0600-0700	6.97E-02	3.67E-07	6.52E-04	2.47E-01	1.30E-06	2.31E-03	1.07E-02	5.66E-08	1.01E-04	1.16E-02	6.14E-08	1.09E-04
Road 40	40	0700-0800	9.71E-02	9.94E-07	1.76E-03	3.28E-01	3.36E-06	5.96E-03	1.28E-02	1.31E-07	2.32E-04	1.39E-02	1.42E-07	2.53E-04
Road 40	40	0800-0900	9.35E-02	1.08E-06	1.91E-03	3.08E-01	3.56E-06	6.31E-03	1.12E-02	1.29E-07	2.30E-04	1.22E-02	1.41E-07	2.50E-04
Road 40	40	0900-1000	1.06E-01	1.11E-06	1.97E-03	3.33E-01	3.49E-06	6.20E-03	1.11E-02	1.17E-07	2.07E-04	1.21E-02	1.27E-07	2.25E-04
Road 40	40	1000-1100	1.11E-01	1.09E-06	1.94E-03	3.42E-01	3.30E-06	5.85E-03	1.15E-02	1.11E-07	1.97E-04	1.25E-02	1.21E-07	2.14E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary)

Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission		
			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m^2	tonne/hour	g/km/veh	g/s/m^2	tonne/hour
Road 104	104	1200-1300	1.40E+02	3.18E-07	2.36E-03	6.58E-02	1.50E-07	1.11E-03
Road 104	104	1300-1400	1.40E+02	3.25E-07	2.42E-03	6.74E-02	1.56E-07	1.16E-03
Road 104	104	1400-1500	1.43E+02	3.54E-07	2.63E-03	6.70E-02	1.66E-07	1.24E-03
Road 104	104	1500-1600	1.34E+02	3.41E-07	2.53E-03	6.70E-02	1.70E-07	1.26E-03
Road 104	104	1600-1700	1.34E+02	3.68E-07	2.73E-03	6.44E-02	1.77E-07	1.31E-03
Road 104	104	1700-1800	1.01E+02	3.12E-07	2.32E-03	5.71E-02	1.77E-07	1.31E-03
Road 104	104	1800-1900	7.30E+03	2.50E-07	1.86E-03	4.33E-02	1.48E-07	1.10E-03
Road 104	104	1900-2000	6.40E+03	1.74E-07	1.29E-03	4.40E-02	1.20E-07	8.91E-04
Road 104	104	2000-2100	6.19E+03	1.15E-07	8.54E-04	4.26E-02	7.92E-08	5.88E-04
Road 104	104	2100-2200	5.29E+03	1.12E-07	8.32E-04	4.80E-02	1.02E-07	7.55E-04
Road 104	104	2200-2300	5.18E+03	1.06E-07	7.91E-04	4.89E-02	1.00E-07	7.47E-04
Road 104	104	2300-0000	5.80E+03	8.90E-08	6.61E-04	5.04E-02	7.73E-07	5.75E-03
Road 105	105	0000-0100	1.69E+02	1.86E-08	2.82E-04	9.18E-02	1.01E-08	1.53E-04
Road 105	105	0100-0200	1.83E+02	1.32E-08	2.00E-04	9.58E-02	6.93E-09	1.05E-04
Road 105	105	0200-0300	1.99E+02	1.06E-08	1.62E-04	1.01E-01	5.41E-09	8.22E-05
Road 105	105	0300-0400	2.13E+02	9.11E-09	1.39E-04	1.05E-01	4.50E-09	6.85E-05
Road 105	105	0400-0500	2.27E+02	1.08E-08	1.64E-04	1.09E-01	5.19E-09	7.89E-05
Road 105	105	0500-0600	2.40E+02	2.01E-08	3.05E-04	1.19E-01	9.43E-09	1.43E-04
Road 105	105	0600-0700	2.62E+02	4.76E-08	7.23E-04	1.21E-01	2.18E-07	3.32E-03
Road 105	105	0700-0800	3.03E+02	1.12E-07	1.71E-03	1.34E-01	4.96E-07	7.54E-03
Road 105	105	0800-0900	2.94E+02	1.28E-07	1.95E-03	1.44E-01	6.29E-07	9.55E-03
Road 105	105	0900-1000	3.47E+02	1.34E-07	2.04E-03	1.48E-01	5.71E-07	8.68E-03
Road 105	105	1000-1100	3.41E+02	1.31E-07	1.99E-03	1.46E-01	5.62E-07	8.54E-03
Road 105	105	1100-1200	3.71E+02	1.22E-07	1.85E-03	1.52E-01	5.00E-07	7.60E-03
Road 105	105	1200-1300	8.26E+02	4.04E-07	6.15E-03	2.85E-01	1.40E-06	2.12E-02
Road 105	105	1300-1400	1.89E+02	4.51E-07	6.86E-03	2.96E-01	1.63E-06	2.48E-02
Road 105	105	1400-1500	1.87E+02	4.57E-07	6.95E-03	2.94E-01	1.65E-06	2.51E-02
Road 105	105	1500-1600	7.55E+02	4.30E-07	6.55E-03	2.93E-01	1.67E-06	2.54E-02
Road 105	105	1600-1700	8.10E+02	4.28E-07	6.51E-03	2.92E-01	1.54E-06	2.34E-02
Road 105	105	1700-1800	6.77E+02	3.26E-07	4.96E-03	2.54E-01	1.22E-06	1.86E-02
Road 105	105	1800-1900	5.54E+02	1.88E-07	2.86E-03	2.14E-01	7.26E-07	1.10E-02
Road 105	105	1900-2000	5.41E+02	1.22E-07	1.85E-03	2.09E-01	4.72E-07	7.18E-03
Road 105	105	2000-2100	5.10E+02	9.11E-08	1.39E-03	2.15E-01	3.84E-07	5.84E-03
Road 105	105	2100-2200	5.18E+02	9.50E-08	1.44E-03	2.16E-01	3.95E-07	6.01E-03
Road 105	105	2200-2300	5.68E+02	9.15E-08	1.39E-03	2.13E-01	3.43E-07	5.22E-03
Road 105	105	2300-0000	5.60E+02	7.36E-08	1.12E-03	2.27E-01	2.98E-07	4.53E-03
Road 106	106	0000-0100	1.62E+02	6.07E-08	7.79E-04	9.14E-02	3.81E-07	4.89E-03
Road 106	106	0100-0200	1.71E+02	4.68E-08	5.40E-04	9.33E-02	2.55E-07	2.94E-03
Road 106	106	0200-0300	1.81E+02	3.64E-08	4.20E-04	9.62E-02	1.94E-07	2.23E-03
Road 106	106	0300-0400	1.94E+02	3.12E-08	3.60E-04	1.00E-01	1.61E-07	1.85E-03
Road 106	106	0400-0500	2.28E+02	3.70E-08	4.26E-04	1.04E-01	1.85E-07	2.13E-03
Road 106	106	0500-0600	2.28E+02	7.10E-08	8.18E-04	1.10E-01	3.43E-07	3.96E-03
Road 106	106	0600-0700	2.86E+02	1.93E-07	2.22E-03	1.31E-01	8.83E-07	1.02E-02
Road 106	106	0700-0800	3.61E+02	5.72E-07	6.59E-03	1.65E-01	2.61E-06	3.01E-02
Road 106	106	0800-0900	3.80E+02	6.09E-07	7.02E-03	1.66E-01	2.57E-06	2.96E-02
Road 106	106	0900-1000	4.36E+02	5.76E-07	6.64E-03	1.96E-01	2.59E-06	2.98E-02
Road 106	106	1000-1100	4.78E+02	5.94E-07	6.85E-03	1.88E-01	2.34E-06	2.70E-02
Road 106	106	1100-1200	4.46E+02	5.24E-07	6.04E-03	1.81E-01	2.13E-06	2.45E-02
Road 106	106	1200-1300	6.89E+02	1.21E-06	1.39E-02	2.52E-01	4.38E-06	5.05E-02
Road 106	106	1300-1400	1.72E+02	1.36E-06	1.57E-02	2.58E-01	4.38E-06	5.04E-02
Road 106	106	1400-1500	7.18E+02	1.38E-06	1.59E-02	2.63E-01	5.07E-06	5.84E-02
Road 106	106	1500-1600	6.90E+02	1.37E-06	1.58E-02	2.76E-01	5.47E-06	6.31E-02
Road 106	106	1600-1700	7.06E+02	1.42E-06	1.64E-02	2.61E-01	5.25E-06	6.05E-02
Road 106	106	1700-1800	5.25E+02	1.12E-06	1.29E-02	2.23E-01	4.77E-06	5.50E-02
Road 106	106	1800-1900	3.56E+02	7.52E-07	8.66E-03	1.57E-01	3.32E-06	3.82E-02
Road 106	106	1900-2000	2.66E+02	4.30E-07	4.96E-03	1.24E-01	2.01E-06	2.32E-02
Road 106	106	2000-2100	2.31E+02	2.92E-07	3.37E-03	1.22E-01	1.55E-06	1.79E-02
Road 106	106	2100-2200	2.20E+02	2.00E-07	2.30E-03	1.08E-01	9.84E-07	1.13E-02
Road 106	106	2200-2300	2.36E+02	2.17E-07	2.50E-03	1.14E-01	1.05E-06	1.21E-02
Road 106	106	2300-0000	2.36E+02	2.17E-07	2.50E-03	1.08E-01	1.08E-06	1.24E-02

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary)

Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission		
			MonthlyHourMin			MonthlyHourMin		
			g/km/veh	g/s/m^2	tonne/hour	g/km/veh	g/s/m^2	tonne/hour
Road 1	1	0000-0100	6.41E-03	6.90E-08	4.90E-06	1.35E-03	7.75E-08	4.26E-06
Road 1	1	0100-0200	7.07E-03	6.39E-08	3.52E-06	6.21E-03	5.61E-08	3.09E-06
Road 1	1	0200-0300	7.70E-03	5.09E-08	2.80E-06	6.82E-03	4.51E-08	2.48E-06
Road 1	1	0300-0400	8.39E-03	4.38E-08	2.41E-06	7.41E-03	3.87E-08	2.13E-06
Road 1	1	0400-0500	8.96E-03	5.12E-08	2.82E-06	7.92E-03	4.53E-08	2.49E-06
Road 1	1	0500-0600	9.38E-03	9.28E-08	5.11E-06	8.35E-03	8.26E-08	4.55E-06
Road 1	1	0600-0700	9.90E-03	2.09E-07	1.15E-05	8.81E-03	1.87E-07	1.03E-05
Road 1	1	0700-0800	1.05E-02	4.48E-07	2.47E-05	9.48E-03	4.05E-07	2.23E-05
Road 1	1	0800-0900	9.99E-03	4.94E-07	2.72E-05	9.07E-03	4.49E-07	2.47E-05
Road 1	1	0900-1000	1.13E-02	4.58E-07	2.52E-05	1.03E-02	4.17E-07	2.30E-05
Road 1	1	1000-1100	1.28E-02	4.47E-07	2.46E-05	1.16E-02	4.06E-07	2.24E-05
Road 1	1	1100-1200	1.22E-02	4.03E-07	2.22E-05	1.10E-02	3.65E-07	2.01E-05
Road 1	1	1200-1300	1.31E-02	6.82E-07	3.75E-05	1.17E-02	6.20E-07	3.41E-05
Road 1	1	1300-1400	1.51E-02	7.02E-07	3.86E-05	1.35E-02	6.42E-07	3.53E-05
Road 1	1	1400-1500	1.55E-02	7.66E-07	4.22E-05	1.39E-02	6.86E-07	3.78E-05
Road 1	1	1500-1600	1.46E-02	7.27E-07	4.00E-05	1.31E-02	6.50E-07	3.58E-05
Road 1	1	1600-1700	1.54E-02	8.24E-07	4.54E-05	1.38E-02	7.40E-07	4.07E-05
Road 1	1	1700-1800	1.11E-02	6.75E-07	3.72E-05	9.92E-03	6.02E-07	3.32E-05
Road 1	1	1800-1900	8.13E-03	2.99E-07	1.65E-05	7.27E-03	2.66E-07	1.47E-05
Road 1	1	1900-2000	7.11E-03	3.74E-07	2.06E-05	6.34E-03	3.33E-07	1.84E-05
Road 1	1	2000-2100	6.88E-03	2.82E-07	1.55E-05	6.11E-03	2.50E-07	1.38E-05
Road 1	1	2100-2200	5.97E-03	2.43E-07	1.34E-05	5.31E-03	2.17E-07	1.19E-05
Road 1	1	2200-2300	5.81E-03	2.56E-07	1.41E-05	5.17E-03	2.28E-07	1.26E-05
Road 1	1	2300-0000	6.66E-03	1.98E-07	1.09E-05	5.89E-03	1.75E-07	9.63E-06
Road 2	2	0000-0100	8.57E-03	1.17E-07	5.94E-06	7.52E-03	1.03E-07	5.21E-06
Road 2	2	0100-0200	9.38E-03	8.84E-08	4.48E-06	8.27E-03	7.80E-08	3.95E-06
Road 2	2	0200-0300	1.01E-02	6.68E-08	3.38E-06	9.03E-03	5.95E-08	3.01E-06
Road 2	2	0300-0400	1.10E-02	5.74E-08	2.91E-06	9.73E-03	5.10E-08	2.58E-06
Road 2	2	0400-0500	1.16E-02	7.73E-08	3.91E-06	1.03E-02	6.88E-08	3.48E-06
Road 2	2	0500-0600	1.22E-02	1.22E-07	6.20E-06	1.09E-02	1.09E-07	5.54E-06
Road 2	2	0600-0700	1.28E-02	2.77E-07	1.40E-05	1.14E-02	2.48E-07	1.26E-05
Road 2	2	0700-0800	1.32E-02	5.44E-07	2.75E-05	1.17E-02	4.85E-07	2.46E-05
Road 2	2	0800-0900	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	0900-1000	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1000-1100	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1100-1200	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1200-1300	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1300-1400	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1400-1500	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1500-1600	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1600-1700	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1700-1800	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1800-1900	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	1900-2000	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	2000-2100	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	2100-2200	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	2200-2300	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 2	2	2300-0000	1.29E-02	6.62E-07	3.35E-05	1.18E-02	6.03E-07	3.05E-05
Road 3	3	0000-0100	7.35E-03	3.54E-08	2.17E-06	6.41E-03	3.09E-08	1.90E-06
Road 3	3	0100-0200	8.12E-03	2.92E-08	1.72E-06	7.09E-03	2.55E-08	1.50E-06
Road 3	3	0200-0300	8.93E-03	2.06E-08	1.26E-06	7.79E-03	1.83E-08	1.12E-06
Road 3	3	0300-0400	9.76E-03	1.78E-08	1.09E-06	8.65E-03	1.58E-08	9.69E-07
Road 3	3	0400-0500	1.03E-02	2.08E-08	1.27E-06	9.00E-03	1.82E-08	1.11E-06
Road 3	3	0500-0600	1.05E-02	3.63E-08	2.23E-06	9.37E-03	3.24E-08	1.99E-06
Road 3	3	0600-0700	1.09E-02	8.02E-08	4.92E-06	9.71E-03	7.16E-08	4.39E-06
Road 3	3	0700-0800	1.11E-02	1.94E-07	1.21E-05	1.04E-02	1.80E-07	1.10E-05
Road 3	3	0800-0900	1.44E-02	1.98E-07	1.21E-05	1.04E-02	1.82E-07	1.11E-05
Road 3	3	0900-1000	1.13E-02	2.08E-07	1.27E-05	1.00E-02	1.84E-07	1.13E-05
Road 3	3	1000-1100	1.28E-02	1.82E-07	1.11E-05	1.16E-02	1.65E-07	1.01E-05
Road 3	3	1100-1200	1.22E-02	1.63E-07	9.97E-06	1.10E-02	1.47E-07	8.98E-06
Road 3	3	1200-1300	1.31E-02	2.73E-07	1.67E-05	1.17E-02	2.48E-07	1.52E-05
Road 3	3	1300-1400	1.51E-02	2.83E-07	1.73E-05	1.35E-02	2.57E-07	1.58E-05
Road 3	3	1400-1500	1.55E-02	3.09E-07	1.89E-05	1.39E-02	2.74E-07	1.68E-05
Road 3	3	1500-1600	1.46E-02	2.93E-07	1.79E-05	1.31E-02	2.60E-07	1.59E-05
Road 3	3	1600-1700	1.54E-02	3.32E-07	2.03E-05	1.38E-02	2.96E-07	1.81E-05
Road 3	3	1700-1800	1.11E-02	2.72E-07	1.66E-05	9.92E-03	2.41E-07	1.48E-05
Road 3	3	1800-1900	8.13E-03	1.21E-07	7.39E-06	7.27E-03	1.07E-07	6.59E-06
Road 3	3	1900-2000	7.11E-03	1.51E-07	9.21E-06	6.34E-03	1.34E-07	8.21E-06
Road 3	3	2000-2100	6.88E-03	1.14E-07	6.97E-06	6.11E-03	1.01E-07	6.19E-06
Road 3	3	2100-2200	5.97E-03	9.79E-08	6.04E-06	5.31E-03	8.71E-08	5.37E-06
Road 3	3	2200-2300	5.81E-03	1.03E-07	6.31E-06	5.17E-03	9.16E-08	5.61E-06
Road 3	3	2300-0000	6.66E-03	7.98E-08	4.89E-06	5.89E-03	7.06E-08	4.33E-06
Road 4	4	0000-0100	9.55E-03	3.83E-07	1.68E-05	3.82E-02	9.12E-07	1.55E-04
Road 4	4	0100-0200	1.05E-02	3.36E-07	1.48E-05	4.19E-02	8.00E-07	1.36E-04
Road 4	4	0200-0300	1.15E-02	2.17E-07	9.54E-06	4.58E-02	5.16E-07	8.76E-05
Road 4	4	0300-0400	1.25E-02	1.85E-07	8.14E-06	4.98E-02	4.40E-07	7.48E-05
Road 4	4	0400-0500	1.32E-02	2.14E-07	9.42E-06	5.27E-02	5.09E-07	8.65E-05
Road 4	4	0500-0600	1.39E-02	3.84E-07	1.69E-05	5.54E-02	9.13E-07	1.55E-04
Road 4	4	0600-0700	1.46E-02	8.19E-07	3.60E-05	5.81E-02	1.95E-06	3.31E-04
Road 4	4	0700-0800	1.50E-02	1.66E-06	7.30E-05	5.97E-02	3.94E-06	6.70E-04
Road 4	4	0800-0900	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	0900-1000	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1000-1100	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1100-1200	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1200-1300	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1300-1400	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1400-1500	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1500-1600	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1600-1700	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1700-1800	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1800-1900	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	1900-2000	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	2000-2100	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	2100-2200	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	2200-2300	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 4	4	2300-0000	1.08E-02	1.82E-06	8.01E-05	4.32E-02	4.34E-06	7.38E-04
Road 5	5	0000-0100	6.88E-02	1.79E-06	5.16E-05	2.75E-01	6.18E-07	1.78E-05
Road 5	5	0100-0200	7.56E-02	1.63E-06	4.70E-05	3.02E-01	5.63E-07	1.62E-05
Road 5	5	0200-0300	8.25E-02	1.06E-06	3.06E-05	3.30E-01	3.66E-07	1.05E-05
Road 5	5	0300-0400	8.96E-02	9.16E-07	2.64E-05	3.58E-01	3.16E-07	9.12E-06
Road 5	5	0400-0500	9.50E-02	1.10E-06	3.17E-05	3.80E-01	3.80E-07	1.09E-05
Road 5	5	0500-0600	1.00E-01	1.97E-06	5.68E-05	4.00E-01	6.80E-07	1.96E-05
Road 5	5	0600-0700	1.05E-01	4.20E-06	1.21E-04	4.19E-01	1.45E-06	4.17E-05
Road 5	5	0700-0800	1.08E-01	8.52E-06	2.45E-04	4.32E-01	2.94E-06	8.46E-05
Road 5	5	0800-0900	1.09E-02	2.31E-07	2.71E-06	9.90E-03	2.10E-07	2.46E-06
Road 5	5	0900-1000	1.24E-02	2.17E-07	2.55E-06	1.13E-02	1.97E-07	2.31E-06
Road 5	5	1000-1100	1.40E-02	2.12E-07	2.49E-06	1.27E-02	1.93E-07	2.26E-06
Road 5	5	1100-1200	1.34E-02	1.93E-07	2.26E-06	1.21E-02	1.73E-07	2.03E-06
Road 5	5	1200-1300	1.81E-02	3.60E-07	4.22E-06	1.64E-02	3.25E-07	3.81E-06
Road 5	5	1300-1400	1.84E-02	3.78E-07	4.41E-06	1.67E-02	3.41E-07	3.99E-06
Road 5	5	1400-1500	1.90E-02	4.11E-07	4.82E-06	1.71E-02	3.70E-07	4.34E-06
Road 5	5	1500-1600	1.79E-02	3.96E-07	4.65E-06	1.60E-02	3.55E-07	4.17E-06
Road 5	5	1600-1700	1.86E-02	4.46E-07	5.23E-06	1.66E-02	3.99E-07	4.68E-06
Road 5	5	1700-1800	1.34E-02	3.65E-07	4.28E-06	1.20E-02	3.26E-07	3.82E-06
Road 5	5	1800-1900	9.78E-03	1.62E-07	1.90E-06	8.76E-03	1.45E-07	1.70E-06
Road 5	5	1900-2000	8.56E-03	2.02E-07	2.37E-06	7.67E-03	1.81E-07	2.12E-06
Road 5	5	2000-2100	8.29E-03	1.53E-07	1.79E-06	7.43E-03	1.37E-07	1.60E-06
Road 5	5	2100-2200	7.19E-03	1.31E-07	1.54E-06	6.44E-03	1.17E-07	1.38E-06
Road 5	5	2200-2300	6.99E-03	1.38E-07	1.62E-06	6.27E-03	1.24E-07	1.45E-06
Road 5	5	2300-0000	8.03E-03	1.07E-07	1.25E-06	7.19E-03	9.57E-08	1.12E-06
Road 6	6	0000-0100	1.22E-02	8.41E-08	1.11E-06	1.88E-02	4.37E-07	5.12E-06
Road 6	6	0100-0200	1.33E-02	6.09E-08	8.06E-07	1.19E-02	5.46E-08	7.22E-07
Road 6	6	0200-0300	1.43E-02	4.89E-08	6.47E-07	1.29E-02	4.41E-08	5.83E-07
Road 6	6	0300-0400	1.56E-02	4.29E-08	5.66E-07	1.39E-02	3.82E-08	5.05E-07
Road 6	6	0400-0500	1.63E-02	4.98E-08	6.59E-07	1.46E-02	4.45E-08	5.88E-07
Road 6	6	0500-0600	1.67E-02	8.88E-08	1.17E-06	1.50E-02	7.98E-08	1.05E-06
Road 6	6	0600-0700	1.72E-02	1.98E-07	2.61E-06	1.54E-02	1.79E-07	2.37E-06
Road 6	6	0700-0800	1.74E-02	5.03E-07	6.65E-06	1.56E-02	4.52E-07	5.98E-06
Road 6	6	0800-0900	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	0900-1000	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1000-1100	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1100-1200	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1200-1300	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1300-1400	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1400-1500	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1500-1600	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1600-1700	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1700-1800	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1800-1900	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	1900-2000	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	2000-2100	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	2100-2200	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	2200-2300	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 6	6	2300-0000	1.36E-02	2.77E-07	3.66E-06	1.22E-02	2.49E-07	3.29E-06
Road 7	7	0000-0100	7.08E-03	4.20E-08	4.92E-07	6.37E-03	3.78E-08	4.43E-07
Road 7	7	0100-0200	7.27E-03	3.84E-08	4.49E-07	6.54E-03	3.45E-08	4.04E-07
Road 7	7	0200-0300	8.89E-03	2.47E-08	2.89E-07	7.72E-03	2.15E-08	2.51E-07
Road 7	7	0300-0400	9.55E-03	2.15E-08	2.52E-07	8.46E-03	1.90E-08	2.23E-07
Road 7	7	0400-0500	1.01E-02	2.48E-08	2.90E-07	8.93E-03	2.19E-08	2.57E-07
Road 7	7	0500-0600	1.03E-02	4.35E-08	5.10E-07	9.14E-03	3.88E-08	4.55E-07
Road 7	7	0600-0700	1.06E-02	9.59E-08	1.12E-06	9.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Annual) — Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 24	24	0800-0900	1.58E-01	3.05E-07	7.08E-03	1.38E-01	2.66E-07	6.43E-03	3.84E-01	7.42E-07	1.72E-02	3.34E-01	6.46E-07	1.56E-02
Road 24	24	0900-1000	1.59E-01	3.45E-07	8.66E-03	1.46E-01	3.18E-07	7.97E-03	5.95E-02	1.29E-07	2.99E-03	5.48E-02	1.19E-07	2.75E-03
Road 24	24	1000-1100	1.70E-01	3.63E-07	9.11E-03	1.56E-01	3.33E-07	8.35E-03	7.00E-02	1.49E-07	3.52E-03	6.44E-02	1.37E-07	3.23E-03
Road 24	24	1100-1200	1.69E-01	3.60E-07	8.51E-03	1.54E-01	3.28E-07	7.73E-03	6.05E-02	1.29E-07	3.04E-03	5.52E-02	1.18E-07	2.78E-03
Road 24	24	1200-1300	1.77E-01	3.58E-07	8.97E-03	1.62E-01	3.26E-07	8.22E-03	3.06E-02	6.51E-08	1.55E-03	5.11E-02	1.09E-07	2.59E-03
Road 24	24	1300-1400	1.78E-01	4.06E-07	1.02E-02	1.61E-01	3.67E-07	9.20E-03	6.36E-02	1.45E-07	3.64E-03	5.74E-02	1.31E-07	3.28E-03
Road 24	24	1400-1500	1.83E-01	3.94E-07	9.54E-03	1.66E-01	3.58E-07	8.67E-03	6.36E-02	1.37E-07	3.32E-03	5.74E-02	1.24E-07	3.00E-03
Road 24	24	1500-1600	1.65E-01	3.88E-07	9.73E-03	1.50E-01	3.53E-07	8.85E-03	6.30E-02	1.48E-07	3.72E-03	5.73E-02	1.35E-07	3.38E-03
Road 24	24	1600-1700	1.68E-01	3.66E-07	9.19E-03	1.52E-01	3.31E-07	8.29E-03	6.01E-02	1.31E-07	3.28E-03	5.42E-02	1.18E-07	2.96E-03
Road 24	24	1700-1800	1.47E-01	3.28E-07	8.24E-03	1.33E-01	2.97E-07	7.46E-03	5.76E-02	1.28E-07	3.23E-03	5.21E-02	1.16E-07	2.92E-03
Road 24	24	1800-1900	1.29E-01	1.75E-07	4.40E-03	1.17E-01	1.58E-07	3.97E-03	5.04E-02	6.84E-08	1.72E-03	4.57E-02	6.20E-08	1.56E-03
Road 24	24	1900-2000	1.29E-01	1.75E-07	4.40E-03	1.17E-01	1.58E-07	3.97E-03	5.04E-02	6.84E-08	1.72E-03	4.57E-02	6.20E-08	1.56E-03
Road 24	24	2000-2100	1.24E-01	1.68E-07	4.22E-03	1.12E-01	1.52E-07	3.81E-03	4.84E-02	6.57E-08	1.65E-03	4.39E-02	5.96E-08	1.50E-03
Road 24	24	2100-2200	1.25E-01	1.05E-07	3.24E-03	1.13E-01	9.52E-08	2.93E-03	5.04E-02	4.26E-08	1.31E-03	4.56E-02	3.86E-08	1.18E-03
Road 24	24	2200-2300	1.06E-01	1.05E-07	2.76E-03	9.61E-02	9.52E-08	2.50E-03	4.29E-02	4.26E-08	1.12E-03	3.89E-02	3.86E-08	1.01E-03
Road 24	24	2300-0000	1.03E-01	1.05E-07	2.68E-03	9.32E-02	9.52E-08	2.42E-03	4.16E-02	4.26E-08	1.08E-03	3.77E-02	3.86E-08	9.79E-04
Road 24	24	0000-0100	1.00E-01	1.05E-07	2.60E-03	9.04E-02	9.52E-08	2.35E-03	4.04E-02	4.26E-08	1.05E-03	3.65E-02	3.86E-08	9.49E-04
Road 24	24	0100-0200	9.73E-02	1.05E-07	2.53E-03	8.77E-02	9.52E-08	2.28E-03	3.92E-02	4.26E-08	1.02E-03	3.54E-02	3.86E-08	9.20E-04
Road 24	24	0200-0300	9.45E-02	1.05E-07	2.46E-03	8.52E-02	9.52E-08	2.21E-03	3.81E-02	4.26E-08	9.90E-04	3.43E-02	3.86E-08	8.92E-04
Road 24	24	0300-0400	1.35E-01	2.79E-07	7.12E-03	1.21E-01	2.51E-07	6.39E-03	5.44E-02	1.13E-07	2.87E-03	4.89E-02	1.01E-07	2.58E-03
Road 24	24	0400-0500	1.36E-01	3.29E-08	8.40E-04	1.22E-01	2.96E-08	7.55E-04	4.93E-01	1.19E-08	3.04E-04	4.43E-01	1.07E-08	2.74E-04
Road 24	24	0500-0600	1.43E-01	2.96E-08	7.58E-04	1.29E-01	2.67E-08	6.81E-04	5.19E-01	1.07E-08	2.74E-04	4.67E-01	9.65E-09	2.47E-04
Road 24	24	0600-0700	1.49E-01	3.61E-07	9.20E-03	1.51E-01	3.32E-07	8.45E-03	5.89E-01	1.29E-06	3.29E-02	5.41E-01	1.19E-06	3.02E-02
Road 24	24	0700-0800	1.65E-01	3.61E-07	9.20E-03	1.51E-01	3.32E-07	8.45E-03	5.89E-01	1.29E-06	3.29E-02	5.41E-01	1.19E-06	3.02E-02
Road 24	24	0800-0900	1.67E-01	4.37E-07	1.11E-02	1.53E-01	4.01E-07	1.02E-02	5.95E-01	1.56E-06	3.97E-02	5.47E-01	1.43E-06	3.65E-02
Road 24	24	0900-1000	1.61E-01	3.45E-07	8.66E-03	1.48E-01	3.18E-07	7.97E-03	5.76E-01	1.23E-06	3.09E-02	5.29E-01	1.13E-06	2.84E-02
Road 24	24	1000-1100	1.73E-01	3.63E-07	9.11E-03	1.59E-01	3.33E-07	8.35E-03	6.17E-01	1.29E-06	3.25E-02	5.67E-01	1.19E-06	2.98E-02
Road 24	24	1100-1200	1.73E-01	3.60E-07	8.51E-03	1.59E-01	3.31E-07	7.82E-03	6.17E-01	1.28E-06	3.03E-02	5.67E-01	1.18E-06	2.79E-02
Road 24	24	1200-1300	1.77E-01	3.58E-07	8.97E-03	1.62E-01	3.26E-07	8.22E-03	6.30E-02	1.27E-07	3.19E-03	5.79E-02	1.17E-07	2.94

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (February) — Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	5.93E-03	9.23E-08	4.53E-06	3.25E+00	7.86E-07	1.34E-05	3.66E-03	5.70E-08	2.80E-06	2.01E+00	4.86E-07	8.29E-06
Road 1	1	0100-0200	5.53E-03	5.90E-08	3.25E-06	5.80E-03	5.24E-08	2.89E-06	4.50E-02	4.79E-07	2.48E-05	4.72E-02	4.26E-07	2.60E-05
Road 1	1	0200-0300	7.14E-03	4.71E-08	2.60E-06	6.35E-03	4.19E-08	2.31E-06	4.65E-02	3.07E-07	1.69E-05	3.93E-02	2.60E-07	1.43E-05
Road 1	1	0300-0400	7.77E-03	4.05E-08	2.23E-06	6.89E-03	3.60E-08	1.98E-06	4.81E-02	2.51E-07	1.38E-05	4.06E-02	2.12E-07	1.17E-05
Road 1	1	0400-0500	8.35E-03	4.78E-08	2.63E-06	7.37E-03	4.21E-08	2.32E-06	5.00E-02	2.86E-07	1.58E-05	4.19E-02	2.40E-07	1.32E-05
Road 1	1	0500-0600	8.81E-03	8.71E-08	4.79E-06	7.75E-03	7.66E-08	4.22E-06	5.14E-02	5.08E-07	2.80E-05	4.29E-02	4.24E-07	2.33E-05
Road 1	1	0600-0700	9.29E-03	1.96E-07	1.08E-05	8.19E-03	1.75E-07	9.66E-06	5.24E-02	1.11E-06	6.10E-05	4.38E-02	9.48E-07	5.22E-05
Road 1	1	0700-0800	9.84E-03	2.41E-07	1.32E-05	8.85E-03	3.79E-07	2.08E-05	5.35E-02	2.29E-06	1.26E-04	4.61E-02	1.97E-06	1.08E-04
Road 1	1	0800-0900	9.43E-03	4.67E-07	2.57E-05	8.59E-03	4.25E-07	2.34E-05	4.83E-02	2.39E-06	1.32E-04	4.24E-02	2.10E-06	1.15E-04
Road 1	1	0900-1000	9.04E-03	2.29E-07	1.26E-05	8.24E-03	2.08E-07	1.14E-05	4.64E-02	1.17E-06	6.46E-05	4.07E-02	1.03E-06	5.66E-05
Road 1	1	1000-1100	1.21E-02	4.23E-07	2.33E-05	1.10E-02	3.86E-07	2.13E-05	5.63E-02	1.97E-06	1.09E-04	5.01E-02	1.75E-06	9.65E-05
Road 1	1	1100-1200	1.15E-02	3.80E-07	2.09E-05	1.05E-02	3.48E-07	1.92E-05	5.58E-02	1.85E-06	1.02E-04	4.98E-02	1.65E-06	9.10E-05
Road 1	1	1200-1300	1.27E-02	4.21E-07	2.32E-05	1.16E-02	3.85E-07	2.12E-05	5.54E-02	1.84E-06	1.01E-04	4.94E-02	1.64E-06	9.03E-05
Road 1	1	1300-1400	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 1	1	1400-1500	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 1	1	1500-1600	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 1	1	1600-1700	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 1	1	1700-1800	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 1	1	1800-1900	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 1	1	1900-2000	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 1	1	2000-2100	6.34E-03	2.60E-07	1.43E-05	5.77E-03	2.36E-07	1.30E-05	4.24E-02	1.74E-06	9.56E-05	3.71E-02	1.52E-06	8.36E-05
Road 1	1	2100-2200	5.48E-03	2.22E-07	1.22E-05	5.04E-03	2.04E-07	1.12E-05	3.96E-02	1.61E-06	8.85E-05	3.64E-02	1.48E-06	8.13E-05
Road 1	1	2200-2300	5.43E-03	2.21E-07	1.21E-05	5.00E-03	2.04E-07	1.12E-05	3.96E-02	1.61E-06	8.85E-05	3.64E-02	1.48E-06	8.13E-05
Road 1	1	2300-0000	5.92E-03	1.76E-07	9.68E-06	5.55E-03	1.65E-07	9.07E-06	4.10E-02	1.22E-06	6.70E-05	3.74E-02	1.11E-06	6.11E-05
Road 2	2	0000-0100	7.97E-03	1.09E-07	5.53E-06	7.12E-03	9.74E-08	4.93E-06	4.87E-02	6.67E-07	3.38E-05	4.35E-02	5.96E-07	3.02E-05
Road 2	2	0100-0200	8.71E-03	8.09E-08	4.11E-06	7.78E-03	7.23E-08	3.67E-06	4.77E-02	4.43E-07	2.25E-05	4.26E-02	3.96E-07	2.01E-05
Road 2	2	0200-0300	9.44E-03	6.22E-08	3.15E-06	8.42E-03	5.55E-08	2.81E-06	5.24E-02	3.46E-07	1.75E-05	4.68E-02	3.09E-07	1.56E-05
Road 2	2	0300-0400	1.02E-02	5.34E-08	2.71E-06	9.07E-03	4.75E-08	2.41E-06	5.64E-02	2.96E-07	1.50E-05	5.03E-02	2.64E-07	1.34E-05
Road 2	2	0400-0500	1.14E-02	4.59E-08	2.33E-06	1.02E-02	4.08E-08	2.07E-06	6.32E-02	2.54E-07	1.29E-05	5.64E-02	2.27E-07	1.15E-05
Road 2	2	0500-0600	1.14E-02	7.15E-07	5.83E-06	1.01E-02	6.35E-07	5.17E-06	6.29E-02	3.96E-06	3.23E-05	5.61E-02	3.53E-06	2.87E-05
Road 2	2	0600-0700	1.26E-02	1.58E-06	1.29E-05	1.12E-02	1.41E-06	1.15E-05	6.98E-02	8.77E-06	7.15E-05	6.23E-02	7.82E-06	6.37E-05
Road 2	2	0700-0800	1.37E-02	3.16E-06	2.00E-05	1.22E-02	2.82E-06	1.78E-05	7.59E-02	1.75E-05	1.11E-04	6.77E-02	1.56E-05	9.89E-05
Road 2	2	0800-0900	1.27E-02	3.16E-06	1.85E-05	1.13E-02	2.82E-06	1.65E-05	7.04E-02	1.75E-05	1.03E-04	6.28E-02	1.56E-05	9.17E-05
Road 2	2	0900-1000	1.17E-02	2.16E-06	1.71E-05	1.04E-02	1.93E-06	1.52E-05	6.48E-02	1.20E-05	9.47E-05	5.78E-02	1.07E-05	8.44E-05
Road 2	2	1000-1100	1.55E-02	4.83E-07	4.39E-06	1.38E-02	4.31E-07	3.91E-06	7.65E-02	2.38E-06	2.16E-05	6.81E-02	2.13E-06	1.93E-05
Road 2	2	1100-1200	1.49E-02	4.37E-07	1.73E-05	1.32E-02	3.90E-07	1.54E-05	7.36E-02	2.16E-06	8.54E-05	6.55E-02	1.92E-06	7.59E-05
Road 2	2	1200-1300	1.49E-02	4.37E-07	1.73E-05	1.32E-02	3.90E-07	1.54E-05	7.36E-02	2.16E-06	8.54E-05	6.55E-02	1.92E-06	7.59E-05
Road 2	2	1300-1400	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 2	2	1400-1500	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 2	2	1500-1600	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 2	2	1600-1700	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 2	2	1700-1800	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 2	2	1800-1900	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 2	2	1900-2000	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 2	2	2000-2100	7.06E-03	2.42E-07	4.93E-06	6.26E-03	2.15E-07	4.37E-06	4.13E-02	1.42E-06	2.88E-05	3.68E-02	1.19E-06	2.43E-05
Road 2	2	2100-2200	5.01E-03	1.06E-07	2.41E-06	4.44E-03	9.41E-08	2.14E-06	2.32E-02	3.53E-07	8.03E-06	2.07E-02	3.14E-07	7.15E-06
Road 2	2	2200-2300	5.00E-03	1.03E-07	2.09E-06	4.41E-03	9.05E-08	1.84E-06	2.31E-02	3.47E-07	7.05E-06	2.06E-02	3.09E-07	6.28E-06
Road 2	2	2300-0000	5.26E-03	1.56E-07	8.60E-06	4.66E-03	1.38E-07	7.62E-06	2.43E-02	7.21E-07	3.97E-05	2.16E-02	6.41E-07	3.53E-05
Road 3	3	0000-0100	5.93E-03	9.23E-08	4.53E-06	3.25E+00	7.86E-07	1.34E-05	3.66E-03	5.70E-08	2.80E-06	2.01E+00	4.86E-07	8.29E-06
Road 3	3	0100-0200	5.53E-03	5.90E-08	3.25E-06	5.80E-03	5.24E-08	2.89E-06	4.50E-02	4.79E-07	2.48E-05	4.72E-02	4.26E-07	2.60E-05
Road 3	3	0200-0300	7.14E-03	4.71E-08	2.60E-06	6.35E-03	4.19E-08	2.31E-06	4.65E-02	3.07E-07	1.69E-05	3.93E-02	2.60E-07	1.43E-05
Road 3	3	0300-0400	7.77E-03	4.05E-08	2.23E-06	6.89E-03	3.60E-08	1.98E-06	4.81E-02	2.51E-07	1.38E-05	4.06E-02	2.12E-07	1.17E-05
Road 3	3	0400-0500	8.35E-03	4.78E-08	2.63E-06	7.37E-03	4.21E-08	2.32E-06	5.00E-02	2.86E-07	1.58E-05	4.19E-02	2.40E-07	1.32E-05
Road 3	3	0500-0600	8.81E-03	8.71E-08	4.79E-06	7.75E-03	7.66E-08	4.22E-06	5.14E-02	5.08E-07	2.80E-05	4.29E-02	4.24E-07	2.33E-05
Road 3	3	0600-0700	9.29E-03	1.96E-07	1.08E-05	8.19E-03	1.75E-07	9.66E-06	5.24E-02	1.11E-06	6.10E-05	4.38E-02	9.48E-07	5.22E-05
Road 3	3	0700-0800	9.84E-03	2.41E-07	1.32E-05	8.85E-03	3.79E-07	2.08E-05	5.35E-02	2.29E-06	1.26E-04	4.61E-02	1.97E-06	1.08E-04
Road 3	3	0800-0900	9.43E-03	4.67E-07	2.57E-05	8.59E-03	4.25E-07	2.34E-05	4.83E-02	2.39E-06	1.32E-04	4.24E-02	2.10E-06	1.15E-04
Road 3	3	0900-1000	9.04E-03	2.29E-07	1.26E-05	8.24E-03	2.08E-07	1.14E-05	4.64E-02	1.17E-06	6.46E-05	4.07E-02	1.03E-06	5.66E-05
Road 3	3	1000-1100	1.21E-02	4.23E-07	2.33E-05	1.10E-02	3.86E-07	2.13E-05	5.63E-02	1.97E-06	1.09E-04	5.01E-02	1.75E-06	9.65E-05
Road 3	3	1100-1200	1.15E-02	3.80E-07	2.09E-05	1.05E-02	3.48E-07	1.92E-05	5.58E-02	1.85E-06	1.02E-04	4.98E-02	1.65E-06	9.10E-05
Road 3	3	1200-1300	1.27E-02	4.21E-07	2.32E-05	1.16E-02	3.85E-07	2.12E-05	5.54E-02	1.84E-06	1.01E-04	4.94E-02	1.64E-06	9.03E-05
Road 3	3	1300-1400	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 3	3	1400-1500	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 3	3	1500-1600	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 3	3	1600-1700	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 3	3	1700-1800	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 3	3	1800-1900	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 3	3	1900-2000	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 3	3	2000-2100	6.34E-03	2.60E-07	1.43E-05	5.77E-03	2.36E-07	1.30E-05	4.24E-02	1.74E-06	9.56E-05	3.71E-02	1.52E-06	8.36E-05
Road 3	3	2100-2200	5.48E-03	2.22E-07	1.22E-05	5.04E-03	2.04E-07	1.12E-05	3.96E-02	1.61E-06	8.85E-05	3.64E-02	1.48E-06	8.13E-05
Road 3	3	2200-2300	5.43E-03	2.21E-07	1.21E-05	5.00E-03	2.04E-07	1.12E-05	3.96E-02	1.61E-06	8.85E-05	3.64E-02	1.48E-06	8.13E-05
Road 3	3	2300-0000	5.92E-03	1.76E-07	9.68E-06	5.55E-03	1.65E-07	9.07E-06	4.10E-02	1.22E-06	6.70E-05	3.74E-02	1.11E-06	6.11E-05
Road 4	4	0000-0100	7.97E-03	1.09E-07	5.53E-06	7.12E-03	9.74E-08	4.93E-06	4.87E-02	6.67E-07	3.38E-05	4.35E-02	5.96E-07	3.02E-05
Road 4	4	0100-0200	8.71E-03	8.09E-08	4.11E-06	7.78E-03	7.23E-08	3.67E-06	4.77E-02	4.43E-07	2.25E-05	4.26E-02	3.96E-07	2.01E-05
Road 4	4	0200-0300	9.44E-03	6.22E-08	3.15E-06	8.42E-03	5.55E-08	2.81E-06	5.24E-02	3.46E-07	1.75E-05	4.68E-02	3.09E-07	1.56E-05
Road 4	4	0300-0400	1.02E-02	5.34E-08	2.71E-06	9.07E-03	4.75E-08	2.41E-06	5.64E-02	2.96E-07	1.50E-05	5.03E-02	2.64E-07	1.34E-05
Road 4	4	0400-0500	1.14E-02	4.59E-08	2.33E-06	1.02E-02	4.08E-08	2.07E-06	6.32E-02	2.54E-07	1.29E-05	5.64E-02	2.27E-07	1.15E-05
Road 4	4	0500-0600	1.14E-02	7.15E-07	5.83E-06	1.01E-02	6.35E-07	5.17E-06	6.29E-02	3.96E-06	3.23E-05	5.61E-02	3.53E-06	2.87E-05
Road 4	4	0600-0700	1.26E-02	1.58E-06	1.29E-05	1.12E-02	1.41E-06	1.15E-05	6.98E-02	8.77E-06	7.15E-05	6.23E-02	7.82E-06	6.37E-05
Road 4	4	0700-0800	1.37E-02	3.16E-06	2.00E-05	1.22E-02	2.82E-06	1.78E-05	7.59E-02	1.75E-05	1.11E-04	6.77E-02	1.56E-05	9.89E-05
Road 4	4	0800-0900	1.27E-02	3.16E-06	1.85E-05	1.13E-02	2.82E-06	1.65E-05	7.04E-02	1.75E-05	1.03E-04	6.28E-02	1.56E-05	9.17E-05
Road 4	4	0900-1000	1.17E-02	2.16E-06	1.71E-05	1.04E-02	1.93E-06	1.52E-05	6.48E-02	1.20E-05	9.47E-05	5.78E-02	1.07E-05	8.44E-05
Road 4	4	1000-1100	1.55E-02	4.83E-07	4.39E-06	1.38E-02	4.31E-07	3.91E-06	7.65E-02	2.38E-06	2.16E-05	6.81E-02	2.13E-06	1.93E-05
Road 4	4	1100-1200	1.49E-02	4.37E-07	1.73E-05	1.32E-02	3.90E-07	1.54E-05	7.36E-02	2.16E-06	8.54E-05	6.55E-02	1.92E-06	7.59E-05
Road 4	4	1200-1300	1.49E-02	4.37E-07	1.73E-05	1.32E-02	3.90E-07	1.54E-05	7.36E-02	2.16E-06	8.54E-05	6.55E-02	1.92E-06	7.59E-05
Road 4	4	1300-1400	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 4	4	1400-1500	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 4	4	1500-1600	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 4	4	1600-1700	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 4	4	1700-1800	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 4	4	1800-1900	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 4	4	1900-2000	1.78E-02	5.53E-07	2.19E-05	1.58E-02	4.93E-07	1.95E-05	8.75E-02	2.72E-06	1.08E-04	7.78E-02	2.42E-06	9.59E-05
Road 4	4	2000-2100	7.06E-03	2.42E-07	4.93E-06	6.26E-03	2.15E-07	4.37E-06	4.13E-02	1.42E-06	2.88E-05	3.68E-02	1.19E-06	2.43E-05
Road 4	4	2100-2200	5.01E-03	1.06E-07	2.41E-06	4.44E-03	9.41E-08	2.14E-06	2.32E-02	3.53E-07	8.03E-06	2.07E-02	3.14E-07	7.15E-06
Road 4	4	2200-2300	5.00E-03	1.03E-07	2.09E-06	4.41E-03	9.05E-08	1.84E-06	2.31E-02	3.47E-07	7.05E-06	2.06E-02	3.09E-07	6.28E-06
Road 4	4	2300-0000	5.26E-03	1.56E-07	8.60E-06	4.66E-03	1.38E-07	7.62E-06	2.43E-02	7.21E-07	3.97E-05	2.16E-02	6.41E-07	3.53E-05
Road 5	5	0000-0100	5.93E-03	9.23E-08	4.53E-06	3.25E+00	7.86E-07	1.34E-05	3.66E-03	5.70E-08	2.80E-06	2.01E+00	4.86E-07	8.29E-06
Road 5	5	0100-0200	5.53E-03	5.90E-08	3.25E-06	5.80E-03	5.24E-08	2.89E-06	4.50E-02	4.79E-07	2.48E-05	4.72E-02	4.26E-07	2.60E-05
Road 5	5	0200-0300	7.14E-03	4.71E-08	2.60E-06	6.35E-03	4.19E-08	2.31E-06	4.65E-02	3.07E-07	1.69E-05	3.93E-02	2.60E-07	1.43E-05
Road 5	5	0300-0400	7.77E-03	4.05E-08	2.23E-06	6.89E-03	3.60E-08	1.98E-06	4.81E-02	2.51E-07	1.38E-05	4.06E-02	2.12E-07	1.17E-05
Road 5	5	0400-0500	8.35E-03	4.78E-08	2.63E-06	7.37E-03	4.21E-08	2.32E-06	5.00E-02	2.86E-07	1.58E-05	4.19E-02	2.40E-07	1.32E-05
Road 5	5	0500-0600	8.81E-03	8.71E-08	4.79E-06	7.75E-03	7.66E-08	4.22E-06	5.14E-02	5.08E-07	2.80E-05	4.29E-02	4.24E-07	2.33E-05
Road 5	5	0600-0700	9.29E-03	1.96E-07	1.08E-05	8.19E-03	1.75E-07	9.66E-06	5.24E-02	1.11E-06	6.10E-05	4.38E-02	9.48E-07	5.22E-05
Road 5	5	0700-0800	9.84E-03	2.41E-07	1.32E-05	8.85E-03	3.79E-07	2.08E-05	5.35E-02	2.29E-06	1.26E-04	4.61E-02	1.97E-06	1.08E-04
Road 5	5	0800-0900	9.43E-03	4.67E-07	2.57E-05	8.59E-03	4.25E-07	2.34E-05	4.83E-02	2.39E-06	1.32E-04	4.24E-02	2.10E-06	1.15E-04
Road 5	5	0900-1000	9.04E-03	2.29E-07	1.26E-05	8.24E-03	2.08E-07	1.14E-05	4.64E-02	1.17E-06	6.46E-05	4.07E-02	1.03E-06	5.66E-05
Road 5	5	1000-1100	1.21E-02	4.23E-07	2.33E-05	1.10E-02	3.86E-07	2.13E-05	5.63E-02	1.97E-06	1.09E-04	5.01E-02	1.75E-06	9.65E-05
Road 5	5	1100-1200	1.15E-02	3.80E-07	2.09E-05	1.05E-02	3.48E-07	1.92E-05	5.58E-02	1.85E-06	1.02E-04	4.98E-02	1.65E-06	9.10E-05
Road 5	5	1200-1300	1.27E-02	4.21E-07	2.32E-05	1.16E-02	3.85E-07	2.12E-05	5.54E-02	1.84E-06	1.01E-04	4.94E-02	1.64E-06	9.03E-05
Road 5	5	1300-1400	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 5	5	1400-1500	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 5	5	1500-1600	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 5	5	1600-1700	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 5	5	1700-1800	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 5	5	1800-1900	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 5	5	1900-2000	1.27E-02	4.23E-07	2.33E-05	1.16E-02	3.87E-07	2.13E-05	5.57E-02	1.85E-06	1.02E-04	4.97E-02	1.65E-06	9.08E-05
Road 5	5	2000-2100	6.34E-03	2.60E-07	1.43E-05	5.77E-03	2.36E-07	1.30E-05	4.24E-02	1.74E-06	9.56E-05	3.71E-02	1.52E-06	8.36E-05
Road 5	5	2100-2200	5.48E-03	2.22E-07	1.22E-05	5.04E-03	2.04E-07	1.12E-05	3.96E-02	1.61E-06	8.85E-05	3.64E-02	1.48E-06	8.13E-05
Road 5	5	2200-2300	5.43E-03	2.21E-07	1.21E-05	5.00E-03	2.04E-07	1.12E-05	3.96E-02	1.61E-06	8.85E-05	3.64E-02	1.48E-06	8.13E-05
Road 5	5	2300-0000	5.92E-03	1.76E-07	9.68E-06	5.55E-03	1.65E-07	9.07E-06	4.10E-02	1.22E-06	6.70E-05	3.74E-02	1.11E-06	6.11E-05
Road 6	6	0000-0100	7.97E-03	1.09E-07	5.53E-06	7.12E-03	9.74E-08	4.93E-06	4.87E-02	6.67E-07	3.38E-05	4.35E-02	5.96E-07	3.02E-05
Road 6	6	0100-0200	8.71E-03	8.09E-08	4.11E-06	7.78E-03	7.23E-08	3.67E-06	4.77E-02	4.43E-07	2.25E-05	4.26E-02	3.96E-07	2.01E-05
Road 6	6	0200-0300	9.44E-03	6.22E-08	3.15E-06	8.42E-03	5.55E-08	2.81E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	6.44E-02	1.67E-06	1.69E-05	1.04E-01	2.69E-06	2.72E-05	1.76E-04	2.11E-01	5.49E-06	1.60E-04		
Road 17	17	1700-1800	4.37E-02	1.18E-06	3.44E-05	4.00E-02	1.08E-06	3.15E-05	1.79E-01	4.84E-06	1.41E-04	1.63E-01	4.40E-06	1.29E-04
Road 17	17	1800-1900	2.41E-02	6.16E-07	1.80E-05	2.22E-02	5.68E-07	1.66E-05	1.04E-01	2.65E-06	7.76E-05	9.53E-02	2.43E-06	7.11E-05
Road 17	17	1900-2000	1.44E-02	3.92E-07	1.08E-05	1.33E-02	3.62E-07	9.98E-06	6.68E-02	1.82E-06	5.02E-05	6.29E-02	1.71E-06	4.72E-05
Road 17	17	2000-2100	1.23E-02	1.85E-07	5.42E-06	1.12E-02	1.69E-07	4.97E-06	5.72E-02	8.59E-07	2.52E-05	5.29E-02	7.95E-07	2.33E-05
Road 17	17	2100-2200	1.16E-02	1.76E-07	5.14E-06	1.08E-02	1.64E-07	4.78E-06	6.30E-02	9.52E-07	2.78E-05	5.77E-02	8.72E-07	2.55E-05
Road 17	17	2200-2300	1.17E-02	4.57E-07	5.18E-06	1.09E-02	4.65E-07	6.01E-02	8.61E-07	2.52E-05	5.66E-02	8.10E-07	2.37E-05	
Road 17	17	2300-0000	1.24E-02	1.36E-07	3.97E-06	1.18E-02	1.29E-07	6.79E-07	1.99E-05	5.81E-02	6.37E-07	1.86E-05		
Road 18	18	0000-0100	8.09E-03	5.35E-08	2.09E-06	7.29E-03	4.82E-08	1.88E-06	4.99E-02	3.30E-07	1.29E-05	4.32E-02	2.86E-07	1.12E-05
Road 18	18	0100-0200	9.08E-03	1.54E-08	5.90E-07	8.18E-03	1.39E-08	5.32E-07	2.27E-02	3.85E-08	1.47E-06	1.96E-02	3.33E-08	1.27E-06
Road 18	18	0200-0300	1.01E-02	3.24E-08	1.27E-06	9.07E-03	2.90E-08	1.13E-06	5.52E-02	1.77E-07	6.90E-06	4.75E-02	1.52E-07	5.94E-06
Road 18	18	0300-0400	1.11E-02	2.84E-08	1.11E-06	9.93E-03	2.54E-08	9.91E-07	5.74E-02	1.46E-07	5.72E-06	4.93E-02	1.26E-07	4.92E-06
Road 18	18	0400-0500	1.17E-02	2.98E-08	1.24E-06	1.04E-02	2.66E-08	1.10E-06	6.03E-02	1.53E-07	6.37E-06	5.18E-02	1.32E-07	5.50E-06
Road 18	18	0500-0600	1.17E-02	5.68E-08	2.22E-06	1.04E-02	5.03E-08	1.97E-06	6.07E-02	2.93E-07	1.14E-05	5.16E-02	2.49E-07	9.74E-06
Road 18	18	0600-0700	1.19E-02	1.23E-07	4.82E-06	1.08E-02	1.11E-07	4.36E-06	6.19E-02	6.39E-07	2.50E-05	5.41E-02	5.58E-07	2.18E-05
Road 18	18	0700-0800	1.19E-02	2.04E-07	7.98E-06	1.08E-02	1.84E-07	7.21E-06	6.19E-02	1.06E-06	4.14E-05	5.41E-02	9.24E-07	3.61E-05
Road 18	18	0800-0900	1.24E-02	3.03E-07	1.19E-05	1.12E-02	2.77E-07	1.08E-05	5.98E-02	1.46E-06	5.70E-05	5.31E-02	1.29E-06	5.06E-05
Road 18	18	0900-1000	1.44E-02	2.98E-07	1.17E-05	1.30E-02	2.68E-07	1.05E-05	6.04E-02	1.25E-06	4.88E-05			
Road 18	18	1000-1100	1.64E-02	2.98E-07	1.17E-05	1.48E-02	2.71E-07	1.06E-05	6.04E-02	1.10E-06	4.31E-05			
Road 18	18	1100-1200	1.59E-02	2.73E-07	1.07E-05	1.45E-02	2.50E-07	9.76E-06	7.20E-02	1.24E-06	4.85E-05			
Road 18	18	1200-1300	2.18E-02	4.42E-07	1.73E-05	1.98E-02	4.02E-07	1.57E-05	7.84E-02	1.59E-06	6.22E-05			
Road 18	18	1300-1400	2.19E-02	4.68E-07	1.83E-05	1.99E-02	4.26E-07	1.66E-05	9.06E-02	1.93E-06	7.57E-05			
Road 18	18	1400-1500	2.19E-02	4.68E-07	1.81E-05	1.99E-02	4.26E-07	1.65E-05	9.06E-02	1.93E-06	7.48E-05			
Road 18	18	1500-1600	2.03E-02	4.65E-07	1.82E-05	1.85E-02	4.24E-07	1.66E-05	8.91E-02	2.04E-06	7.97E-05	8.06E-02	1.85E-06	7.22E-05
Road 18	18	1600-1700	2.07E-02	4.85E-07	1.90E-05	1.90E-02	4.46E-07	1.74E-05	8.41E-02	1.97E-06	7.70E-05	7.66E-02	1.79E-06	7.01E-05
Road 18	18	1700-1800	1.58E-02	3.68E-07	1.44E-05	1.45E-02	3.38E-07	1.32E-05	8.48E-02	1.98E-06	7.75E-05	7.72E-02	1.80E-06	7.06E-05
Road 18	18	1800-1900	1.15E-02	2.91E-07	1.14E-05	1.06E-02	2.67E-07	1.04E-05	5.58E-02	1.41E-06	5.52E-05	5.04E-02	1.27E-06	4.96E-05
Road 18	18	1900-2000	9.90E-03	1.92E-07	7.49E-06	9.17E-03	1.77E-07	6.93E-06	4.69E-02	9.08E-07	3.55E-05	4.32E-02	8.36E-07	3.27E-05
Road 18	18	2000-2100	8.78E-03	1.70E-07	6.66E-06	8.13E-03	1.57E-07	6.16E-06	4.16E-02	8.05E-07	3.15E-05	3.84E-02	7.42E-07	2.91E-05
Road 18	18	2100-2200	9.03E-03	1.37E-07	5.33E-06	8.40E-03	1.27E-07	4.96E-06	3.91E-02	5.92E-07	2.31E-05	3.64E-02	5.52E-07	2.15E-05
Road 18	18	2200-2300	8.96E-03	1.30E-07	5.08E-06	8.52E-03	1.24E-07	4.83E-06	3.88E-02	5.63E-07	2.19E-05	3.69E-02	5.35E-07	2.08E-05
Road 18	18	2300-0000	8.66E-03	2.49E-06	8.97E-05	7.82E-03	2.25E-06	5.61E-02	4.89E-07	1.41E-05	4.89E-02	4.27E-07	1.23E-05	
Road 19	19	0000-0100	9.93E-03	8.66E-08	2.49E-06	8.97E-03	7.82E-08	2.25E-06	5.61E-02	4.89E-07	1.41E-05	4.89E-02	4.27E-07	1.23E-05
Road 19	19	0100-0200	1.09E-02	6.29E-08	1.81E-06	9.86E-03	5.67E-08	1.63E-06	5.84E-02	3.36E-07	9.68E-06	5.09E-02	2.93E-07	8.44E-06
Road 19	19	0200-0300	1.20E-02	4.48E-08	1.29E-06	1.08E-02	4.04E-08	1.16E-06	6.42E-02	2.42E-07	6.96E-06	5.60E-02	2.11E-07	6.07E-06
Road 19	19	0300-0400	1.31E-02	4.46E-08	1.29E-06	1.17E-02	3.99E-08	1.15E-06	6.62E-02	2.20E-07	6.32E-06	5.56E-02	1.90E-07	5.48E-06
Road 19	19	0400-0500	1.38E-02	5.22E-08	1.50E-06	1.23E-02	4.64E-08	1.34E-06	6.98E-02	2.53E-07	7.28E-06	5.74E-02	2.17E-07	6.25E-06
Road 19	19	0500-0600	1.42E-02	1.06E-07	3.05E-06	1.27E-02	9.45E-08	2.72E-06	7.20E-02	5.32E-07	1.53E-05	5.92E-02	4.39E-07	1.26E-05
Road 19	19	0600-0700	1.45E-02	2.06E-07	5.94E-06	1.32E-02	1.87E-07	5.38E-06	7.04E-02	9.98E-07	2.87E-05	6.21E-02	8.79E-07	2.53E-05
Road 19	19	0700-0800	1.58E-02	4.60E-07	1.32E-05	1.44E-02	4.19E-07	1.21E-05	7.41E-02	2.15E-06	6.20E-05	6.59E-02	1.92E-06	5.52E-05
Road 19	19	0800-0900	1.57E-02	3.82E-07	1.10E-05	1.43E-02	3.48E-07	1.00E-05	7.40E-02	1.80E-06	5.19E-05	6.58E-02	1.60E-06	4.62E-05
Road 19	19	0900-1000	1.79E-02	5.33E-07	1.54E-05	1.64E-02	4.89E-07	1.41E-05	8.03E-02	2.40E-06	6.90E-05	7.25E-02	2.16E-06	6.23E-05
Road 19	19	1000-1100	2.03E-02	5.42E-07	1.56E-05	1.85E-02	4.93E-07	1.42E-05	8.58E-02	2.29E-06	6.60E-05	7.71E-02	2.06E-06	5.93E-05
Road 19	19	1100-1200	2.14E-02	5.82E-07	1.67E-05	1.95E-02	5.29E-07	1.52E-05	8.58E-02	2.33E-06	6.72E-05	7.71E-02	2.09E-06	6.04E-05
Road 19	19	1200-1300	2.53E-02	5.82E-07	1.68E-05	2.30E-02	5.30E-07	1.53E-05	9.78E-02	2.25E-06	6.49E-05	8.86E-02	2.04E-06	5.88E-05
Road 19	19	1300-1400	2.59E-02	6.37E-07	1.83E-05	2.35E-02	5.78E-07	1.67E-05	1.04E-01	2.56E-06	7.36E-05	9.39E-02	2.31E-06	6.66E-05
Road 19	19	1400-1500	2.59E-02	6.25E-07	1.79E-05	2.35E-02	5.67E-07	1.63E-05	1.04E-01	2.51E-06	7.22E-05	9.39E-02	2.27E-06	6.52E-05
Road 19	19	1500-1600	2.39E-02	6.25E-07	1.80E-05	2.18E-02	5.70E-07	1.64E-05	9.76E-02	2.55E-06	7.34E-05	8.86E-02	2.04E-06	6.98E-05
Road 19	19	1600-1700	2.44E-02	6.40E-07	1.84E-05	2.24E-02	5.87E-07	1.69E-05	9.69E-02	2.54E-06	7.30E-05	8.84E-02	2.32E-06	6.67E-05
Road 19	19	1700-1800	1.84E-02	4.82E-07	1.39E-05	1.69E-02	4.43E-07	1.27E-05	9.77E-02	2.56E-06	7.37E-05	8.91E-02	2.34E-06	6.73E-05
Road 19	19	1800-1900	1.38E-02	3.56E-07	1.02E-05	1.27E-02	3.27E-07	9.41E-06	6.52E-02	1.68E-06	4.83E-05	5.93E-02	1.52E-06	4.39E-05
Road 19	19	1900-2000	1.21E-02	2.34E-07	6.73E-06	1.12E-02	2.17E-07	6.24E-06	5.72E-02	1.11E-06	3.19E-05	5.29E-02	1.03E-06	2.96E-05
Road 19	19	2000-2100	1.13E-02	1.72E-07	4.94E-06	1.05E-02	1.60E-07	4.59E-06	5.34E-02	8.13E-07	2.34E-05	4.94E-02	7.52E-07	2.16E-05
Road 19	19	2100-2200	1.13E-02	1.72E-07	4.94E-06	1.05E-02	1.60E-07	4.59E-06	5.34E-02	8.13E-07	2.34E-05	4.94E-02	7.52E-07	2.16E-05
Road 19	19	2200-2300	1.13E-02	1.63E-07	4.70E-06	1.04E-02	1.52E-07	4.37E-06	5.34E-02	7.73E-07	2.22E-05	4.94E-02	7.15E-07	2.06E-05
Road 19	19	2300-0000	1.13E-02	1.63E-07	4.70E-06	1.04E-02	1.52E-07	4.37E-06	5.34E-02	7.73E-07	2.22E-05	4.94E-02	7.15E-07	2.06E-05
Road 20	20	0000-0100	4.07E-02	4.29E-06	7.91E-06	3.70E-02	3.90E-06	7.20E-06	1.57E-01	1.65E-05	3.06E-05			
Road 20	20	0100-0200	4.21E-02	3.06E-06	5.64E-06	3.81E-02	2.77E-06	5.11E-06	1.62E-01	1.18E-05	2.18E-05			
Road 20	20	0200-0300	4.34E-02	4.56E-06	8.40E-06	3.93E-02	4.13E-06	7.62E-06	1.67E-01	1.75E-05	3.23E-05			
Road 20	20	0300-0400	4.46E-02	2.09E-06	3.86E-06	4.04E-02	1.89E-06	3.49E-06	1.72E-01	8.06E-06	1.49E-05			
Road 20	20	0400-0500	4.61E-02	2.50E-06	4.60E-06	4.17E-02	2.23E-06	4.11E-06	1.76E-01	9.50E-06	1.75E-05			
Road 20	20	0500-0600	4.70E-02	4.63E-06	8.54E-06	4.19E-02	4.13E-06	7.62E-06	1.78E-01	1.76E-05	3.24E-05			
Road 20	20	0600-0700	4.70E-02	1.08E-05	2.00E-05	4.19E-02	9.64E-06	1.78E-05	1.78E-01	4.09E-05	7.55E-05			
Road 20	20	0700-0800	5.63E-02	2.64E-07	4.87E-06	5.18E-02	2.43E-07	4.49E-06	2.09E-01	9.81E-07	1.92E-05	9.00E-02	1.66E-05	
Road 20	20	0800-0900	5.66E-02	3.17E-07	5.83E-06	5.20E-02	2.91E-07	5.36E-06	2.16E-01	1.21E-06	2.22E-05	1.98E-01	1.11E-06	2.04E-05
Road 20	20	0900-1000	6.78E-02	3.40E-07	6.26E-06	6.24E-02	3.13E-07	5.76E-06	2.16E-01	1.08E-06	1.99E-05	1.98E-01	9.93E-07	1.83E-05
Road 20	20	1000-1100	6.77E-02	3.89E-07	7.17E-06	6.15E-02	3.54E-07	6.52E-06	2.45E-01	1.41E-06	2.60E-05	2.22E-01	1.28E-06	2.36E-05
Road 20	20	1100-1200	6.45E-02	3.48E-07	6.41E-06	5.91E-02	3.19E-07	5.88E-06	2.36E-01	1.16E-06	2.16E-05			
Road 20	20	1200-1300	7.47E-02	4.20E-07	7.73E-06	6.85E-02	3.85E-07	7.09E-06	2.36E-01	1.16E-06	2.16E-05			
Road 20	20	1300-1400	6.74E-02	3.83E-07	7.07E-06	6.13E-02	3.48E-07	6.42E-06	2.46E-01	1.40E-06	2.58E-05	2.23E-01	1.27E-06	2.34E-05
Road 20	20	1400-1500	6.87E-02	3.91E-07	7.20E-06	6.28E-02	3.57E-07	6.59E-06	2.44E-01	1.39E-06	2.56E-05	2.23E-01	1.27E-06	2.33E-05
Road 20	20	1500-1600	6.16E-02	3.50E-07	6.73E-06	5.63E-02	3.20E-07	6.16E-06	2.41E-01	1.43E-06	2.82E-05	2.20E-01	1.30E-06	2.60E-05
Road 20	20	1600-1700	6.27E-02	3.51E-07	6.47E-06	5.78E-02	3.23E-07	5.95E-06	2.28E-01	1.28E-06	2.35E-05	2.10E-01	1.17E-06	2.16E-05
Road 20	20	1700-1800	5.26E-02	2.77E-07	5.10E-06	4.80E-02	2.53E-07	4.66E-06	2.16E-01	1.14E-06	2.09E-05	1.97E-01	1.04E-06	1.91E-05
Road 20	20	1800-1900	4.12E-02	2.17E-07	3.98E-06	3.77E-02	1.98E-07	3.64E-06	1.91E-01	1.01E-06	1.85E-05	1.75E-01	9.21E-07	1.69E-05
Road 20	20	1900-2000	3.70E-02	1.04E-07	1.91E-06	3.44E-02	9.65E-08	1.78E-06	1.54E-01	4.34E-07	7.99E-06	1.43E-01	4.01E-07	7.40E-06
Road 20	20	2000-2100	3.60E-02	7.98E-08	1.47E-06	3.34E-02	7.42E-08	1.37E-06	1.56E-01	3.47E-07	6.40E-06	1.45E-01	3.21E-07	5.92E-06
Road 20	20	2100-2200	3.68E-02	1.50E-08	3.30E-07	3.42E-02	1.40E-08	3.07E-07	1.56E-01	3.50E-07	6.45E-06	1.45E-01	3.24E-07	5.97E-06
Road 20	20	2200-2300	3.68E-02	7.51E-08	1.38E-06	3.51E-02	7.17E-08	1.32E-06	1.45E-01	2.95E-07	5.44E-06	1.37E-01	2.80E-07	5.17E-06
Road 20	20	2300-0000	3.84E-02	6.24E-08	1.15E-06	3.65E-02	5.94E-08	1.09E-06	1.49E-01	2.43E-07	4.48E-06	1.42E-01	2.30E-07	4.24E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	1.13E-02	7.83E-08	1.03E-06	1.03E-02	7.09E-08	9.36E-07	6.03E-02	4.17E-07	5.51E-06	5.30E-02	3.66E-07	4.84E-06
Road 21	21	0100-0200	1.24E-02	5.66E-08	7.48E-07	1.12E-02	5.11E-08	6.75E-07	6.27E-02	2.87E-07	3.79E-06	5.49E-02	2.52E-07	3.33E-06
Road 21	21	0200-0300	1.34E-02	4.58E-08	6.06E-07	1.21E-02	4.13E-08	5.45E-07	6.55E-02	2.23E-07	2.95E-06	5.74E-02	1.96E-07	2.59E-06
Road 21	21	0300-0400	1.45E-02	3.97E-08	5.25E-07	1.30E-02	3.57E-08	4.72E-07	6.83E-02	1.87E-07	2.48E-06	5.98E-02	1.64E-07	2.17E-06
Road 21	21	0400-0500	1.53E-02	4.68E-08	6.18E-07	1.36E-02	4.16E-08	5.50E-07	7.16E-02	2.18E-07	2.89E-06	6.18E-02	1.88E-07	2.49E-06
Road 21	21	0500-0600	1.57E-02	8.38E-08	1.11E-06	1.40E-02	7.44E-08	9.84E-07	7.31E-02	3.89E-07	5.15E-06	6.31E-02	3.36E-07	4.44E-06
Road 21	21	0600-0700	1.63E-02	1.88E-07	2.48E-06	1.45E-02	1.70E-07	2.25E-06	7.57E-02	8.73E-07	1.15E-05	6.54E-02	7.73E-07	1.02E-05
Road 21	21	0700-0800	1.79E-02	4.25E-07	5.61E-06	1.59E-02	3.90E-07	5.16E-06	8.04E-02	1.91E-06	2.52E-05	7.25E-02	1.72E-06	2.27E-05
Road 21	21	0800-0900	1.93E-02	3.55E-07	4.69E-06	1.71E-02	3.14E-07	4.15E-06	8.62E-02	1.59E-06	2.10E-05	7.78E-02	1.43E-06	1.89E-05
Road 21	21	0900-1000	2.13E-02	3.54E-07	4.68E-06	1.89E-02	3.13E-07	4.14E-06	9.51E-02	1.58E-06	2.09E-05	8.58E-02	1.42E-06	1.88E-05
Road 21	21	1000-1100	2.30E-02	5.22E-07	6.89E-06	2.04E-02	4.62E-07	6.10E-06	1.03E-01	2.33E-06	3.08E-05	9.27E-02	2.10E-06	2.78E-05
Road 21	21	1100-1200	2.42E-02	4.80E-07	6.34E-06	2.06E-02	4.09E-07	5.40E-06	1.08E-01	2.14E-06	2.83E-05	9.73E-02	1.93E-06	2.55E-05
Road 21	21	1200-1300	2.82E-02	5.34E-07	7.06E-06	2.39E-02	4.54E-07	6.00E-06	1.26E-01	2.38E-06	3.15E-05	1.13E-01	2.14E-06	2.83E-05
Road 21	21	1300-1400	2.80E-02	5.90E-07	7.80E-06	2.38E-02	5.02E-07	6.63E-06	1.26E-01	2.65E-06	3.50E-05	1.13E-01	2.38E-06	3.15E-05
Road 21	21	1400-1500	2.88E-02	6.23E-07	8.24E-06	2.63E-02	5.70E-07	7.53E-06	1.11E-01	2.41E-06	3.18E-05	1.01E-01	2.19E-06	2.89E-05
Road 21	21	1500-1600	2.98E-02	6.39E-07	8.46E-06	2.72E-02	5.86E-07	7.74E-06	1.41E-01	3.04E-06	4.02E-05	1.29E-01	2.78E-06	3.67E-05
Road 21	21	1600-1700	2.71E-02	6.00E-07	7.93E-06	2.46E-02	5.45E-07	7.20E-06	1.31E-01	2.89E-06	3.82E-05	1.19E-01	2.65E-06	3.50E-05
Road 21	21	1700-1800	2.08E-02	4.72E-07	6.23E-06	1.90E-02	4.30E-07	5.69E-06	9.35E-02	2.12E-06	2.80E-05	8.48E-02	1.92E-06	2.54E-05
Road 21	21	1800-1900	1.76E-02	4.01E-07	5.30E-06	1.61E-02	3.65E-07	4.83E-06	8.85E-02	2.01E-06	2.66E-05	8.04E-02	1.82E-06	2.41E-05
Road 21	21	1900-2000	1.31E-02	2.05E-07	2.71E-06	1.21E-02	1.90E-07	2.51E-06	6.71E-02	1.05E-06	1.38E-05	6.09E-02	9.52E-07	1.26E-05
Road 21	21	2000-2100	1.28E-02	1.57E-07	2.07E-06	1.19E-02	1.46E-07	1.93E-06	6.46E-02	7.92E-07	1.04E-05	5.87E-02	7.19E-07	9.51E-06
Road 21	21	2100-2200	1.28E-02	1.25E-07	1.65E-06	1.19E-02	1.16E-07	1.54E-06	6.46E-02	6.31E-07	8.34E-06	5.87E-02	5.73E-07	7.58E-06
Road 21	21	2200-2300	1.28E-02	1.25E-07	1.65E-06	1.19E-02	1.16E-07	1.54E-06	6.46E-02	6.31E-07	8.34E-06	5.87E-02	5.73E-07	7.58E-06
Road 21	21	2300-0000	1.35E-02	1.20E-07	1.59E-06	1.28E-02	1.14E-07	1.51E-06	6.46E-02	5.77E-07	7.63E-06	6.07E-02	5.43E-07	7.17E-06
Road 22	22	0000-0100	1.25E-02	1.52E-07	2.72E-06	1.14E-02	1.39E-07	2.47E-06	5.55E-02	9.89E-07	4.13E-05	5.03E-02	8.98E-07	3.75E-05
Road 22	22	0100-0200	1.21E-02	1.03E-07	1.84E-06	1.10E-02	9.34E-08	1.67E-06	5.39E-02	4.58E-07	1.98E-05	4.88E-02	4.15E-07	1.79E-05
Road 22	22	0200-0300	1.18E-02	7.85E-08	1.40E-06	1.07E-02	7.10E-08	1.27E-06	4.31E-02	2.87E-07	5.11E-06	3.89E-02	2.59E-07	4.62E-06
Road 22	22	0300-0400	1.20E-02	6.72E-08	1.20E-06	1.08E-02	6.07E-08	1.08E-06	4.38E-02	2.45E-07	4.37E-06	3.95E-02	2.21E-07	3.94E-06
Road 22	22	0400-0500	1.23E-02	7.61E-08	1.36E-06	1.11E-02	6.87E-08	1.23E-06	4.49E-02	2.78E-07	4.96E-06	4.05E-02	2.51E-07	4.48E-06
Road 22	22	0500-0600	1.37E-02	1.64E-07	2.93E-06	1.23E-02	1.47E-07	2.62E-06	4.96E-02	5.94E-07	1.06E-05	4.42E-02	5.29E-07	9.44E-06
Road 22	22	0600-0700	1.53E-02	4.15E-07	7.43E-06	1.37E-02	3.74E-07	6.68E-06	5.48E-02	1.49E-06	2.65E-05	4.99E-02	1.35E-06	2.41E-05
Road 22	22	0700-0800	1.73E-02	1.20E-06	2.13E-05	1.59E-02	1.10E-06	1.96E-05	6.31E-02	4.36E-06	7.77E-05	5.79E-02	4.00E-06	7.13E-05
Road 22	22	0800-0900	1.73E-02	1.20E-06	2.13E-05	1.59E-02	1.10E-06	1.96E-05	6.31E-02	4.36E-06	7.77E-05	5.79E-02	4.00E-06	7.13E-05
Road 22	22	0900-1000	1.78E-02	1.35E-06	2.41E-05	1.64E-02	1.24E-06	2.21E-05	6.50E-02	4.97E-06	8.86E-05	6.02E-02	4.56E-06	8.14E-05
Road 22	22	1000-1100	1.91E-02	1.33E-06	2.37E-05	1.76E-02	1.22E-06	2.17E-05	6.72E-02	4.66E-06	8.31E-05	6.22E-02	4.31E-06	7.69E-05
Road 22	22	1100-1200	1.91E-02	1.33E-06	2.37E-05	1.76E-02	1.22E-06	2.17E-05	6.72E-02	4.66E-06	8.31E-05	6.22E-02	4.31E-06	7.69E-05
Road 22	22	1200-1300	1.97E-02	1.40E-06	2.50E-05	1.80E-02	1.28E-06	2.28E-05	6.60E-02	4.71E-06	8.39E-05	6.03E-02	4.31E-06	7.69E-05
Road 22	22	1300-1400	1.94E-02	1.54E-06	2.75E-05	1.77E-02	1.41E-06	2.51E-05	6.62E-02	5.27E-06	9.39E-05	6.06E-02	4.81E-06	8.59E-05
Road 22	22	1400-1500	1.94E-02	1.54E-06	2.75E-05	1.77E-02	1.41E-06	2.51E-05	6.62E-02	5.27E-06	9.39E-05	6.06E-02	4.81E-06	8.59E-05
Road 22	22	1500-1600	1.73E-02	1.43E-06	2.56E-05	1.58E-02	1.31E-06	2.34E-05	6.52E-02	5.40E-06	9.63E-05	5.96E-02	4.94E-06	8.81E-05
Road 22	22	1600-1700	1.84E-02	1.52E-06	2.72E-05	1.68E-02	1.39E-06	2.48E-05	6.60E-02	5.46E-06	9.74E-05	6.03E-02	4.99E-06	8.91E-05
Road 22	22	1700-1800	1.56E-02	1.12E-06	2.00E-05	1.43E-02	1.02E-06	1.83E-05	6.33E-02	4.40E-06	7.84E-05	5.60E-02	4.02E-06	7.16E-05
Road 22	22	1800-1900	1.22E-02	6.43E-07	1.15E-05	1.12E-02	5.91E-07	1.05E-05	6.17E-02	3.26E-06	5.81E-05	5.45E-02	2.87E-06	5.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ASRMOD model (February) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 44	44	0800-0900	9.39E-03	2.72E-07	1.68E-05	1.51E-03	4.35E-07	2.68E-05	3.48E-05	5.59E-02	2.06E-06	4.95E-05		
Road 44	44	0900-1000	1.05E-02	2.48E-07	1.53E-05	9.58E-03	2.26E-07	1.42E-05	3.86E-05	4.31E-02	1.25E-06	7.72E-06		
Road 44	44	1000-1100	1.19E-02	2.43E-07	1.50E-05	1.07E-02	2.18E-07	1.34E-05	4.39E-05	4.12E-02	1.19E-06	6.88E-06		
Road 44	44	1100-1200	1.12E-02	1.34E-07	1.07E-05	1.06E-02	1.27E-07	1.01E-05	4.12E-05	2.40E-02	6.95E-07	5.48E-06		
Road 44	44	1200-1300	1.41E-02	3.56E-07	2.20E-05	1.29E-02	3.25E-07	2.01E-05	5.21E-05	6.14E-02	1.78E-06	9.93E-06		
Road 44	44	1300-1400	1.43E-02	3.88E-07	2.27E-05	1.31E-02	3.56E-07	2.08E-05	5.29E-05	6.72E-02	1.95E-06	1.03E-05		
Road 44	44	1400-1500	1.45E-02	3.98E-07	2.46E-05	1.33E-02	3.66E-07	2.26E-05	5.36E-05	6.89E-02	2.00E-06	1.11E-05		
Road 44	44	1500-1600	1.37E-02	3.85E-07	2.38E-05	1.26E-02	3.54E-07	2.19E-05	5.06E-05	6.66E-02	1.93E-06	1.08E-05		
Road 44	44	1600-1700	1.83E-02	5.47E-07	3.38E-05	1.68E-02	5.01E-07	3.09E-05	6.77E-05	9.46E-02	2.74E-06	1.52E-05		
Road 44	44	1700-1800	1.92E-02	5.13E-07	3.54E-05	1.76E-02	4.70E-07	3.25E-05	7.09E-05	8.87E-02	2.57E-06	1.59E-05		
Road 44	44	1800-1900	2.02E-02	4.63E-07	3.73E-05	1.85E-02	4.26E-07	3.43E-05	7.46E-05	8.01E-02	2.32E-06	1.68E-05		
Road 44	44	1900-2000	6.48E-03	1.91E-07	1.19E-05	5.95E-03	1.75E-07	1.10E-05	2.39E-05	3.31E-02	9.59E-07	5.37E-06		
Road 44	44	2000-2100	7.22E-03	2.01E-07	1.33E-05	6.62E-03	1.84E-07	1.22E-05	2.66E-05	3.48E-02	1.01E-06	5.97E-06		
Road 44	44	2100-2200	5.31E-03	1.21E-07	7.50E-06	4.91E-03	1.12E-07	6.94E-06	1.96E-05	2.09E-02	6.05E-07	3.37E-06		
Road 44	44	2200-2300	5.17E-03	1.15E-07	7.10E-06	4.90E-03	1.09E-07	6.73E-06	1.91E-05	1.99E-02	5.75E-07	3.24E-06		
Road 44	44	2300-0000	4.58E-03	1.05E-07	6.29E-06	4.31E-03	9.87E-08	5.93E-06	1.69E-05	1.81E-02	5.23E-07	2.85E-06		
Road 44	44	0000-0100	5.53E-03	4.17E-08	5.13E-06	4.92E-03	3.71E-08	4.56E-06	2.04E-05	6.45E-03	1.86E-07	2.52E-06		
Road 44	44	0100-0200	6.05E-03	2.96E-08	3.65E-06	5.40E-03	2.64E-08	3.26E-06	2.23E-05	4.58E-03	1.32E-07	1.80E-06		
Road 44	44	0200-0300	6.58E-03	2.35E-08	2.90E-06	5.88E-03	2.10E-08	2.59E-06	2.43E-05	3.64E-03	1.05E-07	1.43E-06		
Road 44	44	0300-0400	7.13E-03	2.01E-08	2.48E-06	6.37E-03	1.80E-08	2.21E-06	2.63E-05	3.12E-03	9.00E-08	1.22E-06		
Road 44	44	0400-0500	7.78E-03	2.40E-08	2.96E-06	6.85E-03	2.11E-08	2.60E-06	2.87E-05	3.72E-03	1.07E-07	1.47E-06		
Road 44	44	0500-0600	8.35E-03	4.66E-08	5.74E-06	7.34E-03	4.10E-08	5.04E-06	3.08E-05	7.23E-03	2.08E-07	2.83E-06		
Road 44	44	0600-0700	8.67E-03	1.02E-07	1.25E-05	7.63E-03	8.97E-08	1.10E-05	3.20E-05	1.58E-02	4.55E-07	6.20E-06		
Road 44	44	0700-0800	9.47E-03	2.19E-07	2.69E-05	8.54E-03	1.97E-07	2.43E-05	3.53E-05	4.62E-02	1.07E-06	1.32E-05		
Road 44	44	0800-0900	9.13E-03	2.44E-07	3.01E-05	8.27E-03	2.21E-07	2.72E-05	3.44E-05	5.02E-02	1.34E-06	1.65E-05		
Road 44	44	0900-1000	1.16E-02	2.72E-07	3.35E-05	1.05E-02	2.47E-07	3.04E-05	4.31E-05	5.61E-02	1.39E-06	1.71E-05		
Road 44	44	1000-1100	1.16E-02	2.68E-07	3.30E-05	1.04E-02	2.43E-07	2.99E-05	4.31E-05	5.52E-02	1.37E-06	1.69E-05		
Road 44	44	1100-1200	1.09E-02	1.93E-07	2.38E-05	9.73E-03	1.72E-07	2.12E-05	4.05E-05	3.97E-02	9.85E-07	1.21E-05		
Road 44	44	1200-1300	1.36E-02	3.03E-07	3.73E-05	1.25E-02	2.79E-07	3.44E-05	5.02E-05	6.24E-02	1.55E-06	1.91E-05		
Road 44	44	1300-1400	1.36E-02	3.03E-07	3.73E-05	1.25E-02	2.79E-07	3.44E-05	5.02E-05	6.24E-02	1.55E-06	1.91E-05		
Road 44	44	1400-1500	1.39E-02	3.29E-07	4.05E-05	1.28E-02	3.03E-07	3.73E-05	5.13E-05	6.77E-02	1.68E-06	2.07E-05		
Road 44	44	1500-1600	1.30E-02	3.22E-07	3.88E-05	1.19E-02	2.96E-07	3.57E-05	4.81E-05	6.62E-02	1.64E-06	1.98E-05		
Road 44	44	1600-1700	1.37E-02	3.56E-07	4.38E-05	1.26E-02	3.26E-07	4.01E-05	6.07E-02	1.57E-06	1.93E-05	1.75E-05		
Road 44	44	1700-1800	1.21E-02	3.03E-07	3.72E-05	1.12E-02	2.79E-07	3.43E-05	5.38E-05	1.34E-06	1.65E-05	1.55E-05		
Road 44	44	1800-1900	1.32E-02	3.03E-07	3.72E-05	1.22E-02	2.79E-07	3.43E-05	5.87E-05	1.34E-06	1.65E-05	1.69E-05		
Road 44	44	1900-2000	6.31E-03	1.63E-07	2.00E-05	5.79E-03	1.49E-07	1.84E-05	2.80E-05	7.23E-02	8.87E-07	1.09E-05		
Road 44	44	2000-2100	6.04E-03	1.21E-07	1.49E-05	5.52E-03	1.11E-07	1.36E-05	2.68E-05	5.41E-02	6.65E-07	8.16E-06		
Road 44	44	2100-2200	5.12E-03	1.22E-07	1.50E-05	4.74E-03	1.13E-07	1.38E-05	2.27E-05	5.44E-02	6.68E-07	8.20E-06		
Road 44	44	2200-2300	4.99E-03	9.72E-08	1.20E-05	4.72E-03	9.18E-08	1.13E-05	3.84E-05	4.33E-02	5.32E-07	6.53E-06		
Road 44	44	2300-0000	5.49E-03	7.98E-08	9.83E-06	5.04E-03	7.06E-08	8.66E-06	3.66E-02	5.33E-02	6.56E-06	8.06E-06		
Road 44	44	0000-0100	5.44E-03	3.88E-08	4.77E-06	5.04E-03	3.59E-08	4.41E-06	2.41E-05	3.44E-02	4.23E-06	5.20E-06		
Road 46	46	0100-0200	5.99E-03	1.52E-08	1.87E-06	5.54E-03	1.40E-08	1.72E-06	2.66E-05	6.74E-02	8.29E-06	1.02E-05		
Road 46	46	0200-0300	6.54E-03	1.21E-08	1.49E-06	6.05E-03	1.12E-08	1.38E-06	2.90E-05	5.38E-02	6.62E-06	8.13E-06		
Road 46	46	0300-0400	7.09E-03	1.03E-08	1.27E-06	6.56E-03	9.54E-09	1.17E-06	3.15E-05	4.57E-02	5.62E-06	6.91E-06		
Road 46	46	0400-0500	7.77E-03	1.25E-08	1.54E-06	7.19E-03	1.16E-08	1.42E-06	3.45E-05	5.56E-02	6.84E-06	8.41E-06		
Road 46	46	0500-0600	8.35E-03	2.32E-08	4.31E-07	7.34E-03	2.04E-08	3.79E-07	5.11E-02	1.42E-06	2.64E-05	2.32E-07		
Road 46	46	0600-0700	8.67E-03	3.47E-08	6.44E-07	7.63E-03	3.05E-08	5.67E-07	5.30E-02	2.12E-06	3.94E-05	3.47E-07		
Road 46	46	0700-0800	9.40E-03	1.13E-07	2.10E-06	8.47E-03	1.02E-07	1.89E-06	5.32E-02	6.40E-06	1.19E-05	1.05E-06		
Road 46	46	0800-0900	8.98E-03	1.25E-07	2.33E-06	8.13E-03	1.13E-07	2.11E-06	4.73E-02	6.57E-06	1.22E-05	1.08E-06		
Road 46	46	0900-1000	1.11E-02	1.39E-07	2.59E-06	1.01E-02	1.26E-07	2.34E-06	5.66E-02	7.09E-06	1.32E-05	1.20E-06		
Road 46	46	1000-1100	1.17E-02	1.14E-07	2.12E-06	1.05E-02	1.03E-07	1.91E-06	5.95E-02	5.81E-06	1.08E-05	9.77E-07		
Road 46	46	1100-1200	1.09E-02	1.02E-07	1.89E-06	9.22E-03	9.72E-08	1.81E-06	5.51E-02	5.16E-06	9.60E-06	8.68E-07		
Road 46	46	1200-1300	1.34E-02	1.24E-07	2.31E-06	1.13E-02	1.05E-07	1.95E-06	6.79E-02	6.29E-06	1.17E-05	1.06E-06		
Road 46	46	1300-1400	1.04E-02	1.34E-07	2.49E-06	9.46E-03	1.23E-07	2.28E-06	5.27E-02	6.80E-06	1.26E-05	1.15E-06		
Road 46	46	1400-1500	1.07E-02	1.25E-07	2.32E-06	9.74E-03	1.14E-07	2.11E-06	5.42E-02	6.32E-06	1.17E-05	1.06E-06		
Road 46	46	1500-1600	1.01E-02	1.71E-07	3.17E-06	9.01E-03	1.52E-07	2.83E-06	5.13E-02	8.68E-06	1.61E-05	1.46E-06		
Road 46	46	1600-1700	1.16E-02	1.71E-07	3.17E-06	1.06E-02	1.56E-07	2.90E-06	5.87E-02	8.68E-06	1.61E-05	1.47E-06		
Road 46	46	1700-1800	1.03E-02	1.71E-07	3.17E-06	9.34E-03	1.56E-07	2.90E-06	5.22E-02	8.68E-06	1.61E-05	1.47E-06		
Road 46	46	1800-1900	1.12E-02	1.71E-07	3.17E-06	1.02E-02	1.56E-07	2.90E-06	5.68E-02	8.68E-06	1.61E-05	1.47E-06		
Road 46	46	1900-2000	5.37E-03	1.39E-07	2.58E-06	4.92E-03	1.27E-07	2.36E-06	2.38E-05	6.17E-02	1.14E-06	2.10E-05		
Road 46	46	2000-2100	6.14E-03	1.94E-07	3.33E-06	5.53E-03	1.78E-07	3.05E-06	2.72E-05	8.60E-02	1.48E-06	2.53E-05		
Road 46	46	2100-2200	4.56E-03	8.36E-08	4.25E-07	4.25E-03	7.80E-08	3.96E-07	2.02E-05	3.70E-02	1.88E-07	9.56E-07		
Road 46	46	2200-2300	4.97E-03	8.01E-08	3.34E-06	4.73E-03	7.62E-08	3.18E-06	2.20E-05	3.55E-02	1.48E-06	6.89E-06		
Road 46	46	2300-0000	4.58E-03	1.05E-07	4.38E-06	4.31E-03	9.87E-08	4.12E-06	2.03E-05	4.66E-02	1.94E-06	8.10E-06		
Road 46	46	0000-0100	5.53E-03	4.17E-08	1.74E-06	4.92E-03	3.71E-08	1.55E-06	2.45E-05	1.65E-02	6.88E-07	2.87E-06		
Road 46	46	0100-0200	6.05E-03	2.96E-08	1.23E-06	5.40E-03	2.64E-08	1.10E-06	2.68E-05	1.17E-02	4.89E-07	2.04E-06		
Road 46	46	0200-0300	6.58E-03	2.35E-08	9.80E-07	5.88E-03	2.10E-08	8.74E-07	2.91E-05	9.32E-03	3.89E-07	1.62E-06		
Road 46	46	0300-0400	7.13E-03	2.01E-08	8.37E-07	6.37E-03	1.80E-08	7.47E-07	3.16E-05	8.00E-03	3.33E-07	1.38E-06		
Road 46	46	0400-0500	7.78E-03	2.40E-08	1.00E-06	6.85E-03	2.11E-08	8.80E-07	3.45E-05	9.54E-03	3.98E-07	1.66E-06		
Road 46	46	0500-0600	8.35E-03	4.66E-08	1.94E-06	7.34E-03	4.10E-08	1.71E-06	3.70E-05	1.85E-02	7.72E-07	3.22E-06		
Road 46	46	0600-0700	8.67E-03	1.02E-07	4.25E-06	7.63E-03	8.97E-08	3.74E-06	3.84E-05	4.05E-02	1.69E-06	7.04E-06		
Road 46	46	0700-0800	9.47E-03	2.19E-07	9.12E-06	8.54E-03	1.97E-07	8.23E-06	4.27E-05	9.89E-02	4.12E-06	1.72E-05		
Road 46	46	0800-0900	9.13E-03	2.44E-07	1.02E-05	8.27E-03	2.21E-07	9.21E-06	4.12E-05	1.11E-01	4.62E-06	1.93E-05		
Road 46	46	0900-1000	1.16E-02	2.72E-07	1.13E-05	1.05E-02	2.47E-07	1.03E-05	5.17E-05	1.23E-01	5.14E-06	2.14E-05		
Road 46	46	1000-1100	1.16E-02	2.68E-07	1.12E-05	1.04E-02	2.43E-07	1.01E-05	5.17E-05	1.21E-01	5.04E-06	2.10E-05		
Road 46	46	1100-1200	1.09E-02	1.93E-07	8.06E-06	9.73E-03	1.72E-07	7.18E-06	4.85E-05	8.58E-02	3.58E-06	1.49E-05		
Road 46	46	1200-1300	1.36E-02	3.03E-07	1.26E-05	1.25E-02	2.79E-07	1.16E-05	6.07E-05	1.35E-01	5.62E-06	2.34E-05		
Road 46	46	1300-1400	1.36E-02	3.03E-07	1.26E-05	1.25E-02	2.79E-07	1.16E-05	6.07E-05	1.35E-01	5.62E-06	2.34E-05		
Road 46	46	1400-1500	1.39E-02	3.29E-07	1.37E-05	1.28E-02	3.03E-07	1.26E-05	6.21E-05	1.47E-01	6.09E-06	2.54E-05		
Road 46	46	1500-1600	1.30E-02	3.22E-07	1.34E-05	1.19E-02	2.96E-07	1.23E-05	5.82E-05	1.44E-01	5.97E-06	2.48E-05		
Road 46	46	1600-1700	1.37E-02	3.56E-07	1.48E-05	1.26E-02	3.26E-07	1.36E-05	6.12E-05	1.59E-01	6.62E-06	2.76E-05		
Road 46	46	1700-1800	1.21E-02	3.03E-07	1.26E-05	1.12E-02	2.79E-07	1.16E-05	5.42E-05	1.35E-01	5.62E-06	2.34E-05		
Road 46	46	1800-1900	1.32E-02	3.03E-07	1.26E-05	1.22E-02	2.79E-07	1.16E-05	5.92E-05	1.35E-01	5.62E-06	2.34E-05		
Road 46	46	1900-2000	2.39E-02	3.86E-07	1.61E-05	2.20E-02	3.55E-07	1.48E-05	1.06E-04	1.72E-01	7.16E-06	2.98E-05		
Road 46	46	2000-2100	2.15E-02	2.71E-07	8.57E-06	1.98E-02	2.50E-07	7.89E-06	9.57E-05	1.21E-01	3.81E-06	1.20E-05		
Road 46	46	2100-2200	2.02E-02	2.52E-07	1.88E-06	1.86E-02	2.32E-07	1.73E-06	8.99E-05	1.12E-01	8.35E-06	1.66E-05		
Road 46	46	2200-2300	2.01E-02	2.43E-07	7.67E-06	1.85E-02	2.24E-07	7.07E-06	8.94E-05	1.08E-01	3.41E-06	1.09E-05		
Road 46	46	2300-0000	2.05E-02	1.88E-07	5.92E-06	1.95E-02	1.79E-07	5.64E-06	9.70E-05	8.90E-02	2.81E-06	9.14E-06		

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ASRMOD model (March) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.56E-02	4.91E-07	1.53E-05	2.36E-02	4.56E-07	1.41E-05	1.04E-01	2.00E-06	6.25E-05	9.43E-02	1.81E-06	5.65E-05
Road 47	47	1700-1800	1.81E-02	4.03E-07	1.26E-05	1.68E-02	3.73E-07	1.17E-05	8.85E-02	1.97E-06	6.14E-05	8.09E-02	1.79E-06	5.60E-05
Road 47	47	1800-1900	1.31E-02	3.30E-07	1.03E-05	1.21E-02	3.03E-07	9.47E-06	6.43E-02	1.61E-06	5.04E-05	5.80E-02	1.46E-06	4.55E-05
Road 47	47	1900-2000	1.10E-02	2.20E-07	6.86E-06	1.01E-02	2.02E-07	6.30E-06	6.14E-02	1.23E-06	3.84E-05	5.48E-02	1.10E-06	3.43E-05
Road 47	47	2000-2100	9.76E-03	1.52E-07	4.74E-06	8.91E-03	1.38E-07	4.32E-06	6.40E-02	9.95E-07	3.11E-05	5.63E-02	8.76E-07	2.74E-05
Road 47	47	2100-2200	7.92E-03	1.23E-07	3.84E-06	7.32E-03	1.14E-07	3.55E-06	5.86E-02	9.12E-07	2.85E-05	5.27E-02	8.20E-07	2.56E-05
Road 47	47	2200-2300	7.32E-03	1.11E-07	3.46E-06	6.97E-03	1.06E-07	3.29E-06	5.42E-02	8.26E-07	2.56E-05	5.16E-02	7.83E-07	2.45E-05
Road 47	47	2300-0000	7.73E-03	8.72E-08	2.72E-06	7.26E-03	8.18E-08	2.58E-06	5.56E-02	6.28E-07	1.96E-05	5.17E-02	5.84E-07	1.82E-05
Road 48	48	0000-0100	5.94E-03	5.16E-08	7.78E-07	5.30E-03	4.60E-08	6.94E-07	4.34E-02	3.77E-07	5.69E-06	3.71E-02	3.22E-07	4.86E-06
Road 48	48	0100-0200	6.47E-03	3.65E-08	5.51E-07	5.78E-03	3.26E-08	4.92E-07	4.48E-02	2.53E-07	3.82E-06	3.82E-02	2.16E-07	3.27E-06
Road 48	48	0200-0300	7.02E-03	2.89E-08	4.36E-07	6.27E-03	2.58E-08	3.90E-07	4.62E-02	1.90E-07	2.87E-06	3.96E-02	1.63E-07	2.46E-06
Road 48	48	0300-0400	7.58E-03	2.46E-08	3.72E-07	6.76E-03	2.20E-08	3.31E-07	4.78E-02	1.55E-07	2.34E-06	4.08E-02	1.33E-07	2.00E-06
Road 48	48	0400-0500	8.11E-03	3.96E-08	5.98E-07	7.24E-03	3.53E-08	5.33E-07	5.12E-02	2.49E-07	3.76E-06	4.39E-02	2.14E-07	3.23E-06
Road 48	48	0500-0600	8.81E-03	5.44E-08	8.21E-07	7.75E-03	4.79E-08	7.22E-07	5.18E-02	3.20E-07	4.83E-06	4.32E-02	2.67E-07	4.03E-06
Road 48	48	0600-0700	9.34E-03	1.24E-07	1.86E-06	8.41E-03	1.11E-07	1.68E-06	5.30E-02	7.01E-07	1.06E-05	4.56E-02	6.03E-07	9.10E-06
Road 48	48	0700-0800	9.85E-03	2.63E-07	3.97E-06	8.87E-03	2.37E-07	3.58E-06	5.59E-02	1.49E-06	2.25E-05	4.81E-02	1.29E-06	1.95E-05
Road 48	48	0800-0900	9.36E-03	2.89E-07	4.36E-06	8.48E-03	2.62E-07	3.95E-06	4.80E-02	1.48E-06	2.24E-05	4.18E-02	1.29E-06	1.95E-05
Road 48	48	0900-1000	1.06E-02	2.68E-07	4.04E-06	9.67E-03	2.44E-07	3.69E-06	5.28E-02	1.33E-06	2.01E-05	4.68E-02	1.18E-06	1.78E-05
Road 48	48	1000-1100	1.06E-02	2.71E-07	4.09E-06	9.67E-03	2.46E-07	3.74E-06	5.28E-02	1.34E-06	2.03E-05	4.68E-02	1.19E-06	1.81E-05
Road 48	48	1100-1200	1.14E-02	2.36E-07	3.57E-06	1.04E-02	2.14E-07	3.23E-06	5.61E-02	1.16E-06	1.75E-05	4.95E-02	1.02E-06	1.54E-05
Road 48	48	1200-1300	2.05E-02	3.41E-07	5.15E-06	1.87E-02	3.12E-07	4.71E-06	7.48E-02	1.25E-06	1.88E-05	6.79E-02	1.13E-06	1.71E-05
Road 48	48	1300-1400	2.05E-02	3.51E-07	5.39E-06	1.88E-02	3.21E-07	4.94E-06	7.73E-02	1.28E-06	1.97E-05	7.03E-02	1.16E-06	1.79E-05
Road 48	48	1400-1500	2.05E-02	3.17E-07	5.63E-06	1.88E-02	2.90E-07	5.16E-06	7.73E-02	1.17E-06	2.08E-05	7.03E-02	1.07E-06	1.90E-05
Road 48	48	1500-1600	1.89E-02	3.52E-07	5.31E-06	1.74E-02	3.25E-07	4.91E-06	7.51E-02	1.40E-06	2.12E-05	6.89E-02	1.29E-06	1.94E-05
Road 48	48	1600-1700	1.94E-02	3.74E-07	5.64E-06	1.78E-02	3.43E-07	5.18E-06	7.19E-02	2.09E-06	6.55E-05	7.26E-02	1.26E-06	1.94E-05
Road 48	48	1700-1800	1.94E-02	3.74E-07	5.64E-06	1.78E-02	3.43E-07	5.18E-06	7.19E-02	2.09E-06	6.55E-05	7.26E-02	1.26E-06	1.94E-05
Road 48	48	1800-1900	2.13E-02	3.96E-07	5.97E-06	1.95E-02	3.63E-07	5.47E-06	7.96E-02	2.21E-06	6.93E-05	8.03E-02	1.34E-06	2.05E-05
Road 48	48	1900-2000	1.07E-02	2.77E-07	4.17E-06	9.89E-03	2.57E-07	3.86E-06	5.40E-02	1.54E-06	4.84E-05	4.79E-02	1.37E-06	2.14E-05
Road 48	48	2000-2100	1.07E-02	2.09E-07	3.15E-06	9.89E-03	1.94E-07	2.91E-06	5.40E-02	1.16E-06	3.66E-05	4.79E-02	1.03E-06	1.62E-05
Road 48	48	2100-2200	9.86E-03	1.25E-07	1.89E-06	9.16E-03	1.16E-07	1.76E-06	4.84E-02	6.15E-07	9.28E-06	4.41E-02	5.61E-07	8.47E-06
Road 48	48	2200-2300	9.88E-03	1.22E-07	1.84E-06	9.39E-03	1.16E-07	1.76E-06	4.84E-02	5.97E-07	9.01E-06	4.60E-02	5.70E-07	8.60E-06
Road 48	48	2300-0000	9.98E-03	9.29E-08	1.40E-06	9.08E-03	8.46E-08	1.28E-06	4.89E-02	4.55E-07	6.87E-06	4.45E-02	4.14E-07	6.25E-06
Road 49	49	0000-0100	7.75E-03	4.27E-08	1.08E-06	6.93E-03	3.82E-08	9.64E-07	5.59E-02	3.08E-07	7.77E-06	4.77E-02	2.63E-07	6.63E-06
Road 49	49	0100-0200	7.81E-03	2.78E-08	7.02E-07	6.99E-03	2.49E-08	6.29E-07	5.46E-02	1.95E-07	4.92E-06	4.66E-02	1.66E-07	4.20E-06
Road 49	49	0200-0300	8.38E-03	2.15E-08	5.42E-07	7.50E-03	1.92E-08	4.85E-07	5.86E-02	1.50E-07	3.80E-06	4.99E-02	1.28E-07	3.24E-06
Road 49	49	0300-0400	9.00E-03	1.83E-08	4.63E-07	8.02E-03	1.63E-08	4.12E-07	5.74E-02	1.17E-07	2.95E-06	4.89E-02	9.95E-08	2.51E-06
Road 49	49	0400-0500	9.83E-03	2.18E-08	5.51E-07	8.66E-03	1.92E-08	4.86E-07	6.07E-02	1.35E-07	3.40E-06	5.09E-02	1.12E-07	2.84E-06
Road 49	49	0500-0600	1.07E-02	1.23E-08	3.08E-07	9.46E-03	1.09E-08	2.76E-07	6.62E-02	7.70E-08	1.94E-06	5.56E-02	6.34E-08	1.60E-06
Road 49	49	0600-0700	1.39E-02	1.13E-07	2.86E-06	1.25E-02	1.02E-07	2.57E-06	7.46E-02	6.09E-07	1.54E-05	6.43E-02	5.25E-07	1.32E-05
Road 49	49	0700-0800	1.81E-02	2.97E-07	7.49E-06	1.63E-02	2.68E-07	6.77E-06	8.92E-02	1.46E-06	3.70E-05	7.73E-02	1.27E-06	3.20E-05
Road 49	49	0800-0900	1.71E-02	3.54E-07	8.93E-06	1.54E-02	3.19E-07	8.05E-06	8.42E-02	1.74E-06	4.40E-05	7.30E-02	1.51E-06	3.81E-05
Road 49	49	0900-1000	1.85E-02	2.77E-07	7.00E-06	1.66E-02	2.53E-07	6.39E-06	8.75E-02	1.31E-06	3.30E-05	7.77E-02	1.16E-06	2.93E-05
Road 49	49	1000-1100	2.02E-02	2.57E-07	6.48E-06	1.82E-02	2.31E-07	5.83E-06	9.25E-02	1.17E-06	2.96E-05	8.07E-02	1.02E-06	2.58E-05
Road 49	49	1100-1200	2.18E-02	2.18E-07	5.50E-06	1.99E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	2.93E-02	1.91E-07	7.07E-07	1.08E-01	7.04E-07	2.61E-06	4.15E-06	1.53E-01	9.95E-07	3.82E-06		
Road 11	11	0100-0200	3.26E-02	1.42E-07	5.44E-07	3.05E-02	1.32E-07	5.05E-07	2.90E-06	1.58E-01	6.87E-07	2.64E-06		
Road 11	11	0200-0300	3.70E-02	1.21E-07	4.63E-07	3.43E-02	1.12E-07	4.29E-07	2.84E-06	1.67E-01	5.43E-07	2.08E-06		
Road 11	11	0300-0400	4.04E-02	1.32E-07	4.10E-07	3.77E-02	9.94E-08	3.82E-07	1.91E-06	1.75E-01	4.62E-07	1.77E-06		
Road 11	11	0400-0500	4.20E-02	1.21E-07	4.64E-07	3.90E-02	1.12E-07	4.31E-07	2.19E-06	1.81E-01	5.21E-07	2.00E-06		
Road 11	11	0500-0600	4.25E-02	2.04E-07	7.85E-07	3.95E-02	2.09E-01	1.00E-06	3.85E-06	1.90E-01	9.15E-07	3.51E-06		
Road 11	11	0600-0700	4.56E-02	1.76E-06	6.23E-06	4.24E-02	1.62E-06	5.27E-06	2.28E-06	8.75E-06	2.84E-06	7.91E-06		
Road 11	11	0700-0800	5.88E-02	1.23E-06	4.71E-06	5.33E-02	1.11E-06	4.23E-06	2.74E-06	5.71E-06	2.18E-06	4.83E-06		
Road 11	11	0800-0900	5.88E-02	1.42E-06	5.35E-06	5.29E-02	4.94E-06	2.44E-01	5.06E-06	2.25E-06	2.18E-01	5.24E-06	2.01E-05	
Road 11	11	0900-1000	5.79E-02	1.48E-06	5.58E-06	5.21E-02	1.33E-06	5.01E-06	2.21E-06	5.66E-06	2.13E-06	4.83E-06	1.85E-05	
Road 11	11	1000-1100	7.25E-02	1.31E-06	5.04E-06	6.88E-02	1.21E-06	4.82E-06	2.26E-06	4.08E-06	1.85E-06	4.22E-06	1.62E-05	
Road 11	11	1100-1200	7.28E-02	1.25E-06	4.80E-06	6.71E-02	1.15E-06	4.43E-06	2.70E-02	4.64E-06	1.78E-05	2.45E-01	4.22E-06	1.62E-05
Road 11	11	1200-1300	7.21E-02	1.38E-06	5.29E-06	6.66E-02	1.27E-06	4.88E-06	2.68E-01	5.13E-06	1.97E-05	2.47E-01	4.58E-06	1.76E-05
Road 11	11	1300-1400	1.05E-01	2.38E-06	9.12E-06	9.66E-02	2.19E-06	8.40E-06	3.58E-01	8.12E-06	3.12E-05	3.26E-01	7.39E-06	2.84E-05
Road 11	11	1400-1500	1.05E-01	2.48E-06	9.50E-06	9.65E-02	2.28E-06	8.74E-06	3.59E-01	8.48E-06	3.25E-05	3.26E-01	7.70E-06	2.95E-05
Road 11	11	1500-1600	1.04E-01	2.52E-06	9.01E-06	9.57E-02	2.32E-06	8.29E-06	3.56E-01	8.62E-06	3.08E-05	3.23E-01	7.83E-06	2.80E-05
Road 11	11	1600-1700	9.95E-02	2.47E-06	9.47E-06	9.28E-02	2.30E-06	8.82E-06	3.44E-01	8.53E-06	3.27E-05	3.18E-01	7.87E-06	3.02E-05
Road 11	11	1700-1800	8.26E-02	2.19E-06	8.40E-06	7.73E-02	2.05E-06	7.86E-06	3.21E-01	8.50E-06	3.26E-05	2.96E-01	7.85E-06	3.01E-05
Road 11	11	1800-1900	5.90E-02	1.57E-06	6.01E-06	5.53E-02	1.47E-06	5.64E-06	3.67E-01	9.76E-06	3.74E-05	3.44E-01	9.15E-06	3.51E-05
Road 11	11	1900-2000	4.24E-02	3.26E-06	3.98E-02	3.97E-02	3.06E-06	1.95E-01	3.78E-01	2.91E-05	1.85E-01	3.54E-01	2.72E-05	1.73E-01
Road 11	11	2000-2100	4.15E-02	6.50E-07	2.50E-06	3.93E-02	6.17E-07	2.37E-06	2.01E-01	3.15E-06	1.21E-05	1.86E-01	2.92E-06	1.12E-05
Road 11	11	2100-2200	4.07E-02	6.38E-07	2.45E-06	3.86E-02	6.05E-07	2.32E-06	2.01E-01	3.15E-06	1.21E-05	1.86E-01	2.92E-06	1.12E-05
Road 11	11	2200-2300	3.72E-02	5.84E-07	2.24E-06	3.52E-02	5.52E-07	2.12E-06	2.01E-01	3.15E-06	1.21E-05	1.86E-01	2.92E-06	1.12E-05
Road 11	11	2300-0000	2.98E-02	4.67E-07	1.79E-06	2.82E-02	4.42E-07	1.70E-06	2.01E-01	3.15E-06	1.21E-05	1.86E-01	2.92E-06	1.12E-05
Road 12	12	0000-0100	2.59E-02	1.62E-07	6.00E-07	2.46E-02	1.54E-07	5.70E-07	3.99E-06	2.50E-01	9.26E-07	3.42E-06		
Road 12	12	0100-0200	2.87E-02	1.20E-07	4.62E-07	2.72E-02	1.14E-07	4.38E-07	3.99E-06	2.50E-01	7.69E-07	2.96E-06		
Road 12	12	0200-0300	2.73E-02	1.63E-07	4.02E-06	2.46E-02	1.47E-07	3.62E-06	3.57E-06	2.50E-01	3.11E-07	7.67E-06		
Road 12	12	0300-0400	2.79E-02	1.65E-07	4.06E-06	2.50E-02	1.48E-07	3.64E-06	3.98E-06	5.25E-01	3.12E-07	7.70E-06		
Road 12	12	0400-0500	2.82E-02	1.65E-07	4.12E-06	2.53E-02	1.48E-07	3.71E-06	3.98E-06	5.25E-01	3.12E-07	7.70E-06		
Road 12	12	0500-0600	2.77E-01	1.70E-07	4.18E-06	2.46E-01	1.51E-07	3.72E-06	5.92E-01	3.63E-07	8.95E-06	5.26E-01	3.23E-07	7.95E-06
Road 12	12	0600-0700	2.80E-01	1.87E-07	4.61E-06	2.46E-01	1.64E-07	4.05E-06	6.14E-01	4.09E-07	1.01E-05	5.39E-01	3.59E-07	8.86E-06
Road 12	12	0700-0800	3.32E-01	1.83E-07	4.52E-06	2.91E-01	1.60E-07	3.96E-06	6.14E-01	3.38E-07	8.34E-06	5.39E-01	2.97E-07	7.33E-06
Road 12	12	0800-0900	3.46E-01	3.89E-07	2.07E-05	3.00E-01	7.27E-07	1.79E-05	6.42E-01	1.56E-06	3.84E-05			
Road 12	12	0900-1000	3.47E-01	8.32E-07	2.05E-05	3.04E-01	7.31E-07	1.80E-05	7.49E-01	1.77E-06	4.37E-05	6.58E-01	1.56E-06	3.84E-05
Road 12	12	1000-1100	3.51E-01	8.32E-07	2.05E-05	3.09E-01	7.31E-07	1.80E-05	7.49E-01	1.77E-06	4.37E-05	6.58E-01	1.56E-06	3.84E-05
Road 12	12	1100-1200	3.51E-01	8.32E-07	2.05E-05	3.09E-01	7.27E-07	1.79E-05	7.49E-01	1.77E-06	4.37E-05	6.58E-01	1.56E-06	3.84E-05
Road 12	12	1200-1300	3.51E-01	8.34E-07	2.06E-05	3.09E-01	7.29E-07	1.79E-05	7.49E-01	1.78E-06	4.38E-05	6.53E-01	1.55E-06	3.83E-05
Road 12	12	1300-1400	3.48E-01	8.29E-07	2.04E-05	3.06E-01	7.29E-07	1.79E-05	7.49E-01	1.78E-06	4.38E-05	6.53E-01	1.55E-06	3.83E-05
Road 12	12	1400-1500	3.46E-01	8.29E-07	2.04E-05	3.06E-01	7.35E-07	1.81E-05	7.39E-01	1.77E-06	4.37E-05	6.54E-01	1.57E-06	3.87E-05
Road 12	12	1500-1600	3.41E-01	8.21E-07	2.02E-05	3.04E-01	7.32E-07	1.80E-05	7.49E-01	1.80E-06	4.43E-05	6.53E-01	1.57E-06	3.87E-05
Road 12	12	1600-1700	3.32E-01	8.08E-07	1.99E-05	2.99E-01	7.26E-07	1.79E-05	7.49E-01	1.82E-06	4.48E-05	6.54E-01	1.59E-06	3.92E-05
Road 12	12	1700-1800	3.33E-01	8.08E-07	1.99E-05	2.99E-01	7.26E-07	1.79E-05	7.49E-01	1.82E-06	4.48E-05	6.54E-01	1.59E-06	3.92E-05
Road 12	12	1800-1900	3.29E-01	7.97E-07	1.96E-05	2.97E-01	7.21E-07	1.78E-05	7.49E-01	1.82E-06	4.48E-05	6.54E-01	1.59E-06	3.92E-05
Road 12	12	1900-2000	2.49E-01	1.77E-07	4.37E-06	2.27E-01	1.61E-07	3.98E-06	6.01E-01	4.27E-07	1.05E-05	5.44E-01	3.87E-07	9.55E-06
Road 12	12	2000-2100	2.47E-01	1.76E-07	4.34E-06	2.27E-01	1.61E-07	3.98E-06	6.01E-01	4.27E-07	1.05E-05	5.44E-01	3.87E-07	9.55E-06
Road 12	12	2100-2200	2.47E-01	1.76E-07	4.34E-06	2.27E-01	1.61E-07	3.98E-06	6.01E-01	4.27E-07	1.05E-05	5.44E-01	3.87E-07	9.55E-06
Road 12	12	2200-2300	2.47E-01	1.76E-07	4.34E-06	2.27E-01	1.61E-07	3.98E-06	6.01E-01	4.27E-07	1.05E-05	5.44E-01	3.87E-07	9.55E-06
Road 12	12	2300-0000	2.44E-01	1.64E-07	4.05E-06	2.23E-01	1.50E-07	3.70E-06	5.03E-01	3.38E-07	8.34E-06	5.26E-01	3.53E-07	8.71E-06
Road 13	13	0000-0100	2.57E-01	1.61E-07	4.02E-06	2.35E-01	1.47E-07	3.67E-06	5.44E-01	3.41E-07	8.53E-06	4.97E-01	3.12E-07	7.79E-06
Road 13	13	0100-0200	2.56E-01	1.62E-07	4.02E-06	2.35E-01	1.47E-07	3.67E-06	5.44E-01	3.41E-07	8.53E-06	4.97E-01	3.12E-07	7.79E-06
Road 13	13	0200-0300	2.72E-01	1.62E-07	4.06E-06	2.45E-01	1.46E-07	3.65E-06	5.44E-01	3.08E-07	7.69E-06			
Road 13	13	0300-0400	2.78E-01	1.64E-07	4.11E-06	2.49E-01	1.47E-07	3.68E-06	5.85E-01	3.46E-07	8.64E-06	5.24E-01	3.10E-07	7.74E-06
Road 13	13	0400-0500	2.81E-01	1.66E-07	4.15E-06	2.52E-01	1.48E-07	3.71E-06	5.85E-01	3.46E-07	8.64E-06	5.24E-01	3.10E-07	7.74E-06
Road 13	13	0500-0600	2.75E-01	1.68E-07	4.21E-06	2.44E-01	1.50E-07	3.74E-06	5.82E-01	3.57E-07	8.92E-06	5.17E-01	3.17E-07	7.92E-06
Road 13	13	0600-0700	2.76E-01	1.84E-07	4.60E-06	2.42E-01	1.61E-07	4.03E-06	5.94E-01	3.96E-07	9.89E-06	5.20E-01	3.46E-07	8.66E-06
Road 13	13	0700-0800	3.43E-01	1.83E-07	4.58E-06	3.01E-01	1.60E-07	4.00E-06	6.30E-01	1.53E-06	3.82E-05	5.38E-01	1.30E-06	3.24E-05
Road 13	13	0800-0900	3.43E-01	3.81E-07	2.08E-05	2.97E-01	1.76E-06	4.41E-05	6.30E-01	1.53E-06	3.82E-05	5.38E-01	1.30E-06	3.24E-05
Road 13	13	0900-1000	3.43E-01	8.23E-07	2.06E-05	3.01E-01	7.22E-07	1.80E-05	7.49E-01	1.77E-06	4.37E-05	6.48E-01	1.53E-06	3.82E-05
Road 13	13	1000-1100	3.48E-01	8.27E-07	2.07E-05	3.04E-01	7.24E-07	1.80E-05	7.49E-01	1.77E-06	4.37E-05	6.48E-01	1.53E-06	3.82E-05
Road 13	13	1100-1200	3.48E-01	8.27E-07	2.07E-05	3.04E-01	7.22E-07	1.80E-05	7.49E-01	1.77E-06	4.37E-05	6.48E-01	1.53E-06	3.82E-05
Road 13	13	1200-1300	3.48E-01	8.27E-07	2.07E-05	3.03E-01	7.22E-07	1.80E-05	7.49E-01	1.77E-06	4.38E-05	6.43E-01	1.53E-06	3.82E-05
Road 13	13	1300-1400	3.44E-01	8.23E-07	2.06E-05	3.02E-01	7.23E-07	1.81E-05	7.39E-01	1.77E-06	4.37E-05	6.43E-01	1.54E-06	3.84E-05
Road 13	13	1400-1500	3.43E-01	8.23E-07	2.06E-05	3.02E-01	7.23E-07	1.81E-05	7.39E-01	1.77E-06	4.37E-05	6.43E-01	1.54E-06	3.84E-05
Road 13	13	1500-1600	3.37E-01	8.12E-07	2.03E-05	2.96E-01	7.19E-07	1.79E-05	7.49E-01	1.80E-06	4.43E-05	6.43E-01	1.54E-06	3.84E-05
Road 13	13	1600-1700	3.37E-01	8.11E-07	2.03E-05	3.00E-01	7.24E-07	1.81E-05	7.49E-01	1.80E-06	4.43E-05	6.48E-01	1.56E-06	3.87E-05
Road 13	13	1700-1800	3.38E-01	8.13E-07	2.03E-05	3.00E-01	7.24E-07	1.81E-05	7.49E-01	1.80E-06	4.43E-05	6.48E-01	1.56E-06	3.87E-05
Road 13	13	1800-1900	3.26E-01	7.91E-07	1.98E-05	2.95E-01	7.15E-07	1.79E-05	6.90E-01	1.67E-06	4.18E-05	6.24E-01	1.51E-06	3.78E-05
Road 13	13	1900-2000	2.35E-01	1.77E-07	4.43E-06	2.12E-01	1.60E-07	3.99E-06	5.12E-01	3.85E-07	9.62E-06	4.61E-01	3.47E-07	8.67E-06
Road 13	13	2000-2100	2.34E-01	1.76E-07	4.40E-06	2.12E-01	1.60E-07	3.98E-06	5.12E-01	3.85E-07	9.62E-06	4.61E-01	3.47E-07	8.67E-06
Road 13	13	2100-2200	2.43E-01	1.73E-07	4.32E-06	2.23E-01	1.59E-07	3.96E-06	5.25E-01	3.74E-07	9.36E-06	4.81E-01	3.43E-07	8.57E-06
Road 13	13	2200-2300	2.41E-01	1.72E-07	4.30E-06	2.21E-01	1.57E-07	3.92E-06	5.25E-01	3.74E-07	9.36E-06	4.81E-01	3.43E-07	8.57E-06
Road 13	13	2300-0000	2.41E-01	1.72E-07	4.30E-06	2.21E-01	1.57E-07	3.92E-06	5.25E-01	3.74E-07	9.36E-06	4.81E-01	3.43E-07	8.57E-06
Road 14	14	0000-0100	1.73E-02	1.11E-07	3.96E-07	1.07E-02	6.86E-08	2.44E-07	7.56E-06	4.85E-01	1.73E-06	6.17E-06		
Road 14	14	0100-0200	1.97E-02	8.48E-08	1.45E-06	1.77E-02	7.64E-08	1.30E-06	8.23E-02	3.55E-07	6.05E-06	7.17E-02	3.09E-07	5.27E-06
Road 14	14	0200-0300	2.32E-02	7.51E-08	1.28E-06	2.07E-02	6.70E-08	1.14E-06	9.04E-02	2.92E-07	4.98E-06	7.85E-02	2.54E-07	4.33E-06
Road 14	14	0300-0400	2.58E-02	6.76E-08	1.15E-06	2.32E-02	6.07E-08	1.04E-06	9.57E-02	2.51E-07	4.28E-06	8.34E-02	2.19E-07	3.73E-06
Road 14	14	0400-0500	2.61E-02	7.45E-08	1.27E-06	2.32E-02	6.63E-08	1.13E-06	9.79E-02	2.80E-07	4.77E-06	8.45E-02	2.41E-07	4.12E-06
Road 14	14	0500-0600	2.67E-02	1.44E-07	2.45E-06	2.38E-02	1.28E-07	2.18E-06	9.51E-02	5.14E-07	8.75E-06	8.24E-02	4.45E-07	7.58E-06
Road 14	14	0600-0700	2.60E-02	2.59E-07	4.42E-06	2.27E-02	2.26E-07	3.85E-06	1.10E-01	1.09E-06	1.87E-05	9.23E-02	9.23E-07	1.57E-05
Road 14	14	0700-0800	3.84E-02	7.96E-07	1.36E-05	3.31E-02	6.86E-07	1.17E-05	1.45E-01	3.00E-06	5.11E-05	1.21E-01	2.51E-06	4.28E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	3.79E-02	9.04E-07	1.54E-05	3.27E-02	7.81E-07	1.33E-05	1.41E-01	3.36E-06	5.73E-05	1.19E-01	2.83E-06	4.83E-05
Road 14	14	0900-1000	4.25E-02	8.65E-07	1.47E-05	3.72E-02	7.57E-07	1.29E-05	1.57E-01	3.19E-06	5.44E-05	1.36E-01	2.76E-06	4.70E-05
Road 14	14	1000-1100	4.67E-02	8.38E-07	1.43E-05	4.10E-02	7.37E-07	1.26E-05	1.65E-01	2.97E-06	5.06E-05	1.44E-01	2.58E-06	4.39E-05
Road 14	14	1100-1200	4.58E-02	7.81E-07	1.33E-05	4.02E-02	6.86E-07	1.17E-05	1.65E-01	2.81E-06	4.79E-05	1.43E-01	2.44E-06	4.15E-05
Road 14	14	1200-1300	6.78E-02	1.44E-06	2.46E-05	5.89E-02	1.25E-06	2.14E-05	2.29E-01	4.88E-06	8.32E-05	1.97E-01	4.20E-06	7.17E-05
Road 14	14	1300-1400	6.70E-02	1.50E-06	2.56E-05	5.88E-02	1.32E-06	2.24E-05	2.36E-01	5.27E-06	8.99E-05	2.05E-01	4.59E-06	7.83E-05
Road 14	14	1400-1500	6.97E-02	1.62E-06	2.77E-05	6.11E-02	1.42E-06	2.44E-05	2.39E-01	5.57E-06	9.50E-05	2.05E-01	4.87E-06	8.30E-05
Road 14	14	1500-1600	6.39E-02	1.53E-06	2.61E-05	5.60E-02	1.34E-06	2.32E-05	2.36E-01	5.65E-06	9.64E-05	2.09E-01	4.99E-06	8.52E-05
Road 14	14	1600-1700	6.47E-02	1.58E-06	2.70E-05	5.80E-02	1.42E-06	2.42E-05	2.23E-01	5.45E-06	9.30E-05	1.99E-01	4.86E-06	8.28E-05
Road 14	14	1700-1800	6.95E-02	1.78E-06	3.04E-05	6.25E-02	1.60E-06	2.73E-05	2.33E-01	5.97E-06	1.02E-04	2.08E-01	5.32E-06	9.08E-05
Road 14	14	1800-1900	3.61E-02	9.40E-07	1.60E-05	3.26E-02	8.49E-07	1.45E-05	1.38E-01	3.59E-06	6.13E-05	1.23E-01	3.20E-06	5.46E-05
Road 14	14	1900-2000	2.47E-02	4.84E-07	8.26E-06	2.22E-02	4.35E-07	7.42E-06	1.06E-01	2.09E-06	3.56E-05	9.34E-02	1.83E-06	3.13E-05
Road 14	14	2000-2100	2.32E-02	3.52E-07	6.00E-06	2.08E-02	3.16E-07	5.39E-06	1.02E-01	1.55E-06	2.64E-05	8.97E-02	1.36E-06	2.32E-05
Road 14	14	2100-2200	2.18E-02	3.35E-07	5.71E-06	1.96E-02	3.02E-07	5.14E-06	1.03E-01	1.58E-06	2.70E-05	9.19E-02	1.41E-06	2.41E-05
Road 14	14	2200-2300	2.08E-02	3.20E-07	5.45E-06	1.87E-02	2.88E-07	4.91E-06	1.03E-01	1.58E-06	2.70E-05	9.19E-02	1.41E-06	2.41E-05
Road 14	14	2300-0000	1.98E-02	3.04E-07	5.18E-06	1.78E-02	2.74E-07	4.67E-06	1.03E-01	1.58E-06	2.70E-05	9.19E-02	1.41E-06	2.41E-05
Road 15	15	0000-0100	3.70E-02	4.64E-08	4.30E-07	3.36E-02	4.21E-08	3.90E-07	1.11E-01	1.40E-07	1.29E-06	9.90E-02	1.24E-07	1.15E-06
Road 15	15	0100-0200	4.31E-02	3.62E-08	3.98E-07	3.91E-02	3.29E-08	3.61E-07	1.11E-01	9.31E-08	1.02E-06	9.90E-02	8.32E-08	9.14E-07
Road 15	15	0200-0300	4.98E-02	4.24E-08	3.93E-07	4.44E-02	3.78E-08	3.50E-07	1.11E-01	9.46E-08	8.76E-07	9.90E-02	8.43E-08	7.81E-07
Road 15	15	0300-0400	4.98E-02	4.24E-08	3.93E-07	4.44E-02	3.78E-08	3.50E-07	1.35E-01	1.15E-07	1.07E-06	1.19E-01	1.01E-07	9.37E-07
Road 15	15	0400-0500	4.89E-02	4.44E-08	4.11E-07	4.35E-02	3.95E-08	3.66E-07	1.35E-01	1.23E-07	1.14E-06	1.18E-01	1.08E-07	9.96E-07
Road 15	15	0500-0600	3.98E-02	5.43E-08	5.03E-07	3.53E-02	4.81E-08	4.46E-07	1.22E-01	1.67E-07	1.54E-06	1.08E-01	1.48E-07	1.37E-06
Road 15	15	0600-0700	3.12E-02	8.10E-08	1.50E-07	2.83E-02	7.34E-08	1.36E-07	9.55E-02	2.48E-07	4.60E-07	8.66E-02	2.24E-07	4.16E-07
Road 15	15	0700-0800	4.97E-02	2.88E-07	2.67E-06	4.31E-02	2.50E-07	2.31E-06	1.52E-01	8.79E-07	8.14E-06	1.29E-01	7.46E-07	6.91E-06
Road 15	15	0800-0900	4.78E-02	3.14E-07	2.90E-06	4.14E-02	2.71E-07	2.51E-06	1.46E-01	9.56E-07	8.86E-06	1.24E-01	8.13E-07	7.52E-06
Road 15	15	0900-1000	5.25E-02	2.81E-07	2.60E-06	4.55E-02	2.43E-07	2.25E-06	1.39E-01	7.45E-07	6.90E-06	1.18E-01	6.32E-07	5.85E-06
Road 15	15	1000-1100	5.66E-02	2.90E-07	2.68E-06	4.98E-02	2.55E-07	2.36E-06	1.67E-01	8.53E-07	7.90E-06	1.45E-01	7.43E-07	6.88E-06
Road 15	15	1100-1200	5.66E-02	2.78E-07	2.57E-06	4.96E-02	2.43E-07	2.25E-06	1.67E-01	8.18E-07	7.58E-06	1.45E-01	7.10E-07	6.58E-06
Road 15	15	1200-1300	6.89E-02	5.33E-07	4.94E-06	6.05E-02	4.68E-07	4.34E-06	2.19E-01	1.70E-06	1.57E-05	1.92E-01	1.48E-06	1.37E-05
Road 15	15	1300-1400	6.89E-02	5.33E-07	4.94E-06	6.05E-02	4.68E-07	4.34E-06	2.19E-01	1.70E-06	1.57E-05	1.92E-01	1.48E-06	1.37E-05
Road 15	15	1400-1500	6.81E-02	5.45E-07	5.04E-06	6.03E-02	4.82E-07	4.46E-06	2.14E-01	1.71E-06	1.58E-05	1.88E-01	1.50E-06	1.39E-05
Road 15	15	1500-1600	6.60E-02	5.28E-07	4.88E-06	5.82E-02	4.65E-07	4.30E-06	2.11E-01	1.68E-06	1.56E-05	1.85E-01	1.48E-06	1.37E-05
Road 15	15	1600-1700	6.40E-02	5.33E-07	4.94E-06	5.70E-02	4.75E-07	4.40E-06	2.02E-01	1.68E-06	1.56E-05	1.79E-01	1.49E-06	1.38E-05
Road 15	15	1700-1800	5.22E-02	4.59E-07	4.25E-06	4.68E-02	4.12E-07	3.81E-06	1.77E-01	1.55E-06	1.44E-05	1.57E-01	1.38E-06	1.28E-05
Road 15	15	1800-1900	3.46E-02	3.80E-07	3.52E-06	3.12E-02	3.42E-07	3.17E-06	1.66E-01	1.82E-06	1.69E-05	1.49E-01	1.64E-06	1.52E-05
Road 15	15	1900-2000	2.47E-02	1.51E-07	1.40E-06	2.22E-02	1.36E-07	1.26E-06	9.91E-02	6.07E-07	5.62E-06	8.75E-02	5.36E-07	4.96E-06
Road 15	15	2000-2100	2.49E-02	1.20E-07	1.11E-06	2.25E-02	1.09E-07	1.01E-06	1.03E-01	4.99E-07	4.62E-06	9.14E-02	4.43E-07	4.10E-06
Road 15	15	2100-2200	2.34E-02	1.19E-07	1.10E-06	2.12E-02	1.07E-07	9.91E-07	1.01E-01	5.14E-07	4.75E-06	8.97E-02	4.55E-07	4.21E-06
Road 15	15	2200-2300	2.34E-02	1.09E-07	1.01E-06	2.13E-02	9.91E-08	9.18E-07	9.53E-02	4.43E-07	4.11E-06	8.47E-02	3.94E-07	3.65E-06
Road 15	15	2300-0000	2.60E-02	9.37E-08	8.68E-07	2.37E-02	8.55E-08	7.91E-07	9.99E-02	3.60E-07	3.33E-06	8.92E-02	3.21E-07	2.98E-06
Road 16	16	0000-0100	1.29E-02	3.36E-08	1.03E-06	1.04E-02	2.71E-08	8.08E-07	3.55E-08	9.24E-08	2.83E-06	2.87E-02	7.46E-08	2.29E-06
Road 16	16	0100-0200	8.96E-03	3.94E-08	1.21E-06	8.08E-03	3.55E-08	1.09E-06	5.18E-02	2.28E-07	6.98E-06	4.47E-02	1.96E-07	6.02E-06
Road 16	16

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) Year 2038

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			Monthly/Hour/Min		Monthly/Hour/Average		Monthly/Hour/Min		Monthly/Hour/Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	0000-0100	6.93E-02	1.17E-08	2.68E-03	7.56E-01	1.28E-07	2.93E-02	4.30E-01	7.26E-08	9.22E-06
Road 37	37	0100-0200	5.91E-02	1.00E-08	2.44E-03	5.65E-02	1.02E-08	2.33E-03	4.47E-01	8.08E-08	9.22E-06
Road 37	37	0200-0300	3.97E-02	7.16E-09	1.64E-03	3.80E-02	6.85E-09	1.57E-03	1.82E-01	3.27E-08	7.51E-06
Road 37	37	0300-0400	3.33E-02	5.91E-09	1.06E-03	3.17E-02	4.39E-09	1.01E-03	1.67E-01	2.31E-08	5.30E-06
Road 37	37	0400-0500	3.39E-02	6.86E-09	8.39E-04	3.25E-02	3.51E-09	8.05E-04	1.79E-01	1.93E-08	4.43E-06
Road 37	37	0500-0600	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	0600-0700	2.94E-02	2.92E-09	7.32E-04	2.80E-02	2.78E-09	6.86E-04	1.55E-01	1.53E-08	3.78E-06
Road 37	37	0700-0800	3.24E-02	2.54E-09	5.84E-04	3.10E-02	2.43E-09	5.58E-04	1.71E-01	1.34E-08	3.07E-06
Road 37	37	0800-0900	3.24E-02	2.54E-09	5.84E-04	3.10E-02	2.43E-09	5.58E-04	1.71E-01	1.34E-08	3.07E-06
Road 37	37	0900-1000	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1000-1100	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1100-1200	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1200-1300	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1300-1400	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1400-1500	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1500-1600	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1600-1700	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1700-1800	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	1800-1900	3.97E-02	7.16E-09	1.64E-03	3.80E-02	6.85E-09	1.57E-03	1.82E-01	3.27E-08	7.51E-06
Road 37	37	1900-2000	3.24E-02	2.54E-09	5.84E-04	3.10E-02	2.43E-09	5.58E-04	1.71E-01	1.34E-08	3.07E-06
Road 37	37	2000-2100	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	2100-2200	3.33E-02	3.61E-09	8.29E-04	3.20E-02	3.37E-09	7.74E-04	1.76E-01	1.85E-08	4.26E-06
Road 37	37	2200-2300	3.24E-02	2.54E-09	5.84E-04	3.10E-02	2.43E-09	5.58E-04	1.71E-01	1.34E-08	3.07E-06
Road 37	37	2300-2400	3.24E-02	2.54E-09	5.84E-04	3.10E-02	2.43E-09	5.58E-04	1.71E-01	1.34E-08	3.07E-06
Road 38	38	0000-0100	5.80E-02	9.19E-08	7.52E-03	5.41E-02	8.57E-08	7.02E-03	2.07E-01	3.28E-07	2.68E-06
Road 38	38	0100-0200	4.94E-02	7.83E-08	6.40E-03	4.61E-02	7.30E-08	5.97E-03	1.76E-01	2.79E-07	2.28E-06
Road 38	38	0200-0300	7.31E-02	5.82E-07	6.68E-02	6.50E-02	5.32E-07	2.26E-02	2.20E-01	1.80E-06	2.06E-01
Road 38	38	0300-0400	7.93E-02	6.79E-08	5.56E-07	7.28E-02	6.23E-08	5.10E-07	2.35E-02	2.01E-07	1.64E-06
Road 38	38	0400-0500	7.97E-02	6.85E-08	5.60E-07	7.32E-02	6.29E-08	5.14E-07	2.36E-02	2.03E-07	1.66E-06
Road 38	38	0500-0600	7.50E-02	9.83E-08	8.05E-07	6.88E-02	9.02E-08	7.38E-07	2.49E-02	3.26E-07	2.67E-06
Road 38	38	0600-0700	7.03E-02	1.69E-07	1.38E-06	6.46E-02	1.55E-07	1.27E-06	2.59E-02	6.24E-07	5.11E-06
Road 38	38	0700-0800	8.31E-02	3.68E-07	3.01E-06	7.63E-02	3.38E-07	2.76E-06	3.06E-02	1.36E-06	1.11E-05
Road 38	38	0800-0900	8.89E-02	5.63E-07	4.61E-06	8.16E-02	5.17E-07	4.23E-06	3.27E-02	2.07E-06	1.70E-05
Road 38	38	0900-1000	9.91E-02	5.83E-07	4.77E-06	9.04E-02	5.31E-07	4.35E-06	3.64E-02	2.14E-06	1.75E-05
Road 38	38	1000-1100	1.02E-01	5.66E-07	4.58E-06	9.35E-02	5.21E-07	4.22E-06	3.76E-02	2.09E-06	1.69E-05
Road 38	38	1100-1200	1.03E-01	5.41E-07	4.43E-06	9.43E-02	4.94E-07	4.05E-06	3.79E-02	1.99E-06	1.63E-05
Road 38	38	1200-1300	1.29E-01	4.18E-07	3.42E-06	1.16E-01	3.76E-07	3.08E-06	4.65E-02	1.51E-06	1.24E-05
Road 38	38	1300-1400	1.30E-01	4.42E-07	3.63E-06	1.18E-01	4.00E-07	3.28E-06	4.73E-02	1.61E-06	1.32E-05
Road 38	38	1400-1500	1.32E-01	4.26E-07	3.48E-06	1.19E-01	3.85E-07	3.15E-06	4.79E-02	1.55E-06	1.27E-05
Road 38	38	1500-1600	1.31E-01	4.62E-07	3.78E-06	1.21E-01	4.26E-07	3.49E-06	4.73E-02	1.67E-06	1.37E-05
Road 38	38	1600-1700	1.26E-01	4.30E-07	3.52E-06	1.16E-01	3.96E-07	3.24E-06	4.55E-02	1.55E-06	1.27E-05
Road 38	38	1700-1800	1.22E-01	4.22E-07	3.45E-06	1.12E-01	3.89E-07	3.18E-06	4.40E-02	1.52E-06	1.24E-05
Road 38	38	1800-1900	1.13E-01	3.36E-07	2.75E-06	1.05E-01	3.05E-07	9.04E-07	4.04E-02	2.82E-01	8.37E-07
Road 38	38	1900-2000	8.92E-02	1.28E-07	1.05E-06	8.35E-02	1.20E-07	9.84E-07	2.74E-01	3.93E-07	3.22E-06
Road 38	38	2000-2100	9.19E-02	1.35E-07	1.10E-06	8.61E-02	1.26E-07	1.03E-06	2.83E-01	4.14E-07	3.39E-06
Road 38	38	2100-2200	9.15E-02	1.13E-07	9.21E-07	8.64E-02	1.06E-07	8.70E-07	2.80E-01	3.47E-07	2.84E-06
Road 38	38	2200-2300	8.82E-02	1.02E-07	8.34E-07	7.79E-02	2.63E-01	3.04E-07	2.49E-06	2.54E-01	2.93E-07
Road 38	38	2300-2400	8.66E-02	9.56E-08	7.82E-07	7.64E-02	2.58E-01	2.85E-07	2.33E-06	2.49E-01	2.75E-07
Road 39	39	0000-0100	9.64E-02	2.26E-08	1.92E-07	9.26E-02	2.17E-08	1.85E-07	3.20E-01	7.50E-08	6.39E-07
Road 39	39	0100-0200	9.94E-02	1.62E-08	1.38E-07	9.51E-02	1.55E-08	1.32E-07	3.28E-01	5.36E-08	4.56E-07
Road 39	39	0200-0300	1.30E-01	1.47E-07	1.25E-06	1.24E-01	1.41E-07	1.20E-06	4.29E-01	4.85E-07	4.13E-06
Road 39	39	0300-0400	1.05E-01	1.11E-08	9.47E-08	1.00E-01	1.06E-08	9.05E-08	3.43E-01	3.65E-08	3.11E-07
Road 39	39	0400-0500	1.07E-01	1.32E-08	1.12E-07	1.02E-01	1.26E-08	1.07E-07	3.52E-01	4.34E-08	3.70E-07
Road 39	39	0500-0600	1.08E-01	1.07E-07	9.12E-07	1.03E-01	1.02E-07	8.70E-07	3.56E-01	3.52E-07	3.00E-06
Road 39	39	0600-0700	1.13E-01	5.77E-08	4.91E-07	1.07E-01	1.87E-07	1.60E-06	3.73E-01	1.91E-07	1.63E-06
Road 39	39	0700-0800	1.15E-01	1.25E-07	1.06E-06	1.08E-01	1.17E-07	9.96E-07	3.78E-01	4.12E-07	3.51E-06
Road 39	39	0800-0900	1.18E-01	1.58E-07	1.35E-06	1.11E-01	1.48E-07	1.26E-06	3.89E-01	5.21E-07	4.44E-06
Road 39	39	0900-1000	1.23E-01	1.73E-07	1.47E-06	1.17E-01	1.63E-07	1.39E-06	3.94E-01	5.52E-07	4.70E-06
Road 39	39	1000-1100	1.24E-01	1.71E-07	1.46E-06	1.17E-01	1.61E-07	1.37E-06	3.96E-01	5.47E-07	4.66E-06
Road 39	39	1100-1200	1.24E-01	1.71E-07	1.46E-06	1.17E-01	1.61E-07	1.37E-06	3.96E-01	5.47E-07	4.66E-06
Road 39	39	1200-1300	5.73E-02	1.71E-08	1.45E-07	5.36E-02	1.60E-08	1.36E-07	2.04E-01	6.09E-08	5.18E-07
Road 39	39	1300-1400	6.12E-02	1.89E-08	1.61E-07	5.77E-02	1.78E-08	1.51E-07	2.16E-01	6.72E-08	5.72E-07
Road 39	39	1400-1500	6.08E-02	2.03E-08	1.73E-07	5.78E-02	1.94E-08	1.65E-07	2.40E-01	8.04E-08	6.84E-07
Road 39	39	1500-1600	6.08E-02	2.03E-08	1.73E-07	5.78E-02	1.94E-08	1.65E-07	2.40E-01	8.04E-08	6.84E-07
Road 39	39	1600-1700	5.76E-02	1.99E-08	1.69E-07	5.42E-02	1.89E-08	1.60E-07	2.26E-01	7.82E-08	6.65E-07
Road 39	39	1700-1800	5.72E-02	1.98E-08	1.68E-07	5.38E-02	1.87E-08	1.59E-07	2.24E-01	7.77E-08	6.61E-07
Road 39	39	1800-1900	3.03E-02	1.23E-08	1.05E-07	2.89E-02	1.17E-08	9.95E-08	1.71E-01	6.96E-08	5.92E-07
Road 39	39	1900-2000	2.53E-02	8.03E-09	6.84E-08	2.39E-02	7.61E-09	6.48E-08	1.46E-01	4.66E-08	3.96E-07
Road 39	39	2000-2100	2.48E-02	6.15E-09	5.24E-08	2.38E-02	5.89E-09	5.02E-08	1.59E-01	3.95E-08	3.36E-07
Road 39	39	2100-2200	2.48E-02	6.15E-09	5.24E-08	2.38E-02	5.89E-09	5.02E-08	1.59E-01	3.95E-08	3.36E-07
Road 39	39	2200-2300	2.19E-02	5.22E-09	4.45E-08	2.07E-02	4.95E-09	4.22E-08	1.39E-01	3.32E-08	2.83E-07
Road 39	39	2300-2400	2.19E-02	5.22E-09	4.45E-08	2.07E-02	4.95E-09	4.22E-08	1.39E-01	3.32E-08	2.83E-07
Road 40	40	0000-0100	5.25E-02	1.55E-07	7.56E-07	4.89E-02	1.44E-07	7.04E-07	1.94E-01	5.73E-07	2.80E-06
Road 40	40	0100-0200	6.20E-02	1.34E-07	6.53E-07	5.72E-02	1.24E-07	6.03E-07	2.29E-01	4.95E-07	2.41E-06
Road 40	40	0200-0300	8.01E-02	1.25E-07	8.86E-07	7.44E-02	1.16E-07	8.23E-07	2.96E-01	4.62E-07	3.27E-06
Road 40	40	0300-0400	7.50E-02	1.15E-07	5.60E-07	6.88E-02	1.06E-07	5.16E-07	2.77E-01	4.26E-07	2.07E-06
Road 40	40	0400-0500	7.52E-02	1.23E-07	5.98E-07	6.86E-02	1.12E-07	5.47E-07	2.78E-01	4.53E-07	2.21E-06
Road 40	40	0500-0600	6.96E-02	1.67E-07	8.10E-07	6.38E-02	1.52E-07	7.42E-07	2.42E-01	5.81E-07	2.82E-06
Road 40	40	0600-0700	6.57E-02	2.42E-07	1.17E-06	6.03E-02	2.22E-07	1.08E-06	2.42E-01	8.92E-07	4.33E-06
Road 40	40	0700-0800	9.35E-02	9.57E-07	4.65E-06	8.36E-02	8.55E-07	4.16E-06	3.31E-01	3.39E-06	1.65E-05
Road 40	40	0800-0900	8.99E-02	1.04E-06	5.05E-06	8.09E-02	9.32E-07	4.53E-06	3.20E-01	3.70E-06	1.79E-05
Road 40	40	0900-1000	1.28E-01	9.90E-07	4.81E-06	1.17E-01	9.04E-07	4.39E-06	4.66E-01	3.61E-06	1.75E-05
Road 40	40	1000-1100	1.29E-01	1.05E-06	5.10E-06	1.18E-01	9.53E-07	4.63E-06	4.70E-01	3.82E-06	1.85E-05
Road 40	40	1100-1200	1.30E-01	1.07E-06	9.86E-07	1.19E-01	9.76E-07	8.99E-07	4.73E-01	3.91E-06	3.60E-06
Road 40	40	1200-1300	1.29E-01	1.07E-06	9.86E-07	1.19E-01	9.76E-07	8.99E-07	4.73E-01	3.91E-06	3.60E-06
Road 40	40	1300-1400	1.31E-01	8.82E-07	4.29E-06	1.19E-01	8.00E-07	3.89E-06	4.77E-01	3.24E-06	1.58E-05
Road 40	40	1400-1500	1.29E-01	8.81E-07	4.29E-06	1.17E-01	8.00E-07	3.90E-06	4.68E-01	3.20E-06	1.56E-05
Road 40	40	1500-1600	1.28E-01	9.06E-07	4.41E-06	1.16E-01	8.23E-07	4.00E-06	4.63E-01	3.29E-06	1.60E-05
Road 40	40	1600-1700	1.25E-01	8.67E-07	4.22E-06	1.13E-01	7.87E-07	3.83E-06	4.52E-01	3.13E-06	1.52E-05
Road 40	40	1700-1800	1.15E-01	8.13E-07	3.95E-06	1.06E-01	7.50E-07	3.65E-06	4.24E-01	3.00E-06	1.46E-05
Road 40	40	1800-1900	9.77E-02	6.54E-07	3.18E-06	9.04E-02	6.05E-07	2.94E-06	3.52E-01	2.35E-06	1.14E-05
Road 40	40	1900-2000	6.32E-02	2.41E-07	1.17E-06	5.90E-02	2.26E-07	1.09E-06	2.53E-01	9.68E-07	4.68E-06
Road 40	40	2000-2100	6.66E-02	2.08E-07	1.01E-06	6.28E-02	1.96E-07	9.55E-07	2.34E-01	7.33E-07	3.57E-06
Road 40	40	2100-2200	6.66E-02	2.08E-07	1.01E-06	6.28E-02	1.96E-07	9.55E-07	2.34E-01	7.33E-07	3.57E-06
Road 40	40	2200-2300	6.29E-02	1.89E-07	9.18E-07	5.87E-02	1.76E-07	8.56E-07	2.21E-01	6.64E-07	3.23E-06
Road 40	40	2300-2400	6.78E-02	1.66E-07	8.08E-07	6.34E-02	1.55E-07	7.56E-07	2.27E-01	5.56E-07	2.71E-06
Road 41	41	0000-0100	2.08E-02	4.29E-08	3.97E-07	1.89E-02	3.85E-08	3.61E-07	6.96E-02	1.41E-07	1.33E-06
Road 41	41	0100-0200	2.68E-02	3.98E-08	3.74E-07	2.41E-02	3.59E-08	3.37E-07	8.05E-02	1.20E-07	1.12E-06
Road 41	41	0200-0300	3.19E-02	3.88E-08	3.64E-07	2.85E-02	3.46E-08	3.25E-07	8.98E-02	1.09E-07	1.02E-06
Road 41	41	0300-0400	3.62E-02	3.83E-08	3.60E-07	3.25E-02	3.45E-08	3.24E-07	9.76E-02	1.03E-07	9.71E-07
Road 41	41	0400-0500	3.54E-02	3.95E-08	3.71E-07	3.16E-02	3.53E-08	3.32E-07	9.56E-02	1.07E-07	1.00E-06
Road 41	41	0500-0600	2.82E-02	4.48E-08	4.21E-07	2.49E-02	3.97E-08	3.73E-07	8.64E-02	1.38E-07	1.29E-06
Road 41	41	0600-0700	2.08E-02	5.99E-08	5.62E-07	1.82E-02	5.27E-08	4.95E-07	7.64E-02	2.20E-07	2.06E-06
Road 41	41	0700-0800	2.83E-02	1.89E-07	1.77E-06	2.44E-02	1.63E-07	1.53E-06	8.33E-02	5.56E-07	5.22E-06
Road 41	41	0800-0900	2.61E-02	1.94E-07	1.82E-06	2.25E-02	1.68E-07	1.58E-06	8.13E-02	6.07E-07	5.69E-06
Road 41	41	0900-1000	2.32E-02	1.90E-07	1.78E-06	2.00E-02	1.64E-07	1.54E-06	8.88E-02	5.76E-07	5.41E-06
Road 41	41	1000-1100	3.23E-02	1.89E-07	1.78E-06	2.83E-02	1.66E-07	1.56E-06	9.47E-02	5.56E-07	5.22E-06
Road 41	41	1100-1200	3.26E-02	1.84E-07	1.73E-06	2.87E-02	1.62E-07	1.52E-06	9.62E-02	5.44E-07	5.10E-06
Road 41	41	1200-1300	3.26E-02	1.84E-07	1.73E-06	2.87E-02	1.62E-07	1.52E-06	9.62E-02	5.44E-07	5.10E-06
Road 41	41	1300-1400	3.56E-02	2.23E-07	2.09E-06	3.12E-02	1.96E-07	1.84E-06	1.07E-01	6.70E-07	6.30E-06
Road 41	41	1400-1500	3.52E-02	2.28E-07	2.14E-06	3.10E-02	2.00E-07	1.88E-06	1.06E-01	6.84E-07	6.42E-06
Road 41	41	1500-1600	3.33E-02	2.22E-07	2.09E-06	2.93E-02	1.95E-07	1.84E-06	1.00E-01	6.67E-07	6.27E-06
Road 41	41	1600-1700	3.35E-02	2.25E-07	2.12E-06	3.00E-02	2.02E-07	1.90E-06	1.01E-01	6.77E-07	6.36E-06
Road 41	41	1700-1800	2.87E-02	2.04E-07	1.92E-06	2.56E-02	1.83E-07	1.71E-06	9.11E-02	6.49E-07	6.09E-06
Road 41	41	1800-1900	1.51E-02	1.74E-07	1.64E-06	1.33E-02	1.53E-07	1.44E-06	5.01E-02	5.78E-07	5.43E-06
Road 41	41	1900-2000	1.51E-02	7.00E-08	6.57E-07	1.35E-02	6.28E-08	5.89E-07	6.02E-02	2.79E-07	2.62E-06
Road 41	41	2000-2100	1.64E-02	6.08E-08	5.71E-07	1.49E-02	5.54E-08	5.20E-07	6.59E-02	2.45E-07	2.30E-06
Road 41	41	2100-2200	1.57E-02	5.86E-08	5.50E-07	1.43E-02	5.34E-08	5.01E-07	6.42E-02	2.40E-07	2.25E-06
Road 41	41	2200-2300	1.66E-02	6.00E-08	5.75E-07	1.53E-02	5.53E-08	5.30E-07	6.87E-02	2.48E-07	2.38E-06
Road 41	41	2300-2400	1.66E-02	6.00E-08	5.75E-07	1.53E-02	5.53E-08	5.30E-07	6.87E-02	2.48E-07	2.38E-06
Road 42	42	0000-0100	3.79E-02	7.84E-08	1.99E-06	5.03E-02	7.01E-08	1.78E-06	1.46E-01	2.03E-07	5.15E-06
Road 42	42	0100-0200	5.62E-02	7.84E-08	1.99E-06	5.03E-02	7.01E-08	1.78E-06	1.46E-01	2.03E-07	5.15E-06
Road 42	42	0200-0300	5.62E-02	7.84E-08	1.99E-06	5.03E-02	7.01E-08	1.78E-06	1.46E-01	2.03E-07	5.15E-06
Road 42	42	0300-0400	6.36E-02	7.71E-08	1.97E-06	5.71E-02	7.00E-08	1.78E-06	1.66E-01	2.00E-07	5.08E-06
Road 42	42	0400-0500	4.92E-02	8.96E-08	2.27E-06	4.36E-02	7.95E-08	2.02E-06	1.37E-01	2.50E-07	6.35E-06
Road 42	42	0500-0600	4.92E-02	8.96E-08	2.27E-06	4.36E-02	7.95E-08	2.02E-06	1.37E-01	2.50E-07	6.35E-06
Road 42	42	0600-0700	3.83E-02	1.25E-07	3.17E-06	3.35E-02	1.09E-07	2.77E-06	1.24E-01	4.04E-07	1.02E-05
Road 42	42	0700-0800	6.06E-02	3.08E-07	7.81E-06	5.38E-02	2.73E-07	6.92E-06	1.96E-01	9.96E-07	2.52E-05
Road 42	42	0800-0900	6.06E-02	5.16E-07	1.31E-05	5.24E-02	4.46E-07	1.13E-05	1.68E-01	1.43E-06	3.62E-05
Road 42	42	0900-1000	6.96E-02	4.91E-07	1.24E-05	6.01E-02	4.24E-07	1.07E-05	1.92E-01	1.35E-06	3.43E-05
Road 42	42	1000-1100	7.36E-02	4.79E-07	1.22E-05	6.47E-02	4.21E-07	1.07E-05	1.92E-01	1.29E-06	3.26E-05
Road 42	42	1100-1200	9.51E-02	4.84E-07	1.23E-05	8.26E-02	4.20E-07	1.07E-05	2.45E-01	1.24E-06	3.16E-05
Road 42	42	1200-1300	9.51E-02	4.84E-07	1.23E-05	8.26E-02	4.20E-07	1.07E-05	2.45E-01	1.24E-06	3.16E-05
Road 42	42	1300-1400	9.40E-02	4.84E-07	1.23E-05	8.18E-02	4.20E-07	1.07E-05	2.41E-01	1.24E-06	3.16E-05
Road 42	42	1400-1500	9.53E-02	5.13E-07	1.30E-05	8.39E-02	4.52E-07	1.15E-05	2.49E-01	1.34E-06	3.40E-05
Road 42	42	1500-1600	9.07E-02	4.98E-07	1.26E-05	8.07E-02	4.43E-07	1.12E-05	2.45E-01	1.34E-06	3.41E-05
Road 42	42	1600-1700	1.12E-01	5.03E-07	1.28E-05	9.93E-02	4.46E-07	1.13E-05	3.02E-01	1.36E-06	3.45E-05
Road 42	42	1700-1800	8.19E-02	4.66E-07	1.18E-05	7.33E-02	4.17E-07	1.06E-05	2.20E-01	1.25E-06	3.18E-05
Road 42	42	1800-1900	7.35E-02	4.01E-07	1.02E-05	6.57E-02	3.58E-07	9.09E-06	1.98E-01	1.08E-06	2.74E-05
Road 42	42	1900-2000	7.09E-02	1.51E-07	3.84E-06	6.34E-02	1.35E-07	3.43E-06	1.91E-01	4.06E-07	1.03E-05
Road 42	42	2000-2100	1.05E-02	6.36E-08	2.36E-06	9.39E-03	5.71E-08	2.12E-06	5.59E-02	3.40E-07	1.26E-05
Road 42	42	2100-2200	1.13E-02	5.09E-08	1.89E-06	1.01E-02	4.54E-08	1.69E-06	5.81E-02	2.62E-07	9.72E-06
Road 42	42	2200-2300	1.13E-02	5.09E-08	1.89E-06	1.01E-02	4.54E-08	1.69E-06	5.81E-02	2.62E-07	9.72E-06
Road 42	42	2300-2400	1.12E-02	5.29E-08	1.96E-06	1.17E-02	4.69E-08	1.74E-06	6.03E-02	2.70E-07	1.00E-05
Road 43	43	0000-0100	1.36E-02	3.96E-08	3.67E-07	1.21E-02	3.52E-08	3.26E-07	4.46E-02	1.30E-07	1.20E-06
Road 43	43	0100-0200	1.73E-02	3.68E-08	3.41E-07	1.54E-02	3.28E-08	3.04E-07	5.68E-02	1.21E-07	1.12E-06
Road 43	43	0200-0300	2.25E-02	3.62E-08	3.35E-07	2.00E-02	3.22E-08	2.98E-07	7.39E-02	1.19E-07	1.10E-06
Road 43	43	0300-0400	2.63E-02	3.57E-08	3.65E-08	2.37E-02	3.20E-08	3.28E-08	7.97E-02	1.08E-07	1.11E-07
Road 43	43	0400-0500	2.63E-02	3.57E-08	3.65E-08	2.37E-02	3.20E-08	3.28E-08	7.97E-02	1.08E-07	1.11E-07
Road 43	43	0500-0600	1.97E-02	4.28E-08	1.74E-07	1.72E-02	3.78E-08	3.87E-08	7.02E-02	1.52E-08	1.56E-07
Road 43	43	0600-0700	1.43E-02	5.94E-08	6.08E-08	1.25E-02	5.16E-08	5.28E-08	6.28E-02	2.60E-08	2.66E-07
Road 43	43	0700-0800	1.83E-02	1.88E-08	1.93E-07	1.57E-02	1.62E-08	1.66E-07	6.47E-02	6.67E-08	6.83E-07
Road 43	43	0800-0900	2.08E-02	1.78E-08	1.82E-07	1.82E-02	1.55E-08	1.59E-07	7.04E-02	6.15E-08	6.30E-07
Road 43	43	0900-1000	2.08E-02	1.78E-08	1.82E-07	1.82E-02	1.55E-08	1.59E-07	7.04E-02	6.15E-08	6.30E-07
Road 43	43	1000-1100	2.35E-02	1.69E-08	1.73E-07	2.06E-02	1.48E-08	1.52E-07	7.71E-02	5.55E-08	5.68E-07
Road 43	43	1100-1200	2.05E-02	5.66E-08	5.78E-07	1.78E-02	4.90E-08	5.01E-07	7.94E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April) Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	8.57E-03	3.08E-07	1.77E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0100-0200	3.16E-02	1.14E-06	6.52E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0200-0300	3.16E-02	1.14E-06	6.52E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0300-0400	3.16E-02	1.14E-06	6.52E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0400-0500	3.16E-02	1.14E-06	6.52E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0500-0600	3.16E-02	1.14E-06	6.52E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0600-0700	3.16E-02	1.14E-06	6.52E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0700-0800	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0800-0900	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	0900-1000	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1000-1100	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1100-1200	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1200-1300	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1300-1400	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1400-1500	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1500-1600	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1600-1700	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1700-1800	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1800-1900	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	1900-2000	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	2000-2100	5.53E-02	1.99E-06	1.14E-04	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 1	1	2100-2200	4.46E-03	1.29E-07	2.59E-06	3.96E-03	1.15E-07	2.30E-06	5.16E-03	1.49E-07	2.99E-06			
Road 1	1	2200-2300	4.37E-03	1.23E-07	2.47E-06	3.87E-03	1.09E-07	2.19E-06	5.04E-03	1.42E-07	2.85E-06			
Road 1	1	2300-0000	8.47E-03	2.86E-07	1.70E-05	7.52E-03	2.54E-07	1.51E-05	9.80E-03	3.31E-07	1.96E-05			
Road 2	2	0000-0100	7.61E-03	5.38E-08	4.50E-07	6.66E-03	4.72E-08	3.94E-07	8.69E-03	6.15E-08	5.14E-07			
Road 2	2	0100-0200	8.15E-03	3.74E-08	3.13E-07	7.12E-03	3.27E-08	2.73E-07	9.28E-03	4.26E-08	3.56E-07			
Road 2	2	0200-0300	8.62E-03	2.88E-08	2.41E-07	7.53E-03	2.52E-08	2.10E-07	9.81E-03	3.28E-08	2.74E-07			
Road 2	2	0300-0400	9.29E-03	2.44E-08	2.04E-07	8.35E-03	2.20E-08	1.84E-07	1.07E-02	2.81E-08	2.35E-07			
Road 2	2	0400-0500	1.01E-02	2.89E-08	2.42E-07	9.02E-03	2.60E-08	2.17E-07	1.15E-02	3.32E-08	2.77E-07			
Road 2	2	0500-0600	1.13E-02	5.62E-08	4.70E-07	9.94E-03	4.92E-08	4.12E-07	1.29E-02	6.41E-08	5.36E-07			
Road 2	2	0600-0700	1.25E-02	1.44E-07	1.20E-06	1.10E-02	1.26E-07	1.06E-06	1.43E-02	1.64E-07	1.37E-06			
Road 2	2	0700-0800	1.73E-02	3.71E-07	3.10E-06	1.52E-02	3.26E-07	2.72E-06	1.98E-02	4.24E-07	3.54E-06			
Road 2	2	0800-0900	1.73E-02	4.28E-07	3.58E-06	1.52E-02	3.76E-07	3.14E-06	1.98E-02	4.89E-07	4.09E-06			
Road 2	2	0900-1000	1.73E-02	3.71E-07	3.10E-06	1.52E-02	3.26E-07	2.72E-06	1.98E-02	4.24E-07	3.54E-06			
Road 2	2	1000-1100	1.73E-02	3.02E-07	2.52E-06	1.52E-02	2.65E-07	2.21E-06	1.98E-02	3.45E-07	2.88E-06			
Road 2	2	1100-1200	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1200-1300	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1300-1400	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1400-1500	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1500-1600	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1600-1700	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1700-1800	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1800-1900	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	1900-2000	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	2000-2100	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	2100-2200	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	2200-2300	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 2	2	2300-0000	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 3	3	0000-0100	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0100-0200	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0200-0300	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0300-0400	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0400-0500	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0500-0600	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0600-0700	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0700-0800	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0800-0900	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	0900-1000	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1000-1100	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1100-1200	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1200-1300	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1300-1400	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1400-1500	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1500-1600	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1600-1700	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1700-1800	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1800-1900	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	1900-2000	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	2000-2100	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	2100-2200	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	2200-2300	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 3	3	2300-0000	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 4	4	0800-0900	8.57E-03	3.08E-07	1.77E-05	2.86E-02	1.58E-06	3.16E-05	3.73E-02	1.34E-06	2.68E-05			
Road 4	4	0900-1000	9.76E-03	2.86E-07	5.73E-06	8.45E-03	2.47E-07	4.95E-06	1.10E-02	3.22E-07	6.45E-06			
Road 4	4	1000-1100	1.11E-02	2.79E-07	5.60E-06	9.67E-03	2.44E-07	4.89E-06	1.26E-02	3.18E-07	6.37E-06			
Road 4	4	1100-1200	1.05E-02	9.03E-08	9.22E-07	2.30E-07	4.87E-06	2.35E-06	1.37E-02	1.18E-07	1.20E-06			
Road 4	4	1200-1300	1.19E-02	3.63E-07	7.27E-06	1.03E-02	3.16E-07	6.33E-06	1.34E-02	4.12E-07	8.25E-06			
Road 4	4	1300-1400	1.19E-02	3.70E-07	7.42E-06	1.04E-02	3.23E-07	6.47E-06	1.35E-02	4.21E-07	8.43E-06			
Road 4	4	1400-1500	1.22E-02	4.80E-07	9.62E-06	1.06E-02	4.19E-07	8.39E-06	1.38E-02	5.45E-07	1.09E-05			
Road 4	4	1500-1600	1.16E-02	3.93E-07	7.88E-06	1.01E-02	3.42E-07	6.86E-06	1.32E-02	4.46E-07	8.94E-06			
Road 4	4	1600-1700	1.22E-02	4.47E-07	8.95E-06	1.06E-02	3.89E-07	7.80E-06	1.38E-02	5.07E-07	1.02E-05			
Road 4	4	1700-1800	1.84E-02	1.07E-06	2.14E-05	1.60E-02	9.31E-07	1.86E-05	2.08E-02	1.21E-06	2.42E-05			
Road 4	4	1800-1900	6.56E-03	3.04E-07	6.08E-06	5.56E-03	2.60E-07	5.21E-06	7.24E-03	3.38E-07	6.78E-06			
Road 4	4	1900-2000	5.52E-03	2.06E-07	4.13E-06	4.83E-03	1.80E-07	3.61E-06	6.29E-03	2.34E-07	4.70E-06			
Road 4	4	2000-2100	3.14E-03	1.29E-07	2.59E-06	2.74E-03	1.13E-07	2.26E-06	3.57E-03	1.47E-07	2.94E-06			
Road 4	4	2100-2200	4.46E-03	1.29E-07	2.59E-06	3.96E-03	1.15E-07	2.30E-06	5.16E-03	1.49E-07	2.99E-06			
Road 4	4	2200-2300	4.37E-03	1.23E-07	2.47E-06	3.87E-03	1.09E-07	2.19E-06	5.04E-03	1.42E-07	2.85E-06			
Road 4	4	2300-0000	8.47E-03	2.86E-07	1.70E-05	7.52E-03	2.54E-07	1.51E-05	9.80E-03	3.31E-07	1.96E-05			
Road 5	5	0000-0100	7.61E-03	5.38E-08	4.50E-07	6.66E-03	4.72E-08	3.94E-07	8.69E-03	6.15E-08	5.14E-07			
Road 5	5	0100-0200	8.15E-03	3.74E-08	3.13E-07	7.12E-03	3.27E-08	2.73E-07	9.28E-03	4.26E-08	3.56E-07			
Road 5	5	0200-0300	8.62E-03	2.88E-08	2.41E-07	7.53E-03	2.52E-08	2.10E-07	9.81E-03	3.28E-08	2.74E-07			
Road 5	5	0300-0400	9.29E-03	2.44E-08	2.04E-07	8.35E-03	2.20E-08	1.84E-07	1.07E-02	2.81E-08	2.35E-07			
Road 5	5	0400-0500	1.01E-02	2.89E-08	2.42E-07	9.02E-03	2.60E-08	2.17E-07	1.15E-02	3.32E-08	2.77E-07			
Road 5	5	0500-0600	1.13E-02	5.62E-08	4.70E-07	9.94E-03	4.92E-08	4.12E-07	1.29E-02	6.41E-08	5.36E-07			
Road 5	5	0600-0700	1.25E-02	1.44E-07	1.20E-06	1.10E-02	1.26E-07	1.06E-06	1.43E-02	1.64E-07	1.37E-06			
Road 5	5	0700-0800	1.73E-02	3.71E-07	3.10E-06	1.52E-02	3.26E-07	2.72E-06	1.98E-02	4.24E-07	3.54E-06			
Road 5	5	0800-0900	1.73E-02	4.28E-07	3.58E-06	1.52E-02	3.76E-07	3.14E-06	1.98E-02	4.89E-07	4.09E-06			
Road 5	5	0900-1000	1.73E-02	3.71E-07	3.10E-06	1.52E-02	3.26E-07	2.72E-06	1.98E-02	4.24E-07	3.54E-06			
Road 5	5	1000-1100	1.73E-02	3.02E-07	2.52E-06	1.52E-02	2.65E-07	2.21E-06	1.98E-02	3.45E-07	2.88E-06			
Road 5	5	1100-1200	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1200-1300	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1300-1400	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1400-1500	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1500-1600	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1600-1700	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1700-1800	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1800-1900	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	1900-2000	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	2000-2100	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	2100-2200	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	2200-2300	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 5	5	2300-0000	1.73E-02	2.59E-07	2.16E-06	1.52E-02	2.27E-07	1.90E-06	1.98E-02	2.96E-07	2.47E-06			
Road 6	6	0000-0100	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 6	6	0100-0200	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 6	6	0200-0300	1.88E-02	2.44E-06	1.70E-04	7.83E-03	2.46E-07	1.70E-05	1.04E-02	3.20E-07	2.23E-05			
Road 6	6	0300-0400	1.88E-02	2.44E-06	1.70E-04	7.83E-03	2.46E-07	1.70E-05	1.04E-02	3.20E-07	2.23E-05			
Road 6	6	0400-0500	2.13E-02	8.72E-08	6.09E-06	2.20E-02	8.13E-07	5.68E-05	2.93E-02	1.06E-06	7.41E-05			
Road 6	6	0500-0600	2.40E-02	1.72E-07	1.20E-05	2.48E-02	1.72E-06	1.20E-04	3.30E-02	2.29E-06	1.60E-04			
Road 6	6	0600-0700	2.68E-02	2.46E-06	1.92E-04	2.76E-02	2.54E-06	1.98E-04	3.67E-02	3.38E-06	2.64E-04			
Road 6	6	0700-0800	4.18E-02	1.33E-06	3.74E-05	3.68E-02	1.17E-06	3.30E-05	4.90E-02	1.56E-06	4.39E-05			
Road 6	6	0800-0900	4.43E-02	1.64E-06	4.63E-05	3.90E-02	1.45E-06	4.08E-05	5.19E-02	1.92E-06	5.43E-05			
Road 6	6	0900-1000	3.68E-02	1.27E-06	3.58E-05	3.24E-02	1.12E-06	3.15E-05	4.31E-02	1.49E-06	4.19E-05			
Road 6	6	1000-1100	5.55E-02	1.65E-06	4.64E-05	4.86E-02	1.44E-06	4.06E-05	6.47E-02	1.92E-06	5.41E-05			
Road 6	6	1100-1200	5.18E-02	1.45E-06	4.09E-05	4.57E-02	1.28E-06	3.60E-05	6.08E-02	1.70E-06	4.79E-05			
Road 6	6	1200-1300	5.18E-02	1.45E-06	4.09E-05	4.57E-02	1.28E-06	3.60E-05	6.08E-02	1.70E-06	4.79E-05			
Road 6	6	1300-1400	6.64E-02	1.88E-06	5.29E-05	5.81E-02	1.64E-06	4.63E-05	7.74E-02	2.19E-06	6.17E-05			
Road 6	6	1400-1500	6.96E-02	2.03E-06	5.72E-05	6.12E-02	1.79E-06	5.04E-05	8.14E-02	2.37E-06	6.68E-05			
Road 6	6	1500-1600	6.96E-02	2.03E-06	5.72E-05	6.12E-02	1.79E-06	5.04E-05	8.14E-02	2.37E-06	6.68E-05			
Road 6	6	1600-1700	6.45E-02	1.95E-06	5.50E-05	5.66E-02	1.71E-06	4.83E-05	7.53E-02	2.27E-06	6.42E-05			
Road 6	6	1700-1800	4.98E-02	1.58E-06	4.45E-05	4.33E-02	1.37E-06	3.86E-05	5.74E-02	1.82E-06	5.13E-05			
Road 6	6	1800-1900	3.31E-02	1.01E-06	2.84E-05	2.89E-02	8.83E-07	2.48E-05	3.82E-02	1.17E-06	3.29E-05			
Road 6	6	1900-2000	2.52E-02	5.85E-07	1.65E-05	2.23E-02	5.18E-07	1.46E-05	2.96E-02	6.87E-07	1.94E-05			
Road 6	6	2000-2100	2.30E-02	4.18E-07	1.18E-05	2.05E-02	3.72E-07	1.05E-05	2.72E-02	4.94E-07	1.39E-05			
Road 6	6	2100-2200	2.30E-02	4.18E-07	1.18E-05	2.05E-02	3.72E-07	1.05E-05	2.72E-02	4.94E-07	1.39E-05			
Road 6	6	2200-2300	2.30E-02	4.18E-07	1.18E-05	2.05E-02	3.72E-07	1.05E-05	2.72E-02	4.94E-07	1.39E-05			
Road 6	6	2300-0000	2.30E-02	4.18E-07	1.18E-05	2.05E-02	3.72E-07	1.05E-05	2.72E-02	4.94E-07	1.39E-05			
Road 7	7	0000-0100	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 7	7	0100-0200	1.69E-02	2.94E-07	1.69E-05	1.48E-02	2.58E-07	1.48E-05	1.93E-02	3.36E-07	1.93E-05			
Road 7	7	0200-0300	1.88E-02	2.44E-06	1.70E-04	7.83E-03	2.46E-07	1.70E-05	1.04E-02	3.20E-07	2.23E-05			
Road 7	7	0300-0400	1.88E-02	2.44E-06	1.70E-04	7.83E-03	2.46E-07	1.70E-05	1.04E-02	3.20E-07	2.23E-05			
Road 7	7	0400-0500	2.13E-02	8.72E-08	6.09E-06	2.20E-02	8.13E-07	5.68E-05	2.93E-02	1.06E-06	7.41E-05			
Road 7	7	0500-0600	2.40E-02	1.72E-07	1.20E-05	2.48E-02	1.72E-06	1.20E-04	3.30E-02	2.29E-06	1.60E-04			
Road 7	7	0600-0700	2.68E-02	2.46E-06	1.92E-04	2.76E-02	2.54E-06	1.98E-04	3.67E-02	3.38E-06	2.64E-04			
Road 7	7	0700-0800	4.18E-02	1.33E-06	3.74E-05	3.68E-02	1.17E-06	3.30E-05	4.90E-02	1.56E-06	4.39E-05			
Road 7	7	0800-0900	4.43E-02	1.64E-06	4.63E-05	3.90E-02	1.45E-06	4.08E-05	5.19E-02	1.92E-06	5.43E-05			
Road 7	7	0900-1000	3.68E-02	1.27E-06	3.58E-05	3.24E-02	1.12E-06	3.15E-05	4.31E-02	1.49E-06	4.19E-05			
Road 7	7	1000-1100	5.55E-02	1.65E-06	4.64E-05	4.86E-02	1.44E-06	4.06E-05	6.47E-02	1.92E-06	5.41E-05			
Road 7	7	1100-1200	5.22E-02	1.45E-06	4.09E-05	4.57E-02	1.28E-06	3.60E-05	6.08E-02	1.70E-06	4.79E-05			
Road 7	7	1200-1300	5.18E-02	1.45E-06	4.09E-05	4.57E-02	1.28E-06	3.60E-05	6.08E-02	1.70E-06	4.79E-05			
Road 7	7	1300-1400	6.64E-02	1.88E-06	5.29E-05	5.81E-02	1.64E-06	4.63E-05	7.74E-02	2.19E-06	6.17E-05			
Road 7	7	1400-1500	6.96E-02	2.03E-06	5.72E-05	6.12E-02	1.79E-06	5.04E-05	8.14E-02	2.37E-06	6.68E-05			

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2038

Road Name	Road ID	Hour	NO_x Emission				NO Emission			
			Monthly/Hour/Km		Monthly/Hour/Average		Monthly/Hour/Km		Monthly/Hour/Average	
			g/km/veh	g/s/m²	tonne/veh	g/s/m²	g/km/veh	g/s/m²	tonne/veh	g/s/m²
Road 31	31	0000-0100	1.66E-02	3.58E-08	2.07E-07	1.11E-06	3.33E-02	7.18E-08	1.18E-06	5.33E-02
Road 31	31	0100-0200	1.97E-02	2.94E-08	2.62E-07	1.74E-02	2.59E-08	3.86E-02	8.72E-08	7.79E-07
Road 31	31	0200-0300	2.24E-02	2.60E-08	2.33E-07	2.02E-02	2.35E-08	2.10E-07	7.25E-02	6.46E-02
Road 31	31	0300-0400	2.47E-02	2.35E-08	2.21E-07	2.23E-02	2.13E-08	1.94E-07	7.66E-02	6.97E-02
Road 31	31	0400-0500	2.44E-02	2.59E-08	2.31E-07	2.20E-02	2.34E-08	2.08E-07	7.56E-02	6.51E-07
Road 31	31	0500-0600	2.14E-02	3.68E-08	3.28E-07	1.90E-02	3.25E-08	2.91E-07	7.37E-02	1.26E-07
Road 31	31	0600-0700	1.87E-02	5.84E-08	5.20E-07	1.68E-02	5.21E-02	6.98E-02	2.43E-07	2.17E-06
Road 31	31	0700-0800	2.20E-02	1.66E-07	1.48E-06	1.34E-02	1.46E-07	1.31E-06	5.64E-07	4.47E-06
Road 31	31	0800-0900	2.08E-02	1.80E-07	1.60E-06	1.83E-02	1.58E-07	1.41E-06	7.25E-02	6.25E-07
Road 31	31	0900-1000	2.08E-02	1.80E-07	1.60E-06	1.83E-02	1.58E-07	1.41E-06	7.25E-02	6.25E-07
Road 31	31	1000-1100	2.60E-02	1.90E-07	1.70E-06	2.28E-02	1.67E-07	1.49E-06	8.62E-02	6.31E-07
Road 31	31	1100-1200	2.59E-02	1.80E-07	1.61E-06	2.29E-02	1.59E-07	1.42E-06	8.64E-02	6.01E-07
Road 31	31	1200-1300	2.48E-02	2.04E-07	1.82E-06	2.19E-02	1.79E-07	1.60E-06	8.27E-02	6.77E-07
Road 31	31	1300-1400	2.46E-02	1.43E-07	1.27E-06	2.15E-02	1.25E-07	1.11E-06	8.13E-02	4.72E-07
Road 31	31	1400-1500	2.44E-02	1.48E-07	1.32E-06	2.14E-02	1.30E-07	1.16E-06	8.07E-02	4.91E-07
Road 31	31	1500-1600	2.41E-02	1.48E-07	1.32E-06	2.11E-02	1.30E-07	1.16E-06	7.96E-02	4.91E-07
Road 31	31	1600-1700	2.31E-02	1.48E-07	1.32E-06	2.03E-02	1.30E-07	1.16E-06	6.83E-02	4.38E-07
Road 31	31	1700-1800	1.91E-02	1.33E-07	1.19E-06	1.66E-02	1.16E-07	1.04E-06	6.29E-02	4.38E-07
Road 31	31	1800-1900	1.58E-02	1.24E-07	1.11E-06	1.38E-02	1.08E-07	9.71E-07	5.21E-02	4.09E-07
Road 31	31	1900-2000	1.05E-02	5.48E-08	4.90E-07	9.22E-03	4.83E-08	4.31E-07	3.46E-02	3.02E-07
Road 31	31	2000-2100	1.09E-02	4.53E-08	4.05E-07	9.76E-03	4.04E-08	3.61E-07	4.91E-02	3.66E-07
Road 31	31	2100-2200	1.03E-02	4.22E-08	3.77E-07	9.21E-03	3.78E-08	3.38E-07	4.63E-02	3.41E-07
Road 31	31	2200-2300	1.04E-02	3.70E-08	3.30E-07	9.28E-03	3.30E-08	2.95E-07	4.67E-02	3.32E-07
Road 31	31	2300-0000	1.22E-02	3.72E-08	3.32E-07	1.06E-02	3.24E-08	2.89E-07	5.47E-02	3.33E-07
Road 32	32	0000-0100	9.08E-03	5.95E-08	7.98E-03	7.88E-08	5.23E-06	4.70E-02	4.64E-07	3.08E-05
Road 32	32	0100-0200	9.85E-03	4.77E-08	6.40E-03	8.55E-08	4.23E-06	3.81E-02	5.03E-07	2.49E-05
Road 32	32	0200-0300	1.04E-02	4.98E-08	6.38E-03	9.08E-08	5.06E-02	4.56E-07	5.31E-07	2.62E-05
Road 32	32	0300-0400	1.10E-02	4.19E-08	2.78E-06	9.52E-03	3.78E-02	3.40E-07	2.25E-06	2.04E-05
Road 32	32	0400-0500	1.07E-02	4.19E-08	2.78E-06	9.32E-03	3.78E-02	3.40E-07	2.25E-06	2.04E-05
Road 32	32	0500-0600	1.25E-02	9.27E-08	6.15E-06	1.11E-02	8.17E-08	5.43E-06	5.68E-02	4.20E-07
Road 32	32	0600-0700	1.31E-02	2.09E-07	1.39E-05	1.17E-02	1.87E-07	1.24E-05	5.72E-02	9.21E-07
Road 32	32	0700-0800	1.32E-02	5.08E-07	3.37E-05	1.18E-02	4.66E-07	3.09E-05	5.76E-02	2.24E-06
Road 32	32	0800-0900	1.34E-02	5.08E-07	3.37E-05	1.18E-02	4.66E-07	3.09E-05	5.84E-02	2.24E-06
Road 32	32	0900-1000	1.57E-02	5.08E-07	3.37E-05	1.40E-02	4.66E-07	3.09E-05	6.84E-02	2.24E-06
Road 32	32	1000-1100	1.73E-02	4.85E-07	2.27E-05	1.55E-02	4.45E-07	2.08E-05	7.56E-02	2.14E-06
Road 32	32	1100-1200	1.73E-02	4.85E-07	3.22E-05	1.52E-02	1.95E-06	1.30E-04	6.06E-02	1.70E-06
Road 32	32	1200-1300	1.60E-02	3.42E-07	2.27E-05	1.44E-02	9.14E-05	5.55E-02	1.18E-06	7.86E-05
Road 32	32	1300-1400	1.60E-02	2.06E-07	1.37E-05	1.44E-02	5.50E-05	3.34E-02	1.18E-06	4.73E-05
Road 32	32	1400-1500	1.63E-02	3.79E-07	2.51E-05	1.43E-02	3.32E-07	2.21E-05	6.62E-02	1.54E-06
Road 32	32	1500-1600	1.51E-02	3.61E-07	2.40E-05	1.33E-02	3.17E-06	1.05E-04	5.70E-02	1.36E-06
Road 32	32	1600-1700	1.38E-02	3.29E-07	2.18E-05	1.21E-02	2.89E-06	9.56E-05	5.20E-02	1.24E-06
Road 32	32	1700-1800	1.16E-02	3.22E-07	2.14E-05	1.02E-02	2.83E-06	9.36E-05	4.37E-02	1.21E-06
Road 32	32	1800-1900	8.40E-03	2.48E-07	1.64E-05	7.39E-03	2.18E-06	7.20E-05	3.17E-02	9.34E-07
Road 32	32	1900-2000	7.17E-03	1.45E-07	9.61E-06	6.31E-03	1.27E-06	4.21E-05	2.70E-02	5.46E-07
Road 32	32	2000-2100	7.22E-03	1.31E-07	8.69E-06	6.42E-03	1.16E-07	7.71E-06	3.71E-02	6.72E-07
Road 32	32	2100-2200	6.48E-03	1.17E-07	7.75E-06	5.77E-03	1.04E-07	6.90E-06	3.34E-02	6.03E-07
Road 32	32	2200-2300	6.92E-03	1.25E-07	8.27E-06	6.15E-03	1.11E-07	7.36E-06	3.56E-02	6.43E-07
Road 32	32	2300-0000	7.17E-03	9.42E-08	6.25E-06	6.22E-03	8.16E-08	5.42E-06	4.36E-02	5.73E-07
Road 33	33	0000-0100	1.15E-02	1.11E-07	1.67E-06	9.01E-03	9.82E-08	1.48E-06	5.41E-02	5.21E-07
Road 33	33	0100-0200	1.14E-02	1.07E-07	1.61E-06	9.32E-03	9.51E-08	1.43E-06	5.36E-02	5.04E-07
Road 33	33	0200-0300	1.52E-02	7.51E-08	1.13E-06	1.38E-02	6.78E-08	1.02E-06	6.18E-02	3.05E-07
Road 33	33	0300-0400	1.69E-02	6.79E-08	1.02E-06	1.53E-02	6.14E-08	9.23E-07	6.50E-02	2.61E-07
Road 33	33	0400-0500	1.71E-02	1.04E-07	1.56E-06	1.55E-02	9.42E-08	1.41E-06	6.58E-02	3.99E-07
Road 33	33	0500-0600	1.59E-02	1.17E-07	1.77E-06	1.44E-02	1.06E-07	1.60E-06	6.11E-02	4.50E-07
Road 33	33	0600-0700	1.48E-02	2.30E-07	3.46E-06	1.35E-02	2.09E-07	3.14E-06	5.67E-02	8.82E-07
Road 33	33	0700-0800	1.61E-02	6.07E-07	9.13E-06	1.42E-02	5.47E-07	8.23E-06	6.03E-02	2.31E-06
Road 33	33	0800-0900	1.61E-02	6.07E-07	9.13E-06	1.42E-02	5.47E-07	8.23E-06	6.03E-02	2.31E-06
Road 33	33	0900-1000	1.88E-02	6.27E-07	9.44E-06	1.63E-02	5.44E-07	8.19E-06	7.02E-02	2.34E-06
Road 33	33	1000-1100	2.11E-02	5.84E-07	8.79E-06	1.82E-02	5.04E-07	7.58E-06	7.89E-02	2.18E-06
Road 33	33	1100-1200	2.08E-02	5.92E-07	8.91E-06	1.80E-02	5.12E-07	7.71E-06	7.78E-02	2.21E-06
Road 33	33	1200-1300	2.51E-02	5.34E-07	8.04E-06	2.21E-02	4.70E-07	7.08E-06	9.57E-02	2.04E-06
Road 33	33	1300-1400	2.49E-02	7.26E-07	1.09E-05	2.18E-02	6.34E-07	9.54E-06	9.45E-02	2.75E-06
Road 33	33	1400-1500	2.49E-02	7.26E-07	1.09E-05	2.18E-02	6.34E-07	9.54E-06	9.45E-02	2.75E-06
Road 33	33	1500-1600	2.32E-02	7.20E-07	1.08E-05	2.02E-02	6.29E-07	9.47E-06	8.77E-02	2.73E-06
Road 33	33	1600-1700	2.35E-02	7.35E-07	1.11E-05	2.06E-02	6.42E-07	9.67E-06	8.94E-02	2.79E-06
Road 33	33	1700-1800	1.87E-02	6.45E-07	9.71E-06	1.64E-02	5.63E-07	8.48E-06	7.12E-02	2.45E-06
Road 33	33	1800-1900	1.47E-02	4.69E-07	7.06E-06	1.27E-02	4.05E-07	6.09E-06	5.59E-02	1.78E-06
Road 33	33	1900-2000	1.14E-02	2.68E-07	4.03E-06	1.00E-02	2.36E-07	3.55E-06	4.35E-02	1.02E-06
Road 33	33	2000-2100	1.13E-02	2.20E-07	3.31E-06	9.92E-03	1.94E-07	2.91E-06	4.30E-02	8.37E-07
Road 33	33	2100-2200	1.10E-02	2.03E-07	3.05E-06	9.84E-03	1.82E-07	2.74E-06	4.55E-02	8.39E-07
Road 33	33	2200-2300	1.11E-02	1.96E-07	2.95E-06	9.90E-03	1.75E-07	2.63E-06	4.59E-02	8.11E-07
Road 33	33	2300-0000	1.26E-02	2.01E-07	3.02E-06	1.12E-02	1.79E-07	2.69E-06	5.21E-02	8.31E-07
Road 34	34	0000-0100	6.34E-03	4.72E-08	1.24E-06	5.55E-03	4.13E-08	1.08E-06	2.61E-02	1.94E-07
Road 34	34	0100-0200	7.35E-03	3.58E-08	9.38E-07	6.43E-03	3.13E-08	8.20E-07	4.26E-02	2.07E-07
Road 34	34	0200-0300	8.35E-03	3.00E-08	7.84E-07	7.30E-03	2.63E-08	6.86E-07	3.37E-02	1.21E-07
Road 34	34	0300-0400	9.28E-03	2.65E-08	6.94E-07	8.36E-03	2.39E-08	6.25E-07	4.63E-02	1.32E-07
Road 34	34	0400-0500	9.59E-03	2.99E-08	7.83E-07	8.61E-03	2.69E-08	7.03E-07	4.75E-02	1.48E-07
Road 34	34	0500-0600	9.34E-03	4.66E-08	1.22E-06	8.39E-03	4.19E-08	1.09E-06	4.63E-02	2.31E-07
Road 34	34	0600-0700	9.10E-03	1.02E-07	2.67E-06	8.09E-03	9.08E-08	2.38E-06	4.80E-02	5.39E-07
Road 34	34	0700-0800	1.03E-02	2.36E-07	6.18E-06	9.05E-03	2.07E-07	5.42E-06	5.12E-02	1.17E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)
Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2038

Road Name	Road ID	Hour	NO_x Emission				NO Emission			
			Monthly/Hour/Km		Monthly/Hour/Average		Monthly/Hour/Km		Monthly/Hour/Average	
			g/km/veh	g/s/m²	tonne/veh	g/s/m²	g/km/veh	g/s/m²	tonne/veh	g/s/m²
Road 34	34	0800-0900	9.73E-03	2.57E-07	6.72E-06	8.53E-03	2.25E-07	5.89E-06	4.57E-02	1.21E-06
Road 34	34	0900-1000	1.12E-02	2.42E-07	6.33E-06	9.70E-03	2.10E-07	5.48E-06	5.14E-02	1.11E-06
Road 34	34	1000-1100	1.26E-02	2.36E-07	6.18E-06	1.10E-02	2.06E-07	5.40E-06	5.50E-02	1.03E-06
Road 34	34	1100-1200	1.22E-02	2.16E-07	5.65E-06	1.07E-02	1.90E-07	4.97E-06	5.50E-02	9.74E-07
Road 34	34	1200-1300	1.21E-02	3.06E-07	8.01E-06	1.86E-02	2.68E-07	7.01E-06	7.45E-02	1.07E-06
Road 34	34	1300-1400	2.12E-02	3.18E-07	8.32E-06	1.85E-02	2.78E-07	7.28E-06	7.65E-02	1.15E-06
Road 34	34	1400-1500	2.12E-02	3.33E-07	7.81E-06	1.86E-02	2.92E-07	7.65E-06	7.57E-02	1.19E-06
Road 34	34	1500-1600	1.98E-02	3.18E-07	8.31E-06	1.74E-02	2.79E-07	7.30E-06	7.53E-02	1.21E-06
Road 34	34	1600-1700	2.00E-02	3.32E-07	8.69E-06	1.75E-02	2.91E-07	7.62E-06	7.13E-02	1.18E-06
Road 34	34	1700-1800	1.63E-02	2.86E-07	7.48E-06	1.43E-02	2.51E-07	6.56E-06	5.95E-02	1.04E-06
Road 34	34	1800-1900	1.26E-02	2.27E-07	5.93E-06	1.09E-02	1.96E-07	5.12E-06	5.02E-02	9.04E-07
Road 34	34	1900-2000	1.06E-02	1.48E-07	3.87E-06	9.31E-03	1.30E-07	3.41E-06	4.53E-02	6.33E-07
Road 34	34	2000-2100	1.01E-02	1.06E-07	2.78E-06	8.85E-03	9.29E-08	2.43E-06	4.39E-02	4.60E-07
Road 34	34	2100-2200	1.00E-02	1.08E-07	2.83E-06	8.96E-03	9.69E-08	2.54E-06	4.46E-02	4.81E-07
Road 34	34	2200-2300	1.01E-02	1.06E-07	2.78E-06	9.01E-03	9.47E-08	2.48E-06	4.63E-02	4.86E-07
Road 34	34	2300-0000	1.12E-02	8.89E-08	2.33E-06	1.00E-02	7.92E-08	2.08E-06	5.14E-02	4.08E-07
Road 35	35	0000-0100	4.19E-02	3.59E-08	8.74E-08	3.70E-02	3.17E-08	7.70E-08	1.18E-01	1.02E-07
Road 35	35	0100-0200	4.90E-02	4.61E-08	3.30E-06	4.32E-02	4.06E-08	2.91E-06	1.38E-01	9.14E-07
Road 35	35	0200-0300	5.44E-02	3.30E-08	8.02E-08	4.79E-02	2.90E-08	7.06E-08	1.53E-01	9.29E-07
Road 35	35	0300-0400	5.44E-02	3.30E-08	8.02E-08	4.93E-02	2.99E-08	7.27E-08	1.41E-01	8.53E-07
Road 35	35	0400-0500	5.30E-02	3.41E-08	8.30E-08	4.79E-02	3.08E-08	7.49E-08	1.39E-01	8.97E-08
Road 35	35	0500-0600	5.30E-02	4.31E-02	4.05E-08	9.84E-02	8.01E-08	1.25E-01	1.39E-01	2.58E-07
Road 35	35	0600-0700	3.34E-02	3.34E-08	8.12E-08	3.02E-02	3.02E-08	7.34E-08	9.68E-02	8.70E-07
Road 35	35	0700-0800	4.90E-02	1.96E-07	4.76E-07	4.32E-02	1.73E-07	4.20E-07	1.43E-01	5.72E-07
Road 35	35	0800-0900	4.71E-02	2.12E-07	5.16E-07	4.15E-02	1.87E-07	4.54E-07	1.39E-01	6.25E-07
Road 35	35	0900-1000	4.48E-02	2.01E-07	4.88E-07	3.94E-02	1.77E-07	4.30E-07	1.32E-01	5.94E-07
Road 35	35	1000-1100	5.71E-02	2.11E-07	5.13E-07	5.00E-02	1.85E-07	4.49E-07	1.64E-01	6.06E-07
Road 35	35	1100-1200	5.76E-02	2.04E-07	4.96E-07	5.08E-02	1.80E-07	4.38E-07	1.66E-01	5.86E-07
Road 35	35	1200-1300	4.47E-02	3.52E-03	3.70E-07	3.66E-02	2.88E-03	3.03E-07	1.47E-01	1.16E-06
Road 35	35	1300-1400	6.42E-02	1.54E-07	3.74E-07	5.62E-02	1.34E-07	3.27E-07	1.68E-01	4.01E-07
Road 35	35	1400-1500	6.52E-02	1.62E-07	3.93E-07	5.73E-02	1.42E-07	3.46E-07	1.70E-01	4.21E-07
Road 35	35	1500-1600	6.26E-02	1.68E-07	4.08E-07	5.48E-02	1.47E-07	3.57E-07	1.63E-01	4.37E-07
Road 35	35	1600-1700	6.20E-02	1.61E-07	3.93E-07	5.44E-02	1.42E-07	3.44E-07	1.61E-01	4.20E-07
Road 35	35	1700-1800	5.04E-02	1.31E-07	3.19E-07	4.42E-02	1.15E-07	2.80E-07	1.31E-01	3.41E-07
Road 35	35	1800-1900	3.92E-02	1.02E-07	2.48E-07	3.44E-02	8.97E-08	2.18E-07	1.02E-01	2.65E-07
Road 35	35	1900-2000	3.03E-02	6.82E-08	1.66E-07	2.66E-02	5.98E-08	1.46E-07	7.89E-02	1.77E-07
Road 35	35	2000-2100	2.66E-02	3.82E-08	9.29E-08	2.38E-02	3.41E-08	8.31E-08	8.71E-02	1.25E-07
Road 35	35	2100-2200	2.66E-02	3.82E-08	9.29E-08	2.38E-02	3.41E-08	8.31E-08	8.71E-02	1.25E-07
Road 35	35	2200-2300	3.17E-02	3.15E-08	7.67E-08	2.78E-02	2.76E-08	6.72E-08	9.11E-02	1.11E-07
Road 35	35	2300-0000	3.17E-02	3.15E-08	7.67E-08	2.78E-02	2.76E-08	6.72E-08	9.11E-02	1.11E-07
Road 36	36	0000-0100	2.22E-02	4.82E-08	3.32E-07	1.95E-02	4.23E-08	2.91E-07	7.27E-02	1.58E-07
Road 36	36	0100-0200	4.91E-02	5.36E-08	1.35E-07	4.46E-02	4.87E-08	1.23E-07	1.83E-01	2.00E-07
Road 36	36	0200-0300	5.57E-02	4.87E-08	1.23E-07	5.14E-02	4.50E-08	1.13E-07	1.93E-01	1.69E-07
Road 36	36	0300-0400	6.11E-02	4.89E-08	1.23E-07	5.63E-02	4.51E-08	1.14E-07	2.04E-01	1.64E-07
Road 36	36	0400-0500	5.52E-02	6.61E-08	1.66E-07	5.07E-02	6.06E-08	1.53E-07	2.08E-01	2.49E-07
Road 36	36	0500-0600	5.52E-02	1.32E-07	3.32E-07	5.07E-02	1.24E-07	3.12E-07	2.08E-01	4.98E-07
Road 36	36	0600-0700	6.50E-02	3.32E-07	8.36E-07	5.94E-02	3.04E-07	7.65E-07	2.38E-01	1.22E-06
Road 36	36	0700-0800	6.28E-02	3.63E-07	9.14E-07	5.76E-02	3.33E-07	8.39E-07	2.21E-01	1.28E-06
Road 36	36	0800-0900	6.28E-02	3.63E-07	9.14E-07	5.76E-02	3.33E-07	8.39E-07	2.21E-01	1.28E-06
Road 36	36	0900-1000	7.84E-02	3.64E-07	9.17E-07	7.16E-02	3.33E-07	8.38E-07	2.48E-01	1.15E-06
Road 36	36	1000-1100	7.84E-02	3.64E-07	9.17E-07	7.16E-02	3.33E-07	8.38E-07	2.48E-01	1.15E-06
Road 36	36	1100-1200	7.74E-02	3.44E-07	8.67E-07	7.12E-02	3.16E-07	7.97E-07	2.46E-01	1.09E-06
Road 36	36	1200-1300	9.42E-02	3.48E-07	8.77E-07	8.61E-02	3.18E-07	8.02E-07	2.80E-01	1.04E-06
Road 36	36	1300-1400	9.42E-02	3.48E-07	8.77E-07	8.61E-02	3.18E-07	8.02E-07	2.80E-01	1.04E-06
Road 36	36	1400-1500	9.17E-02	3.49E-07	8.80E-07	8.40E-02	3.20E-07	8.05E-07	2.75E-01	1.05E-06
Road 36	36	1500-1600	9.17E-02	3.49E-07	8.80E-07	8.40E-02	3.20E-07	8.05E-07	2.75E-01	1.05E-06
Road 36	36	1600-1700	8.85E-02	3.49E-07	8.79E-07	8.11E-02	3.20E-07	8.05E-07	2.65E-01	1.05E-06
Road 36	36	1700-1800	6.50E-02	2.56E-07	6.45E-07	5.95E-02	2.34E-07	5.91E-07	1.95E-01	7.69E-07
Road 36	36	1800-1900	4.29E-02	1.13E-07	2.86E-07	3.98E-02	1.04E-07	2.65E-07	1.41E-01	3.72E-07
Road 36	36	1900-2000	4.29E-02	1.13E-07	2.86E-07	3.98E-02	1.04E-07	2.65E-07	1.41E-01	3.72E-07
Road 36	36	2000-2100	4.29E-02	9.48E-08	2.39E-07	3.98E-02	8.68E-08	2.19E-07	1.41E-01	3.12E-07
Road 36	36	2100-2200	4.40E-02	9.72E-08	2.45E-07	4.08E-02	8.90E-08	2.25E-07	1.45E-01	3.20E-07
Road 36	36	2200-2300	4.40E-02	9.72E-08	2.45E-07	4.08E-02	8.90E-08	2.25E-07	1.45E-01	3.20E-07
Road 36	36	2300-0000	4.40E-02	9.72E-08	2.45E-07	4.08E-02	8.90E-08	2.25E-07	1.45E-01	3.20E-07
Road 37	37	0000-0100	5.20E-03	4.32E-08	1.07E-07	4.54E-03	3.77E-08	9.34E-08	2.14E-02	1.77E-07
Road 37	37	0100-0200	5.69E-03	3.05E-08	7.56E-08	4.96E-03	2.66E-08	6.59E-08	2.34E-02	1.25E-07
Road 37	37	0200-0300	6.16E-03	2.41E-08	4.49E-07	5.52E-03	2.16E-08	4.03E-07	4.06E-02	1.59E-07
Road 37	37	0300-0400	6.61E-03	2.04E-08	3.80E-07	5.93E-03	1.83E-08	3.41E-07	4.35E-02	1.34E-07
Road 37	37	0400-0500	7.13E-03	2.41E-08	4.48E-07	6.39E-03	2.16E-08	4.02E-07	4.30E-02	1.45E-07
Road 37	37	0500-0600	7.77E-03	4.54E-08	8.46E-07	6.82E-03	3.98E-08	7.42E-07	4.53E-02	2.65E-07
Road 37	37	0600-0700	2.86E-02	2.96E-08	8.25E-08	2.73E-02	2.81E-08	6.46E-08	1.59E-01	1.65E-07
Road 37	37	0700-0800	8.89E-02	2.24E-07	4.18E-06	7.78E-02	1.96E-07	3.66E-06	4.85E-02	1.22E-06
Road 37	37	0800-0900	8.45E-02	2.46E-07	4.58E-06	7.39E-02	2.15E-07	4.01E-06	4.31E-02	1.26E-06
Road 37	37	0900-1000	6.49E-02	1.73E-07	3.23E-06	5.67E-02	1.51E-07	2.82E-06	3.66E-02	9.75E-07
Road 37	37	1000-1100	1.08E-02	2.20E-07	4.10E-06	9.45E-03	1.92E-07	3.58E-06	5.14E-02	1.04E-06
Road 37	37	1100-1200	1.03E-02	1.98E-07	3.68E-06	9.01E-03	1.74E-07	3.23E-06	5.13E-02	9.87E-07
Road 37	37	1200-1300	1.24E-02	1.75E-07	3.26E-06	1.09E-02	1.53E-07	2.84E-06	6.27E-02	8.84E-07
Road 37	37	1300-1400	1.99E-02	3.33E-07	6.20E-06	1.74E-02	2.91E-07	5.42E-06	7.48E-02	1.25E-06
Road 37	37	1400-1500	2.01E-02	3.49E-07	6.51E-06	1.76E-02	3.07E-07	5.72E-06	7.41E-02	1.29E-06
Road 37	37	1500-1600	1.94E-02	3.49E-07	6.50E-06	1.70E-02	3.07E-07	5.72E-06	7.17E-02	1.29E-06
Road 37	37	1600-1700	1.85E-02	3.49E-07	6.49E-06	1.62E-02	3.07E-07	5.69E-06	6.97E-02	1.29E-06
Road 37	37	1700-1800	1.49E-02	2.95E-07	5.50E-06	1.29E-02	2.56E-07	4.77E-06	6.25E-02	1.24E-06
Road 37	37	1800-1900	1.16E-02	2.25E-07	4.22E-06	9.81E-03	1.95E-07	3.66E-06	4.87E-02	1.24E-06
Road 37	37	1900-2000	1.03E-02	1.32E-07	2.47E-06	8.49E-03	1.09E-07	2.04E-06	4.35E-02	5.58E-07
Road 37	37	2000-2100	1.02E-02	1.07E-07	2.36E-06	9.10E-03	1.13E-07	2.11E-06	4.76E-02	5.90E-07
Road 37	37	2100-2200	9.62E-03	1.01E-07	2.23E-06	8.61E-03	1.07E-07	2.00E-06	4.50E-02	5.60E-07
Road 37	37	2200-2300	9.62E-03	9.72E-08	2.14E-06	8.61E-03	1.02E-07	1.92E-06	4.50E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 103	103	1600-1700	1.39E-02	5.12E-07	1.23E-05	5.26E-02	1.94E-06	4.66E-04	5.26E-02	5.13E-02	1.89E-06	4.54E-05		
Road 103	103	1700-1800	1.01E-02	4.17E-07	1.00E-05	8.68E-03	3.60E-07	8.67E-06	1.47E-02	1.84E-02	6.44E-07	2.47E-05		
Road 103	103	1800-1900	7.13E-03	3.22E-07	7.73E-06	6.13E-03	2.76E-07	6.64E-06	3.92E-02	1.77E-06	4.25E-05	3.25E-02	1.47E-06	3.52E-05
Road 103	103	1900-2000	5.99E-03	2.92E-07	5.18E-06	5.25E-03	1.87E-07	4.50E-06	3.66E-02	1.30E-06	3.13E-05	3.09E-02	1.10E-06	2.64E-05
Road 103	103	2000-2100	5.78E-03	1.60E-07	3.84E-06	5.13E-03	1.42E-07	3.41E-06	2.68E-02	5.44E-07	9.52E-07	2.29E-05		
Road 103	103	2100-2200	4.98E-03	1.38E-07	3.32E-06	4.43E-03	1.23E-07	2.95E-06	2.55E-02	3.28E-02	9.09E-07	2.19E-05		
Road 103	103	2200-2300	4.89E-03	1.36E-07	3.16E-06	4.35E-03	1.20E-07	2.79E-06	3.81E-02	1.02E-06	2.84E-05	3.39E-02	9.41E-07	2.18E-05
Road 103	103	2300-0000	5.60E-03	1.12E-07	2.70E-06	4.83E-03	9.70E-08	2.33E-06	1.97E-02	3.66E-02	7.35E-07	1.76E-05		
Road 104	104	0000-0100	9.72E-03	8.69E-08	1.77E-06	8.56E-03	7.64E-08	1.56E-06	5.12E-02	4.57E-07	9.31E-06	4.37E-02	3.90E-07	7.95E-06
Road 104	104	0100-0200	6.49E-03	4.60E-08	9.36E-07	5.71E-03	4.05E-08	8.24E-07	3.15E-02	2.23E-07	4.54E-06	2.68E-02	1.90E-07	3.87E-06
Road 104	104	0200-0300	1.13E-02	4.95E-08	1.01E-06	1.02E-02	4.46E-08	9.09E-07	5.54E-02	2.42E-07	4.94E-06	4.87E-02	2.13E-07	4.34E-06
Road 104	104	0300-0400	1.20E-02	4.21E-08	8.58E-07	1.08E-02	3.80E-08	7.74E-07	5.70E-02	2.00E-07	4.07E-06	5.04E-02	1.77E-07	3.60E-06
Road 104	104	0400-0500	1.22E-02	4.30E-08	8.76E-07	1.10E-02	3.88E-08	9.14E-07	5.92E-02	2.32E-07	4.72E-06	5.25E-02	2.04E-07	4.16E-06
Road 104	104	0500-0600	1.38E-02	9.46E-08	1.93E-06	1.21E-02	8.35E-08	1.70E-06	6.24E-02	8.74E-08	5.38E-08	3.70E-07	7.53E-06	
Road 104	104	0600-0700	1.44E-02	2.15E-07	4.39E-06	1.28E-02	1.92E-07	3.91E-06	6.46E-02	5.98E-07	1.22E-05	5.58E-02	8.35E-07	1.70E-05
Road 104	104	0700-0800	1.53E-02	3.16E-07	2.71E-06	1.35E-02	2.82E-07	6.68E-06	6.85E-02	1.77E-06	3.60E-05	5.91E-02	1.92E-06	7.37E-06
Road 104	104	0800-0900	1.49E-02	5.36E-07	1.09E-05	1.31E-02	4.71E-07	9.58E-06	6.38E-02	1.02E-06	2.08E-05	5.51E-02	1.99E-06	4.04E-05
Road 104	104	0900-1000	1.74E-02	5.65E-07	1.15E-05	1.51E-02	4.91E-07	9.99E-06	7.27E-02	2.36E-06	4.81E-05	6.22E-02	2.02E-06	4.12E-05
Road 104	104	1000-1100	1.97E-02	7.15E-07	1.46E-05	1.70E-02	6.17E-07	1.26E-05	8.21E-02	2.97E-06	6.06E-05	7.03E-02	2.55E-06	5.19E-05
Road 104	104	1100-1200	1.92E-02	5.32E-07	1.08E-05	1.65E-02	4.57E-07	9.31E-06	7.09E-02	2.22E-06	4.52E-05	6.09E-02	1.69E-06	3.44E-05
Road 104	104	1200-1300	1.23E-02	2.80E-07	5.71E-06	1.08E-02	2.45E-07	4.99E-06	4.73E-02	1.08E-06	2.19E-05	4.73E-02	1.08E-06	2.19E-05
Road 104	104	1300-1400	1.24E-02	2.87E-07	5.84E-06	1.08E-02	2.50E-07	5.10E-06	4.73E-02	1.09E-06	2.22E-05	4.73E-02	1.09E-06	2.22E-05
Road 104	104	1400-1500	1.21E-02	2.27E-07	4.62E-06	1.06E-02	1.98E-07	4.03E-06	4.73E-02	8.84E-07	1.80E-05	4.73E-02	8.84E-07	1.80E-05
Road 104	104	1500-1600	1.19E-02	3.02E-07	6.14E-06	1.04E-02	2.64E-07	5.38E-06	4.73E-02	1.20E-06	2.44E-05	4.73E-02	1.20E-06	2.44E-05
Road 104	104	1600-1700	1.25E-02	3.39E-07	6.90E-06	1.09E-02	2.96E-07	6.04E-06	4.73E-02	1.28E-06	2.61E-05	4.73E-02	1.28E-06	2.61E-05
Road 104	104	1700-1800	1.29E-02	3.51E-07	7.14E-06	1.13E-02	3.07E-07	6.24E-06	4.73E-02	1.29E-06	2.62E-05	4.73E-02	1.29E-06	2.62E-05
Road 104	104	1800-1900	6.38E-03	2.19E-07	4.45E-06	5.48E-03	1.88E-07	3.82E-06	3.65E-02	2.49E-06	2.94E-02	1.01E-06	2.06E-05	
Road 104	104	1900-2000	5.43E-03	1.48E-07	3.01E-06	4.75E-03	1.29E-07	2.62E-06	3.92E-02	1.92E-06	2.92E-02	7.95E-07	1.62E-05	
Road 104	104	2000-2100	5.23E-03	1.42E-07	2.89E-06	4.64E-03	1.26E-07	2.56E-06	3.92E-02	1.92E-06	2.92E-02	7.95E-07	1.62E-05	
Road 104	104	2100-2200	4.39E-03	9.29E-08	1.89E-06	3.90E-03	8.25E-08	1.68E-06	3.65E-02	2.49E-06	2.94E-02	7.71E-07	1.56E-05	
Road 104	104	2200-2300	4.28E-03	8.80E-08	1.79E-06	3.80E-03	7.82E-08	1.59E-06	3.65E-02	2.49E-06	2.94E-02	7.71E-07	1.56E-05	
Road 104	104	2300-0000	4.89E-03	9.70E-08	1.97E-06	4.34E-03	8.61E-08	1.75E-06	3.66E-02	2.49E-06	2.94E-02	7.71E-07	1.56E-05	
Road 105	105	0000-0100	1.44E-02	1.58E-08	6.57E-07	1.27E-02	1.39E-08	5.79E-07	7.30E-02	8.01E-08	3.34E-06	6.27E-02	6.88E-08	2.87E-06
Road 105	105	0100-0200	1.56E-02	1.13E-08	4.71E-07	1.38E-02	9.95E-09	4.15E-07	7.92E-02	5.73E-08	2.39E-06	6.80E-02	4.92E-08	2.05E-06
Road 105	105	0200-0300	1.68E-02	1.11E-08	4.62E-07	1.48E-02	9.77E-09	4.07E-07	8.54E-02	5.63E-08	2.34E-06	7.33E-02	4.84E-08	2.01E-06
Road 105	105	0300-0400	1.79E-02	7.67E-09	3.19E-07	1.62E-02	6.93E-09	2.89E-07	8.32E-02	3.56E-08	1.48E-06	7.39E-02	3.16E-08	1.32E-06
Road 105	105	0400-0500	1.91E-02	9.10E-09	3.79E-07	1.73E-02	8.20E-09	3.42E-07	8.70E-02	4.14E-08	1.72E-06	7.70E-02	3.66E-08	1.53E-06
Road 105	105	0500-0600	2.04E-02	1.72E-08	1.87E-07	1.84E-02	1.55E-08	1.68E-07	9.08E-02	7.66E-08	8.31E-07	8.02E-02	6.77E-08	7.34E-07
Road 105	105	0600-0700	2.23E-02	4.05E-08	2.00E-07	2.00E-02	3.62E-08	1.81E-07	9.56E-02	1.74E-07	8.60E-07	8.56E-02	1.55E-07	7.77E-07
Road 105	105	0700-0800	2.63E-02	9.76E-08	4.07E-06	2.32E-02	8.59E-08	3.58E-06	1.11E-01	4.12E-07	1.72E-05	9.61E-02	3.57E-07	1.49E-05
Road 105	105	0800-0900	2.52E-02	1.81E-07	4.02E-06	2.22E-02	1.59E-07	3.54E-06	1.06E-01	7.64E-07	1.70E-05	9.21E-02	6.61E-07	1.47E-05
Road 105	105	0900-1000	3.06E-02	1.18E-07	4.92E-06	2.65E-02	1.02E-07	4.27E-06	1.27E-01	4.90E-07	2.04E-05	1.09E-01	4.21E-07	1.76E-05
Road 105	105	1000-1100	3.48E-02	1.21E-07	5.04E-06	3.05E-02	1.06E-07	4.41E-06	1.37E-01	4.74E-07	1.98E-05	1.19E-01	4.12E-07	1.72E-05
Road 105	105	1100-1200	3.48E-02	1.21E-07	5.04E-06	3.05E-02	1.06E-07	4.41E-06	1.37E-01	4.74E-07	1.98E-05	1.19E-01	4.12E-07	1.72E-05
Road 105	105	1200-1300	7.33E-02	3.59E-07	1.49E-05	6.42E-02	3.14E-07	1.31E-05	2.68E-01	1.08E-06	4.52E-05	2.21E-01	1.08E-06	4.52E-05
Road 105	105	1300-1400	7.27E-02	4.00E-07	1.67E-05	6.37E-02	3.50E-07	1.46E-05	2.66E-01	1.20E-06	5.04E-05	2.19E-01	1.20E-06	5.04E-05
Road 105	105	1400-1500	6.73E-02	3.84E-07	1.60E-05	5.93E-02	3.38E-07	1.41E-05	2.61E-01	1.49E-06	6.19E-05	2.29E-01	1.31E-06	5.44E-05
Road 105	105	1500-1600	6.73E-02	3.84E-07	1.60E-05	5.93E-02	3.38E-07	1.41E-05	2.61E-01	1.49E-06	6.19E-05	2.29E-01	1.31E-06	5.44E-05
Road 105	105	1600-1700	7.13E-02	3.77E-07	1.57E-05	6.26E-02	3.30E-07	1.38E-05	2.57E-01	1.35E-06	5.65E-05	2.25E-01	1.19E-06	4.96E-05
Road 105	105	1700-1800	7.13E-02	3.77E-07	1.57E-05	6.26E-02	3.30E-07	1.38E-05	2.57E-01	1.35E-06	5.65E-05	2.25E-01	1.19E-06	4.96E-05
Road 105	105	1800-1900	4.90E-02	1.66E-07	6.93E-06	4.25E-02	1.44E-07	6.00E-06	2.06E-01	7.00E-07	2.92E-05	1.78E-01	6.04E-07	2.52E-05
Road 105	105	1900-2000	4.68E-02	1.05E-07	4.38E-06	4.23E-02	9.28E-08	3.87E-06	1.89E-01	4.25E-07	1.77E-05	1.67E-01	3.75E-07	1.56E-05
Road 105	105	2000-2100	4.44E-02	8.14E-08	3.39E-06	3.99E-02	7.32E-08	3.05E-06	1.84E-01	3.37E-07	1.40E-05	1.65E-01	3.02E-07	1.26E-05
Road 105	105	2100-2200	4.87E-02	7.85E-08	3.27E-06	4.36E-02	7.03E-08	2.93E-06	1.81E-01	2.92E-07	1.22E-05	1.62E-01	2.61E-07	1.09E-05
Road 105	105	2200-2300	4.87E-02	7.85E-08	3.27E-06	4.36E-02	7.03E-08	2.93E-06	1.81E-01	2.92E-07	1.22E-05	1.62E-01	2.61E-07	1.09E-05
Road 105	105	2300-0000	4.89E-02	7.89E-08	3.29E-06	4.38E-02	7.06E-08	2.94E-06	1.81E-01	2.92E-07	1.22E-05	1.62E-01	2.61E-07	1.09E-05
Road 106	106	0000-0100	1.38E-02	5.74E-08	1.81E-06	1.21E-02	5.05E-08	1.60E-06	7.22E-02	3.01E-07	9.50E-06	6.18E-02	2.57E-07	8.13E-06
Road 106	106	0100-0200	1.46E-02	3.99E-08	1.26E-06	1.28E-02	3.51E-08	1.11E-06	7.43E-02	2.03E-07	6.41E-06	6.35E-02	1.73E-07	5.48E-06
Road 106	106	0200-0300	1.53E-02	3.88E-08	1.23E-06	1.34E-02	3.41E-08	1.08E-06	7.67E-02	1.95E-07	6.17E-06	6.67E-02	1.69E-07	5.34E-06
Road 106	106	0300-0400	1.63E-02	3.63E-08	1.15E-06	1.43E-02	3.19E-08	1.01E-06	7.85E-02	1.75E-07	5.54E-06	6.85E-02	1.52E-07	4.81E-06
Road 106	106	0400-0500	1.75E-02	3.12E-08	9.84E-07	1.58E-02	2.81E-08	8.87E-07	8.22E-02	1.46E-07	4.61E-06	7.25E-02	1.29E-07	4.07E-06
Road 106	106	0500-0600	1.96E-02	6.09E-08	1.92E-06	1.73E-02	5.38E-08	1.70E-06	8.94E-02	2.78E-07	8.78E-06	7.72E-02	2.40E-07	7.58E-06
Road 106	106	0600-0700	2.43E-02	1.64E-07	3.47E-06	2.15E-02	1.45E-07	3.07E-06	9.92E-02	6.70E-07	1.42E-05	8.56E-02	5.78E-07	1.22E-05
Road 106	106	0700-0800	3.14E-02	4.31E-07	1.36E-05	2.76E-02	3.79E-07	1.20E-05	1.30E-01	1.78E-06	5.64E-05	1.13E-01	1.55E-06	4.88E-05
Road 106	106	0800-0900	3.30E-02	5.25E-07	1.67E-05	2.90E-02	4.65E-07	1.47E-05	1.34E-01	2.15E-06	6.80E-05	1.17E-01	1.85E-06	5.91E-05
Road 106	106	0900-1000	3.83E-02	1.47E-07	3.47E-06	3.37E-02	1.29E-07	3.05E-06	1.56E-01	6.00E-07	1.42E-05	1.38E-01	5.31E-07	1.25E-05
Road 106	106	1000-1100	4.22E-02	5.26E-07	1.66E-05	3.70E-02	4.61E-07	1.45E-05	1.63E-01	2.03E-06	6.42E-05	1.42E-01	1.77E-06	5.58E-05
Road 106	106	1100-1200	3.93E-02	4.62E-07	1.46E-05	3.47E-02	4.07E-07	1.29E-05	1.56E-01	1.84E-06	5.80E-05	1.37E-01	1.61E-06	5.07E-05
Road 106	106	1200-1300	3.11E-02	2.99E-07	6.37E-06	2.74E-02	2.64E-07	5.62E-06	1.48E-01	1.42E-06	3.02E-05	1.30E-01	1.25E-06	2.66E-05
Road 106	106	1300-1400	6.39E-02	1.18E-06	3.74E-05	5.59E-02	1.04E-06	3.27E-05	2.39E-01	4.42E-06	1.40E-04	2.08E-01	3.85E-06	1.21E-04
Road 106	106	1400-1500	6.40E-02	1.23E-06	3.89E-05	5.62E-02	1.08E-06	3.42E-05	2.33E-01	4.48E-06	1.41E-04	2.03E-01	3.91E-06	1.23E-04
Road 106	106	1500-1600	6.15E-02	1.22E-06	3.85E-05	5.40E-02	1.07E-06	3.38E-05	2.30E-01	4.57E-06	1.44E-04	2.00E-01	3.97E-06	1.25E-04
Road 106	106	1600-1700	6.21E-02	1.25E-06	3.94E-05	5.45E-02	1.10E-06	3.46E-05	2.27E-01	4.58E-06	1.44E-04	1.98E-01	3.98E-06	1.26E-04
Road 106	106	1700-1800	4.68E-02	1.00E-06	3.16E-05	4.06E-02	8.68E-07	2.74E-05	1.96E-01	4.19E-06	1.32E-04	1.69E-01	3.61E-06	1.14E-04
Road 106	106	1800-1900	3.15E-02	6.64E-07	2.10E-05	2.72E-02	5.73E-07	1.81E-05	1.36E-01	2.87E-06	9.05E-05	1.16E-01	2.44E-06	7.72E-05
Road 106	106	1900-2000	2.29E-02	3.70E-07	1.17E-05	2.02E-02	3.26E-07	1.03E-05	1.04E-01	1.67E-06	5.28E-05	8.97E-02	1.45E-06	4.58E-05
Road 106	106	2000-2100	2.07E-02	2.61E-07	8.25E-06	1.85E-02	2.33E-07	7.36E-06	1.02E-01	1.29E-06	4.07E-05	8.96E-02	1.13E-06	3.56E-05
Road 106	106	2100-2200	1.96E-02	2.48E-07	7.85E-06	1.75E-02	2.21E-07	7.02E-06	9.97E-02	1.26E-06	3.98E-05	8.96E-02	1.13E-06	3.56E-05
Road 106	106	2200-2300	1.97E-02	2.38E-07	7.51E-06	1.76E-02	2.12E-07	6.72E-06	9.95E-02	1.20E-06	3.62E-05	8.96E-02	1.08E-06	3.41E-05
Road 106	106	2300-0000	2.05E-02	1.88E-07	5.94E-06	1.79E-02	1.64E-07	5.18E-06	9.70E-02	8.90E-07	2.81E-05	8.26E-02	7.58E-07	2.39E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	5.47E-03	7.60E-08	1.45E-06	4.18E-03	4.69E-03	6.51E-08	3.58E-02	3.84E-02	5.34E-07	2.94E-05	3.13E-02	4.35E-07
Road 1	1	0100-0200	6.02E-03	5.43E-08	2.99E-06	5.15E-03	4.66E-06	2.56E-06	3.97E-02	3.59E-02	1.98E-05	3.24E-02	2.93E-02	1.61E-05
Road 1	1	0200-0300	6.65E-03	4.39E-08	2.42E-06	5.77E-03	3.81E-08	2.10E-06	4.17E-02	2.76E-07	1.52E-05	3.46E-02	2.29E-07	1.26E-05
Road 1	1	0300-0400	7.25E-03	3.79E-08	2.08E-06	6.27E-03	3.27E-08	1.80E-06	4.33E-02	2.26E-07	1.25E-05	3.58E-02	1.87E-07	1.03E-05
Road 1	1	0400-0500	7.88E-03	4.50E-08	2.48E-06	6.73E-03	3.85E-08	2.12E-06	4.56E-02	2.61E-07	1.43E-05	3.72E-02	2.12E-07	1.17E-05
Road 1	1	0500-0600	8.40E-03	8.30E-08	4.57E-06	7.10E-03	7.02E-08	3.86E-06	4.75E-02	4.69E-07	2.58E-05	3.82E-02	3.78E-07	2.08E-05
Road 1	1	0600-0700	8.83E-03	1.87E-07	3.85E-06	7.49E-03	1.58E-07	8.71E-06	4.84E-02	1.02E-06	5.54E-05	3.92E-02	8.29E-07	4.57E-05
Road 1	1	0700-0800	9.54E-03	4.08E-07	2.25E-05	8.00E-03	3.42E-07	1.88E-05	5.06E-02	2.16E-06	1.19E-04	4.05E-02	1.73E-06	9.53E-05
Road 1	1	0800-0900	9.16E-03	4.53E-07	2.50E-05	7.83E-03	3.87E-07	2.13E-05	4.59E-02	2.27E-06	1.25E-04	3.78E-02	1.87E-06	1.03E-04
Road 1	1	0900-1000	1.02E-02	4.15E-07	2.28E-05	8.75E-03	3.55E-07	1.95E-05	4.97E-02	2.02E-06	1.11E-04	4.10E-02	1.66E-06	9.21E-05
Road 1	1	1000-1100	1.17E-02	4.09E-07	2.25E-05	1.01E-02	3.52E-07	1.94E-05	5.36E-02	1.88E-06	1.03E-04	4.50E-02	1.58E-06	8.67E-05
Road 1	1	1100-1200	1.11E-02	3.66E-07	2.03E-05	9.50E-03	3.15E-07	1.74E-05	5.35E-02	1.77E-06	9.77E-05	4.44E-02	1.47E-06	8.11E-05
Road 1	1	1200-1300	1.38E-02	6.26E-07	3.45E-05	1.17E-02	5.27E-07	2.90E-05	5.52E-02	2.49E-06	1.37E-04	4.58E-02	2.07E-06	1.14E-04
Road 1	1	1300-1400	1.41E-02	6.52E-07	3.59E-05	1.19E-02	5.50E-07	3.03E-05	6.20E-02	2.87E-06	1.58E-04	5.11E-02	2.37E-06	1.30E-04
Road 1	1	1400-1500	1.43E-02	7.08E-07	3.90E-05	1.20E-02	5.93E-07	3.26E-05	6.25E-02	3.08E-06	1.70E-04	5.10E-02	2.52E-06	1.39E-04
Road 1	1	1500-1600	1.35E-02	6.82E-07	3.75E-05	1.14E-02	5.71E-07	3.14E-05	6.24E-02	3.15E-06	1.74E-04	5.09E-02	2.57E-06	1.41E-04
Road 1	1	1600-1700	1.43E-02	7.66E-07	4.22E-05	1.18E-02	6.34E-07	3.49E-05	6.10E-02	3.27E-06	1.80E-04	4.92E-02	2.64E-06	1.45E-04
Road 1	1	1700-1800	1.01E-02	6.15E-07	3.39E-05	8.52E-03	5.17E-07	2.85E-05	5.20E-02	3.16E-06	1.74E-04	4.23E-02	2.57E-06	1.42E-04
Road 1	1	1800-1900	7.36E-03	4.68E-07	2.69E-05	6.21E-03	3.95E-07	2.27E-05	3.95E-02	2.51E-06	1.44E-04	3.21E-02	2.04E-06	1.17E-04
Road 1	1	1900-2000	6.36E-03	3.34E-07	1.84E-05	5.37E-03	2.82E-07	1.55E-05	3.71E-02	1.95E-06	1.07E-04	2.99E-02	1.57E-06	8.65E-05
Road 1	1	2000-2100	6.04E-03	2.47E-07	1.36E-05	5.24E-03	2.15E-07	1.18E-05	3.93E-02	1.61E-06	8.86E-05	3.27E-02	1.34E-06	7.37E-05
Road 1	1	2100-2200	5.21E-03	2.12E-07	1.17E-05	4.53E-03	1.85E-07	1.02E-05	3.72E-02	1.52E-06	8.38E-05	3.11E-02	1.27E-06	6.97E-05
Road 1	1	2200-2300	5.15E-03	2.10E-07	1.12E-05	4.48E-03	1.82E-07	9.92E-06	3.72E-02	1.52E-06	8.38E-05	3.11E-02	1.27E-06	6.97E-05
Road 1	1	2300-0000	5.73E-03	1.70E-07	9.37E-06	4.95E-03	1.47E-07	8.09E-06	3.88E-02	1.15E-06	6.35E-05	3.20E-02	9.51E-07	5.23E-05
Road 2	2	0000-0100	7.38E-03	1.01E-07	5.11E-06	6.35E-03	8.69E-08	4.40E-06	4.33E-02	5.93E-07	3.00E-05	3.58E-02	4.89E-07	2.48E-05
Road 2	2	0100-0200	8.64E-03	1.21E-07	6.57E-06	7.44E-03	1.04E-07	5.66E-06	4.56E-02	6.40E-07	3.47E-05	3.77E-02	5.28E-07	2.87E-05
Road 2	2	0200-0300	8.82E-03	5.82E-08	2.95E-06	7.67E-03	5.06E-08	2.56E-06	4.74E-02	3.13E-07	1.58E-05	3.97E-02	2.62E-07	1.33E-05
Road 2	2	0300-0400	9.54E-03	5.00E-08	2.53E-06	8.26E-03	4.33E-08	2.19E-06	4.93E-02	2.59E-07	1.31E-05	4.11E-02	2.16E-07	1.09E-05
Road 2	2	0400-0500	1.03E-02	5.40E-08	2.74E-06	8.92E-03	4.68E-08	2.37E-06	5.14E-02	2.70E-07	1.37E-05	4.28E-02	2.25E-07	1.14E-05
Road 2	2	0500-0600	1.09E-02	1.10E-07	5.56E-06	9.28E-03	9.33E-08	4.73E-06	5.40E-02	5.43E-07	2.75E-05	4.42E-02	4.44E-07	2.25E-05
Road 2	2	0600-0700	1.14E-02	2.48E-07	1.26E-05	9.77E-03	2.12E-07	1.07E-05	5.53E-02	1.20E-06	6.07E-05	4.55E-02	9.87E-07	5.00E-05
Road 2	2	0700-0800	1.23E-02	4.62E-07	2.34E-05	1.05E-02	3.96E-07	2.00E-05	5.98E-02	2.25E-06	1.14E-04	4.91E-02	1.84E-06	9.32E-05
Road 2	2	0800-0900	1.18E-02	6.06E-07	3.07E-05	1.02E-02	5.22E-07	2.64E-05	5.41E-02	2.77E-06	1.40E-04	4.54E-02	2.32E-06	1.18E-04
Road 2	2	0900-1000	1.35E-02	5.93E-07	3.00E-05	1.17E-02	5.11E-07	2.59E-05	5.98E-02	2.62E-06	1.33E-04	5.04E-02	2.21E-06	1.12E-04
Road 2	2	1000-1100	1.54E-02	5.60E-07	2.83E-05	1.33E-02	4.82E-07	2.44E-05	6.80E-02	2.47E-06	1.25E-04	5.73E-02	2.08E-06	1.06E-04
Road 2	2	1100-1200	1.49E-02	5.45E-07	2.76E-05	1.28E-02	4.70E-07	2.38E-05	6.36E-02	2.33E-06	1.18E-04	5.38E-02	1.97E-06	9.96E-05
Road 2	2	1200-1300	1.62E-02	7.26E-07	3.68E-05	1.40E-02	6.28E-07	3.18E-05	6.56E-02	2.94E-06	1.49E-04	5.57E-02	2.50E-06	1.27E-04
Road 2	2	1300-1400	1.64E-02	7.58E-07	3.84E-05	1.41E-02	6.51E-07	3.30E-05	6.61E-02	3.05E-06	1.55E-04	5.61E-02	2.59E-06	1.31E-04
Road 2	2	1400-1500	1.68E-02	8.21E-07	4.16E-05	1.41E-02	6.91E-07	3.50E-05	6.93E-02	3.40E-06	1.72E-04	5.72E-02	2.80E-06	1.42E-04
Road 2	2	1500-1600	1.56E-02	7.86E-07	3.98E-05	1.31E-02	6.57E-07	3.33E-05	6.94E-02	3.49E-06	1.77E-04	5.69E-02	2.86E-06	1.45E-04
Road 2	2	1600-1700	1.64E-02	8.18E-07	4.15E-05	1.38E-02	6.87E-07	3.48E-05	6.95E-02	3.47E-06	1.76E-04	5.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (May) Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 24	24	0800-0900	1.48E-01	2.86E-07	7.97E-05	1.49E-01	2.88E-07	8.02E-05	2.66E-06	4.66E-01	9.02E-07	2.26E-06		
Road 24	24	0900-1000	1.46E-01	3.18E-07	7.98E-05	1.26E-01	2.74E-07	6.86E-05	5.49E-01	1.19E-06	2.99E-06	4.71E-01	1.02E-06	2.57E-06
Road 24	24	1000-1100	1.57E-01	3.36E-07	8.43E-05	1.34E-01	2.87E-07	7.18E-05	5.58E-01	1.19E-06	2.99E-06	4.76E-01	1.02E-06	2.55E-06
Road 24	24	1100-1200	1.57E-01	3.30E-07	8.43E-05	1.34E-01	2.68E-07	6.72E-05	5.62E-01	1.13E-06	2.82E-06	4.78E-01	9.57E-07	2.40E-06
Road 24	24	1200-1300	1.67E-01	3.37E-07	8.44E-05	1.41E-01	2.84E-07	7.13E-05	5.68E-01	1.15E-06	2.88E-06	4.80E-01	9.71E-07	2.43E-06
Road 24	24	1300-1400	1.67E-01	3.80E-07	9.53E-05	1.41E-01	3.21E-07	8.04E-05	5.95E-01	1.36E-06	3.40E-06	5.01E-01	1.14E-06	2.87E-06
Road 24	24	1400-1500	1.72E-01	3.87E-07	9.71E-05	1.45E-01	3.26E-07	8.18E-05	5.94E-01	1.34E-06	3.36E-06	5.01E-01	1.13E-06	2.83E-06
Road 24	24	1500-1600	1.55E-01	3.66E-07	9.17E-05	1.29E-01	3.05E-07	7.65E-05	5.93E-01	1.40E-06	3.51E-06	4.95E-01	1.17E-06	2.92E-06
Road 24	24	1600-1700	1.58E-01	3.44E-07	8.61E-05	1.30E-01	2.83E-07	7.09E-05	5.63E-01	1.23E-06	3.07E-06	4.64E-01	1.01E-06	2.53E-06
Road 24	24	1700-1800	1.36E-01	3.18E-07	7.97E-05	1.24E-01	2.91E-07	7.30E-05	5.61E-01	1.31E-06	3.28E-06	4.64E-01	1.08E-06	2.70E-06
Road 24	24	1800-1900	1.17E-01	1.59E-07	4.00E-05	1.07E-01	1.45E-07	3.63E-05	4.85E-01	6.60E-07	1.66E-06	4.46E-01	6.07E-07	1.52E-06
Road 24	24	1900-2000	1.14E-01	1.01E-07	2.54E-05	9.74E-02	8.68E-08	2.18E-05	4.91E-01	4.37E-07	1.09E-06	4.20E-01	3.74E-07	9.38E-07
Road 24	24	2000-2100	1.04E-01	1.01E-07	2.54E-05	9.18E-02	8.90E-08	2.23E-05	4.48E-01	4.34E-07	1.09E-06	3.96E-01	3.84E-07	9.62E-07
Road 24	24	2100-2200	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	2200-2300	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	2300-0000	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0000-0100	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0100-0200	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0200-0300	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0300-0400	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0400-0500	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0500-0600	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0600-0700	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07
Road 24	24	0700-0800	1.01E-01	9.41E-08	2.36E-05	8.94E-02	8.31E-08	2.08E-05	4.36E-01	4.05E-07	1.02E-06	3.85E-01	3.58E-07	8.97E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (May) Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.67E-01	4.27E-07	1.31E-04	1.41E-01	3.59E-07	1.11E-04	5.95E-01	1.52E-06	4.67E-06	5.00E-01	1.28E-06	3.93E-06
Road 27	27	1700-1800	1.45E-01	3.33E-07	1.02E-04	1.20E-01	2.77E-07	8.53E-05	5.76E-01	1.32E-06	4.08E-06	4.79E-01	1.10E-06	3.39E-06
Road 27	27	1800-1900	1.25E-01	1.97E-07	6.06E-05	1.07E-01	1.69E-07	5.19E-05	5.14E-01	8.12E-07	2.50E-06	4.40E-01	6.95E-07	2.14E-06
Road 27	27	1900-2000	1.16E-01	1.19E-07	3.67E-05	9.88E-02	1.02E-07	3.13E-05	4.59E-01	4.73E-07	1.46E-06	3.92E-01	4.03E-07	1.24E-06
Road 27	27	2000-2100	1.11E-01	9.14E-08	2.81E-05	9.74E-02	8.00E-08	2.46E-05	4.55E-01	3.74E-07	1.15E-06	3.98E-01	3.27E-07	1.01E-06
Road 27	27	2100-2200	1.11E-01	9.41E-08	2.90E-05	9.82E-02	8.29E-08	2.55E-05	4.50E-01	3.80E-07	1.17E-06	3.96E-01	3.34E-07	1.03E-06
Road 27	27	2200-2300	1.11E-01	8.63E-08	2.66E-05	9.81E-02	7.59E-08	2.34E-05	4.26E-01	3.12E-07	9.61E-07	3.76E-01	2.74E-07	8.45E-07
Road 27	27	2300-0000	1.19E-01	7.21E-08	2.22E-05	1.05E-01	6.32E-08	1.94E-05	4.32E-01	2.61E-07	8.02E-07	3.78E-01	2.28E-07	7.03E-07
Road 28	28	0000-0100	1.01E-02	1.09E-07	6.18E-06	8.79E-03	9.44E-08	5.36E-06	4.91E-02	5.28E-07	3.00E-05	4.12E-02	4.42E-07	2.51E-05
Road 28	28	0100-0200	1.12E-02	7.96E-08	4.52E-06	9.67E-03	6.87E-08	3.90E-06	5.14E-02	3.67E-07	2.08E-05	4.41E-02	3.06E-07	1.74E-05
Road 28	28	0200-0300	1.23E-02	6.52E-08	3.70E-06	1.08E-02	5.70E-08	3.24E-06	5.45E-02	2.88E-07	1.64E-05	4.63E-02	2.45E-07	1.39E-05
Road 28	28	0300-0400	1.34E-02	5.71E-08	3.24E-06	1.17E-02	4.96E-08	2.82E-06	5.73E-02	2.43E-07	1.38E-05	4.84E-02	2.06E-07	1.17E-05
Road 28	28	0400-0500	1.41E-02	5.01E-08	2.84E-06	1.23E-02	4.37E-08	2.47E-06	5.98E-02	2.12E-07	1.20E-05	5.02E-02	1.78E-07	1.01E-05
Road 28	28	0500-0600	1.42E-02	5.05E-08	2.87E-06	1.24E-02	4.40E-08	2.49E-06	6.02E-02	2.14E-07	1.21E-05	5.05E-02	1.80E-07	1.02E-05
Road 28	28	0600-0700	1.43E-02	2.49E-07	1.41E-05	1.20E-02	2.09E-07	1.19E-05	6.18E-02	1.08E-06	6.11E-05	5.02E-02	8.75E-07	4.96E-05
Road 28	28	0700-0800	1.51E-02	3.56E-07	2.01E-05	1.27E-02	2.99E-07	1.69E-05	6.28E-02	1.48E-06	8.35E-05	5.10E-02	1.20E-06	6.78E-05
Road 28	28	0800-0900	1.51E-02	6.24E-07	3.54E-05	1.27E-02	5.27E-07	2.99E-05	6.26E-02	2.59E-06	1.47E-04	5.17E-02	2.14E-06	1.22E-04
Road 28	28	0900-1000	1.71E-02	6.27E-07	3.56E-05	1.45E-02	5.32E-07	3.04E-05	6.93E-02	2.54E-06	1.44E-04	5.84E-02	2.14E-06	1.22E-04
Road 28	28	1000-1100	1.97E-02	6.48E-07	3.68E-05	1.67E-02	5.50E-07	3.12E-05	7.98E-02	2.62E-06	1.49E-04	6.77E-02	2.23E-06	1.26E-04
Road 28	28	1100-1200	1.89E-02	5.88E-07	3.34E-05	1.60E-02	4.97E-07	2.82E-05	7.36E-02	2.29E-06	1.30E-04	6.13E-02	1.91E-06	1.08E-04
Road 28	28	1200-1300	1.79E-02	4.27E-07	2.43E-05	1.50E-02	3.58E-07	2.03E-05	6.89E-02	1.65E-06	9.34E-05	5.68E-02	1.36E-06	7.70E-05
Road 28	28	1300-1400	1.78E-02	4.02E-07	2.50E-05	1.49E-02	3.37E-07	2.09E-05	6.86E-02	1.55E-06	9.62E-05	5.67E-02	1.28E-06	7.93E-05
Road 28	28	1400-1500	1.81E-02	4.68E-07	2.65E-05	1.50E-02	3.91E-07	2.22E-05	6.93E-02	1.79E-06	1.02E-04	5.72E-02	1.48E-06	8.43E-05
Road 28	28	1500-1600	1.69E-02	4.50E-07	2.55E-05	1.40E-02	3.72E-07	2.11E-05	7.02E-02	1.87E-06	1.06E-04	5.70E-02	1.52E-06	8.63E-05
Road 28	28	1600-1700	1.74E-02	4.85E-07	2.75E-05	1.44E-02	4.02E-07	2.28E-05	6.96E-02	1.94E-06	1.10E-04	5.76E-02	1.60E-06	9.08E-05
Road 28	28	1700-1800	1.48E-02	3.80E-07	2.15E-05	1.22E-02	3.14E-07	1.78E-05	6.28E-02	1.61E-06	9.12E-05	5.17E-02	1.33E-06	7.52E-05
Road 28	28	1800-1900	9.47E-03	3.09E-07	1.75E-05	8.07E-03	2.63E-07	1.49E-05	4.32E-02	1.41E-06	7.99E-05	3.67E-02	1.19E-06	6.66E-05
Road 28	28	1900-2000	7.96E-03	2.02E-07	1.15E-05	6.74E-03	1.71E-07	9.72E-06	4.11E-02	1.04E-06	5.94E-05	3.36E-02	8.53E-07	4.84E-05
Road 28	28	2000-2100	7.00E-03	1.38E-07	7.86E-06	6.12E-03	1.21E-07	6.87E-06	4.21E-02	8.33E-07	4.73E-05	3.55E-02	7.01E-07	3.98E-05
Road 28	28	2100-2200	7.00E-03	1.38E-07	7.86E-06	6.12E-03	1.21E-07	6.87E-06	4.21E-02	8.33E-07	4.73E-05	3.55E-02	7.01E-07	3.98E-05
Road 28	28	2200-2300	6.96E-03	1.13E-07	7.56E-06	6.06E-03	1.16E-07	6.59E-06	4.15E-02	7.95E-07	4.51E-05	3.48E-02	6.66E-07	3.78E-05
Road 28	28	2300-0000	6.96E-03	1.82E-07	6.04E-06	6.06E-03	1.58E-07	5.26E-06	4.15E-02	1.08E-06	3.60E-05	3.48E-02	9.06E-07	3.01E-05
Road 29	29	0000-0100	6.45E-03	5.85E-08	4.04E-06	5.56E-03	5.04E-08	3.48E-06	4.04E-02	3.66E-07	2.53E-05	3.32E-02	3.01E-07	2.08E-05
Road 29	29	0100-0200	7.42E-03	4.41E-08	3.04E-06	6.39E-03	3.80E-08	2.62E-06	4.25E-02	2.52E-07	1.74E-05	3.48E-02	2.07E-07	1.43E-05
Road 29	29	0200-0300	8.47E-03	3.11E-08	2.45E-06	7.30E-03	2.68E-08	2.11E-06	4.36E-02	1.60E-07	1.26E-05	3.58E-02	1.32E-07	1.04E-05
Road 29	29	0300-0400	9.51E-03	3.31E-08	2.29E-06	8.24E-03	2.87E-08	1.98E-06	4.75E-02	1.65E-07	1.14E-05	3.95E-02	1.37E-07	9.49E-06
Road 29	29	0400-0500	9.94E-03	3.78E-08	2.61E-06	8.53E-03	3.24E-08	2.24E-06	4.92E-02	1.87E-07	1.29E-05	4.09E-02	1.56E-07	1.08E-05
Road 29	29	0500-0600	9.94E-03	3.78E-08	2.61E-06	8.53E-03	3.24E-08	2.24E-06	4.92E-02	1.87E-07	1.29E-05	4.09E-02	1.56E-07	1.08E-05
Road 29	29	0600-0700	9.50E-03	1.30E-07	8.99E-06	7.93E-03	1.09E-07	7.51E-06	4.99E-02	6.85E-07	4.72E-05	3.96E-02	5.44E-07	3.75E-05
Road 29	29	0700-0800	1.07E-02	2.99E-07	2.06E-05	9.01E-03	2.52E-07	1.74E-05	5.29E-02	1.48E-06	1.02E-04	4.27E-02	1.19E-06	8.23E-05
Road 29	29	0800-0900	1.22E-02	3.01E-07	2.08E-05	1.03E-02	2.54E-07	1.75E-05	5.29E-02	1.31E-06	9.04E-05	4.46E-02	1.10E-06	7.57E-05
Road 29	29	0900-1000	1.14E-02	3.02E-07	2.08E-05	9.73E-03	2.57E-07	1.77E-05	5.22E-02	1.38E-06	9.52E-05	4.33E-02	1.15E-06	7.90E-05
Road 29	29	1000-1100	1.29E-02	2.95E-07	2.04E-05	1.10E-02	2.51E-07	1.73E-05	5.61E-02	1.28E-06	8.85E-05	4.65E-02	1.06E-06	7.33E-05
Road 29	29	1100-1200	1.21E-02	2.82E-07	2.11E-05	1.03E-02	2.40E-07	1.79E-05	5.61E-02	1.30E-06	9.74E-05	4.64E-02	1.08E-06	8.06E-05
Road 29	29	1200-1300	2.15E-02	4.22E-07	2.92E-05	1.80E-02	3.55E-07	2.45E-05	7.66E-02	1.50E-06	1.03E-04	6.31E-02	1.24E-06	8.57E-05
Road 29	29	1300-1400	2.31E-02	4.38E-07	3.02E-05	1.94E-02	3.68E-07	2.53E-05	7.71E-02	1.46E-06	1.01E-04	6.41E-02	1.21E-06	8.37E-05
Road 29	29	1400-1500	2.32E-02	4.38E-07	3.02E-05	1.95E-02	3.68E-07	2.53E-05	7.71E-02	1.46E-06	1.01E-04	6.41E-02	1.21E-06	8.37E-05
Road 29	29	1500-1600	2.00E-02	4.40E-07	3.03E-05	1.66E-02	3.65E-07	2.52E-05	7.71E-02	1.69E-06	1.17E-04	6.31E-02	1.39E-06	9.60E-05
Road 29	29	1600-1700	2.05E-02	4.64E-07	3.20E-05	1.72E-02	3.90E-07	2.69E-05	7.37E-02	1.67E-06	1.15E-04	6.11E-02	1.39E-06	9.58E-05
Road 29	29	1700-1800	1.84E-02	4.64E-07	3.20E-05	1.54E-02	3.88E-07	2.68E-05	7.37E-02	1.86E-06	1.28E-04	6.44E-02	1.62E-06	1.12E-04
Road 29	29	1800-1900	1.22E-02	3.01E-07	2.08E-05	1.04E-02	2.57E-07	1.77E-05	4.93E-02	1.21E-06	8.38E-05	4.12E-02	1.01E-06	7.00E-05
Road 29	29	1900-2000	1.06E-02	2.03E-07	1.40E-05	9.00E-03	1.73E-07	1.19E-05	4.59E-02	8.80E-07	6.07E-05	3.79E-02	7.28E-07	5.02E-05
Road 29	29	2000-2100	9.51E-03	1.46E-07	1.01E-05	8.11E-03	1.24E-07	8.60E-06	4.45E-02	6.83E-07	4.72E-05	3.80E-02	5.83E-07	4.03E-05
Road 29	29	2100-2200	9.79E-03	1.45E-07	1.00E-05	8.58E-03	1.27E-07	8.80E-06	4.58E-02	6.80E-07	4.69E-05	3.99E-02	5.92E-07	4.09E-05
Road 29	29	2200-2300	9.87E-03	1.42E-07	9.79E-06	8.65E-03	1.24E-07	8.57E-06	4.62E-02	6.64E-07	4.58E-05	4.02E-02	5.77E-07	3.98E-05
Road 29	29	2300-0000	1.02E-02	1.07E-07	7.39E-06	8.93E-03	9.36E-08	6.46E-06	4.77E-02	5.00E-07	3.45E-05	4.15E-02	4.35E-07	3.00E-05
Road 30	30	0000-0100	1.04E-02	1.08E-07	1.05E-05	8.96E-03	9.27E-08	9.08E-07	5.21E-02	5.39E-07	5.27E-06	4.33E-02	4.48E-07	4.39E-06
Road 30	30	0100-0200	1.20E-02	8.24E-08	8.11E-06	1.03E-02	7.15E-08	7.04E-07	5.53E-02	3.82E-07	3.74E-06	4.61E-02	3.19E-07	3.12E-06
Road 30	30	0200-0300	1.37E-02	7.11E-08	6.96E-06	1.17E-02	6.13E-08	6.00E-07	6.11E-02	5.03E-07	4.92E-06	4.84E-02	4.13E-07	4.04E-06
Road 30	30	0300-0400	1.53E-02	6.43E-08	6.29E-06	1.32E-02	5.59E-08	5.48E-07	6.27E-02	2.64E-07	2.58E-06	5.32E-02	2.24E-07	2.19E-06
Road 30	30	0400-0500	1.58E-02	7.32E-08	7.17E-06	1.36E-02	6.28E-08	6.15E-07	6.55E-02	3.03E-07	2.96E-06	5.45E-02	2.52E-07	2.47E-06
Road 30	30	0500-0600	1.50E-02	1.17E-07	1.15E-06	1.27E-02	9.95E-08	9.74E-07	6.56E-02	5.14E-07	5.03E-06	5.39E-02	4.22E-07	4.13E-06
Road 30	30	0600-0700	1.43E-02	2.29E-07	1.35E-06	1.22E-02	1.96E-07	1.15E-06	6.53E-02	1.05E-06	6.17E-06	5.37E-02	8.64E-07	5.07E-06
Road 30	30	0700-0800	1.61E-02	5.53E-07	5.42E-06	1.36E-02	4.68E-07	4.58E-06	6.91E-02	2.38E-06	2.33E-05	5.68E-02	1.96E-06	1.91E-05
Road 30	30	0800-0900	1.61E-02	6.24E-07	3.54E-05	1.27E-02	5.27E-07	2.99E-05	6.26E-02	2.59E-06	1.47E-04	5.17E-02	2.14E-06	1.22E-04
Road 30	30	0900-1000	1.71E-02	6.27E-07	3.56E-05	1.45E-02	5.32E-07	3.04E-05	6.93E-02	2.54E-06	1.44E-04	5.84E-02	2.14E-06	1.22E-04
Road 30	30	1000-1100	1.97E-02	6.48E-07	3.68E-05	1.67E-02	5.50E-07	3.12E-05	7.98E-02	2.62E-06	1.49E-04	6.77E-02	2.23E-06	1.26E-04
Road 30	30	1100-1200	1.89E-02	5.88E-07	3.34E-05	1.60E-02	4.97E-07	2.82E-05	7.36E-02	2.29E-06	1.30E-04	6.13E-02	1.91E-06	1.08E-04
Road 30	30	1200-1300	1.79E-02	4.27E-07	2.43E-05	1.50E-02	3.58E-07	2.03E-05	6.89E-02	1.65E-06	9.34E-05	5.68E-02	1.36E-06	7.70E-05
Road 30	30	1300-1400	2.55E-02	8.09E-07	7.92E-06	2.10E-02	6.67E-07	6.53E-06	9.68E-02	3.08E-06	3.01E-05	7.91E-02	2.51E-06	2.46E-05
Road 30	30	1400-1500	2.57E-02	8.42E-07	8.24E-06	2.12E-02	6.95E-07	6.82E-06	9.65E-02	3.16E-06	3.10E-05	7.89E-02	2.59E-06	2.53E-05
Road 30	30	1500-1600	2.29E-02	8.08E-07	7.91E-06	1.96E-02	6.92E-07	6.78E-06	9.61E-02	3.39E-06	3.32E-05	7.88E-02	2.78E-06	2.72E-05
Road 30	30	1600-1700	2.45E-02	8.30E-07	8.12E-06	2.04E-02	6.90E-07	6.76E-06	9.26E-02	3.14E-06	3.07E-05	7.62E-02	2.58E-06	2.53E-05
Road 30	30	1700-1800	1.90E-02	6.70E-07	6.56E-06	1.58E-02	5.59E-07	5.47E-06	8.13E-02	2.87E-06	2.81E-05	6.68E-02	2.36E-06	2.31E-05
Road 30	30	1800-1900	1.43E-02	4.84E-07	4.74E-06	1.22E-02	4.13E-07	4.05E-06	6.12E-02	2.07E-06	2.03E-05	5.13E-02	1.74E-06	1.70E-05
Road 30	30	1900-2000	1.17E-02	2.94E-07	2.88E-06	9.94E-03	2.49E-07	2.44E-06	5.55E-02	1.39E-06	1.36E-05	4.95E-02	1.25E-06	1.23E-05
Road 30	30	2000-2100	1.16E-02	2.28E-07	2.23E-06	1.01E-02	1.98E-07	1.94E-06	5.84E-02	1.15E-06	1.12E-05	4.99E-02	9.76E-07	9.56E-06
Road 30	30	2100-2200	1.12E-02	2.17E-07	2.12E-06	9.86E-03	1.91E-07	1.87E-06	5.84E-02	1.13E-06	1.10E-05	4.98E-02	9.66E-07	9.46E-06
Road 30	30	2200-2300	1.12E-02	2.10E-07	2.05E-06	9.73E-03	1.83E-07	1.79E-06	5.50E-02	1.03E-06	1.01E-05	4.66E-02	8.74E-07	8.56E-06
Road 30	30	2300-0000	1.24E-02	1.79E-07	1.75E-06	1.08E-02	1.55E-07	1.52E-06	5.83E-02	8.39E-07	8.21E-06	4.93E-02	7.10E-07	6.95E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (May) Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.67E-02	1.59E-08	1.20E-06	1.47E-02	1.40E-08	1.06E-06	2.77E-02	2.64E-08	1.99E-06	2.77E-02	2.64E-08	1.99E-06
Road 31	31	0100-0200	1.96E-02	2.92E-08	2.61E-06	1.69E-02	2.53E-08	2.26E-06	3.02E-02	4.50E-08	4.03E-06	2.76E-02	4.12E-08	3.69E-06
Road 31	31	0200-0300	2.25E-02	2.62E-08	2.34E-06	1.98E-02	2.30E-08	2.06E-06	7.30E-02	8.48E-08	7.58E-06	6.31E-02	7.34E-08	6.56E-06
Road 31	31	0300-0400	2.58E-02	2.44E-08	2.18E-06	2.13E-02	2.01E-08	1.79E-06	7.78E-02	7.36E-08	6.58E-06	6.69E-02	6.32E-08	5.65E-06
Road 31	31	0400-0500	2.51E-02	2.67E-08	2.39E-06	2.16E-02	2.30E-08	2.05E-06	7.96E-02	8.46E-08	7.56E-06	6.72E-02	7.15E-08	6.39E-06
Road 31	31	0500-0600	2.20E-02	3.77E-08	3.37E-06	1.87E-02	3.21E-08	2.87E-06	7.59E-02	1.30E-07	1.16E-05	6.32E-02	1.08E-07	9.67E-06
Road 31	31	0600-0700	1.45E-02	6.71E-08	5.99E-06	1.23E-02	5.66E-08	5.06E-06	7.19E-02	3.32E-07	2.97E-05	6.08E-02	2.81E-07	2.51E-05
Road 31	31	0700-0800	2.25E-02	1.70E-07	1.52E-05	1.91E-02	1.44E-07	1.28E-05	8.22E-02	6.20E-07	5.54E-05	6.97E-02	5.26E-07	4.70E-05
Road 31	31	0800-0900	2.15E-02	1.85E-07	1.65E-05	1.81E-02	1.56E-07	1.39E-05	8.26E-02	7.12E-07	6.36E-05	6.96E-02	6.00E-07	5.36E-05
Road 31	31	0900-1000	2.15E-02	1.85E-07	1.65E-05	1.81E-02	1.56E-07	1.39E-05	8.26E-02	7.12E-07	6.36E-05	6.96E-02	6.00E-07	5.36E-05
Road 31	31	1000-1100	2.63E-02	1.83E-07	1.63E-05	2.17E-02	1.51E-07	1.35E-05	8.26E-02	5.75E-07	5.14E-05	6.82E-02	4.75E-07	4.24E-05
Road 31	31	1100-1200	2.63E-02	1.83E-07	1.63E-05	2.17E-02	1.51E-07	1.35E-05	8.26E-02	5.75E-07	5.14E-05	6.82E-02	4.75E-07	4.24E-05
Road 31	31	1200-1300	2.51E-02	1.76E-07	1.57E-05	2.07E-02	1.45E-07	1.29E-05	8.26

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May) — Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 51	51	0000-0100	5.21E-03	4.26E-08	0.07	4.96E-02	4.06E-07	1.47E-06	3.15E-02	3.87E-06	3.10E-02	2.56E-07	4.77E-06	
Road 51	51	0100-0200	5.66E-03	3.03E-08	5.66E-07	4.84E-03	2.59E-08	4.84E-07	3.92E-02	3.18E-02	3.11E-07	2.66E-08	3.18E-07	
Road 51	51	0200-0300	6.20E-03	2.42E-08	4.52E-07	5.39E-03	2.11E-08	3.93E-07	4.09E-02	1.60E-07	2.98E-06	3.40E-02	1.33E-07	2.48E-06
Road 51	51	0300-0400	6.71E-03	2.03E-08	3.86E-07	5.80E-03	1.76E-08	3.34E-07	4.24E-02	1.31E-07	2.43E-06	3.49E-02	1.08E-07	2.01E-06
Road 51	51	0400-0500	7.37E-03	2.49E-08	4.64E-07	6.27E-03	2.12E-08	3.94E-07	4.48E-02	1.51E-07	2.82E-06	3.63E-02	1.23E-07	2.28E-06
Road 51	51	0500-0600	7.98E-03	4.66E-08	8.69E-07	6.72E-03	3.92E-08	7.31E-07	4.69E-02	2.74E-07	5.11E-06	3.75E-02	2.19E-07	4.08E-06
Road 51	51	0600-0700	8.45E-03	3.97E-08	7.71E-07	6.95E-03	3.26E-08	6.33E-07	4.78E-02	2.24E-07	4.35E-06	3.82E-02	1.79E-07	3.48E-06
Road 51	51	0700-0800	9.08E-03	2.29E-07	4.27E-06	7.64E-03	1.92E-07	3.59E-06	4.98E-02	1.26E-06	2.34E-05	3.99E-02	1.01E-06	1.87E-05
Road 51	51	0800-0900	8.70E-03	2.54E-07	4.73E-06	7.30E-03	2.13E-07	3.96E-06	4.88E-02	1.43E-06	2.65E-05	3.60E-02	1.05E-06	1.96E-05
Road 51	51	0900-1000	9.69E-03	2.83E-07	5.26E-06	8.13E-03	2.37E-07	4.41E-06	5.44E-02	1.59E-06	2.95E-05	4.01E-02	1.17E-06	2.18E-05
Road 51	51	1000-1100	1.10E-02	2.23E-07	4.15E-06	9.35E-03	1.90E-07	3.54E-06	5.24E-02	1.06E-06	1.98E-05	4.34E-02	8.81E-07	1.64E-05
Road 51	51	1100-1200	1.04E-02	2.01E-07	3.74E-06	8.69E-03	1.67E-07	3.12E-06	5.24E-02	1.01E-06	1.88E-05	4.22E-02	8.13E-07	1.52E-05
Road 51	51	1200-1300	1.04E-02	2.12E-07	3.95E-06	8.69E-03	1.77E-07	3.29E-06	5.24E-02	1.07E-06	1.98E-05	4.22E-02	8.60E-07	1.60E-05
Road 51	51	1300-1400	2.04E-02	3.40E-07	6.33E-06	1.68E-02	2.80E-07	5.22E-06	1.28E-02	2.38E-05	6.24E-02	1.04E-06	1.94E-05	
Road 51	51	1400-1500	2.06E-02	3.58E-07	6.67E-06	1.70E-02	2.95E-07	5.51E-06	1.29E-02	2.50E-05	6.58E-02	1.04E-06	1.81E-05	
Road 51	51	1500-1600	1.91E-02	3.31E-07	6.17E-06	1.58E-02	2.73E-07	5.09E-06	1.20E-02	2.32E-05	6.09E-02	9.68E-07	1.68E-05	
Road 51	51	1600-1700	1.96E-02	3.61E-07	6.73E-06	1.62E-02	2.98E-07	5.56E-06	1.23E-02	2.53E-05	6.64E-02	9.92E-07	1.83E-05	
Road 51	51	1700-1800	1.49E-02	2.95E-07	5.50E-06	1.24E-02	2.31E-07	5.11E-06	1.01E-06	1.89E-05				
Road 51	51	1800-1900	1.12E-02	2.24E-07	4.18E-06	9.34E-03	1.87E-07	3.48E-06	7.60E-07	1.52E-05				
Road 51	51	1900-2000	1.05E-02	1.65E-07	3.07E-06	8.88E-03	1.40E-07	2.61E-06	4.56E-02	7.19E-07	1.34E-05	3.76E-02	5.93E-07	1.10E-05
Road 51	51	2000-2100	1.02E-02	1.27E-07	2.37E-06	8.90E-03	1.10E-07	2.06E-06	4.77E-02	5.92E-07	1.10E-05	4.04E-02	5.01E-07	9.34E-06
Road 51	51	2100-2200	9.55E-03	1.06E-07	2.16E-06	8.88E-03	9.87E-08	2.00E-06	4.61E-02	5.12E-07	1.04E-05	3.90E-02	4.33E-07	8.79E-06
Road 51	51	2200-2300	1.04E-02	9.24E-08	1.72E-06	9.01E-03	8.03E-08	1.50E-06	4.73E-02	4.22E-07	7.87E-06	3.99E-02	3.56E-07	6.63E-06
Road 51	51	2300-0000	5.34E-02	2.69E-08	1.38E-07	4.66E-02	2.34E-08	1.20E-07	1.95E-01	9.83E-08	5.04E-07	1.70E-01	8.56E-08	4.39E-07
Road 52	52	0000-0100	5.34E-02	2.69E-08	1.38E-07	4.66E-02	2.34E-08	1.20E-07	1.95E-01	9.83E-08	5.04E-07	1.70E-01	8.56E-08	4.39E-07
Road 52	52	0100-0200	5.25E-02	1.48E-08	7.61E-08	4.63E-02	1.31E-08	6.71E-08	1.93E-01	5.44E-08	2.79E-07	1.70E-01	4.80E-08	2.46E-07
Road 52	52	0200-0300	5.30E-02	1.28E-08	6.54E-08	4.63E-02	1.11E-08	5.71E-08	1.94E-01	4.69E-08	2.40E-07	1.69E-01	4.08E-08	2.09E-07
Road 52	52	0300-0400	5.36E-02	1.28E-08	6.54E-08	4.63E-02	1.11E-08	5.71E-08	1.94E-01	4.69E-08	2.40E-07	1.69E-01	4.08E-08	2.09E-07
Road 52	52	0400-0500	5.42E-02	2.12E-08	1.09E-07	4.63E-02	1.81E-08	9.28E-08	1.94E-01	7.58E-08	3.88E-07	1.69E-01	6.61E-08	3.39E-07
Road 52	52	0500-0600	5.66E-02	2.98E-08	1.52E-07	4.83E-02	2.54E-08	1.30E-07	2.07E-01	1.09E-07	5.57E-07	1.76E-01	9.27E-08	4.75E-07
Road 52	52	0600-0700	5.82E-02	3.98E-08	4.93E-02	5.92E-08	3.03E-07	2.12E-01	2.55E-07	1.31E-06	1.80E-01	2.16E-07	1.11E-06	
Road 52	52	0700-0800	6.28E-02	1.23E-07	2.52E-06	5.43E-02	1.06E-07	2.18E-06	6.57E-02	1.29E-07	2.64E-06	2.32E-01	4.55E-07	9.34E-06
Road 52	52	0800-0900	6.28E-02	1.94E-07	3.96E-06	5.35E-02	1.66E-07	8.49E-07	2.37E-01	7.32E-07	3.75E-06	2.01E-01	6.23E-07	3.19E-06
Road 52	52	0900-1000	6.39E-02	2.25E-07	1.15E-06	5.49E-02	1.93E-07	9.89E-07	2.42E-01	8.51E-07	4.36E-06	2.08E-01	7.31E-07	3.75E-06
Road 52	52	1000-1100	6.83E-02	2.31E-07	1.18E-06	5.87E-02	1.98E-07	1.01E-06	2.58E-01	8.73E-07	4.47E-06	2.22E-01	7.51E-07	3.85E-06
Road 52	52	1100-1200	6.84E-02	2.22E-07	1.14E-06	5.82E-02	1.89E-07	9.69E-07	2.47E-01	8.03E-07	4.11E-06	2.10E-01	6.83E-07	3.50E-06
Road 52	52	1200-1300	7.06E-02	2.38E-07	1.22E-06	5.96E-02	2.01E-07	1.03E-06	2.66E-01	8.98E-07	4.60E-06	2.26E-01	7.63E-07	3.91E-06
Road 52	52	1300-1400	6.96E-02	2.34E-07	1.20E-06	5.87E-02	1.98E-07	1.01E-06	2.62E-01	8.84E-07	4.53E-06	2.23E-01	7.51E-07	3.85E-06
Road 52	52	1400-1500	7.16E-02	2.69E-07	1.38E-06	6.04E-02	2.27E-07	1.16E-06	2.52E-01	9.48E-07	4.86E-06	2.12E-01	7.99E-07	4.10E-06
Road 52	52	1500-1600	6.48E-02	2.55E-07	1.31E-06	5.41E-02	2.12E-07	1.09E-06	2.52E-01	9.90E-07	5.07E-06	2.10E-01	8.26E-07	4.23E-06
Road 52	52	1600-1700	6.45E-02	2.60E-07	1.33E-06	5.39E-02	2.17E-07	1.11E-06	2.51E-01	1.01E-06	5.17E-06	2.09E-01	8.43E-07	4.32E-06
Road 52	52	1700-1800	5.55E-02	1.83E-07	9.38E-07	4.66E-02	1.54E-07	7.87E-07	2.26E-01	7.45E-07	3.82E-06	1.89E-01	6.25E-07	3.20E-06
Road 52	52	1800-1900	4.84E-02	1.11E-07	5.70E-07	4.15E-02	9.54E-08	4.89E-07	2.04E-01	4.68E-07	2.40E-06	1.74E-01	4.01E-07	2.05E-06
Road 52	52	1900-2000	4.36E-02	8.48E-08	1.56E-06	3.90E-02	7.58E-08	1.39E-06	1.84E-01	3.58E-07	6.58E-06	1.57E-01	3.06E-07	5.62E-06
Road 52	52	2000-2100	4.36E-02	5.25E-08	2.69E-07	3.78E-02	4.55E-08	2.33E-07	1.76E-01	2.12E-07	1.08E-06	1.52E-01	1.84E-07	9.41E-07
Road 52	52	2100-2200	4.42E-02	5.47E-08	2.80E-07	3.89E-02	4.81E-08	2.46E-07	1.78E-01	2.20E-07	1.13E-06	1.54E-01	1.91E-07	9.77E-07
Road 52	52	2200-2300	4.79E-02	4.24E-08	2.18E-07	4.20E-02	3.72E-08	1.91E-07	1.78E-01	1.58E-07	8.08E-07	1.56E-01	1.38E-07	7.07E-07
Road 53	53	0000-0100	7.44E-02	3.44E-08	8.00E-07	6.45E-02	2.99E-08	6.94E-07	2.70E-01	1.25E-07	2.90E-06	2.31E-01	1.07E-07	2.49E-06
Road 53	53	0100-0200	7.43E-02	3.44E-08	8.00E-07	6.45E-02	2.99E-08	6.94E-07	2.70E-01	1.25E-07	2.90E-06	2.31E-01	1.07E-07	2.49E-06
Road 53	53	0200-0300	7.67E-02	1.82E-08	4.22E-07	6.75E-02	1.60E-08	3.71E-07	2.77E-01	6.57E-08	1.53E-06	2.42E-01	5.73E-08	1.33E-06
Road 53	53	0300-0400	7.92E-02	1.53E-08	3.56E-07	6.92E-02	1.34E-08	3.12E-07	2.86E-01	5.54E-08	1.29E-06	2.48E-01	4.80E-08	1.12E-06
Road 53	53	0400-0500	8.11E-02	2.04E-08	4.74E-07	7.10E-02	1.79E-08	4.15E-07	2.93E-01	7.37E-08	1.71E-06	2.54E-01	6.41E-08	1.49E-06
Road 53	53	0500-0600	8.99E-02	3.54E-08	8.23E-07	7.65E-02	3.02E-08	7.01E-07	3.23E-01	1.27E-07	2.96E-06	2.73E-01	1.08E-07	2.50E-06
Road 53	53	0600-0700	9.99E-02	8.72E-08	2.03E-06	8.45E-02	7.37E-08	1.71E-06	3.56E-01	3.11E-07	7.23E-06	2.99E-01	2.61E-07	6.07E-06
Road 53	53	0700-0800	1.13E-01	2.07E-07	4.80E-06	9.57E-02	1.75E-07	4.07E-06	4.01E-01	7.35E-07	1.71E-05	3.38E-01	6.17E-07	1.43E-05
Road 53	53	0800-0900	1.12E-01	2.31E-07	5.36E-06	9.47E-02	1.95E-07	4.53E-06	3.97E-01	8.20E-07	1.90E-05	3.34E-01	6.89E-07	1.60E-05
Road 53	53	0900-1000	1.20E-01	2.52E-07	5.87E-06	1.01E-01	2.14E-07	4.97E-06	4.01E-01	8.43E-07	1.96E-05	3.38E-01	7.09E-07	1.65E-05
Road 53	53	1000-1100	1.21E-01	2.51E-07	5.84E-06	1.02E-01	2.12E-07	4.93E-06	4.01E-01	8.32E-07	1.93E-05	3.38E-01	7.00E-07	1.63E-05
Road 53	53	1100-1200	1.30E-01	2.44E-07	5.67E-06	1.09E-01	2.06E-07	4.78E-06	4.01E-01	8.04E-07	1.87E-05	3.38E-01	6.80E-07	1.58E-05
Road 53	53	1200-1300	1.16E-01	2.72E-07	6.31E-06	9.84E-02	2.30E-07	5.35E-06	4.01E-01	9.41E-07	2.19E-05	3.38E-01	7.96E-07	1.85E-05
Road 53	53	1300-1400	1.15E-01	2.88E-07	6.69E-06	9.48E-02	2.38E-07	5.52E-06	3.35E-01	8.42E-07	1.96E-05	2.82E-01	7.09E-07	1.65E-05
Road 53	53	1400-1500	1.16E-01	2.86E-07	6.66E-06	9.57E-02	2.36E-07	5.49E-06	3.35E-01	8.26E-07	1.92E-05	2.82E-01	6.96E-07	1.62E-05
Road 53	53	1500-1600	1.06E-01	2.83E-07	6.57E-06	8.72E-02	2.32E-07	5.39E-06	4.01E-01	1.07E-06	2.49E-05	3.38E-01	9.01E-07	2.07E-05
Road 53	53	1600-1700	1.09E-01	2.88E-07	6.68E-06	9.06E-02	2.40E-07	5.57E-06	3.89E-01	1.03E-06	2.39E-05	3.22E-01	8.53E-07	1.98E-05
Road 53	53	1700-1800	8.31E-02	2.29E-07	5.32E-06	6.87E-02	1.89E-07	4.40E-06	3.48E-01	9.58E-07	2.22E-05	2.88E-01	7.93E-07	1.84E-05
Road 53	53	1800-1900	6.13E-02	1.57E-07	3.65E-06	5.23E-02	1.34E-07	3.12E-06	2.49E-01	6.37E-07	1.48E-05	2.11E-01	5.40E-07	1.25E-05
Road 53	53	1900-2000	5.36E-02	1.05E-07	2.43E-06	4.56E-02	8.91E-08	2.07E-06	2.15E-01	4.21E-07	9.77E-06	1.81E-01	3.53E-07	8.21E-06
Road 53	53	2000-2100	5.22E-02	6.99E-08	1.62E-06	4.45E-02	5.96E-08	1.38E-06	2.10E-01	2.81E-07	6.52E-06	1.77E-01	2.37E-07	5.50E-06
Road 53	53	2100-2200	5.03E-02	7.75E-08	1.80E-06	4.43E-02	6.83E-08	1.59E-06	2.13E-01	3.29E-07	7.65E-06	1.86E-01	2.87E-07	6.66E-06
Road 53	53	2200-2300	5.11E-02	3.38E-08	1.72E-06	4.47E-02	6.46E-08	1.50E-06	2.03E-01	2.93E-07	6.81E-06	1.75E-01	2.53E-07	5.87E-06
Road 53	53	2300-0000	5.29E-02	2.53E-08	1.28E-07	4.63E-02	2.21E-08	1.12E-07	1.93E-01	9.24E-08	4.74E-07	1.68E-01	8.04E-08	4.13E-07
Road 54	54	0000-0100	5.71E-02	5.09E-08	1.16E-06	4.95E-02	4.41E-08	1.01E-06	2.18E-01	1.94E-07	4.44E-06	1.87E-01	1.66E-07	3.79E-06
Road 54	54	0100-0200	5.75E-02	3.42E-08	7.79E-07	4.97E-02	2.95E-08	6.73E-07	2.19E-01	1.30E-07	2.96E-06	1.87E-01	1.11E-07	2.53E-06
Road 54	54	0200-0300	6.08E-02	2.72E-08	6.17E-07	5.24E-02	2.34E-08	5.32E-07	2.30E-01	1.03E-07	2.33E-06	2.00E-01	8.90E-08	2.03E-06
Road 54	54	0300-0400	6.10E-02	2.20E-08	5.01E-07	5.33E-02	1.92E-08	4.38E-07	2.30E-01	8.29E-08	1.89E-06	1.99E-01	7.16E-08	1.63E-06
Road 54	54	0400-0500	6.78E-02	2.74E-08	6.25E-07	5.83E-02	2.36E-08	5.38E-07	2.53E-01	1.03E-07	2.34E-06	2.16E-01	8.72E-08	1.99E-06
Road 54	54	0500-0600	7.42E-02	3.52E-08	8.02E-07	6.37E-02	3.02E-08	6.89E-07	2.76E-01	1.31E-07	2.98E-06	2.36E-01	1.12E-07	2.55E-06
Road 54	54	0600-0700	8.81E-02	3.31E-08	7.55E-07	7.56E-02	2.84E-08	6.48E-07	3.28E-01	1.23E-07	2.81E-06	2.80E-01	1.05E-07	2.40E-06
Road 54	54	0700-0800	9.61E-02	7.93E-08	1.81E-06	8.25E-02	6.80E-08	1.55E-06	3.58E-01	2.95E-07	6.73E-06	3.05E-01	2.52E-07	5.74E-06
Road 54	54	0800-0900	9.24E-02	1.96E-07	4.47E-06	7.93E-02	1.68E-07	3.84E-06	3.44E-01	7.30E-07	1.66E-05	2.93E-01	6.21E-07	1.42E-05
Road 54	54	0900-1000	9.78E-02	2.23E-07	5.09E-06	8.39E-02	1.91E-07	4.37E-06	3.64E-01	8.30E-07	1.89E-05	3.10E-01	7.07E-07	1.61E-05
Road 54	54	1000-1100	9.94E-02	2.31E-07	5.26E-06	8.53E-02	1.98E-07	4.52E-06	3.70E-01	8.60E-07	1.96E-05	3.15E-01	7.32E-07	1.67E-05
Road 54	54	1100-1200	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1200-1300	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1300-1400	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1400-1500	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1500-1600	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1600-1700	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1700-1800	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1800-1900	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	1900-2000	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	2000-2100	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	2100-2200	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	2200-2300	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05
Road 54	54	2300-0000	1.04E-01	2.42E-07	5.52E-06	8.94E-02	2.08E-07	4.74E-06	3.88E-01	9.01E-07	2.05E-05	3.30E-01	7.67E-07	1.75E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May) — Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 54	54	0800-0900	9.52E-02	3.55E-07	8.10E-06	8.04E-02	3.00E-07	6.84E-06	3.35E-01	1.31E-06	3.00E-05	2.96E-01	1.10E-06	2.52E-05
Road 54	54	0900-1000	1.07E-01	3.84E-07	8.75E-06	9.05E-02	3.25E-07	7.42E-06	3.98E-01	1.43E-06	3.26E-05	3.35E-01	1.21E-06	2.75E-05
Road 54	54	1000-1100	1.19E-01	3.95E-07	9.00E-06	1.02E-01	3.38E-07	7.72E-06	4.23E-01	1.40E-06	3.20E-05	3.61E-01	1.20E-06	2.73E-05
Road 54	54	1100-1200	1.18E-01	3.68E-07	8.41E-06	9.85E-02	3.06E-07	7.00E-06	4.22E-01	1.32E-06	3.02E-05	3.52E-01	1.10E-06	2.52E-05
Road 54	54	1200-1300	1.48E-01	3.20E-07	7.29E-06	1.23E-01	2.67E-07	6.08E-06	5.03E-01	1.09E-06	2.49E-05	4.19E-01	9.08E-07	2.07E-05
Road 54	54	1300-1400	1.44E-01	3.41E-07	7.78E-06	1.19E-01	2.81E-07	6.42E-06	5.14E-01	1.22E-06	2.78E-05	4.23E-01	1.00E-06	2.29E-05
Road 54	54	1400-1500	1.46E-01	3.51E-07	8.00E-06	1.21E-01	2.90E-07	6.62E-06	5.09E-01	1.22E-06	2.78E-05	4.32E-01	1.01E-06	2.29E-05
Road 54	54	1500-1600	1.34E-01	3.31E-07	7.54E-06	1.10E-01	2.72E-07	6.19E-06	5.09E-01	1.26E-06	2.88E-05	4.17E-01	1.03E-06	2.36E-05
Road 54	54	1600-1700	1.40E-01	3.31E-07	7.54E-06	1.16E-01	2.76E-07	6.28E-06	4.95E-01	1.17E-06	2.68E-05	4.12E-01	9.75E-07	2.22E-05
Road 54	54	1700-1800	1.54E-01	3.15E-07	4.39E-06	1.27E-01	2.60E-07	3.62E-06	4.98E-01	1.02E-06	1.42E-05	4.14E-01	8.60E-07	1.96E-05
Road 54	54	1800-1900	9.23E-02	1.73E-07	3.94E-06	7.89E-02	1.48E-07	3.37E-06	3.71E-01	6.96E-07	1.59E-05	3.16E-01	5.92E-07	1.35E-05
Road 54	54	1900-2000	9.23E-02	1.03E-07	2.46E-06	7.94E-02	8.86E-08	2.12E-06	3.32E-01	3.71E-07	8.87E-06	2.84E-01	3.18E-07	7.60E-06
Road 54	54	2000-2100	8.13E-02	8.04E-08	1.83E-06	7.02E-02	6.94E-08	1.58E-06	2.93E-01	2.90E-07	6.62E-06	2.51E-01	2.48E-07	5.66E-06
Road 54	54	2100-2200	7.79E-02	5.42E-08	1.24E-06	6.73E-02	4.68E-08	1.07E-06	2.81E-01	1.95E-07	4.46E-06	2.41E-01	1.67E-07	3.82E-06
Road 54	54	2200-2300	8.13E-02	8.04E-08	1.83E-06	7.12E-02	7.04E-08	1.60E-06	3.00E-01	2.96E-07	6.75E-06	2.60E-01	2.57E-07	5.87E-06
Road 54	54	2300-0000	8.16E-02	6.38E-08	1.45E-06	7.15E-02	5.59E-08	1.28E-06	3.01E-01	2.35E-07	5.37E-06	2.61E-01	2.04E-07	4.66E-06
Road 101	101	0000-0100	6.30E-03	7.21E-08	2.85E-06	5.41E-03	6.18E-08	2.45E-06	4.20E-02	4.80E-07	1.90E-05	3.44E-02	3.93E-07	1.56E-05
Road 101	101	0100-0200	6.88E-03	5.14E-08	2.04E-06	5.97E-03	4.46E-08	1.76E-06	4.34E-02	3.24E-07	1.28E-05	3.60E-02	2.69E-07	1.07E-05
Road 101	101	0200-0300	7.56E-03	4.16E-08	1.64E-06	6.56E-03	3.61E-08	1.42E-06	4.77E-02	2.62E-07	1.03E-05	3.95E-02	2.17E-07	8.58E-06
Road 101	101	0300-0400	8.21E-03	3.56E-08	1.41E-06	7.11E-03	3.09E-08	1.22E-06	4.73E-02	2.05E-07	8.13E-06	3.93E-02	1.71E-07	6.76E-06
Road 101	101	0400-0500	9.01E-03	4.31E-08	1.71E-06	7.69E-03	3.68E-08	1.46E-06	5.02E-02	2.40E-07	9.50E-06	4.10E-02	1.96E-07	7.77E-06
Road 101	101	0500-0600	1.03E-02	5.29E-08	2.09E-06	8.76E-03	4.51E-08	1.78E-06	5.26E-02	2.71E-07	1.07E-05	4.26E-02	2.19E-07	8.66E-06
Road 101	101	0600-0700	1.11E-02	4.03E-07	1.60E-05	9.44E-03	3.43E-07	1.36E-05	5.61E-02	2.04E-06	8.08E-05	4.60E-02	1.67E-06	6.62E-05
Road 101	101	0700-0800	1.08E-02	4.56E-07	1.81E-05	9.15E-03	3.87E-07	1.53E-05	5.18E-02	2.19E-06	8.70E-05	4.27E-02	1.81E-06	7.16E-05
Road 101	101	0800-0900	1.08E-02	4.24E-07	1.68E-05	9.15E-03	3.58E-07	1.42E-05	5.18E-02	2.03E-06	8.06E-05	4.27E-02	1.67E-06	6.63E-05
Road 101	101	0900-1000	1.43E-02	4.45E-07	1.76E-05	1.23E-02	3.83E-07	1.52E-05	6.24E-02	1.95E-06	7.72E-05	5.25E-02	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAvg		MonthlyHourMin		MonthlyHourAvg	
			g/km/veh	g/s/m	tonne/hour	tonne/day	g/km/veh	g/s/m	tonne/hour	tonne/day
Road 17	17	1600-1700	5.99E-02	1.56E-05	1.05E-03	1.31E-04	3.88E-02	1.01E-05	6.83E-04	8.53E-05
Road 17	17	1700-1800	4.08E-02	1.10E-05	3.21E-05	3.42E-02	9.22E-02	2.69E-05	1.67E-03	1.75E-02
Road 17	17	1800-1900	2.16E-02	5.52E-06	1.61E-05	1.92E-02	4.90E-02	1.43E-05	9.25E-04	2.36E-06
Road 17	17	1900-2000	1.28E-02	3.24E-06	7.20E-06	1.14E-02	2.20E-02	6.43E-06	6.03E-04	1.16E-03
Road 17	17	2000-2100	1.10E-02	1.66E-07	4.86E-06	9.56E-03	1.44E-02	4.21E-06	5.75E-02	8.67E-04
Road 17	17	2100-2200	1.06E-02	1.60E-07	4.67E-06	9.20E-03	1.39E-02	4.06E-06	5.63E-02	8.50E-04
Road 17	17	2200-2300	1.09E-02	3.22E-06	9.23E-06	1.32E-02	3.87E-02	5.72E-06	7.55E-02	2.21E-05
Road 17	17	2300-0000	1.11E-02	1.21E-07	3.55E-06	1.01E-02	5.92E-02	1.73E-05	4.84E-02	5.31E-04
Road 18	18	0000-0100	6.97E-03	1.80E-06	6.13E-03	4.05E-08	1.58E-06	4.08E-02	2.70E-07	1.05E-05
Road 18	18	0100-0200	7.32E-03	1.89E-06	6.23E-03	4.25E-08	1.66E-06	4.28E-02	2.83E-07	1.10E-05
Road 18	18	0200-0300	8.62E-03	2.76E-08	1.08E-06	7.61E-03	2.44E-08	9.52E-07	4.46E-02	1.43E-07
Road 18	18	0300-0400	9.49E-03	2.42E-08	9.47E-07	8.34E-03	2.13E-08	8.31E-07	4.67E-02	1.19E-07
Road 18	18	0400-0500	9.90E-03	2.56E-06	1.00E-03	8.70E-03	2.44E-06	9.55E-04	4.88E-02	1.26E-05
Road 18	18	0500-0600	1.00E-02	4.84E-08	1.89E-06	8.75E-03	4.23E-08	1.65E-06	4.93E-02	2.01E-07
Road 18	18	0600-0700	1.03E-02	1.06E-07	4.14E-06	9.01E-03	9.30E-08	3.63E-06	5.07E-02	5.23E-07
Road 18	18	0700-0800	1.15E-02	2.98E-06	9.78E-06	1.26E-02	3.26E-02	4.56E-06	4.53E-02	1.49E-05
Road 18	18	0800-0900	1.13E-02	2.76E-07	1.08E-05	9.72E-03	2.37E-07	9.27E-06	3.30E-02	1.28E-06
Road 18	18	0900-1000	1.34E-02	2.78E-07	1.08E-05	1.11E-02	2.30E-07	9.00E-06	6.18E-02	1.28E-06
Road 18	18	1000-1100	1.54E-02	1.27E-07	1.09E-05	1.32E-02	1.09E-07	9.34E-06	6.22E-02	5.14E-07
Road 18	18	1100-1200	1.46E-02	2.51E-07	9.82E-06	1.22E-02	2.10E-07	8.22E-06	6.13E-02	1.05E-06
Road 18	18	1200-1300	2.01E-02	4.09E-07	1.60E-05	1.70E-02	3.45E-07	1.35E-05	6.65E-02	1.35E-06
Road 18	18	1300-1400	2.06E-02	2.40E-07	1.72E-05	1.73E-02	2.01E-07	1.44E-05	6.71E-02	7.81E-07
Road 18	18	1400-1500	2.08E-02	4.43E-07	1.81E-05	1.75E-02	3.72E-07	1.52E-05	6.78E-02	1.44E-06
Road 18	18	1500-1600	1.89E-02	4.33E-07	1.69E-05	1.59E-02	3.65E-07	1.42E-05	6.89E-02	1.58E-06
Road 18	18	1600-1700	1.93E-02	4.53E-07	1.77E-05	1.63E-02	3.81E-07	1.49E-05	7.15E-02	1.68E-06
Road 18	18	1700-1800	1.83E-02	4.38E-07	1.44E-05	1.54E-02	3.69E-07	1.21E-05	7.12E-02	1.70E-06
Road 18	18	1800-1900	1.03E-02	2.60E-07	1.01E-05	9.12E-03	2.30E-07	8.93E-06	4.27E-02	1.07E-06
Road 18	18	1900-2000	8.90E-03	1.72E-07	6.73E-06	7.84E-03	1.52E-07	5.94E-06	4.45E-02	8.61E-07
Road 18	18	2000-2100	8.77E-03	1.23E-07	4.82E-06	7.71E-03	1.08E-07	4.25E-06	4.38E-02	6.16E-07
Road 18	18	2100-2200	8.16E-03	1.23E-07	4.82E-06	7.11E-03	1.08E-07	4.20E-06	4.67E-02	7.07E-07
Road 18	18	2200-2300	8.04E-03	1.17E-07	4.56E-06	7.06E-03	1.02E-07	3.98E-06	4.60E-02	6.71E-07
Road 18	18	2300-0000	7.78E-03	1.13E-07	4.41E-06	6.83E-03	1.00E-07	3.90E-06	4.45E-02	6.49E-07
Road 19	19	0000-0100	8.58E-03	7.48E-08	2.16E-06	7.57E-03	6.60E-08	1.90E-06	4.64E-02	4.05E-07
Road 19	19	0100-0200	9.45E-03	5.43E-08	1.57E-06	8.28E-03	4.77E-08	1.37E-06	5.09E-02	2.93E-07
Road 19	19	0200-0300	9.43E-03	1.38E-08	5.98E-07	8.26E-03	1.21E-08	5.25E-07	5.08E-02	7.44E-08
Road 19	19	0300-0400	1.12E-02	3.82E-08	1.10E-06	9.82E-03	3.36E-08	9.67E-07	5.27E-02	1.84E-07
Road 19	19	0400-0500	1.17E-02	4.42E-08	1.27E-06	1.03E-02	3.89E-08	1.12E-06	5.41E-02	2.13E-07
Road 19	19	0500-0600	1.20E-02	5.92E-08	1.70E-06	1.05E-02	5.21E-08	1.50E-06	5.54E-02	2.85E-07
Road 19	19	0600-0700	1.25E-02	1.77E-07	5.10E-06	1.10E-02	1.56E-07	4.49E-06	5.82E-02	8.38E-07
Road 19	19	0700-0800	1.42E-02	4.12E-07	1.19E-05	1.24E-02	3.62E-07	1.04E-05	6.59E-02	1.94E-06
Road 19	19	0800-0900	1.44E-02	3.80E-07	1.48E-05	1.26E-02	3.34E-07	1.30E-05	6.70E-02	1.79E-06
Road 19	19	0900-1000	1.67E-02	4.98E-07	1.43E-05	1.38E-02	4.12E-07	1.19E-05	7.72E-02	2.30E-06
Road 19	19	1000-1100	1.90E-02	5.08E-07	1.46E-05	1.56E-02	4.26E-07	1.23E-05	8.75E-02	2.34E-06
Road 19	19	1100-1200	1.84E-02	5.28E-07	1.97E-05	1.50E-02	4.39E-07	1.64E-05	8.41E-02	2.46E-06
Road 19	19	1200-1300	2.34E-02	5.38E-07	1.55E-05	1.97E-02	4.53E-07	1.30E-05	1.09E-01	2.51E-06
Road 19	19	1300-1400	2.43E-02	5.98E-07	1.72E-05	2.02E-02	4.96E-07	1.43E-05	1.13E-01	2.77E-06
Road 19	19	1400-1500	2.48E-02	6.13E-07	1.76E-05	2.06E-02	5.08E-07	1.46E-05	1.15E-01	2.84E-06
Road 19	19	1500-1600	2.22E-02	5.81E-07	1.67E-05	1.87E-02	4.90E-07	1.41E-05	1.04E-01	2.72E-06
Road 19	19	1600-1700	2.28E-02	5.97E-07	1.72E-05	1.92E-02	5.04E-07	1.45E-05	1.07E-01	2.80E-06
Road 19	19	1700-1800	2.14E-02	5.61E-07	1.61E-05	1.80E-02	4.73E-07	1.36E-05	1.00E-01	2.62E-06
Road 19	19	1800-1900	1.24E-02	3.18E-07	9.16E-06	1.10E-02	2.82E-07	8.12E-06	5.76E-02	1.48E-06
Road 19	19	1900-2000	1.08E-02	2.10E-07	6.04E-06	9.58E-03	1.86E-07	5.34E-06	5.27E-02	1.02E-06
Road 19	19	2000-2100	1.07E-02	1.50E-07	4.32E-06	9.47E-03	1.33E-07	3.82E-06	5.21E-02	7.33E-07
Road 19	19	2100-2200	1.02E-02	1.55E-07	4.47E-06	9.04E-03	1.37E-07	3.95E-06	4.97E-02	7.53E-07
Road 19	19	2200-2300	1.02E-02	1.47E-07	4.23E-06	9.04E-03	1.30E-07	3.74E-06	4.97E-02	7.13E-07
Road 19	19	2300-0000	9.77E-03	1.42E-07	4.09E-06	8.65E-03	1.26E-07	3.62E-06	4.76E-02	6.91E-07
Road 20	20	0000-0100	3.53E-02	3.72E-08	6.86E-07	3.14E-02	3.31E-08	6.10E-07	1.27E-02	2.34E-06
Road 20	20	0100-0200	3.66E-02	2.66E-08	4.90E-07	3.22E-02	2.34E-08	4.32E-07	1.40E-02	2.58E-06
Road 20	20	0200-0300	3.74E-02	2.10E-08	3.88E-07	3.32E-02	1.86E-08	3.44E-07	1.43E-02	2.64E-06
Road 20	20	0300-0400	3.85E-02	1.81E-08	3.33E-07	3.40E-02	1.59E-08	2.94E-07	1.46E-02	2.69E-06
Road 20	20	0400-0500	3.93E-02	2.13E-08	3.92E-07	3.48E-02	1.88E-08	3.46E-07	1.49E-02	2.74E-06
Road 20	20	0500-0600	4.03E-02	3.98E-08	7.33E-07	3.55E-02	3.50E-08	6.46E-07	1.52E-02	2.76E-06
Road 20	20	0600-0700	4.44E-02	1.82E-07	3.35E-06	3.92E-02	1.60E-07	2.96E-06	1.68E-02	3.09E-06
Road 20	20	0700-0800	5.12E-02	2.40E-07	4.43E-06	4.36E-02	2.04E-07	3.77E-06	1.89E-02	3.49E-06
Road 20	20	0800-0900	5.20E-02	2.91E-07	5.36E-06	4.49E-02	2.51E-07	4.63E-06	1.94E-02	3.58E-06
Road 20	20	0900-1000	5.79E-02	5.35E-07	1.58E-05	5.01E-02	4.63E-07	1.37E-05	2.17E-02	6.41E-06
Road 20	20	1000-1100	6.34E-02	3.64E-07	6.72E-06	5.35E-02	3.08E-07	5.67E-06	2.29E-02	4.23E-06
Road 20	20	1100-1200	5.95E-02	3.21E-07	5.91E-06	5.01E-02	2.70E-07	4.98E-06	2.15E-02	3.96E-06
Road 20	20	1200-1300	6.87E-02	3.18E-07	5.87E-06	5.79E-02	2.68E-07	4.95E-06	2.48E-02	3.94E-06
Road 20	20	1300-1400	6.31E-02	3.59E-07	6.62E-06	5.26E-02	2.99E-07	5.52E-06	2.30E-02	4.24E-06
Road 20	20	1400-1500	6.52E-02	3.71E-07	6.84E-06	5.41E-02	3.08E-07	5.67E-06	2.31E-02	4.24E-06
Road 20	20	1500-1600	5.72E-02	3.30E-07	6.25E-06	4.86E-02	2.80E-07	5.31E-06	2.04E-02	3.87E-06
Road 20	20	1600-1700	5.87E-02	3.28E-07	6.05E-06	4.90E-02	2.74E-07	5.05E-06	2.04E-02	3.77E-06
Road 20	20	1700-1800	4.92E-02	2.59E-07	4.77E-06	4.13E-02	2.18E-07	4.01E-06	2.02E-02	3.72E-06
Road 20	20	1800-1900	3.69E-02	2.49E-07	2.76E-06	3.26E-02	2.13E-07	2.37E-06	1.64E-02	1.22E-06
Road 20	20	1900-2000	3.37E-02	9.46E-08	1.74E-06	2.95E-02	8.29E-08	1.53E-06	1.40E-02	7.25E-07
Road 20	20	2000-2100	3.27E-02	7.26E-08	1.34E-06	2.84E-02	6.31E-08	1.16E-06	1.42E-02	7.87E-07
Road 20	20	2100-2200	3.30E-02	4.98E-08	1.17E-06	2.87E-02	4.33E-08	1.02E-06	1.43E-02	7.87E-07
Road 20	20	2200-2300	3.33E-02	6.76E-08	1.25E-06	2.93E-02	5.98E-08	1.10E-06	1.30E-02	6.61E-07
Road 20	20	2300-0000	3.45E-02	5.61E-08	1.03E-06	3.05E-02	4.95E-08	9.13E-07	1.33E-02	6.17E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAvg		MonthlyHourMin		MonthlyHourAvg	
			g/km/veh	g/s/m	tonne/hour	tonne/day	g/km/veh	g/s/m	tonne/hour	tonne/day
Road 31	31	0000-0100	1.53E-02	3.29E-08	1.20E-07	1.07E-06	4.85E-02	1.04E-07	9.32E-07	9.32E-07
Road 31	31	0100-0200	1.81E-02	2.70E-08	2.41E-07	1.59E-02	3.27E-02	7.90E-08	7.06E-07	7.06E-07
Road 31	31	0200-0300	2.08E-02	2.42E-08	2.16E-07	1.81E-02	2.11E-08	6.88E-02	5.72E-02	5.95E-07
Road 31	31	0300-0400	2.27E-02	1.98E-08	2.01E-07	1.96E-02	1.75E-07	6.09E-02	6.82E-02	5.03E-07
Road 31	31	0400-0500	2.28E-02	2.42E-08	2.17E-07	1.98E-02	2.11E-08	6.49E-08	5.80E-07	8.72E-07
Road 31	31	0500-0600	1.95E-02	3.34E-08	2.99E-07	1.70E-02	2.92E-08	6.61E-08	5.70E-02	9.76E-08
Road 31	31	0600-0700	1.74E-02	6.26E-08	5.41E-07	1.52E-02	5.25E-08	7.55E-07	2.21E-06	1.71E-06
Road 31	31	0700-0800	2.09E-02	1.57E-07	1.41E-06	1.79E-02	1.35E-07	5.42E-08	4.85E-06	6.05E-02
Road 31	31	0800-0900	1.97E-02	1.70E-07	1.52E-06	1.69E-02	1.45E-07	5.30E-08	5.26E-06	5.77E-02
Road 31	31	0900-1000	2.29E-02	1.38E-07	1.24E-06	1.96E-02	1.18E-07	5.26E-08	5.72E-06	4.97E-07
Road 31	31	1000-1100	2.51E-02	1.84E-07	1.66E-06	2.09E-02	1.53E-07	5.37E-08	6.23E-06	5.54E-06
Road 31	31	1100-1200	2.46E-02	1.71E-07	1.53E-06	2.09E-02	1.45E-07	5.08E-08	6.09E-06	4.72E-07
Road 31	31	1200-1300	3.12E-02	1.91E-07	1.72E-06	2.64E-02	1.62E-07	5.66E-08	7.72E-06	5.01E-07
Road 31	31	1300-1400	2.33E-02	1.35E-07	1.21E-06	1.98E-02	1.15E-07	4.26E-02	3.73E-07	3.33E-06
Road 31	31	1400-1500	2.93E-02	1.39E-07	1.25E-06	2.49E-02	1.18E-07	4.36E-02	4.06E-07	3.64E-06
Road 31	31	1500-1600	2.08E-02	1.41E-07	1.27E-06	1.77E-02	1.20E-07	4.43E-02	3.44E-07	3.10E-06
Road 31	31	1600-1700	2.54E-02	1.68E-07	1.51E-06	2.16E-02	1.43E-07	5.18E-02	4.62E-07	4.16E-06
Road 31	31	1700-1800	2.16E-02	1.46E-07	1.31E-06	1.84E-02	1.24E-07	4.48E-02	3.93E-07	3.54E-06
Road 31	31	1800-1900	1.36E-02	1.04E-07	9.36E-07	1.16E-02	8.84E-08	3.82E-02	2.47E-07	2.22E-06
Road 31	31	1900-2000	1.19E-02	1.06E-07	9.54E-07	1.01E-02	9.02E-08	3.84E-02	2.16E-07	1.94E-06
Road 31	31	2000-2100	1.16E-02	1.42E-07	1.28E-06	9.89E-03	1.21E-07	3.84E-02	2.11E-07	1.90E-06
Road 31	31	2100-2200	1.12E-02	1.28E-07	1.15E-06	9.56E-03	1.09E-07	3.84E-02	2.04E-07	1.84E-06
Road 31	31	2200-2300	1.19E-02	1.28E-07	1.15E-06	1.01E-02	1.09E-07	3.84E-02	2.16E-07	1.94E-06
Road 31	31	2300-0000	1.21E-02	1.28E-07	1.15E-06	1.03E-02	1.09E-07	3.84E-02	2.20E-07	1.98E-06
Road 32	32	0000-0100	1.02E-02	6.77E-08	1.21E-06	9.03E-02	6.01E-08	1.07E-06	3.71E-01	2.47E-07
Road 32	32	0100-0200	1.04E-02	5.81E-08	1.04E-06	9.18E-02	5.13E-08	9.16E-07	3.78E-01	2.11E-07
Road 32	32	0200-0300	1.05E-02	2.06E-08	1.24E-07	9.28E-02	1.82E-08	1.09E-07	3.82E-01	7.50E-08
Road 32	32	0300-0400	1.06E-02	1.46E-07	2.61E-06	9.38E-02	1.29E-07	2.31E-06	3.86E-01	5.31E-07
Road 32	32	0400-0500	1.07E-02	1.47E-07	2.63E-06	9.47E-02	1.30E-07	2.32E-06	3.90E-01	5.36E-07
Road 32	32	0500-0600	1.08E-02	1.49E-07	2.66E-06	9.56E-02	1.31E-07	2.35E-06	3.94E-01	5.41E-07
Road 32	32	0600-0700	1.14E-02	8.41E-08	5.58E-06	9.91E-03	7.30E-08	4.85E-06	4.27E-02	2.83E-07
Road 32	32	0700-0800	1.25E-02	7.84E-08	1.52E-06	1.09E-02	6.81E-08	3.44E-05	3.91E-02	2.46E-07
Road 32	32	0800-0900	1.27E-02	6.73E-08	7.84E-07	1.52E-02	8.07E-08	3.44E-05	3.91E-02	2.11E-07
Road 32	32	0900-1000	1.54E-02	1.27E-07	1.09E-05	1.34E-02	1.10E-07	9.34E-06	6.22E-02	5.14E-07
Road 32	32	1000-1100	1.54E-02	1.27E-07	1.09E-05	1.34E-02	1.10E-07	9.34E-06	6.22E-02	5.14E-07
Road 32	32	1100-1200	1.46E-02	2.51E-07	9.82E-06	1.22E-02	2.10E-07	8.22E-06	6.13E-02	1.05E-06
Road 32	32	1200-1300	2.01E-02	4.09E-07	1.60E-05	1.70E-02	3.45E-07	1.35E-05	6.65E-02	1.35E-06
Road 32	32	1300-1400	2.06E-02	2.40E-07	1.72E-05	1.73E-02	2.01E-07	1.44E-05	6.71E-02	7.81E-07
Road 32	32	1400-1500	2.08E-02	4.43E-07	1.81E-05	1.75E-02	3.72E-07	1.52E-05	6.78E-02	1.44E-06
Road 32	32	1500-1600	1.89E-02	4.33E-07	1.69E-05	1.59E-02	3.65E-07	1.42E-05	6.89E-02	1.58E-06
Road 32	32	1600-1700	1.93E-02	4.53E-07	1.77E-05	1.63E-02	3.81E-07	1.49E-05	7.15E-02	1.68E-06
Road 32	32	1700-1800	1.83E-02	4.38E-07	1.44E-05	1.54E-02	3.69E-07	1.21E-05	7.12E-02	1.70E-06
Road 32	32	1800-1900	1.03E-02	2.60E-07	1.01E-05	9.12E-03	2.30E-07	8.93E-06	4.27E-02	1.07E-06
Road 32	32	1900-2000	8.90E-03	1.72E-07	6.73E-06	7.84E-03	1.52E-07	5.94E-06	4.45E-02	8.61E-07
Road 32	32	2000-2100	8.77E-03	1.23E-07	4.82E-06	7.71E-03	1.08E-07	4.25E-06	4.38E-02	6.16E-07
Road 32	32	2100-2200	8.16E-03	1.23E-07	4.82E-06	7.11E-03	1.08E-07	4.20E-06	4.67E-02	7.07E-07
Road 32	32	2200-2300	8.04E-03	1.17E-07	4.56E-06	7.06E-03	1.02E-07	3.98E-06	4.60E-02	6.71E-07
Road 32	32	2300-0000	7.78E-03	1.13E-07	4.41E-06	6.83E-03	1.00E-07	3.90E-06	4.45E-02	6.49E-07
Road 32	32	0000-0100	1.02E-02	6.77E-08	1.21E-06	9.03E-02	6.01E-08	1.07E-06	3.71E-01	2.47E-07
Road 32	32	0100-0200	1.04E-02	5.81E-08	1.04E-06	9.18E-02	5.13E-08	9.16E-07	3.78E-01	2.11E-07
Road 32	32	0200-0300	1.05E-02	2.06E-08	1.24E-07	9.28E-02	1.82E-08	1.09E-07	3.82E-01	7.50E-08
Road 32	32	0300-0400	1.06E-02	1.46E-07	2.61E-06	9.38E-02	1.29E-07	2.31E-06	3.86E-01	5.31E-07
Road 32	32	0400-0500	1.07E-02	1.47E-07	2.63E-06	9.47E-02	1.30E-07	2.32E-06	3.90E-01	5.36E-07
Road 32	32	0500-0600	1.08E-02	1.49E-07	2.66E-06	9.56E-02	1.31E-07	2.35E-06	3.94E-01	5.41E-07
Road 32	32	0600-0700	1.14E-02	8.41E-08	5.58E-06	9.91E-03	7.30E-08	4.85E-06	4.27E-02	2.83E-07
Road 32	32	0700-0800	1.25E-02	7.84E-08	1.52E-06	1.09E-02	6.81E-08	3.44E-05	3.91E-02	2.46E-07
Road 32	32	0800-0900	1.27E-02	6.73E-08	7.84E-07	1.52E-02	8.07E-08	3.44E-05	3.91E-02	2.11E-07
Road 32	32	0900-1000	1.54E-02	1.27E-07	1.09E-05	1.34E-02	1.10E-07	9.34E-06	6.22E-02	5.14E-07
Road 32	32	1000-1100	1.54E-02	1.27E-07	1.09E-05	1.34E-02	1.10E-07	9.34E-06	6.22E-02	5.14E-07
Road 32	32	1100-1200	1.46E-02	2.51E-07	9.82E-06	1.22E-02	2.10E-07	8.22E-06	6.13E-02	1.05E-06
Road 32	32	1200-1300	2.01E-02	4.09E-07	1.60E-05	1.70E-02	3.45E-07	1.35E-05	6.65E-02	1.35E-06
Road 32	32	1300-1400	2.06E-02	2.40E-07	1.72E-05	1.73E-02	2.01E-07	1.44E-05	6.71E-02	7.81E-07
Road 32	32	1400-1500	2.08E-02	4.43E-07	1.81E-05	1.75E-02	3.72E-07	1.52E-05	6.78E-02	1.44E-06
Road 32	32	1500-1600	1.89E-02	4.33E-07	1.69E-05	1.59E-02	3.65E-07	1.42E-05	6.89E-02	1.58E-06
Road 32	32	1600-1700	1.93E-02	4.53E-07	1.77E-05	1.63E-02	3.81E-07	1.49E-05	7.15E-02	1.68E-06
Road 32	32	1700-1800	1.83E-02	4.38E-07	1.44E-05	1.54E-02	3.69E-07	1.21E-05	7.12E-02	1.70E-06
Road 32	32	1800-1900	1.03E-02	2.60E-07	1.01E-05	9.12E-03	2.30E-07	8.93E-06	4.27E-02	1.07E-06
Road 32	32	1900-2000	8.90E-03	1.72E-07	6.73E-06	7.84E-03	1.52E-07	5.94E-06	4.45E-02	8.61E-07
Road 32	32	2000-2100	8.77E-03	1.23E-07	4.82E-06	7.71E-03	1.08E-07	4.25E-06	4.38E-02	6.16E-07
Road 32	32	2100-2200	8.16E-03	1.23E-07	4.82E-06	7.11E-03	1.08E-07	4.20E-06	4.67E-02	7.07E-07
Road 32	32	2200-2300	8.04E-03	1.17E-07	4.56E-06	7.06E-03	1.02E-07	3.98E-06	4.60E-02	6.71E-07
Road 32	32	2300-0000	7.78E-03	1.13E-07	4.41E-06	6.83E-03	1.00E-07	3.90E-06	4.45E-02	6.49E-07
Road 33	33	0000-0100	1.53E-02	3.29E-08	1.20E-07	1.07E-06	4.85E-02	1.04E-07	9.32E-07	9.32E-07
Road 33	33	0100-0200	1.81E-02	2.70E-08	2.41E-07	1.59E-02	3.27E-02	7.90E-08	7.06E-07	7.06E-07
Road 33	33	0200-0300	2.08E-02	2.42E-08	2.16E-07	1.81E-02	2.11E-08	6.88E-02	5.72E-02	5.95E-07
Road 33	33	0300-0400	2.27E-02	1.98E-08	2.01E-07	1.96E-02	1.75E-07	6.09E-02	6.82E-02	5.03E-07
Road 33	33	0400-0500	2.28E-02	2.42E-08	2.17E-07	1.98E-02	2.11E-08	6.49E-08	5.80E-07	8.72E-07
Road 33	33	0500-0600	1.95E-02	3.34E-08	2.99E-07	1.70E-02	2.92E-08	6.61E-08	5.70E-02	9.76E-08
Road 33	33	0600-0700	1.74E-02	6.26E-08	5.41E-07	1.52E-02	5.25E-08	7.55E-07	2.21E-06	1.71E-06
Road 33	33	0700-0800	2.09E-02	1.57E-07	1.41E-06	1.79E-02	1.35E-07	5.42E-08	4.85E-06	6.05E-02
Road 33	33	0800-0900	1.97E-02	1.70E-07	1.52E-06	1.69E-02	1.45E-07	5.30E-08	5.26E-06	5.77E-02
Road 33	33	0900-1000	2.29E-02	1.38E-07	1.24E-06	1.96E-02	1.18E-07	5.26E-08	5.72E-06	4.97E-07
Road 33	33	1000-1100	2.51E-02	1.84E-07	1.66E-06	2.09E-02	1.53E-07	5.37E-08	6.23E-06	5.54E-06
Road 33	33	1100-1200	2.46E-02	1.71E-07	1.53E-06	2.09E-02	1.45E-07	5.08E-08	6.09E-06	4.72E-07
Road 33	33	1200-1300	3.12E-02	1.91E-07	1.72E-06	2.64E-02	1.62E-07	5.66E-08	7.72E-06	5.01E-07
Road 33	33	1300-1400	2.33E-02	1.35E-07	1.21E-06	1.98E-02	1.15E-07	4.26E-02	3.73E-07	3.33E-06
Road 33	33	1400-1500	2.93E-02	1.39E-07	1.25E-06	2.49E-02	1.18E-07	4.36E-02	4.06E-07	3.64E-06
Road 33	33	1500-1600	2.08E-02	1.41E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 44	44	0800-0900	8.47E-03	2.46E-07	1.52E-06	9.97E-03	5.60E-02	2.08E-05	1.01E-05	4.71E-02	1.73E-05
Road 44	44	0900-1000	9.76E-03	2.31E-07	1.42E-06	8.19E-03	1.94E-07	1.20E-06	4.83E-03	1.14E-06	7.05E-06
Road 44	44	1000-1100	1.11E-02	2.24E-07	1.38E-06	9.14E-03	1.86E-07	1.15E-06	5.10E-03	1.04E-06	6.42E-06
Road 44	44	1100-1200	1.03E-02	1.22E-07	8.68E-07	1.04E-02	4.97E-02	9.56E-06	5.92E-03	4.08E-02	7.88E-06
Road 44	44	1200-1300	1.29E-02	3.25E-07	2.01E-06	1.12E-02	2.77E-07	1.71E-06	5.63E-03	1.42E-06	8.75E-06
Road 44	44	1300-1400	1.32E-02	3.38E-07	2.09E-06	1.12E-02	2.87E-07	1.77E-06	5.93E-03	1.52E-06	9.41E-06
Road 44	44	1400-1500	1.33E-02	2.46E-06	1.21E-05	1.12E-02	1.63E-06	1.01E-05	5.96E-03	1.08E-06	6.71E-06
Road 44	44	1500-1600	1.27E-02	3.56E-07	2.20E-06	1.09E-02	3.06E-07	1.89E-06	6.10E-03	1.71E-06	1.06E-05
Road 44	44	1600-1700	1.69E-02	5.05E-07	3.12E-06	1.44E-02	4.31E-07	2.66E-06	7.04E-02	2.10E-06	1.30E-05
Road 44	44	1700-1800	1.78E-02	5.04E-07	3.12E-06	1.52E-02	4.30E-07	2.66E-06	7.43E-02	2.10E-06	1.30E-05
Road 44	44	1800-1900	1.84E-02	6.82E-07	4.21E-06	1.60E-02	5.93E-07	3.66E-06	1.82E-05	6.76E-02	2.51E-06
Road 44	44	1900-2000	5.82E-03	1.72E-07	1.06E-06	5.06E-03	1.49E-07	9.22E-07	3.43E-02	1.01E-06	6.25E-06
Road 44	44	2000-2100	5.50E-03	2.21E-07	1.36E-06	4.78E-03	1.92E-07	1.18E-06	3.24E-03	1.30E-06	8.03E-06
Road 44	44	2100-2200	4.84E-03	1.11E-07	6.84E-07	4.11E-03	9.39E-08	5.80E-07	4.97E-06	2.84E-02	6.50E-07
Road 44	44	2200-2300	4.00E-03	1.25E-07	7.71E-07	3.48E-03	1.08E-07	6.68E-07	4.12E-06	1.29E-06	7.97E-06
Road 44	44	2300-0000	4.68E-03	3.53E-08	4.35E-07	4.07E-03	3.06E-08	3.78E-07	4.82E-06	3.63E-07	4.48E-06
Road 45	45	0000-0100	4.68E-03	3.53E-08	4.35E-07	4.07E-03	3.06E-08	3.78E-07	4.82E-06	3.63E-07	4.48E-06
Road 45	45	0100-0200	5.14E-03	2.52E-08	3.10E-07	4.47E-03	2.19E-08	2.70E-07	5.29E-06	2.59E-07	3.20E-06
Road 45	45	0200-0300	5.65E-03	2.52E-08	3.10E-07	4.47E-03	2.19E-08	2.70E-07	5.82E-06	2.59E-07	3.20E-06
Road 45	45	0300-0400	6.03E-03	1.70E-08	2.09E-07	5.29E-03	1.49E-08	1.84E-07	5.29E-06	1.49E-07	1.84E-06
Road 45	45	0400-0500	6.63E-03	2.05E-08	2.52E-07	5.70E-03	1.76E-08	2.17E-07	5.92E-06	1.83E-07	2.25E-06
Road 45	45	0500-0600	7.03E-03	3.76E-08	4.63E-07	6.06E-03	3.24E-08	3.99E-07	6.30E-06	3.37E-07	4.15E-06
Road 45	45	0600-0700	8.52E-03	1.97E-07	2.43E-06	7.24E-03	1.67E-07	2.06E-06	4.61E-02	1.07E-06	3.31E-06
Road 45	45	0700-0800	8.23E-03	2.20E-07	2.71E-06	7.00E-03	1.87E-07	2.31E-06	4.37E-02	1.17E-06	3.70E-06
Road 45	45	0800-0900	8.46E-03	2.26E-07	2.78E-06	7.19E-03	1.92E-07	2.36E-06	4.49E-02	1.20E-06	3.79E-06
Road 45	45	0900-1000	1.07E-02	2.01E-07	2.47E-06	8.88E-03	1.67E-07	2.05E-06	5.06E-02	9.50E-07	1.17E-05
Road 45	45	1000-1100	1.07E-02	2.01E-07	2.47E-06	8.88E-03	1.67E-07	2.05E-06	5.06E-02	9.50E-07	1.17E-05
Road 45	45	1100-1200	9.93E-03	1.77E-07	2.17E-06	8.39E-03	1.49E-07	1.84E-06	5.02E-02	8.91E-07	1.10E-05
Road 45	45	1200-1300	1.24E-02	2.79E-07	3.43E-06	1.07E-02	2.41E-07	2.96E-06	5.61E-02	1.26E-06	1.55E-05
Road 45	45	1300-1400	1.25E-02	2.79E-07	3.43E-06	1.07E-02	2.37E-07	2.92E-06	5.66E-02	1.26E-06	1.55E-05
Road 45	45	1400-1500	1.28E-02	3.03E-07	3.73E-06	1.07E-02	2.53E-07	3.12E-06	5.72E-02	1.35E-06	1.66E-05
Road 45	45	1500-1600	1.28E-02	3.03E-07	3.73E-06	1.07E-02	2.53E-07	3.12E-06	5.72E-02	1.35E-06	1.66E-05
Road 45	45	1600-1700	1.27E-02	3.28E-07	4.04E-06	1.08E-02	2.79E-07	3.44E-06	5.77E-02	1.49E-06	1.84E-05
Road 45	45	1700-1800	1.03E-02	3.02E-07	3.72E-06	8.81E-03	2.58E-07	3.18E-06	4.69E-02	1.37E-06	1.69E-05
Road 45	45	1800-1900	1.03E-02	3.72E-07	4.58E-06	8.81E-03	3.18E-07	3.91E-06	4.69E-02	1.69E-06	2.08E-05
Road 45	45	1900-2000	5.67E-03	1.46E-07	1.80E-06	4.93E-03	1.27E-07	1.57E-06	3.36E-02	8.64E-07	1.06E-05
Road 45	45	2000-2100	5.39E-03	1.08E-07	1.33E-06	4.68E-03	9.38E-08	1.16E-06	3.20E-02	6.41E-07	7.90E-06
Road 45	45	2100-2200	4.47E-03	1.30E-08	1.60E-07	3.89E-03	1.13E-08	1.39E-07	2.65E-02	7.71E-08	9.50E-07
Road 45	45	2200-2300	4.44E-03	8.63E-08	1.06E-06	3.86E-03	7.51E-08	9.24E-07	3.29E-02	6.39E-07	7.87E-06
Road 45	45	2300-0000	4.88E-03	7.10E-08	8.73E-07	4.38E-03	6.37E-08	7.84E-07	3.29E-02	4.79E-07	5.90E-06
Road 46	46	0000-0100	5.09E-03	1.30E-08	2.41E-07	4.42E-03	1.13E-08	2.09E-07	3.52E-02	8.95E-08	1.66E-06
Road 46	46	0100-0200	5.09E-03	1.30E-08	2.41E-07	4.42E-03	1.13E-08	2.09E-07	3.52E-02	8.95E-08	1.66E-06
Road 46	46	0200-0300	5.61E-03	1.04E-08	1.94E-07	4.84E-03	8.99E-09	1.67E-07	3.69E-02	6.85E-08	1.27E-06
Road 46	46	0300-0400	5.61E-03	1.04E-08	1.94E-07	4.84E-03	8.99E-09	1.67E-07	3.69E-02	6.85E-08	1.27E-06
Road 46	46	0400-0500	6.62E-03	1.06E-08	1.97E-07	5.69E-03	9.14E-09	1.70E-07	3.96E-02	6.37E-08	1.18E-06
Road 46	46	0500-0600	7.02E-03	1.95E-08	3.63E-07	6.09E-03	3.15E-07	4.02E-07	4.12E-06	3.34E-07	9.30E-06
Road 46	46	0600-0700	8.46E-03	1.02E-07	1.89E-06	7.18E-03	8.64E-08	1.61E-06	4.47E-02	5.50E-07	1.02E-05
Road 46	46	0700-0800	8.46E-03	1.02E-07	1.89E-06	7.18E-03	8.64E-08	1.61E-06	4.47E-02	5.50E-07	1.02E-05
Road 46	46	0800-0900	8.09E-03	1.13E-07	2.10E-06	6.87E-03	9.59E-08	1.78E-06	4.09E-02	5.71E-07	1.06E-05
Road 46	46	0900-1000	1.08E-02	1.06E-07	1.96E-06	8.92E-03	8.76E-08	1.63E-06	5.06E-02	4.96E-07	9.22E-06
Road 46	46	1000-1100	1.08E-02	1.06E-07	1.96E-06	8.92E-03	8.76E-08	1.63E-06	5.06E-02	4.96E-07	9.22E-06
Road 46	46	1100-1200	1.00E-02	9.31E-08	1.73E-06	8.46E-03	7.87E-08	1.46E-06	4.02E-02	3.77E-07	7.01E-06
Road 46	46	1200-1300	1.24E-02	2.29E-07	4.26E-06	1.04E-02	1.92E-07	3.57E-06	4.44E-02	8.19E-07	1.52E-05
Road 46	46	1300-1400	1.30E-02	2.29E-07	4.26E-06	1.04E-02	1.92E-07	3.57E-06	4.44E-02	8.19E-07	1.52E-05
Road 46	46	1400-1500	9.51E-03	1.23E-07	2.29E-06	8.07E-03	1.04E-07	1.94E-06	3.88E-02	5.03E-07	9.34E-06
Road 46	46	1500-1600	9.84E-03	1.38E-07	2.56E-06	8.21E-03	1.15E-07	2.14E-06	3.84E-02	5.38E-07	9.99E-06
Road 46	46	1600-1700	5.17E-03	1.58E-07	2.93E-06	4.31E-03	1.32E-07	2.44E-06	5.02E-02	9.38E-07	1.74E-05
Road 46	46	1700-1800	1.02E-02	1.58E-07	2.93E-06	8.65E-03	1.34E-07	2.49E-06	4.63E-02	7.57E-07	1.40E-05
Road 46	46	1800-1900	4.53E-03	7.44E-08	1.38E-06	3.92E-03	6.45E-08	1.20E-06	2.54E-02	4.17E-07	7.75E-06
Road 46	46	1900-2000	4.32E-03	5.51E-08	1.02E-06	3.54E-03	4.52E-08	8.39E-07	2.54E-02	3.24E-07	6.02E-06
Road 46	46	2000-2100	3.52E-03	4.48E-08	8.32E-07	2.97E-03	3.78E-08	7.02E-07	3.24E-02	4.12E-07	7.66E-06
Road 46	46	2100-2200	3.52E-03	4.48E-08	8.32E-07	2.97E-03	3.78E-08	7.02E-07	3.24E-02	4.12E-07	7.66E-06
Road 46	46	2200-2300	2.62E-03	2.88E-08	5.38E-07	2.21E-03	2.43E-08	4.54E-07	2.41E-02	2.65E-07	4.95E-06
Road 46	46	2300-0000	3.68E-03	3.40E-08	6.32E-07	3.09E-03	2.86E-08	5.31E-07	2.68E-02	2.48E-07	4.60E-06
Road 47	47	0000-0100	9.23E-03	1.33E-08	4.14E-07	8.12E-03	1.17E-08	3.65E-07	5.20E-02	7.49E-08	2.33E-06
Road 47	47	0100-0200	1.03E-02	1.46E-08	4.62E-07	9.07E-03	1.29E-08	4.07E-07	5.81E-02	8.24E-08	2.61E-06
Road 47	47	0200-0300	1.08E-02	7.46E-09	2.33E-07	9.47E-03	6.55E-09	2.05E-07	6.07E-02	4.19E-08	1.31E-06
Road 47	47	0300-0400	1.08E-02	7.46E-09	2.33E-07	9.47E-03	6.55E-09	2.05E-07	6.07E-02	4.19E-08	1.31E-06
Road 47	47	0400-0500	1.17E-02	1.06E-08	5.06E-07	1.02E-02	9.25E-09	4.41E-07	6.57E-02	5.94E-08	2.83E-06
Road 47	47	0500-0600	1.17E-02	1.06E-08	5.06E-07	1.02E-02	9.25E-09	4.41E-07	6.57E-02	5.94E-08	2.83E-06
Road 47	47	0600-0700	1.18E-02	1.06E-08	5.06E-07	1.03E-02	9.25E-09	4.41E-07	6.62E-02	5.94E-08	2.83E-06
Road 47	47	0700-0800	1.18E-02	1.06E-08	5.06E-07	1.03E-02	9.25E-09	4.41E-07	6.62E-02	5.94E-08	2.83E-06
Road 47	47	0800-0900	8.44E-03	2.61E-07	9.35E-06	7.38E-03	2.28E-07	8.17E-06	4.24E-02	1.31E-06	4.69E-05
Road 47	47	0900-1000	9.85E-03	2.49E-07	8.91E-06	8.27E-03	2.09E-07	3.15E-06	4.79E-02	1.21E-06	1.83E-05
Road 47	47	1000-1100	1.06E-02	2.40E-07	8.58E-06	9.28E-03	2.02E-07	3.68E-06	5.28E-02	1.20E-06	1.83E-05
Road 47	47	1100-1200	1.05E-02	2.16E-07	3.26E-06	8.84E-03	1.83E-07	2.76E-06	5.02E-02	1.04E-06	1.57E-05
Road 47	47	1200-1300	1.88E-02	3.13E-07	4.72E-06	1.60E-02	2.67E-07	4.02E-06	6.81E-02	1.13E-06	1.71E-05
Road 47	47	1300-1400	1.89E-02	3.29E-07	4.96E-06	1.61E-02	2.80E-07	4.22E-06	7.07E-02	1.23E-06	1.85E-05
Road 47	47	1400-1500	1.89E-02	3.29E-07	4.96E-06	1.61E-02	2.80E-07	4.22E-06	7.07E-02	1.23E-06	1.85E-05
Road 47	47	1500-1600	1.75E-02	3.26E-07	4.91E-06	1.51E-02	2.77E-07	4.17E-06	6.51E-02	1.21E-06	1.82E-05
Road 47	47	1600-1700	1.75E-02	3.26E-07	4.91E-06	1.51E-02	2.77E-07	4.17E-06	6.51E-02	1.21E-06	1.82E-05
Road 47	47	1700-1800	1.68E-02	3.12E-07	4.70E-06	1.44E-02	2.65E-07	3.98E-06	6.23E-02	1.16E-06	1.74E-05
Road 47	47	1800-1900	1.68E-02	3.12E-07	4.70E-06	1.44E-02	2.65E-07	3.98E-06	6.23E-02	1.16E-06	1.74E-05
Road 47	47	1900-2000	1.04E-02	1.35E-07	3.42E-06	9.07E-03	1.18E-07	2.98E-06	5.26E-02	6.85E-07	1.73E-05
Road 47	47	2000-2100	7.39E-03	7.42E-08	1.87E-06	6.28E-03	6.30E-08	1.59E-06	4.96E-02	4.98E-07	1.26E-05
Road 47	47	2100-2200	6.97E-03	9.72E-08	2.46E-06	5.96E-03	8.31E-08	2.10E-06	4.63E-02	6.46E-07	1.63E-05
Road 47	47	2200-2300	6.97E-03	6.86E-08	1.73E-06	6.07E-03	5.97E-08	1.51E-06	4.70E-02	4.63E-07	1.17E-05
Road 47	47	2300-0000	6.97E-03	6.86E-08	1.73E-06	6.07E-03	5.97E-08	1.51E-06	4.70E-02	4.63E-07	1.17E-05
Road 48	48	0000-0100	5.04E-03	4.38E-08	6.60E-07	4.42E-03	3.84E-08	5.79E-07	3.47E-02	3.01E-07	4.54E-06
Road 48	48	0100-0200	5.31E-03	3.11E-08	4.68E-07	4.66E-03	2.73E-08	4.11E-07	3.66E-02	2.14E-07	3.22E-06
Road 48	48	0200-0300	6.03E-03	2.48E-08	3.75E-07	5.21E-03	2.15E-08	3.24E-07	3.76E-02	1.55E-07	2.34E-06
Road 48	48	0300-0400	6.41E-03	2.08E-08	3.14E-07	5.53E-03	1.80E-08	2.72E-07	3.99E-02	1.29E-07	1.96E-06
Road 48	48	0400-0500	6.74E-03	4.58E-08	6.92E-07	6.44E-03	3.98E-08	6.00E-07	4.09E-02	2.77E-07	4.18E-06
Road 48	48	0500-0600	7.43E-03	4.62E-08	6.98E-07	6.97E-03	9.21E-08	1.39E-06	4.29E-02	5.67E-07	8.56E-06
Road 48	48	0600-0700	8.03E-03	1.06E-07	1.60E-06	6.97E-03	9.21E-08	1.39E-06	4.29E-02	5.67E-07	8.56E-06
Road 48	48	0700-0800	8.03E-03	2.17E-07	3.27E-06	6.97E-03	1.88E-07	2.84E-06	4.29E-02	1.16E-06	1.75E-05
Road 48	48	0800-0900	8.44E-03	2.61E-07	3.93E-06	7.32E-03	2.26E-07	3.42E-06	4.51E-02	1.39E-06	2.11E-05
Road 48	48	0900-1000	9.85E-03	2.49E-07	3.76E-06	8.27E-03	2.09E-07	3.15E-06	4.79E-02	1.21E-06	1.83E-05
Road 48	48	1000-1100	1.06E-02	2.40E-07	3.62E-06	9.28E-03	2.02E-07	3.05E-06	5.28E-02	1.20E-06	1.81E-05
Road 48	48	1100-1200	1.05E-02	2.16E-07	3.26E-06	8.84E-03	1.83E-07	2.76E-06	5.02E-02	1.04E-06	1.57E-05
Road 48	48	1200-1300	1.88E-02	3.13E-07	4.72E-06	1.60E-02	2.67E-07	4.02E-06	6.81E-02	1.13E-06	1.71E-05
Road 48	48	1300-1400	1.89E-02	3.29E-07	4.96E-06	1.61E-02	2.80E-07	4.22E-06	7.07E-02	1.23E-06	1.85E-05
Road 48	48	1400-1500	1.89E-02	3.29E-07	4.96E-06	1.61E-02	2.80E-07	4.22E-06	7.07E-02	1.23E-06	1.85E-05
Road 48	48	1500-1600	1.75E-02	3.26E-07	4.91E-06	1.51E-02	2.77E-07	4.17E-06	6.51E-02	1.21E-06	1.82E-05
Road 48	48	1600-1700	1.75E-02	3.26E-07	4.91E-06	1.51E-02	2.77E-07	4.17E-06	6.51E-02	1.21E-06	1.82E-05
Road 48	48	1700-1800	1.68E-02	3.12E-07	4.70E-06	1.44E-02	2.65E-07	3.98E-06	6.23E-02	1.16E-06	1.74E-05
Road 48	48	1800-1900	1.04E-02	2.17E-07	3.28E-06	9.07E-03	1.85E-07	2.79E-06	5.26E-02	1.07E-06	1.62E-05
Road 48	48	1900-2000	9.67E-03	1.59E-07	2.40E-06	8.44E-03	1.39E-07	2.09E-06	4.89E-02	8.04E-07	1.21E-05
Road 48	48	2000-2100	9.06E-03	1.23E-07	1.86E-06	7.91E-03	1.07E-07	1.62E-06	4.58E-02	6.22E-07	9.39E-06
Road 48	48	2100-2200	9.06E-03	1.15E-07	1.74E-06	7.74E-03	9.84E-08	1.49E-06	4.35E-02	5.54E-07	8.36E-06
Road 48	48	2200-2300	8.87E-03	1.09E-07	1.65E-06	7.74E-03	9.47E-08	1.43E-06	4.44E-02	5.43E-07	8.21E-06
Road 48	48	2300-0000	8.87E-03	1.09E-07	1.65E-06	7.74E-03	9.47E-08	1.43E-06	4.44E-02	5.43E-07	8.21E-06
Road 49	49	0000-0100	6.58E-03	3.63E-08	9.16E-07	5.77E-03	3.18E-08	8.03E-07	4.46E-02	2.46E-07	6.20E-06
Road 49	49	0100-0200	6.65E-03	2.37E-08	5.99E-07	5.79E-03	2.06E-08	5.21E-07	4.37E-02	1.56E-07	3.93E-06
Road 49	49	0200-0300	7.12E-03	1.85E-08	4.68E-07	6.16E-03	1.36E-08	3.43E-07	4.57E-02	1.18E-07	2.98E-06
Road 49	49	0300-0400	7.61E-03	1.55E-08	3.91E-07	6.68E-03	1.36E-08	3.43E-07	4.57E-02	9.30E-08	2.35E-06
Road 49	49	0400-0500	8.38E-03	1.86E-08	4.70E-07	7.22E-03	1.60E-08	4.05E-07	4.84E-02	1.08E-07	2.72E-06
Road 49	49	0500-0600	9.42E-03	3.61E-08	9.13E-07	8.12E-03	3.11E-08	7.87E-07	5.44E-02	2.08E-07	5.27E-06
Road 49	49	0600-0700	1.19E-02	9.73E-08	2.46E-06	1.03E-02	8.44E-08	2.13E-06	6.05E-02	4.94E-07	1.25E-05
Road 49	49	0700-0800	1.63E-02	2.68E-07	6.75E-06	1.39E-02	2.28E-07	5.75E-06	7.71E-02	1.27E-06	3.19E-05
Road 49	49	0800-0900	1.62E-02	2.58E-07	6.51E-06	1.38E-02	2.20E-07	5.55E-06	7.66E-02	1.22E-06	3.08E-05
Road 49	49	0900-1000	1.72E-02	2.58E-07	6.51E-06	1.45E-02	2.17E-07	5.46E-06	7.95E-02	1.19E-06	3.00E-05
Road 49	49	1000-1100	1.88E-02	2.77E-07	6.97E-06	1.59E-02	2.34E-07	5.90E-06	8.70E-02	1.28E-06	3.23E-05
Road 49	49	1100-1200	1.99E-02	1.99E-07	5.03E-06	1.70E-02	1.70E-07	4.28E-06	8.38E-02	8.38E-07	2.11E-05
Road 49	49	1200-1300	1.99E-02	1.99E-07	5.03E-06	1.70E-02	1.70E-07	4.28E-06	8.38E-02	8.38E-07	2.11E-05
Road 49	49	1300-1400	2.02E-02	2.03E-07	5.11E-06	1.72E-02	1.72E-07	4.35E-06	8.86E-02	8.92E-07	2.25E-05
Road 49	49	1400-1500	2.05E-02	2.26E-07	5.70E-06	1.76E-02	1.94E-07	4.90E-06	9.09E-02	1.00E-06	2.53E-05
Road 49	49	1500-1600	2.05E-02	2.26E-07	5.70E-06	1.76E-02	1.94E-07	4.90E-06	9.09E-02	1.00E-06	2.53E-05
Road 49	49	1600-1700	2.26E-02	2.73E-07	6.89E-06	1.93E-02	2.33E-07	5.88E-06	8.97E-02	1.08E-06	2.73E-05
Road 49	49	1700-1800	2.14E-02	2.58E-07	6.51E-06	1.83E-02	2.21E-07	5.58E-06	8.49E-02	1.02E-06	2.58E-05
Road 49	49	1800-1900	1.28E-02	2.06E-07	5.19E-06	1.11E-02	1.78E-07	4.50E-06	5.75E-02	9.27E-07	2.34E-05
Road 49	49	1900-2000	1.04E-02	1.35E-07	3.42E-06	9.07E-03	1.18E-07	2.98E-06	5.26E-02	6.85E-07	1.73E-05
Road 49	49	2000-2100	7.39E-03	7.42E-08	1.87E-06	6.28E-03	6.30E-08	1.59E-06	4.96E-02	4.98E-07	1.26E-05
Road 49	49	2100-2200	6.97E-03	9.72E-08	2.46E-06	5.96E-03	8.31E-08	2.10E-06	4.63E-02	6.46E-07	1.63E-05
Road 49	49	2200-2300	6.97E-03	6.86E-08	1.73E-06	6.07E-03	5.97E-08	1.51E-06	4.70E-02	4.63E-07	1.17E-05
Road 49	49	2300-0000	6.97E-03	6.86E-08	1.73E-06	6.07E-03	5.97E-08	1.51E-06	4.70E-02	4.63E-07	1.17E-05
Road 50	50	0000-0100	3.47E-02	1.63E-08	2.33E-07	3.08E-02	1.45E-08	2.06E-07	1.24E-01	5.82E-08	8.30E-07
Road 50	50	0100-0200	3.93E-02	1.63E-08	2.33E-07	3.48E-02	1.45E-08	2.06E-07	1.24E-01	5.82E-08	8.30E-07
Road 50	50	0200-0300	4.27E-02	9.51E-09	1.36E-07	3.78E-02	8.43E-09	1.20E-07	1.38E-01	3.07E-08	4.38E-07
Road 50	50	0300-0400	4.32E-02	1.08E-08	1.54E-07	3.82E-02	9.57E-09	1.36E-07	1.42E-01	3.54E-08	5.05E-07
Road 50	50	0400-0500	4.32E-02	1.08E-08	1.54E-07	3.82E-02	9.57E-09	1.36E-07	1.42E-01	3.54E-08	5.05E-07
Road 50	50	0500-0600	4.09E-02	1.72E-08	2.46E-07	3.62E-02	1.51E-08	2.15E-07	1.42E-01	5.97E-08	8.52E-07
Road 50	50	0600-0700	4.27E-02	5.51E-09	1.36E-07	3.78E-02	4.87E-09	1.20E-07	1.38E-01	1.78E-08	4.38E-07
Road 50	50	0700-0800	4.07E-02	9.06E-08	1.29E-06	3.60E-02	8.01E-08	1.14E-06	1.33E-01	2.96E-07	4.22E-06
Road 50	50	0800-0900	4.04E-02	1.01E-07	1.44E-06	3.57E-02	8.94E-08	1.27E-06	1.32E-01	3.31E-07	4.70E-06
Road 50	50	0900-1000	5.09E-02	9.01E-08	1.28E-06	4.50E-02	7.97E-08	1.13E-06	1.66E-01	2.94E-07	4.18E-06
Road 50	50	1000-1100	5.09E-02	9.01E-08	1.28E-06	4.50E-02	7.97E-08	1.13E-06	1.66E-01	2.94E-07	4.18E-06
Road 50	50	1100-1200	4.70E-02	7.08E-08	1.01E-06	4.16E-02	6.26E-08	8.93E-07	1.53E-01	2.31E-07	3.30E-06
Road 50	50	1200-1300	5.72E-02	6.27E-08	8.95E-07	5.06E-02	5.54E-08	7.90E-07	2.01E-01	2.14E-07	3.05E-06
Road 50	50	1300-1400	5.72E-02	6.27E-08	8.95E-07	5.06E-02	5.54E-08	7.90E-07	2.01E-01	2.14E-07	3.05E-06
Road 50	50	1400-1500	6.20E-02	6.56E-08	9.35E-07	5.20E-02	5.55E-08	7.85E-07	1.99E-01	2.11E-07	3.01E-06
Road 50	50	1500-1600	5.72E-02	6.27E-08	8.95E-07	4.80E-02	5.41E-08	7.71E-07	1.99E-01	2.11E-07	3.01E-06
Road 50	50	1600-1700	6.03E-02	6.22E-08	8.87E-07	5.15E-02	5.31E-08	7.58E-07	1.97E-01	2.03E-07	2.90E-06
Road 50	50	1700-1800	5.47E-02	5.25E-08	7.48E-07	4.62E-02	4.43E-08	6.33E-07	1.92E-01	1.84E-07	2.63E-06
Road 50	50	1800-1900	5.09E-02	3.73E-08	5.32E-07	4.44E-02	3.25E-08	4.64E-07	1.79E-01	1.31E-07	1.87E-06
Road 50	50	1900-2000	4.33E-02	1.87E-08	2.67E-07	3.79E-02	1.64E-08	2.34E-07	1.60E-01	6.91E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	2.67E-02	1.74E-07	6.32E-07	3.27E-01	2.13E-06	7.73E-06	3.67E-06	1.39E-01	9.07E-07	3.48E-06		
Road 11	11	0100-0200	2.91E-02	1.26E-07	4.85E-07	2.79E-02	1.21E-07	4.65E-07	2.50E-06	1.44E-01	6.25E-07	2.40E-06		
Road 11	11	0200-0300	3.23E-02	1.05E-07	4.04E-07	3.12E-02	1.02E-07	3.90E-07	1.56E-06	1.51E-01	4.93E-07	1.89E-06		
Road 11	11	0300-0400	3.51E-02	1.90E-08	3.56E-07	3.38E-02	1.83E-08	3.42E-07	1.57E-06	4.13E-01	1.99E-06	3.72E-06		
Road 11	11	0400-0500	3.66E-02	1.05E-07	4.05E-07	3.51E-02	1.01E-07	3.88E-07	1.69E-02	4.86E-07	1.87E-06	1.62E-02		
Road 11	11	0500-0600	3.78E-02	1.82E-07	6.98E-07	3.63E-02	1.75E-07	6.71E-07	1.80E-01	8.66E-07	3.32E-06	1.73E-01		
Road 11	11	0600-0700	4.06E-02	3.98E-07	1.53E-06	3.87E-02	3.79E-07	1.46E-06	1.96E-01	1.92E-06	7.37E-06	1.87E-01		
Road 11	11	0700-0800	5.24E-02	1.10E-06	4.20E-06	4.88E-02	1.02E-06	3.91E-06	2.29E-01	4.79E-06	1.84E-05	2.15E-01		
Road 11	11	0800-0900	5.35E-02	1.29E-06	4.95E-06	4.88E-02	1.18E-06	4.51E-06	2.17E-01	5.23E-06	2.01E-05	1.99E-01		
Road 11	11	0900-1000	5.24E-02	1.03E-06	3.96E-06	4.88E-02	9.58E-07	3.68E-06	2.29E-01	4.50E-06	1.73E-05	2.15E-01		
Road 11	11	1000-1100	6.74E-02	1.16E-06	4.44E-06	6.14E-02	1.06E-06	4.05E-06	2.46E-01	4.23E-06	1.62E-05	2.24E-01		
Road 11	11	1100-1200	6.74E-02	1.16E-06	4.44E-06	6.14E-02	1.06E-06	4.05E-06	2.46E-01	4.23E-06	1.62E-05	2.24E-01		
Road 11	11	1200-1300	6.74E-02	1.16E-06	4.44E-06	6.14E-02	1.06E-06	4.05E-06	2.46E-01	4.23E-06	1.62E-05	2.24E-01		
Road 11	11	1300-1400	9.79E-02	2.22E-06	8.52E-06	8.96E-02	2.03E-06	7.79E-06	3.31E-01	7.50E-06	2.88E-05	3.01E-01		
Road 11	11	1400-1500	9.83E-02	2.32E-06	8.90E-06	8.90E-02	2.10E-06	8.06E-06	3.32E-01	7.84E-06	3.01E-05	3.00E-01		
Road 11	11	1500-1600	9.78E-02	2.28E-06	8.75E-06	8.90E-02	2.07E-06	7.94E-06	3.31E-01	7.71E-06	2.96E-05	3.00E-01		
Road 11	11	1600-1700	9.32E-02	2.31E-06	8.86E-06	8.42E-02	2.09E-06	7.90E-06	3.03E-05	2.87E-01	7.11E-06	2.73E-05		
Road 11	11	1700-1800	7.81E-02	2.07E-06	7.94E-06	7.16E-02	1.90E-06	7.28E-06	3.00E-01	3.04E-05	2.73E-01	7.24E-06	2.78E-05	
Road 11	11	1800-1900	5.52E-02	1.46E-06	5.62E-06	5.04E-02	1.33E-06	5.11E-06	2.12E-01	5.61E-06	2.15E-05	1.93E-01		
Road 11	11	1900-2000	3.93E-02	7.86E-07	3.02E-06	3.66E-02	7.34E-07	2.82E-06	1.75E-01	3.51E-06	1.35E-05	1.63E-01		
Road 11	11	2000-2100	3.84E-02	6.02E-07	2.31E-06	3.64E-02	5.72E-07	2.19E-06	1.80E-01	2.82E-06	1.08E-05	1.70E-01		
Road 11	11	2100-2200	3.80E-02	5.96E-07	2.29E-06	3.64E-02	5.70E-07	2.19E-06	1.77E-01	2.77E-06	1.06E-05	1.70E-01		
Road 11	11	2200-2300	3.48E-02	1.25E-07	2.00E-06	3.21E-02	4.84E-07	1.86E-06	1.74E-01	6.27E-06	2.41E-05	1.60E-01		
Road 11	11	2300-0000	3.66E-02	4.18E-07	1.61E-06	3.44E-02	3.94E-07	1.51E-06	1.78E-01	2.03E-06	7.80E-06	1.73E-01		
Road 12	12	0000-0100	2.26E-01	1.42E-07	3.49E-06	2.05E-01	1.28E-07	3.14E-06	2.76E-01	1.73E-07	4.26E-06	2.66E-01		
Road 12	12	0100-0200	2.24E-01	1.03E-07	2.53E-06	2.03E-01	9.32E-08	2.29E-06	2.74E-01	1.26E-07	3.09E-06	2.64E-01		
Road 12	12	0200-0300	2.23E-01	1.33E-07	3.29E-06	2.11E-01	1.26E-07	3.10E-06	4.47E-01	2.67E-07	6.57E-06	4.47E-01		
Road 12	12	0300-0400	2.28E-01	1.35E-07	3.32E-06	2.12E-01	1.25E-07	3.08E-06	4.47E-01	2.64E-07	6.52E-06	4.47E-01		
Road 12	12	0400-0500	2.29E-01	1.40E-07	3.45E-06	2.12E-01	1.30E-07	3.21E-06	4.89E-01	3.00E-07	7.39E-06	4.55E-01		
Road 12	12	0500-0600	2.29E-01	1.40E-07	3.45E-06	2.12E-01	1.30E-07	3.21E-06	4.89E-01	3.00E-07	7.39E-06	4.55E-01		
Road 12	12	0600-0700	2.31E-01	1.54E-07	3.80E-06	2.09E-01	1.39E-07	3.43E-06	5.07E-01	3.38E-07	8.33E-06	4.58E-01		
Road 12	12	0700-0800	2.31E-01	1.54E-07	3.80E-06	2.09E-01	1.39E-07	3.43E-06	5.07E-01	3.38E-07	8.33E-06	4.58E-01		
Road 12	12	0800-0900	3.00E-01	7.28E-07	1.79E-05	2.59E-01	6.28E-07	1.55E-05	6.34E-01	1.54E-06	3.79E-05	5.55E-01		
Road 12	12	0900-1000	3.05E-01	7.31E-07	1.80E-05	2.65E-01	6.35E-07	1.56E-05	6.46E-01	1.55E-06	3.82E-05	5.66E-01		
Road 12	12	1000-1100	3.13E-01	7.40E-07	1.82E-05	2.71E-01	6.41E-07	1.58E-05	6.63E-01	1.57E-06	3.85E-05	5.81E-01		
Road 12	12	1100-1200	3.12E-01	7.40E-07	1.82E-05	2.69E-01	6.37E-07	1.57E-05	6.66E-01	1.58E-06	3.89E-05	5.82E-01		
Road 12	12	1200-1300	3.12E-01	7.43E-07	1.83E-05	2.69E-01	6.40E-07	1.58E-05	6.65E-01	1.58E-06	3.90E-05	5.73E-01		
Road 12	12	1300-1400	3.13E-01	7.40E-07	1.82E-05	2.69E-01	6.36E-07	1.57E-05	6.66E-01	1.58E-06	3.89E-05	5.72E-01		
Road 12	12	1400-1500	3.14E-01	7.54E-07	1.86E-05	2.67E-01	6.40E-07	1.58E-05	6.97E-01	1.67E-06	4.13E-05	5.71E-01		
Road 12	12	1500-1600	3.16E-01	7.60E-07	1.87E-05	2.65E-01	6.37E-07	1.57E-05	6.97E-01	1.67E-06	4.13E-05	5.71E-01		
Road 12	12	1600-1700	3.08E-01	7.39E-07	1.82E-05	2.62E-01	6.29E-07	1.55E-05	6.97E-01	1.67E-06	4.13E-05	5.71E-01		
Road 12	12	1700-1800	3.02E-01	7.33E-07	1.81E-05	2.59E-01	6.27E-07	1.54E-05	6.97E-01	1.69E-06	4.17E-05	5.71E-01		
Road 12	12	1800-1900	2.97E-01	7.20E-07	1.77E-05	2.56E-01	6.20E-07	1.53E-05	6.97E-01	1.69E-06	4.17E-05	5.71E-01		
Road 12	12	1900-2000	2.91E-01	1.55E-07	3.83E-06	1.96E-01	1.04E-07	2.58E-06	6.97E-01	3.72E-07	9.17E-06	5.71E-01		
Road 12	12	2000-2100	2.18E-01	1.55E-07	3.83E-06	1.96E-01	1.39E-07	3.44E-06	4.34E-01	3.09E-07	7.61E-06	4.34E-01		
Road 12	12	2100-2200	2.29E-01	1.57E-07	3.86E-06	1.97E-01	1.40E-07	3.46E-06	4.87E-01	3.47E-07	8.55E-06	4.37E-01		
Road 12	12	2200-2300	2.29E-01	1.57E-07	3.86E-06	1.97E-01	1.40E-07	3.46E-06	4.87E-01	3.47E-07	8.55E-06	4.37E-01		
Road 12	12	2300-0000	2.16E-01	1.45E-07	3.58E-06	1.94E-01	1.30E-07	3.21E-06	4.72E-01	3.18E-07	7.85E-06	4.23E-01		
Road 13	13	0000-0100	2.24E-01	1.40E-07	3.51E-06	2.03E-01	1.27E-07	3.18E-06	4.75E-01	2.98E-07	7.44E-06	4.30E-01		
Road 13	13	0100-0200	2.24E-01	1.40E-07	3.51E-06	2.03E-01	1.27E-07	3.18E-06	4.75E-01	2.98E-07	7.44E-06	4.30E-01		
Road 13	13	0200-0300	2.22E-01	1.33E-07	3.31E-06	2.10E-01	1.25E-07	3.13E-06	4.68E-01	2.80E-07	6.98E-06	4.43E-01		
Road 13	13	0300-0400	2.27E-01	1.34E-07	3.36E-06	2.11E-01	1.24E-07	3.12E-06	4.68E-01	2.76E-07	6.94E-06	4.43E-01		
Road 13	13	0400-0500	2.26E-01	1.39E-07	3.47E-06	2.10E-01	1.29E-07	3.22E-06	4.86E-01	2.98E-07	7.43E-06	4.51E-01		
Road 13	13	0500-0600	2.26E-01	1.39E-07	3.47E-06	2.10E-01	1.29E-07	3.22E-06	4.86E-01	2.98E-07	7.43E-06	4.51E-01		
Road 13	13	0600-0700	2.27E-01	1.51E-07	3.78E-06	2.05E-01	1.36E-07	3.41E-06	5.04E-01	3.35E-07	8.38E-06	4.55E-01		
Road 13	13	0700-0800	2.27E-01	1.51E-07	3.78E-06	2.05E-01	1.36E-07	3.41E-06	5.04E-01	3.35E-07	8.38E-06	4.55E-01		
Road 13	13	0800-0900	2.95E-01	7.14E-07	1.78E-05	2.54E-01	6.15E-07	1.54E-05	6.23E-01	1.51E-06	3.77E-05	5.45E-01		
Road 13	13	0900-1000	3.01E-01	7.22E-07	1.81E-05	2.61E-01	6.27E-07	1.57E-05	6.64E-01	1.60E-06	3.99E-05	5.55E-01		
Road 13	13	1000-1100	3.09E-01	7.32E-07	1.83E-05	2.66E-01	6.30E-07	1.58E-05	6.66E-01	1.58E-06	3.95E-05	5.72E-01		
Road 13	13	1100-1200	3.09E-01	7.32E-07	1.83E-05	2.66E-01	6.29E-07	1.57E-05	6.66E-01	1.58E-06	3.95E-05	5.72E-01		
Road 13	13	1200-1300	3.09E-01	7.36E-07	1.84E-05	2.66E-01	6.33E-07	1.58E-05	6.66E-01	1.58E-06	3.96E-05	5.72E-01		
Road 13	13	1300-1400	3.10E-01	7.40E-07	1.85E-05	2.64E-01	6.32E-07	1.58E-05	6.66E-01	1.59E-06	3.98E-05	5.72E-01		
Road 13	13	1400-1500	3.11E-01	7.46E-07	1.86E-05	2.64E-01	6.33E-07	1.58E-05	6.97E-01	1.67E-06	4.18E-05	5.72E-01		
Road 13	13	1500-1600	3.12E-01	7.51E-07	1.88E-05	2.61E-01	6.27E-07	1.57E-05	6.64E-01	1.60E-06	3.99E-05	5.55E-01		
Road 13	13	1600-1700	3.04E-01	7.32E-07	1.83E-05	2.59E-01	6.24E-07	1.56E-05	6.97E-01	1.68E-06	4.20E-05	5.72E-01		
Road 13	13	1700-1800	2.98E-01	7.16E-07	1.79E-05	2.54E-01	6.15E-07	1.54E-05	6.97E-01	1.68E-06	4.20E-05	5.72E-01		
Road 13	13	1800-1900	2.94E-01	7.14E-07	1.78E-05	2.54E-01	6.15E-07	1.54E-05	6.97E-01	1.69E-06	4.23E-05	5.72E-01		
Road 13	13	1900-2000	2.96E-01	1.56E-07	3.91E-06	1.99E-01	1.05E-07	2.63E-06	6.97E-01	3.68E-07	9.21E-06	5.72E-01		
Road 13	13	2000-2100	2.16E-01	1.54E-07	3.84E-06	1.93E-01	1.38E-07	3.44E-06	4.33E-01	3.09E-07	7.72E-06	4.33E-01		
Road 13	13	2100-2200	2.23E-01	1.53E-07	3.83E-06	1.92E-01	1.37E-07	3.43E-06	4.75E-01	3.39E-07	8.48E-06	4.36E-01		
Road 13	13	2200-2300	2.22E-01	1.57E-07	3.92E-06	1.93E-01	1.36E-07	3.41E-06	4.75E-01	3.36E-07	8.41E-06	4.36E-01		
Road 13	13	2300-0000	2.13E-01	1.44E-07	3.59E-06	1.91E-01	1.29E-07	3.22E-06	4.65E-01	3.14E-07	7.84E-06	4.23E-01		
Road 14	14	0000-0100	1.50E-02	9.66E-08	1.65E-06	1.35E-02	8.72E-08	1.49E-06	6.51E-02	4.20E-07	7.17E-06	5.75E-02		
Road 14	14	0100-0200	1.64E-02	7.05E-08	1.20E-06	1.52E-02	6.54E-08	1.12E-06	6.65E-02	2.82E-07	4.81E-06	5.90E-02		
Road 14	14	0200-0300	1.88E-02	6.06E-08	1.03E-06	1.76E-02	5.67E-08	9.68E-07	7.27E-02	2.34E-07	4.00E-06	6.54E-02		
Road 14	14	0300-0400	2.08E-02	5.46E-08	9.30E-07	1.94E-02	5.08E-08	8.66E-07	7.97E-02	2.09E-07	3.57E-06	7.19E-02		
Road 14	14	0400-0500	2.11E-02	6.02E-08	1.03E-06	1.95E-02	5.56E-08	9.48E-07	7.75E-02	2.21E-07	3.77E-06	6.98E-02		
Road 14	14	0500-0600	2.02E-02	9.66E-08	1.65E-06	1.88E-02	8.98E-08	1.53E-06	7.27E-02	3.47E-07	5.91E-06	6.98E-02		
Road 14	14	0600-0700	2.13E-02	2.21E-07	3.61E-06	1.91E-02	1.91E-07	3.12E-06	6.58E-02	6.68E-07	1.09E-05	5.92E-02		
Road 14	14	0700-0800	3.24E-02	6.71E-07	1.14E-05	2.88E-02	5.96E-07	1.02E-05	1.18E-01	2.45E-06	4.18E-05	1.04E-01		

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	3.28E-02	7.83E-07	1.33E-05	2.81E-02	6.71E-07	1.14E-05	1.19E-01	2.85E-06	4.86E-05	1.01E-01	2.40E-06	4.10E-05
Road 14	14	0900-1000	3.75E-02	7.64E-07	1.30E-05	3.26E-02	6.62E-07	1.13E-05	1.37E-01	2.79E-06	4.76E-05	1.18E-01	2.39E-06	4.08E-05
Road 14	14	1000-1100	4.16E-02	7.47E-07	1.27E-05	3.52E-02	6.32E-07	1.08E-05	1.46E-01	2.62E-06	4.48E-05	1.22E-01	2.19E-06	3.74E-05
Road 14	14	1100-1200	4.05E-02	6.91E-07	1.18E-05	3.46E-02	5.90E-07	1.01E-05	1.44E-01	2.46E-06	4.20E-05	1.22E-01	2.08E-06	3.55E-05
Road 14	14	1200-1300	6.00E-02	1.28E-06	2.18E-05	5.13E-02	1.09E-06	1.86E-05	2.02E-01	4.30E-06	7.32E-05	1.71E-01	3.65E-06	6.23E-05
Road 14	14	1300-1400	6.02E-02	1.35E-06	2.30E-05	5.18E-02	1.16E-06	1.98E-05	2.11E-01	4.71E-06	8.04E-05	1.80E-01	4.04E-06	6.88E-05
Road 14	14	1400-1500	6.31E-02	1.47E-06	2.50E-05	5.39E-02	1.25E-06	2.14E-05	2.15E-01	5.01E-06	8.55E-05	1.83E-01	4.26E-06	7.26E-05
Road 14	14	1500-1600	5.91E-02	1.41E-06	2.41E-05	4.97E-02	1.19E-06	2.03E-05	2.18E-01	5.21E-06	8.88E-05	1.82E-01	4.36E-06	7.43E-05
Road 14	14	1600-1700	5.84E-02	1.43E-06	2.43E-05	4.95E-02	1.21E-06	2.06E-05	2.00E-01	4.89E-06	8.34E-05	1.69E-01	4.12E-06	7.02E-05
Road 14	14	1700-1800	5.21E-02	1.31E-06	2.21E-05	4.36E-02	1.09E-06	1.85E-05	1.77E-01	4.45E-06	7.57E-05	1.50E-01	3.76E-06	6.40E-05
Road 14	14	1800-1900	3.25E-02	8.47E-07	1.44E-05	2.79E-02	7.28E-07	1.24E-05	1.23E-01	3.20E-06	5.45E-05	1.04E-01	2.72E-06	4.63E-05
Road 14	14	1900-2000	2.17E-02	4.26E-07	7.26E-06	1.91E-02	3.74E-07	6.37E-06	1.09E-01	2.14E-06	3.64E-05	9.51E-02	1.86E-06	3.17E-05
Road 14	14	2000-2100	2.20E-02	3.32E-07	5.65E-06	1.93E-02	2.91E-07	4.96E-06	1.10E-01	1.66E-06	2.83E-05	9.61E-02	1.45E-06	2.47E-05
Road 14	14	2100-2200	1.93E-02	2.91E-07	4.97E-06	1.72E-02	2.53E-07	4.32E-06	8.72E-02	1.29E-06	2.19E-05	7.39E-02	1.09E-06	1.86E-05
Road 14	14	2200-2300	2.00E-02	2.52E-07	4.31E-06	1.78E-02	2.20E-07	3.76E-06	8.56E-02	1.08E-06	1.84E-05	7.61E-02	9.60E-07	1.64E-05
Road 14	14	2300-0000	1.82E-02	3.52E-07	5.25E-06	1.62E-02	3.13E-07	4.67E-06	8.03E-02	1.55E-06	2.31E-05	7.14E-02	1.38E-06	2.06E-05
Road 15	15	0000-0100	2.50E-02	4.41E-08	4.08E-07	2.26E-02	3.99E-08	3.70E-07	8.08E-02	1.43E-07	1.32E-06	7.20E-02	1.27E-07	1.18E-06
Road 15	15	0100-0200	3.10E-02	3.88E-08	3.60E-07	2.89E-02	3.63E-08	3.36E-07	9.05E-02	1.14E-07	1.05E-06	8.37E-02	1.05E-07	9.72E-07
Road 15	15	0200-0300	3.52E-02	3.52E-08	3.26E-07	3.28E-02	3.28E-08	3.04E-07	1.02E-01	1.02E-07	9.46E-07	9.50E-02	9.50E-08	8.81E-07
Road 15	15	0300-0400	4.09E-02	3.48E-08	3.23E-07	3.76E-02	3.20E-08	2.96E-07	1.09E-01	9.25E-08	8.57E-07	9.91E-02	8.44E-08	7.81E-07
Road 15	15	0400-0500	4.01E-02	3.56E-08	3.77E-07	3.66E-02	3.25E-08	3.08E-07	1.09E-01	9.86E-08	9.13E-07	9.82E-02	8.92E-08	8.26E-07
Road 15	15	0500-0600	3.27E-02	4.45E-08	4.12E-07	3.03E-02	4.14E-08	3.83E-07	8.96E-02	1.23E-07	8.97E-07	8.32E-02	1.13E-07	1.04E-06
Road 15	15	0600-0700	2.55E-02	4.65E-08	4.31E-07	2.36E-02	4.31E-08	3.99E-07	8.37E-02	1.53E-07	1.41E-06	7.78E-02	1.42E-07	1.31E-06
Road 15	15	0700-0800	4.20E-02	2.44E-07	2.26E-06	3.69E-02	2.14E-07	1.98E-06	1.25E-01	7.27E-07	6.73E-06	1.09E-01	6.30E-07	5.84E-06
Road 15	15	0800-0900	4.14E-02	2.71E-07	2.51E-06	3.56E-02	2.34E-07	2.16E-06	1.24E-01	8.14E-07	7.54E-06	1.09E-01	6.93E-07	6.42E-06
Road 15	15	0900-1000	4.22E-02	2.42E-07	2.24E-06	3.66E-02	2.10E-07	1.94E-06	1.38E-01	7.91E-07	7.32E-06	1.21E-01	6.95E-07	6.43E-06
Road 15	15	1000-1100	5.04E-02	2.58E-07	2.39E-06	4.30E-02	2.20E-07	2.04E-06	1.47E-01	7.54E-07	6.98E-06	1.25E-01	6.39E-07	5.91E-06
Road 15	15	1100-1200	5.03E-02	2.47E-07	2.28E-06	4.34E-02	2.13E-07	1.97E-06	1.47E-01	7.22E-07	6.69E-06	1.26E-01	6.19E-07	5.73E-06
Road 15	15	1200-1300	5.05E-02	2.61E-07	2.42E-06	4.40E-02	2.28E-07	2.11E-06	1.47E-01	7.61E-07	7.04E-06	1.26E-01	6.52E-07	6.03E-06
Road 15	15	1300-1400	6.20E-02	4.80E-07	4.44E-06	5.29E-02	4.09E-07	3.79E-06	1.97E-01	1.52E-06	1.41E-05	1.67E-01	1.29E-06	1.20E-05
Road 15	15	1400-1500	6.18E-02	4.94E-07	4.58E-06	5.24E-02	4.19E-07	3.88E-06	1.93E-01	1.54E-06	1.43E-05	1.63E-01	1.30E-06	1.21E-05
Road 15	15	1500-1600	6.17E-02	4.82E-07	4.46E-06	5.24E-02	4.09E-07	3.79E-06	1.93E-01	1.51E-06	1.40E-05	1.63E-01	1.28E-06	1.19E-05
Road 15	15	1600-1700	5.78E-02	4.81E-07	4.46E-06	4.94E-02	4.12E-07	3.81E-06	1.81E-01	1.51E-06	1.40E-05	1.54E-01	1.28E-06	1.19E-05
Road 15	15	1700-1800	4.72E-02	4.15E-07	3.84E-06	4.02E-02	3.54E-07	3.27E-06	1.59E-01	1.39E-06	1.29E-05	1.34E-01	1.18E-06	1.09E-05
Road 15	15	1800-1900	3.22E-02	4.20E-07	3.87E-06	2.74E-02	3.57E-07	3.30E-06	1.08E-01	1.41E-06	1.30E-05	9.15E-02	1.19E-06	1.10E-05
Road 15	15	1900-2000	2.18E-02	1.33E-07	1.24E-06	1.91E-02	1.17E-07	1.09E-06	8.58E-02	5.25E-07	4.86E-06	7.43E-02	4.55E-07	4.21E-06
Road 15	15	2000-2100	2.17E-02	1.20E-07	9.73E-07	1.94E-02	9.37E-08	8.68E-07	8.78E-02	4.25E-07	3.94E-06	7.72E-02	3.74E-07	3.46E-06
Road 15	15	2100-2200	2.12E-02	1.13E-07	9.37E-07	1.89E-02	8.85E-08	8.21E-07	8.59E-02	4.01E-07	3.72E-06	7.56E-02	3.53E-07	3.27E-06
Road 15	15	2200-2300	2.13E-02	9.93E-08	9.20E-07	1.85E-02	8.59E-08	7.96E-07	8.52E-02	3.97E-07	3.67E-06	7.19E-02	3.35E-07	3.10E-06
Road 15	15	2300-0000	2.30E-02	8.28E-08	7.66E-07	2.05E-02	7.39E-08	6.84E-07	8.63E-02	3.11E-07	2.88E-06	7.57E-02	2.73E-07	2.53E-06
Road 16	16	0000-0100	8.68E-03	4.61E-08	1.04E-06	7.80E-03	4.14E-08	9.36E-07	6.46E-02	3.43E-07	7.75E-06	5.45E-02	2.89E-07	6.53E-06
Road 16	16	0100-0200	7.42E-03	3.26E-08	1.00E-06	6.91E-03	3.04E-08	9.31E-07	4.05E-02	1.78E-07	5.45E-06	3.68E-02	1.62E-07	4.96E-06
Road 16	16	0200-0300	8.09E-03	2.62E-08	8.04E-07	7.60E-03	2.47E-08	7.56E-07	4.13E-02	1.34E-07	4.11E-06	3.82E-02	1.24E-07	3.80E-06
Road 16	16	0300-0400	9.60E-03	2.73E-08	8.36E-07	8.73E-03	2.48E-08	7.61E-07	4.63E-02	1.32E-07	4.03E-06	4.12E-02	1.17E-07	3.59E-06
Road 16	16	0400-0500	9.72E-03	4.76E-08	1.46E-06	9.00E-03	4.40E-08	1.35E-06	4.76E-02	2.33E-07	7.14E-06	4.32E-02	2.12E-07	6.49E-06
Road 16	16	0500-0600	1.31E-02	1.08E-07	3.31E-06	1.21E-02	1.00E-07	3.07E-06	5.79E-02	4.79E-07	1.47E-05	5.26E-02	4.35E-07	1.33E-05
Road 16	16	0600-0700	1.42E-02	3.03E-07	9.29E-06	1.23E-02	2.63E-07	8.06E-06	6.46E-02	1.38E-06	4.23E-05	5.47E-02	1.17E-06	3.58E-05
Road 16	16	0700-0800	1.66E-02	1.06E-07	4.10E-06	1.26E-02	1.43E-07	3.53E-07	1.08E-05	7.16E-07	1.27E-06	5.42E-05	6.03E-07	1.49E-06
Road 16	16	0800-0900	1.66E-02	1.06E-07	4.10E-06	1.26E-02	1.43E-07	3.53E-07	1.08E-05	7.16E-07	1.27E-06	5.42E-05	6.03E-07	1.49E-06
Road 16	16	0900-1000	1.84E-02	1.32E-07	5.08E-06	1.40E-02	1.78E-07	4

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July) Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	6.61E-02	1.11E-08	1.05E-04	3.24E-01	5.12E-07	2.88E-02	2.38E-01	4.43E-06	2.11E-03
Road 37	37	1700-1800	5.69E-02	1.03E-08	2.35E-04	5.38E-02	9.70E-09	2.47E-04	9.66E-08	2.19E-02	9.04E-08
Road 37	37	1800-1900	3.79E-02	6.83E-09	1.57E-04	3.58E-02	6.45E-09	1.48E-04	1.68E-01	3.03E-08	6.96E-08
Road 37	37	1900-2000	3.13E-02	3.48E-09	9.96E-05	4.13E-03	9.47E-09	1.51E-01	2.09E-01	4.80E-08	1.43E-01
Road 37	37	2000-2100	3.19E-02	3.44E-09	7.89E-09	3.01E-03	1.74E-08	4.00E-08	1.54E-01	1.66E-08	3.81E-08
Road 37	37	2100-2200	3.16E-02	3.42E-09	7.86E-09	3.03E-02	3.28E-09	7.53E-09	1.63E-01	1.77E-08	4.06E-08
Road 37	37	2200-2300	2.78E-02	2.98E-09	6.11E-09	6.23E-03	8.27E-09	1.52E-01	1.58E-01	3.51E-08	7.20E-08
Road 37	37	2300-0000	3.04E-02	2.39E-09	5.48E-09	2.90E-02	2.28E-09	5.23E-09	1.58E-01	1.24E-08	2.85E-08
Road 38	38	0000-0100	5.23E-02	8.29E-08	6.78E-07	4.88E-02	7.73E-08	6.33E-07	1.84E-01	2.92E-07	2.39E-06
Road 38	38	0100-0200	5.86E-02	9.29E-08	7.60E-07	5.34E-02	8.47E-08	6.93E-07	2.24E-01	3.55E-07	2.91E-06
Road 38	38	0200-0300	6.19E-02	6.01E-08	4.92E-07	5.75E-02	5.58E-08	4.57E-07	1.98E-01	1.92E-07	1.57E-06
Road 38	38	0300-0400	6.66E-02	5.70E-08	4.67E-07	6.33E-02	5.42E-08	4.43E-07	1.97E-01	1.68E-07	1.38E-06
Road 38	38	0400-0500	6.74E-02	6.42E-08	5.25E-07	6.66E-02	6.34E-08	5.19E-07	2.13E-01	2.03E-07	1.66E-06
Road 38	38	0500-0600	6.52E-02	8.55E-08	7.00E-07	6.46E-02	8.47E-08	6.93E-07	2.05E-01	2.69E-07	2.20E-06
Road 38	38	0600-0700	6.21E-02	1.49E-07	1.22E-06	5.84E-02	1.41E-07	1.15E-06	2.25E-01	5.42E-07	4.44E-06
Road 38	38	0700-0800	5.63E-02	2.63E-07	2.15E-06	4.66E-02	2.17E-07	1.78E-06	2.00E-01	9.34E-07	7.65E-06
Road 38	38	0800-0900	8.04E-02	5.09E-07	4.16E-06	6.25E-02	3.95E-07	3.23E-06	2.31E-01	1.46E-06	1.19E-05
Road 38	38	0900-1000	9.10E-02	5.35E-07	4.38E-06	8.27E-02	4.86E-07	3.98E-06	2.77E-01	1.63E-06	1.34E-05
Road 38	38	1000-1100	9.45E-02	5.17E-07	4.23E-06	9.41E-02	5.14E-07	4.21E-06	3.37E-01	1.84E-06	1.51E-05
Road 38	38	1100-1200	9.48E-02	4.97E-07	4.07E-06	9.54E-02	5.00E-07	4.09E-06	3.52E-01	1.84E-06	1.51E-05
Road 38	38	1200-1300	1.18E-01	3.82E-07	3.12E-06	1.05E-01	3.40E-07	2.78E-06	3.81E-01	1.23E-06	1.01E-05
Road 38	38	1300-1400	1.20E-01	4.10E-07	3.36E-06	1.08E-01	3.70E-07	3.03E-06	3.89E-01	1.33E-06	1.09E-05
Road 38	38	1400-1500	1.22E-01	4.44E-07	3.64E-06	1.10E-01	4.00E-07	3.27E-06	3.97E-01	1.44E-06	1.18E-05
Road 38	38	1500-1600	1.25E-01	4.37E-07	3.58E-06	1.13E-01	3.94E-07	3.23E-06	4.06E-01	1.42E-06	1.16E-05
Road 38	38	1600-1700	1.17E-01	3.99E-07	3.27E-06	1.06E-01	3.61E-07	2.96E-06	3.84E-01	1.31E-06	1.07E-05
Road 38	38	1700-1800	1.05E-01	3.11E-07	2.54E-06	9.35E-02	2.78E-07	2.27E-06	2.81E-01	8.35E-07	6.83E-06
Road 38	38	1800-2000	8.24E-02	1.19E-07	9.71E-07	7.65E-02	1.10E-07	9.01E-07	2.51E-01	3.62E-07	2.96E-06
Road 38	38	2000-2100	8.48E-02	1.04E-07	8.54E-07	7.91E-02	9.73E-08	7.97E-07	2.56E-01	3.14E-07	2.57E-06
Road 38	38	2100-2200	8.48E-02	1.04E-07	8.54E-07	7.91E-02	9.73E-08	7.97E-07	2.56E-01	3.14E-07	2.57E-06
Road 38	38	2200-2300	8.18E-02	9.45E-08	7.74E-07	7.48E-02	8.64E-08	7.08E-07	2.46E-01	2.84E-07	2.33E-06
Road 38	38	2300-0000	8.28E-02	8.27E-08	6.77E-07	7.58E-02	7.57E-08	6.20E-07	2.49E-01	2.49E-07	2.04E-06
Road 39	39	0000-0100	9.08E-02	2.13E-08	1.81E-07	8.73E-02	2.05E-08	1.74E-07	2.96E-01	6.96E-08	5.91E-07
Road 39	39	0100-0200	9.21E-02	1.50E-08	1.28E-07	8.85E-02	1.44E-08	1.23E-07	3.00E-01	4.89E-08	4.16E-07
Road 39	39	0200-0300	9.21E-02	1.08E-08	8.95E-08	8.85E-02	1.04E-08	8.60E-08	3.00E-01	3.53E-08	2.91E-07
Road 39	39	0300-0400	9.57E-02	1.02E-08	8.45E-08	9.33E-02	9.91E-09	8.44E-08	3.06E-01	3.25E-08	2.77E-07
Road 39	39	0400-0500	9.78E-02	1.21E-08	1.03E-07	9.58E-02	1.18E-08	1.00E-07	3.12E-01	3.85E-08	3.28E-07
Road 39	39	0500-0600	9.66E-02	1.61E-08	1.37E-07	9.46E-02	1.58E-08	1.34E-07	3.08E-01	5.14E-08	4.37E-07
Road 39	39	0600-0700	1.04E-01	5.30E-08	4.51E-07	9.96E-02	5.08E-08	4.33E-07	3.31E-01	1.69E-07	1.44E-06
Road 39	39	0700-0800	1.07E-01	1.16E-07	9.86E-07	1.02E-01	1.10E-07	9.40E-07	3.40E-01	3.69E-07	3.15E-06
Road 39	39	0800-0900	1.11E-01	1.58E-07	1.35E-06	1.06E-01	1.51E-07	1.29E-06	3.52E-01	5.02E-07	4.28E-06
Road 39	39	0900-1000	1.17E-01	1.64E-07	1.40E-06	1.11E-01	1.56E-07	1.32E-06	3.70E-01	5.17E-07	4.40E-06
Road 39	39	1000-1100	1.18E-01	1.61E-07	1.37E-06	1.12E-01	1.53E-07	1.30E-06	3.74E-01	5.09E-07	4.34E-06
Road 39	39	1100-1200	1.19E-01	1.55E-07	1.32E-06	1.13E-01	1.47E-07	1.25E-06	3.76E-01	4.89E-07	4.17E-06
Road 39	39	1200-1300	1.20E-01	1.54E-07	1.31E-06	1.14E-01	1.46E-07	1.24E-06	3.80E-01	4.87E-07	4.15E-06
Road 39	39	1300-1400	5.83E-02	1.80E-08	1.53E-07	5.48E-02	1.69E-08	1.44E-07	1.47E-01	4.53E-08	3.86E-07
Road 39	39	1400-1500	5.87E-02	1.97E-08	1.67E-07	5.50E-02	1.84E-08	1.57E-07	1.48E-01	4.96E-08	4.23E-07
Road 39	39	1500-1600	5.87E-02	1.97E-08	1.67E-07	5.50E-02	1.84E-08	1.57E-07	1.48E-01	4.96E-08	4.23E-07
Road 39	39	1600-1700	5.44E-02	1.90E-08	1.61E-07	5.07E-02	1.77E-08	1.51E-07	1.37E-01	4.78E-08	4.07E-07
Road 39	39	1700-1800	1.09E-01	1.77E-07	1.50E-06	1.02E-01	1.65E-07	1.41E-06	3.44E-01	5.58E-07	4.76E-06
Road 39	39	1800-1900	2.88E-02	1.17E-08	9.97E-08	2.71E-02	1.10E-08	9.38E-08	1.45E-01	5.90E-08	5.03E-07
Road 39	39	1900-2000	2.36E-02	7.52E-09	6.40E-08	2.23E-02	7.10E-09	6.07E-08	1.19E-01	3.79E-08	3.23E-07
Road 39	39	2000-2100	2.42E-02	5.92E-09	5.04E-08	2.29E-02	5.60E-09	4.78E-08	1.22E-01	2.98E-08	2.54E-07
Road 39	39	2100-2200	2.34E-02	5.80E-09	4.94E-08	2.24E-02	5.55E-09	4.73E-08	1.44E-01	3.56E-08	3.03E-07
Road 39	39	2200-2300	2.06E-02	4.91E-09	4.18E-08	1.94E-02	4.64E-09	3.95E-08	1.27E-01	3.03E-08	2.58E-07
Road 39	39	2300-0000	2.12E-02	4.31E-09	3.67E-08	2.00E-02	4.07E-09	3.47E-08	1.31E-01	2.66E-08	2.26E-07
Road 40	40	0000-0100	4.72E-02	1.40E-07	6.80E-07	4.40E-02	1.30E-07	6.34E-07	1.66E-01	4.90E-07	2.39E-06
Road 40	40	0100-0200	5.39E-02	1.17E-07	5.67E-07	5.10E-02	1.10E-07	5.37E-07	1.83E-01	3.97E-07	1.93E-06
Road 40	40	0200-0300	5.70E-02	1.05E-07	5.07E-07	4.80E-02	8.84E-08	4.26E-07	1.93E-01	3.56E-07	1.72E-06
Road 40	40	0300-0400	6.29E-02	9.66E-08	4.70E-07	5.98E-02	9.18E-08	4.46E-07	1.84E-01	2.83E-07	1.37E-06
Road 40	40	0400-0500	6.34E-02	1.04E-07	5.04E-07	5.99E-02	9.79E-08	4.76E-07	1.88E-01	3.08E-07	1.50E-06
Road 40	40	0500-0600	6.05E-02	1.45E-07	7.03E-07	5.74E-02	1.37E-07	6.68E-07	2.08E-01	4.98E-07	2.42E-06
Road 40	40	0600-0700	5.78E-02	2.52E-07	1.22E-06	5.43E-02	2.37E-07	1.15E-06	2.14E-01	9.34E-07	4.54E-06
Road 40	40	0700-0800	8.21E-02	8.40E-07	4.09E-06	7.54E-02	7.71E-07	3.75E-06	2.50E-01	2.56E-06	1.25E-05
Road 40	40	0800-0900	8.09E-02	9.33E-07	4.54E-06	7.26E-02	8.38E-07	4.07E-06	2.66E-01	3.07E-06	1.49E-05
Road 40	40	0900-1000	7.47E-02	8.87E-07	4.32E-06	6.97E-02	8.28E-07	4.03E-06	2.61E-01	3.10E-06	1.51E-05
Road 40	40	1000-1100	1.00E-01	9.64E-07	4.69E-06	9.32E-02	8.98E-07	4.37E-06	3.50E-01	3.37E-06	1.64E-05
Road 40	40	1100-1200	9.76E-02	9.01E-07	4.38E-06	8.72E-02	8.05E-07	3.92E-06	3.44E-01	3.18E-06	1.55E-05
Road 40	40	1200-1300	1.31E-01	6.29E-07	3.06E-06	1.23E-01	5.91E-07	2.88E-06	4.61E-01	2.21E-06	1.08E-05
Road 40	40	1300-1400	1.21E-01	8.14E-07	3.96E-06	1.08E-01	7.30E-07	3.55E-06	4.35E-01	2.62E-06	1.27E-05
Road 40	40	1400-1500	1.19E-01	8.18E-07	3.98E-06	1.06E-01	7.28E-07	3.54E-06	4.27E-01	2.93E-06	1.42E-05
Road 40	40	1500-1600	1.21E-01	8.30E-07	4.04E-06	1.08E-01	7.39E-07	3.60E-06	4.35E-01	2.97E-06	1.45E-05
Road 40	40	1600-1700	1.15E-01	8.03E-07	3.91E-06	1.02E-01	7.11E-07	3.46E-06	4.12E-01	2.87E-06	1.40E-05
Road 40	40	1700-1800	1.08E-01	7.60E-07	3.70E-06	9.65E-02	6.81E-07	3.31E-06	3.87E-01	2.72E-06	1.32E-05
Road 40	40	1800-2000	9.02E-02	6.04E-07	2.94E-06	8.05E-02	5.39E-07	2.62E-06	3.23E-01	2.16E-06	1.05E-05
Road 40	40	2000-2100	5.82E-02	2.23E-07	1.08E-06	5.39E-02	2.06E-07	1.00E-06	2.02E-01	7.72E-07	3.76E-06
Road 40	40	2100-2200	6.10E-02	1.91E-07	9.28E-07	5.74E-02	1.79E-07	8.73E-07	2.11E-01	6.61E-07	3.22E-06
Road 40	40	2200-2300	5.82E-02	1.75E-07	8.50E-07	5.32E-02	1.60E-07	7.77E-07	2.02E-01	6.08E-07	2.95E-06
Road 40	40	2300-0000	6.18E-02	1.51E-07	7.37E-07	5.72E-02	1.40E-07	6.82E-07	2.05E-01	5.01E-07	2.44E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July) Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	1.81E-02	3.67E-08	3.45E-07	1.63E-02	3.32E-08	3.12E-07	5.98E-02	1.19E-07	1.12E-06
Road 41	41	0100-0200	2.23E-02	3.32E-08	3.12E-07	2.07E-02	3.08E-08	2.89E-07	6.51E-02	9.69E-08	9.09E-07
Road 41	41	0200-0300	2.58E-02	3.14E-08	2.94E-07	2.43E-02	2.96E-08	2.77E-07	7.06E-02	8.58E-08	8.05E-07
Road 41	41	0300-0400	2.91E-02	3.08E-08	2.90E-07	2.73E-02	2.89E-08	2.71E-07	7.67E-02	8.13E-08	7.63E-07
Road 41	41	0400-0500	2.86E-02	3.19E-08	3.00E-07	2.65E-02	2.96E-08	2.78E-07	7.64E-02	8.54E-08	8.01E-07
Road 41	41	0500-0600	2.32E-02	3.69E-08	3.46E-07	2.15E-02	3.43E-08	3.22E-07	6.88E-02	1.09E-07	1.03E-06
Road 41	41	0600-0700	1.71E-02	4.91E-08	4.61E-07	1.58E-02	4.55E-08	4.27E-07	5.98E-02	1.72E-07	1.61E-06
Road 41	41	0700-0800	2.39E-02	1.59E-07	1.50E-06	2.12E-02	1.42E-07	1.33E-06	7.30E-02	4.88E-07	4.58E-06
Road 41	41	0800-0900	2.26E-02	1.68E-07	1.58E-06	1.93E-02	1.44E-07	1.35E-06	6.90E-02	5.14E-07	4.83E-06
Road 41	41	0900-1000	2.52E-02	1.68E-07	1.57E-06	2.23E-02	1.48E-07	1.39E-06	7.72E-02	5.03E-07	4.72E-06
Road 41	41	1000-1100	2.88E-02	1.61E-07	1.51E-06	2.42E-02	1.36E-07	1.28E-06	8.42E-02	4.76E-07	4.47E-06
Road 41	41	1100-1200	2.89E-02	1.63E-07	1.53E-06	2.46E-02	1.39E-07	1.30E-06	8.42E-02	4.76E-07	4.47E-06
Road 41	41	1200-1300	3.22E-02	1.95E-07	1.83E-06	2.72E-02	1.64E-07	1.54E-06	9.38E-02	5.68E-07	5.33E-06
Road 41	41	1300-1400	3.19E-02	2.00E-07	1.88E-06	2.74E-02	1.72E-07	1.61E-06	9.56E-02	5.99E-07	5.62E-06
Road 41	41	1400-1500	3.19E-02	2.06E-07	1.94E-06	2.71E-02	1.76E-07	1.65E-06	9.50E-02	6.15E-07	5.77E-06
Road 41	41	1500-1600	3.19E-02	2.04E-07	1.91E-06	2.71E-02	1.74E-07	1.63E-06	9.50E-02	6.08E-07	5.70E-06
Road 41	41	1600-1700	3.02E-02	2.03E-07	1.91E-06	2.55E-02	1.72E-07	1.61E-06	9.02E-02	6.07E-07	5.69E-06
Road 41	41	1700-1800	2.62E-02	1.86E-07	1.75E-06	2.23E-02	1.59E-07	1.49E-06	8.23E-02	5.86E-07	5.50E-06
Road 41	41	1800-1900	2.28E-02	1.04E-07	1.54E-06	1.93E-02	8.86E-08	1.31E-06	7.16E-02	3.29E-07	4.87E-06
Road 41	41	1900-2000	1.33E-02	6.14E-08	5.77E-07	1.16E-02	5.39E-08	5.06E-07	5.15E-02	2.39E-07	2.24E-06
Road 41	41	2000-2100	1.43E-02	5.30E-08	4.97E-07	1.29E-02	4.78E-08	4.49E-07	5.58E-02	2.07E-07	1.94E-06
Road 41	41	2100-2200	1.39E-02	5.16E-08	4.87E-07	1.24E-02	4.61E-08	4.35E-07	5.42E-02	2.01E-07	1.89E-06
Road 41	41	2200-2300	1.43E-02	4.43E-08	4.28E-07	1.25E-02	3.88E-08	3.75E-07	5.58E-02	1.73E-07	1.67E-06
Road 41	41	2300-0000	1.65E-02	4.66E-08	4.37E-07	1.47E-02	4.15E-08	3.90E-07	5.89E-02	1.67E-07	1.56E-06
Road 42	42	0000-0100	3.30E-02	7.61E-08	1.93E-06	2.98E-02	6.88E-08	1.75E-06	9.51E-02	2.20E-07	5.57E-06
Road 42	42	0100-0200	3.34E-02	6.20E-08	1.57E-06	3.02E-02	5.60E-08	1.42E-06	9.61E-02	1.78E-07	4.52E-06
Road 42	42	0200-0300	4.56E-02	6.36E-08	1.61E-06	4.29E-02	5.99E-08	1.52E-06	1.16E-01	1.61E-07	4.09E-06
Road 42	42	0300-0400	5.14E-02	6.27E-08	1.59E-06	4.82E-02	5.88E-08	1.49E-06	1.27E-01	1.55E-07	3.93E-06
Road 42	42	0400-0500	5.03E-02	6.46E-08	1.64E-06	4.66E-02	5.98E-08	1.52E-06	1.24E-01	1.59E-07	4.04E-06
Road 42	42	0500-0600	4.06E-02	7.38E-08	1.87E-06	3.77E-02	6.86E-08	1.74E-06	1.11E-01	2.01E-07	5.10E-06
Road 42	42	0600-0700	3.34E-02	1.03E-07	2.60E-06	2.83E-02	9.25E-08	2.35E-06	9.82E-02	3.21E-07	8.13E-06
Road 42	42	0700-0800	5.26E-02	2.84E-07	7.18E-06	4.47E-02	2.56E-07	6.49E-06	1.55E-01	8.87E-07	2.25E-05
Road 42	42	0800-0900	5.26E-02	4.48E-07	1.14E-05	4.50E-02	3.83E-07	9.72E-06	1.44E-01	1.22E-06	3.10E-05
Road 42	42	0900-1000	6.04E-02	4.50E-07	1.14E-05	5.23E-02	3.89E-07	9.88E-06	1.66E-01	1.23E-06	3.13E-05
Road 42	42	1000-1100	6.51E-02	4.24E-07	1.08E-05	5.55E-02	3.62E-07	9.17E-06	1.74E-01	1.13E-06	2.87E-05
Road 42	42	1100-1200	6.51E-02	4.24E-07	1.08E-05	5.55E-02	3.62E-07	9.17E-06	1.74E-01	1.13E-06	2.87E-05
Road 42	42	1200-1300	8.42E-02	4.28E-07	1.09E-05	7.18E-02	3.65E-07	9.26E-06	2.25E-01	1.14E-06	2.90E-05
Road 42	42	1300-1400	8.28E-02	4.28E-07	1.09E-05	7.06E-02	3.65E-07	9.26E-06	2.21E-01	1.14E-06	2.90E-05
Road 42	42	1400-1500	8.63E-02	4.64E-07	1.18E-05	7.35E-02	3.96E-07	1.00E-05	2.25E-01	1.21E-06	3.07E-05
Road 42	42	1500-1600	8.40E-02	4.61E-07	1.17E-05	7.05E-02	3.87E-07	9.81E-06	2.26E-01	1.24E-06	3.15E-05
Road 42	42	1600-1700	7.48E-02	4.25E-07	1.08E-05	6.39E-02	3.64E-07	9.22E-06	2.00E-01	1.14E-06	2.89E-05
Road 42	42	1700-1800	7.48E-02	4.25E-07	1.08E-05	6.39E-02	3.64E-07	9.22E-06	2.00E-01	1.14E-06	2.89E-05
Road 42	42	1800-1900	6.63E-02	3.71E-07	9.40E-06	5.70E-02	3.18E-07	8.08E-06	1.71E-01	9.54E-07	2.42E-05
Road 42	42	1900-2000	3.53E-02	3.15E-07	7.99E-06	3.02E-02	2.69E-07	6.84E-06	9.08E-02	8.10E-07	2.05E-05
Road 42	42	2000-2100	3.53E-02	3.15E-07	7.99E-06	3.02E-02	2.69E-07	6.84E-06	9.08E-02	8.10E-07	2.05E-05
Road 42	42	2100-2200	3.51E-02	3.91E-07	9.91E-06	3.01E-02	3.35E-07	8.49E-06	9.02E-02	1.00E-06	2.55E-05
Road 42	42	2200-2300	3.59E-02	3.35E-07	8.49E-06	3.08E-02	2.87E-07	7.28E-06	9.23E-02	8.61E-07	2.18E-05
Road 42	42	2300-0000	4.14E-02	8.46E-08	2.15E-06	3.69E-02	7.55E-08	1.91E-06	1.18E-01	2.41E-07	6.12E-06
Road 43	43	0000-0100	1.18E-02	3.45E-09	3.53E-08	1.07E-02	3.12E-09	3.19E-08	4.60E-02	1.35E-08	3.85E-07
Road 43	43	0100-0200	1.32E-02	3.10E-09	3.18E-08	1.19E-02	2.80E-09	2.87E-08	5.11E-02	1.20E-08	3.47E-07
Road 43	43	0200-0300	1.82E-02	2.92E-09	2.99E-08	1.71E-02	2.75E-09	2.81E-08	5.59E-02	8.97E-09	9.18E-08
Road 43	43	0300-0400	2.12E-02	2.87E-09	2.93E-08	1.98E-02	2.69E-09	2.75E-08	6.15E-02	8.33E-09	8.52E-08
Road 43	43	0400-0500	2.08E-02	2.98E-09	3.05E-08	1.94E-02	2.78E-09	2.84E-08	6.03E-02	8.64E-09	8.84E-08
Road 43	43	0500-0600	1.62E-02	3.51E-09	3.59E-08	1.50E-02	3.26E-09	3.33E-08	5.47E-02	1.19E-08	1.22E-07
Road 43	43	0600-0700	1.17E-02	4.84E-09	4.96E-08	1.05E-02	4.35E-09	4.45E-08	4.80E-02	1.99E-08	2.04E-07
Road 43	43	0700-0800	1.58E-02	1.63E-08	1.67E-07	1.35E-02	1.39E-08	1.43E-07	5.41E-02	5.59E-08	5.72E-07
Road 43	43	0800-0900	1.84E-02	1.57E-08	1.60E-07	1.59E-02	1.35E-08	1.38E-07	6.10E-02	5.20E-08	5.33E-07
Road 43	43	0900-1000	1.84E-02	1.57E-08	1.60E-07	1.59E-02	1.35E-08	1.38E-07	6.10E-02	5.20E-08	5.33E-07
Road 43	43	1000-1100	2.08E-02	1.49E-08	1.53E-07	1.77E-02	1.27E-08	1.30E-07	6.70E-02	4.82E-08	4.93E-07
Road 43	43	1100-1200	1.81E-02	4.99E-08	5.11E-07	1.54E-02	4.25E-08	4.35E-07	6.91E-02	1.90E-07	1.95E-06
Road 43	43	1200-1300	1.82E-02	5.18E-08	5.30E-07	1.56E-02	4.42E-08	4.53E-07	6.95E-02	1.98E-07	2.03E-06
Road 43	43	1300-1400	1.76E-02	5.25E-08	5.37E-07	1.49E-02	4.44E-08	4.55E-07	6.72E-02	2.00E-07	2.05E-06
Road 43	43	1400-1500	1.77E-02	5.31E-08	5.44E-07	1.50E-02	4.50E-08	4.61E-07	6.76E-02	2.03E-07	2.08E-06
Road 43	43	1500-1600	1.77E-02	5.31E-08	5.44E-07	1.50E-02	4.50E-08	4.61E-07	6.76E-02	2.03E-07	2.08E-06
Road 43	43	1600-1700	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 43	43	1700-1800	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 43	43	1800-1900	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 43	43	1900-2000	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 43	43	2000-2100	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 43	43	2100-2200	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 43	43	2200-2300	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 43	43	2300-0000	1.71E-02	5.23E-08	5.36E-07	1.44E-02	4.43E-08	4.54E-07	6.53E-02	2.00E-07	2.05E-06
Road 44	44	0000-0100	1.81E-02	3.67E-08	3.45E-07	1.63E-02	3.32E-08	3.12E-07	5.98E-02	1.19E-07	1.12E-06
Road 44	44	0100-0200	2.23E-02	3.32E-08	3.12E-07	2.07E-02	3.08E-08	2.89E-07	6.51E-02	9.69E-08	9.09E-07
Road 44	44	0200-0300	2.58E-02	3.14E-08	2.94E-07	2.43E-02	2.96

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0800-0900	8.05E-03	2.89E-07	7.9E-06	3.02E-01	1.47E-05	2.94E-05	3.45E-02	1.24E-06	2.48E-05			
Road 2	2	0900-1000	9.03E-03	2.64E-07	5.30E-06	7.89E-03	2.31E-07	4.63E-06	4.51E-02	1.32E-06	2.65E-05	3.84E-02	1.12E-06	2.25E-05
Road 3	3	1000-1100	1.09E-02	2.74E-07	5.49E-06	9.15E-03	2.31E-07	4.62E-06	5.15E-02	1.30E-06	2.60E-05	4.22E-02	1.06E-06	2.13E-05
Road 4	4	1100-1200	1.02E-02	2.42E-07	4.90E-06	8.54E-03	2.04E-07	4.09E-06	5.11E-02	1.22E-06	2.45E-05	4.14E-02	9.89E-07	1.98E-05
Road 4	4	1200-1300	1.15E-02	3.51E-07	7.03E-06	9.85E-03	3.01E-07	6.04E-06	5.20E-02	1.59E-06	3.19E-05	4.36E-02	1.33E-06	2.67E-05
Road 4	4	1300-1400	1.15E-02	3.56E-07	7.13E-06	9.84E-03	3.06E-07	6.13E-06	5.31E-02	1.65E-06	3.30E-05	4.47E-02	1.39E-06	2.78E-05
Road 4	4	1400-1500	1.16E-02	3.59E-07	7.18E-06	9.93E-03	3.31E-07	6.63E-06	5.42E-02	1.81E-06	3.62E-05	4.47E-02	1.49E-06	2.96E-05
Road 4	4	1500-1600	1.12E-02	3.80E-07	7.63E-06	9.40E-03	3.20E-07	6.41E-06	5.40E-02	1.84E-06	3.68E-05	4.44E-02	1.51E-06	3.03E-05
Road 4	4	1600-1700	1.21E-02	4.42E-07	8.85E-06	1.00E-02	3.66E-07	7.33E-06	5.43E-02	1.95E-06	3.90E-05	4.30E-02	1.57E-06	3.15E-05
Road 4	4	1700-1800	1.19E-02	4.36E-07	8.73E-06	9.86E-03	3.61E-07	7.23E-06	5.32E-02	1.94E-06	3.89E-05	4.21E-02	1.54E-06	3.09E-05
Road 4	4	1800-1900	5.96E-03	2.78E-07	5.58E-06	5.19E-03	2.42E-07	4.85E-06	3.06E-05	2.75E-12	5.28E-06	2.57E-05	2.28E-12	4.38E-06
Road 4	4	1900-2000	5.25E-03	1.96E-07	3.92E-06	4.45E-03	1.66E-07	3.32E-06	2.63E-02	9.80E-07	1.97E-05			
Road 4	4	2000-2100	4.54E-03	1.24E-07	2.48E-06	3.84E-03	1.05E-07	2.09E-06	2.27E-02	6.20E-07	1.24E-05			
Road 4	4	2100-2200	4.29E-03	1.24E-07	2.48E-06	3.64E-03	1.05E-07	2.09E-06	2.15E-02	6.20E-07	1.24E-05			
Road 4	4	2200-2300	4.30E-03	1.21E-07	2.43E-06	3.57E-03	1.00E-07	2.01E-06	2.15E-02	6.04E-07	1.21E-05			
Road 4	4	2300-0000	6.61E-03	2.68E-07	5.36E-06	5.46E-03	2.21E-07	4.42E-06	3.31E-02	1.34E-06	2.68E-05			
Road 5	5	0000-0100	6.95E-03	4.92E-08	4.11E-07	6.15E-03	4.35E-08	3.64E-07	4.56E-02	3.23E-07	2.70E-06			
Road 5	5	0100-0200	7.38E-03	3.39E-08	2.83E-07	6.72E-03	3.09E-08	2.58E-07	4.08E-02	1.87E-07	1.56E-06			
Road 5	5	0200-0300	7.75E-03	2.59E-08	2.17E-07	7.04E-03	2.35E-08	1.96E-07	4.08E-02	1.36E-07	1.14E-06			
Road 5	5	0300-0400	8.47E-03	2.23E-08	1.86E-07	7.65E-03	2.01E-08	1.68E-07	4.85E-02	1.28E-07	1.07E-06			
Road 5	5	0400-0500	9.15E-03	2.63E-08	2.20E-07	8.27E-03	2.38E-08	1.99E-07	5.03E-02	1.45E-07	1.21E-06			
Road 5	5	0500-0600	9.85E-03	4.90E-08	4.09E-07	9.21E-03	4.58E-08	3.82E-07	5.14E-02	2.55E-07	2.13E-06			
Road 5	5	0600-0700	1.06E-02	1.28E-07	1.07E-06	9.77E-03	1.18E-07	9.84E-07	5.28E-02	6.37E-07	5.32E-06			
Road 5	5	0700-0800	1.55E-02	3.33E-07	2.78E-06	1.42E-02	3.06E-07	7.24E-06	1.55E-06	1.30E-05	6.46E-02	1.38E-06	1.16E-05	
Road 5	5	0800-0900	1.63E-02	4.02E-07	3.36E-06	1.49E-02	3.68E-07	7.67E-06	1.82E-06	1.50E-05	6.28E-02	1.53E-06	1.28E-05	
Road 5	5	0900-1000	1.48E-02	3.66E-07	3.06E-06	1.35E-02	3.34E-07	6.96E-06	1.65E-06	1.36E-05	5.71E-02	1.39E-06	1.16E-05	
Road 5	5	1000-1100	2.09E-02	3.55E-07	2.96E-06	1.76E-02	2.99E-07	2.50E-06	9.13E-02	1.55E-06	1.30E-05	7.53E-02	1.28E-06	1.07E-05
Road 5	5	1100-1200	1.87E-02	3.02E-07	2.52E-06	1.56E-02	2.52E-07	2.11E-06	8.70E-02	1.40E-06	1.17E-05	7.09E-02	1.14E-06	9.56E-06
Road 5	5	1200-1300	1.82E-02	3.04E-07	2.53E-06	1.52E-02	2.53E-07	2.11E-06	8.47E-02	1.41E-06	1.18E-05	6.91E-02	1.15E-06	9.62E-06
Road 5	5	1300-1400	2.53E-02	7.02E-07	5.86E-06	2.18E-02	6.04E-07	5.05E-06	1.08E-01	3.00E-06	2.51E-05	8.17E-02	2.54E-06	2.12E-05
Road 5	5	1400-1500	2.61E-02	7.80E-07	6.52E-06	2.18E-02	6.53E-07	5.46E-06	1.08E-01	3.25E-06	2.71E-05	8.92E-02	2.67E-06	2.23E-05
Road 5	5	1500-1600	2.57E-02	7.74E-07	6.45E-06	2.15E-02	6.48E-07	5.41E-06	1.07E-01	3.22E-06	2.69E-05	8.34E-02	2.51E-06	2.09E-05
Road 5	5	1600-1700	2.86E-02	9.46E-07	7.91E-06	2.37E-02	7.86E-07	6.56E-06	1.13E-01	3.72E-06	3.11E-05	9.16E-02	3.03E-06	2.53E-05
Road 5	5	1700-1800	1.99E-02	7.67E-07	6.41E-06	1.66E-02	6.38E-07	5.33E-06	8.95E-02	3.45E-06	2.88E-05	7.41E-02	2.85E-06	2.38E-05
Road 5	5	1800-1900	1.49E-02	5.80E-07	4.85E-06	1.24E-02	4.82E-07	4.03E-06	6.71E-02	2.61E-06	2.18E-05	5.77E-02	2.24E-06	1.87E-05
Road 5	5	1900-2000	1.15E-02	4.01E-07	3.35E-06	9.80E-03	3.43E-07	2.86E-06	5.17E-02	1.80E-06	1.51E-05	4.45E-02	1.55E-06	1.29E-05
Road 5	5	2000-2100	1.07E-02	3.55E-07	2.96E-06	9.13E-03	3.04E-07	2.53E-06	4.82E-02	1.60E-06	1.33E-05	4.14E-02	1.38E-06	1.14E-05
Road 5	5	2100-2200	8.05E-03	2.13E-07	1.78E-06	6.71E-03	1.77E-07	1.48E-06	3.62E-02	9.58E-07	7.98E-06	3.11E-02	8.23E-07	6.85E-06
Road 5	5	2200-2300	8.14E-03	1.60E-07	1.34E-06	7.01E-03	1.38E-07	1.15E-06	3.66E-02	7.20E-07	6.00E-06	3.15E-02	6.21E-07	5.17E-06
Road 5	5	2300-0000	1.07E-02	2.68E-07	2.23E-06	9.15E-03	2.29E-07	1.91E-06	4.82E-02	1.21E-06	1.00E-05	4.14E-02	1.04E-06	8.62E-06
Road 6	6	0000-0100	1.64E-02	1.02E-07	2.87E-06	1.50E-02	9.31E-08	2.62E-06	7.44E-02	4.64E-07	1.31E-05	6.70E-02	4.17E-07	1.17E-05
Road 6	6	0200-0300	1.70E-02	7.85E-08	2.21E-06	1.56E-02	7.20E-08	2.03E-06	7.54E-02	3.48E-07	9.80E-06	6.82E-02	3.15E-07	8.86E-06
Road 6	6	0300-0400	1.94E-02	7.96E-08	2.24E-06	1.76E-02	7.23E-08	2.04E-06	8.27E-02	3.39E-07	9.55E-06	7.40E-02	3.03E-07	8.55E-06
Road 6	6	0500-0600	2.10E-02	1.51E-07	4.25E-06	1.97E-02	1.41E-07	3.98E-06	8.77E-02	6.29E-07	1.77E-05	8.14E-02	5.84E-07	1.64E-05
Road 6	6	0600-0700	2.72E-02	1.32E-07	3.72E-06	2.55E-02	1.23E-07	3.47E-06	1.14E-01	5.50E-07	1.55E-05	1.06E-01	5.11E-07	1.44E-05
Road 6	6	0700-0800	3.76E-02	1.20E-06	3.37E-05	3.43E-02	1.09E-06	3.08E-05	1.45E-01	4.62E-06	1.30E-04	1.31E-01	4.18E-06	1.18E-04
Road 6	6	0800-0900	4.17E-02	1.54E-06	4.35E-05	3.84E-02	1.35E-06	3.80E-05	1.61E-01	5.98E-06	1.68E-04	1.46E-01	5.38E-06	1.51E-04
Road 6	6	0900-1000	3.76E-02	1.20E-06	3.37E-05	3.43E-02	1.09E-06	3.08E-05	1.45E-01	4.62E-06	1.30E-04	1.31E-01	4.18E-06	1.18E-04
Road 6	6	1000-1100	5.43E-02	1.61E-06	4.54E-05	4.59E-02	1.36E-06	3.84E-05	2.02E-01	5.99E-06	1.69E-04	1.69E-01	5.03E-06	1.42E-04
Road 6	6	1100-1200	5.04E-02	1.41E-06	3.98E-05	4.22E-02	1.18E-06	3.34E-05	1.91E-01	5.35E-06	1.51E-04	1.55E-01	4.46E-06	1.26E-04
Road 6	6	1200-1300	5.16E-02	1.44E-06	4.06E-05	4.31E-02	1.20E-06	3.40E-05	1.95E-01	5.46E-06	1.54E-04	1.58E-01	4.55E-06	1.29E-04
Road 6	6	1300-1400	6.38E-02	1.80E-06	5.08E-05	5.50E-02	1.55E-06	4.38E-05	2.34E-01	6.61E-06	1.86E-04	2.01E-01	5.68E-06	1.60E-04
Road 6	6	1400-1500	6.75E-02	1.97E-06	5.55E-05	5.66E-02	1.65E-06	4.66E-05	2.40E-01	7.02E-06	1.98E-04	2.01E-01	5.86E-06	1.65E-04
Road 6	6	1500-1600	6.35E-02	1.85E-06	5.22E-05	5.32E-02	1.55E-06	4.38E-05	2.26E-01	6.61E-06	1.86E-04	1.89E-01	5.52E-06	1.55E-04
Road 6	6	1600-1700	6.37E-02	1.93E-06	5.44E-05	5.30E-02	1.61E-06	4.53E-05	2.30E-01	6.96E-06	1.96E-04	1.90E-01	5.76E-06	1.62E-04
Road 6	6	1700-1800	4.72E-02	1.50E-06	4.21E-05	3.95E-02	1.25E-06	3.52E-05	1.93E-01	6.11E-06	1.72E-04	1.60E-01	5.07E-06	1.43E-04
Road 6	6	1800-1900	3.05E-02	1.21E-06	3.41E-05	2.55E-02	1.01E-06	2.84E-05	1.24E-01	4.92E-06	1.39E-04	1.03E-01	4.09E-06	1.15E-04
Road 6	6	1900-2000	2.40E-02	5.57E-07	1.57E-05	2.00E-02	4.64E-07	1.31E-05	9.76E-02	2.27E-06	6.39E-05	8.14E-02	1.89E-06	5.32E-05
Road 6	6	2000-2100	2.11E-02	3.83E-07	1.08E-05	1.76E-02	3.19E-07	8.99E-06	8.58E-02	1.56E-06	4.39E-05	7.15E-02	1.30E-06	3.66E-05
Road 6	6	2100-2200	2.13E-02	3.87E-07	1.09E-05	1.78E-02	3.22E-07	9.08E-06	8.66E-02	1.57E-06	4.43E-05	7.22E-02	1.31E-06	3.70E-05
Road 6	6	2200-2300	2.30E-02	4.18E-07	1.18E-05	1.92E-02	3.48E-07	9.81E-06	9.35E-02	1.70E-06	4.79E-05	7.79E-02	1.41E-06	3.99E-05
Road 6	6	2300-0000	2.86E-02	7.84E-07	2.20E-05	2.38E-02	6.53E-07	1.83E-05	1.16E-01	3.18E-06	8.93E-05	9.66E-02	2.65E-06	7.43E-05
Road 7	7	0000-0100	3.53E-03	3.28E-08	3.84E-07	4.90E-03	2.90E-08	3.40E-07	3.65E-02	2.16E-07	2.54E-06	3.11E-02	1.84E-07	2.16E-06
Road 7	7	0100-0200	6.15E-03	2.52E-08	2.96E-07	8.53E-03	2.24E-08	2.64E-07	3.65E-02	1.49E-07	1.75E-06	3.11E-02	1.32E-07	1.55E-06
Road 7	7	0200-0300	6.74E-03	1.91E-08	2.24E-07	6.17E-03	1.75E-08	2.05E-07	3.89E-02	1.10E-07	1.29E-06	3.56E-02	1.01E-07	1.18E-06
Road 7	7	0300-0400	7.44E-03	1.67E-08	1.96E-07	6.73E-03	1.51E-08	1.77E-07	4.08E-02	9.16E-08	1.07E-06	3.69E-02	8.29E-08	9.73E-07
Road 7	7	0400-0500	7.89E-03	1.58E-08	1.86E-07	7.13E-03	1.43E-08	1.67E-07	4.08E-02	8.18E-08	9.59E-07	3.69E-02	7.40E-08	8.68E-07
Road 7	7	0500-0600	7.84E-03	3.33E-08	3.90E-07	7.13E-03	3.03E-08	3.55E-07	3.92E-02	1.66E-07	1.95E-06	3.56E-02	1.51E-07	1.77E-06
Road 7	7	0600-0700	8.16E-03	7.41E-08	8.69E-07	7.62E-03	6.89E-08	8.08E-07	4.30E-02	3.90E-07	4.57E-06	3.92E-02	3.55E-07	4.16E-06
Road 7	7	0700-0800	9.12E-03	1.97E-07	2.29E-06	8.00E-03	1.70E-07	1.99E-06	4.64E-02	1.00E-06	1.17E-05	4.13E-02	8.92E-07	1.04E-05
Road 7	7	0800-0900	9.18E-03	1.95E-07	2.29E-06	8.00E-03	1.70E-07	1.99E-06	4.54E-02	9.62E-07	1.13E-05	3.85E-02	8.17E-07	9.57E-06
Road 7	7	0900-1000	1.04E-02	1.83E-07	2.14E-06	9.13E-03	1.60E-07	1.87E-06	5.06E-02	8.85E-07	1.04E-05	4.32E-02	7.56E-07	8.87E-06
Road 7	7	1000-1100	1.25E-02	1.98E-07	2.22E-06	1.05E-02	1.66E-07	1.87E-06	5.76E-02	9.12E-07	1.03E-05	4.72E-02	7.47E-07	8.39E-06
Road 7	7	1100-1200	1.19E-02	1.71E-07	2.00E-06	9.84E-03	1.43E-07	1.67E-06	5.70E-02	8.21E-07	9.60E-06	4.64E-02	6.66E-07	7.81E-06
Road 7	7	1200-1300	1.60E-02	3.18E-07	3.73E-06	1.38E-02	2.74E-07	3.21E-06	5.76E-02	1.14E-06	1.34E-05	5.02E-02	9.97E-07	1.17E-05
Road 7	7	1300-1400	1.62E-02	3.21E-07	3.88E-06	1.40E-02	2.77E-07	3.34E-06	5.82E-02	1.15E-06	1.39E-05	5.07E-02	1.01E-06	1.21E-05
Road 7	7	1400-1500	1.68E-02	3.63E-07	4.26E-06	1.40E-02	3.04E-07	3.57E-06	7.18E-02	1.55E-06	1.82E-05	5.93E-02	1.28E-06	1.50E-05
Road 7	7	1500-1600	1.57E-02	3.49E-07	4.09E-06	1.33E-02	2.95E-07	3.45E-06	7.24E-02	1.61E-06	1.88E-05	6.01E-02	1.33E-06	1.56E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 7	7	1600-1700	1.67E-02	3.91E-07	3.79E-06	7.09E-02	1.66E-06	3.23E-07	3.79E-06	7.09E-02	1.66E-06	4.55E-06	4.32E-02	2.99E-06
Road 7	7	1700-1800	1.23E-02	3.17E-07	3.72E-06	1.02E-02	2.64E-07	3.10E-06	6.02E-02	1.54E-06	2.94E-05	3.12E-06	4.65E-02	2.13E-07
Road 7	7	1800-1900	8.78E-03	2.41E-07	2.83E-06	7.66E-03	2.11E-07	2.47E-06	4.36E-02	1.20E-06	1.41E-05	3.71E-02	1.02E-06	1.20E-05
Road 7	7	1900-2000	6.98E-03	1.51E-07	1.77E-06	5.96E-03	1.29E-07	1.51E-06	3.89E-02	8.41E-07	9.86E-06	3.21E-02	6.94E-07	8.13E-06
Road 7	7	2000-2100	6.53E-03	1.10E-07	1.29E-06	5.74E-03	9.68E-08	1.13E-06	3.99E-02	6.72E-07	7.88E-06	3.39E-02	5.71E-07	6.70E-06
Road 7	7	2100-2200	6.14E-03	1.03E-07	1.21E-06	5.27E-03	8.85E-08	1.04E-06	4.05E-02	6.80E-07	7.98E-06	3.34E-02	5.61E-07	6.57E-06
Road 7	7	2200-2300	6.23E-03	1.01E-07	1.18E-06	5.21E-03	8.48E-08	9.94E-07	4.10E-02	6.67E-07	7.82E-06	3.25E-02	5.32E-07	6.24E-06
Road 7	7	2300-0000	6.65E-03	8.13E-08	9.53E-07	5.73E-03	7.01E-08	8.21E-07	4.09E-02	5.00E-07	5.87E-06	3.40E-02	4.16E-07	4.87E-06
Road 8	8	0000-0100	8.04E-03	4.54E-09	9.18E-08	7.16E-03	4.04E-09	8.17E-08	3.88E-02	2.19E-08	4.43E-07	3.36E-02	1.89E-08	3.83E-07
Road 8	8	0100-0200	8.27E-03	3.12E-09	6.32E-08	7.36E-03	2.78E-09	5.63E-08	4.00E-02	1.51E-08	3.05E-07	3.47E-02	1.31E-08	2.64E-07
Road 8	8	0200-0300	8.86E-03	2.40E-09	4.85E-08	8.13E-03	2.20E-09	4.45E-08	4.08E-02	1.10E-08	2.23E-07	3.67E-02	9.92E-09	2.01E-07
Road 8	8	0300-0400	9.38E-03	2.01E-09	4.07E-08	8.51E-03	1.82E-09	3.69E-08	4.25E-02	9.10E-09	1.84E-07	3.77E-02	8.08E-09	1.64E-07
Road 8	8	0400-0500	9.86E-03	2.32E-09	4.69E-08	8.87E-03	2.08E-09	4.22E-08	4.36E-02	1.02E-08	2.06E-07	3.91E-02	9.20E-09	1.86E-07
Road 8	8	0500-0600	1.01E-02	4.14E-09	8.37E-08	9.43E-03	3.87E-09	7.83E-08	4.39E-02	1.80E-08	3.65E-07	4.05E-02	1.66E-08	3.37E-07
Road 8	8	0600-0700	1.06E-02	9.40E-09	1.90E-07	9.91E-03	8.76E-09	1.77E-07	4.58E-02	4.05E-08	8.19E-07	4.21E-02	3.72E-08	7.53E-07
Road 8	8	0700-0800	1.14E-02	2.04E-08	4.12E-07	1.06E-02	1.90E-08	3.84E-07	4.92E-02	8.78E-08	1.77E-06	4.51E-02	8.06E-08	1.63E-06
Road 8	8	0800-0900	1.15E-02	2.35E-08	4.76E-07	1.01E-02	2.05E-08	4.15E-07	4.87E-02	9.92E-08	2.01E-06	4.18E-02	8.50E-08	1.72E-06
Road 8	8	0900-1000	1.31E-02	2.28E-08	4.62E-07	1.14E-02	2.00E-08	4.04E-07	5.50E-02	9.60E-08	1.94E-06	4.75E-02	8.29E-08	1.68E-06
Road 8	8	1000-1100	1.54E-02	2.86E-08	4.78E-07	1.34E-02	2.49E-08	4.16E-07	6.48E-02	1.20E-07	2.01E-06	5.59E-02	1.04E-07	1.74E-06
Road 8	8	1100-1200	1.49E-02	2.17E-08	4.40E-07	1.25E-02	1.82E-08	3.68E-07	6.18E-02	9.01E-08	1.82E-06	5.08E-02	7.41E-08	1.50E-06
Road 8	8	1200-1300	1.90E-02	2.77E-08	1.57E-06	1.64E-02	6.70E-08	1.35E-06	7.34E-02	3.00E-07	6.06E-06	6.25E-02	2.55E-07	5.17E-06
Road 8	8	1300-1400	1.92E-02	2.80E-08	1.71E-06	1.66E-02	6.78E-08	1.46E-06	7.42E-02	3.23E-07	6.56E-06	6.32E-02	2.76E-07	5.59E-06
Road 8	8	1400-1500	1.92E-02	2.80E-08	1.71E-06	1.66E-02	6.78E-08	1.46E-06	7.42E-02	3.23E-07	6.56E-06	6.32E-02	2.76E-07	5.59E-06
Road 8	8	1500-1600	1.79E-02	8.19E-08	1.66E-06	1.51E-02	6.91E-08	1.40E-06	7.55E-02	3.46E-07	6.99E-06	6.31E-02	2.89E-07	5.84E-06
Road 8	8	1600-1700	1.85E-02	8.78E-08	1.77E-06	1.53E-02	7.27E-08	1.47E-06	7.22E-02	3.42E-07	6.91E-06	5.92E-02	2.81E-07	5.67E-06
Road 8	8	1700-1800	1.38E-02	7.24E-08	1.47E-06	1.14E-02	5.99E-08	1.21E-06	6.17E-02	3.23E-07	6.57E-06	5.29E-02	2.78E-07	5.65E-06
Road 8	8	1800-1900	1.00E-02	5.18E-08	1.05E-06	8.75E-03	4.53E-08	9.16E-07	4.51E-02	2.34E-07	4.73E-06	3.87E-02	2.00E-07	4.05E-06
Road 8	8	1900-2000	9.23E-03	3.77E-08	7.62E-07	7.91E-03	3.23E-08	6.53E-07	4.30E-02	1.76E-07	3.55E-06	3.59E-02	1.46E-07	2.96E-06
Road 8	8	2000-2100	8.78E-03	2.82E-08	5.69E-07	7.44E-03	2.39E-08	4.83E-07	4.21E-02	1.35E-07	2.73E-06	3.51E-02	1.13E-07	2.28E-06
Road 8	8	2100-2200	8.64E-03	2.72E-08	5.51E-07	7.44E-03	2.35E-08	4.74E-07	4.53E-02	1.43E-07	2.89E-06	3.79E-02	1.19E-07	2.42E-06
Road 8	8	2200-2300	8.90E-03	2.72E-08	5.50E-07	7.48E-03	2.29E-08	4.63E-07	4.52E-02	1.38E-07	2.80E-06	3.67E-02	1.12E-07	2.27E-06
Road 8	8	2300-0000	9.90E-03	2.62E-08	5.31E-07	8.27E-03	2.18E-08	4.42E-07	4.98E-02	1.32E-07	2.68E-06	3.90E-02	1.03E-07	2.09E-06
Road 9	9	0000-0100	1.12E-02	6.35E-08	4.71E-07	9.98E-03	5.64E-08	4.19E-07	6.00E-02	3.39E-07	2.52E-06	5.17E-02	2.92E-07	2.17E-06
Road 9	9	0100-0200	1.13E-02	4.19E-08	3.11E-07	1.03E-02	3.82E-08	2.83E-07	5.86E-02	2.16E-07	1.61E-06	5.22E-02	1.93E-07	1.43E-06
Road 9	9	0200-0300	1.03E-02	3.08E-08	2.28E-07	9.38E-03	2.80E-08	2.08E-07	5.86E-02	1.75E-07	1.30E-06	5.31E-02	1.59E-07	1.18E-06
Road 9	9	0300-0400	1.29E-02	2.77E-08	2.05E-07	1.17E-02	2.51E-08	1.86E-07	6.14E-02	1.32E-07	9.80E-07	5.44E-02	1.17E-07	8.68E-07
Road 9	9	0400-0500	1.40E-02	3.32E-08	2.46E-07	1.27E-02	3.01E-08	2.23E-07	6.52E-02	1.54E-07	1.14E-06	5.79E-02	1.37E-07	1.01E-06
Road 9	9	0500-0600	1.50E-02	3.12E-08	2.32E-07	1.37E-02	2.84E-08	2.11E-07	6.98E-02	1.45E-07	1.08E-06	6.21E-02	1.29E-07	9.57E-07
Road 9	9	0600-0700	1.93E-02	1.69E-07	1.25E-06	1.80E-02	1.58E-07	1.17E-06	8.42E-02	7.35E-07	5.46E-06	7.74E-02	6.76E-07	5.02E-06
Road 9	9	0700-0800	3.05E-02	5.41E-07	4.01E-06	2.78E-02	4.93E-07	3.66E-06	1.24E-01	2.20E-06	1.63E-05	1.12E-01	1.98E-06	1.47E-05
Road 9	9	0800-0900	3.23E-02	5.54E-07	4.11E-06	2.98E-02	5.10E-07	3.78E-06	1.31E-01	2.25E-06	1.67E-05	1.18E-01	2.03E-06	1.51E-05
Road 9	9	0900-1000	3.68E-02	6.32E-07	4.69E-06	3.23E-02	5.54E-07	4.11E-06	1.50E-01	2.58E-06	1.91E-05	1.30E-01	2.23E-06	1.66E-05
Road 9	9	1000-1100	3.98E-02	3.08E-07	5.96E-06	4.42E-02	3.36E-07	5.03E-06	3.73E-06	1.54E-01	2.30E-06	1.71E-05	1.28E-01	1.92E-06
Road 9	9	1100-1200	3.62E-02	3.13E-07	5.84E-06	4.02E-02	3.48E-07	5.21E-06	3.39E-06	1.46E-01	2.19E-06	1.55E-05	1.34E-01	2.01E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for
AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Ave			Monthly/Hour/Min			Monthly/Hour/Ave		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.53E-02	3.78E-08	0.097	2.61E-01	6.50E-07	1.10E-06	1.08E-02	2.68E-08	0.069	1.85E-01	4.60E-07	7.80E-07
Road 31	31	0100-0200	1.79E-02	2.68E-08	0.091	2.45E-01	3.66E-07	6.09E-07	1.27E-02	1.90E-08	0.064	1.74E-01	2.60E-07	4.32E-07
Road 31	31	0200-0300	2.03E-02	2.36E-08	0.091	2.17E-01	1.94E-07	6.50E-07	1.44E-02	1.68E-08	0.064	1.54E-01	1.38E-07	4.62E-07
Road 31	31	0300-0400	2.26E-02	1.97E-08	0.080	2.06E-01	1.79E-07	6.78E-07	1.60E-02	1.39E-08	0.057	1.46E-01	1.27E-07	4.81E-07
Road 31	31	0400-0500	2.23E-02	2.37E-08	0.096	2.11E-01	2.02E-07	6.70E-07	1.58E-02	1.68E-08	0.068	1.50E-01	1.43E-07	4.75E-07
Road 31	31	0500-0600	1.88E-02	3.22E-08	0.098	2.88E-01	1.76E-07	3.02E-08	2.70E-07	6.37E-02	1.09E-07	9.75E-07	5.92E-02	1.01E-07
Road 31	31	0600-0700	1.67E-02	4.28E-08	0.130	5.33E-01	1.36E-07	5.44E-08	4.86E-07	6.14E-02	2.14E-07	1.91E-06	5.57E-02	1.98E-07
Road 31	31	0700-0800	1.98E-02	1.49E-07	1.34E-06	1.81E-02	1.37E-07	1.22E-06	6.80E-02	5.13E-07	4.58E-06	6.15E-02	4.63E-07	4.14E-06
Road 31	31	0800-0900	1.96E-02	1.69E-07	1.51E-06	1.71E-02	1.48E-07	1.32E-06	6.79E-02	5.86E-07	5.23E-06	5.87E-02	5.06E-07	4.53E-06
Road 31	31	0900-1000	1.81E-02	1.56E-07	1.39E-06	1.51E-02	1.30E-07	1.16E-06	6.27E-02	5.40E-07	4.82E-06	5.22E-02	4.49E-07	4.00E-06
Road 31	31	1000-1100	2.55E-02	1.86E-07	1.67E-06	2.16E-02	1.58E-07	1.41E-06	8.45E-02	6.18E-07	5.52E-06	7.08E-02	5.18E-07	4.63E-06
Road 31	31	1100-1200	2.53E-02	1.76E-07	1.57E-06	2.12E-02	1.47E-07	1.32E-06	8.43E-02	5.85E-07	5.24E-06	7.00E-02	4.87E-07	4.35E-06
Road 31	31	1200-1300	2.34E-02	1.63E-07	1.45E-06	1.96E-02	1.36E-07	1.22E-06	7.80E-02	5.41E-07	4.83E-06	6.47E-02	4.49E-07	4.01E-06
Road 31	31	1300-1400	2.36E-02	1.37E-07	1.22E-06	2.03E-02	1.18E-07	1.05E-06	7.74E-02	4.49E-07	4.02E-06	6.66E-02	3.86E-07	3.43E-06
Road 31	31	1400-1500	2.36E-02	1.43E-07	1.28E-06	1.98E-02	1.20E-07	1.07E-06	7.73E-02	4.69E-07	4.18E-06	6.49E-02	3.94E-07	3.51E-06
Road 31	31	1500-1600	2.04E-02	1.24E-07	1.11E-06	1.72E-02	1.04E-07	9.27E-07	6.68E-02	4.06E-07	3.62E-06	5.64E-02	3.43E-07	3.06E-06
Road 31	31	1600-1700	1.67E-02	1.01E-07	9.04E-07	1.41E-02	8.55E-08	7.62E-07	5.47E-02	3.32E-07	2.96E-06	4.62E-02	2.80E-07	2.50E-06
Road 31	31	1700-1800	1.67E-02	1.01E-07	9.04E-07	1.41E-02	8.55E-08	7.62E-07	5.47E-02	3.32E-07	2.96E-06	4.62E-02	2.80E-07	2.50E-06
Road 31	31	1800-1900	1.67E-02	1.01E-07	9.04E-07	1.41E-02	8.55E-08	7.62E-07	5.47E-02	3.32E-07	2.96E-06	4.62E-02	2.80E-07	2.50E-06
Road 31	31	1900-2000	9.96E-03	5.21E-08	4.66E-07	8.42E-02	4.40E-07	3.93E-06	3.26E-02	1.70E-07	1.52E-06	2.76E-01	1.44E-06	1.29E-05
Road 31	31	2000-2100	1.00E-02	4.15E-08	3.71E-07	8.84E-03	3.66E-08	3.27E-07	4.45E-02	1.84E-07	1.64E-06	3.82E-02	1.58E-07	1.41E-06
Road 31	31	2100-2200	9.89E-03	4.06E-08	3.63E-07	8.51E-03	3.49E-08	3.12E-07	4.43E-02	1.82E-07	1.62E-06	3.81E-02	1.56E-07	1.40E-06
Road 31	31	2200-2300	1.02E-02	3.98E-08	3.56E-07	8.77E-03	3.42E-08	3.06E-07	4.58E-02	1.78E-07	1.59E-06	3.94E-02	1.53E-07	1.37E-06
Road 31	31	2300-0000	1.13E-02	3.46E-08	3.09E-07	9.84E-03	3.00E-08	2.68E-07	4.76E-02	1.45E-07	1.30E-06	4.01E-02	1.22E-07	1.09E-06
Road 32	32	0000-0100	8.31E-03	8.20E-08	5.45E-06	7.38E-03	7.28E-08	4.83E-06	2.42E-02	2.39E-07	1.59E-05	2.14E-02	2.12E-07	1.41E-05
Road 32	32	0100-0200	8.88E-03	7.30E-08	4.85E-06	7.88E-03	6.48E-08	4.30E-06	2.58E-02	2.12E-07	1.41E-05	2.29E-02	1.88E-07	1.25E-05
Road 32	32	0200-0300	9.40E-03	4.50E-08	2.98E-06	8.61E-03	4.12E-08	2.74E-06	4.49E-02	2.15E-07	1.42E-05	4.03E-02	1.93E-07	1.28E-05
Road 32	32	0300-0400	1.01E-02	3.83E-08	2.55E-06	9.12E-03	3.48E-08	2.31E-06	4.68E-02	1.78E-07	1.18E-05	4.15E-02	1.58E-07	1.05E-05
Road 32	32	0400-0500	1.07E-02	8.18E-08	5.44E-06	9.72E-03	7.43E-08	4.94E-06	4.96E-02	3.79E-07	2.52E-05	4.42E-02	3.38E-07	2.25E-05
Road 32	32	0500-0600	1.10E-02	8.10E-08	5.38E-06	1.03E-02	7.58E-08	5.03E-06	4.85E-02	3.59E-07	2.38E-05	4.48E-02	3.31E-07	2.20E-05
Road 32	32	0600-0700	1.16E-02	1.86E-07	1.24E-05	1.09E-02	1.74E-07	1.15E-05	5.12E-02	8.11E-07	5.38E-05	4.66E-02	7.45E-07	4.95E-05
Road 32	32	0700-0800	1.26E-02	4.77E-07	3.17E-05	1.10E-02	4.16E-07	2.76E-05	5.34E-02	2.02E-06	1.34E-04	4.58E-02	1.73E-06	1.15E-04
Road 32	32	0800-0900	1.26E-02	4.77E-07	3.17E-05	1.10E-02	4.16E-07	2.76E-05	5.34E-02	2.02E-06	1.34E-04	4.58E-02	1.73E-06	1.15E-04
Road 32	32	0900-1000	1.45E-02	4.83E-07	3.21E-05	1.27E-02	4.23E-07	2.81E-05	6.04E-02	2.01E-06	1.33E-04	5.22E-02	1.74E-06	1.15E-04
Road 32	32	1000-1100	1.41E-02	4.70E-07	3.12E-05	1.24E-02	4.12E-07	2.74E-05	5.88E-02	1.96E-06	1.30E-04	5.08E-02	1.69E-06	1.12E-04
Road 32	32	1100-1200	1.68E-02	4.72E-07	3.14E-05	1.41E-02	3.95E-07	2.62E-05	6.80E-02	1.91E-06	1.27E-04	5.60E-02	1.57E-06	1.05E-04
Road 32	32	1200-1300	1.55E-02	3.31E-07	2.20E-05	1.33E-02	2.85E-07	1.89E-05	6.26E-02	1.34E-06	8.86E-05	5.29E-02	1.13E-06	7.50E-05
Road 32	32	1300-1400	1.58E-02	4.30E-07	2.85E-05	1.36E-02	3.70E-07	2.45E-05	6.38E-02	1.74E-06	1.15E-04	5.39E-02	1.46E-06	9.71E-05
Road 32	32	1400-1500	1.58E-02	3.67E-07	2.44E-05	1.32E-02	3.08E-07	2.04E-05	6.43E-02	1.50E-06	9.94E-05	5.29E-02	1.23E-06	8.18E-05
Road 32	32	1500-1600	1.46E-02	3.49E-07	2.32E-05	1.24E-02	2.96E-07	1.97E-05	5.92E-02	1.41E-06	9.39E-05	5.02E-02	1.20E-06	7.98E-05
Road 32	32	1600-1700	1.50E-02	3.58E-07	2.38E-05	1.27E-02	3.04E-07	2.02E-05	6.08E-02	1.45E-06	9.64E-05	5.15E-02	1.23E-06	8.19E-05
Road 32	32	1700-1800	1.10E-02	3.04E-07	2.02E-05	9.13E-03	2.54E-07	1.68E-05	5.20E-02	1.45E-06	9.60E-05	4.22E-02	1.17E-06	7.78E-05
Road 32	32	1800-1900	7.72E-03	2.27E-07	1.51E-05	6.73E-03	1.98E-07	1.31E-05	3.66E-02	1.08E-06	7.16E-05	3.19E-02	9.37E-07	6.22E-05
Road 32	32	1900-2000	1.24E-02	2.70E-07	1.79E-05	1.08E-02	2.35E-07	1.56E-05	5.88E-02	1.28E-06	8.48E-05	5.13E-02	1.11E-06	7.40E-05
Road 32	32	2000-2100	6.60E-03	1.20E-07	7.95E-06	5.81E-03	1.05E-07	6.99E-06	3.88E-02	7.04E-07	4.68E-05	3.30E-02	5.98E-07	3.97E-05
Road 32	32	2100-2200	6.21E-03	1.12E-07	7.45E-06	5.31E-03	9.60E-08	6.37E-06	3.94E-02	7.12E-07	4.72E-05	3.24E-02	5.86E-07	3.89E-05
Road 32	32	2200-2300	6.47E-03	1.17E-07	7.76E-06	5.53E-03	1.00E-07	6.64E-06	3.92E-02	7.08E-07	4.69E-05	3.35E-02	6.05E-07	4.02E-05
Road 32	32	2300-0000	6.67E-03	8.75E-08	5.81E-06	5.76E-03	7.56E-08	5.02E-06	3.99E-02	5.24E-07	3.48E-05	3.31E-02	4.35E-07	2.89E-05
Road 33	33	0000-0100	1.05E-02	1.02E-07	1.54E-06	9.37E-03	9.08E-08	1.37E-06	4.88E-02	4.73E-07	7.12E-06	4.23E-02	4.10E-07	6.17E-06
Road 33	33	0100-0200	1.02E-02	9.93E-08	1.50E-06	9.13E-03	8.84E-08	1.33E-06	4.76E-02	4.62E-07	6.94E-06	4.12E-02	3.99E-07	6.01E-06
Road 33	33	0200-0300	1.38E-02	6.80E-08	1.02E-06	1.27E-02	6.25E-08	9.40E-07	6.45E-02	3.18E-07	4.78E-06	5.94E-02	2.93E-07	4.40E-06
Road 33	33	0300-0400	1.55E-02	6.21E-08	9.35E-07	1.40E-02	5.64E-08	8.49E-07	5.87E-02	2.36E-07	3.55E-06	5.24E-02	2.11E-07	3.17E-06
Road 33	33	0400-0500	1.54E-02	1.03E-07	1.55E-06	1.40E-02	9.37E-08	1.41E-06	5.85E-02	3.91E-07	5.89E-06	5.23E-02	3.49E-07	5.26E-06
Road 33	33	0500-0600	1.39E-02	1.03E-07	1.55E-06	1.30E-02	9.64E-08	1.45E-06	5.65E-02	4.19E-07	6.30E-06	5.23E-02	3.88E-07	5.83E-06
Road 33	33	0600-0700	1.32E-02	2.05E-07	3.08E-06	1.23E-02	1.91E-07	2.87E-06	5.67E-02	8.81E-07	1.33E-05	5.22E-02	8.11E-07	1.22E-05
Road 33	33	0700-0800	1.52E-02	4.98E-07	7.49E-06	1.41E-02	4.63E-07	6.96E-06	6.54E-02	2.14E-06	3.22E-05	6.02E-02	1.98E-06	2.98E-05
Road 33	33	0800-0900	1.51E-02	5.70E-07	8.57E-06	1.32E-02	4.98E-07	7.49E-06	6.44E-02	2.43E-06	3.65E-05	5.62E-02	2.12E-06	3.19E-05
Road 33	33	0900-1000	1.74E-02	5.81E-07	8.75E-06	1.52E-02	5.09E-07	7.66E-06	6.98E-02	2.33E-06	3.51E-05	6.09E-02	2.04E-06	3.07E-05
Road 33	33	1000-1100	2.01E-02	5.77E-07	8.68E-06	1.75E-02	5.03E-07	7.56E-06	8.06E-02	2.31E-06	3.48E-05	7.03E-02	2.02E-06	3.03E-05
Road 33	33	1100-1200	2.03E-02	5.77E-07	8.68E-06	1.77E-02	5.03E-07	7.56E-06	8.12E-02	2.31E-06	3.48E-05	7.08E-02	2.02E-06	3.03E-05
Road 33	33	1200-1300	2.42E-02	6.68E-07	1.01E-05	2.09E-02	5.76E-07	8.67E-06	8.70E-02	2.40E-06	3.61E-05	7.53E-02	2.08E-06	3.12E-05
Road 33	33	1300-1400	2.39E-02	6.97E-07	1.05E-05	2.06E-02	6.01E-07	9.04E-06	8.88E-02	2.59E-06	3.90E-05	7.61E-02	2.22E-06	3.34E-05
Road 33	33	1400-1500	2.41E-02	6.98E-07	1.05E-05	2.08E-02	6.02E-07	9.06E-06	8.94E-02	2.59E-06	3.90E-05	7.67E-02	2.22E-06	3.34E-05
Road 33	33	1500-1600	2.25E-02	6.97E-07	1.05E-05	1.90E-02	5.88E-07	8.85E-06	8.33E-02	2.74E-06	4.12E-05	7.04E-02	2.40E-06	3.45E-05
Road 33	33	1600-1700	2.32E-02	7.26E-07	1.09E-05	1.93E-02	6.04E-07	9.09E-06	8.54E-02	2.67E-06	4.02E-05	7.03E-02	2.20E-06	3.31E-05
Road 33	33	1700-1800	1.78E-02	7.72E-07	1.16E-05	1.48E-02	6.42E-07	9.66E-06	6.54E-02	2.84E-06	4.27E-05	5.38E-02	2.33E-06	3.50E-05
Road 33	33	1800-1900	1.36E-02	4.32E-07	6.50E-06	1.19E-02	3.78E-07	5.68E-06	5.60E-02	1.78E-06	2.68E-05	4.82E-02	1.53E-06	2.31E-05
Road 33	33	1900-2000	1.08E-02	2.55E-07	3.83E-06	9.29E-03	2.18E-07	3.28E-06	5.04E-02	1.19E-06	1.78E-05	4.22E-02	9.92E-07	1.49E-05
Road 33	33	2000-2100	1.03E-02	2.72E-07	4.09E-06	8.84E-03	2.33E-07	3.51E-06	4.84E-02	1.27E-06	1.91E-05	4.05E-02	1.06E-06	1.59E-05
Road 33	33	2100-2200	1.06E-02	1.95E-07	2.94E-06	9.09E-03	1.68E-07	2.53E-06	5.34E-02	9.87E-07	1.49E-05	4.48E-02	8.29E-07	1.25E-05
Road 33	33	2200-2300	1.09E-02	1.93E-07	2.91E-06	9.21E-03	1.63E-07	2.45E-06	5.44E-02	9.61E-07	1.45E-05	4.34E-02	7.66E-07	1.15E-05
Road 33	33	2300-0000	1.18E-02	1.33E-07	2.00E-06	9.97E-03	1.12E-07	1.69E-06	5.42E-02	6.13E-07	9.23E-06	4.60E-02	5.20E-07	7.83E-06
Road 34	34	0000-0100	5.79E-03	4.31E-08	1.13E-06	5.12E-03	3.81E-08	9.96E-07	3.60E-02	2.68E-07	7.01E-06	3.06E-02	2.28E-07	5.96E-06
Road 34	34	0100-0200	6.67E-03	3.25E-08	8.51E-07	6.08E-03	2.96E-08	7.75E-07	3.77E-02	1.84E-07	4.81E-06	3.33E-02	1.62E-07	4.25E-06
Road 34	34	0200-0300	7.52E-03	2.70E-08	7.07E-07	6.88E-03	2.47E-08	6.46E-07	3.92E-02	1.41E-07	3.68E-06	3.46E-02	1.24E-07	3.25E-06
Road 34	34	0300-0400	8.48E-03	2.42E-08	6.34E-07	7.67E-03	2.19E-08	5.73E-07	4.13E-02	1.18E-07	3.09E-06	3.64E-02	1.04E-07	2.72E-06
Road 34	34	0400-0500	8.74E-03	2.72E-08	7.13E-07	7.91E-03	2.47E-08	6.45E-07	4.22E-02	1.32E-07	3.44E-06	3.71E-02	1.16E-07	3.03E-06
Road 34	34	0500-0600	8.14E-03	5.28E-08	1.38E-06	7.37E-03	4.04E-08	1.06E-06	4.00E-02	2.59E-07	6.77E-06	3.52E-02	2.16E-07	5.65E-06
Road 34	34	0600-0700	8.07E-03	9.06E-08	2.37E-06	7.51E-03	8.43E-08	2.21E-06	3.76E-02	4.22E-07	1.11E-05	3.38E-02	3.89E-07	1.02E-05
Road 34	34	0700-0800	9.25E-03	2.12E-07	5.54E-06	8.42E-03	1.93E-07	5.04E-06	4.48E-02	1.03E-06	2.68E-05	3.98E-02	9.11E-07	2.38E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for
AERMOD model (August)
Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Ave			Monthly/Hour/Min			Monthly/Hour/Ave		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	9.13E-03	2.41E-07	6.31E-06	7.95E-03	2.10E-07	5.49E-06	4.25E-02	1.12E-06	2.94E-05	3.60E-02	9.51E-07	2.49E-05
Road 34	34	0900-1000	1.04E-02	2.24E-07	5.86E-06	9.05E-03	1.96E-07	5.12E-06	4.76E-02	1.02E-06	2.68E-05	4.04E-02	8.74E-07	2.29E-05
Road 34	34	1000-1100	1.24E-02	2.31E-07	6.06E-06	1.04E-02	1.95E-07	5.11E-06	5.41E-02	1.01E-06	2.64E-05	4.44E-02	8.29E-07	2.17E-05
Road 34	34	1100-1200	1.19E-02	2.10E-07	5.51E-06	9.92E-03	1.76E-07	4.60E-06	5.39E-02	9.55E-07	2.50E-05	4.37E-02	7.75E-07	2.03E-05
Road 34	34	1200-1300	2.05E-02	2.96E-07	7.74E-06	1.77E-02	2.55E-07	6.67E-06	7.21E-02	1.04E-06	2.72E-05	6.15E-02	8.85E-07	2.32E-05
Road 34	34	1300-1400	2.03E-02	3.06E-07	8.00E-06	1.75E-02	2.63E-07	6.89E-06	7.35E-02	1.11E-06	2.89E-05	6.28E-02	9.44E-07	2.47E-05
Road 34	34	1400-1500	2.06E-02	3.22E-07	8.43E-06	1.78E-02	2.77E-07	7.08E-06	7.36E-02	1.15E-06	3.01E-05	6.31E-02	9.85E-07	2.58E-05
Road 34	34	1500-1600	1.91E-02	3.07E-07	8.04E-06	1.61E-02	2.59E-07	6.79E-06	7.29E-02	1.17E-06	3.07E-05	6.09E-02	9.79E-07	2.56E-05
Road 34	34	1600-1700	1.98E-02	3.28E-07	8.58E-06	1.64E-02	2.73E-07	7.14E-06	7.06E-02	1.17E-06	3.07E-05	6.09E-02	9.62E-07	2.52E-05
Road 34	34	1700-1800	1.52E-02	2.71E-07	7.09E-06	1.26E-02	2.25E-07	5.90E-06	6.02E-02	1.08E-06	2.83E-05	5.01E-02	8.94E-07	2.34E-05
Road 34	34	1800-1900	1.16E-02	2.08E-07	5.46E-06	1.01E-02	1.82E-07	4.77E-06	4.59E-02	8.27E-07	2.16E-05	4.00E-02	7.21E-07	1.89E-05
Road 34	34	1900-2000	1.01E-02	1.41E-07	3.69E-06	8.79E-03	1.23E-07	3.22E-06	4.00E-02	5.60E-07	1.47E-05	3.48E-02	4.88E-07	1.28E-05
Road 34	34	2000-2100	1.00E-02	1.41E-07	3.68E-06	8.73E-03	1.23E-07	3.21E-06	3.98E-02	5.58E-07	1.46E-05	3.46E-02	4.86E-07	1.27E-05
Road 34	34	2100-2200	9.94E-03	1.04E-07	2.73E-06	8.36E-03	8.78E-08	2.30E-06	4.55E-02	4.78E-07	1.25E-05	3.70E-02	3.88E-07	1.02E-05
Road 34	34	2200-2300	1.04E-02	8.28E-08	2.17E-06	8.65E-03	7.24E-08	1.89E-06	4.57E-02	3.64E-07	9.53E-06	3.76E-02	2.95E-07	7.72E-06
Road 34	34	2300-0000	1.06E-02	3.59E-08	9.74E-07	8.74E-03	2.97E-08	7.98E-07	4.66E-02	1.58E-07	4.28E-06	3.84E-02	1.30E-07	3.51E-06
Road 35	35	0000-0100	3.06E-02	3.59E-08	8.74E-08	2.72E-02	3.20E-08	7.79E-08	9.34E-02	1.10E-07	2.67E-07	8.21E-02	9.65E-08	2.35E-07
Road 35	35	0100-0200	3.82E-02	3.27E-08	7.97E-08	3.50E-02	3.00E-08	7.29E-08	1.07E-01	9.18E-08	2.23E-07	9.73E-02	8.34E-08	2.03E-07
Road 35	35	0200-0300	4.44E-02	2.03E-08	7.52E-08	4.04E-02	1.85E-08	6.84E-08	1.24E-01	5.68E-08	2.10E-07	1.13E-01	5.17E-08	1.91E-07
Road 35	35	0300-0400	5.00E-02	3.03E-08	7.36E-08	4.54E-02	2.75E-08	6.69E-08	1.29E-01	7.82E-08	1.89E-07	1.16E-01	7.03E-08	1.71E-07
Road 35	35	0400-0500	4.85E-02	3.12E-08	7.59E-08	4.40E-02	2.83E-08	6.90E-08	1.27E-01	8.16E-08	1.98E-07	1.15E-01	7.37E-08	1.79E-07
Road 35	35	0500-0600	5.28E-02	3.58E-08	8.64E-08	4.79E-02	3.25E-08	7.84E-08	1.38E-01	9.36E-08	2.26E-07	1.25E-01	8.48E-08	2.05E-07
Road 35	35	0600-0700	6.28E-02	1.26E-07	3.05E-07	5.70E-02	1.14E-07	2.76E-07	1.64E-01	3.30E-07	7.98E-07	1.49E-01	2.99E-07	7.23E-07
Road 35	35	0700-0800	4.41E-02	1.76E-07	4.29E-07	4.03E-02	1.61E-07	3.92E-07	1.28E-01	5.11E-07	1.24E-06	1.16E-01	4.63E-07	1.13E-06
Road 35	35	0800-0900	4.43E-02	1.99E-07	4.85E-07	4.07E-02	1.82E-07	4.44E-07	1.29E-01	5.78E-07	1.41E-06	1.17E-01	5.24E-07	1.28E-06
Road 35	35	0900-1000	4.42E-02	2.24E-07	5.47E-07	4.06E-02	2.06E-07	5.02E-07	1.28E-01	6.52E-07	1.59E-06	1.16E-01	5.92E-07	1.44E-06
Road 35	35	1000-1100	5.59E-02	2.07E-07	5.02E-07	5.13E-02	1.90E-07	4.62E-07	1.61E-01	5.95E-07	1.45E-06	1.47E-01	5.46E-07	1.33E-06
Road 35	35	1100-1200	5.61E-02	1.99E-07	4.83E-07	4.70E-02	1.67E-07	4.05E-07	1.61E-01	5.72E-07	1.39E-06	1.34E-01	4.76E-07	1.16E-06
Road 35	35	1200-1300	5.26E-02	2.47E-07	5.98E-07	4.40E-02	2.07E-07	5.01E-07	1.51E-01	7.09E-07	1.72E-06	1.26E-01	5.94E-07	1.44E-06
Road 35	35	1300-1400	6.17E-02	1.48E-07	3.59E-07	5.32E-02	1.27E-07	3.09E-07	1.61E-01	3.85E-07	9.37E-07	1.38E-01	3.30E-07	8.04E-07
Road 35	35	1400-1500	6.31E-02	1.57E-07	3.81E-07	5.45E-02	1.35E-07	3.28E-07	1.64E-01	4.08E-07	9.93E-07	1.37E-01	3.41E-07	8.29E-07
Road 35	35	1500-1600	6.13E-02	1.52E-07	3.71E-07	5.29E-02	1.31E-07	3.19E-07	1.59E-01	3.95E-07	9.62E-07	1.33E-01	3.31E-07	8.05E-07
Road 35	35	1600-1700	6.13E-02	1.60E-07	3.88E-07	5.10E-02	1.33E-07	3.23E-07	1.60E-01	4.15E-07	1.01E-06	1.32E-01	3.43E-07	8.35E-07
Road 35	35	1700-1800	5.25E-02	1.48E-07	3.59E-07	4.37E-02	1.23E-07	2.99E-07	1.37E-01	3.86E-07	9.39E-07	1.13E-01	3.18E-07	7.74E-07
Road 35	35	1800-1900	3.59E-02	1.01E-07	2.45E-07	2.99E-02	8.41E-08	2.04E-07	9.34E-02	2.63E-07	6.38E-07	7.74E-02	2.17E-07	5.27E-07
Road 35	35	1900-2000	2.31E-02	4.21E-08	1.02E-07	1.98E-02	3.61E-08	8.78E-08	7.58E-02	1.38E-07	3.37E-07	6.37E-02	1.16E-07	2.83E-07
Road 35	35	2000-2100	2.51E-02	3.70E-08	9.01E-08	2.22E-02	3.27E-08	7.96E-08	8.20E-02	1.21E-07	2.94E-07	7.11E-02	1.05E-07	2.55E-07
Road 35	35	2100-2200	2.32E-02	3.73E-08	9.07E-08	2.05E-02	3.30E-08	8.02E-08	8.03E-02	1.29E-07	3.14E-07	6.96E-02	1.12E-07	2.72E-07
Road 35	35	2200-2300	2.62E-02	3.76E-08	9.14E-08	2.21E-02	3.17E-08	7.72E-08	8.56E-02	1.23E-07	2.99E-07	7.03E-02	1.01E-07	2.46E-07
Road 35	35	2300-0000	2.95E-02	3.36E-08	8.18E-08	2.57E-02	2.92E-08	7.11E

Appendix 4.5 Calculation of Vehicular Emission (Scenario A)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (August) Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 103	103	1600-1700	1.37E-02	5.06E-07	1.22E-05	6.62E-01	2.18E-05	1.59E-02	1.49E-03	4.87E-08	1.76E-06	4.24E-02	1.39E-06	1.02E-03
Road 103	103	1700-1800	9.51E-03	3.29E-07	9.49E-06	7.92E-03	3.29E-07	7.90E-06	4.95E-05	4.00E-02	1.66E-06	3.99E-05		
Road 103	103	1800-1900	6.56E-03	2.96E-07	7.11E-06	5.71E-03	2.57E-07	6.19E-06	3.56E-02	1.60E-06	3.86E-05	3.00E-02	1.35E-06	3.26E-05
Road 103	103	1900-2000	5.69E-03	1.92E-07	4.87E-06	4.84E-03	1.72E-07	4.14E-06	3.48E-02	1.23E-06	2.95E-05	2.82E-02	1.00E-06	2.41E-05
Road 103	103	2000-2100	5.28E-03	1.46E-07	3.51E-06	4.63E-03	1.28E-07	3.08E-06	3.62E-02	1.00E-06	2.41E-05	3.05E-02	8.44E-07	2.03E-05
Road 103	103	2100-2200	4.79E-03	1.33E-07	3.19E-06	4.08E-03	1.13E-07	2.72E-06	3.43E-02	9.52E-07	2.28E-05	2.98E-02	8.24E-07	1.98E-05
Road 103	103	2200-2300	4.81E-03	1.34E-07	3.21E-06	4.07E-03	1.13E-07	2.72E-06	3.44E-02	9.56E-07	2.29E-05	2.98E-02	8.27E-07	1.98E-05
Road 103	103	2300-0000	5.19E-03	1.04E-07	2.51E-06	4.46E-03	8.97E-08	2.16E-06	3.70E-02	7.44E-07	1.79E-05	3.20E-02	6.44E-07	1.54E-05
Road 104	104	0000-0100	8.90E-03	7.95E-08	1.62E-06	7.90E-03	7.06E-08	1.44E-06	4.62E-02	4.12E-07	8.40E-06	3.99E-02	3.57E-07	7.26E-06
Road 104	104	0100-0200	9.59E-03	5.66E-08	1.38E-06	8.79E-03	5.17E-08	1.26E-06	4.97E-02	2.93E-07	7.16E-06	4.44E-02	2.62E-07	6.39E-06
Road 104	104	0200-0300	1.02E-02	4.47E-08	9.11E-07	9.36E-03	4.10E-08	8.35E-07	4.91E-02	2.15E-07	4.38E-06	4.42E-02	1.94E-07	3.94E-06
Road 104	104	0300-0400	1.01E-02	3.85E-08	7.85E-07	9.96E-03	3.49E-08	7.12E-07	5.13E-02	1.80E-07	3.67E-06	4.56E-02	1.60E-07	3.26E-06
Road 104	104	0400-0500	1.11E-02	4.29E-08	8.74E-07	1.04E-02	4.00E-08	8.15E-07	5.45E-02	2.10E-07	4.28E-06	4.75E-02	1.83E-07	3.73E-06
Road 104	104	0500-0600	1.20E-02	8.28E-08	1.68E-06	1.13E-02	7.75E-08	1.58E-06	5.34E-02	3.67E-07	7.48E-06	4.97E-02	3.42E-07	6.97E-06
Road 104	104	0600-0700	1.28E-02	1.92E-07	3.90E-06	1.19E-02	1.79E-07	3.64E-06	5.13E-02	7.68E-07	1.56E-05	5.13E-02	7.68E-07	1.56E-05
Road 104	104	0700-0800	1.38E-02	2.26E-07	5.16E-06	1.28E-02	2.10E-07	4.79E-06	5.53E-02	9.04E-07	2.06E-05	5.53E-02	9.04E-07	2.06E-05
Road 104	104	0800-0900	1.40E-02	5.03E-07	1.02E-05	1.29E-02	4.63E-07	9.41E-06	5.38E-02	1.93E-06	3.92E-05	5.38E-02	1.93E-06	3.92E-05
Road 104	104	0900-1000	1.61E-02	5.24E-07	1.07E-05	1.41E-02	4.58E-07	9.33E-06	4.82E-02	1.89E-06	3.85E-05	4.82E-02	1.89E-06	3.85E-05
Road 104	104	1000-1100	1.93E-02	6.51E-07	1.15E-05	1.68E-02	5.67E-07	1.00E-05	5.31E-02	1.80E-06	3.17E-05	5.31E-02	1.80E-06	3.17E-05
Road 104	104	1100-1200	1.87E-02	5.19E-07	1.06E-05	1.57E-02	4.34E-07	8.84E-06	7.50E-02	2.08E-06	4.23E-05	6.19E-02	1.72E-06	3.50E-05
Road 104	104	1200-1300	1.19E-02	2.71E-07	5.52E-06	1.02E-02	2.33E-07	4.74E-06	4.52E-02	1.03E-06	2.09E-05	3.92E-02	8.93E-07	1.81E-05
Road 104	104	1300-1400	1.19E-02	2.71E-07	5.52E-06	1.02E-02	2.33E-07	4.74E-06	4.52E-02	1.03E-06	2.09E-05	3.92E-02	8.93E-07	1.81E-05
Road 104	104	1400-1500	1.23E-02	3.34E-07	6.80E-06	1.06E-02	2.87E-07	5.84E-06	4.55E-02	1.23E-06	2.51E-05	3.95E-02	1.07E-06	2.18E-05
Road 104	104	1500-1600	1.15E-02	2.92E-07	5.94E-06	9.68E-03	2.46E-07	5.00E-06	4.53E-02	1.15E-06	2.35E-05	3.82E-02	9.70E-07	1.97E-05
Road 104	104	1600-1700	1.24E-02	3.35E-07	6.82E-06	1.03E-02	2.78E-07	5.67E-06	4.54E-02	1.23E-06	2.50E-05	3.77E-02	1.02E-06	2.07E-05
Road 104	104	1700-1800	1.41E-02	3.82E-07	7.78E-06	1.17E-02	3.17E-07	6.47E-06	4.59E-02	1.24E-06	2.53E-05	3.82E-02	1.03E-06	2.10E-05
Road 104	104	1800-1900	5.85E-03	2.01E-07	4.09E-06	5.09E-03	1.74E-07	3.55E-06	3.23E-02	1.11E-06	2.26E-05	2.72E-02	9.31E-07	1.90E-05
Road 104	104	1900-2000	5.15E-03	1.40E-07	2.86E-06	4.38E-03	1.19E-07	2.43E-06	3.27E-02	8.90E-07	1.81E-05	2.66E-02	7.24E-07	1.47E-05
Road 104	104	2000-2100	4.78E-03	1.33E-07	2.71E-06	4.08E-03	1.13E-07	2.31E-06	3.04E-02	8.44E-07	1.72E-05	2.48E-02	6.88E-07	1.40E-05
Road 104	104	2100-2200	4.22E-03	8.92E-08	1.82E-06	3.58E-03	7.58E-08	1.54E-06	2.68E-02	5.67E-07	1.21E-05	2.34E-02	4.95E-07	1.01E-05
Road 104	104	2200-2300	4.21E-03	8.92E-08	1.82E-06	3.58E-03	7.58E-08	1.54E-06	2.68E-02	5.67E-07	1.21E-05	2.34E-02	4.95E-07	1.01E-05
Road 104	104	2300-0000	4.20E-03	7.95E-08	1.62E-06	3.58E-03	6.77E-08	1.38E-06	2.68E-02	5.06E-07	1.03E-05	2.34E-02	4.42E-07	9.03E-06
Road 105	105	0000-0100	1.32E-02	1.45E-08	6.03E-07	1.17E-02	1.29E-08	5.36E-07	6.60E-02	7.25E-08	3.02E-06	5.74E-02	6.30E-08	2.63E-06
Road 105	105	0100-0200	1.42E-02	1.03E-08	4.29E-07	1.30E-02	9.40E-09	3.92E-07	6.90E-02	4.99E-08	2.08E-06	6.19E-02	4.48E-08	1.87E-06
Road 105	105	0200-0300	1.32E-02	1.83E-08	3.80E-07	1.30E-02	1.80E-08	3.74E-07	6.90E-02	9.56E-08	1.98E-06	6.90E-02	9.56E-08	1.98E-06
Road 105	105	0300-0400	1.64E-02	7.02E-09	2.93E-07	1.49E-02	6.37E-09	2.65E-07	7.51E-02	3.22E-08	1.34E-06	6.71E-02	2.87E-08	1.20E-06
Road 105	105	0400-0500	1.75E-02	8.31E-09	3.46E-07	1.59E-02	7.54E-09	3.14E-07	7.83E-02	3.71E-08	1.55E-06	7.00E-02	3.33E-08	1.39E-06
Road 105	105	0500-0600	1.82E-02	1.51E-08	6.29E-07	1.67E-02	1.38E-08	5.75E-07	8.16E-02	6.77E-08	2.82E-06	7.30E-02	6.06E-08	2.52E-06
Road 105	105	0600-0700	1.99E-02	3.60E-08	1.50E-06	1.86E-02	3.36E-08	1.40E-06	8.54E-02	1.55E-07	6.45E-06	7.88E-02	1.43E-07	5.95E-06
Road 105	105	0700-0800	2.36E-02	8.77E-08	3.66E-06	2.16E-02	8.00E-08	3.34E-06	9.87E-02	3.66E-07	1.53E-05	8.91E-02	3.31E-07	1.38E-05
Road 105	105	0800-0900	2.46E-02	1.24E-07	5.16E-06	2.27E-02	1.14E-07	4.76E-06	1.02E-01	5.14E-07	2.14E-05	9.34E-02	4.71E-07	1.96E-05
Road 105	105	0900-1000	2.83E-02	1.09E-07	4.56E-06	2.48E-02	9.58E-08	3.99E-06	1.17E-01	4.54E-07	1.89E-05	1.02E-01	3.94E-07	1.64E-05
Road 105	105	1000-1100	3.41E-02	1.18E-07	4.93E-06	2.88E-02	1.00E-07	4.17E-06	1.34E-01	4.65E-07	1.94E-05	1.12E-01	3.89E-07	1.62E-05
Road 105	105	1100-1200	3.42E-02	1.18E-07	4.93E-06	2.88E-02	1.00E-07	4.17E-06	1.34E-01	4.65E-07	1.94E-05	1.12E-01	3.89E-07	1.62E-05
Road 105	105	1200-1300	7.08E-02	3.47E-07	1.44E-05	6.11E-02	2.99E-07	1.25E-05	2.45E-01	1.20E-06	4.99E-05	2.11E-01	1.03E-06	4.30E-05
Road 105	105	1300-1400	6.98E-02	3.84E-07	1.60E-05	6.03E-02	3.32E-07	1.38E-05	2.52E-01	1.39E-06	5.79E-05	2.18E-01	1.20E-06	4.99E-05
Road 105	105	1400-1500	6.52E-02	3.72E-07	1.55E-05	5.51E-02	3.14E-07	1.31E-05	2.52E-01	1.44E-06	5.99E-05	2.13E-01	1.22E-06	5.06E-05
Road 105	105	1500-1600	6.52E-02	3.72E-07	1.55E-05	5.51E-02	3.14E-07	1.31E-05	2.52E-01	1.44E-06	5.99E-05	2.13E-01	1.22E-06	5.06E-05
Road 105	105	1600-1700	7.04E-02	3.72E-07	1.55E-05	5.87E-02	3.10E-07	1.29E-05	2.54E-01	1.34E-06	5.58E-05	2.11E-01	1.11E-06	4.65E-05
Road 105	105	1700-1800	7.73E-02	3.72E-07	1.55E-05	6.45E-02	3.10E-07	1.29E-05	2.54E-01	1.22E-06	5.08E-05	2.11E-01	1.01E-06	4.23E-05
Road 105	105	1800-1900	4.52E-02	1.53E-07	6.39E-06	3.96E-02	1.34E-07	5.60E-06	1.96E-01	6.64E-07	2.77E-05	1.72E-01	5.82E-07	2.43E-05
Road 105	105	1900-2000	4.45E-02	1.00E-07	4.17E-06	3.82E-02	8.59E-08	3.58E-06	1.80E-01	4.04E-07	1.68E-05	1.54E-01	3.47E-07	1.45E-05
Road 105	105	2000-2100	4.27E-02	7.83E-08	3.26E-06	3.66E-02	6.72E-08	2.80E-06	1.77E-01	3.24E-07	1.35E-05	1.52E-01	2.80E-07	1.17E-05
Road 105	105	2100-2200	4.79E-02	7.73E-08	3.22E-06	4.05E-02	6.53E-08	2.72E-06	7.85E-01	1.26E-06	5.26E-05	6.64E-01	1.07E-06	4.45E-05
Road 105	105	2200-2300	4.79E-02	7.73E-08	3.22E-06	4.05E-02	6.53E-08	2.72E-06	7.85E-01	1.26E-06	5.26E-05	6.64E-01	1.07E-06	4.45E-05
Road 105	105	2300-0000	4.79E-02	7.73E-08	3.22E-06	4.05E-02	6.53E-08	2.72E-06	7.85E-01	1.26E-06	5.26E-05	6.64E-01	1.07E-06	4.45E-05
Road 106	106	0000-0100	1.26E-02	5.26E-08	1.66E-06	1.12E-02	4.67E-08	1.48E-06	6.52E-02	2.72E-07	8.58E-06	5.65E-02	2.35E-07	7.43E-06
Road 106	106	0100-0200	1.33E-02	3.63E-08	1.15E-06	1.21E-02	3.32E-08	1.05E-06	6.90E-02	1.88E-07	5.94E-06	6.19E-02	1.69E-07	5.34E-06
Road 106	106	0200-0300	1.38E-02	2.76E-08	8.71E-07	1.27E-02	2.54E-08	8.04E-07	7.16E-02	1.43E-07	4.53E-06	6.60E-02	1.32E-07	4.18E-06
Road 106	106	0300-0400	1.49E-02	2.40E-08	7.58E-07	1.35E-02	2.18E-08	6.87E-07	7.07E-02	1.14E-07	3.59E-06	6.40E-02	1.03E-07	3.25E-06
Road 106	106	0400-0500	1.60E-02	2.85E-08	8.98E-07	1.45E-02	2.58E-08	8.15E-07	6.52E-02	1.16E-07	3.70E-06	5.90E-02	1.05E-07	3.35E-06
Road 106	106	0500-0600	1.71E-02	5.53E-08	1.68E-06	1.60E-02	5.16E-08	1.57E-06	7.09E-02	2.21E-07	6.96E-06	6.84E-02	2.13E-07	6.70E-06
Road 106	106	0600-0700	2.17E-02	1.04E-07	4.61E-06	2.02E-02	9.67E-08	4.29E-06	8.98E-02	4.30E-07	1.91E-05	8.98E-02	4.30E-07	1.91E-05
Road 106	106	0700-0800	2.82E-02	3.87E-07	1.22E-05	2.57E-02	3.53E-07	1.11E-05	1.06E-01	1.46E-06	4.52E-05	1.06E-01	1.46E-06	4.52E-05
Road 106	106	0800-0900	3.10E-02	4.97E-07	1.57E-05	2.71E-02	4.35E-07	1.37E-05	1.26E-01	2.02E-06	6.37E-05	1.09E-01	1.74E-06	5.50E-05
Road 106	106	0900-1000	3.50E-02	4.31E-07	1.36E-05	3.06E-02	3.77E-07	1.19E-05	1.41E-01	1.73E-06	5.47E-05	1.23E-01	1.51E-06	4.78E-05
Road 106	106	1000-1100	4.14E-02	5.15E-07	1.63E-05	3.50E-02	4.35E-07	1.37E-05	1.67E-01	2.08E-06	6.30E-05	1.34E-01	1.67E-06	5.27E-05
Road 106	106	1100-1200	3.83E-02	4.50E-07	1.42E-05	3.21E-02	3.77E-07	1.19E-05	1.53E-01	1.79E-06	5.66E-05	1.26E-01	1.49E-06	4.69E-05
Road 106	106	1200-1300	3.50E-02	4.10E-07	1.29E-05	2.81E-02	3.29E-07	1.04E-05	1.40E-01	1.64E-06	5.18E-05	1.13E-01	1.32E-06	4.18E-05
Road 106	106	1300-1400	6.14E-02	1.14E-06	3.59E-05	5.30E-02	9.80E-07	3.10E-05	2.42E-01	4.24E-06	1.34E-04	1.97E-01	3.64E-06	1.15E-04
Road 106	106	1400-1500	6.20E-02	1.19E-06	3.77E-05	5.21E-02	1.00E-06	3.16E-05	2.26E-01	4.34E-06	1.37E-04	1.88E-01	3.62E-06	1.14E-04
Road 106	106	1500-1600	5.99E-02	1.38E-06	3.73E-05	5.03E-02	9.97E-07	3.10E-05	2.36E-01	4.67E-06	1.45E-04	1.96E-01	3.88E-06	1.20E-04
Road 106	106	1600-1700	6.14E-02	1.23E-06	3.90E-05	5.11E-02	1.03E-06	3.24E-05	2.24E-01	4.51E-06	1.42E-04	1.85E-01	3.73E-06	1.18E-04
Road 106	106	1700-1800	4.43E-02	9.47E-07	2.99E-05	3.71E-02	7.92E-07	2.50E-05	1.85E-01	3.96E-06	1.25E-04	1.54E-01	3.28E-06	1.04E-04
Road 106	106	1800-1900	2.89E-02	1.11E-07	3.97E-06	2.53E-02	9.73E-08	3.48E-06	1.20E-01	4.62E-07	1.65E-05	1.05E-01	4.04E-07	1.44E-05
Road 106	106	1900-2000	2.18E-02	3.52E-07	1.11E-05	1.87E-02	3.02E-07	9.53E-06	9.81E-02	1.59E-06	5.01E-05	8.25E-02	1.33E-06	4.21E-05
Road 106	106	2000-2100	1.90E-02	2.39E-07	7.56E-06	1.68E-02	2.11E-07	6.67E-06	9.30E-02	1.17E-06	3.70E-05	8.05E-02	1.01E-06	3.20E-05
Road 106	106	2100-2200	1.94E-02	2.34E-07	7.39E-06	1.72E-02	2.06E-07	6.52E-06	9.50E-02	1.14E-06	3.62E-05	8.22E-02	9.90E-07	3.13E-05
Road 106	106	2200-2300	1.94E-02	2.34E-07	7.39E-06	1.63E-02	1.97E-07	6.23E-06	9.50E-02	1.14E-06	3.62E-05	8.22E-02	9.90E-07	3.13E-05
Road 106	106	2300-0000	1.91E-02	1.75E-07	5.53E-06	1.66E-02	1.52E-07	4.81E-06	8.96E-02	8.22E-07	2.59E-05	7.60E-02	6.97E-07	2.20E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September) Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	5.88E-03	8.15E-08	1.66E-06	4.49E-03	6.71E-08	1.37E-06	4.24E-02	5.89E-07	1.20E-05	3.24E-02	4.50E-07	9.21E-06
Road 1	1	0100-0200	6.44E-03	5.82E-08	3.20E-06	5.41E-03	4.89E-08	2.69E-06	4.36E-02	3.94E-07	2.17E-05	3.48E-02	3.15E-07	1.73E-05
Road 1	1	0200-0300	7.05E-03	4.66E-08	2.57E-06	5.95E-03	3.93E-08	2.16E-06	4.51E-02	2.98E-07	1.64E-05	3.62E-02	2.39E-07	1.32E-05
Road 1	1	0300-0400	7.72E-03	4.03E-08	2.22E-06	6.44E-03	3.36E-08	1.85E-06	4.70E-02	2.45E-07	1.35E-05	3.73E-02	1.95E-07	1.07E-05
Road 1	1	0400-0500	8.30E-03	4.74E-08	2.61E-06	6.88E-03	3.94E-08	2.17E-06	4.87E-02	2.79E-07	1.53E-05	3.85E-02	2.20E-07	1.21E-05
Road 1	1	0500-0600	8.71E-03	8.61E-08	4.74E-06	7.26E-03	7.18E-08	3.95E-06	4.97E-02	4.92E-07	2.71E-05	3.96E-02	3.91E-07	2.15E-05
Road 1	1	0600-0700	9.13E-03	1.93E-07	5.16E-06	7.70E-03	1.63E-07	8.97E-06	5.07E-02	1.07E-06	5.90E-05	4.06E-02	8.64E-07	4.76E-05
Road 1	1	0700-0800	9.85E-03	4.21E-07	2.32E-05	8.33E-03	3.56E-07	1.96E-05	5.27E-02	2.25E-06	1.24E-04	4.28E-02	1.83E-06	1.01E-04
Road 1	1	0800-0900	9.56E-03	4.73E-07	2.60E-05	8.12E-03	4.02E-07	2.21E-05	4.84E-02	2.39E-06	1.32E-04	3.98E-02	1.97E-06	1.09E-04
Road 1	1	0900-1000	1.08E-02	4.38E-07	2.41E-05	9.21E-03	3.73E-07	2.05E-05	5.31E-02	2.16E-06	1.19E-04	4.42E-02	1.79E-06	9.85E-05
Road 1	1	1000-1100	1.24E-02	4.34E-07	2.99E-05	1.05E-02	3.69E-07	2.03E-05	5.76E-02	2.02E-06	1.11E-04	4.79E-02	1.68E-06	9.24E-05
Road 1	1	1100-1200	1.16E-02	3.86E-07	2.13E-05	9.91E-03	3.29E-07	1.81E-05	5.68E-02	1.88E-06	1.04E-04	4.73E-02	1.57E-06	8.63E-05
Road 1	1	1200-1300	1.58E-02	4.58E-07	2.52E-05	1.34E-02	3.88E-07	2.14E-05	6.25E-02	1.81E-06	9.97E-05	5.21E-02	1.51E-06	8.31E-05
Road 1	1	1300-1400	1.46E-02	6.75E-07	3.72E-05	1.24E-02	5.74E-07	3.16E-05	6.29E-02	2.91E-06	1.60E-04	5.25E-02	2.43E-06	1.34E-04
Road 1	1	1400-1500	1.48E-02	7.29E-07	4.02E-05	1.26E-02	6.21E-07	3.42E-05	6.49E-02	3.21E-06	1.77E-04	5.42E-02	2.68E-06	1.47E-04
Road 1	1	1500-1600	1.48E-02	7.29E-07	4.02E-05	1.26E-02	6.21E-07	3.42E-05	6.49E-02	3.21E-06	1.77E-04	5.42E-02	2.68E-06	1.47E-04
Road 1	1	1600-1700	1.48E-02	7.97E-07	4.39E-05	1.23E-02	6.61E-07	3.64E-05	6.43E-02	3.45E-06	1.90E-04	5.19E-02	2.79E-06	1.53E-04
Road 1	1	1700-1800	1.08E-02	6.56E-07	3.61E-05	8.74E-03	5.30E-07	2.92E-05	5.65E-02	3.43E-06	1.89E-04	4.40E-02	2.67E-06	1.47E-04
Road 1	1	1800-1900	7.86E-03	3.11E-07	2.87E-05	6.42E-03	2.54E-07	2.34E-05	4.12E-02	1.63E-06	1.50E-04	3.33E-02	1.32E-06	1.21E-04
Road 1	1	1900-2000	6.83E-03	3.59E-07	1.98E-05	5.61E-03	2.95E-07	1.62E-05	4.08E-02	2.15E-06	1.18E-04	3.20E-02	1.68E-06	9.27E-05
Road 1	1	2000-2100	6.57E-03	2.69E-07	1.48E-05	5.36E-03	2.20E-07	1.21E-05	4.42E-02	1.81E-06	9.97E-05	3.42E-02	1.40E-06	7.70E-05
Road 1	1	2100-2200	5.75E-03	2.35E-07	1.29E-05	4.70E-03	1.92E-07	1.06E-05	4.25E-02	1.73E-06	9.55E-05	3.30E-02	1.34E-06	7.40E-05
Road 1	1	2200-2300	5.63E-03	2.30E-07	1.23E-05	4.63E-03	1.89E-07	1.01E-05	4.16E-02	1.66E-06	9.16E-05	3.25E-02	1.32E-06	7.29E-05
Road 1	1	2300-0000	6.24E-03	1.85E-07	1.02E-05	5.13E-03	1.52E-07	8.39E-06	4.35E-02	1.29E-06	7.11E-05	3.40E-02	1.01E-06	5.55E-05
Road 2	2	0000-0100	7.89E-03	1.08E-07	5.47E-06	6.54E-03	8.95E-08	4.53E-06	4.74E-02	6.49E-07	3.29E-05	3.75E-02	5.13E-07	2.60E-05
Road 2	2	0100-0200	8.58E-03	7.77E-08	3.95E-06	7.10E-03	6.43E-08	3.27E-06	4.98E-02	4.51E-07	2.29E-05	3.98E-02	3.61E-07	1.83E-05
Road 2	2	0200-0300	9.32E-03	6.14E-08	3.11E-06	7.90E-03	5.21E-08	2.64E-06	5.09E-02	3.35E-07	1.70E-05	4.15E-02	2.73E-07	1.38E-05
Road 2	2	0300-0400	1.01E-02	5.30E-08	2.68E-06	8.48E-03	4.44E-08	2.25E-06	5.31E-02	2.78E-07	1.41E-05	4.28E-02	2.24E-07	1.14E-05
Road 2	2	0400-0500	1.08E-02	6.20E-08	3.14E-06	9.07E-03	5.21E-08	2.64E-06	5.51E-02	3.16E-07	1.60E-05	4.43E-02	2.54E-07	1.29E-05
Road 2	2	0500-0600	1.13E-02	1.14E-07	5.77E-06	9.48E-03	9.54E-08	4.83E-06	5.65E-02	5.68E-07	2.88E-05	4.56E-02	4.59E-07	2.32E-05
Road 2	2	0600-0700	1.18E-02	2.56E-07	1.30E-05	1.00E-02	2.17E-07	1.10E-05	5.76E-02	1.25E-06	6.32E-05	4.71E-02	1.02E-06	5.17E-05
Road 2	2	0700-0800	1.27E-02	5.34E-07	2.70E-05	1.08E-02	4.54E-07	2.30E-05	5.87E-02	2.47E-06	1.25E-04	4.80E-02	2.02E-06	1.02E-04
Road 2	2	0800-0900	1.02E-02	5.66E-07	1.94E-05	8.72E-03	4.82E-07	1.65E-05	5.46E-02	3.03E-06	1.04E-04	4.66E-02	2.58E-06	8.84E-05
Road 2	2	0900-1000	1.00E-02	5.24E-07	1.78E-05	8.54E-03	4.47E-07	1.52E-05	5.34E-02	2.80E-06	9.54E-05	4.56E-02	2.39E-06	8.14E-05
Road 2	2	1000-1100	1.08E-02	5.24E-07	1.78E-05	9.21E-03	4.47E-07	1.52E-05	5.76E-02	2.80E-06	9.54E-05	4.92E-02	2.39E-06	8.14E-05
Road 2	2	1100-1200	1.56E-02	5.72E-07	2.90E-05	1.33E-02	4.88E-07	2.47E-05	6.75E-02	2.47E-06	1.25E-04	5.66E-02	2.07E-06	1.05E-04
Road 2	2	1200-1300	1.70E-02	7.63E-07	3.86E-05	1.45E-02	6.49E-07	3.29E-05	6.96E-02	3.12E-06	1.58E-04	5.82E-02	2.61E-06	1.32E-04
Road 2	2	1300-1400	1.71E-02	7.94E-07	4.02E-05	1.46E-02	6.77E-07	3.43E-05	7.01E-02	3.26E-06	1.65E-04	5.86E-02	2.72E-06	1.38E-04
Road 2	2	1400-1500	1.73E-02	8.48E-07	4.29E-05	1.47E-02	7.22E-07	3.66E-05	7.21E-02	3.53E-06	1.79E-04	6.04E-02	2.96E-06	1.50E-04
Road 2	2	1500-1600	1.63E-02	8.17E-07	4.14E-05	1.36E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			Monthly Hour Min			Monthly Hour Average			Monthly Hour Min			Monthly Hour Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 24	24	0800-0900	1.52E-01	2.94E-07	6.28E-03	5.04E-01	9.74E-07	2.08E-02	3.74E-06	4.80E-01	9.29E-07	2.33E-06		
Road 24	24	0900-1000	1.54E-01	3.36E-07	8.41E-07	1.31E-01	2.86E-07	7.15E-07	5.78E-01	1.26E-06	3.15E-06	4.92E-01	1.07E-06	2.68E-06
Road 24	24	1000-1100	1.65E-01	3.53E-07	8.85E-07	1.40E-01	2.99E-07	7.51E-07	5.86E-01	1.25E-06	3.15E-06	4.97E-01	1.06E-06	2.67E-06
Road 24	24	1100-1200	1.63E-01	3.28E-07	1.21E-06	1.27E-01	2.55E-07	9.47E-07	5.84E-01	1.17E-06	4.34E-06	5.02E-01	1.01E-06	3.75E-06
Road 24	24	1200-1300	1.68E-01	3.40E-07	8.53E-07	1.46E-01	2.96E-07	7.47E-07	5.75E-01	1.16E-06	2.91E-06	5.00E-01	1.01E-06	2.53E-06
Road 24	24	1300-1400	1.69E-01	3.86E-07	9.67E-07	1.47E-01	3.35E-07	8.40E-07	6.04E-01	1.38E-06	3.45E-06	5.25E-01	1.20E-06	3.00E-06
Road 24	24	1400-1500	1.79E-01	3.40E-07	9.88E-07	1.55E-01	2.95E-07	8.48E-07	6.08E-01	1.36E-06	3.73E-06	5.28E-01	1.17E-06	2.92E-06
Road 24	24	1500-1600	1.59E-01	3.75E-07	9.40E-07	1.35E-01	3.17E-07	7.95E-07	6.08E-01	1.43E-06	3.60E-06	5.14E-01	1.21E-06	3.04E-06
Road 24	24	1600-1700	1.63E-01	3.55E-07	8.91E-07	1.35E-01	2.94E-07	7.36E-07	5.97E-01	1.30E-06	3.28E-06	4.81E-01	1.05E-06	2.63E-06
Road 24	24	1700-1800	1.43E-01	3.21E-07	7.97E-07	1.19E-01	2.67E-07	6.63E-07	5.86E-01	1.32E-06	3.27E-06	4.88E-01	1.09E-06	2.71E-06
Road 24	24	1800-1900	1.25E-01	1.70E-07	4.26E-07	1.04E-01	1.41E-07	3.54E-07	5.17E-01	7.04E-07	1.76E-06	4.30E-01	5.85E-07	1.47E-06
Road 24	24	1900-2000	1.21E-01	1.07E-07	2.70E-07	1.01E-01	8.97E-08	2.25E-07	4.79E-01	4.27E-07	1.07E-06	3.99E-01	3.56E-07	8.92E-07
Road 24	24	2000-2100	1.24E-01	1.09E-07	2.74E-07	1.03E-01	9.08E-08	2.28E-07	4.90E-01	4.31E-07	1.08E-06	4.08E-01	3.60E-07	9.02E-07
Road 24	24	2100-2200	1.14E-01	1.01E-07	2.54E-07	9.52E-02	8.45E-08	2.12E-07	4.51E-01	4.00E-07	1.00E-06	3.76E-01	3.33E-07	8.36E-07
Road 24	24	2200-2300	1.29E-01	1.14E-07	2.87E-07	1.07E-01	9.52E-08	2.39E-07	5.10E-01	4.52E-07	1.13E-06	4.25E-01	3.77E-07	9.45E-07
Road 24	24	2300-0000	1.29E-01	1.14E-07	2.87E-07	1.07E-01	9.52E-08	2.39E-07	5.10E-01	4.52E-07	1.13E-06	4.25E-01	3.77E-07	9.45E-07
Road 24	24	0000-0100	1.24E-01	1.09E-07	2.74E-07	1.03E-01	9.08E-08	2.28E-07	4.90E-01	4.31E-07	1.08E-06	4.08E-01	3.60E-07	9.02E-07
Road 24	24	0100-0200	1.24E-01	1.09E-07	2.74E-07	1.03E-01	9.08E-08	2.28E-07	4.90E-01	4.31E-07	1.08E-06	4.08E-01	3.60E-07	9.02E-07
Road 24	24	0200-0300	1.24E-01	1.09E-07	2.74E-07	1.03E-01	9.08E-08	2.28E-07	4.90E-01	4.31E-07	1.08E-06	4.08E-01	3.60E-07	9.02E-07
Road 24	24	0300-0400	1.27E-01	2.63E-07	6.70E-07	1.06E-01	2.19E-07	5.58E-07	5.96E-01	1.23E-06	3.14E-06	4.97E-01	1.03E-06	2.62E-06
Road 24	24	0400-0500	1.28E-01	3.10E-08	1.08E-01	2.61E-08	6.65E-08	4.61E-01	1.12E-07	2.87E-07	3.90E-01	9.45E-08	2.41E-07	
Road 24	24	0500-0600	1.35E-01	6.05E-08	1.54E-07	1.14E-01	5.09E-08	1.30E-07	4.88E-01	2.18E-07	5.56E-07	4.11E-01	1.84E-07	4.68E-07
Road 24	24	0600-0700	1.42E-01	1.26E-07	3.21E-07	1.20E-01	1.06E-07	2.70E-07	5.13E-01	4.56E-07	1.16E-06	4.32E-01	3.84E-07	9.78E-07
Road 24	24	0700-0800	1.57E-01	3.44E-07	8.78E-07	1.34E-01	2.93E-07	7.46E-07	5.62E-01	1.23E-06	3.14E-06	4.77E-01	1.05E-06	2.66E-06
Road 25	25	0000-0100	1.24E-01	3.82E-08	1.38E-07	1.05E-01	3.24E-08	1.17E-07	4.90E-01	1.51E-07	5.45E-07	4.15E-01	1.28E-07	4.62E-07
Road 25	25	0100-0200	1.24E-01	3.82E-08	1.38E-07	1.05E-01	3.24E-08	1.17E-07	4.90E-01	1.51E-07	5.45E-07	4.15E-01	1.28E-07	4.62E-07
Road 25	25	0200-0300	1.24E-01	3.82E-08	1.38E-07	1.05E-01	3.24E-08	1.17E-07	4.90E-01	1.51E-07	5.45E-07	4.15E-01	1.28E-07	4.62E-07
Road 25	25	0300-0400	1.27E-01	2.63E-08	6.70E-08	1.07E-01	2.21E-08	5.62E-08	5.13E-01	1.06E-07	2.70E-07	4.32E-01	8.94E-08	2.27E-07
Road 25	25	0400-0500	1.28E-01	3.10E-08	1.08E-01	2.61E-08	6.65E-08	4.61E-01	1.12E-07	2.87E-07	3.90E-01	9.45E-08	2.41E-07	
Road 25	25	0500-0600	1.35E-01	6.05E-08	1.54E-07	1.14E-01	5.09E-08	1.30E-07	4.88E-01	2.18E-07	5.56E-07	4.11E-01	1.84E-07	4.68E-07
Road 25	25	0600-0700	1.42E-01	1.26E-07	3.21E-07	1.20E-01	1.06E-07	2.70E-07	5.13E-01	4.56E-07	1.16E-06	4.32E-01	3.84E-07	9.78E-07
Road 25	25	0700-0800	1.61E-01	4.21E-07	1.07E-06	1.37E-01	3.56E-07	9.06E-07	5.76E-01	1.50E-06	3.82E-06	4.89E-01	1.28E-06	3.24E-06
Road 25	25	0800-0900	1.51E-01	4.51E-07	1.15E-06	1.28E-01	3.81E-07	9.72E-07	5.40E-01	1.61E-06	4.11E-06	4.58E-01	1.37E-06	3.48E-06
Road 25	25	0900-1000	1.47E-01	5.06E-07	1.29E-06	1.24E-01	4.28E-07	1.09E-06	5.25E-01	1.81E-06	4.61E-06	4.45E-01	1.53E-06	3.91E-06
Road 25	25	1000-1100	1.74E-01	5.06E-07	1.29E-06	1.48E-01	4.29E-07	1.09E-06	6.23E-01	1.81E-06	4.61E-06	5.28E-01	1.53E-06	3.91E-06
Road 25	25	1100-1200	1.73E-01	4.68E-07	1.19E-06	1.47E-01	3.96E-07	1.01E-06	6.21E-01	1.68E-06	4.26E-06	5.25E-01	1.42E-06	3.61E-06
Road 25	25	1200-1300	1.71E-01	5.24E-07	1.34E-06	1.48E-01	4.56E-07	1.16E-06	6.09E-01	1.87E-06	4.77E-06	5.29E-01	1.62E-06	4.14E-06
Road 25	25	1300-1400	1.71E-01	5.24E-07	1.34E-06	1.48E-01	4.56E-07	1.16E-06	6.09E-01	1.87E-06	4.77E-06	5.29E-01	1.62E-06	4.14E-06
Road 25	25	1400-1500	1.76E-01	5.35E-07	1.36E-06	1.51E-01	4.59E-07	1.17E-06	6.16E-01	1.85E-06	4.73E-06	5.23E-01	1.59E-06	4.05E-06
Road 25	25	1500-1600	1.61E-01	5.35E-07	1.36E-06	1.38E-01	4.59E-07	1.17E-06	5.97E-01	1.98E-06	5.04E-06	5.13E-01	1.70E-06	4.33E-06
Road 25	25	1600-1700	1.74E-01	5.08E-07	1.30E-06	1.44E-01	4.20E-07	1.07E-06	6.18E-01	1.80E-06	4.61E-06	5.11E-01	1.49E-06	3.80E-06
Road 25	25	1700-1800	1.53E-01	4.02E-07	1.02E-06	1.26E-01	3.31E-07	8.44E-07	5.91E-01	1.55E-06	3.95E-06	4.88E-01	1.28E-06	3.26E-06
Road 25	25	1800-1900	1.32E-01	3.56E-07	7.97E-07	1.09E-01	2.94E-07	6.58E-07	5.99E-01	1.62E-06	3.62E-06	4.94E-01	1.33E-06	2.99E-06
Road 25	25	1900-2000	1.31E-01	1.53E-07	3.91E-07	1.09E-01	1.27E-07	3.24E-07	5.91E-01	6.91E-07	1.76E-06	4.88E-01	5.71E-07	1.45E-06
Road 25	25	2000-2100	1.28E-01	1.28E-07	3.26E-07	1.07E-01	1.07E-07	2.72E-07	5.76E-01	5.77E-07	1.47E-06	4.76E-01	4.77E-07	1.21E-06
Road 25	25	2100-2200	1.29E-01	1.14E-07	2.87E-07	1.07E-01	9.52E-08	2.39E-07	5.82E-01	5.13E-07	1.29E-06	4.81E-01	4.24E-07	1.07E-06
Road 25	25	2200-2300	1.36E-01	1.13E-07	2.87E-07	1.14E-01	9.48E-08	2.42E-07	4.90E-01	4.06E-07	1.04E-06	4.10E-01	3.41E-07	8.70E-07
Road 25	25	2300-0000	1.31E-01	1.09E-07	2.74E-07	1.10E-01	9.19E-08	2.31E-07	4.71E-01	3.93E-07	9.87E-07	3.96E-01	3.30E-07	8.29E-07
Road 25	25	0000-0100	1.27E-01	1.06E-07	2.66E-07	1.07E-01	8.90E-08	2.23E-07	4.58E-01	3.82E-07	9.58E-07	3.85E-01	3.20E-07	8.05E-07
Road 25	25	0100-0200	1.25E-01	3.53E-08	1.27E-07	1.07E-01	3.02E-08	1.09E-07	4.51E-01	1.40E-07	5.04E-07	3.79E-01	1.17E-07	4.23E-07
Road 25	25	0200-0300	1.26E-01	3.53E-08	1.27E-07	1.08E-01	3.02E-08	1.09E-07	4.55E-01	1.40E-07	5.04E-07	3.82E-01	1.17E-07	4.23E-07
Road 25	25	0300-0400	1.27E-01	2.63E-08	6.70E-08	1.07E-01	2.21E-08	5.62E-08	5.13E-01	1.06E-07	2.70E-07	4.32E-01	8.94E-08	2.27E-07
Road 25	25	0400-0500	1.28E-01	3.10E-08	1.08E-01	2.61E-08	6.65E-08	4.61E-01	1.12E-07	2.87E-07	3.90E-01	9.45E-08	2.41E-07	
Road 25	25	0500-0600	1.35E-01	6.05E-08	1.54E-07	1.14E-01	5.09E-08	1.30E-07	4.88E-01	2.18E-07	5.56E-07	4.11E-01	1.84E-07	4.68E-07
Road 25	25	0600-0700	1.42E-01	1.26E-07	3.21E-07	1.20E-01	1.06E-07	2.70E-07	5.13E-01	4.56E-07	1.16E-06	4.32E-01	3.84E-07	9.78E-07
Road 25	25	0700-0800	1.57E-01	3.44E-07	8.78E-07	1.34E-01	2.93E-07	7.46E-07	5.62E-01	1.23E-06	3.14E-06	4.77E-01	1.05E-06	2.66E-06
Road 26	26	0000-0100	1.24E-01	3.82E-08	1.38E-07	1.05E-01	3.24E-08	1.17E-07	4.90E-01	1.51E-07	5.45E-07	4.15E-01	1.28E-07	4.62E-07
Road 26	26	0100-0200	1.25E-01	3.53E-08	1.27E-07	1.07E-01	3.02E-08	1.09E-07	4.51E-01	1.40E-07	5.04E-07	3.79E-01	1.17E-07	4.23E-07
Road 26	26	0200-0300	1.27E-01	2.81E-08	1.06E-07	1.07E-01	2.38E-08	8.95E-08	4.59E-01	1.02E-07	3.85E-07	3.85E-01	8.60E-08	3.24E-07
Road 26	26	0300-0400	1.28E-01	3.42E-08	1.08E-01	2.61E-08	6.65E-08	4.61E-01	1.12E-07	2.87E-07	3.90E-01	9.45E-08	2.41E-07	
Road 26	26	0400-0500	1.29E-01	2.86E-08	1.08E-07	1.09E-01	2.41E-08	9.04E-08	4.68E-01	1.04E-07	3.89E-07	3.93E-01	8.71E-08	3.27E-07
Road 26	26	0500-0600	1.30E-01	5.31E-08	1.99E-07	1.09E-01	4.48E-08	1.68E-07	4.69E-01	1.92E-07	7.22E-07	3.95E-01	1.62E-07	6.08E-07
Road 26	26	0600-0700	1.31E-01	1.11E-07	4.16E-07	1.10E-01	9.33E-08	3.50E-07	4.73E-01	3.97E-07	1.49E-06	3.98E-01	3.34E-07	1.25E-06
Road 26	26	0700-0800	1.58E-01	3.18E-07	1.19E-06	1.35E-01	2.70E-07	1.01E-06	5.66E-01	1.14E-06	4.26E-06	4.81E-01	9.64E-07	3.62E-06
Road 26	26	0800-0900	1.62E-01	3.89E-07	1.46E-06	1.38E-01	3.31E-07	1.24E-06	5.98E-01	1.44E-06	5.39E-06	5.09E-01	1.22E-06	4.59E-06
Road 26	26	0900-1000	1.58E-01	4.34E-07	1.63E-06	1.34E-01	3.69E-07	1.38E-06	5.82E-01	1.60E-06	5.99E-06	4.95E-01	1.36E-06	5.10E-06
Road 26	26	1000-1100	1.76E-01	4.69E-07	1.76E-06	1.50E-01	4.00E-07	1.50E-06	6.23E-01	1.66E-06	6.23E-06	5.29E-01	1.41E-06	5.30E-06
Road 26	26	1100-1200	1.73E-01	4.33E-07	1.63E-06	1.49E-01	3.71E-07	1.39E-06	6.17E-01	1.54E-06	5.79E-06	5.28E-01	1.32E-06	4.96E-06
Road 26	26	1200-1300	1.71E-01	4.84E-07	1.81E-06	1.47E-01	4.15E-07	1.55E-06	6.06E-01	1.71E-06	6.41E-06	5.24E-01	1.48E-06	5.54E-06
Road 26	26	1300-1400	1.64E-01	4.88E-07	1.83E-06	1.41E-01	4.19E-07	1.57E-06	5.86E-01	1.74E-06	6.55E-06	5.03E-01	1.50E-06	5.62E-06
Road 26	26	1400-1500	1.68E-01	4.98E-07	1.87E-06	1.43E-01	4.24E-07	1.59E-06	5.83E-01	1.73E-06	6.49E-06	4.97E-01	1.47E-06	5.52E-06
Road 26	26	1500-1600	1.64E-01	4.73E-07	1.77E-06	1.40E-01	4.03E-07	1.51E-06	5.81E-01	1.68E-06	6.30E-06	4.96E-01	1.43E-06	5.36E-06
Road 26	26	1600-1700	1.64E-01	4.73E-07	1.78E-06	1.36E-01	3.91E-07	1.47E-06	5.52E-01	1.59E-06	5.98E-06	4.70E-01	1.35E-06	5.09E-06
Road 26	26	1700-1800	1.41E-01	3.74E-07	1.40E-06	1.20E-01	3.18E-07	1.19E-06	5.61E-01	1.49E-06	5.59E-06	4.78E-01	1.27E-06	4.76E-06
Road 26	26	1800-1900	1.16E-01	3.31E-07	7.41E-07	9.87E-02	2.81E-07	6.29E-07	5.46E-01	1.56E-06	3.49E-06	4.65E-01	1.33E-06	2.98E-06
Road 26	26	1900-2000	1.11E-01	1.44E-07	3.61E-07	9.47E-02	1.23E-07	3.08E-07	5.46E-01	7.09E-07	1.77E-06	4.65E-01	6.04E-07	1.51E-06
Road 26	26	2000-2100	1.03E-01	1.06E-07	2.65E-07	8.79E-02	9.04E-08	2.26E-07	5.04E-01	5.19E-07	1.30E-06	4.30E-01	4.42E-07	1.11E-06
Road 26	26	2100-2200	1.04E-01	1.03E-07	2.58E-07	8.88E-02	8.77E-08	2.19E-07	4.56E-01	4.50E-07	1.12E-06	3.89E-01	3.84E-07	9.61E-07
Road 26	26	2200-2300	1.03E-01	1.03E-07	2.58E-07	8.79E-02	8.77E-08	2.19E-07	4.51E-01	4.50E-07	1.12E-06	3.85E-01	3.84E-07	9.61E-07
Road 26	26	2300-0000	1.03E-01	1.03E-07	2.58E-07	8.79E-02	8.77E-08	2.19E-07	4.51E-01	4.50E-07	1.12E-06	3.85E-01	3.84E-07	9.61E-07
Road 26	26	0000-0100	1.03E-01	1.06E-07	2.65E-07	8.79E-02	9.04E-08	2.26E-07	4.51E-01	4.64E-07	1.16E-06	3.85E-01	3.96E-07	9.90E-07
Road 26	26	0100-0200	1.03E-01	1.06E-07	2.65E-07	8.79E-02	9.04E-08	2.26E-07	4.51E-01	4.64E-07	1.16E-06	3.85E-01	3.96E-07	9.90E-07
Road 26	26	0200-0300	1.03E-01	1.06E-07	2.65E-07	8.79E-02	9.04E-08	2.26E-07	4.51E-01	4.64E-07	1.16E-06	3.85E-01	3.96E-07	9.90E-07
Road 26	26	0300-0400	1.03E-01	1.06E-07	2.65E-07	8.79E-02	9.04E-08	2.26E-07	4.51E-01	4.64E-07	1.16E-06	3.85E-01	3.96E-07	9.90E-07
Road 26	26	0400-0500	1.03E-01	1.06E-07	2.65E-07	8.79E-02	9.04E-08	2.26E-07	4.51E-01	4.64E-07	1.16E-06	3.85E-01	3.96E-07	9.90E-07
Road 26	26	0500-0600	1.30E-01	5.31E-08	1.99E-07	1.09E-01	4.48E-08	1.68E-07	4.69E-01	1.92E-07	7.22E-07	3.95E-01	1.62E-07	6.08E-07
Road 26	26	0600-0700	1.31E-01	1.11E-07	4.16E-07	1.10E-01	9.33E-08	3.50E-07	4.73E-01	3.97E-07	1.49E-06	3.98E-01	3.34E-07	1.25E-06
Road 26	26	0700-0800	1.58E-01	3.18E-07	1.19E-06	1.35E-01	2.70E-07	1.01E-06	5.66E-01	1.14E-06	4.26E-06	4.81E-01	9.64E-07	3.62E-06
Road 26	26	0800-0900	1.62E-01	3.89E-07	1.46E-06	1.38E-01	3.31E-07	1.24E-06	5.98E-01	1.44E-06	5.39E-06	5.09E-01	1.22E-06	4.59E-06
Road 26	26	0900-1000	1.58E-01	4.34E-07	1.63E-06	1.34E-01	3.69E-07	1.38E-06	5.82E-01	1.60E-06	5.99E-06	4.95E-01	1.36E-06	5.10E-06
Road 26	26	1000-1100	1.76E-01	4.69E-07	1.76E-06	1.50E-01	4.00E-07	1.50E-06	6.23E-01	1.66E-06	6.23E-06	5.29E-01	1.41E-06	5.30E-06
Road 26	26	1100-1200	1.73E-01	4.33E-07	1.63E-06	1.49E-01	3.71E-07	1.39E-06	6.17E-01	1.54E-06	5.79E-06	5.28E-01	1.32E-06	4.96E-06
Road 26	26	1200-1300	1.71E-01	4.84E-07	1.81E-06	1.47E-01	4.15E-07	1.55E-06	6.06E-01	1.71E-06	6.41E-06	5.24E-01	1.48E-06	5.54E-06
Road 26	26	1300-1400	1.64E-01	4.88E-07	1.83E-06	1.41E-01	4.19E-07	1.57E-06	5.86E-01	1.74E-06	6.55E-06	5.03E-01	1.50E-06	5.62E-06
Road 26	26	1400-1500	1.68E-01	4.98E-07	1.87E-06	1.43E-01	4.24E-07	1.59E-06	5.83E-01	1.73E-06	6.49E-06	4.97E-01	1.47E-06	5.52E-06
Road 26	26	1500-1600	1.64E-01	4.73E-07	1.77E-06	1.40E-01	4.03E-07	1.51E-06	5.81E-01	1.68E-06	6.30E-06	4.96E-01	1.43E-06	5.36E-06
Road 26	26	1600-1700	1.64E-01	4.73E-07	1.78E-06	1.36E-01	3.91E-07	1.47E-06	5.52E-01	1.59E-06	5.98E-06	4.70E-01	1.35E-06	5.09E-06
Road 26	26	1700-1800	1.41E-01	3.74E-07	1.40E-06	1.20E-01	3.18E-07	1.19E-06	5.61E-01	1.49E-06	5.59E-06	4.78E-01	1.27E-06	4.76E-06
Road 26	26	1800-1900	1.16E-01	3.31E-07	7.41E-07	9.87E-02	2.81E-07	6.29E-07	5.46E-01	1.56E-06	3.49E-06	4.65E-01	1.33E-06	2.98E-06
Road 26	26	1900-2000	1.11E-01	1.44E-07	3.61E-07	9.47E-02	1.23E-07	3.08E-07	5.46E-01	7.09E-07	1.77E-06	4.65E-01	6.04E-07	1.51E-06
Road 26	26	2000-2100	1.03E-01	1.06E-07	2.65E-07	8.79E-02	9.04E-08	2.26E-07	5.04E-01	5.19E-07	1.30E-06	4.30E-01	4.42E-07	1.11E-06
Road 26	26	2100-2200	1.04E-01	1.03E-07	2.58E-07	8.88E-02	8.77E-08	2.19E-07	4.56E-01	4.50E-07	1.12E-06	3.89E-01	3.84E-07	9.61E-07
Road 26	26	2200-2300	1.03E-01	1.03E-07	2.58E-07	8.79E-02	8.77E-08	2.19E-07	4.51E-01	4.50E-07	1.12E-06	3.85E-01	3.84E-07	9.61E-07
Road 26	26	2300-0000	1.03E-01	1.03E-07	2.58E-07	8.79E-02	8.77E-08	2.19E-07	4.51E-01	4.50E-07	1.12E-06	3.85E-01	3.84E-07	9.61E-07
Road 27	27	0000-0100	1.24E-01	3.82E-08	1.38E-07	1.05E-01	3.24E-08	1.17E-07	4.90E-01	1.51E-07	5.45E-07	4.15E-01	1.28E-07	4.62E-07
Road 27	27	0100-0200	1.24E-01	3.82E-08	1.38E-07	1.05E-01	3.24E-08	1.17E-07	4.90E-01	1.51E-07	5.45E-07	4.15E-01	1.28E-07	4.62E-07
Road 27	27	0200-0300	1.24E-01	3.82E-08	1.38E-07	1.05E-01	3.24E-08	1.17E-07	4.90E-01	1.51E-07	5.45E-07	4.15E-01	1.28E-07	4.62E-07
Road 27	27	0300-0400	1.27E-01	2.63E-08	6.70E-08	1.07E-01	2.21E-08	5.62E-08	5.13E-01	1.06E-07	2.70E-07	4.32E-01	8.94E-08	2.27E-07
Road 27	27	0400-0500	1.28E-01	3.10E-08	1.08E-01	2.61E-08	6.65E-08	4.61E-01	1.12E-07	2.87E-07	3.90E-01	9.45E-08	2.41E-07	
Road 27	27	0500-0600	1.26E-01	5.00E-08	1.54E-07	1.06E-01	4.21E-08	1.30E-07	4.57E-01	1.80E-07	5.56E-07	3.85E-01	1.52E-07	4.70E-07
Road 27	27	0600-0700	1.39E-01	1.26E-07	3.88E-07	1.18E-01	1.07E-07	3.29E-07	5.03E-01	4.54E-07	1.40E-06	4.26E-01	3.85E-07	1.19E-06
Road 27	27	0700-0800	1.56E-01	3.29E-07	9.21E-07	1.33E-01	2.80E-07	7.84E-07	5.57E-01	1.17E-06	3.27E-06	4.73E-01	1.00E-06	2.79E-06
Road 27	27	0800-0900	1.58E-01	3.66E-07	1.13E-06	1.35E-01	3.12E-07	9.59E-07	5.85E-01	1.35E-06	4.17E-06	4.98E-01	1.15E-06	3.54E-06
Road 27	27	0900-1000	1.61E-01	4.16E-07	1.28E-06	1.37E-01	3.54E-07	1.09E-06	6.00E-01	1.55E-06	4.78E-06	5.10E-01	1.32E-06	4.06E-06
Road 27	27	1000-1100	1.74E-01	4.67E-07	1.75E-06	1.48E-01	3.98E-07	1.49E-06	6.16E-01	1.65E-06	6.19E-06	5.24E-01	1.41E-06	5.27E-06
Road 27	27	1100-1200	1.71E-01	4.07E-07	1.25E-06	1.46E-01	3.48E-07	1.07E-06	6.09E-01	1.45E-06	4.46E-06	5.21E-01	1.24E-06	3.82E-06
Road 27	27	1200-1300	1.80E-01	4.26E-07	1.31E-06	1.56E-01	3.70E-07	1.14E-06	6.49E-01	1.54E-06	4.73E-06	5.56E-01	1.32E-06	4.05E-06
Road 27	27	1300-1400	1.74E-01	4.14E-07	1.27E-06	1.49E-01	3.54E-07	1.09E-06	6.26E-01	1.49E-06	4.57E-06	5.36E-01	1.27E-06	3.91E-06
Road 27	27	1400-1500	1.76E-01	4.66E-07	1.43E-06	1.49E-01	3.96E-07	1.22E-06	6.10E-01	1.61E-06	4.97E-06	5.17E-01	1.37E-06	4.22E-06
Road 27	27	1500-1600	1.60E-01	4.42E-07	1.36E-06	1.34E-01	3.72E-07	1.14E-06	6.11E-01	1.69E-06	5.20E-06	5.14E-01	1.42E-06	4.37E-06
Road 27	27	1600-1700	1.60E-01	4.42E-07	1.44E-06	1.32E-01	3.64E-07	1.19E-06	5.74E-01	1.58E-06	5.16E-06	4.74E-01	1.31E-06	4.26E-06
Road 27	27	1700-1800	1.37E-01	3.64E-07	1.36E-06	1.16E-01	3.09E-07	1.15E-06	5.45E-01	1.45E-06	5.43E-06	4.64E-01	1.23E-06	4.62E-06
Road 27	27	1800-1900	1.12E-01	3.21E-07	7.19E-07	9.49E-02	2.72E-07	6.09E-07	5.30E-01	1.52E-06	3.39E-06	4.51E-01	1.29E-06	2.89E-06
Road 27	27	1900-2000

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	5.62E-03	4.64E-08	0.00E+00	7.08E-03	5.13E-02	3.27E-02	3.42E-05	3.52E-06	3.27E-02	2.70E-07	5.03E-06	
Road 51	51	0100-0200	6.08E-03	3.26E-08	6.08E-07	5.12E-03	2.75E-08	5.12E-07	4.32E-06	3.46E-02	1.86E-07	3.46E-06		
Road 51	51	0200-0300	6.61E-03	2.59E-08	4.82E-07	5.54E-03	2.17E-08	4.04E-07	4.46E-02	1.74E-07	3.25E-06	3.55E-02	1.39E-07	2.59E-06
Road 51	51	0300-0400	7.19E-03	2.32E-08	4.13E-07	5.95E-03	1.83E-08	3.47E-07	4.63E-02	1.43E-07	2.66E-06	3.64E-02	1.12E-07	2.09E-06
Road 51	51	0400-0500	7.75E-03	2.61E-08	4.87E-07	6.40E-03	2.16E-08	4.03E-07	4.79E-02	1.62E-07	3.01E-06	3.76E-02	1.27E-07	2.36E-06
Road 51	51	0500-0600	8.27E-03	4.83E-08	9.01E-07	6.86E-03	4.01E-08	7.47E-07	4.91E-02	2.87E-07	5.35E-06	3.88E-02	2.26E-07	4.22E-06
Road 51	51	0600-0700	8.77E-03	1.30E-07	2.04E-06	7.37E-03	1.09E-07	5.01E-02	6.26E-02	1.17E-06	5.23E-02	5.03E-07	9.37E-06	
Road 51	51	0700-0800	9.40E-03	2.37E-07	4.41E-06	7.84E-03	1.98E-07	3.68E-06	5.20E-02	1.31E-06	2.44E-05	4.16E-02	1.05E-06	1.95E-05
Road 51	51	0800-0900	9.02E-03	2.63E-07	4.89E-06	7.58E-03	2.21E-07	4.11E-06	4.68E-02	1.36E-06	2.54E-05	3.80E-02	1.11E-06	2.06E-05
Road 51	51	0900-1000	1.02E-02	3.40E-07	6.34E-06	8.60E-03	2.85E-07	5.31E-06	4.46E-02	1.48E-06	2.76E-05	3.61E-02	1.20E-06	2.24E-05
Road 51	51	1000-1100	1.16E-02	2.36E-07	4.39E-06	9.80E-03	1.99E-07	3.71E-06	5.60E-02	1.14E-06	2.12E-05	4.63E-02	9.40E-07	1.75E-05
Road 51	51	1100-1200	1.09E-02	2.09E-07	3.90E-06	9.20E-03	1.77E-07	3.30E-06	5.95E-02	1.14E-06	2.12E-05	4.59E-02	8.83E-07	1.65E-05
Road 51	51	1200-1300	1.14E-02	2.36E-07	4.39E-06	9.62E-03	1.99E-07	3.71E-06	5.42E-02	1.12E-06	2.09E-05	4.49E-02	9.28E-07	1.73E-05
Road 51	51	1300-1400	2.10E-02	3.50E-07	6.52E-06	1.78E-02	2.98E-07	5.53E-06	1.02E-01	1.70E-06	3.16E-05	8.28E-02	1.38E-06	2.57E-05
Road 51	51	1400-1500	2.10E-02	3.66E-07	6.82E-06	1.79E-02	3.12E-07	5.81E-06	1.02E-01	1.78E-06	3.31E-05	8.28E-02	1.44E-06	2.68E-05
Road 51	51	1500-1600	2.10E-02	3.66E-07	6.82E-06	1.79E-02	3.12E-07	5.81E-06	1.02E-01	1.78E-06	3.31E-05	8.28E-02	1.44E-06	2.68E-05
Road 51	51	1600-1700	2.03E-02	3.75E-07	6.99E-06	1.69E-02	3.12E-07	5.82E-06	9.58E-02	1.77E-06	3.30E-05	7.84E-02	1.45E-06	2.70E-05
Road 51	51	1700-1800	1.59E-02	3.14E-07	5.85E-06	1.29E-02	2.56E-07	4.77E-06	6.73E-02	1.33E-06	2.48E-05	5.36E-02	1.06E-06	1.98E-05
Road 51	51	1800-1900	1.21E-02	2.41E-07	4.49E-06	9.96E-03	1.98E-07	3.69E-06	5.11E-02	1.02E-06	1.90E-05	4.07E-02	8.09E-07	1.51E-05
Road 51	51	1900-2000	1.12E-02	1.77E-07	3.29E-06	9.28E-03	1.46E-07	2.72E-06	4.72E-02	7.44E-07	1.38E-05	3.76E-02	5.93E-07	1.10E-05
Road 51	51	2000-2100	1.11E-02	1.37E-07	2.56E-06	9.08E-03	1.13E-07	2.10E-06	4.62E-02	5.74E-07	1.07E-05	3.68E-02	4.57E-07	8.52E-06
Road 51	51	2100-2200	1.06E-02	1.28E-07	2.39E-06	8.72E-03	1.06E-07	1.96E-06	4.43E-02	5.37E-07	9.98E-06	3.53E-02	4.27E-07	7.96E-06
Road 51	51	2200-2300	1.05E-02	1.26E-07	2.34E-06	8.62E-03	1.04E-07	1.92E-06	4.40E-02	5.31E-07	9.87E-06	3.51E-02	4.23E-07	7.86E-06
Road 51	51	2300-0000	1.13E-02	1.01E-07	1.88E-06	9.31E-03	8.30E-08	1.55E-06	5.25E-02	4.69E-07	8.73E-06	4.18E-02	3.73E-07	6.95E-06
Road 52	52	0000-0100	5.73E-02	2.88E-08	1.48E-07	4.85E-02	2.44E-08	1.25E-07	2.10E-01	1.05E-07	5.40E-07	1.78E-01	8.93E-08	4.58E-07
Road 52	52	0100-0200	7.12E-02	2.47E-08	1.28E-07	6.03E-02	2.09E-08	1.08E-07	2.62E-01	9.08E-08	4.68E-07	2.22E-01	7.69E-08	3.97E-07
Road 52	52	0200-0300	5.58E-02	1.58E-08	8.08E-08	4.72E-02	1.33E-08	6.84E-08	2.05E-01	5.78E-08	2.96E-07	1.73E-01	4.89E-08	2.51E-07
Road 52	52	0300-0400	5.63E-02	1.36E-08	9.95E-08	4.74E-02	1.14E-08	5.84E-08	2.07E-01	4.97E-08	2.55E-07	1.74E-01	4.18E-08	2.14E-07
Road 52	52	0400-0500	5.68E-02	1.36E-08	9.95E-08	4.76E-02	1.14E-08	5.84E-08	2.09E-01	4.97E-08	2.55E-07	1.75E-01	4.18E-08	2.14E-07
Road 52	52	0500-0600	5.85E-02	3.08E-08	1.58E-07	4.92E-02	2.59E-08	1.33E-07	2.14E-01	1.12E-07	5.76E-07	1.80E-01	9.45E-08	4.84E-07
Road 52	52	0600-0700	6.05E-02	7.26E-08	3.72E-07	5.12E-02	6.14E-08	3.15E-07	2.22E-01	2.66E-07	1.36E-06	1.87E-01	2.24E-07	1.15E-06
Road 52	52	0700-0800	6.45E-02	1.68E-07	3.45E-07	5.47E-02	1.42E-07	2.92E-07	2.37E-01	6.17E-07	1.26E-06	1.99E-01	5.19E-07	1.07E-06
Road 52	52	0800-0900	6.47E-02	2.00E-07	1.03E-06	5.51E-02	1.70E-07	8.73E-07	2.38E-01	7.36E-07	3.78E-06	2.00E-01	6.19E-07	3.18E-06
Road 52	52	0900-1000	6.74E-02	2.03E-07	1.04E-06	5.75E-02	1.73E-07	8.87E-07	2.48E-01	7.47E-07	3.84E-06	2.09E-01	6.29E-07	3.23E-06
Road 52	52	1000-1100	7.12E-02	2.31E-07	1.18E-06	6.12E-02	1.99E-07	1.02E-06	2.62E-01	8.50E-07	4.38E-06	2.21E-01	7.18E-07	3.68E-06
Road 52	52	1100-1200	7.12E-02	2.31E-07	1.18E-06	6.12E-02	1.99E-07	1.02E-06	2.62E-01	8.50E-07	4.38E-06	2.21E-01	7.18E-07	3.68E-06
Road 52	52	1200-1300	7.14E-02	2.41E-07	1.23E-06	6.20E-02	2.09E-07	1.07E-06	2.47E-01	8.33E-07	4.29E-06	2.15E-01	7.24E-07	3.71E-06
Road 52	52	1300-1400	7.27E-02	2.41E-07	1.24E-06	6.31E-02	2.09E-07	1.08E-06	2.51E-01	8.33E-07	4.29E-06	2.18E-01	7.24E-07	3.71E-06
Road 52	52	1400-1500	7.28E-02	2.74E-07	1.40E-06	6.24E-02	2.35E-07	1.20E-06	2.56E-01	9.65E-07	4.94E-06	2.20E-01	8.26E-07	4.23E-06
Road 52	52	1500-1600	6.65E-02	2.61E-07	1.34E-06	5.62E-02	2.21E-07	1.13E-06	2.58E-01	1.02E-06	5.20E-06	2.18E-01	8.58E-07	4.40E-06
Road 52	52	1600-1700	6.32E-02	2.38E-07	1.22E-06	5.34E-02	2.01E-07	1.03E-06	2.45E-01	9.26E-07	4.74E-06	2.07E-01	7.81E-07	4.00E-06
Road 52	52	1700-1800	5.84E-02	1.93E-07	9.86E-07	4.81E-02	1.59E-07	8.13E-07	2.38E-01	7.84E-07	4.02E-06	1.96E-01	6.46E-07	3.31E-06
Road 52	52	1800-1900	5.15E-02	1.18E-07	6.07E-07	4.29E-02	9.86E-08	5.05E-07	2.17E-01	4.99E-07	2.56E-06	1.80E-01	4.14E-07	2.12E-06
Road 52	52	1900-2000	4.75E-02	5.72E-08	2.93E-07	3.94E-02	4.75E-08	2.43E-07	1.99E-01	2.40E-07	1.23E-06	1.65E-01	1.99E-07	1.02E-06
Road 52	52	2000-2100	4.83E-02	5.98E-08	3.06E-07	4.04E-02	4.99E-08	2.56E-07	2.00E-01	2.48E-07	1.27E-06	1.67E-01	2.06E-07	1.06E-06
Road 52	52	2100-2200	4.72E-02	5.84E-08	2.99E-07	3.94E-02	4.87E-08	2.50E-07	1.99E-01	2.46E-07	1.26E-06	1.65E-01	2.04E-07	1.05E-06
Road 52	52	2200-2300	5.21E-02	4.61E-08	2.36E-07	4.32E-02	3.82E-08	1.96E-07	1.94E-01	1.71E-07	8.79E-07	1.61E-01	1.42E-07	7.27E-07
Road 53	53	0000-0100	7.98E-02	3.70E-08	8.59E-07	6.63E-02	3.07E-08	7.13E-07	2.90E-01	1.34E-07	3.12E-06	2.38E-01	1.10E-07	2.56E-06
Road 53	53	0100-0200	7.52E-02	2.61E-08	6.05E-07	6.24E-02	2.17E-08	5.03E-07	2.73E-01	9.49E-08	2.20E-06	2.24E-01	7.79E-08	1.81E-06
Road 53	53	0200-0300	8.15E-02	1.93E-08	4.48E-07	6.91E-02	1.64E-08	3.80E-07	2.95E-01	7.05E-08	1.63E-06	2.48E-01	5.88E-08	1.37E-06
Road 53	53	0300-0400	8.45E-02	1.64E-08	3.80E-07	7.09E-02	1.37E-08	3.19E-07	3.06E-01	5.92E-08	1.38E-06	2.54E-01	4.92E-08	1.14E-06
Road 53	53	0400-0500	8.74E-02	1.64E-08	3.80E-07	7.26E-02	1.37E-08	3.19E-07	3.16E-01	5.92E-08	1.38E-06	2.60E-01	4.92E-08	1.14E-06
Road 53	53	0500-0600	9.29E-02	3.66E-08	8.51E-07	7.80E-02	3.07E-08	7.14E-07	3.34E-01	1.32E-07	3.06E-06	2.78E-01	1.10E-07	2.55E-06
Road 53	53	0600-0700	1.03E-01	2.10E-08	8.77E-07	8.66E-02	1.78E-08	3.69E-01	3.23E-01	7.49E-08	3.11E-06	2.72E-01	6.31E-08	2.62E-06
Road 53	53	0700-0800	1.21E-01	2.68E-08	6.25E-07	1.02E-01	2.26E-08	5.26E-07	3.81E-01	8.46E-08	1.97E-06	3.20E-01	7.09E-08	1.65E-06
Road 53	53	0800-0900	1.16E-01	2.38E-07	5.53E-06	9.79E-02	2.02E-07	4.69E-06	3.65E-01	7.53E-07	1.75E-05	3.07E-01	6.33E-07	1.47E-05
Road 53	53	0900-1000	1.25E-01	2.64E-07	6.14E-06	1.07E-01	2.25E-07	5.22E-06	4.02E-01	8.47E-07	1.97E-05	3.38E-01	7.09E-07	1.65E-05
Road 53	53	1000-1100	1.31E-01	2.64E-07	6.14E-06	1.11E-01	2.25E-07	5.22E-06	4.21E-01	8.47E-07	1.97E-05	3.54E-01	7.09E-07	1.65E-05
Road 53	53	1100-1200	1.35E-01	2.54E-07	5.90E-06	1.15E-01	2.16E-07	5.01E-06	4.35E-01	8.14E-07	1.89E-05	3.65E-01	6.81E-07	1.58E-05
Road 53	53	1200-1300	1.19E-01	2.80E-07	6.49E-06	1.01E-01	2.38E-07	5.53E-06	4.13E-01	9.71E-07	2.26E-05	3.51E-01	8.24E-07	1.92E-05
Road 53	53	1300-1400	1.18E-01	2.96E-07	6.88E-06	1.01E-01	2.52E-07	5.86E-06	4.29E-01	1.08E-06	2.50E-05	3.65E-01	9.14E-07	2.12E-05
Road 53	53	1400-1500	1.18E-01	2.96E-07	6.88E-06	1.01E-01	2.52E-07	5.86E-06	4.29E-01	1.08E-06	2.50E-05	3.65E-01	9.14E-07	2.12E-05
Road 53	53	1500-1600	1.10E-01	2.92E-07	6.78E-06	9.41E-02	2.49E-07	5.79E-06	4.05E-01	1.07E-06	2.49E-05	3.36E-01	9.03E-07	2.10E-05
Road 53	53	1600-1700	1.13E-01	2.99E-07	6.94E-06	9.41E-02	2.49E-07	5.79E-06	4.05E-01	1.07E-06	2.49E-05	3.36E-01	9.03E-07	2.10E-05
Road 53	53	1700-1800	1.03E-01	2.72E-07	6.31E-06	8.81E-02	2.32E-07	5.39E-06	3.79E-01	1.00E-06	2.32E-05	3.14E-01	8.29E-07	1.92E-05
Road 53	53	1800-1900	6.57E-02	1.69E-07	3.92E-06	5.43E-02	1.39E-07	3.23E-06	2.91E-01	7.48E-07	1.74E-05	2.41E-01	6.19E-07	1.44E-05
Road 53	53	1900-2000	5.73E-02	1.12E-07	2.60E-06	4.75E-02	9.29E-08	2.16E-06	2.32E-01	4.53E-07	1.05E-05	1.90E-01	3.71E-07	8.62E-06
Road 53	53	2000-2100	5.63E-02	1.06E-07	2.46E-06	4.64E-02	8.74E-08	2.03E-06	2.27E-01	4.27E-07	9.91E-06	1.86E-01	3.50E-07	8.12E-06
Road 53	53	2100-2200	5.54E-02	8.03E-08	1.86E-06	4.61E-02	6.67E-08	1.55E-06	2.23E-01	3.22E-07	7.48E-06	1.82E-01	2.63E-07	6.10E-06
Road 53	53	2200-2300	5.72E-02	6.33E-08	1.47E-06	4.75E-02	5.26E-08	1.22E-06	2.77E-01	2.52E-07	5.85E-06	1.85E-01	2.09E-07	4.85E-06
Road 54	54	0000-0100	6.13E-02	5.46E-08	1.25E-06	5.08E-02	4.53E-08	1.03E-06	2.36E-01	2.10E-07	4.78E-06	1.93E-01	1.72E-07	3.92E-06
Road 54	54	0100-0200	6.14E-02	3.65E-08	8.32E-07	5.24E-02	3.11E-08	7.10E-07	2.35E-01	1.40E-07	3.19E-06	1.98E-01	1.18E-07	2.68E-06
Road 54	54	0200-0300	6.46E-02	2.28E-08	5.19E-07	5.47E-02	1.93E-08	4.40E-07	2.47E-01	8.70E-08	1.98E-06	2.03E-01	7.15E-08	1.63E-06
Road 54	54	0300-0400	6.51E-02	2.34E-08	5.34E-07	5.45E-02	1.96E-08	4.48E-07	2.46E-01	8.88E-08	2.02E-06	2.04E-01	7.35E-08	1.68E-06
Road 54	54	0400-0500	7.11E-02	2.88E-08	6.56E-07	5.94E-02	2.40E-08	5.48E-07	2.67E-01	1.08E-07	2.46E-06	2.20E-01	8.91E-08	2.03E-06
Road 54	54	0500-0600	7.79E-02	5.38E-08	1.23E-06	6.44E-02	4.45E-08	1.02E-06	2.92E-01	2.02E-07	4.61E-06	2.41E-01	1.66E-07	3.78E-06
Road 54	54	0600-0700	8.70E-02	1.37E-07	3.13E-06	7.38E-02	1.16E-07	2.66E-06	3.19E-01	5.03E-07	1.15E-05	2.68E-01	4.23E-07	9.64E-06
Road 54	54	0700-0800	1.00E-01	3.26E-07	7.44E-06	8.42E-02	2.75E-07	6.26E-06	3.61E-01	1.18E-06	2.69E-05	3.02E-01	9.85E-07	2.25E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 54	54	0800-0900	9.83E-02	3.67E-07	7.08E-06	9.05E-02	3.38E-07	6.43E-02	3.66E-01	1.36E-06	3.10E-05	3.06E-01	1.14E-06	2.61E-05
Road 54	54	0900-1000	1.12E-01	4.02E-07	9.16E-06	9.50E-02	3.42E-07	7.79E-06	4.17E-01	1.50E-06	3.42E-05	3.53E-01	1.27E-06	2.89E-05
Road 54	54	1000-1100	1.26E-01	4.17E-07	9.52E-06	1.07E-01	3.54E-07	8.07E-06	4.48E-01	1.49E-06	3.39E-05	3.79E-01	1.26E-06	2.86E-05
Road 54	54	1100-1200	1.22E-01	3.84E-07	8.75E-06	1.04E-01	3.26E-07	7.44E-06	4.40E-01	1.38E-06	3.15E-05	3.73E-01	1.17E-06	2.67E-05
Road 54	54	1200-1300	1.52E-01	3.29E-07	7.50E-06	1.29E-01	2.80E-07	6.39E-06	5.18E-01	1.12E-06	2.56E-05	4.41E-01	9.55E-07	2.18E-05
Road 54	54	1300-1400	1.48E-01	3.51E-07	8.00E-06	1.26E-01	2.99E-07	6.82E-06	5.29E-01	1.25E-06	2.86E-05	4.50E-01	1.07E-06	2.43E-05
Road 54	54	1400-1500	1.58E-01	3.58E-07	8.17E-06	1.34E-01	3.05E-07	6.95E-06	5.20E-01	1.25E-06	2.84E-05	4.51E-01	1.06E-06	2.41E-05
Road 54	54	1500-1600	1.38E-01	3.41E-07	7.78E-06	1.17E-01	2.90E-07	6.47E-06	5.26E-01	1.30E-06	2.97E-05	4.36E-01	1.08E-06	2.46E-05
Road 54	54	1600-1700	1.45E-01	3.44E-07	7.83E-06	1.21E-01	2.86E-07	6.53E-06	5.15E-01	1.22E-06	2.78E-05	4.28E-01	1.01E-06	2.31E-05
Road 54	54	1700-1800	1.21E-01	2.77E-07	6.32E-06	1.01E-01	2.31E-07	5.28E-06	4.32E-01	9.88E-07	2.25E-05	3.58E-01	8.19E-07	1.87E-05
Road 54	54	1800-1900	9.00E-02	1.85E-07	4.23E-06	8.19E-02	1.53E-07	3.50E-06	3.99E-01	8.48E-07	1.93E-05	3.31E-01	6.84E-07	1.56E-05
Road 54	54	1900-2000	9.00E-02	1.22E-07	2.79E-06	8.19E-02	1.01E-07	2.31E-06	3.99E-01	5.62E-07	1.28E-05	3.31E-01	4.66E-07	1.06E-05
Road 54	54	2000-2100	8.91E-02	1.13E-07	2.58E-06	8.10E-02	9.34E-08	2.13E-06	3.95E-01	5.18E-07	1.18E-05	3.28E-01	4.30E-07	9.81E-06
Road 54	54	2100-2200	8.62E-02	1.09E-07	2.49E-06	7.84E-02	9.04E-08	2.06E-06	3.82E-01	5.01E-07	1.14E-05	3.17E-01	4.16E-07	9.49E-06
Road 54	54	2200-2300	8.83E-02	8.75E-08	2.00E-06	8.03E-02	7.96E-08	1.82E-06	3.91E-01	4.45E-07	1.02E-05	3.25E-01	3.69E-07	8.42E-06
Road 54	54	2300-0000	9.05E-02	7.01E-08	1.61E-06	8.23E-02	6.37E-08	1.46E-06	4.01E-01	3.56E-07	8.16E-06	3.33E-01	2.95E-07	6.73E-06
Road 103	103	0000-0100	2.97E-02	1.53E-07	3.42E-06	2.74E-02	1.41E-07	3.15E-06	1.12E-01	5.76E-07	1.28E-05	1.03E-01	5.31E-07	1.18E-05
Road 103	103	0100-0200	3.24E-02	1.41E-07	3.24E-06	3.00E-02	1.31E-07	3.01E-06	1.23E-01	5.36E-07	1.23E-05	1.13E-01	4.92E-07	1.13E-05
Road 103	103	0200-0300	3.64E-02	1.19E-07	2.73E-06	3.37E-02	1.10E-07	2.53E-06	1.38E-01	4.52E-07	1.04E-05	1.27E-01	4.16E-07	9.57E-06
Road 103	103	0300-0400	3.95E-02	1.04E-07	2.40E-06	3.66E-02	9.63E-08	2.21E-06	1.50E-01	3.96E-07	9.11E-06	1.38E-01	3.64E-07	8.38E-06
Road 103	103	0400-0500	4.08E-02	1.17E-07	2.69E-06	3.78E-02	1.08E-07	2.49E-06	1.55E-01	4.45E-07	1.02E-05	1.42E-01	4.09E-07	9.42E-06
Road 103	103	0500-0600	4.17E-02	2.01E-07	4.62E-06	3.92E-02	1.89E-07	4.34E-06	1.58E-01	7.62E-07	1.75E-05	1.47E-01	7.09E-07	1.63E-05
Road 103	103	0600-0700	4.48E-02	4.52E-07	1.04E-05	4.21E-02	4.25E-07	9.77E-06	1.70E-01	1.72E-06	3.95E-05	1.58E-01	1.60E-06	3.68E-05
Road 103	103	0700-0800	5.12E-02	1.19E-06	2.74E-05	4.81E-02	1.12E-06	2.58E-05	1.94E-01	4.52E-06	1.04E-04	1.81E-01	4.21E-06	9.68E-05
Road 103	103	0800-0900	5.74E-02	1.38E-06	5.31E-05	5.39E-02	1.29E-06	4.98E-05	2.17E-01	5.22E-06	2.01E-04	2.03E-01	4.88E-06	1.88E-04
Road 103	103	0900-1000	6.54E-02	2.33E-07	5.37E-06	6.14E-02	2.19E-07	5.04E-06	2.47E-01	8.81E-07	2.03E-05	2.31E-01	8.26E-07	1.90E-05
Road 103	103	1000-1100	7.60E-02	3.43E-07	8.24E-06	6.23E-02	2.81E-07	6.76E-06	4.26E-02	1.92E-06	4.62E-05	3.35E-02	1.51E-06	3.64E-05
Road 103	103	1100-1200	6.54E-02	2.33E-07	5.60E-06	5.37E-02	1.91E-07	4.60E-06	4.12E-02	1.47E-06	3.53E-05	3.22E-02	1.15E-06	2.76E-05
Road 103	103	1200-1300	6.30E-02	1.74E-07	4.19E-06	5.12E-02	1.42E-07	3.41E-06	4.53E-02	1.25E-06	3.01E-05	3.49E-02	9.64E-07	2.32E-05
Road 103	103	1300-1400	5.51E-02	1.53E-07	3.67E-06	4.50E-02	1.25E-07	2.99E-06	4.36E-02	1.21E-06	2.91E-05	3.38E-02	9.36E-07	2.25E-05
Road 103	103	1400-1500	5.35E-02	1.43E-07	3.45E-06	4.38E-02	1.17E-07	2.81E-06	4.24E-02	1.15E-06	2.77E-05	3.29E-02	8.89E-07	2.14E-05
Road 103	103	1500-1600	6.01E-02	1.21E-07	2.90E-06	4.89E-02	9.83E-08	2.36E-06	4.46E-02	9.07E-07	2.18E-05	3.46E-02	7.03E-07	1.69E-05
Road 103	103	1600-1700	5.72E-02	1.16E-07	2.78E-06	4.65E-02	9.43E-08	2.26E-06	4.24E-02	8.62E-07	2.07E-05	3.29E-02	6.68E-07	1.60E-05
Road 103	103	1700-1800	5.09E-02	1.03E-07	2.47E-06	4.14E-02	8.39E-08	2.01E-06	3.78E-02	7.67E-07	1.84E-05	2.93E-02	5.94E-07	1.42E-05
Road 103	103	1800-1900	4.58E-02	1.05E-07	2.52E-06	3.72E-02	8.54E-08	2.05E-06	3.40E-02	7.82E-07	1.88E-05	2.64E-02	6.05E-07	1.45E-05
Road 103	103	1900-2000	4.06E-02	5.07E-08	1.22E-06	3.30E-02	4.12E-08	9.88E-07	3.01E-02	3.76E-07	9.02E-06	2.34E-02	2.92E-07	7.00E-06
Road 103	103	2000-2100	4.04E-02	6.34E-08	1.52E-06	3.28E-02	5.15E-08	1.23E-06	2.99E-02	4.69E-07	1.13E-05	2.32E-02	3.64E-07	8.74E-06
Road 103	103	2100-2200	4.86E-02	1.03E-07	2.48E-06	3.95E-02	8.36E-08	2.01E-06	3.60E-02	7.62E-07	1.83E-05	2.79E-02	5.91E-07	1.42E-05
Road 103	103	2200-2300	4.66E-02	1.03E-07	2.47E-06	3.79E-02	8.34E-08	2.00E-06	3.45E-02	7.60E-07	1.82E-05	2.68E-02	5.90E-07	1.41E-05
Road 103	103	2300-0000	3.48E-02	8.62E-08	2.07E-06	2.83E-02	7.00E-08	1.68E-06	2.58E-02	6.39E-07	1.53E-05	2.00E-02	4.96E-07	1.19E-05
Road 104	104	0000-0100	1.05E-02	9.36E-08	1.91E-06	8.64E-03	7.72E-08	1.57E-06	3.62E-02	3.24E-07	6.61E-06	2.78E-02	2.48E-07	5.06E-06
Road 104	104	0100-0200	1.21E-02	5.29E-08	1.08E-06	1.02E-02	4.47E-08	9.11E-07	4.20E-02	1.84E-07	3.75E-06	3.22E-02	1.41E-07	2.87E-06
Road 104	104	0200-0300	1.21E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 17	17	1600-1700	6.37E-02	1.65E-06	1.64E-03	1.45E-01	3.76E-06	1.74E-04	2.11E-01	5.48E-06	1.60E-04
Road 17	17	1700-1800	4.33E-02	1.17E-06	3.41E-05	3.92E-02	1.06E-06	3.09E-05	1.77E-02	4.78E-06	1.26E-04
Road 17	17	1800-1900	2.39E-02	6.10E-07	1.78E-05	2.19E-02	5.58E-07	1.63E-05	2.63E-06	7.68E-05	9.36E-02
Road 17	17	1900-2000	1.41E-02	3.90E-07	7.90E-06	1.28E-02	3.54E-07	7.16E-06	6.68E-02	1.28E-06	3.75E-05
Road 17	17	2000-2100	1.20E-02	5.27E-06	1.10E-02	1.65E-02	4.84E-06	6.32E-02	9.52E-06	2.78E-06	5.72E-02
Road 17	17	2100-2200	1.16E-02	1.76E-07	5.14E-06	1.06E-02	4.68E-06	6.28E-02	9.49E-06	2.77E-06	8.52E-07
Road 17	17	2200-2300	1.29E-02	2.72E-07	5.63E-06	1.96E-02	4.40E-06	6.20E-02	8.89E-06	2.60E-06	7.72E-07
Road 17	17	2300-0000	1.30E-02	1.43E-07	4.18E-06	1.15E-02	1.26E-07	6.13E-03	7.29E-06	1.96E-06	1.33E-02
Road 18	18	0000-0100	8.14E-03	5.38E-08	2.10E-06	7.13E-03	4.71E-08	1.84E-06	4.97E-02	3.28E-06	1.28E-04
Road 18	18	0100-0200	9.86E-03	3.15E-08	1.23E-06	8.83E-03	2.82E-08	1.10E-06	5.25E-02	1.68E-06	6.56E-05
Road 18	18	0200-0300	9.85E-03	3.15E-08	1.23E-06	8.83E-03	2.82E-08	1.10E-06	5.25E-02	1.68E-06	6.56E-05
Road 18	18	0300-0400	1.08E-02	2.76E-08	1.08E-06	9.67E-03	2.47E-08	9.64E-07	5.48E-02	1.40E-06	5.46E-05
Road 18	18	0400-0500	1.14E-02	2.94E-08	1.15E-06	1.02E-02	2.63E-08	1.03E-06	5.78E-02	1.49E-06	5.82E-05
Road 18	18	0500-0600	1.16E-02	5.59E-08	2.18E-06	1.04E-02	5.03E-08	1.96E-06	5.86E-02	2.83E-06	1.10E-04
Road 18	18	0600-0700	1.20E-02	1.24E-07	4.84E-06	1.06E-02	1.09E-07	4.26E-06	6.12E-02	6.31E-06	2.47E-05
Road 18	18	0700-0800	1.31E-02	1.75E-07	2.40E-06	1.17E-02	1.56E-07	2.14E-06	6.63E-02	8.88E-06	1.22E-04
Road 18	18	0800-0900	1.26E-02	3.08E-07	1.20E-05	1.13E-02	2.75E-07	1.07E-05	6.00E-02	1.46E-06	5.72E-05
Road 18	18	0900-1000	1.46E-02	3.02E-07	1.18E-05	1.31E-02	2.71E-07	1.06E-05	6.78E-02	1.40E-06	5.48E-05
Road 18	18	1000-1100	1.64E-02	2.79E-07	1.09E-05	1.48E-02	2.51E-07	9.80E-06	7.57E-02	1.29E-06	5.04E-05
Road 18	18	1100-1200	1.59E-02	2.73E-07	1.07E-05	1.43E-02	2.47E-07	9.65E-06	7.38E-02	1.27E-06	4.96E-05
Road 18	18	1200-1300	2.17E-02	4.41E-07	1.72E-05	1.98E-02	4.03E-07	1.57E-05	9.82E-02	1.99E-06	7.78E-05
Road 18	18	1300-1400	2.17E-02	4.63E-07	1.81E-05	1.95E-02	4.17E-07	1.63E-05	9.67E-02	2.06E-06	8.07E-05
Road 18	18	1400-1500	2.12E-02	4.63E-07	1.81E-05	1.90E-02	4.17E-07	1.63E-05	9.42E-02	2.06E-06	8.07E-05
Road 18	18	1500-1600	2.01E-02	4.61E-07	1.80E-05	1.84E-02	4.23E-07	1.65E-05	9.14E-02	2.09E-06	8.19E-05
Road 18	18	1600-1700	2.05E-02	4.80E-07	1.87E-05	1.89E-02	4.42E-07	1.72E-05	9.38E-02	2.19E-06	8.53E-05
Road 18	18	1700-1800	1.96E-02	4.61E-07	1.80E-05	1.84E-02	4.32E-07	1.68E-05	9.14E-02	2.14E-06	8.34E-05
Road 18	18	1800-1900	1.14E-02	2.87E-07	1.12E-05	1.04E-02	2.62E-07	1.02E-05	5.18E-02	1.30E-06	5.06E-05
Road 18	18	1900-2000	9.68E-03	2.73E-06	8.81E-03	1.71E-02	6.67E-06	5.00E-02	4.91E-02	1.38E-05	4.45E-02
Road 18	18	2000-2100	9.53E-03	2.68E-06	8.20E-03	1.24E-02	4.84E-06	5.25E-02	7.94E-02	3.10E-05	9.50E-02
Road 18	18	2100-2200	9.01E-03	1.36E-07	5.32E-06	8.20E-03	1.24E-07	4.84E-06	5.25E-02	7.94E-07	3.10E-05
Road 18	18	2200-2300	9.22E-03	1.34E-07	5.23E-06	8.16E-03	1.18E-07	4.61E-06	5.29E-02	7.68E-07	3.00E-05
Road 18	18	2300-0000	8.42E-03	1.63E-07	4.86E-06	7.40E-03	1.43E-07	4.27E-06	4.83E-02	9.32E-07	2.78E-05
Road 19	19	0000-0100	1.00E-02	8.72E-08	2.51E-06	8.77E-03	7.65E-08	2.20E-06	5.99E-02	4.88E-07	1.40E-05
Road 19	19	0100-0200	1.07E-02	6.17E-08	1.78E-06	9.64E-03	5.54E-08	1.60E-06	6.33E-02	3.24E-07	9.33E-06
Road 19	19	0200-0300	1.17E-02	6.46E-08	1.86E-06	1.05E-02	5.80E-08	1.67E-06	6.91E-02	3.42E-07	9.85E-06
Road 19	19	0300-0400	1.27E-02	4.35E-08	1.25E-06	1.14E-02	3.89E-08	1.12E-06	6.41E-02	2.20E-07	6.35E-06
Road 19	19	0400-0500	1.34E-02	5.08E-08	1.46E-06	1.22E-02	4.61E-08	1.33E-06	6.39E-02	2.42E-07	6.96E-06
Road 19	19	0500-0600	1.39E-02	1.32E-08	3.82E-07	1.26E-02	1.20E-08	3.45E-07	6.63E-02	6.31E-08	1.82E-06
Road 19	19	0600-0700	1.46E-02	2.07E-07	5.96E-06	1.29E-02	1.82E-07	5.25E-06	6.99E-02	9.90E-07	2.85E-05
Road 19	19	0700-0800	1.61E-02	4.68E-07	1.35E-05	1.42E-02	4.14E-07	1.19E-05	7.69E-02	2.24E-06	6.44E-05
Road 19	19	0800-0900	1.52E-02	4.63E-07	1.33E-05	1.34E-02	4.09E-07	1.18E-05	7.25E-02	2.21E-06	6.36E-05
Road 19	19	0900-1000	1.81E-02	5.39E-07	1.55E-05	1.63E-02	4.86E-07	1.40E-05	8.37E-02	2.49E-06	7.18E-05
Road 19	19	1000-1100	2.03E-02	5.43E-07	1.56E-05	1.84E-02	4.91E-07	1.41E-05	9.38E-02	2.51E-06	7.20E-05
Road 19	19	1100-1200	1.94E-02	4.40E-07	1.26E-05	1.75E-02	3.97E-07	1.14E-05	8.94E-02	2.03E-06	5.82E-05
Road 19	19	1200-1300	2.52E-02	5.80E-07	1.67E-05	2.30E-02	5.30E-07	1.52E-05	1.17E-01	2.70E-06	7.76E-05
Road 19	19	1300-1400	2.56E-02	6.30E-07	1.81E-05	2.35E-02	5.77E-07	1.66E-05	1.20E-01	2.95E-06	8.47E-05
Road 19	19	1400-1500	2.52E-02	6.18E-07	1.78E-05	2.27E-02	5.66E-07	1.63E-05	1.16E-01	2.89E-06	8.31E-05
Road 19	19	1500-1600	2.36E-02	6.18E-07	1.78E-05	2.17E-02	5.66E-07	1.63E-05	1.11E-01	2.89E-06	8.31E-05
Road 19	19	1600-1700	2.41E-02	6.32E-07	1.82E-05	2.23E-02	5.85E-07	1.68E-05	9.57E-02	2.51E-06	7.21E-05
Road 19	19	1700-1800	2.31E-02	6.32E-07	1.82E-05	2.13E-02	5.85E-07	1.68E-05	9.14E-02	2.51E-06	7.21E-05
Road 19	19	1800-1900	1.37E-02	3.51E-07	1.01E-05	1.25E-02	3.21E-07	9.24E-06	6.43E-02	1.65E-06	4.75E-05
Road 19	19	1900-2000	1.18E-02	2.29E-07	6.59E-06	1.08E-02	2.10E-07	6.04E-06	5.52E-02	1.07E-06	3.08E-05
Road 19	19	2000-2100	1.13E-02	1.71E-07	4.93E-06	1.03E-02	1.56E-07	4.50E-06	5.29E-02	8.00E-07	2.30E-05
Road 19	19	2100-2200	1.13E-02	1.71E-07	4.93E-06	1.03E-02	1.56E-07	4.50E-06	5.29E-02	8.00E-07	2.30E-05
Road 19	19	2200-2300	1.16E-02	1.68E-07	4.84E-06	1.05E-02	1.52E-07	4.38E-06	5.44E-02	7.87E-07	2.27E-05
Road 19	19	2300-0000	1.09E-02	1.51E-07	4.35E-06	9.86E-03	1.37E-07	3.94E-06	5.09E-02	7.05E-07	2.03E-05
Road 20	20	0000-0100	4.10E-02	4.33E-08	7.98E-07	3.62E-02	3.82E-08	7.05E-07	1.59E-01	1.68E-07	3.09E-06
Road 20	20	0100-0200	4.14E-02	3.01E-08	5.55E-07	3.73E-02	2.71E-08	5.00E-07	1.64E-01	1.19E-07	2.19E-06
Road 20	20	0200-0300	4.25E-02	2.78E-08	4.41E-07	3.82E-02	2.50E-08	3.96E-07	1.68E-01	1.10E-07	1.74E-06
Road 20	20	0300-0400	4.37E-02	2.05E-08	3.78E-07	3.92E-02	1.84E-08	3.39E-07	1.72E-01	8.08E-08	1.49E-06
Road 20	20	0400-0500	4.48E-02	2.43E-08	4.47E-07	4.10E-02	2.22E-08	4.09E-07	1.76E-01	9.56E-08	1.76E-06
Road 20	20	0500-0600	4.64E-02	4.58E-08	8.44E-07	4.20E-02	4.14E-08	7.63E-07	1.76E-01	1.73E-07	3.19E-06
Road 20	20	0600-0700	5.12E-02	2.06E-07	3.79E-06	4.55E-02	1.84E-07	3.38E-06	1.79E-01	7.23E-07	1.33E-05
Road 20	20	0700-0800	5.76E-02	2.70E-07	4.98E-06	5.12E-02	2.40E-07	4.43E-06	2.01E-01	9.44E-07	1.74E-05
Road 20	20	0800-0900	5.75E-02	3.21E-07	2.89E-06	5.23E-02	2.91E-07	2.64E-06	2.26E-01	1.26E-06	1.14E-05
Road 20	20	0900-1000	5.12E-02	2.86E-07	4.55E-06	4.65E-02	2.60E-07	4.13E-06	2.01E-01	1.12E-06	1.78E-05
Road 20	20	1000-1100	6.76E-02	3.88E-07	7.16E-06	6.11E-02	3.51E-07	6.48E-06	2.45E-01	1.41E-06	2.59E-05
Road 20	20	1100-1200	6.45E-02	3.48E-07	6.41E-06	5.80E-02	3.13E-07	5.77E-06	2.36E-01	1.27E-06	2.34E-05
Road 20	20	1200-1300	6.41E-02	3.61E-07	6.65E-06	5.77E-02	3.25E-07	5.99E-06	2.34E-01	1.32E-06	2.43E-05
Road 20	20	1300-1400	6.64E-02	3.78E-07	6.97E-06	6.11E-02	3.48E-07	6.41E-06	2.43E-01	1.38E-06	2.54E-05
Road 20	20	1400-1500	6.79E-02	3.86E-07	7.12E-06	6.24E-02	3.55E-07	6.55E-06	2.41E-01	1.37E-06	2.53E-05
Road 20	20	1500-1600	6.14E-02	3.50E-07	6.71E-06	5.65E-02	3.22E-07	6.17E-06	2.18E-01	1.24E-06	2.38E-05
Road 20	20	1600-1700	6.20E-02	3.47E-07	6.39E-06	5.74E-02	3.21E-07	5.92E-06	2.26E-01	1.26E-06	2.33E-05
Road 20	20	1700-1800	5.19E-02	2.73E-07	5.04E-06	4.72E-02	2.49E-07	4.58E-06	2.13E-01	1.12E-06	2.07E-05
Road 20	20	1800-1900	3.03E-02	1.77E-07	3.26E-06	2.76E-02	1.61E-07	2.97E-06	1.25E-01	7.32E-07	1.35E-05
Road 20	20	1900-2000	3.62E-02	1.02E-07	1.87E-06	3.31E-02	9.30E-08	1.71E-06	1.51E-01	4.24E-07	7.81E-06
Road 20	20	2000-2100	3.55E-02	7.87E-08	1.45E-06	3.26E-02	7.23E-08	1.33E-06	1.54E-01	3.42E-07	6.30E-06
Road 20	20	2100-2200	3.98E-02	1.10E-07	1.98E-06	3.63E-02	7.41E-08	1.33E-06	1.72E-01	4.75E-07	8.54E-06
Road 20	20	2200-2300	3.79E-02	7.73E-08	1.42E-06	3.37E-02	6.88E-08	1.27E-06	1.49E-01	3.04E-07	5.60E-06
Road 20	20	2300-0000	4.04E-02	6.56E-08	1.21E-06	3.57E-02	5.81E-08	1.07E-06	1.57E-01	2.56E-07	4.71E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	1.14E-02	7.88E-08	1.45E-06	1.03E-02	6.93E-08	9.16E-07	6.02E-02	4.16E-07	5.50E-06
Road 21	21	0100-0200	1.21E-02	5.56E-08	7.35E-07	1.09E-02	4.99E-08	6.60E-07	6.07E-02	2.78E-07	3.67E-06
Road 21	21	0200-0300	1.31E-02	4.47E-08	5.91E-07	1.18E-02	4.02E-08	5.31E-07	6.31E-02	2.15E-07	2.85E-06
Road 21	21	0300-0400	1.42E-02	3.88E-08	5.13E-07	1.27E-02	3.48E-08	4.60E-07	6.60E-02	1.81E-07	2.39E-06
Road 21	21	0400-0500	1.49E-02	4.54E-08	6.00E-07	1.36E-02	4.14E-08	5.47E-07	6.83E-02	2.08E-07	2.75E-06
Road 21	21	0500-0600	1.55E-02	8.26E-08	1.09E-06	1.40E-02	7.45E-08	9.85E-07	7.12E-02	3.79E-07	5.01E-06
Road 21	21	0600-0700	1.63E-02	1.88E-07	2.48E-06	1.45E-02	1.68E-07	2.22E-06	7.53E-02	8.68E-07	1.15E-05
Road 21	21	0700-0800	1.83E-02	4.34E-07	5.73E-06	1.62E-02	3.85E-07	5.09E-06	8.18E-02	1.94E-06	2.57E-05
Road 21	21	0800-0900	1.96E-02	5.43E-07	7.17E-06	1.76E-02	4.87E-07	6.43E-06	8.49E-02	2.35E-06	3.11E-05
Road 21	21	0900-1000	1.66E-02	5.43E-07	7.17E-06	1.48E-02	4.84E-07	6.40E-06	9.33E-02	2.73E-06	3.08E-05
Road 21	21	1000-1100	2.30E-02	5.21E-07	6.88E-06	2.08E-02	4.70E-07	6.22E-06	9.46E-02	2.14E-06	2.83E-05
Road 21	21	1100-1200	2.24E-02	4.80E-07	6.34E-06	2.02E-02	4.31E-07	5.70E-06	9.41E-02	2.01E-06	2.66E-05
Road 21	21	1200-1300	2.21E-02	5.42E-07	7.15E-06	1.98E-02	4.87E-07	6.43E-06	9.25E-02	2.27E-06	2.99E-05
Road 21	21	1300-1400	2.76E-02	5.82E-07	7.69E-06	2.46E-02	5.21E-07	6.88E-06	1.04E-01	2.20E-06	2.90E-05
Road 21	21	1400-1500	2.85E-02	6.16E-07	8.14E-06	2.62E-02	5.66E-07	7.49E-06	1.10E-01	2.38E-06	3.15E-05
Road 21	21	1500-1600	2.53E-02	5.88E-07	7.77E-06	2.39E-02	5.54E-07	7.32E-06	1.11E-01	2.58E-06	3.41E-05
Road 21	21	1600-1700	2.67E-02	5.93E-07	7.84E-06	2.47E-02	5.48E-07	7.25E-06	1.05E-01	2.32E-06	3.07E-05
Road 21	21	1700-1800	2.05E-02	4.66E-07	6.15E-06	1.86E-02	4.23E-07	5.59E-06	9.21E-02	2.09E-06	2.76E-05
Road 21	21	1800-1900	1.50E-02	3.51E-07	4.64E-06	1.37E-02	3.88E-07	5.13E-06	8.68E-02	2.03E-06	2.68E-05
Road 21	21	1900-2000	1.28E-02	2.00E-07	2.65E-06	1.17E-02	1.83E-07	2.42E-06	8.45E-02	1.32E-06	1.75E-05
Road 21	21	2000-2100	1.26E-02	1.54E-07	2.04E-06	1.15E-02	1.42E-07	1.87E-06	6.48E-02	7.92E-07	1.05E-05
Road 21	21	2100-2200	1.28E-02	1.52E-07	2.01E-06	1.16E-02	1.38E-07	1.82E-06	6.60E-02	7.82E-07	1.03E-05
Road 21	21	2200-2300	1.29E-02	1.48E-07	1.95E-06	1.17E-02	1.34E-07	1.77E-06	6.66E-02	7.64E-07	1.01E-05
Road 21	21	2300-0000	1.21E-02	1.38E-07	1.82E-06	1.10E-02	1.25E-07	1.65E-06	6.24E-02	7.12E-07	9.41E-06
Road 22	22	0000-0100	1.26E-01	1.56E-07	2.75E-06	1.14E-01	1.41E-07	2.49E-06	6.55E-01	8.09E-07	1.42E-05
Road 22	22	0100-0200	1.38E-01	1.71E-07	3.01E-06	1.25E-01	1.55E-07	2.73E-06	7.17E-01	8.88E-07	1.56E-05
Road 22	22	0200-0300	1.44E-01	1.78E-07	3.14E-06	1.30E-01	1.61E-07	2.84E-06	7.47E-01	9.25E-07	1.63E-05
Road 22	22	0300-0400	1.58E-01	1.95E-07	3.44E-06	1.43E-01	1.77E-07	3.12E-06	8.21E-01	1.02E-06	1.79E-05
Road 22	22	0400-0500	1.66E-01	2.05E-07	3.62E-06	1.50E-01	1.86E-07	3.28E-06	8.62E-01	1.06E-06	1.88E-05
Road 22	22	0500-0600	1.36E-01	1.62E-07	2.90E-06	1.23E-01	1.47E-07	2.62E-06	4.90E-01	5.87E-07	1.05E-05
Road 22	22	0600-0700	1.54E-01	4.18E-07	7.45E-06	1.37E-01	3.73E-07	6.65E-06	5.51E-01	1.50E-06	2.67E-05
Road 22	22	0700-0800	1.73E-01	1.08E-06	1.92E-05	1.52E-01	9.50E-07	1.69E-05	6.23E-01	3.89E-06	6.92E-05
Road 22	22	0800-0900	1.76E-01	1.21E-06	2.16E-05	1.58E-01	1.09E-06	1.95E-05	6.41E-01	4.42E-06	7.89E-05
Road 22	22	0900-1000	1.81E-01	1.37E-06	2.44E-05	1.63E-01	1.23E-06	2.20E-05	6.64E-01	5.03E-06	8.97E-05
Road 22	22	1000-1100	1.93E-01	1.33E-06	2.37E-05	1.72E-01	1.19E-06	2.13E-05	6.72E-01	4.66E-06	8.32E-05
Road 22	22	1100-1200	1.92E-01	1.33E-06	2.37E-05	1.72E-01	1.19E-06	2.13E-05	6.72E-01	4.66E-06	8.32E-05
Road 22	22	1200-1300	1.96E-01	1.40E-06	2.49E-05	1.79E-01	1.28E-06	2.28E-05	6.57E-01	4.68E-06	8.35E-05
Road 22	22	1300-1400	1.97E-01	1.41E-06	2.49E-05	1.79E-01	1.28E-06	2.28E-05	6.57E-01	4.68E-06	8.35E-05
Road 22	22	1400-1500	1.92E-01	1.52E-06	2.72E-05	1.76E-01	1.40E-06	2.50E-05	6.55E-01	5.21E-06	9.28E-05
Road 22	22	1500-1600	1.72E-01	1.43E-06	2.55E-05	1.57E-01	1.30E-06	2.32E-05	6.50E-01	5.39E-06	9.60E-05
Road 22	22	1600-1700	1.73E-01	1.43E-06	2.55E-05	1.57E-01	1.30E-06	2.32E-05	6.50E-01	5.39E-06	9.60E-05
Road 22	22	1700-1800	1.54E-01	1.10E-06	1.97E-05	1.40E-01	1.00E-06	1.79E-05	6.05E-01	4.34E-06	7.74E-05
Road 22	22	1800-1900	1.20E-01	6.33E-07	1.13E-05	1.10E-01	5.79E-07	1.03E-05	4.90E-01	2.59E-06	4.62E-05
Road 22	22	1900-2000	1.03E-01	3.08E-07	5.49E-06	9.36E-02	2.83E-07	5.04E-06	4.43E-01	1.33E-06	2.37E-05
Road 22	22	2000-2100	1.08E-01	3.08E-07	5.49E-06	9.96E-02	2.83E-07	5.04E-06	4.43E-01	1.26E-06	2.24E-05
Road 22	22	2100-2200	1.10E-01	2.56E-07	4.54E-06	1.08E-01	2.25E-07	4.02E-06	4.46E-01	9.28E-07	1.66E-05
Road 22	22	2200-2300	1.22E-01	2.55E-07	4.54E-06	1.08E-01	2.25E-07	4.02E-06	4.46E-01	9.28E-07	1.66E-05
Road 23	23	0000-0100	1.20E-01	3.31E-08	6.11E-07	1.06E-01	2.92E-08	5.40E-07	4.36E-01	1.20E-07	2.22E-06
Road 23	23	0100-0200	1.18E-01	3.24E-08	5.98E-07	1.04E-01	2.86E-08	5.29E-07	4.28E-01	1.18E-07	2.17E-06
Road 23	23	0200-0300	1.19E-01	1.82E-08	3.37E-07	1.08E-01	1.64E-08	3.04E-07	4.33E-01	6.63E-08	1.22E-06
Road 23	23	0300-0400	1.15E-01	1.49E-08	2.75E-07	1.03E-01	1.34E-08	2.47E-07	4.19E-01	5.43E-08	1.00E-06
Road 23	23	0400-0500	1.25E-01	3.49E-08	6.45E-07	1.13E-01	3.16E-08	5.84E-07	4.53E-01	1.27E-07	2.34E-06
Road 23	23	0500-0600	1.25E-01	3.49E-08	6.45E-07	1.13E-01	3.16E-08	5.84E-07	4.53E-01	1.27E-07	2.34E-06
Road 23	23	0600-0700	1.34E-01	8.51E-08	1.57E-06	1.19E-01	7.59E-08	1.40E-06	4.83E-01	3.08E-07	5.68E-06
Road 23	23	0700-0800	1.32E-01	1.22E-07	2.25E-06	1.17E-01	1.08E-07	2.00E-06	4.75E-01	4.39E-07	8.11E-06
Road 23	23	0800-0900	1.49E-01	2.44E-07	4.50E-06	1.34E-01	2.19E-07	4.05E-06	5.55E-01	9.06E-07	1.67E-05
Road 23	23	0900-1000	1.51E-01	2.46E-07	4.54E-06	1.34E-01	2.19E-07	4.05E-06	5.55E-01	9.06E-07	1.67E-05
Road 23	23	1000-1100	1.61E-01	2.76E-07	5.09E-06	1.44E-01	2.47E-07	4.56E-06	5.70E-01	9.77E-07	1.80E-05
Road 23	23	1100-1200	1.56E-01	2.68E-07	5.84E-06	1.40E-01	2.41E-07	4.45E-06	5.70E-01	9.77E-07	1.77E-05
Road 23	23	1200-1300	1.56E-01	2.68E-07	5.84E-06	1.40E-01	2.41E-07	4.45E-06	5.70E-01	9.77E-07	1.77E-05
Road 23	23	1300-1400	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	1400-1500	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	1500-1600	1.66E-01	2.85E-07	6.20E-06	1.49E-01	2.56E-07	4.73E-06	6.06E-01	1.04E-06	1.88E-05
Road 23	23	1600-1700	1.66E-01	2.85E-07	6.20E-06	1.49E-01	2.56E-07	4.73E-06	6.06E-01	1.04E-06	1.88E-05
Road 23	23	1700-1800	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	1800-1900	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	1900-2000	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	2000-2100	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	2100-2200	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	2200-2300	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 23	23	2300-0000	1.61E-01	2.76E-07	6.01E-06	1.44E-01	2.48E-07	4.58E-06	5.87E-01	1.01E-06	1.82E-05
Road 24	24	0000-0100	1.21E-02	2.64E-07	5.04E-06	1.08E-02	2.36E-07	4.51E-06	6.02E-02	1.31E-06	2.50E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 44	44	0800-0900	9.51E-03	2.76E-07	1.70E-06	1.52E-02	4.41E-07	2.72E-06	1.85E-02	4.30E-02	1.25E-06	7.70E-06		
Road 44	44	0900-1000	1.06E-02	2.51E-07	1.55E-06	9.53E-03	2.25E-07	1.39E-06	5.35E-02	1.26E-06	7.81E-06	4.70E-02	1.11E-06	6.86E-06
Road 44	44	1000-1100	1.19E-02	2.42E-07	1.50E-06	1.07E-02	2.18E-07	1.34E-06	5.60E-02	1.14E-06	7.05E-06	4.95E-02	1.01E-06	6.23E-06
Road 44	44	1100-1200	1.13E-02	1.34E-07	1.24E-06	1.01E-02	1.20E-07	1.11E-06	5.60E-02	6.64E-07	6.15E-06	4.95E-02	5.90E-07	5.90E-06
Road 44	44	1200-1300	1.41E-02	3.55E-07	2.19E-06	1.28E-02	3.21E-07	1.98E-06	6.24E-02	1.57E-06	9.70E-06	5.58E-02	1.40E-06	8.67E-06
Road 44	44	1300-1400	1.42E-02	3.85E-07	2.25E-06	1.29E-02	3.31E-07	2.09E-06	6.26E-02	1.63E-06	1.03E-05	5.82E-02	1.50E-06	9.24E-06
Road 44	44	1400-1500	1.44E-02	3.92E-07	2.46E-06	1.31E-02	3.60E-07	2.23E-06	6.50E-02	1.78E-06	1.12E-05	5.87E-02	1.61E-06	9.94E-06
Road 44	44	1500-1600	1.38E-02	3.86E-07	2.39E-06	1.25E-02	3.49E-07	2.16E-06	6.88E-02	1.92E-06	1.19E-05	5.98E-02	1.68E-06	1.04E-05
Road 44	44	1600-1700	1.83E-02	5.45E-07	3.37E-06	1.67E-02	5.00E-07	3.09E-06	7.66E-02	2.29E-06	1.42E-05	6.97E-02	2.08E-06	1.29E-05
Road 44	44	1700-1800	1.32E-02	3.68E-07	2.28E-06	1.21E-02	3.37E-07	2.09E-06	7.66E-02	2.13E-06	1.32E-05	6.97E-02	1.94E-06	1.20E-05
Road 44	44	1800-1900	1.98E-02	7.37E-07	4.55E-06	1.82E-02	6.77E-07	4.18E-06	7.66E-02	2.85E-06	1.76E-05	6.97E-02	2.59E-06	1.60E-05
Road 44	44	1900-2000	6.31E-03	1.86E-07	1.15E-06	5.72E-03	1.69E-07	1.04E-06	6.90E-06	3.36E-02	9.92E-07	6.13E-06		
Road 44	44	2000-2100	6.02E-03	1.34E-07	8.29E-07	5.46E-03	1.21E-07	7.48E-07	6.90E-06	2.39E-02	5.31E-07	3.28E-06		
Road 44	44	2100-2200	5.24E-03	1.20E-07	7.40E-07	4.77E-03	1.09E-07	6.71E-07	6.90E-06	2.14E-02	4.88E-07	3.01E-06		
Road 44	44	2200-2300	5.32E-03	1.18E-07	7.31E-07	4.66E-03	1.04E-07	6.40E-07	4.03E-02	8.97E-07	5.54E-06	3.41E-02	7.58E-07	4.68E-06
Road 44	44	2300-0000	5.01E-03	1.16E-07	7.17E-07	4.57E-03	1.06E-07	6.54E-07	4.03E-02	9.34E-07	5.76E-06	3.41E-02	7.90E-07	4.87E-06
Road 45	45	0000-0100	5.56E-03	4.19E-08	5.16E-07	4.81E-03	3.63E-08	4.47E-07	4.21E-02	3.18E-07	3.91E-06	3.55E-02	2.68E-07	3.30E-06
Road 45	45	0100-0200	5.91E-03	2.89E-08	3.56E-07	5.25E-03	2.57E-08	3.17E-07	4.18E-02	2.05E-07	2.52E-06	3.60E-02	1.76E-07	2.17E-06
Road 45	45	0200-0300	6.41E-03	2.52E-08	3.10E-07	5.72E-03	2.25E-08	2.77E-07	4.18E-02	1.64E-07	2.02E-06	3.60E-02	1.41E-07	1.74E-06
Road 45	45	0300-0400	6.91E-03	1.95E-08	2.40E-07	6.20E-03	1.75E-08	2.15E-07	4.42E-02	1.25E-07	1.54E-06	3.84E-02	1.08E-07	1.33E-06
Road 45	45	0400-0500	7.45E-03	2.30E-08	2.83E-07	6.68E-03	2.07E-08	2.54E-07	4.56E-02	1.41E-07	1.73E-06	3.97E-02	1.23E-07	1.51E-06
Road 45	45	0500-0600	8.17E-03	4.37E-08	5.38E-07	7.34E-03	3.93E-08	4.84E-07	4.56E-02	2.44E-07	3.00E-06	3.97E-02	2.12E-07	2.61E-06
Road 45	45	0600-0700	8.78E-03	1.02E-07	1.25E-06	7.86E-03	9.15E-08	1.12E-06	4.56E-02	5.31E-07	6.53E-06	3.97E-02	4.62E-07	5.68E-06
Road 45	45	0700-0800	9.56E-03	2.21E-07	2.72E-06	8.44E-03	1.95E-07	2.40E-06	4.56E-02	1.05E-06	1.30E-05			
Road 45	45	0800-0900	9.24E-03	2.47E-07	3.04E-06	8.23E-03	2.20E-07	2.71E-06	4.88E-02	1.31E-06	1.61E-05	4.25E-02	1.14E-06	1.40E-05
Road 45	45	0900-1000	1.28E-02	2.98E-07	3.68E-06	1.14E-02	2.65E-07	3.26E-06	5.63E-02	1.31E-06	1.61E-05	4.95E-02	1.15E-06	1.42E-05
Road 45	45	1000-1100	1.16E-02	2.17E-07	2.67E-06	1.04E-02	1.95E-07	2.40E-06	5.66E-02	1.06E-06	1.30E-05	4.91E-02	9.22E-07	1.13E-05
Road 45	45	1100-1200	1.09E-02	1.94E-07	2.38E-06	9.86E-03	1.76E-07	2.16E-06	5.72E-02	1.02E-06	1.25E-05	4.88E-02	8.68E-07	1.07E-05
Road 45	45	1200-1300	1.22E-02	2.68E-07	3.30E-06	1.10E-02	2.42E-07	2.98E-06	5.72E-02	1.26E-06	1.55E-05	4.88E-02	1.08E-06	1.33E-05
Road 45	45	1300-1400	1.35E-02	3.00E-07	3.70E-06	1.23E-02	2.73E-07	3.36E-06	6.22E-02	1.38E-06	1.70E-05	5.59E-02	1.24E-06	1.53E-05
Road 45	45	1400-1500	1.38E-02	3.27E-07	4.03E-06	1.26E-02	2.98E-07	3.67E-06	6.25E-02	1.48E-06	1.83E-05	5.65E-02	1.34E-06	1.65E-05
Road 45	45	1500-1600	1.39E-02	3.30E-07	4.07E-06	1.27E-02	3.01E-07	3.71E-06	6.25E-02	1.48E-06	1.83E-05	5.65E-02	1.34E-06	1.65E-05
Road 45	45	1600-1700	1.37E-02	3.55E-07	4.37E-06	1.25E-02	3.25E-07	4.00E-06	6.06E-02	1.57E-06	1.93E-05	5.49E-02	1.42E-06	1.75E-05
Road 45	45	1700-1800	1.10E-02	3.20E-07	4.00E-06	1.01E-02	2.98E-07	3.72E-06	5.63E-02	1.63E-06	2.04E-05	5.49E-02	1.59E-06	1.99E-05
Road 45	45	1800-1900	1.10E-02	3.25E-07	4.06E-06	1.01E-02	2.98E-07	3.72E-06	5.63E-02	1.66E-06	2.07E-05	5.49E-02	1.62E-06	2.02E-05
Road 45	45	1900-2000	6.15E-03	1.59E-07	1.95E-06	5.57E-03	1.44E-07	1.77E-06	3.71E-02	9.57E-07	1.18E-05	3.29E-02	8.49E-07	1.05E-05
Road 45	45	2000-2100	5.85E-03	1.17E-07	1.45E-06	5.39E-03	1.08E-07	1.33E-06	3.97E-02	7.97E-07	9.80E-06	3.55E-02	7.13E-07	8.83E-06
Road 45	45	2100-2200	5.08E-03	1.01E-07	1.25E-06	4.68E-03	9.32E-08	1.15E-06	3.97E-02	7.90E-07	9.72E-06	3.55E-02	7.06E-07	8.74E-06
Road 45	45	2200-2300	5.14E-03	1.00E-07	1.23E-06	4.50E-03	8.75E-08	1.08E-06	3.97E-02	7.72E-07	9.50E-06	3.55E-02	6.90E-07	8.83E-06
Road 45	45	2300-0000	5.80E-03	8.44E-08	1.04E-06	5.08E-03	7.40E-08	9.10E-07	4.21E-02	6.13E-07	7.55E-06	3.55E-02	5.17E-07	6.37E-06
Road 46	46	0000-0100	5.49E-03	1.49E-08	1.84E-07	4.81E-03	1.31E-08	1.61E-07	4.21E-02	1.14E-07	1.41E-06	3.55E-02	9.64E-08	1.19E-06
Road 46	46	0100-0200	5.85E-03	1.49E-08	2.76E-07	5.20E-03	1.32E-08	2.46E-07	4.22E-02	1.07E-07	1.99E-06	3.63E-02	9.23E-08	1.71E-06
Road 46	46	0200-0300	6.37E-03	1.18E-08	2.20E-07	5.68E-03	1.06E-08	1.96E-07	4.34E-02	8.06E-08	1.50E-06	3.75E-02	6.97E-08	1.29E-06
Road 46	46	0300-0400	6.88E-03	1.02E-08	1.89E-07	6.17E-03	9.14E-09	1.69E-07	4.34E-02	6.44E-08	1.19E-06	3.75E-02	5.56E-08	1.03E-06
Road 46	46	0400-0500	7.44E-03	1.19E-08	2.22E-07	6.67E-03	1.07E-08	1.99E-07	4.60E-02	7.40E-08	1.37E-06	4.01E-02	6.44E-08	1.20E-06
Road 46	46	0500-0600	8.17E-03	2.27E-08	4.22E-07	7.33E-03	2.04E-08	3.79E-07	4.89E-02	1.36E-07	2.53E-06	4.25E-02	1.18E-07	2.20E-06
Road 46	46	0600-0700	8.78E-03	2.87E-08	5.33E-07	7.88E-03	2.57E-08	4.78E-07	5.18E-02	1.69E-07	3.14E-06	4.51E-02	1.48E-07	2.75E-06
Road 46	46	0700-0800	9.49E-03	1.14E-07	2.12E-06	8.38E-03	1.01E-07	1.87E-06	5.28E-02	6.36E-07	1.18E-05	4.53E-02	5.45E-07	1.01E-05
Road 46	46	0800-0900	9.08E-03	1.27E-07	2.35E-06	8.09E-03	1.13E-07	2.10E-06	4.72E-02	6.59E-07	1.22E-05	4.11E-02	5.73E-07	1.06E-05
Road 46	46	0900-1000	1.27E-02	2.71E-07	5.03E-06	1.13E-02	2.41E-07	4.48E-06	5.63E-02	1.20E-06	2.23E-05	4.95E-02	1.05E-06	1.95E-05
Road 46	46	1000-1100	1.16E-02	2.14E-07	2.12E-06	1.04E-02	1.92E-07	1.90E-06	5.65E-02	1.04E-06	1.03E-05	4.91E-02	9.09E-07	8.99E-06
Road 46	46	1100-1200	1.09E-02	1.94E-07	2.08E-06	9.86E-03	1.75E-07	1.88E-06	5.72E-02	1.02E-06	1.09E-05	4.88E-02	8.68E-07	9.32E-06
Road 46	46	1200-1300	1.22E-02	2.68E-07	2.87E-06	1.10E-02	2.42E-07	2.59E-06	5.72E-02	1.26E-06	1.35E-05	4.88E-02	1.08E-06	1.15E-05
Road 46	46	1300-1400	1.35E-02	3.00E-07	3.21E-06	1.23E-02	2.73E-07	2.92E-06	6.25E-02	1.38E-06	1.48E-05	5.59E-02	1.24E-06	1.33E-05
Road 46	46	1400-1500	1.38E-02	3.27E-07	3.50E-06	1.26E-02	2.98E-07	3.19E-06	6.28E-02	1.48E-06	1.59E-05	5.65E-02	1.34E-06	1.43E-05
Road 46	46	1500-1600	1.39E-02	3.30E-07	3.54E-06	1.27E-02	3.01E-07	3.23E-06	6.28E-02	1.48E-06	1.59E-05	5.65E-02	1.34E-06	1.43E-05
Road 46	46	1600-1700	1.37E-02	3.55E-07	3.81E-06	1.25E-02	3.25E-07	3.48E-06	6.09E-02	1.57E-06	1.68E-05	5.52E-02	1.42E-06	1.52E-05
Road 46	46	1700-1800	1.10E-02	3.20E-07	3.48E-06	1.01E-02	2.98E-07	3.24E-06	5.66E-02	1.63E-06	1.77E-05	5.52E-02	1.59E-06	1.73E-05
Road 46	46	1800-1900	1.10E-02	3.25E-07	3.53E-06	1.01E-02	2.98E-07	3.24E-06	5.66E-02	1.66E-06	1.80E-05	5.52E-02	1.62E-06	1.76E-05
Road 46	46	1900-2000	6.15E-03	1.59E-07	1.70E-06	5.57E-03	1.44E-07	1.54E-06	3.73E-02	9.57E-07	1.02E-05	3.31E-02	8.49E-07	9.06E-06
Road 46	46	2000-2100	5.85E-03	1.17E-07	1.26E-06	5.39E-03	1.08E-07	1.16E-06	3.99E-02	7.97E-07	8.52E-06	3.57E-02	7.13E-07	7.68E-06
Road 46	46	2100-2200	5.08E-03	1.01E-07	1.09E-06	4.68E-03	9.32E-08	1.00E-06	3.99E-02	7.90E-07	8.45E-06	3.57E-02	7.06E-07	7.61E-06
Road 46	46	2200-2300	5.14E-03	1.00E-07	1.07E-06	4.50E-03	8.75E-08	9.36E-07	3.99E-02	7.72E-07	8.26E-06	3.57E-02	6.90E-07	7.68E-06
Road 46	46	2300-0000	5.80E-03	8.44E-08	9.04E-07	5.08E-03	7.40E-08	7.92E-07	4.23E-02	6.13E-07	6.56E-06	3.57E-02	5.17E-07	5.54E-06
Road 47	47	0000-0100	5.49E-03	1.49E-08	1.60E-07	4.81E-03	1.31E-08	1.40E-07	4.23E-02	1.14E-07	1.22E-06	3.57E-02	9.64E-08	1.03E-06
Road 47	47	0100-0200	5.85E-03	1.49E-08	2.39E-07	5.20E-03	1.32E-08	2.13E-07	4.24E-02	1.07E-07	1.72E-06	3.65E-02	9.23E-08	1.48E-06
Road 47	47	0200-0300	6.37E-03	1.18E-08	1.91E-07	5.68E-03	1.06E-08	1.70E-07	4.36E-02	8.06E-08	1.30E-06	3.77E-02	6.97E-08	1.12E-06
Road 47	47	0300-0400	6.88E-03	1.02E-08	1.64E-07	6.17E-03	9.14E-09	1.47E-07	4.36E-02	6.44E-08	1.03E-06	3.77E-02	5.56E-08	8.94E-07
Road 47	47	0400-0500	7.44E-03	1.19E-08	1.92E-07	6.67E-03	1.07E-08	1.72E-07	4.62E-02	7.40E-08	1.19E-06	4.03E-02	6.44E-08	1.04E-06
Road 47	47	0500-0600	8.17E-03	2.27E-08	3.66E-07	7.34E-03	2.04E-08	3.29E-07	4.91E-02	1.36E-07	2.19E-06	4.27E-02	1.18E-07	1.91E-06
Road 47	47	0600-0700	8.78E-03	2.87E-08	4.62E-07	7.88E-03	2.57E-08	4.14E-07	5.20E-02	1.69E-07	2.73E-06	4.53E-02	1.48E-07	2.38E-06
Road 47	47	0700-0800	9.56E-03	2.21E-07	3.56E-06	8.44E-03	1.95E-07	3.14E-06	5.20E-02	1.20E-06	1.93E-05	4.53E-02	1.05E-06	1.69E-05
Road 47	47	0800-0900	9.24E-03	2.47E-07	3.98E-06	8.23E-03	2.20E-07	3.54E-06	5.42E-02	1.45E-06	2.33E-05	4.91E-02	1.31E-06	2.11E-05
Road 47	47	0900-1000	1.28E-02	2.98E-07	4.81E-06	1.14E-02	2.65E-07	4.27E-06	5.63E-02	1.31E-06	2.11E-05	4.95E-02	1.15E-06	1.85E-05
Road 47	47	1000-1100	1.16E-02	2.17E-07	3.49E-06	1.04E-02	1.95E-07	3.14E-06	5.66E-02	1.06E-06	1.70E-05	4.91E-02	9.22E-07	1.48E-05
Road 47	47	1100-1200	1.09E-02	1.94E-07	3.12E-06	9.86E-03	1.76E-07	2.83E-06	5.72E-02	1.02E-06	1.64E-05	4.88E-02	8.68E-07	1.40E-05
Road 47	47	1200-1300	1.22E-02	2.68E-07	4.32E-06	1.10E-02	2.42E-07	3.90E-06	5.72E-02	1.26E-06	2.03E-05	4.88E-02	1.08E-06	1.74E-05
Road 47	47	1300-1400	1.35E-02	3.00E-07	4.84E-06	1.23E-02	2.73E-07	4.40E-06	6.25E-02	1.38E-06	2.23E-05	5.59E-02	1.24E-06	2.00E-05
Road 47	47	1400-1500	1.38E-02	3.27E-07	5.27E-06	1.26E-02	2.98E-07	4.81E-06	6.28E-02	1.48E-06	2.39E-05	5.65E-02	1.34E-06	2.16E-05
Road 47	47	1500-1600	1.39E-02	3.30E-07	5.32E-06	1.27E-02	3.01E-07	4.85E-06	6.28E-02	1.48E-06	2.39E-05	5.65E-02	1.34E-06	2.16E-05
Road 47	47	1600-1700	1.37E-02	3.55E-07	5.72E-06	1.25E-02	3.25E-07	5.23E-06	6.09E-02	1.57E-06	2.53E-05	5.52E-02	1.42E-06	2.29E-05
Road 47	47	1700-1800	1.10E-02	3.20E-07	5.23E-06	1.01E-02	2.98E-07	4.86E-06	5.66E-02	1.63E-06	2.66E-05	5.52E-02	1.59E-06	2.60E-05
Road 47	47	1800-1900	1.10E-02	3.25E-07	5.31E-06	1.01E-02	2.98E-07	4.86E-06	5.66E-02	1.66E-06	2.71E-05	5.52E-02	1.62E-06	2.64E-05
Road 47	47	1900-2000	6.15E-03	1.59E-07	2.55E-06	5.57E-03	1.44E-07	2.32E-06	3.73E-02	9.57E-07	1.54E-05	3.31E-02	8.49E-07	1.37E-05
Road 47	47	2000-2100	5.85E-03	1.17E-07	1.89E-06	5.39E-03	1.08E-07	1.74E-06	3.99E-02	7.97E-07	1.28E-05	3.57E-02	7.13E-07	1.15E-05
Road 47	47	2100-2200	5.08E-03	1.01E-07	1.63E-06	4.68E-03	9.32E-08	1.50E-06	3.99E-02	7.90E-07	1.27E-05	3.57E-02	7.06E-07	1.14E-05
Road 47	47	2200-2300	5.14E-03	1.00E-07	1.61E-06	4.50E-03	8.75E-08	1.41E-06	3.99E-02	7.72E-07	1.24E-05	3.57E-02	6.90E-07	1.11E-05
Road 47	47	2300-0000	5.49E-03	1.47E-08	2.09E-07	4.86E-03	1.30E-08	1.85E-07	4.23E-02	1.12E-07	1.60E-06	3.57E-02	9.49E-08	1.35E-06
Road 48	48	0000-0100	5.63E-03	4.24E-08	5.22E-07	4.88E-03	3.68E-08	4.52E-07	4.26E-02	3.21E-07	3.95E-06	3.59E-02	2.71E-07	3.33E-06
Road 48	48	0100-0200	5.96E-03	3.20E-08	3.94E-07	5.30E-03	2.84E-08	3.51E-07	4.26E-02	2.29E-07	2.82E-06	3.64E-02	1.95E-07	2.41E-06
Road 48	48	0200-0300	6.46E-03	2.53E-08	4.71E-07	5.76E-03	2.25E-08	4.20E-07	4.31E-02	1.69E-07	3.14E-06	3.73E-02	1.46E-07	2.72E-06
Road 48	48	0300-0400	6.94E-03	2.14E-08	3.99E-07	6.22E-03	1.92E-08	3.58E-07	4.31E-02	1.33E-07	2.48E-06	3.73E-02	1.15E-07	2.14E-06
Road 48	48	0400-0500	7.50E-03	2.52E-08	5.04E-07	6.69E-03	2.26E-08	4.50E-07	4.56E-02	1.54E-07	3.07E-06	3.97E-02	1.34E-07	2.67E-06
Road 48	48	0500-0600	8.22E-03	4.91E-08	6.57E-07	7.37E-03	4.41E-08	5.90E-07	4.56E-02	2.73E-07	3.65E-06	3.97E-02	2.37E-07	3.18E-06
Road 48	48	0600-0700	8.83E-03	1.15E-07	1.53E-06	7.91E-03	1.03E-07	1.37E-06	4.56E-02	5.94E-07	7.95E-06	3.97E-02	5.16E-07	6.91E-06
Road 48	48	0700-0800	9.61E-03	2.48E-07	3.31E-06	8.48E-03	2.19E-07	2.92E-06	4.56E-02	1.18E-06	1.57E-05	3.97E-02	1.02E-06	1.37E-05
Road 48	48	0800-0900	9.47E-03	2.93E-07	4.21E-06	8.44E-03	2.61E-07	3.93E-06	4.80E-02	1.48E-06	2.23E-05	4.18E-02	1.29E-06	1.95E-05
Road 48	48	0900-1000	1.07E-02	2.71E-07	4.10E-06	9.60E-03	2.43E-07	3.66E-06	5.31E-02	1.34E-06	2.03E-05	4.67E-02	1.18E-06	1.78E-05
Road 48	48	1000-1100	1.05E-02	2.68E-07	4.06E-06	9.46E-03	2.41E-07	3.66E-06	5.31E-02	1.35E-06	2.05E-05	4.67E-02	1.19E-06	1.80E-05
Road 48	48	1100-1200	1.15E-02	2.37E-07	3.57E-06	1.04E-02	2.15E-07	3.24E-06	5.60E-02	1.16E-06	1.75E-05	5.01E-02	1.03E-06	1.56E-05
Road 48	48	1200-1300	1.24E-02	3.41E-07	5.14E-06	1.12E-02	3.09E-07	4.66E-06	7.48E-02	1.25E-06	1.88E-05	6.73E-02	1.12E-06	1.69E-05
Road 48	48	1300-1400	1.37E-02	3.84E-07	5.78E-06	1.24E-02	3.46E-07	5.21E-06	7.48E-02	1.40E-06	2.11E-05	6.73E-02	1.26E-06	1.90E-05
Road 48	48	1400-1500	1.40E-02	3.84E-07	5.78E-06	1.26E-02	3.46E-07	5.21E-06	7.48E-02	1.40E-06	2.11E-05	6.73E-02	1.26E-06	1.90E-05
Road 48	48	1500-1600	1.89E-02	3.54E-07	5.34E-06	1.71E-02	3.20E-07	4.83E-06	7.56E-02	1.41E-06	2.13E-05	6.80E-02	1.27E-06	1.91E-05
Road 48	48	1600-1700	1.93E-02	3.73E-07	5.63E-06	1.77E-02	3.42E-07	5.16E-06	7.81E-02	1.51E-06	2.28E-05	6.54E-02	1.26E-06	1.90E-05
Road 48	48	1700-1800	1.48E-02	4.31E-07	6.49E-06	1.36E-02	3.96E-07	5.96E-06	7.81E-02	2.27E-06	3.42E-05	6.54E-02	1.90E-06	2.86E-05
Road 48	48	1800-1900	1.13E-02	2.35E-07	3.54E-06	1.03E-02	2.16E-07	3.25E-06	4.79E-02	9.98E-07	1.51E-05	4.36E-02	9.08E-07	1.37E-05
Road 48	48	1900-2000	1.05E-02	1.72E-07	2.60E-06	9.51E-03	1.57E-07	2.36E-06	4.57E-02	7.52E-07	1.14E-05	4.10E-02	6.76E-07	1.02E-05
Road 48	48	2000-2100	1.12E-02	2.46E-07	3.72E-06	1.02E-02	2.26E-07	3.41E-06	4.88E-02	1.07E-06	1.62E-05	4.38E-02	9.68E-07	1.46E-05
Road 48	48	2100-2200	9.76E-03	1.24E-07	1.87E-06	8.93E-03	1.14E-07	1.71E-06	4.76E-02	6.06E-07	9.14E-06	4.29E-02	5.45E-07	8.23E-06
Road 48	48	2200-2300	1.02E-02	2.19E-07	3.31E-06	9.32E-03	2.01E-07	3.04E-06	4.95E-02	1.06E-06	1.61E-05	4.56E-02	9.84E-07	1.49E-05
Road 48	48	2300-0000	1.03E-02	2.16E-07	3.26E-06	9.46E-03	1.98E-07	2.99E-06	4.95E-02	1.04E-06	1.57E-05	4.56E-02	9.55E-07	1.44E-05
Road 49	49	0000-0100	7.81E-03	4.30E-08	1.09E-06	7.76E-03	3.73E-08	9.41E-07	5.56E-02	3.06E-07	7.73E-06	4.63E-02	2.55E-07	6.43E-06
Road 49	49	0100-0200	7.65E-03	2.73E-08	6.88E-07	8.00E-03	2.42E-08	6.12E-07	5.23E-02	1.86E-07	4.71E-06	4.55E-02	1.60E-07	4.05E-06
Road 49	49	0200-0300	8.09E-03	2.32E-08	5.85E-07	8.39E-03	2.06E-08	5.20E-07	5.23E-02	1.58E-07	4.00E-06	4.55E-02	1.37E-07	3.46E-06
Road 49	49	0300-0400	8.73E-03	1.78E-08	4.49E-07	7.82E-03	1.59E-08	4.02E-07	5.45E-02	1.11E-07	2.80E-06	4.73E-02	9.64E-08	2.43E-06
Road 49	49	0400-0500	9.42E-03	2.09E-08	5.28E-07	8.45E-03	1.88E-08	4.74E-07	5.63E-02	1.25E-07	3.16E-06	4.90E-02	1.09E-07	2.75E-06
Road 49	49	0500-0600	1.02E-02	2.49E-08	6.29E-07	9.16E-03	2.24E-08	5.66E-07	5.63E-02	1.38E-07	3.48E-06	4.90E-02	1.20E-07	3.03E-06
Road 49	49	0600-0700	1.39E-02	1.13E-07	2.85E-06	1.23E-02	1.01E-07	2.54E-06	7.32E-02	5.97E-07	1.51E-05	6.31E-02	5.15E-07	1.30E-05
Road 49	49	0700-0800	1.83E-02	3.00E-07	7.57E-06	1.62E-02	2.66E-07	6.70E-06	8.88E-02	1.46E-06	3.68E-05	7.54E-02	1.25E-06	3.16E-05
Road 49	49	0800-0900	1.73E-02	3.84E-07	9.70E-06	1.53E-02	3.40E-07	8.58E-06	8.88E-02	1.97E-06	4.98E-05	7.54E-02	1.68E-06	4.24E-05
Road 49	49	0900-1000	1.88E-02	2.81E-07	7.09E-06	1.68E-02	2.51E-07	6.35E-06	8.81E-02	1.32E-06	3.33E-05	7.75E-02	1.16E-06	2.93E-05
Road 49	49	1000-1100	2.02E-02	2.56E-07	6.47E-06	1.81E-02	2.30E-07	5.81E-06	9.15E-02	1.16E-06	2.93E-05	8.10E-02	1.03E-06	2.59E-05
Road 49	49	1100-1200	1.79E-02	2.13E-07	5.40E-06	1.61E-02	1.91

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	3.04E-02	1.98E-07	7.12E-07	1.12E-01	7.26E-07	2.61E-06	1.33E-01	8.63E-07	3.10E-06	1.58E-01	1.02E-06	3.95E-06
Road 11	11	0100-0200	3.35E-02	1.46E-07	5.59E-07	3.19E-02	1.39E-07	5.32E-07	1.77E-01	7.69E-07	2.95E-06	1.66E-01	7.20E-07	2.76E-06
Road 11	11	0200-0300	3.80E-02	1.24E-07	4.75E-07	3.60E-02	1.17E-07	4.50E-07	1.88E-01	6.14E-07	2.36E-06	1.75E-01	5.69E-07	2.18E-06
Road 11	11	0300-0400	4.13E-02	1.09E-07	4.18E-07	3.90E-02	1.03E-07	3.95E-07	1.96E-01	5.15E-07	1.98E-06	1.81E-01	4.77E-07	1.83E-06
Road 11	11	0400-0500	4.26E-02	1.23E-07	4.71E-07	4.06E-02	1.17E-07	4.49E-07	2.01E-01	5.79E-07	2.22E-06	1.89E-01	5.44E-07	2.09E-06
Road 11	11	0500-0600	4.31E-02	2.07E-07	7.95E-07	4.11E-02	1.98E-07	7.59E-07	2.11E-01	1.02E-06	3.90E-06	1.98E-01	9.55E-07	3.66E-06
Road 11	11	0600-0700	4.59E-02	4.77E-07	1.83E-06	4.38E-02	4.55E-07	1.74E-06	2.30E-01	2.39E-06	8.86E-06	2.16E-01	2.25E-06	8.62E-06
Road 11	11	0700-0800	5.89E-02	1.23E-06	4.72E-06	5.57E-02	1.16E-06	4.47E-06	2.64E-01	5.51E-06	2.11E-05	2.45E-01	5.12E-06	1.97E-05
Road 11	11	0800-0900	5.92E-02	1.43E-06	5.47E-06	5.59E-02	1.35E-06	5.17E-06	2.66E-01	6.43E-06	2.46E-05	2.47E-01	5.98E-06	2.29E-05
Road 11	11	0900-1000	6.82E-02	1.36E-06	6.68E-06	6.44E-02	1.28E-06	6.31E-06	3.06E-01	6.11E-06	2.99E-05	2.85E-01	5.68E-06	2.79E-05
Road 11	11	1000-1100	7.31E-02	1.32E-06	5.08E-06	6.95E-02	1.26E-06	4.83E-06	2.69E-01	4.87E-06	1.87E-05	2.52E-01	4.57E-06	1.75E-05
Road 11	11	1100-1200	7.29E-02	1.25E-06	4.81E-06	6.96E-02	1.20E-06	4.59E-06	2.70E-01	4.64E-06	1.78E-05	2.55E-01	4.38E-06	1.68E-05
Road 11	11	1200-1300	7.31E-02	1.26E-06	4.86E-06	6.98E-02	1.20E-06	4.64E-06	2.70E-01	4.66E-06	1.80E-05	2.55E-01	4.40E-06	1.70E-05
Road 11	11	1300-1400	1.05E-01	2.38E-06	9.14E-06	1.01E-01	2.28E-06	8.76E-06	3.58E-01	8.11E-06	3.11E-05	3.41E-01	7.73E-06	2.97E-05
Road 11	11	1400-1500	1.06E-01	2.49E-06	9.56E-06	1.00E-01	2.37E-06	9.08E-06	3.59E-01	8.47E-06	3.25E-05	3.40E-01	8.01E-06	3.08E-05
Road 11	11	1500-1600	1.07E-01	2.78E-06	1.07E-05	1.00E-01	2.60E-06	9.98E-06	3.61E-01	9.38E-06	3.60E-05	3.42E-01	8.88E-06	3.41E-05
Road 11	11	1600-1700	1.01E-01	2.49E-06	9.57E-06	9.56E-02	2.37E-06	9.09E-06	3.46E-01	8.52E-06	3.27E-05	3.29E-01	8.09E-06	3.11E-05
Road 11	11	1700-1800	8.43E-02	2.23E-06	8.57E-06	7.97E-02	2.11E-06	8.10E-06	3.27E-01	8.66E-06	3.32E-05	3.06E-01	8.10E-06	3.11E-05
Road 11	11	1800-1900	6.02E-02	1.68E-06	6.14E-06	5.69E-02	1.59E-06	5.80E-06	3.07E-01	8.57E-06	3.13E-05	2.90E-01	8.09E-06	2.96E-05
Road 11	11	1900-2000	4.36E-02	8.72E-07	3.35E-06	4.10E-02	8.21E-07	3.15E-06	2.00E-01	4.00E-06	1.54E-05	1.84E-01	3.69E-06	1.42E-05
Road 11	11	2000-2100	4.26E-02	6.69E-07	2.57E-06	4.01E-02	6.30E-07	2.42E-06	2.06E-01	3.23E-06	1.24E-05	1.90E-01	2.98E-06	1.14E-05
Road 11	11	2100-2200	4.18E-02	6.56E-07	2.52E-06	3.93E-02	6.17E-07	2.37E-06	2.06E-01	3.23E-06	1.24E-05	1.90E-01	2.98E-06	1.14E-05
Road 11	11	2200-2300	3.82E-02	6.27E-07	2.41E-06	3.59E-02	5.89E-07	2.26E-06	1.88E-01	3.08E-06	1.18E-05	1.73E-01	2.84E-06	1.09E-05
Road 11	11	2300-0000	4.09E-02	4.69E-07	1.80E-06	3.85E-02	4.42E-07	1.70E-06	2.00E-01	2.29E-06	8.80E-06	1.84E-01	2.11E-06	8.11E-06
Road 12	12	0000-0100	2.74E-01	1.72E-07	4.23E-06	2.50E-01	1.57E-07	3.88E-06	9.07E-06	5.36E-06	1.32E-04	8.28E-06	4.89E-06	1.20E-04
Road 12	12	0100-0200	2.84E-01	1.69E-07	4.18E-06	2.64E-01	1.57E-07	3.88E-06	6.01E-01	3.58E-06	8.84E-06	5.58E-01	3.33E-06	8.21E-06
Road 12	12	0200-0300	2.84E-01	1.69E-07	4.18E-06	2.64E-01	1.57E-07	3.88E-06	6.08E-01	3.63E-06	8.94E-06	5.58E-01	3.33E-06	8.21E-06
Road 12	12	0300-0400	2.88E-01	1.70E-07	4.19E-06	2.66E-01	1.57E-07	3.88E-06	6.08E-01	5.63E-06	1.39E-04	5.63E-01	3.32E-07	8.19E-06
Road 12	12	0400-0500	2.90E-01	1.70E-07	4.20E-06	2.68E-01	1.57E-07	3.88E-06	6.08E-01	3.63E-06	8.94E-06	5.63E-01	3.32E-06	8.19E-06
Road 12	12	0500-0600	2.82E-01	1.73E-07	4.27E-06	2.63E-01	1.61E-07	3.97E-06	6.03E-01	3.70E-06	9.12E-06	5.62E-01	3.45E-07	8.50E-06
Road 12	12	0600-0700	2.81E-01	1.87E-07	4.62E-06	2.63E-01	1.75E-07	4.31E-06	6.15E-01	4.10E-06	1.01E-05	5.75E-01	3.83E-07	9.44E-06
Road 12	12	0700-0800	3.12E-01	1.84E-07	4.53E-06	2.92E-01	1.72E-07	4.24E-06	6.44E-01	3.80E-06	9.37E-06	6.01E-01	3.55E-07	8.76E-06
Road 12	12	0800-0900	3.48E-01	2.08E-07	5.22E-06	3.25E-01	1.94E-07	4.87E-06	6.88E-01	4.11E-06	1.03E-05	6.42E-01	3.83E-07	9.61E-06
Road 12	12	0900-1000	3.51E-01	8.42E-07	2.07E-05	3.26E-01	7.83E-07	1.93E-05	6.90E-01	1.66E-06	4.09E-05	6.44E-01	1.54E-06	3.80E-05
Road 12	12	1000-1100	3.54E-01	8.38E-07	2.06E-05	3.29E-01	7.79E-07	1.92E-05	6.95E-01	1.64E-06	4.06E-05	6.49E-01	1.53E-06	3.78E-05
Road 12	12	1100-1200	3.54E-01	8.38E-07	2.06E-05	3.29E-01	7.79E-07	1.92E-05	7.54E-01	1.78E-06	4.40E-05	7.01E-01	1.66E-06	4.09E-05
Road 12	12	1200-1300	3.51E-01	8.36E-07	2.06E-05	3.30E-01	7.84E-07	1.93E-05	7.48E-01	1.78E-06	4.39E-05	7.02E-01	1.67E-06	4.12E-05
Road 12	12	1300-1400	3.50E-01	8.31E-07	2.05E-05	3.29E-01	7.80E-07	1.92E-05	7.44E-01	1.77E-06	4.37E-05	6.98E-01	1.66E-06	4.10E-05
Road 12	12	1400-1500	3.50E-01	8.39E-07	2.07E-05	3.25E-01	7.79E-07	1.92E-05	7.47E-01	1.79E-06	4.42E-05	6.94E-01	1.67E-06	4.10E-05
Road 12	12	1500-1600	3.47E-01	8.35E-07	2.06E-05	3.22E-01	7.74E-07	1.91E-05	7.44E-01	1.79E-06	4.41E-05	6.89E-01	1.66E-06	4.09E-05
Road 12	12	1600-1700	3.48E-01	8.36E-07	2.06E-05	3.23E-01	7.77E-07	1.91E-05	7.44E-01	1.79E-06	4.41E-05	6.89E-01	1.66E-06	4.09E-05
Road 12	12	1700-1800	3.44E-01	8.36E-07	2.06E-05	3.15E-01	7.65E-07	1.89E-05	7.39E-01	1.79E-06	4.42E-05	6.76E-01	1.64E-06	4.04E-05
Road 12	12	1800-1900	3.41E-01	8.26E-07	2.04E-05	3.09E-01	7.50E-07	1.85E-05	7.26E-01	1.76E-06	4.34E-05	6.59E-01	1.60E-06	3.94E-05
Road 12	12	1900-2000	3.40E-01	8.24E-07	2.03E-05	3.09E-01	7.48E-07	1.84E-05	7.25E-01	1.76E-06	4.34E-05	6.58E-01	1.60E-06	3.94E-05
Road 12	12	2000-2100	2.62E-01	1.86E-07	4.59E-06	2.37E-01	1.69E-07	4.16E-06	5.79E-01	4.12E-07	1.01E-05	5.24E-01	3.73E-07	9.18E-06
Road 12	12	2100-2200	2.60E-01	1.85E-07	4.57E-06	2.38E-01	1.70E-07	4.18E-06	5.76E-01	4.10E-07	1.01E-05	5.27E-01	3.75E-07	9.25E-06
Road 12	12	2200-2300	2.61E-01	1.86E-07	4.59E-06	2.38E-01	1.70E-07	4.18E-06	5.79E-01	4.12E-07	1.01E-05	5.27E-01	3.75E-07	9.25E-06
Road 12	12	2300-0000	2.58E-01	1.74E-07	4.28E-06	2.37E-01	1.59E-07	3.92E-06	5.64E-01	3.79E-07	9.34E-06	5.16E-01	3.47E-07	8.55E-06
Road 13	13	0000-0100	2.72E-01	1.70E-07	4.26E-06	2.48E-01	1.56E-07	3.89E-06	5.77E-01	3.62E-06	9.04E-06	5.26E-01	3.30E-07	8.24E-06
Road 13	13	0100-0200	2.78E-01	1.70E-07	4.26E-06	2.54E-01	1.56E-07	3.89E-06	5.90E-01	3.62E-06	9.04E-06	5.38E-01	3.30E-07	8.24E-06
Road 13	13	0200-0300	2.83E-01	1.69E-07	4.22E-06	2.62E-01	1.57E-07	3.91E-06	5.96E-01	3.56E-07	8.88E-06	5.53E-01	3.30E-07	8.27E-06
Road 13	13	0300-0400	2.87E-01	1.70E-07	4.24E-06	2.65E-01	1.57E-07	3.92E-06	6.04E-01	3.57E-07	8.92E-06	5.58E-01	3.31E-07	8.30E-06
Road 13	13	0400-0500	2.89E-01	1.72E-07	4.29E-06	2.67E-01	1.59E-07	3.96E-06	6.07E-01	3.61E-07	9.01E-06	5.61E-01	3.34E-07	8.33E-06
Road 13	13	0500-0600	2.80E-01	1.72E-07	4.29E-06	2.61E-01	1.60E-07	4.00E-06	5.94E-01	3.64E-07	9.10E-06	5.53E-01	3.39E-07	8.47E-06
Road 13	13	0600-0700	2.77E-01	1.84E-07	4.61E-06	2.58E-01	1.72E-07	4.29E-06	5.88E-01	3.91E-07	9.77E-06	5.47E-01	3.64E-07	9.09E-06
Road 13	13	0700-0800	3.46E-01	2.09E-07	5.19E-06	3.21E-01	1.94E-07	4.83E-06	6.76E-01	4.08E-07	1.02E-05	6.41E-01	3.87E-07	9.61E-06
Road 13	13	0800-0900	3.45E-01	8.35E-07	2.09E-05	3.19E-01	7.72E-07	1.93E-05	6.76E-01	1.64E-06	4.09E-05	6.40E-01	1.54E-06	3.85E-05
Road 13	13	0900-1000	3.47E-01	8.33E-07	2.08E-05	3.23E-01	7.74E-07	1.93E-05	6.80E-01	1.63E-06	4.07E-05	6.44E-01	1.54E-06	3.85E-05
Road 13	13	1000-1100	3.51E-01	8.30E-07	2.07E-05	3.26E-01	7.72E-07	1.92E-05	6.87E-01	1.63E-06	4.06E-05	6.51E-01	1.54E-06	3.84E-05
Road 13	13	1100-1200	3.51E-01	8.30E-07	2.07E-05	3.26E-01	7.72E-07	1.92E-05	7.47E-01	1.76E-06	4.36E-05	6.95E-01	1.64E-06	4.06E-05
Road 13	13	1200-1300	3.48E-01	8.29E-07	2.07E-05	3.27E-01	7.77E-07	1.94E-05	7.38E-01	1.76E-06	4.39E-05	6.92E-01	1.65E-06	4.12E-05
Road 13	13	1300-1400	3.47E-01	8.29E-07	2.07E-05	3.23E-01	7.72E-07	1.93E-05	7.36E-01	1.76E-06	4.40E-05	6.86E-01	1.64E-06	4.10E-05
Road 13	13	1400-1500	3.48E-01	8.31E-07	2.07E-05	3.23E-01	7.72E-07	1.93E-05	7.42E-01	1.77E-06	4.42E-05	6.91E-01	1.64E-06	4.09E-05
Road 13	13	1500-1600	3.43E-01	8.25E-07	2.06E-05	3.18E-01	7.64E-07	1.91E-05	7.31E-01	1.76E-06	4.39E-05	6.77E-01	1.63E-06	4.07E-05
Road 13	13	1600-1700	3.42E-01	8.25E-07	2.06E-05	3.17E-01	7.64E-07	1.91E-05	7.30E-01	1.76E-06	4.39E-05	6.76E-01	1.63E-06	4.07E-05
Road 13	13	1700-1800	3.38E-01	8.26E-07	2.06E-05	3.11E-01	7.60E-07	1.89E-05	7.27E-01	1.78E-06	4.44E-05	6.72E-01	1.64E-06	4.09E-05
Road 13	13	1800-1900	3.38E-01	8.21E-07	2.05E-05	3.07E-01	7.44E-07	1.86E-05	7.16E-01	1.74E-06	4.34E-05	6.49E-01	1.57E-06	3.93E-05
Road 13	13	1900-2000	2.47E-01	1.86E-07	4.64E-06	2.23E-01	1.68E-07	4.20E-06	5.36E-01	4.03E-07	1.01E-05	4.85E-01	3.65E-07	9.12E-06
Road 13	13	2000-2100	2.58E-01	1.82E-07	4.56E-06	2.34E-01	1.67E-07	4.16E-06	5.54E-01	3.95E-07	9.87E-06	5.06E-01	3.60E-07	9.01E-06
Road 13	13	2100-2200	2.56E-01	1.82E-07	4.56E-06	2.34E-01	1.67E-07	4.16E-06	5.51E-01	3.92E-07	9.80E-06	5.03E-01	3.58E-07	8.95E-06
Road 13	13	2200-2300	2.56E-01	1.82E-07	4.56E-06	2.34E-01	1.67E-07	4.16E-06	5.51E-01	3.92E-07	9.80E-06	5.03E-01	3.58E-07	8.95E-06
Road 13	13	2300-0000	2.56E-01	1.72E-07	4.29E-06	2.34E-01	1.57E-07	3.92E-06	5.51E-01	3.70E-07	9.25E-06	5.03E-01	3.38E-07	8.44E-06
Road 14	14	0000-0100	2.74E-01	1.72E-07	4.23E-06	2.50E-01	1.57E-07	3.88E-06	9.07E-06	5.36E-06	1.32E-04	8.28E-06	4.89E-06	1.20E-04
Road 14	14	0100-0200	2.84E-01	1.69E-07	4.18E-06	2.64E-01	1.57E-07	3.88E-06	6.01E-01	3.58E-06	8.84E-06	5.58E-01	3.33E-07	8.21E-06
Road 14	14	0200-0300	2.84E-01	1.69E-07	4.18E-06	2.64E-01	1.57E-07	3.88E-06	6.08E-01	3.63E-06	8.94E-06	5.58E-01	3.33E-07	8.21E-06
Road 14	14	0300-0400	2.88E-01	1.70E-07	4.19E-06	2.66E-01	1.57E-07	3.88E-06	6.08E-01	5.63E-06	1.39E-04	5.63E-01	3.32E-07	8.19E-06
Road 14	14	0400-0500	2.90E-01	1.70E-07	4.20E-06	2.68E-01	1.57E-07	3.88E-06	6.08E-01	3.63E-06	8.94E-06	5.63E-01	3.32E-06	8.19E-06
Road 14	14	0500-0600	2.82E-01	1.73E-07	4.27E-06	2.63E-01	1.61E-07	3.97E-06	6.03E-01	3.70E-07	9.12E-06	5.62E-01	3.45E-07	8.50E-06
Road 14	14	0600-0700	2.81E-01	1.87E-07	4.62E-06	2.63E-01	1.75E-07	4.31E-06	6.15E-01	4.10E-07	1.01E-05	5.75E-01	3.83E-07	9.44E-06
Road 14	14	0700-0800	3.12E-01	1.84E-07	4.53E-06	2.92E-01	1.72E-07	4.24E-06	6.44E-01	3.80E-07	9.37E-06	6.01E-01	3.55E-07	8.76E-06
Road 14	14	0800-0900	3.48E-01	2.08E-07	5.22E-06	3.25E-01	1.94E-07	4.87E-06	6.88E-01	4.11E-06	1.03E-05	6.42E-01	3.83E-07	9.61E-06
Road 14	14	0900-1000	3.51E-01	8.42E-07	2.07E-05	3.26E-01	7.83E-07	1.93E-05	6.90E-01	1.66E-06	4.09E-05	6.44E-01	1.54E-06	3.80E-05
Road 14	14	1000-1100	3.54E-01	8.38E-07	2.06E-05	3.29E-01	7.79E-07	1.92E-05	6.95E-01	1.64E-06	4.06E-05	6.49E-01	1.53E-06	3.78E-05
Road 14	14	1100-1200	3.54E-01	8.38E-07	2.06E-05	3.29E-01	7.79E-07	1.92E-05	7.54E-01	1.78E-06	4.40E-05	7.01E-01	1.66E-06	4.09E-05
Road 14	14	1200-1300	3.51E-01	8.36E-07	2.06E-05	3.30E-01	7.84E-07	1.93E-05	7.48E-01	1.78E-06	4.39E-05	7.02E-01	1.67E-06	4.12E-05
Road 14	14	1300-1400	3.50E-01	8.31E-07	2.05E-05	3.29E-01	7.80E-07	1.92E-05	7.44E-01	1.77E-06	4.37E-05	6.98E-01	1.66E-06	4.10E-05
Road 14	14	1400-1500	3.50E-01	8.39E-07	2.07E-05	3.25E-01	7.79E-07	1.92E-05	7.47E-01	1.79E-06	4.42E-05	6.94E-01	1.67E-06	4.10E-05
Road 14	14	1500-1600	3.47E-01	8.35E-07	2.06E-05	3.22E-01	7.74E-07	1.91E-05	7.44E-01	1.79E-06	4.41E-05	6.89E-01	1.66E-06	4.09E-05
Road 14	14	1600-1700	3.48E-01	8.36E-07	2.06E-05	3.23E-01	7.77E-07	1.91E-05	7.44E-01	1.79E-06	4.41E-05	6.89E-01	1.66E-06	4.09E-05
Road 14	14	1700-1800	3.44E-01	8.36E-07	2.06E-05	3.15E-01	7.65E-07	1.89E-05	7.39E-01	1.79E-06	4.42E-05	6.76E-01	1.64E-06	4.04E-05
Road 14	14	1800-1900	3.41E-01	8.26E-07	2.04E-05	3.09E-01	7.50E-07	1.85E-05	7.26E-01	1.76E-06	4.34E-05	6.59E-01	1.60E-06	3.94E-05
Road 14	14	1900-2000	3.40E-01	8.24E-07	2.03E-05	3.09E-01	7.48E-07	1.84E-05	7.25E-01	1.76E-06	4.34E-05	6.58E-01	1.60E-06	3.94E-05
Road 14	14	2000-2100	2.62E-01	1.86E-07	4.59E-06	2.37E-01	1.69E-07	4.16E-06	5.79E-01	4.12E-07	1.01E-05	5.24E-01	3.73E-07	9.18E-06
Road 14	14	2100-2200	2.60E-01	1.85E-07	4.57E-06	2.38E-01	1.70E-07	4.18E-06	5.76E-01	4.10E-07	1.01E-05	5.27E-01	3.75E-07	9.25E-06
Road 14	14	2200-2300	2.61E-01	1.86E-07	4.59E-06	2.38E-01	1.70E-07	4.18E-06	5.79E-01	4.12E-07	1.01E-05	5.27E-01	3.75E-07	9.25E-06
Road 14	14	2300-0000	2.58E-01	1.74E-07	4.28E-06	2.37E-01	1.59E-07	3.92E-06	5.64E-01	3.79E-07	9.34E-06	5.16E-01	3.47E-07	8.55E-06
Road 15	15	0000-0100	3.72E-01	1.70E-07	4.26E-06	3.39E-01	1.56E-07	3.89E-06	7.87E-01	3.62E-06	9.04E-06	7.17E-01	3.30E-07	8.24E-06
Road 15	15	0100-0200	3.88E-01	1.70E-07	4.26E-06	3.54E-01	1.56E-07	3.89E-06	8.20E-01	3.62E-06	9.04E-06	7.47E-01	3.30E-07	8.24E-06
Road 15	15	0200-0300	3.96E-01	1.69E-07	4.22E-06	3.61E-01	1.57E-07	3.91E-06	8.37E-01	3.56E-07	8.88E-06	7.63E-01	3.30E-07	8.27E-06
Road 15	15	0300-0400	4.00E-01	1.70E-07	4.24E-06	3.65E-01	1.57E-07	3.92E-06	8.45E-01	3.57E-07	8.92E-06	7.70E-01	3.31E-07	8.30E-06
Road 15	15	0400-0500	4.07E-01	1.72E-07	4.29E-06	3.71E-01	1.59E-07	3.96E-06	8.58E-01	3.61E-07	9.01E-06	7.82E-01	3.34E-07	8.33E-06
Road 15	15	0500-0600	4.01E-01	1.72E-07	4.29E-06	3.66E-01	1.60E-07	4.00E-06	8.44E-01	3.64E-07	9.10E-06	7.69E-01	3.39E-07	8.47E-06
Road 15	15	0600-0700	4.99E-01	2.89E-07	2.68E-06	4.61E-02	2.67E-07	2.47E-06	1.52E-01	8.84E-07	8.18E-06	1.39E-01	8.03E-07	7.44E-06
Road 15	15	0700-0800	4.80E-02	3.10E-07	2.87E-06	4.42E-02	2.91E-07	2.70E-06	1.47E-01	9.41E-07	8.71E-06	1.34E-01	8.77E-07	8.12E-06
Road 15	15	0800-0900	4.80E-02	3.15E-07	2.92E-06	4.44E-02	2.91E-07	2.70E-06	1.47E-01	9.64E-07	8.93E-06	1.34E-01	8.77E-07	8.12E-06
Road 15	15	0900-1000	5.31E-02	2.22E-07	2.06E-06	4.89E-02	2.04E-07	1.89E-06	1.62E-01	6.77E-07	6.27E-06	1.48E-01	6.17E-07	5.72E-06
Road 15	15	1000-1100	5.70E-02	2.92E-07	2.70E-06	5.30E-02	2.71E-07	2.51E-06	1.68E-01	8.61E-07	7.97E-06	1.55E-01	7.94E-07	7.36E-06
Road 15	15	1100-1200	5.70E-02	2.80E-07	2.59E-06	5.30E-02	2.60E-07	2.41E-06	1.68E-01	8.25E-07	7.64E-06	1.55E-01	7.62E-07	7.06E-06
Road 15	15	1200-1300	5.70E-02	2.76E-07	2.56E-06	5.30E-02	2.57E-07	2.38E-06	1.68E-01	8.13E-07	7.53E-06	1.55E-01	7.51E-07	6.96E-06
Road 15	15	1300-1400	6.95E-02	5.37E-07	4.98E-06	6.45E-02	4.99E-07	4.62E-06	2.21E-01	1.71E-06	1.58E-05	2.05E-01	1.58E-06	1.47E-05
Road 15	15	1400-1500	6.89E-02	5.51E-07	5.10E-06	6.40E-02	5.12E-07	4.74E-06	2.16E-01	1.73E-06	1.60E-05	2.00E-01	1.60E-06	1.48E-05
Road 15	15	1500-1600	6.68E-02	5.34E-07	4.95E-06	6.20E-02	4.96E-07	4.60E-06	2.09E-01	1.67E-06	1.55E-05	1.94E-01	1.55E-06	1.43E-05
Road 15	15	1600-1700	6.51E-02	5.12E-07	4.75E-06	6.02E-02	5.01E-07	4.64E-06	2.05E-01	1.71E-06	1.58E-05	1.89E-01	1.57E-06	1.46E-05
Road 15	15	1700-1800	5.40E-02	4.75E-07	4.40E-06	4.94E-02	4.34E-07	4.02E-06	1.83E-01	1.61E-06	1.49E-05	1.67E-01	1.46E-06	1.36E-05
Road 15	15	1800-1900	4.53E-02	3.98E-07	3.69E-06	4.20E-02	3.69E-07	3.42E-06	1.70E-01	1.49E-06	1.38E-05	1.54E-01	1.35E-06	1.25E-05
Road 15	15	1900-2000	2.59E-02	1.59E-07	1.47E-06	2.34E-02	1.43E-07	1.33E-06	1.04E-01	6.39E-07	5.92E-06	9.26E-02	5.67E-07	5.25E-06
Road 15	15	2000-2100	2.62E-02	1.27E-07	1.17E-06	2.36E-02	1.14E-07	1.06E-06	1.05E-01	5.29E-07	4.90E-06	9.66E-02	4.68E-07	4.33E-06
Road 15	15	2100-2200	2.52E-02	1.23E-07	1.14E-06	2.27E-02	1.10E-07	1.02E-06	1.01E-01	5.12E-07	4.74E-06	9.30E-02	4.53E-07	4.19E-06
Road 15	15	2200-2300	2.47E-02	1.15E-07	1.06E-06	2.26E-02	1.05E-07	9.72E-07	1.01E-01	4.70E-07	4.35E-06	9.05E-02	4.21E-07	3.90E-06
Road 15	15	2300-0000	2.76E-02	9.93E-08	9.19E-07	2.52E-02	9.08E-08	8.40E-07	1.07E-01	3.84E-07	3.56E-06	9.55E-02	3.44E-07	3.19E-06
Road 16	16	0000-0100	9.68E-03	4.14E-08	1.27E-06	8.68E-03	3.82E-08	1.17E-06	5.48E-02	2.41E-07	7.39E-06	4.89E-02	2.15E-07	6.59E-06
Road 16	16	0100-0200	9.42E-03	4.14E-08	1.27E-06	8.68E-03	3.82E-08	1.17E-06	5.48E-02	2.41E-07	7.39E-06	4.89E-02	2.15E-07	6.59E-06
Road 16	16	0200-0300	1.04E-02	3.37E-08	1.03E-06	9.61E-03	3.12E-08	9.56E-07	5.68E-02	1.84E-07	5.65E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	6.98E-02	1.18E-08	7.09E-06	2.72E-01	4.60E-08	2.75E-05	3.87E-03	2.44E-01	4.11E-08	9.44E-06		
Road 37	37	1700-1800	5.99E-02	1.08E-08	2.48E-06	5.76E-02	1.04E-08	2.38E-06	2.51E-02	4.52E-09	1.04E-06			
Road 37	37	1800-1900	4.02E-02	7.24E-09	1.66E-06	3.85E-02	6.94E-09	1.59E-06	1.83E-01	3.30E-08	7.56E-06	1.11E-01	2.00E-08	4.58E-06
Road 37	37	1900-2000	3.40E-02	6.12E-09	1.08E-06	3.24E-02	4.49E-09	1.02E-06	1.70E-01	2.35E-08	5.36E-06	1.58E-01	2.19E-08	5.02E-06
Road 37	37	2000-2100	3.46E-02	3.73E-09	8.57E-09	3.30E-02	3.56E-09	8.17E-09	1.97E-01	4.52E-08	1.69E-01	1.83E-08	4.19E-08	4.27E-08
Road 37	37	2100-2200	3.40E-02	3.69E-09	8.46E-09	3.26E-02	3.54E-09	8.12E-09	1.83E-01	1.99E-08	4.56E-08	1.72E-01	1.86E-08	4.27E-08
Road 37	37	2200-2300	3.01E-02	3.12E-09	7.15E-09	2.97E-02	6.82E-09	1.71E-01	1.77E-08	4.06E-08	1.56E-01	1.65E-08	3.78E-08	
Road 37	37	2300-0000	3.33E-02	2.62E-09	6.00E-09	3.17E-02	2.49E-09	5.72E-09	1.68E-01	1.32E-08	3.03E-08			
Road 38	38	0000-0100	6.06E-02	9.60E-08	7.86E-06	5.64E-02	8.94E-08	7.31E-06	2.16E-01	3.42E-07	2.80E-05	1.99E-01	3.15E-07	2.58E-05
Road 38	38	0100-0200	5.17E-02	6.12E-08	5.01E-06	4.82E-02	5.70E-08	4.67E-06	1.84E-01	2.18E-07	1.78E-05	1.70E-01	2.01E-07	1.65E-05
Road 38	38	0200-0300	7.54E-02	7.33E-08	6.00E-06	7.08E-02	6.88E-08	5.63E-06	2.33E-01	2.26E-07	1.85E-05	2.17E-01	2.11E-07	1.73E-05
Road 38	38	0300-0400	8.15E-02	6.97E-08	5.71E-06	7.61E-02	6.51E-08	5.33E-06	2.41E-01	2.06E-07	1.69E-05	2.24E-01	1.91E-07	1.57E-05
Road 38	38	0400-0500	8.11E-02	6.94E-08	5.68E-06	7.57E-02	6.48E-08	5.30E-06	2.40E-01	2.05E-07	1.68E-05	2.23E-01	1.90E-07	1.56E-05
Road 38	38	0500-0600	7.62E-02	9.99E-08	8.18E-06	7.22E-02	9.47E-08	7.75E-06	2.33E-01	3.06E-07	2.50E-05	2.21E-01	2.90E-07	2.38E-05
Road 38	38	0600-0700	7.07E-02	1.39E-06	6.72E-02	1.62E-07	1.32E-06	2.62E-01	6.31E-07	5.16E-06	2.46E-01	5.92E-07	4.84E-06	
Road 38	38	0700-0800	5.22E-02	1.03E-06	4.96E-02	3.85E-02	2.97E-01	2.82E-02	4.66E-07	3.81E-06	1.82E-01	4.37E-07	3.57E-06	
Road 38	38	0800-0900	8.96E-02	5.67E-07	4.64E-06	8.43E-02	5.33E-07	4.37E-06	2.86E-01	1.81E-06	1.48E-05	2.67E-01	1.69E-06	1.38E-05
Road 38	38	0900-1000	1.00E-01	5.89E-07	4.82E-06	9.48E-02	5.58E-07	4.56E-06	3.08E-01	1.81E-06	1.48E-05	2.90E-01	1.70E-06	1.39E-05
Road 38	38	1000-1100	1.03E-01	5.64E-07	4.62E-06	9.76E-02	5.35E-07	4.37E-06	3.16E-01	1.68E-06	1.38E-05	2.98E-01	1.59E-06	1.30E-05
Road 38	38	1100-1200	1.04E-01	5.43E-07	4.44E-06	9.83E-02	5.15E-07	4.22E-06	3.08E-01	1.62E-06	1.32E-05	2.91E-01	1.52E-06	1.25E-05
Road 38	38	1200-1300	1.29E-01	4.18E-07	3.42E-06	1.23E-01	3.97E-07	3.25E-06	3.82E-01	1.24E-06	1.02E-05	3.62E-01	1.17E-06	9.60E-06
Road 38	38	1300-1400	1.30E-01	4.20E-07	3.44E-06	1.24E-01	4.00E-07	3.27E-06	3.85E-01	1.24E-06	1.02E-05	3.64E-01	1.18E-06	9.66E-06
Road 38	38	1400-1500	1.33E-01	4.67E-07	3.83E-06	1.26E-01	4.43E-07	3.63E-06	3.94E-01	1.38E-06	1.13E-05	3.73E-01	1.31E-06	1.07E-05
Road 38	38	1500-1600	1.33E-01	4.67E-07	3.83E-06	1.26E-01	4.43E-07	3.63E-06	3.94E-01	1.38E-06	1.13E-05	3.73E-01	1.31E-06	1.07E-05
Road 38	38	1600-1700	1.27E-01	4.35E-07	3.56E-06	1.20E-01	4.11E-07	3.37E-06	3.76E-01	1.29E-06	1.05E-05	3.56E-01	1.22E-06	9.98E-06
Road 38	38	1700-1800	1.16E-01	3.45E-07	2.82E-06	1.08E-01	3.20E-07	2.62E-06	3.12E-01	9.26E-07	7.58E-06	2.90E-01	8.60E-07	7.04E-06
Road 38	38	1800-1900	9.19E-02	1.32E-07	1.08E-06	8.63E-02	1.24E-07	1.02E-06	2.47E-01	3.56E-07	2.91E-06	2.32E-01	3.34E-07	2.73E-06
Road 38	38	1900-2000	9.19E-02	1.32E-07	1.08E-06	8.63E-02	1.24E-07	1.02E-06	2.47E-01	3.56E-07	2.91E-06	2.32E-01	3.34E-07	2.73E-06
Road 38	38	2000-2100	9.47E-02	1.16E-07	9.53E-07	8.91E-02	1.10E-07	8.97E-07	2.89E-01	3.56E-07	2.91E-06	2.71E-01	3.33E-07	2.73E-06
Road 38	38	2200-2300	9.13E-02	1.05E-07	8.63E-07	8.59E-02	9.88E-08	8.10E-07	2.72E-01	3.13E-07	2.57E-06	2.54E-01	2.94E-07	2.40E-06
Road 38	38	2300-0000	9.46E-02	1.09E-07	8.94E-07	8.90E-02	1.02E-07	8.38E-07	2.82E-01	3.24E-07	2.66E-06	2.64E-01	3.04E-07	2.49E-06
Road 39	39	0000-0100	9.90E-02	2.32E-08	1.98E-07	9.49E-02	2.23E-08	1.89E-07	3.30E-01	7.74E-08	6.59E-07	3.12E-01	7.33E-08	6.24E-07
Road 39	39	0100-0200	1.01E-01	1.65E-08	1.41E-07	9.81E-02	1.60E-08	1.36E-07	3.35E-01	5.48E-08	4.68E-07	3.22E-01	5.24E-08	4.48E-07
Road 39	39	0200-0300	1.24E-01	1.46E-08	1.24E-07	1.20E-01	1.41E-08	1.20E-07	3.52E-01	4.14E-08	3.53E-07	3.38E-01	3.98E-08	3.40E-07
Road 39	39	0300-0400	1.06E-01	1.13E-08	9.61E-08	1.02E-01	1.09E-08	9.27E-08	3.45E-01	3.67E-08	3.12E-07	3.33E-01	3.54E-08	3.01E-07
Road 39	39	0400-0500	1.08E-01	1.13E-08	9.61E-08	1.04E-01	1.09E-08	9.27E-08	3.51E-01	3.67E-08	3.12E-07	3.39E-01	3.54E-08	3.01E-07
Road 39	39	0500-0600	1.08E-01	1.13E-08	9.61E-08	1.04E-01	1.09E-08	9.27E-08	3.51E-01	3.67E-08	3.12E-07	3.39E-01	3.54E-08	3.01E-07
Road 39	39	0600-0700	1.14E-01	5.79E-08	4.93E-07	1.10E-01	5.60E-08	4.76E-07	3.70E-01	1.89E-07	1.61E-06	3.54E-01	1.80E-07	1.54E-06
Road 39	39	0700-0800	1.15E-01	1.25E-07	1.06E-06	1.11E-01	1.21E-07	1.03E-06	3.74E-01	4.05E-07	3.45E-06	3.57E-01	3.87E-07	3.30E-06
Road 39	39	0800-0900	1.15E-01	1.25E-07	1.06E-06	1.11E-01	1.21E-07	1.03E-06	3.74E-01	4.05E-07	3.45E-06	3.57E-01	3.87E-07	3.30E-06
Road 39	39	0900-1000	1.24E-01	1.74E-07	1.48E-06	1.20E-01	1.68E-07	1.43E-06	3.97E-01	5.57E-07	4.74E-06	3.84E-01	5.34E-07	4.54E-06
Road 39	39	1000-1100	1.25E-01	1.70E-07	1.45E-06	1.21E-01	1.64E-07	1.40E-06	3.99E-01	5.43E-07	4.63E-06	3.86E-01	5.21E-07	4.43E-06
Road 39	39	1100-1200	1.73E-02	1.71E-08	1.45E-07	1.54E-02	1.65E-08	1.40E-07	1.65E-01	1.66E-07	1.41E-06	1.48E-01	1.60E-07	1.36E-06
Road 39	39	1200-1300	5.73E-02	1.71E-08	1.45E-07	5.54E-02	1.65E-08	1.40E-07	2.22E-01	6.61E-08	5.63E-07	2.13E-01	6.33E-08	5.39E-07
Road 39	39	1300-1400	6.13E-02	1.89E-08	1.61E-07	5.94E-02	1.84E-08	1.56E-07	2.34E-01	7.24E-08	6.16E-07	2.25E-01	6.95E-08	5.92E-07
Road 39	39	1400-1500	6.13E-02	1.89E-08	1.61E-07	5.94E-02	1.84E-08	1.56E-07	2.34E-01	7.24E-08	6.16E-07	2.25E-01	6.95E-08	5.92E-07
Road 39	39	1500-1600	6.12E-02	2.05E-08	1.74E-07	5.91E-02	1.98E-08	1.69E-07	2.40E-01	8.03E-08	6.84E-07	2.29E-01	7.68E-08	6.54E-07
Road 39	39	1600-1700	5.74E-02	2.00E-08	1.71E-07	5.54E-02	1.93E-08	1.64E-07	2.26E-01	7.88E-08	6.71E-07	2.16E-01	7.53E-08	6.41E-07
Road 39	39	1700-1800	5.12E-02	2.00E-08	1.71E-07	4.94E-02	1.93E-08	1.64E-07	2.02E-01	7.88E-08	6.71E-07	1.93E-01	7.53E-08	6.41E-07
Road 39	39	1800-1900	3.07E-02	1.25E-08	1.06E-07	2.93E-02	1.19E-08	1.01E-07	1.58E-01	6.42E-08	5.47E-07	1.48E-01	6.01E-08	5.11E-07
Road 39	39	1900-2000	2.58E-02	8.20E-09	6.98E-08	2.45E-02	7.79E-09	6.63E-08	1.49E-01	4.74E-08	4.03E-07	1.38E-01	4.38E-08	3.72E-07
Road 39	39	2000-2100	2.53E-02	6.28E-09	5.35E-08	2.42E-02	6.01E-09	5.12E-08	1.62E-01	4.03E-08	3.43E-07	1.51E-01	3.75E-08	3.19E-07
Road 39	39	2100-2200	2.53E-02	6.28E-09	5.35E-08	2.42E-02	6.01E-09	5.12E-08	1.62E-01	4.03E-08	3.43E-07	1.51E-01	3.75E-08	3.19E-07
Road 39	39	2200-2300	2.23E-02	5.34E-09	4.54E-08	2.13E-02	5.08E-09	4.33E-08	1.53E-01	3.66E-08	3.11E-07	1.42E-01	3.41E-08	2.90E-07
Road 39	39	2300-0000	2.23E-02	5.34E-09	4.54E-08	2.13E-02	5.08E-09	4.33E-08	1.53E-01	3.66E-08	3.11E-07	1.42E-01	3.41E-08	2.90E-07
Road 40	40	0000-0100	5.49E-02	1.62E-07	7.90E-06	5.10E-02	1.51E-07	7.34E-07	2.07E-01	6.13E-07	2.98E-06	1.92E-01	5.69E-07	2.74E-06
Road 40	40	0100-0200	6.42E-02	1.39E-07	6.76E-07	6.05E-02	1.31E-07	6.37E-07	2.25E-01	4.87E-07	2.37E-06	2.11E-01	4.58E-07	2.23E-06
Road 40	40	0200-0300	7.05E-02	1.24E-07	6.05E-07	6.61E-02	1.17E-07	5.70E-07	2.37E-01	4.17E-07	2.03E-06	2.22E-01	3.92E-07	1.91E-06
Road 40	40	0300-0400	7.71E-02	1.18E-07	5.76E-07	7.24E-02	1.11E-07	5.41E-07	2.49E-01	3.82E-07	1.86E-06	2.34E-01	3.59E-07	1.75E-06
Road 40	40	0400-0500	7.66E-02	1.25E-07	6.09E-07	7.24E-02	1.18E-07	5.75E-07	2.40E-01	3.92E-07	1.91E-06	2.25E-01	3.68E-07	1.79E-06
Road 40	40	0500-0600	7.08E-02	1.69E-07	8.23E-07	6.70E-02	1.60E-07	7.80E-07	2.46E-01	5.87E-07	2.86E-06	2.31E-01	5.52E-07	2.69E-06
Road 40	40	0600-0700	6.61E-02	2.94E-07	1.43E-06	6.23E-02	2.77E-07	1.35E-06	2.35E-01	1.04E-06	5.08E-06	2.21E-01	9.83E-07	4.78E-06
Road 40	40	0700-0800	9.37E-02	9.58E-07	4.66E-06	8.81E-02	9.01E-07	4.39E-06	3.12E-01	3.19E-06	1.55E-05	2.91E-01	2.97E-06	1.45E-05
Road 40	40	0800-0900	9.06E-02	1.05E-06	5.08E-06	8.50E-02	9.81E-07	4.77E-06	2.95E-01	3.40E-06	1.65E-05	2.74E-01	3.16E-06	1.54E-05
Road 40	40	0900-1000	1.02E-01	1.03E-06	5.02E-06	9.56E-02	9.68E-07	4.71E-06	3.31E-01	3.34E-06	1.63E-05	3.08E-01	3.12E-06	1.52E-05
Road 40	40	1000-1100	1.10E-01	1.06E-06	5.14E-06	1.04E-01	9.98E-07	4.86E-06	3.29E-01	3.01E-06	1.46E-05	3.09E-01	2.98E-06	1.45E-05
Road 40	40	1100-1200	1.07E-01	9.89E-07	4.81E-06	1.01E-01	9.36E-07	4.55E-06	3.29E-01	3.03E-06	1.47E-05	3.09E-01	2.80E-06	1.36E-05
Road 40	40	1200-1300	1.23E-01	3.88E-07	1.89E-06	1.16E-01	3.66E-07	1.78E-06	3.64E-01	1.14E-06	5.56E-06	3.41E-01	1.07E-06	5.21E-06
Road 40	40	1300-1400	1.31E-01	8.85E-07	4.30E-06	1.25E-01	8.41E-07	4.09E-06	3.65E-01	2.46E-06	1.20E-05	3.46E-01	2.34E-06	1.14E-05
Road 40	40	1400-1500	1.30E-01	8.88E-07	4.32E-06	1.22E-01	8.38E-07	4.07E-06	3.60E-01	2.47E-06	1.20E-05	3.39E-01	2.32E-06	1.13E-05
Road 40	40	1500-1600	1.29E-01	9.00E-07	4.41E-06	1.21E-01	8.49E-07	4.16E-06	3.58E-01	2.50E-06	1.22E-05	3.37E-01	2.35E-06	1.15E-05
Road 40	40	1600-1700	1.26E-01	8.79E-07	4.27E-06	1.19E-01	8.28E-07	4.02E-06	3.54E-01	2.46E-06	1.20E-05	3.33E-01	2.32E-06	1.13E-05
Road 40	40	1700-1800	1.18E-01	8.33E-07	4.05E-06	1.11E-01	7.79E-07	3.79E-06	3.48E-01	2.45E-06	1.19E-05	3.27E-01	2.29E-06	1.11E-05
Road 40	40	1800-1900	1.00E-01	6.72E-07	3.27E-06	9.32E-02	6.27E-07	3.05E-06	3.28E-01	2.20E-06	1.07E-05	3.08E-01	2.07E-06	1.00E-05
Road 40	40	1900-2000	6.51E-02	2.49E-07	1.21E-06	6.10E-02	2.33E-07	1.13E-06	2.29E-01	8.74E-07	4.25E-06	2.12E-01	8.11E-07	3.95E-06
Road 40	40	2000-2100	6.89E-02	2.15E-07	1.05E-06	6.43E-02	2.01E-07	9.78E-07	2.42E-01	7.56E-07	3.68E-06	2.23E-01	6.98E-07	3.40E-06
Road 40	40	2100-2200	6.84E-02	2.12E-07	1.03E-06	6.38E-02	1.98E-07	9.63E-07	2.40E-01	7.45E-07	3.62E-06	2.21E-01	6.88E-07	3.35E-06
Road 40	40	2200-2300	6.51E-02	1.95E-07	9.50E-07	6.10E-02	1.83E-07	8.90E-07	2.28E-01	6.84E-07	3.33E-06	2.12E-01	6.36E-07	3.09E-06
Road 40	40	2300-0000	7.08E-02	1.73E-07	8.43E-07	6.60E-02	1.62E-07	7.87E-07	2.37E-01	5.80E-07	2.82E-06	2.19E-01	5.36E-07	2.61E-06

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	2.21E-02	4.50E-08	4.22E-07	2.01E-02	4.08E-08	3.82E-07	7.48E-02	1.52E-07	1.43E-06	6.61E-02	1.34E-07	1.26E-06
Road 41	41	0100-0200	2.80E-02	4.17E-08	3.91E-07	2.60E-02	3.86E-08	3.62E-07	8.45E-02	1.26E-07	1.18E-06	7.71E-02	1.15E-07	1.08E-06
Road 41	41	0200-0300	3.32E-02	4.03E-08	3.78E-07	3.06E-02	3.72E-08	3.49E-07	9.39E-02	1.14E-07	1.07E-06	8.52E-02	1.04E-07	9.72E-07
Road 41	41	0300-0400	3.73E-02	3.96E-08	3.71E-07	3.44E-02	3.64E-08	3.42E-07	1.01E-01	1.07E-07	1.01E-06	9.18E-02	9.73E-08	9.13E-07
Road 41	41	0400-0500	3.62E-02	4.04E-08	3.79E-07	3.37E-02	3.77E-08	3.54E-07	9.96E-02	1.11E-07	1.04E-06	9.16E-02	1.02E-07	9.61E-07
Road 41	41	0500-0600	2.88E-02	4.58E-08	4.30E-07	2.68E-02	4.26E-08	4.00E-07	8.87E-02	1.41E-07	1.33E-06	8.09E-02	1.29E-07	1.21E-06
Road 41	41	0600-0700	2.10E-02	6.05E-08	5.68E-07	1.96E-02	5.63E-08	5.29E-07	7.77E-02	2.23E-07	2.09E-06	7.09E-02	2.00E-07	1.88E-06
Road 41	41	0700-0800	2.84E-02	1.89E-07	1.78E-06	2.62E-02	1.75E-07	1.64E-06	8.95E-02	5.98E-07	5.61E-06	8.09E-02	5.40E-07	5.07E-06
Road 41	41	0800-0900	2.63E-02	1.96E-07	1.84E-06	2.42E-02	1.80E-07	1.69E-06	8.25E-02	6.15E-07	5.77E-06	7.42E-02	5.54E-07	5.19E-06
Road 41	41	0900-1000	2.57E-02	1.92E-07	1.80E-06	2.37E-02	1.76E-07	1.65E-06	8.06E-02	6.02E-07	5.65E-06	7.25E-02	5.42E-07	5.08E-06
Road 41	41	1000-1100	3.26E-02	1.91E-07	1.80E-06	3.02E-02	1.77E-07	1.66E-06	9.06E-02	5.31E-07	4.98E-06	8.43E-02	5.13E-07	4.81E-06
Road 41	41	1100-1200	3.72E-02	1.85E-07	1.74E-06	3.44E-02	1.71E-07	1.60E-06	9.60E-02	5.29E-07	4.96E-06	8.92E-02	5.09E-07	4.77E-06
Road 41	41	1200-1300	3.27E-02	1.85E-07	1.74E-06	3.04E-02	1.72E-07	1.61E-06	9.44E-02	5.33E-07	5.00E-06	8.77E-02	5.13E-07	4.81E-06
Road 41	41	1300-1400	3.57E-02	2.35E-07	2.21E-06	3.31E-02	2.18E-07	2.05E-06	9.68E-02	6.37E-07	5.98E-06	9.00E-02	5.92E-07	5.56E-06
Road 41	41	1400-1500	3.56E-02	2.30E-07	2.16E-06	3.29E-02	2.13E-07	2.00E-06	9.66E-02	6.24E-07	5.86E-06	8.98E-02	5.80E-07	5.45E-06
Road 41	41	1500-1600	3.13E-02	2.07E-07	1.94E-06	2.90E-02	1.92E-07	1.80E-06	8.87E-02	5.86E-07	5.50E-06	8.23E-02	5.44E-07	5.11E-06
Road 41	41	1600-1700	3.41E-02	2.29E-07	2.15E-06	3.15E-02	2.12E-07	1.99E-06	9.32E-02	6.26E-07	5.88E-06	8.64E-02	5.81E-07	5.45E-06
Road 41	41	1700-1800	2.97E-02	2.11E-07	1.98E-06	2.70E-02	1.93E-07	1.81E-06	9.44E-02	6.73E-07	6.31E-06	8.53E-02	6.08E-07	5.70E-06
Road 41	41	1800-1900	2.62E-02	1.88E-07	1.77E-06	2.37E-02	1.70E-07	1.60E-06	8.56E-02	6.14E-07	5.77E-06	7.74E-02	5.55E-07	5.21E-06
Road 41	41	1900-2000	1.58E-02	7.34E-08	6.89E-07	1.43E-02	6.63E-08	6.22E-07	6.34E-02	2.95E-07	2.76E-06	5.60E-02	2.59E-07	2.43E-06
Road 41	41	2000-2100	1.72E-02	6.41E-08	6.01E-07	1.55E-02	5.76E-08	5.40E-07	6.99E-02	2.59E-07	2.43E-06	6.13E-02	2.28E-07	2.14E-06
Road 41	41	2100-2200	1.66E-02	6.18E-08	5.80E-07	1.51E-02	5.62E-08	5.27E-07	6.87E-02	2.56E-07	2.40E-06	6.03E-02	2.24E-07	2.11E-06
Road 41	41	2200-2300	1.66E-02	6.18E-08	5.80E-07	1.51E-02	5.62E-08	5.27E-07	6.87E-02	2.56E-07	2.40E-06	6.03E-02	2.24E-07	2.11E-06
Road 41	41	2300-0000	1.99E-02	5.64E-08	5.29E-07	1.81E-02	5.12E-08	4.80E-07	7.40E-02	2.10E-07	1.97E-06	6.55E-02	1.85E-07	1.74E-06
Road 42	42	0000-0100	4.03E-02	9.30E-08	2.36E-06	3.66E-02	8.45E-08	2.14E-06	1.20E-01	2.77E-07	7.03E-06	1.07E-01	2.47E-07	6.26E-06
Road 42	42	0100-0200	4.63E-02	8.28E-08	2.10E-06	4.21E-02	7.52E-08	1.91E-06	1.38E-01	2.47E-07	6.26E-06	1.23E-01	2.20E-07	5.58E-06
Road 42	42	0200-0300	5.84E-02	8.15E-08	2.07E-06	5.40E-02	7.54E-08	1.91E-06	1.52E-01	2.12E-07	5.38E-06	1.39E-01	1.94E-07	4.91E-06
Road 42	42	0300-0400	6.58E-02	8.03E-08	2.04E-06	6.06E-02	7.40E-08	1.88E-06	1.66E-01	2.02E-07	5.12E-06	1.51E-01	1.84E-07	4.67E-06
Road 42	42	0400-0500	6.48E-02	8.14E-08	2.07E-06	5.97E-02	7.50E-08	1.90E-06	1.64E-01	2.06E-07	5.21E-06	1.49E-01	1.87E-07	4.74E-06
Road 42	42	0500-0600	5.03E-02	9.16E-08	2.32E-06	4.68E-02	8.52E-08	2.16E-06	1.41E-01	2.56E-07	6.51E-06	1.29E-01	2.35E-07	5.96E-06
Road 42	42	0600-0700	3.87E-02	1.26E-07	3.20E-06	3.58E-02	1.17E-07	2.96E-06	1.25E-01	4.10E-07	1.04E-05	1.14E-01	3.71E-07	9.40E-06
Road 42	42	0700-0800	6.44E-02	2.68E-07	6.78E-06	5.96E-02	2.48E-07	6.27E-06	1.66E-01	6.91E-07	1.75E-05	1.52E-01	6.32E-07	1.60E-05
Road 42	42	0800-0900	6.12E-02	5.21E-07	1.32E-05	5.66E-02	4.79E-07	1.21E-05	1.70E-01	1.45E-06	3.67E-05	1.54E-01	1.31E-06	3.33E-05
Road 42	42	0900-1000	6.94E-02	5.17E-07	1.31E-05	6.42E-02	4.78E-07	1.21E-05	1.91E-01	1.42E-06	3.60E-05	1.75E-01	1.30E-06	3.31E-05
Road 42	42	1000-1100	7.39E-02	4.81E-07	1.22E-05	6.84E-02	4.47E-07	1.13E-05	1.98E-01	1.29E-06	3.27E-05	1.83E-01	1.19E-06	3.03E-05
Road 42	42	1100-1200	7.39E-02	4.81E-07	1.22E-05	6.86E-02	4.47E-07	1.13E-05	1.98E-01	1.29E-06	3.27E-05	1.83E-01	1.19E-06	3.03E-05
Road 42	42	1200-1300	9.52E-02	4.84E-07	1.23E-05	8.90E-02	4.53E-07	1.15E-05	2.45E-01	1.24E-06	3.16E-05	2.28E-01	1.16E-06	2.95E-05
Road 42	42	1300-1400	9.30E-02	4.84E-07	1.23E-05	8.70E-02	4.53E-07	1.15E-05	2.39E-01	1.24E-06	3.16E-05	2.23E-01	1.16E-06	2.95E-05
Road 42	42	1400-1500	9.62E-02	5.18E-07	1.31E-05	8.91E-02	4.80E-07	1.22E-05	2.52E-01	1.35E-06	3.43E-05	2.33E-01	1.25E-06	3.18E-05
Road 42	42	1500-1600	9.24E-02	5.07E-07	1.29E-05	8.53E-02	4.68E-07	1.19E-05	2.49E-01	1.37E-06	3.47E-05	2.30E-01	1.26E-06	3.20E-05
Road 42	42	1600-1700	8.28E-02	4.82E-07	1.22E-05	7.73E-02	4.50E-07	1.14E-05	2.31E-01	1.34E-06	3.41E-05	2.14E-01	1.25E-06	3.17E-05
Road 42	42	1700-1800	8.47E-02	4.82E-07	1.22E-05	7.73E-02	4.40

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Detailed) Year 2038

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 4	4	0800-0900	9.98E-03	1.59E-07	1.79E-06	6.51E-04	1.04E-08	6.65E-06	4.00E-05	6.37E-10	4.09E-07	2.61E-06	4.15E-11	2.67E-08
Road 4	4	0900-1000	1.12E-02	3.27E-07	6.56E-06	1.01E-02	2.95E-07	5.91E-06	5.99E-02	1.75E-06	3.52E-05	5.08E-02	1.48E-06	2.98E-05
Road 4	4	1000-1100	1.26E-02	3.18E-07	6.37E-06	1.14E-02	2.87E-07	5.76E-06	6.27E-02	1.58E-06	3.17E-05	5.41E-02	1.36E-06	2.73E-05
Road 4	4	1100-1200	1.20E-02	2.80E-07	5.74E-06	1.08E-02	2.53E-07	5.18E-06	6.28E-02	1.50E-06	3.01E-05	5.41E-02	1.29E-06	2.59E-05
Road 4	4	1200-1300	1.34E-02	4.11E-07	8.25E-06	1.21E-02	3.71E-07	7.43E-06	6.36E-02	1.94E-06	3.90E-05	5.49E-02	1.68E-06	3.37E-05
Road 4	4	1300-1400	1.35E-02	4.20E-07	8.41E-06	1.22E-02	3.78E-07	7.57E-06	6.54E-02	2.03E-06	4.07E-05	5.67E-02	1.76E-06	3.53E-05
Road 4	4	1400-1500	1.38E-02	4.29E-07	8.58E-06	1.25E-02	3.88E-07	7.75E-06	6.54E-02	2.03E-06	4.05E-05	5.67E-02	1.76E-06	3.52E-05
Road 4	4	1500-1600	1.30E-02	4.44E-07	8.90E-06	1.18E-02	4.00E-07	8.02E-06	6.55E-02	2.23E-06	4.47E-05	5.71E-02	1.94E-06	3.89E-05
Road 4	4	1600-1700	1.40E-02	5.11E-07	1.02E-05	1.25E-02	4.58E-07	9.17E-06	6.43E-02	2.35E-06	4.71E-05	5.53E-02	2.02E-06	4.05E-05
Road 4	4	1700-1800	1.44E-02	5.14E-07	1.03E-05	1.29E-02	4.62E-07	9.23E-06	6.43E-02	2.30E-06	4.59E-05	5.53E-02	1.98E-06	3.95E-05
Road 4	4	1800-1900	1.74E-03	3.47E-07	6.96E-06	1.56E-03	3.12E-07	6.24E-06	4.09E-05	8.17E-09	1.64E-07	3.68E-05	7.35E-09	1.47E-06
Road 4	4	1900-2000	6.50E-03	2.42E-07	4.86E-06	5.85E-03	2.18E-07	4.37E-06	4.09E-05	1.52E-09	3.06E-07	3.68E-05	1.37E-09	2.75E-06
Road 4	4	2000-2100	7.43E-03	3.47E-07	6.96E-06	6.68E-03	3.12E-07	6.26E-06	4.09E-05	1.91E-09	3.84E-07	3.68E-05	1.72E-09	3.45E-06
Road 4	4	2100-2200	1.90E-02	4.86E-07	5.75E-03	1.55E-02	3.95E-07	4.67E-06	1.62E-02	4.13E-07	4.89E-06	1.32E-02	3.36E-07	3.98E-06
Road 4	4	2200-2300	1.98E-02	5.07E-07	6.09E-06	1.61E-02	4.12E-07	4.95E-06	1.62E-02	4.13E-07	4.89E-06	1.32E-02	3.36E-07	3.98E-06
Road 4	4	2300-2400	1.03E-02	4.68E-08	2.81E-07	8.37E-03	3.81E-08	2.29E-06	4.74E-02	2.16E-07	1.29E-06	3.85E-02	1.75E-07	1.05E-06
Road 5	5	0000-0100	9.09E-03	6.43E-08	5.38E-07	4.77E-03	6.74E-08	5.56E-07	4.93E-02	3.29E-06	2.76E-05	2.62E-02	1.75E-06	1.47E-05
Road 5	5	0100-0200	9.68E-03	4.44E-08	3.71E-07	8.60E-03	3.95E-08	3.30E-07	6.83E-02	3.14E-06	2.62E-05	5.66E-02	2.60E-06	2.17E-05
Road 5	5	0200-0300	1.03E-02	4.66E-08	2.88E-07	9.14E-03	4.13E-08	2.56E-07	6.83E-02	3.09E-06	2.36E-05	5.66E-02	2.56E-06	1.95E-05
Road 5	5	0300-0400	1.12E-02	2.95E-08	2.46E-07	1.00E-02	2.64E-08	2.21E-07	7.29E-02	1.92E-07	1.60E-06	6.13E-02	1.61E-07	1.35E-06
Road 5	5	0400-0500	1.21E-02	3.47E-08	2.90E-07	1.09E-02	3.12E-08	2.61E-07	7.51E-02	2.16E-07	1.81E-06	6.36E-02	1.83E-07	1.53E-06
Road 5	5	0500-0600	1.33E-02	6.62E-08	5.53E-07	1.20E-02	5.95E-08	4.97E-07	7.90E-02	3.93E-07	2.28E-06	6.68E-02	3.32E-07	2.78E-06
Road 5	5	0600-0700	1.61E-02	1.21E-07	1.43E-06	1.45E-02	1.09E-07	1.29E-06	8.53E-02	6.42E-07	7.58E-06	7.69E-02	5.78E-07	6.83E-06
Road 5	5	0700-0800	2.01E-02	4.31E-07	3.60E-06	1.81E-02	3.88E-07	3.24E-06	1.03E-01	2.21E-06	1.85E-05	8.79E-02	1.88E-06	1.57E-05
Road 5	5	0800-0900	2.01E-02	4.96E-07	4.14E-06	1.82E-02	4.50E-07	3.76E-06	9.69E-02	2.39E-06	2.00E-05	8.33E-02	2.07E-06	1.73E-05
Road 5	5	0900-1000	2.12E-02	4.37E-07	3.65E-06	1.91E-02	3.96E-07	3.31E-06	9.69E-02	2.00E-06	1.67E-05	8.33E-02	1.72E-06	1.44E-05
Road 5	5	1000-1100	2.42E-02	4.11E-07	3.43E-06	2.19E-02	3.72E-07	3.11E-06	1.10E-01	1.87E-06	1.56E-05	9.59E-02	1.63E-06	1.36E-05
Road 5	5	1100-1200	2.19E-02	3.53E-07	2.95E-06	1.98E-02	3.20E-07	2.67E-06	1.06E-01	1.72E-06	1.44E-05	9.24E-02	1.48E-06	1.24E-05
Road 5	5	1200-1300	2.48E-02	6.53E-07	5.44E-06	2.24E-02	5.90E-07	4.92E-06	1.06E-01	2.80E-06	2.33E-05	9.24E-02	2.43E-06	2.02E-05
Road 5	5	1300-1400	2.98E-02	8.27E-07	6.91E-06	2.69E-02	7.46E-07	6.23E-06	1.06E-01	2.95E-06	2.46E-05	9.24E-02	2.56E-06	2.14E-05
Road 5	5	1400-1500	3.03E-02	9.05E-07	7.56E-06	2.75E-02	8.22E-07	6.87E-06	1.06E-01	3.16E-06	2.64E-05	9.24E-02	2.75E-06	2.30E-05
Road 5	5	1500-1600	3.03E-02	9.05E-07	7.56E-06	2.75E-02	8.22E-07	6.87E-06	1.06E-01	3.16E-06	2.64E-05	9.24E-02	2.75E-06	2.30E-05
Road 5	5	1600-1700	3.30E-02	1.09E-06	9.13E-06	2.96E-02	9.81E-07	8.19E-06	1.34E-01	4.44E-06	3.71E-05	1.17E-01	3.87E-06	3.23E-05
Road 5	5	1700-1800	2.37E-02	9.13E-07	7.63E-06	2.12E-02	8.18E-07	6.83E-06	1.34E-01	5.16E-06	4.31E-05	1.17E-01	4.50E-06	3.76E-05
Road 5	5	1800-1900	1.74E-03	2.60E-07	5.22E-06	1.56E-03	2.34E-07	4.68E-06	3.71E-05	5.55E-09	1.11E-07	3.34E-05	4.99E-09	1.00E-06
Road 5	5	1900-2000	1.41E-02	4.94E-07	4.13E-06	1.26E-02	4.42E-07	3.70E-06	8.79E-02	3.08E-06	2.57E-05	7.87E-02	2.76E-06	2.30E-05
Road 5	5	2000-2100	1.21E-02	3.30E-07	2.76E-06	1.08E-02	2.94E-07	2.46E-06	7.94E-02	2.16E-06	1.80E-05	6.73E-02	1.83E-06	1.53E-05
Road 5	5	2100-2200	1.01E-02	2.72E-07	2.28E-06	9.03E-03	2.42E-07	2.03E-06	6.54E-02	1.75E-06	1.47E-05	5.55E-02	1.49E-06	1.25E-05
Road 5	5	2200-2300	9.81E-03	2.59E-07	2.17E-06	8.70E-03	2.30E-07	1.92E-06	7.63E-02	2.02E-06	1.68E-05	6.33E-02	1.67E-06	1.40E-05
Road 5	5	2300-0000	1.03E-02	2.02E-07	1.69E-06	9.13E-03	1.80E-07	1.50E-06	7.57E-02	1.49E-06	1.24E-05	6.33E-02	1.24E-06	1.04E-05
Road 5	5	0000-0100	1.04E-02	2.02E-07	1.69E-06	9.24E-03	1.80E-07	1.50E-06	7.57E-02	1.49E-06	1.24E-05	6.33E-02	1.24E-06	1.04E-05
Road 6	6	0100-0200	2.10E-02	1.31E-07	3.69E-06	1.89E-02	1.18E-07	3.31E-06	1.03E-01	6.39E-07	1.80E-05	8.85E-02	5.51E-07	1.55E-05
Road 6	6	0200-0300	2.22E-02	1.02E-07	2.88E-06	1.98E-02	9.16E-08	2.58E-06	1.06E-01	4.89E-07	1.38E-05	9.07E-02	4.19E-07	1.18E-05
Road 6	6	0300-0400	2.38E-02	1.82E-07	5.12E-06	2.12E-02	1.62E-07	4.56E-06	1.06E-01	8.14E-07	2.29E-05	9.07E-02	6.94E-07	1.95E-05
Road 6	6	0400-0500	2.51E-02	1.03E-07	2.90E-06	2.28E-02	9.36E-08	2.63E-06	1.32E-01	5.42E-07	1.53E-05	1.20E-01	4.92E-07	1.39E-05
Road 6	6	0500-0600	2.79E-02	2.00E-07	5.64E-06	2.53E-02	1.81E-07	5.11E-06	1.24E-01	8.90E-07	2.51E-05	1.09E-01	7.82E-07	2.20E-05
Road 6	6	0600-0700	3.56E-02	3.47E-07	9.77E-06	3.23E-02	3.15E-07	8.87E-06	1.24E-01	1.21E-06	3.41E-05	1.09E-01	1.06E-06	2.99E-05
Road 6	6	0700-0800	4.80E-02	1.53E-06	4.30E-05	4.35E-02	1.39E-06	3.90E-05	1.94E-01	6.17E-06	1.74E-04	1.71E-01	5.45E-06	1.53E-04
Road 6	6	0800-0900	5.10E-02	1.89E-06	5.32E-05	4.65E-02	1.73E-06	4.86E-05	2.03E-01	7.53E-06	2.12E-04	1.82E-01	6.74E-06	1.90E-04
Road 6	6	0900-1000	5.70E-02	1.89E-06	5.32E-05	5.20E-02	1.73E-06	4.86E-05	2.03E-01	6.74E-06	1.90E-04	1.82E-01	6.04E-06	1.70E-04
Road 6	6	1000-1100	6.27E-02	1.86E-06	5.24E-05	5.70E-02	1.69E-06	4.77E-05	2.36E-01	7.00E-06	1.97E-04	2.12E-01	6.29E-06	1.77E-04
Road 6	6	1100-1200	5.86E-02	1.64E-06	4.63E-05	5.33E-02	1.50E-06	4.21E-05	2.26E-01	6.33E-06	1.78E-04	2.02E-01	5.68E-06	1.60E-04
Road 6	6	1200-1300	7.49E-02	1.96E-06	5.53E-05	6.81E-02	1.78E-06	5.02E-05	2.26E-01	5.91E-06	1.67E-04	2.02E-01	5.30E-06	1.49E-04
Road 6	6	1300-1400	7.49E-02	2.12E-06	5.96E-05	6.78E-02	2.77E-01	7.83E-06	2.20E-04	2.49E-01	7.03E-06	1.98E-04		
Road 6	6	1400-1500	7.80E-02	2.28E-06	6.41E-05	7.10E-02	2.07E-06	5.84E-05	2.80E-01	8.18E-06	2.30E-04	2.53E-01	7.40E-06	2.08E-04
Road 6	6	1500-1600	7.10E-02	2.01E-06	5.66E-05	6.60E-02	1.87E-06	5.26E-05	2.80E-01	7.93E-06	2.23E-04	2.53E-01	7.17E-06	2.02E-04
Road 6	6	1600-1700	7.33E-02	2.22E-06	6.26E-05	6.60E-02	2.00E-06	5.64E-05	2.67E-01	8.08E-06	2.28E-04	2.38E-01	7.21E-06	2.03E-04
Road 6	6	1700-1800	5.59E-02	1.77E-06	4.99E-05	5.02E-02	1.59E-06	4.48E-05	2.31E-01	7.33E-06	2.06E-04	2.06E-01	6.51E-06	1.83E-04
Road 6	6	1800-1900	3.97E-02	1.14E-06	3.21E-05	3.63E-02	1.04E-06	2.93E-05	1.63E-01	4.68E-06	1.32E-04	1.49E-01	4.30E-06	1.21E-04
Road 6	6	1900-2000	2.93E-02	6.79E-07	1.91E-06	2.63E-02	6.09E-07	1.71E-06	3.02E-01	6.52E-06	1.83E-05	2.71E-01	6.02E-06	1.69E-05
Road 6	6	2000-2100	2.67E-02	1.07E-06	2.69E-06	2.40E-02	9.63E-07	2.42E-06	2.75E-01	1.03E-05	2.59E-05	2.47E-01	9.52E-06	2.39E-05
Road 6	6	2100-2200	2.42E-02	1.07E-06	2.69E-06	2.17E-02	9.63E-07	2.42E-06	2.49E-01	1.10E-05	2.77E-05	2.24E-01	9.93E-06	2.49E-05
Road 6	6	2200-2300	2.22E-02	1.07E-06	2.69E-06	1.99E-02	9.63E-07	2.42E-06	2.28E-01	1.10E-05	2.77E-05	2.05E-01	9.93E-06	2.49E-05
Road 6	6	2300-0000	2.03E-02	1.07E-06	2.69E-06	1.82E-02	9.63E-07	2.42E-06	2.09E-01	1.10E-05	2.77E-05	1.88E-01	9.93E-06	2.49E-05
Road 7	7	0000-0100	1.85E-02	1.48E-06	3.55E-05	1.66E-02	1.33E-06	3.19E-05	1.89E-01	1.51E-05	3.63E-04	1.70E-01	1.36E-05	3.26E-04
Road 7	7	0100-0200	1.36E-02	6.24E-08	8.24E-07	1.22E-02	5.59E-08	7.39E-07	7.22E-02	3.30E-07	4.37E-06	6.18E-02	2.83E-07	3.74E-06
Road 7	7	0200-0300	1.48E-02	5.04E-08	6.67E-07	1.33E-02	4.53E-08	5.99E-07	7.52E-02	2.57E-07	3.39E-06	6.46E-02	2.20E-07	2.91E-06
Road 7	7	0300-0400	1.60E-02	1.86E-07	2.18E-06	1.45E-02	1.69E-07	1.98E-06	5.13E-02	1.11E-06	1.30E-05	4.34E-02	9.38E-07	1.10E-05
Road 7	7	0400-0500	1.67E-02	5.10E-08	6.75E-07	1.52E-02	4.63E-08	6.12E-07	8.10E-02	2.47E-07	3.26E-06	7.07E-02	2.16E-07	2.85E-06
Road 7	7	0500-0600	1.72E-02	9.15E-08	1.21E-06	1.56E-02	8.29E-08	1.10E-06	8.27E-02	4.40E-07	5.82E-06	7.22E-02	3.85E-07	5.08E-06
Road 7	7	0600-0700	1.79E-02	2.06E-07	2.72E-06	1.63E-02	1.88E-07	2.48E-06	8.85E-02	9.97E-07	1.32E-05	7.73E-02	8.66E-07	1.14E-05
Road 7	7	0700-0800	1.99E-02	4.73E-07	6.25E-06	1.81E-02	4.29E-07	5.67E-06	9.28E-02	2.20E-06	2.91E-05	8.13E-02	1.93E-06	2.55E-05
Road 7	7	0800-0900	2.13E-02	5.90E-07	7.80E-06	1.93E-02	5.34E-07	7.06E-06	9.53E-02	2.64E-06	3.49E-05	8.37E-02	2.32E-06	3.07E-05
Road 7	7	0900-1000	2.34E-02	5.85E-07	7.73E-06	2.12E-02	5.30E-07	7.00E-06	1.05E-01	2.58E-06	3.41E-05	9.25E-02	2.30E-06	3.04E-05
Road 7	7	1000-1100	2.50E-02	5.67E-07	7.49E-06	2.26E-02	5.13E-07	6.82E-06	1.05E-01	2.38E-06	3.15E-05	9.25E-02	2.12E-06	2.80E-05
Road 7	7	1100-1200	2.52E-02	5.26E-07	6.95E-06	2.28E-02	4.76E-07	6.29E-06	1.05E-01	2.20E-06	2.91E-05	9.25E-02	1.96E-06	2.59E-05
Road 7	7	1200-1300	2.74E-02	7.58E-07	1.00E-05	2.48E-02	6.86E-07	9.06E-06	1.05E-01	2.90E-06	3.83E-05	9.25E-02	2.58E-06	3.41E-05
Road 7	7	1300-1400	2.98E-02	8.27E-07	1.09E-05	2.69E-02	7.46E-07	9.87E-06	1.05E-01	2.90E-06	3.83E-05	9.25E-02	2.58E-06	3.41E-05
Road 7	7	1400-1500	3.03E-02	9.05E-07	1.19E-05	2.75E-02	8.22E-07	1.08E-05	1.05E-01	3.16E-06	4.17E-05	9.25E-02	2.81E-06	3.71E-05
Road 7	7	1500-1600	1.83E-02	4.07E-07	4.77E-06	1.65E-02	3.67E-07	4.31E-06	8.63E-02	1.92E-06	2.25E-05	7.63E-02	1.69E-06	1.99E-05
Road 7	7	1600-1700	1.83E-02	4.07E-07	4.77E-06	1.65E-02	3.67E-07	4.31E-06	8.63E-02	1.92E-06	2.25E-05	7.63E-02	1.69E-06	1.99E-05
Road 7	7	1700-1800	1.83E-02	4.07E-07	4.77E-06	1.65E-02	3.67E-07	4.31E-06	8.63E-02	1.92E-06	2.25E-05	7.63E-02	1.69E-06	1.99E-05
Road 7	7	1800-1900	1.74E-03	3.47E-07	6.96E-06	1.56E-03	3.12E-07	6.24E-06	4.09E-05	8.17E-09	1.64E-07	3.68E-05	7.35E-09	1.47E-06
Road 7	7	1900-2000	6.50E-03	2.42E-07	4.86E-06	5.85E-03	2.18E-07	4.37E-06	4.09E-05	1.52E-09	3.06E-07	3.68E-05	1.37E-09	2.75E-06
Road 7	7	2000-2100	7.43E-03	3.47E-07	6.96E-06	6.68E-03	3.12E-07	6.26E-06	4.09E-05	1.91E-09	3.84E-07	3.68E-05	1.72E-09	3.45E-06
Road 7	7	2100-2200	1.90E-02	4.86E-07	5.75E-03	1.55E-02	3.95E-07	4.67E-06	1.62E-02	4.13E-07	4.89E-06	1.32E-02	3.36E-07	3.98E-06
Road 7	7	2200-2300	1.98E-02	5.07E-07	6.09E-06	1.61E-02	4.12E-07	4.95E-06	1.62E-02	4.13E-07	4.89E-06	1.32E-02	3.36E-07	3.98E-06
Road 7	7	2300-0000	1.03E-02	4.68E-08	2.81E-07	8.37E-03	3.81E-08	2.29E-06	4.74E-02	2.16E-07	1.29E-06	3.85E-02	1.75E-07	1.05E-06
Road 8	8	0000-0100	1.03E-02	5.84E-08	1.18E-07	9.26E-03	5.23E-08	1.06E-07	5.49E-02	3.10E-07	6.27E-07	4.65E-02	2.62E-08	5.30E-07
Road 8	8	0100-0200	1.16E-02	3.14E-08	6.34E-08	1.04E-02	2.83E-08	5.66E-08	5.90E-02	1.60E-07	3.23E-07	4.97E-02	1.34E-07	2.72E-07
Road 8	8	0200-0300	1.16E-02	3.14E-08	6.34E-08	1.04E-02	2.83E-08	5.66E-08	5.90E-02	1.60E-07	3.23E-07	4.97E-02	1.34E-07	2.72E-07
Road 8	8	0300-0400	1.22E-02	2.62E-09	5.30E-08	1.10E-02	2.37E-09	4.78E-08	6.08E-02	1.30E-08	2.63E-07	5.23E-02	1.12E-08	2.27E-07
Road 8	8	0400-0500	1.28E-02	1.31E-09	2.65E-08	1.16E-02	1.18E-09	2.39E-08	6.27E-02	6.42E-09	1.30E-07	5.54E-02	5.56E-09	1.12E-07
Road 8	8	0500-0600	1.34E-02	5.52E-09	1.12E-07	1.21E-02	4.99E-09	1.01E-07	6.42E-02	2.64E-08	5.33E-07	5.55E-02	2.28E-08	4.61E-07
Road 8	8	0600-0700	1.41E-02	1.24E-08	2.52E-07	1.27E-02	1.12E-08	2.27E-07	6.64E-02	5.87E-08	1.19E-06	5.71E-02	5.05E-08	1.02E-06
Road 8	8	0700-0800	1.48E-02	3.28E-08	2.72E-07	1.34E-02	2.96E-08	2.45E-07	6.85E-02	1.52E-07	1.26E-06	5.89E-02	1.31E-07	1.09E-06
Road 8	8	0800-0900	1.37E-02	4.28E-08	5.85E-07	1.24E-02	3.87E-08	5.29E-07	6.85E-02	2.14E-07	2.92E-06	5.89E-02	1.84E-07	2.52E-06
Road 8	8	0900-1000	1.26E-02	4.28E-08	5.85E-07	1.14E-02	3.87E-08	5.29E-07	6.85E-02	2.32E-07	3.17E-06	5.89E-02	1.99E-07	2.73E-06
Road 8	8	1000-1100	1.17E-02	5.55E-08	1.14E-07	1.06E-02	5.02E-08	1.03E-07	6.85E-02	3.24E-07	6.66E-07	5.89E-02	2.78E-07	5.72E-07
Road 8	8	1100-1200	1.08E-02	5.55E-08	1.14E-07	9.80E-03	5.02E-08	1.03E-07	6.85E-02	3.51E-07	7.22E-07	5.89E-02	3.01E-07	6.19E-07
Road 8	8	1200-1300	1.00E-02	5.55E-08	1.14E-07	9.04E-03	5.02E-08	1.03E-07	6.85E-02	3.79E-07	7.79E-07	5.89E-02	3.25E-07	6.68E-07
Road 8	8	1300-1400	9.24E-03	5.55E-08	1.14E-07	8.32E-03	5.02E-08	1.03E-07	6.85E-02	4.14E-07	8.51E-07	5.89E-02	3.55E-07	7.30E-07
Road 8	8	1400-1500	8.49E-03	5.55E-08	1.14E-07	7.65E-03	5.02E-08	1.03E-07	6.85E-02	4.51E-07	9.24E-07	5.89E-02	3.87E-07	7.93E-07
Road 8	8	1500-1600	7.81E-03	5.55E-08	1.14E-07	7.04E-03	5.02E-08	1.03E-07	6.85E-02	4.88E-07	9.97E-07	5.89E-02	4.19E-07	8.56E-07
Road 8	8	1600-1700	7.19E-03	5.55E-08	1.14E-07	6.48E-03	5.02E-08	1.03E-07	6.85E-02	5.25E-07	1.07E-06	5.89E-02	4.51E-07	9.21E-07
Road 8	8	1700-1800	6.62E-03	5.55E-08	1.14E-07	5.97E-03	5.02E-08	1.03E-07	6.85E-02	5.62E-07	1.15E-06	5.89E-02	4.83E-07	9.86E-07
Road 8	8	1800-1900	6.09E-03	5.55E-08	1.14E-07	5.49E-03	5.02E-08	1.03E-07	6.85E-02	6.00E-07	1.23E-06	5.89E-02	5.16E-07	1.05E-06
Road 8	8	1900-2000	5.61E-03	5.55E-08	1.14E-07	5.06E-03	5.02E-08	1.03E-07	6.85E-02	6.37E-07	1.31E-06	5.89E-02	5.48E-07	1.12E-06
Road 8	8	2000-2100	5.17E-03	5.55E-08	1.14E-07	4.66E-03	5.02E-08	1.03E-07	6.85E-02	6.75E-07	1.39E-06	5.89E-02	5.80E-07	1.19E-06
Road 8	8	2100-2200	4.77E-03	5.55E-08	1.14E-07	4.30E-03	5.02E-08	1.03E-07	6.85E-02	7.12E-07	1.47E-06	5.89E-02	6.12E-07	1.25E-06
Road 8	8	2200-2300	4.40E-03	5.55E-08	1.14E-07	3.97E-03	5.02E-08	1.03E-07	6.85E-02	7.50E-07	1.55E-06	5.89E-02	6.45E-07	1.32E-06
Road 8	8	2300-0000	4.06E-03	5.55E-08	1.14E-07	3.66E-03	5.02E-08	1.03E-07	6.85E-02	7.89E-07	1.63E-06	5.89E-02	6.78E-07	1.39E-06
Road 9	9	0000-0100	1.34E-02	3.08E-08	3.08E-07	1.20E-02	2.74E-08	2.74E-07	6.83E-02	1.57E-07	1.57E-06	6.13E-02	1.39E-07	1.37E-06
Road 9	9	0100-0200	1.36E-02	2.45E-08	2.45E-07	1.22E-02	2.18E-08	2.18E-07	6.83E-02	1.23E-07	1.23E-06	6.13E-02	1.09E-07	1.09E-06
Road 9	9	0200-0300	1.38E-02	2.45E-08	2.45E-07	1.24E-02	2.18E-08	2.18E-07	6.83E-02	1.23E-07	1.23E-06	6.13E-02	1.09E-07	1.09E-06
Road 9	9	0300-0400	1.40E-02	3.61E-08	2.68E-07	1.26E-02	3.26E-08	2.42E-07	8.87E-02	1.91E-07	1.42E-06	7.60E-02	1.64E-07	1.21E-06
Road 9	9	0400-0500	1.83E-02	4.32E-08	3.21E-07	1.66E-02	3.91E-08	2.90E-07	9.37E-02	2.21E-07	1.64E-06	8.07E-02	1.91E-07	1.42E-06
Road 9	9	0500-0600	2.01E-02	3.18E-08	3.18E-07	1.82E-02	2.88E-08	2.88E-07	9.37E-02	1.48E-07	1.48E-06	8.07E-02	1.27E-07	1.27E-06
Road 9	9	0600-0700	2.56E-02	2.24E-07	1.66E-06	2.31E-02	2.02E-07	1.50E-06	1.22E-01	1.06E-06	7.90E-06	1.05E-01	9.16E-07	6.80E-06
Road 9	9	0700-0800	3.91E-02	6.94E-07	5.15E-06	3.54E-02	6.28E-07	4.66E-06	1.70E-01	3.01E-06	2.23E-05	1.48E-01	2.62E-06	1.95E-05
Road 9	9	0800-0900	4.51E-02	7.75E-07	5.75E-06	4.09E-02	7.03E-07	5.22E-06	1.90E-01	3.27E-06	2.43E-05	1.68E-01	2.88E-06	2.14E-05
Road 9	9	0900-1000	4.60E-02	6.88E-07	5.11E-06	4.17E-02	6.25E-07	4.64E-06	1.82E-01	2.73E-06	2.02E-05	1.62E-01	2.42E-06	1.80E-05
Road 9	9	1000-1100	4.60E-02	6.88E-07	5.11E-06	4.17E-02	6.25E-07	4.64E-06	1.82E-01	2.73

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2038

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Min		Monthly Hour Average		Monthly Hour Min		Monthly Hour Average	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.95E-02	4.18E-08	7.74E-07	1.68E-06	3.74E-03	1.46E-06	6.59E-02	1.42E-07	1.27E-06
Road 31	31	0100-0200	2.29E-02	3.42E-08	3.06E-07	1.05E-02	2.48E-03	1.23E-07	1.10E-06	7.18E-02	1.07E-07	9.57E-07
Road 31	31	0200-0300	2.63E-02	3.05E-08	2.73E-07	2.36E-02	2.74E-08	2.45E-07	8.89E-02	1.03E-07	9.23E-07	7.73E-02	8.99E-08	8.04E-07
Road 31	31	0300-0400	2.91E-02	2.94E-08	2.63E-07	2.65E-02	2.58E-08	2.30E-07	9.48E-02	9.17E-08	8.19E-07	8.31E-02	8.12E-08	7.26E-07
Road 31	31	0400-0500	2.87E-02	3.05E-08	2.72E-07	2.61E-02	2.77E-08	2.48E-07	9.41E-02	1.00E-07	8.94E-07	8.36E-02	8.89E-08	7.94E-07
Road 31	31	0500-0600	2.49E-02	4.26E-08	3.81E-07	2.26E-02	3.87E-08	3.46E-07	8.16E-02	1.53E-07	1.36E-06	7.87E-02	1.35E-07	1.20E-06
Road 31	31	0600-0700	2.20E-02	6.96E-08	1.99E-06	6.93E-06	6.19E-03	8.60E-02	3.00E-07	2.68E-06	7.24E-02	2.63E-07	2.35E-06
Road 31	31	0700-0800	2.53E-02	1.91E-07	1.71E-06	2.30E-02	1.73E-07	6.88E-06	8.15E-06	8.04E-02	6.07E-07	5.42E-06	7.39E-02	5.58E-07	4.98E-06
Road 31	31	0800-0900	2.40E-02	2.07E-07	1.85E-06	2.19E-02	1.89E-07	8.62E-02	7.43E-07	6.64E-06	7.69E-02	6.63E-07	5.92E-06
Road 31	31	0900-1000	2.27E-02	2.13E-07	1.90E-06	2.07E-02	1.94E-07	8.85E-02	7.52E-07	6.83E-06	7.26E-02	6.68E-07	5.98E-06
Road 31	31	1000-1100	2.94E-02	2.15E-07	1.92E-06	2.68E-02	1.96E-07	7.75E-02	8.47E-07	6.18E-06	9.41E-02	6.88E-07	6.15E-06
Road 31	31	1100-1200	2.94E-02	2.04E-07	1.82E-06	2.67E-02	1.86E-07	8.66E-02	7.37E-07	6.70E-06	9.41E-02	6.68E-07	5.97E-06
Road 31	31	1200-1300	2.94E-02	2.04E-07	1.82E-06	2.67E-02	1.86E-07	8.66E-02	7.37E-07	6.70E-06	9.41E-02	6.68E-07	5.97E-06
Road 31	31	1300-1400	2.77E-02	1.61E-07	1.44E-06	2.51E-02	1.46E-07	8.16E-02	6.94E-07	4.04E-06	8.87E-02	5.16E-07	4.60E-06
Road 31	31	1400-1500	2.74E-02	1.66E-07	1.48E-06	2.49E-02	1.51E-07	1.35E-06	9.10E-02	8.14E-02	4.94E-07	4.41E-06	1.12E-02	6.79E-08	6.06E-07
Road 31	31	1500-1600	2.49E-02	1.66E-07	1.48E-06	2.26E-02	1.51E-07	1.35E-06	8.16E-02	5.02E-08	5.01E-07	7.42E-02	4.56E-08	4.55E-07
Road 31	31	1600-1700	2.63E-02	1.69E-07	1.51E-06	2.37E-02	1.52E-07	5.03E-06	7.74E-02	4.97E-07	4.44E-06	6.97E-02	4.48E-07	4.00E-06
Road 31	31	1700-1800	2.15E-02	1.94E-07	1.93E-06	1.34E-07	1.20E-06	7.87E-02	5.47E-07	4.89E-06	6.90E-02	4.79E-07	4.28E-06
Road 31	31	1800-1900	1.80E-02	1.62E-07	1.45E-06	1.12E-07	1.00E-06	6.58E-02	4.63E-07	4.13E-06	5.77E-02	4.06E-07	3.62E-06
Road 31	31	1900-2000	1.22E-02	6.39E-08	5.71E-07	1.09E-02	5.71E-08	5.10E-07	5.50E-02	2.88E-07	2.57E-06	4.91E-02	2.57E-07	2.30E-06
Road 31	31	2000-2100	1.28E-02	5.28E-08	4.72E-07	1.14E-02	4.74E-08	4.23E-07	6.04E-02	2.50E-07	2.24E-06	5.22E-02	2.16E-07	1.93E-06
Road 31	31	2100-2200	1.21E-02	4.98E-08	4.45E-07	1.08E-02	4.44E-08	3.97E-07	5.99E-02	2.46E-07	2.20E-06	5.22E-02	2.15E-07	1.92E-06
Road 31	31	2200-2300	1.23E-02	4.78E-08	4.27E-07	1.09E-02	4.23E-08	3.78E-07	6.02E-02	2.34E-07	2.09E-06	5.22E-02	2.03E-07	1.81E-06
Road 31	31	2300-0000	1.41E-02	4.29E-08	3.83E-07	1.26E-02	3.83E-08	3.44E-07	6.93E-02	2.11E-07	1.88E-06	5.99E-02	1.82E-07	1.63E-06
Road 32	32	0000-0100	1.07E-02	1.06E-07	7.02E-06	9.57E-03	9.44E-08	5.08E-07	5.02E-02	4.96E-07	3.29E-06	4.48E-02	4.42E-07	2.93E-06
Road 32	32	0100-0200	1.12E-02	1.04E-07	6.88E-06	1.00E-02	9.28E-08	4.98E-07	5.25E-02	4.87E-07	3.23E-06	4.68E-02	4.34E-07	2.87E-06
Road 32	32	0200-0300	1.23E-02	5.89E-08	3.91E-06	1.10E-02	5.25E-08	3.49E-06	6.49E-02	3.11E-07	2.06E-06	5.47E-02	2.62E-07	1.74E-06
Road 32	32	0300-0400	1.31E-02	4.99E-08	3.32E-06	1.18E-02	4.51E-08	3.00E-06	6.70E-02	2.56E-07	1.70E-06	5.77E-02	2.20E-07	1.46E-06
Road 32	32	0400-0500	1.39E-02	4.98E-08	3.31E-06	1.25E-02	4.50E-08	2.99E-06	6.91E-02	2.47E-07	1.64E-06	6.07E-02	2.17E-07	1.44E-06
Road 32	32	0500-0600	1.46E-02	1.08E-07	7.17E-06	1.32E-02	9.77E-08	6.49E-06	5.34E-02	3.96E-07	2.63E-06	4.77E-02	3.53E-07	2.35E-06
Road 32	32	0600-0700	1.54E-02	2.47E-07	1.64E-05	1.39E-02	2.23E-07	1.48E-05	5.62E-02	9.00E-07	5.98E-05	5.02E-02	8.04E-07	5.34E-05
Road 32	32	0700-0800	1.62E-02	3.89E-07	1.41E-05	1.46E-02	3.50E-07	1.27E-05	5.90E-02	1.42E-06	5.14E-05	5.27E-02	1.26E-06	4.59E-05
Road 32	32	0800-0900	1.55E-02	5.86E-07	3.89E-05	1.41E-02	5.34E-07	3.54E-05	6.95E-02	2.63E-06	1.74E-04	6.09E-02	2.30E-06	1.53E-04
Road 32	32	0900-1000	1.78E-02	5.93E-07	3.94E-05	1.62E-02	5.37E-07	3.57E-05	7.72E-02	2.57E-06	1.70E-04	6.76E-02	2.25E-06	1.49E-04
Road 32	32	1000-1100	2.12E-02	5.50E-07	3.65E-05	1.93E-02	4.98E-07	3.31E-05	9.16E-02	2.37E-06	1.57E-04	8.02E-02	2.08E-06	1.38E-04
Road 32	32	1100-1200	1.96E-02	5.50E-07	3.65E-05	1.78E-02	4.98E-07	3.31E-05	8.45E-02	2.37E-06	1.57E-04	7.40E-02	2.08E-06	1.38E-04
Road 32	32	1200-1300	1.81E-02	3.87E-07	2.57E-05	1.64E-02	3.51E-07	2.33E-05	7.87E-02	1.68E-06	1.12E-04	6.89E-02	1.47E-06	9.77E-05
Road 32	32	1300-1400	1.83E-02	4.26E-07	2.83E-05	1.66E-02	3.86E-07	2.57E-05	7.96E-02	1.85E-06	1.23E-04	6.97E-02	1.62E-06	1.08E-04
Road 32	32	1400-1500	1.83E-02	4.26E-07	2.83E-05	1.66E-02	3.86E-07	2.57E-05	7.96E-02	1.85E-06	1.23E-04	6.97E-02	1.62E-06	1.08E-04
Road 32	32	1500-1600	1.70E-02	4.26E-07	2.83E-05	1.54E-02	3.86E-07	2.57E-05	7.41E-02	1.85E-06	1.23E-04	6.49E-02	1.62E-06	1.08E-04
Road 32	32	1600-1700	1.73E-02	4.26E-07	2.83E-05	1.57E-02	3.86E-07	2.57E-05	7.55E-02	1.85E-06	1.23E-04	6.61E-02	1.62E-06	1.08E-04
Road 32	32	1700-1800	1.31E-02	3.63E-07	2.41E-05	1.17E-02	3.25E-07	2.15E-05	6.48E-02	1.80E-06	1.20E-04	5.76E-02	1.55E-06	1.03E-04
Road 32	32	1800-1900	9.57E-03	2.82E-07	1.87E-05	8.56E-03	2.52E-07	1.68E-05	4.95E-02	1.46E-06	9.68E-05	4.25E-02	1.25E-06	8.32E-05
Road 32	32	1900-2000	8.12E-03	1.32E-07	8.78E-06	7.26E-03	1.18E-07	7.85E-06	4.20E-02	6.84E-07	4.55E-06	3.61E-02	5.87E-07	3.91E-06
Road 32	32	2000-2100	8.48E-03	1.54E-07	1.02E-05	7.56E-03	1.37E-07	9.11E-06	4.50E-02	8.34E-07	5.54E-06	4.60E-02	8.34E-07	5.54E-06
Road 32	32	2100-2200	7.69E-03	1.39E-07	9.22E-06	6.81E-03	1.23E-07	8.17E-06	4.08E-02	7.05E-07	4.69E-06	4.08E-02	8.01E-07	5.32E-06
Road 32	32	2200-2300	7.05E-03	1.27E-07	8.46E-06	6.24E-03	1.13E-07	7.49E-06	3.74E-02	6.47E-07	4.30E-06	3.74E-02	7.35E-07	4.89E-06
Road 32	32	2300-0000	8.36E-03	1.01E-07	7.29E-06	7.46E-03	9.79E-08	6.50E-06	5.51E-02	7.24E-07	4.81E-06	4.64E-02	6.09E-07	4.05E-06
Road 33	33	0000-0100	1.39E-02	1.31E-07	1.97E-06	1.21E-02	1.17E-07	1.77E-06	6.48E-02	6.63E-07	9.98E-06	5.62E-02	5.64E-07	8.49E-06
Road 33	33	0100-0200	1.57E-02	1.32E-07	1.98E-06	1.41E-02	1.18E-07	1.78E-06	7.31E-02	6.68E-07	1.01E-05	6.57E-02	5.68E-07	8.55E-06
Road 33	33	0200-0300	1.80E-02	8.85E-08	1.33E-06	1.61E-02	7.93E-08	1.19E-06	8.37E-02	4.12E-07	6.19E-06	7.52E-02	3.69E-07	5.55E-06
Road 33	33	0300-0400	2.00E-02	8.05E-08	1.21E-06	1.81E-02	7.25E-08	1.08E-06	9.29E-02	3.75E-07	5.63E-06	8.35E-02	3.36E-07	5.05E-06
Road 33	33	0400-0500	2.02E-02	1.02E-07	1.53E-06	1.82E-02	9.16E-08	1.37E-06	9.38E-02	4.74E-07	7.13E-06	8.44E-02	4.27E-07	6.41E-06
Road 33	33	0500-0600	1.85E-02	1.37E-07	2.06E-06	1.67E-02	1.24E-07	1.86E-06	8.61E-02	6.03E-07	9.08E-06	7.75E-02	5.42E-07	8.17E-06
Road 33	33	0600-0700	1.74E-02	1.71E-07	2.57E-06	1.57E-02	1.54E-07	2.32E-06	8.09E-02	7.52E-07	1.13E-05	7.28E-02	6.77E-07	1.02E-05
Road 33	33	0700-0800	1.89E-02	2.63E-07	3.96E-06	1.70E-02	2.37E-07	3.56E-06	8.78E-02	1.16E-06	1.74E-05	7.90E-02	1.04E-06	1.57E-05
Road 33	33	0800-0900	1.86E-02	7.00E-07	1.05E-05	1.69E-02	6.37E-07	9.59E-06	8.62E-02	3.19E-06	4.80E-05	7.76E-02	2.87E-06	4.32E-05
Road 33	33	0900-1000	2.13E-02	7.13E-07	1.07E-05	1.94E-02	6.46E-07	9.72E-06	9.88E-02	3.29E-06	4.95E-05	8.90E-02	2.96E-06	4.45E-05
Road 33	33	1000-1100	2.36E-02	6.72E-07	1.01E-05	2.66E-02	6.37E-07	9.59E-06	1.09E-01	3.10E-06	4.66E-05	1.23E-01	2.91E-06	4.38E-05
Road 33	33	1100-1200	2.83E-02	7.80E-07	1.17E-05	2.56E-02	7.05E-07	1.06E-05	1.31E-01	3.60E-06	5.42E-05	1.19E-01	3.28E-06	4.94E-05
Road 33	33	1200-1300	2.22E-02	6.39E-07	9.61E-06	2.01E-02	5.77E-07	8.67E-06	1.03E-01	2.95E-06	4.44E-05	9.32E-02	2.66E-06	4.00E-05
Road 33	33	1300-1400	2.20E-02	6.39E-07	9.61E-06	1.99E-02	5.77E-07	8.67E-06	1.02E-01	2.95E-06	4.44E-05	9.23E-02	2.66E-06	4.00E-05
Road 33	33	1400-1500	2.20E-02	6.39E-07	9.61E-06	1.99E-02	5.77E-07	8.67E-06	1.02E-01	2.95E-06	4.44E-05	9.23E-02	2.66E-06	4.00E-05
Road 33	33	1500-1600	2.16E-02	6.39E-07	9.61E-06	1.95E-02	5.77E-07	8.67E-06	1.00E-01	2.95E-06	4.44E-05	9.06E-02	2.66E-06	4.00E-05
Road 33	33	1600-1700	2.16E-02	6.39E-07	9.61E-06	1.95E-02	5.77E-07	8.67E-06	1.00E-01	2.95E-06	4.44E-05	9.06E-02	2.66E-06	4.00E-05
Road 33	33	1700-1800	1.89E-02	5.71E-07	8.57E-06	1.70E-02	5.15E-07	7.73E-06	8.78E-02	2.65E-06	3.98E-05	7.90E-02	2.39E-06	3.58E-05
Road 33	33	1800-1900	1.67E-02	5.02E-07	7.53E-06	1.50E-02	4.52E-07	6.78E-06	7.75E-02	2.33E-06	3.50E-05	6.97E-02	2.10E-06	3.15E-05
Road 33	33	1900-2000	1.13E-02	5.94E-08	8.91E-07	1.01E-02	5.31E-08	7.97E-07	5.24E-02	2.75E-07	4.13E-06	4.71E-02	2.47E-07	3.71E-06
Road 33	33	2000-2100	1.19E-02	4.91E-08	7.37E-07	1.07E-02	4.40E-08	6.60E-07	5.54E-02	2.28E-07	3.42E-06	4.98E-02	2.05E-07	3.07E-06
Road 33	33	2100-2200	1.13E-02	4.12E-08	6.18E-07	1.01E-02	3.70E-08	5.55E-07	5.24E-02	1.92E-07	2.88E-06	4.71E-02	1.72E-07	2.58E-06
Road 33	33	2200-2300	1.16E-02	3.94E-08	5.91E-07	1.04E-02	3.54E-08	5.31E-07	5.39E-02	1.84E-07	2.75E-06	4.84E-02	1.65E-07	2.47E-06
Road 33	33	2300-0000	1.45E-02	3.29E-08	4.94E-07	1.30E-02	2.96E-08	4.44E-07	6.93E-02	1.57E-07	2.36E-06	6.17E-02	1.40E-07	2.11E-06
Road 34	34	0000-0100	1.07E-02	1.06E-07	7.02E-06	9.57E-03	9.44E-08	5.08E-07	5.02E-02	4.96E-07	3.29E-06	4.48E-02	4.42E-07	2.93E-06
Road 34	34	0100-0200	1.12E-02	1.04E-07	6.88E-06	1.00E-02	9.28E-08	4.98E-07	5.25E-02	4.87E-07	3.23E-06	4.68E-02	4.34E-07	2.87E-06
Road 34	34	0200-0300	1.23E-02	5.89E-08	3.91E-06	1.10E-02	5.25E-08	3.49E-06	6.49E-02	3.11E-07	2.06E-06	5.47E-02	2.62E-07	1.74E-06
Road 34	34	0300-0400	1.31E-02	4.99E-08	3.32E-06	1.18E-02	4.51E-08	3.00E-06	6.70E-02	2.56E-07	1.70E-06	5.77E-02	2.20E-07	1.46E-06
Road 34	34	0400-0500	1.39E-02	4.98E-08	3.31E-06	1.25E-02	4.50E-08	2.99E-06	6.91E-02	2.47E-07	1.64E-06	6.07E-02	2.17E-07	1.44E-06
Road 34	34	0500-0600	1.46E-02	1.08E-07	7.17E-06	1.32E-02	9.77E-08	6.49E-06	5.34E-02	3.96E-07	2.63E-06	4.77E-02	3.53E-07	2.35E-06
Road 34	34	0600-0700	1.54E-02	2.47E-07	1.64E-05	1.39E-02	2.23E-07	1.48E-05	5.62E-02	9.00E-07	5.98E-05	5.02E-02	8.04E-07	5.34E-05
Road 34	34	0700-0800	1.62E-02	3.89E-07	1.41E-05	1.46E-02	3.50E-07	1.27E-05	5.90E-02	1.42E-06	5.14E-05	5.27E-02	1.26E-06	4.59E-05
Road 34	34	0800-0900	1.55E-02	5.86E-07	3.89E-05	1.41E-02	5.34E-07	3.54E-05	6.95E-02	2.63E-06	1.74E-04	6.09E-02	2.30E-06	1.53E-04
Road 34	34	0900-1000	1.78E-02	5.93E-07	3.94E-05	1.62E-02	5.37E-07	3.57E-05	7.72E-02	2.57E-06	1.70E-04	6.76E-02	2.25E-06	1.49E-04
Road 34	34	1000-1100	2.12E-02	5.50E-07	3.65E-05	1.93E-02	4.98E-07	3.31E-05	9.16E-02	2.37E-06	1.57E-04	8.02E-02	2.08E-06	1.38E-04
Road 34	34	1100-1200	1.96E-02	5.50E-07	3.65E-05	1.78E-02	4.98E-07	3.31E-05	8.45E-02	2.37E-06	1.57E-04	7.40E-02	2.08E-06	1.38E-04
Road 34	34	1200-1300	1.81E-02	3.87E-07	2.57E-05	1.64E-02	3.51E-07	2.33E-05	7.87E-02	1.68E-06	1.12E-04	6.89E-02	1.47E-06	9.77E-05
Road 34	34	1300-1400	1.83E-02	4.26E-07	2.83E-05	1.66E-02	3.86E-07	2.57E-05	7.96E-02	1.85E-06	1.23E-04	6.97E-02	1.62E-06	1.08E-04
Road 34	34	1400-1500	1.83E-02	4.26E-07	2.83E-05	1.66E-02	3.86E-07	2.57E-05	7.96E-02	1.85E-06	1.23E-04	6.97E-02	1.62E-06	1.08E-04
Road 34	34	1500-1600	1.70E-02	4.26E-07	2.83E-05	1.54E-02	3.86E-07	2.57E-05	7.41E-02	1.85E-06	1.23E-04	6.49E-02	1.62E-06	1.08E-04
Road 34	34	1600-1700	1.73E-02	4.26E-07	2.83E-05	1.57E-02	3.86E-07	2.57E-05	7.55E-02	1.85E-06	1.23E-04	6.61E-02	1.62E-06	1.08E-04
Road 34	34	1700-1800	1.31E-02	3.63E-07	2.41E-05	1.17E-02	3.25E-07	2.15E-05	6.48E-02	1.80E-06	1.20E-04	5.76E-02	1.55E-06	1.03E-04
Road 34	34	1800-1900	9.57E-03	2.82E-07	1.87E-05	8.56E-03	2.52E-07	1.68E-05	4.95E-02	1.46E-06	9.68E-05	4.25E-02	1.25E-06	8.32E-05
Road 34	34	1900-2000	8.12E-03	1.32E-07	8.78E-06	7.26E-03	1.18E-07	7.85E-06	4.20E-02	6.84E-07	4.55E-06	3.61E-02	5.87E-07	3.91E-06
Road 34	34	2000-2100	8.48E-03	1.54E-07	1.02E-05	7.56E-03	1.37E-07	9.11E-06	4.50E-02	8.34E-07	5.54E-06	4.60E-02	8.34E-07	5.54E-06
Road 34	34	2100-2200	7.69E-03	1.39E-07	9.22E-06	6.81E-03	1.23E-07	8.17E-06	4.08E-02	7.05E-07	4.69E-06	4.08E-02	8.01E-07	5.32E-06
Road 34	34	2200-2300	7.05E-03	1.27E-07	8.46E-06	6.24E-03	1.13E-07	7.49E-06	3.74E-02	6.47E-07	4.30E-06	3.74E-02	7.35E-07	4.89E-06
Road 34	34	2300-0000	8.36E-03	1.01E-07	7.29E-06	7.46E-03	9.79E-08	6.50E-06	5.51E-02	7.24E-07	4.81E-06	4.64E-02	6.09E-07	4.05E-06
Road 34	34	0000-0100	1.39E-02	1.31E-07	1.97E-06	1.21E-02	1.17E-07	1.77E-06	6.48E-02	6.63E-07	9.98E-06	5.62E-02	5.64E-07	8.49E-06
Road 34	34	0100-0200	1.57E-02	1.32E-07	1.98E-06	1.41E-02	1.18E-07	1.78E-06	7.31E-02	6.68E-07	1.01E-05	6.57E-02	5.68E-07	8.55E-06
Road 34	34	0200-0300	1.80E-02	8.85E-08	1.33E-06	1.61E-02	7.93E-08	1.19E-06	8.37E-02	4.12E-07	6.19E-06	7.52E-02	3.69E-07	5.55E-06
Road 34	34	0300-0400	2.00E-02	8.05E-08	1.21E-06	1.81E-02	7.25E-08	1.08E-06	9.29E-02	3.75E-07	5.63E-06	8.35E-02	3.36E-07	5.05E-06
Road 34	34	0400-0500	2.02E-02	1.02E-07	1.53E-06	1.82E-02	9.16E-08	1.37E-06	9.38E-02	4.74E-07	7.13E-06	8.44E-02	4.27E-07	6.41E-06
Road 34	34	0500-0600	1.85E-02	1.37E-07	2.06E-06	1.67E-02	1.24E-07	1.86E-06	8.61E-02	6.03E-07	9.08E-06	7.75E-02	5.42E-07	8.17E-06
Road 34	34	0600-0700	1.74E-02	1.71E-07	2.57E-06	1.57E-02	1.54E-07	2.32E-06	8.09E-02	7.52E-07	1.13E-05	7.28E-02	6.77E-07	1.02E-05
Road 34	34	0700-0800	1.89E-02	2.63E-07	3.96E-06	1.70E-02	2.37E-07	3.56E-06	8.78E-02	1.16E-06	1.74E-05	7.90E-02	1.04E-06	1.57E-05
Road 34	34	0800-0900	1.86E-02	7.00E-07	1.05E-05	1.69E-02	6.37E-07	9.59E-06	8.62E-02	3.19E-06	4.80E-05	7.76E-02	2.87E-06	4.32E-05
Road 34	34	0900-1000	2.13E-02	7.13E-07	1.07E-05	1.94E-02	6.46E-07	9.72E-06	9.88E-02	3.29E-06	4.95E-05	8.90E-02	2.96E-06	4.45E-05
Road 34	34	1000-1100	2.36E-02	6.72E-07	1.01E-05	2.66E-02	6.37E-07	9.59E-06	1.09E-01	3.10E-06	4.66E-05	1.23E-01	2.91E-06	4.38E-05
Road 34	34	1100-1200	2.83E-02	7.80E-07	1.17E-05	2.56E-02	7.05E-07	1.06E-05	1.31E-01	3.60E-06	5.42E-05	1.19E-01	3.28E-06	4.94E-05
Road 34	34	1200-1300	2.22E-02	6.39E-07	9.61E-06	2.01E-02	5.77E-07	8.67E-06	1.03E-01	2.95E-06	4.44E-05	9.32E-02	2.66E-06	4.00E-05
Road 34	34	1300-1400	2.20E-02	6.39E-07	9.61E-06	1.99E-02	5.77E-07	8.67E-06	1.02E-01	2.95E-06	4.44E-05	9.23E-02	2.66E-06	4.00E-05
Road 34	34	1400-1500	2.20E-02	6.39E-07	9.61E-06	1.99E-02	5.77E-07	8.67E-06	1.02E-01	2.95E-06	4.44E-05	9.23E-02	2.66E-06	4.00E-05
Road 34	34	1500-1600	2.16E-02	6.39E-07	9.61E-06	1.95E-02	5.77E-07	8.67E-06	1.00E-01	2.95E-06	4.44E-05	9.06E-02	2.66E-06	4.00E-05
Road 34	34	1600-1700	2.16E-02	6.39E-07	9.61E-06	1.95E-02	5.77E-07	8.67E-06	1.00E-01	2.95E-06	4.44E-05	9.06E-02	2.66E-06	4.00E-05
Road 34	34	1700-1800	1.89E-02	5.71E-07	8.57E-06	1.70E-02	5.15E-07	7.73E-06	8.78E-02	2.65E-06	3.98E-05	7.90E-02	2.39E-06	3.58E-05
Road 34	34	1800-1900	1.67E-02	5.02E-07	7.53E-06	1.50E-02	4.52E-07	6.78E-06	7.75E-02	2.33E-06	3.50E-05	6.97E-02	2.10E-06	3.15E-05
Road 34	34	1900-2000	1.13E-02	5.94E-08	8.91E-07	1.01E-02	5.31E-08	7.97E-07	5.24E-02	2.75E-07	4.13E-06	4.71E-02	2.47E-07	3.71E-06
Road 34	34	2000-2100	1.19E-02	4.91E-08	7.37E-07	1.07E-02	4.40E-08	6.60E-07	5.54E-02	2.28E-07	3.42E-06	4.98E-02	2.05E-07	3.07E-06
Road 34	34	2100-2200	1.13E-02	4.12E-08	6.18E-07	1.01E-02	3.70E-08	5.55E-07	5.24E-02	1.92E-07	2.88E-06	4.71E-02	1.72E-07	2.58E-06
Road 34	34	2200-2300	1.16E-02	3.94E-08	5.91E-07	1.04E-02	3.54E-08	5.31E-07	5.39E-02	1.84E-07	2.75E-06	4.84E-02	1.65E-07	2.47E-06
Road 34	34	2300-0000	1.45E-02	3.29E-08	4.94E-07	1.30E-02	2.96E-08	4.44E-07	6.93E-02	1.57E-07	2.36E-06	6.17E-02	1.40E-07	2.11E-06
Road 35	35	0000-0100	4.87E-02	4.17E-08	1.02E-07	4.40E-02	3.77E-08	9.16E-08	1.42E-01	1.22E-07	2.97E-07	1.25E-01	1.07E-07	2.61E-07
Road 35	35	0100-0200	5.73E-02	3.98E-08	9.72E-08	5.16E-02	3.58E-08	8.74E-08	1.67E-01	1.16E-07	2.83E-07	1.47E-01	1.02E-07	2.49E-07
Road 35	35	0200-0300	6.42E-02	3.89E-08	9.46E-08	5.84E-02	3.53E-08	8.60E-08	1.70E-01	1.03E-07	2.51E-07	1.52E-01	9.23E-08	2.25E-07
Road 35	35	0300-0400	6.23E-02	4.01E-08	9.75E-08	5.68E-02	3.65E-08	8.89E-08	1.68E-01	1.08E-07	2.63E-07	1.51E-01	9

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2038

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			MonthlyHourMin		MonthlyHourAverage	MonthlyHourMin		MonthlyHourAverage	AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/hour	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 103	103	1600-1700	1.59E-02	5.85E-07	1.41E-05	1.43E-02	5.24E-07	1.26E-05	7.10E-02	2.61E-06	6.28E-05	6.15E-02	2.26E-06	5.44E-05
Road 103	103	1700-1800	1.14E-02	4.71E-07	1.13E-05	1.01E-02	4.21E-07	1.01E-05	6.24E-02	2.59E-06	6.23E-05	5.34E-02	2.22E-06	5.33E-05
Road 103	103	1800-1900	8.15E-03	3.67E-07	8.83E-06	7.28E-03	3.28E-07	7.90E-06	4.72E-02	2.13E-06	5.12E-05	4.02E-02	1.81E-06	4.36E-05
Road 103	103	1900-2000	7.04E-03	2.51E-07	6.03E-06	6.24E-03	2.22E-07	5.34E-06	4.61E-02	1.64E-06	3.95E-05	3.86E-02	1.37E-06	3.30E-05
Road 103	103	2000-2100	6.83E-03	1.89E-07	4.54E-06	6.06E-03	1.68E-07	4.03E-06	5.12E-02	1.42E-06	3.40E-05	4.31E-02	1.19E-06	2.87E-05
Road 103	103	2100-2200	5.98E-03	1.66E-07	3.98E-06	5.27E-03	1.46E-07	3.51E-06	5.00E-02	1.38E-06	3.33E-05	4.13E-02	1.14E-06	2.75E-05
Road 103	103	2200-2300	5.89E-03	1.58E-07	3.80E-06	5.21E-03	1.40E-07	3.36E-06	5.07E-02	1.36E-06	3.27E-05	4.19E-02	1.12E-06	2.70E-05
Road 103	103	2300-0000	6.57E-03	1.32E-07	3.17E-06	5.83E-03	1.17E-07	2.81E-06	5.23E-02	1.05E-06	2.53E-05	4.35E-02	8.75E-07	2.10E-05
Road 104	104	0000-0100	1.15E-02	1.02E-07	2.09E-06	1.02E-02	9.16E-08	1.86E-06	6.51E-02	5.82E-07	1.18E-05	5.52E-02	4.93E-07	1.00E-05
Road 104	104	0100-0200	1.24E-02	7.31E-08	1.49E-06	1.11E-02	6.54E-08	1.33E-06	6.74E-02	3.98E-07	8.10E-06	5.74E-02	3.39E-07	6.89E-06
Road 104	104	0200-0300	1.34E-02	5.85E-08	1.19E-06	1.19E-02	5.22E-08	1.06E-06	7.06E-02	3.09E-07	6.30E-06	5.97E-02	2.61E-07	5.32E-06
Road 104	104	0300-0400	1.43E-02	5.01E-08	1.02E-06	1.29E-02	4.53E-08	9.23E-07	7.30E-02	2.56E-07	5.22E-06	6.30E-02	2.21E-07	4.51E-06
Road 104	104	0400-0500	1.52E-02	5.93E-08	1.21E-06	1.37E-02	5.37E-08	1.09E-06	7.52E-02	2.94E-07	5.98E-06	6.53E-02	2.55E-07	5.20E-06
Road 104	104	0500-0600	1.60E-02	1.10E-07	2.25E-06	1.45E-02	9.98E-08	2.03E-06	7.73E-02	5.32E-07	1.08E-05	6.72E-02	4.62E-07	9.41E-06
Road 104	104	0600-0700	1.69E-02	2.53E-07	5.16E-06	1.53E-02	2.29E-07	4.66E-06	8.00E-02	1.20E-06	2.44E-05	6.92E-02	1.04E-06	2.11E-05
Road 104	104	0700-0800	1.77E-02	5.44E-07	1.11E-05	1.60E-02	4.91E-07	1.00E-05	8.14E-02	2.50E-06	5.09E-05	7.07E-02	2.17E-06	4.42E-05
Road 104	104	0800-0900	1.72E-02	6.18E-07	1.26E-05	1.56E-02	5.63E-07	1.15E-05	7.70E-02	2.77E-06	5.65E-05	6.79E-02	2.44E-06	4.98E-05
Road 104	104	0900-1000	1.98E-02	6.42E-07	1.31E-05	1.79E-02	5.82E-07	1.19E-05	8.53E-02	2.77E-06	5.64E-05	7.51E-02	2.44E-06	4.97E-05
Road 104	104	1000-1100	2.23E-02	6.55E-07	1.33E-05	2.02E-02	5.95E-07	1.21E-05	8.92E-02	2.62E-06	5.34E-05	7.93E-02	2.33E-06	4.75E-05
Road 104	104	1100-1200	2.18E-02	6.04E-07	1.23E-05	1.98E-02	5.48E-07	1.12E-05	8.73E-02	2.42E-06	5.04E-05	7.93E-02	2.20E-06	4.48E-05
Road 104	104	1200-1300	1.40E-02	3.18E-07	6.47E-06	1.26E-02	2.86E-07	5.83E-06	6.58E-02	1.50E-06	3.05E-05	5.69E-02	1.29E-06	2.63E-05
Road 104	104	1300-1400	1.40E-02	3.25E-07	6.62E-06	1.26E-02	2.93E-07	5.96E-06	6.74E-02	1.56E-06	3.18E-05	5.85E-02	1.35E-06	2.76E-05
Road 104	104	1400-1500	1.43E-02	3.54E-07	7.20E-06	1.29E-02	3.21E-07	6.53E-06	6.70E-02	1.66E-06	3.39E-05	5.88E-02	1.46E-06	2.97E-05
Road 104	104	1500-1600	1.34E-02	3.41E-07	6.94E-06	1.21E-02	3.07E-07	6.25E-06	6.70E-02	1.70E-06	3.46E-05	5.85E-02	1.48E-06	3.02E-05
Road 104	104	1600-1700	1.43E-02	3.88E-07	7.90E-06	1.29E-02	3.47E-07	7.07E-06	6.53E-02	1.77E-06	3.60E-05	5.62E-02	1.52E-06	3.10E-05
Road 104	104	1700-1800	1.01E-02	3.12E-07	6.35E-06	8.98E-03	2.78E-07	5.66E-06	5.71E-02	1.77E-06	3.60E-05	4.85E-02	1.50E-06	3.06E-05
Road 104	104	1800-1900	7.30E-03	2.50E-07	5.10E-06	6.50E-03	2.23E-07	4.54E-06	4.33E-02	1.48E-06	3.02E-05	3.66E-02	1.26E-06	2.56E-05
Road 104	104	1900-2000	6.40E-03	1.74E-07	3.55E-06	5.66E-03	1.54E-07	3.14E-06	4.40E-02	1.20E-06	2.44E-05	3.66E-02	9.98E-07	2.03E-05
Road 104	104	2000-2100	6.18E-03	1.31E-07	2.67E-06	5.49E-03	1.16E-07	2.36E-06	4.93E-02	1.04E-06	2.12E-05	4.14E-02	8.75E-07	1.78E-05
Road 104	104	2100-2200	5.29E-03	1.12E-07	2.28E-06	4.65E-03	9.83E-08	2.00E-06	4.80E-02	1.02E-06	2.07E-05	3.94E-02	8.33E-07	1.70E-05
Road 104	104	2200-2300	5.18E-03	1.06E-07	2.17E-06	4.57E-03	9.38E-08	1.91E-06	4.89E-02	1.00E-06	2.05E-05	4.02E-02	8.26E-07	1.68E-05
Road 104	104	2300-0000	5.80E-03	8.90E-08	1.81E-06	5.11E-03	7.87E-08	1.60E-06	5.04E-02	7.73E-07	1.57E-05	4.12E-02	6.32E-07	1.28E-05
Road 105	105	0000-0100	1.69E-02	1.86E-08	7.73E-07	1.52E-02	1.66E-08	6.93E-07	9.18E-02	1.01E-07	4.20E-06	7.84E-02	8.61E-08	3.59E-06
Road 105	105	0100-0200	1.83E-02	1.33E-08	5.52E-07	1.64E-02	1.19E-08	4.96E-07	9.58E-02	6.93E-08	2.89E-06	8.22E-02	5.95E-08	2.48E-06
Road 105	105	0200-0300	1.98E-02	1.06E-08	4.43E-07	1.78E-02	9.50E-09	3.96E-07	1.01E-01	5.41E-08	2.25E-06	8.62E-02	4.61E-08	1.92E-06
Road 105	105	0300-0400	2.13E-02	9.11E-09	3.80E-07	1.93E-02	8.24E-09	3.43E-07	1.05E-01	4.50E-08	1.88E-06	9.16E-02	3.92E-08	1.63E-06
Road 105	105	0400-0500	2.27E-02	1.08E-08	4.49E-07	2.06E-02	9.78E-09	4.07E-07	1.09E-01	5.19E-08	2.16E-06	9.55E-02	4.54E-08	1.89E-06
Road 105	105	0500-0600	2.40E-02	8.36E-07	1.74E-05	2.18E-02	7.57E-07	1.57E-05	1.13E-01	9.43E-06	3.93E-04	9.89E-02	8.26E-06	3.44E-04
Road 105	105	0600-0700	2.62E-02	4.76E-08	1.98E-06	2.37E-02	4.30E-08	1.79E-06	1.21E-01	2.18E-07	9.10E-06	1.05E-01	1.90E-07	7.94E-06
Road 105	105	0700-0800	3.03E-02	1.12E-07	4.68E-06	2.74E-02	1.02E-07	4.24E-06	1.34E-01	4.96E-07	2.07E-05	1.17E-01	4.35E-07	1.81E-05
Road 105	105	0800-0900	2.94E-02	1.28E-07	5.32E-06	2.68E-02	1.16E-07	4.85E-06	1.29E-01	5.55E-07	2.31E-05	1.13E-01	4.93E-07	2.05E-05
Road 105	105	0900-1000	3.47E-02	1.34E-07	5.58E-06	3.15E-02	1.22E-07	5.06E-06	1.48E-01	5.71E-07	2.38E-05	1.31E-01	5.06E-07	2.11E-05
Road 105	105	1000-1100	3.94E-02	1.37E-07	5.70E-06	3.58E-02	1.24E-07	5.18E-06	1.57E-01	5.46E-07	2.28E-05	1.41E-01	4.88E-07	2.04E-05
Road 105	105	1100-1200	3.71E-02	1.20E-07	5.07E-06	3.38E-02	1.09E-07	4.61E-06	1.52E-01	4.91E-07	2.08E-05	1.36E-01	4.39E-07	1.86E-05
Road 105	105	1200-1300	8.26E-02	4.04E-07	1.68E-05	7.48E-02	3.66E-07	1.53E-05	2.85E-01	1.40E-06	5.82E-05	2.58E-01	1.26E-06	5.27E-05
Road 105	105	1300-1400	8.19E-02	4.51E-07	1.88E-05	7.42E-02	4.08E-07	1.70E-05	2.96E-01	1.63E-06	6.79E-05	2.68E-01	1.48E-06	6.15E-05
Road 105	105	1400-1500	8.37E-02	4.57E-07	1.90E-05	7.63E-02	4.16E-07	1.73E-05	2.94E-01	1.60E-06	6.68E-05	2.68E-01	1.46E-06	6.09E-05
Road 105	105	1500-1600	7.55E-02	4.30E-07	1.79E-05	6.85E-02	3.91E-07	1.63E-05	2.93E-01	1.67E-06	6.95E-05	2.65E-01	1.51E-06	6.30E-05
Road 105	105	1600-1700	8.10E-02	4.28E-07	1.78E-05	7.30E-02	3.85E-07	1.61E-05	2.92E-01	1.54E-06	6.42E-05	2.63E-01	1.39E-06	5.78E-05
Road 105	105	1700-1800	6.77E-02	3.26E-07	1.36E-05	6.10E-02	2.93E-07	1.22E-05	2.74E-01	1.32E-06	5.50E-05	2.47E-01	1.19E-06	4.95E-05
Road 105	105	1800-1900	5.54E-02	1.88E-07	7.83E-06	4.99E-02	1.69E-07	7.06E-06	2.33E-01	7.92E-07	3.30E-05	2.10E-01	7.13E-07	2.97E-05
Road 105	105	1900-2000	5.41E-02	1.22E-07	5.06E-06	4.86E-02	1.09E-07	4.55E-06	2.19E-01	4.93E-07	2.06E-05	1.97E-01	4.42E-07	1.84E-05
Road 105	105	2000-2100	5.11E-02	9.11E-08	3.80E-06	4.60E-02	8.23E-08	3.43E-06	2.15E-01	3.84E-07	1.60E-05	1.93E-01	3.46E-07	1.44E-05
Road 105	105	2100-2200	5.18E-02	9.50E-08	3.96E-06	4.65E-02	8.53E-08	3.55E-06	2.16E-01	3.95E-07	1.65E-05	1.93E-01	3.54E-07	1.47E-05
Road 105	105	2200-2300	5.68E-02	9.15E-08	3.81E-06	5.13E-02	8.27E-08	3.45E-06	2.13E-01	3.43E-07	1.43E-05	1.91E-01	3.08E-07	1.28E-05
Road 105	105	2300-0000	5.60E-02	7.36E-08	3.07E-06	5.07E-02	6.66E-08	2.77E-06	2.10E-01	2.76E-07	1.15E-05	1.89E-01	2.48E-07	1.03E-05
Road 106	106	0000-0100	1.62E-02	6.76E-08	2.13E-06	1.45E-02	6.05E-08	1.91E-06	9.14E-02	3.81E-07	1.20E-05	7.78E-02	3.24E-07	1.02E-05
Road 106	106	0100-0200	1.71E-02	4.68E-08	1.48E-06	1.54E-02	4.20E-08	1.32E-06	9.33E-02	2.55E-07	8.05E-06	7.96E-02	2.18E-07	6.87E-06
Road 106	106	0200-0300	1.81E-02	3.24E-08	1.02E-06	1.63E-02	2.90E-08	9.18E-07	9.53E-02	1.94E-07	6.12E-06	8.15E-02	1.64E-07	5.18E-06
Road 106	106	0300-0400	1.94E-02	3.12E-08	9.86E-07	1.76E-02	2.82E-08	8.91E-07	1.00E-01	1.61E-07	5.08E-06	8.67E-02	1.39E-07	4.40E-06
Road 106	106	0400-0500	2.08E-02	3.70E-08	1.17E-06	1.88E-02	3.35E-08	1.06E-06	1.04E-01	1.85E-07	5.84E-06	9.05E-02	1.61E-07	5.08E-06
Road 106	106	0500-0600	2.28E-02	7.10E-08	2.24E-06	2.06E-02	6.42E-08	2.03E-06	1.10E-01	3.43E-07	1.08E-05	9.61E-02	2.99E-07	9.44E-06
Road 106	106	0600-0700	2.86E-02	1.93E-07	6.08E-06	2.58E-02	1.74E-07	5.49E-06	1.31E-01	8.83E-07	2.79E-05	1.14E-01	7.68E-07	2.43E-05
Road 106	106	0700-0800	3.61E-02	4.96E-07	1.57E-05	3.27E-02	4.49E-07	1.42E-05	1.57E-01	2.15E-06	6.79E-05	1.37E-01	1.89E-06	5.95E-05
Road 106	106	0800-0900	3.80E-02	6.09E-07	1.92E-05	3.46E-02	5.55E-07	1.75E-05	1.60E-01	2.57E-06	8.12E-05	1.42E-01	2.29E-06	7.22E-05
Road 106	106	0900-1000	4.35E-02	6.08E-07	1.92E-05	3.94E-02	5.51E-07	1.74E-05	1.82E-01	2.54E-06	8.02E-05	1.61E-01	2.25E-06	7.11E-05
Road 106	106	1000-1100	4.78E-02	5.94E-07	1.88E-05	4.34E-02	5.40E-07	1.71E-05	1.88E-01	2.43E-06	7.40E-05	1.68E-01	2.09E-06	6.61E-05
Road 106	106	1100-1200	4.46E-02	5.24E-07	1.65E-05	4.05E-02	4.76E-07	1.50E-05	1.81E-01	2.13E-06	6.71E-05	1.61E-01	1.90E-06	5.99E-05
Road 106	106	1200-1300	6.89E-02	1.21E-06	3.81E-05	6.23E-02	1.09E-06	3.44E-05	2.50E-01	4.38E-06	1.38E-04	2.24E-01	3.93E-06	1.24E-04
Road 106	106	1300-1400	7.21E-02	1.34E-06	4.22E-05	6.53E-02	1.21E-06	3.82E-05	2.72E-01	5.03E-06	1.59E-04	2.44E-01	4.51E-06	1.43E-04
Road 106	106	1400-1500	7.18E-02	1.38E-06	4.36E-05	6.53E-02	1.26E-06	3.97E-05	2.63E-01	5.07E-06	1.60E-04	2.38E-01	4.57E-06	1.44E-04
Road 106	106	1500-1600	6.90E-02	1.37E-06	4.32E-05	6.26E-02	1.24E-06	3.92E-05	2.76E-01	5.47E-06	1.73E-04	2.48E-01	4.92E-06	1.55E-04
Road 106	106	1600-1700	7.06E-02	1.42E-06	4.49E-05	6.36E-02	1.28E-06	4.04E-05	2.61E-01	5.25E-06	1.66E-04	2.33E-01	4.68E-06	1.48E-04
Road 106	106	1700-1800	5.25E-02	1.12E-06	3.54E-05	4.72E-02	1.01E-06	3.18E-05	2.23E-01	4.77E-06	1.51E-04	1.98E-01	4.23E-06	1.34E-04
Road 106	106	1800-1900	3.56E-02	7.20E-07	2.27E-05	3.19E-02	6.56E-07	2.14E-05	1.57E-01	3.32E-06	1.05E-04	1.39E-01	2.93E-06	9.24E-05
Road 106	106	1900-2000	2.66E-02	4.30E-07	1.36E-05	2.38E-02	3.85E-07	1.22E-05	1.24E-01	2.01E-06	6.35E-05	1.08E-01	1.75E-06	5.53E-05
Road 106	106	2000-2100	2.41E-02	3.04E-07	9.59E-06	2.17E-02	2.73E-07	8.62E-06	1.24E-01	1.56E-06	4.92E-05	1.08E-01	1.36E-06	4.30E-05
Road 106	106	2100-2200	2.31E-02	2.92E-07	9.23E-06	2.06E-02	2.61E-07	8.24E-06	1.22E-01	1.55E-06	4.90E-05	1.06E-01	1.34E-06	4.22E-05
Road 106	106	2200-2300	2.32E-02	2.80E-07	8.84E-06	2.08E-02	2.51E-07	7.94E-06	1.18E-01	1.43E-06	4.51E-05	1.02E-01	1.23E-06	3.89E-05
Road 106	106	2300-0000	2.36E-02	2.17E-07	6.85E-06	2.13E-02	1.95E-07	6.16E-06	1.18E-01	1.08E-06	3.41E-05	1.02E-01	9.36E-07	2.95E-05

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 1	1	0000-0100	4.44E-03	6.46E-08	1.30E-06	3.38E-02	4.91E-07	9.87E-03	1.09E-03	1.59E-08	3.20E-04	1.19E-03	1.73E-08	3.48E-04
Road 1	1	0100-0200	4.94E-03	4.68E-08	9.39E-04	3.51E-02	3.33E-07	6.68E-03	1.23E-03	1.16E-08	2.33E-04	1.33E-03	1.26E-08	2.54E-04
Road 1	1	0200-0300	5.47E-03	3.79E-08	7.61E-04	3.68E-02	2.55E-07	5.12E-03	1.36E-03	9.43E-09	1.90E-04	1.48E-03	1.03E-08	2.06E-04
Road 1	1	0300-0400	5.98E-03	3.27E-08	6.58E-04	3.81E-02	2.08E-07	4.19E-03	1.50E-03	8.20E-09	1.65E-04	1.63E-03	8.92E-09	1.79E-04
Road 1	1	0400-0500	6.49E-03	3.86E-08	7.75E-04	3.94E-02	2.36E-07	4.75E-03	1.62E-03	9.71E-09	1.95E-04	1.76E-03	1.06E-08	2.12E-04
Road 1	1	0500-0600	6.79E-03	7.05E-08	1.42E-03	4.04E-02	4.19E-07	8.43E-03	1.72E-03	1.79E-08	3.59E-04	1.87E-03	1.95E-08	3.91E-04
Road 1	1	0600-0700	7.21E-03	1.60E-07	3.22E-03	4.18E-02	9.28E-07	1.86E-02	1.84E-03	4.08E-08	8.19E-04	2.00E-03	4.44E-08	8.91E-04
Road 1	1	0700-0800	7.73E-03	3.47E-07	6.98E-03	4.28E-02	1.92E-06	3.87E-02	1.98E-03	8.89E-08	1.79E-03	2.15E-03	9.67E-08	1.94E-03
Road 1	1	0800-0900	7.45E-03	3.89E-07	7.83E-03	4.23E-02	2.20E-06	4.05E-02	1.95E-03	1.02E-07	2.05E-03	2.12E-03	1.10E-07	2.21E-03
Road 1	1	0900-1000	8.50E-03	3.63E-07	7.30E-03	4.25E-02	1.82E-06	3.65E-02	2.31E-03	9.89E-08	1.99E-03	2.52E-03	1.08E-07	2.16E-03
Road 1	1	1000-1100	9.68E-03	3.58E-07	7.19E-03	4.47E-02	1.65E-06	3.32E-02	2.64E-03	9.76E-08	1.96E-03	2.87E-03	1.06E-07	2.13E-03
Road 1	1	1100-1200	9.21E-03	3.22E-07	6.48E-03	4.45E-02	1.56E-06	3.13E-02	2.49E-03	8.73E-08	1.75E-03	2.71E-03	9.49E-08	1.91E-03
Road 1	1	1200-1300	1.25E-02	6.09E-07	1.22E-02	5.42E-02	2.53E-06	5.08E-02	3.37E-03	1.64E-07	3.29E-03	3.68E-03	1.78E-07	3.58E-03
Road 1	1	1300-1400	1.26E-02	6.31E-07	1.27E-02	5.47E-02	2.72E-06	5.47E-02	3.48E-03	1.73E-07	3.49E-03	3.78E-03	1.89E-07	3.79E-03
Road 1	1	1400-1500	1.27E-02	6.72E-07	1.35E-02	5.39E-02	2.85E-06	5.73E-02	3.45E-03	1.83E-07	3.67E-03	3.76E-03	1.99E-07	4.00E-03
Road 1	1	1500-1600	1.19E-02	6.44E-07	1.29E-02	5.46E-02	2.96E-06	5.95E-02	3.29E-03	1.78E-07	3.58E-03	3.59E-03	1.94E-07	3.91E-03
Road 1	1	1600-1700	1.23E-02	7.05E-07	1.42E-02	5.24E-02	2.99E-06	6.01E-02	3.32E-03	1.89E-07	3.80E-03	3.60E-03	2.06E-07	4.13E-03
Road 1	1	1700-1800	8.86E-03	5.65E-07	1.14E-02	4.56E-02	2.91E-06	5.84E-02	2.41E-03	1.54E-07	3.09E-03	2.62E-03	1.68E-07	3.37E-03
Road 1	1	1800-1900	6.29E-03	4.30E-07	8.65E-03	3.39E-02	2.32E-06	4.66E-02	1.70E-03	1.16E-07	2.33E-03	1.84E-03	1.26E-07	2.53E-03
Road 1	1	1900-2000	5.33E-03	2.88E-07	5.79E-03	3.17E-02	1.71E-06	3.45E-02	1.41E-03	7.61E-08	1.53E-03	1.53E-03	8.27E-08	1.66E-03
Road 1	1	2000-2100	5.13E-03	2.16E-07	4.34E-03	3.44E-02	1.45E-06	2.91E-02	1.36E-03	5.71E-08	1.15E-03	1.47E-03	6.20E-08	1.25E-03
Road 1	1	2100-2200	4.61E-03	1.94E-07	3.89E-03	3.38E-02	1.42E-06	2.85E-02	1.23E-03	5.15E-08	1.03E-03	1.33E-03	5.59E-08	1.12E-03
Road 1	1	2200-2300	4.57E-03	1.88E-07	3.77E-03	3.37E-02	1.38E-06	2.76E-02	1.22E-03	5.01E-08	1.00E-03	1.32E-03	5.43E-08	1.09E-03
Road 1	1	2300-0000	5.10E-03	1.56E-07	3.13E-03	3.52E-02	1.07E-06	2.16E-02	1.31E-03	4.00E-08	8.04E-04	1.43E-03	4.35E-08	8.74E-04
Road 2	2	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	1.63E-03	2.21E-08	4.09E-04	1.77E-03	2.41E-08	4.45E-04
Road 2	2	0100-0200	6.83E-03	6.07E-08	1.12E-03	3.98E-02	3.54E-07	6.55E-03	1.80E-03	1.60E-08	2.96E-04	1.96E-03	1.74E-08	3.22E-04
Road 2	2	0200-0300	7.44E-03	5.27E-08	1.05E-03	4.15E-02	3.08E-07	6.12E-03	1.97E-03	1.39E-08	2.76E-04	2.13E-03	1.51E-08	3.00E-04
Road 2	2	0300-0400	8.10E-03	4.22E-08	7.81E-04	4.33E-02	2.26E-07	4.17E-03	2.14E-03	1.12E-08	2.06E-04	2.33E-03	1.21E-08	2.25E-04
Road 2	2	0400-0500	8.66E-03	4.98E-08	9.20E-04	4.50E-02	2.59E-07	4.78E-03	2.29E-03	1.32E-08	2.44E-04	2.50E-03	1.44E-08	2.65E-04
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	2.43E-03	2.43E-08	4.50E-04	2.64E-03	2.65E-08	4.90E-04
Road 2	2	0600-0700	9.62E-03	2.08E-07	3.84E-03	4.78E-02	1.03E-06	1.91E-02	2.57E-03	5.55E-08	1.03E-03	2.80E-03	6.04E-08	1.12E-03
Road 2	2	0700-0800	1.02E-02	4.56E-07	8.31E-03	4.92E-02	2.16E-06	4.00E-02	2.74E-03	1.20E-07	2.23E-03	2.98E-03	1.31E-07	2.42E-03
Road 2	2	0800-0900	9.94E-03	5.08E-07	9.38E-03	4.62E-02	2.36E-06	4.36E-02	2.71E-03	1.38E-07	2.56E-03	2.94E-03	1.50E-07	2.78E-03
Road 2	2	0900-1000	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	3.26E-03	1.43E-07	2.65E-03	3.55E-03	1.56E-07	2.89E-03
Road 2	2	1000-1100	1.32E-02	5.13E-07	9.48E-03	5.42E-02	2.11E-06	3.90E-02	3.71E-03	1.44E-07	2.67E-03	4.03E-03	1.57E-07	2.90E-03
Road 2	2	1100-1200	1.27E-02	4.69E-07	8.67E-03	5.40E-02	1.99E-06	3.68E-02	3.57E-03	1.31E-07	2.43E-03	3.88E-03	1.43E-07	2.64E-03
Road 2	2	1200-1300	1.32E-02	6.31E-07	1.17E-02	5.61E-02	2.65E-06	4.90E-02	3.72E-03	1.75E-07	3.24E-03	4.04E-03	1.91E-07	3.53E-03
Road 2	2	1300-1400	1.34E-02	6.31E-07	1.17E-02	5.61E-02	2.65E-06	4.90E-02	3.72E-03	1.75E-07	3.24E-03	4.04E-03	1.91E-07	3.53E-03
Road 2	2	1400-1500	1.34E-02	6.70E-07	1.24E-02	5.53E-02	2.77E-06	5.11E-02	3.68E-03	1.84E-07	3.39E-03	4.02E-03	2.00E-07	3.70E-03
Road 2	2	1500-1600	1.25E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 1B	18	0600-0700	9.53E-03	1.17E-07	1.67E-03	8.76E-03	2.44E-03	3.06E-03	4.27E-04	2.66E-03	3.26E-04	4.65E-04		
Road 1B	18	0700-0800	1.04E-02	2.60E-07	3.70E-03	5.24E-02	1.31E-06	1.87E-02	2.56E-03	6.67E-08	9.51E-04	2.89E-03	7.24E-08	1.03E-03
Road 1B	18	0800-0900	1.02E-02	2.96E-07	4.22E-03	4.92E-02	1.43E-06	2.04E-02	2.63E-03	7.63E-08	1.09E-03	2.85E-03	8.29E-08	1.18E-03
Road 1B	18	0900-1000	1.17E-02	2.88E-07	4.11E-03	5.50E-02	1.36E-06	1.94E-02	3.14E-03	7.75E-08	1.11E-03	3.40E-03	8.41E-08	1.20E-03
Road 1B	18	1000-1100	1.13E-02	2.90E-07	4.16E-03	5.46E-02	1.38E-06	1.82E-02	3.57E-03	7.75E-08	1.11E-03	3.87E-03	8.40E-08	1.20E-03
Road 1B	18	1100-1200	1.29E-02	2.65E-07	3.78E-03	5.82E-02	1.20E-06	1.71E-02	3.42E-03	7.03E-08	1.00E-03	3.72E-03	7.65E-08	1.09E-03
Road 1B	18	1200-1300	1.60E-02	3.58E-07	5.11E-03	6.52E-02	1.46E-06	2.08E-02	4.27E-03	9.54E-08	1.36E-03	4.63E-03	1.03E-07	1.47E-03
Road 1B	18	1300-1400	1.62E-02	3.77E-07	5.38E-03	6.82E-02	1.59E-06	2.27E-02	4.37E-03	1.02E-07	1.45E-03	4.74E-03	1.10E-07	1.57E-03
Road 1B	18	1400-1500	1.61E-02	3.94E-07	5.62E-03	6.78E-02	1.66E-06	2.37E-02	4.32E-03	1.06E-07	1.51E-03	4.68E-03	1.14E-07	1.63E-03
Road 1B	18	1500-1600	1.49E-02	3.75E-07	5.35E-03	6.69E-02	1.68E-06	2.40E-02	4.11E-03	1.03E-07	1.47E-03	4.45E-03	1.12E-07	1.59E-03
Road 1B	18	1600-1700	1.57E-02	4.06E-07	5.79E-03	6.44E-02	1.67E-06	2.38E-02	4.12E-03	1.07E-07	1.52E-03	4.47E-03	1.16E-07	1.65E-03
Road 1B	18	1700-1800	1.16E-02	3.28E-07	4.68E-03	5.64E-02	1.59E-06	2.27E-02	3.10E-03	8.76E-08	1.25E-03	3.37E-03	9.52E-08	1.36E-03
Road 1B	18	1800-1900	8.32E-03	2.42E-07	3.45E-03	4.12E-02	1.19E-06	1.72E-02	2.21E-03	6.41E-08	9.14E-04	2.40E-03	6.96E-08	9.93E-04
Road 1B	18	1900-2000	6.83E-03	1.54E-07	2.20E-03	3.54E-02	8.61E-07	1.23E-02	1.82E-03	4.12E-08	5.87E-04	2.06E-03	4.48E-08	6.38E-04
Road 1B	18	2000-2100	6.68E-03	1.18E-07	1.68E-03	4.12E-02	7.24E-07	1.03E-02	1.76E-03	3.10E-08	4.41E-04	1.91E-03	3.36E-08	4.79E-04
Road 1B	18	2100-2200	6.26E-03	1.10E-07	1.57E-03	4.07E-02	7.16E-07	1.02E-02	1.66E-03	2.91E-08	4.15E-04	1.80E-03	3.15E-08	4.50E-04
Road 1B	18	2200-2300	6.24E-03	1.06E-07	1.51E-03	4.06E-02	6.78E-07	9.67E-03	1.59E-03	2.69E-08	3.83E-04	1.72E-03	2.92E-08	4.16E-04
Road 1B	18	2300-0000	6.90E-03	8.83E-08	1.26E-03	4.49E-02	5.31E-07	7.58E-03	1.73E-03	2.27E-08	3.24E-04	1.96E-03	2.47E-08	3.53E-04
Road 1B	19	0000-0100	8.36E-03	6.92E-08	7.27E-04	4.62E-02	3.82E-07	4.02E-03	2.17E-03	1.80E-08	1.89E-04	2.37E-03	1.96E-08	2.06E-04
Road 1B	19	0100-0200	9.21E-03	5.04E-08	5.30E-04	4.81E-02	2.63E-07	2.77E-03	2.41E-03	1.32E-08	1.39E-04	2.61E-03	1.43E-08	1.50E-04
Road 1B	19	0200-0300	1.01E-02	4.12E-08	4.33E-04	5.06E-02	2.06E-07	2.16E-03	2.64E-03	1.07E-08	1.13E-04	2.87E-03	1.17E-08	1.23E-04
Road 1B	19	0300-0400	1.10E-02	3.59E-08	3.78E-04	5.30E-02	1.73E-07	1.82E-03	2.87E-03	9.36E-09	9.84E-05	3.11E-03	1.02E-08	1.07E-04
Road 1B	19	0400-0500	1.08E-02	3.13E-08	3.29E-04	5.21E-02	1.51E-07	1.58E-03	2.82E-03	8.16E-09	8.58E-05	3.06E-03	8.88E-09	9.34E-05
Road 1B	19	0500-0600	1.18E-02	7.42E-08	7.80E-04	5.60E-02	3.53E-07	3.71E-03	3.10E-03	1.95E-08	2.05E-04	3.37E-03	2.12E-08	2.23E-04
Road 1B	19	0600-0700	1.22E-02	1.66E-07	1.75E-03	5.84E-02	7.94E-07	8.34E-03	3.22E-03	4.37E-08	4.60E-04	3.50E-03	4.75E-08	4.99E-04
Road 1B	19	0700-0800	1.34E-02	3.74E-07	3.94E-03	6.20E-02	1.73E-06	1.82E-02	3.47E-03	9.70E-08	1.02E-03	3.77E-03	1.05E-07	1.11E-03
Road 1B	19	0800-0900	1.33E-02	3.66E-07	3.85E-03	6.15E-02	1.69E-06	1.78E-02	3.44E-03	9.48E-08	9.98E-04	3.74E-03	1.03E-07	1.08E-03
Road 1B	19	0900-1000	1.51E-02	4.38E-07	4.61E-03	6.70E-02	1.94E-06	2.04E-02	4.07E-03	1.18E-07	1.24E-03	4.42E-03	1.28E-07	1.35E-03
Road 1B	19	1000-1100	1.72E-02	4.48E-07	4.71E-03	7.13E-02	1.86E-06	1.95E-02	4.58E-03	1.19E-07	1.25E-03	4.97E-03	1.30E-07	1.36E-03
Road 1B	19	1100-1200	1.64E-02	4.03E-07	4.24E-03	6.97E-02	1.72E-06	1.80E-02	4.43E-03	1.09E-07	1.15E-03	4.80E-03	1.18E-07	1.24E-03
Road 1B	19	1200-1300	2.06E-02	4.92E-07	5.17E-03	7.94E-02	1.89E-06	1.99E-02	5.45E-03	1.30E-07	1.37E-03	5.92E-03	1.41E-07	1.48E-03
Road 1B	19	1300-1400	2.06E-02	5.22E-07	5.48E-03	8.24E-02	2.08E-06	2.18E-02	5.51E-03	1.39E-07	1.46E-03	5.99E-03	1.51E-07	1.58E-03
Road 1B	19	1400-1500	2.05E-02	5.38E-07	5.66E-03	8.04E-02	2.11E-06	2.21E-02	5.48E-03	1.43E-07	1.51E-03	5.95E-03	1.56E-07	1.64E-03
Road 1B	19	1500-1600	1.89E-02	5.10E-07	5.36E-03	8.09E-02	2.19E-06	2.30E-02	5.17E-03	1.40E-07	1.47E-03	5.61E-03	1.52E-07	1.59E-03
Road 1B	19	1600-1700	1.94E-02	5.26E-07	5.53E-03	7.69E-02	2.09E-06	2.19E-02	5.17E-03	1.40E-07	1.48E-03	5.62E-03	1.53E-07	1.60E-03
Road 1B	19	1700-1800	1.49E-02	4.22E-07	4.44E-03	6.87E-02	1.95E-06	2.04E-02	4.06E-03	1.15E-07	1.21E-03	4.41E-03	1.25E-07	1.31E-03
Road 1B	19	1800-1900	1.07E-02	3.03E-07	3.18E-03	4.93E-02	1.40E-06	1.46E-02	3.02E-03	8.54E-08	8.97E-04	3.16E-03	8.97E-08	9.42E-04
Road 1B	19	1900-2000	9.19E-03	1.89E-07	3.98E-03	4.68E-02	9.60E-07	1.01E-02	2.50E-03	5.13E-08	5.39E-04	2.72E-03	5.58E-08	5.87E-04
Road 1B	19	2000-2100	9.01E-03	1.45E-07	1.52E-03	4.94E-02	7.95E-07	8.35E-03	2.46E-03	3.95E-08	4.16E-04	2.67E-03	4.29E-08	4.51E-04
Road 1B	19	2100-2200	8.75E-03	1.41E-07	1.48E-03	4.93E-02	7.94E-07	8.35E-03	2.40E-03	3.87E-08	4.06E-04	2.60E-03	4.19E-08	4.41E-04
Road 1B	19	2200-2300	8.49E-03	1.37E-07	1.44E-03	4.78E-02	7.71E-07	8.11E-03	2.33E-03	3.75E-08	3.94E-04	2.52E-03	4.06E-08	4.27E-04
Road 1B	19	2300-0000	9.67E-03	1.13E-07	1.19E-03	4.97E-02	5.82E-07	6.12E-03	2.58E-03	3.02E-08	3.17E-04	2.81E-03	3.28E-08	3.45E-04
Road 2D	20	0000-0100	3.44E-02	3.49E-08	2.35E-04	1.32E-01	1.34E-07	9.02E-04	6.78E-03	6.88E-09	4.63E-05	7.37E-03	7.47E-09	5.03E-05
Road 2D	20	0100-0200	3.55E-02	2.49E-08	1.67E-04	1.36E-01	9.49E-08	6.39E-04	7.01E-03	4.91E-09	3.30E-05	7.61E-03	5.33E-09	3.59E-05
Road 2D	20	0200-0300	3.66E-02	1.98E-08	1.33E-04	1.39E-01	7.53E-08	5.07E-04	7.21E-03	3.91E-09	2.63E-05	7.83E-03	4.24E-09	2.86E-05
Road 2D	20	0300-0400	3.77E-02	1.83E-08	1.23E-04	1.43E-01	6.97E-08	4.69E-04	7.42E-03	3.62E-09	2.43E-05	8.06E-03	3.92E-09	2.64E-05
Road 2D	20	0400-0500	3.85E-02	2.01E-08	1.35E-04	1.45E-01	7.58E-08	5.10E-04	7.56E-03	3.95E-09	2.66E-05	8.21E-03	4.29E-09	2.89E-05
Road 2D	20	0500-0600	3.93E-02	3.74E-08	2.52E-04	1.47E-01	1.40E-07	9.44E-04	7.71E-03	7.35E-09	4.95E-05	8.38E-03	7.98E-09	5.37E-05
Road 2D	20	0600-0700	4.28E-02	9.17E-08	6.17E-04	1.59E-01	3.41E-07	2.30E-03	8.03E-03	1.72E-08	1.16E-04	8.72E-03	1.87E-08	1.26E-04
Road 2D	20	0700-0800	4.61E-02	2.18E-07	1.47E-03	1.72E-01	8.02E-07	5.40E-03	8.47E-03	3.85E-08	2.59E-04	9.20E-03	4.18E-08	2.81E-04
Road 2D	20	0800-0900	4.79E-02	2.59E-07	1.74E-03	1.81E-01	9.81E-07	6.60E-03	8.38E-03	4.53E-08	3.05E-04	9.10E-03	4.92E-08	3.31E-04
Road 2D	20	0900-1000	5.20E-02	3.00E-07	2.02E-03	1.98E-01	1.14E-06	7.67E-03	8.95E-03	5.17E-08	3.48E-04	9.75E-03	5.63E-08	3.79E-04
Road 2D	20	1000-1100	5.44E-02	3.04E-07	2.05E-03	1.96E-01	1.09E-06	7.36E-03	9.42E-03	5.26E-08	3.54E-04	1.02E-02	5.71E-08	3.84E-04
Road 2D	20	1100-1200	5.41E-02	2.83E-07	1.91E-03	1.96E-01	1.03E-06	6.91E-03	9.34E-03	4.89E-08	3.29E-04	1.01E-02	5.31E-08	3.57E-04
Road 2D	20	1200-1300	5.63E-02	3.65E-07	2.46E-03	2.04E-01	1.32E-06	8.91E-03	9.72E-03	6.30E-08	4.24E-04	1.05E-02	6.84E-08	4.61E-04
Road 2D	20	1300-1400	5.64E-02	3.18E-07	2.14E-03	2.04E-01	1.15E-06	7.75E-03	9.48E-03	5.34E-08	3.60E-04	1.03E-02	5.82E-08	3.91E-04
Road 2D	20	1400-1500	5.74E-02	3.24E-07	2.18E-03	2.02E-01	1.14E-06	7.67E-03	9.59E-03	5.41E-08	3.64E-04	1.04E-02	5.89E-08	3.96E-04
Road 2D	20	1500-1600	5.15E-02	3.02E-07	2.03E-03	2.00E-01	1.18E-06	7.92E-03	8.94E-03	5.25E-08	3.53E-04	9.73E-03	5.71E-08	3.85E-04
Road 2D	20	1600-1700	5.17E-02	3.27E-07	2.20E-03	1.91E-01	1.21E-06	8.14E-03	7.10E-03	4.49E-08	3.02E-04	8.66E-03	5.47E-08	3.68E-04
Road 2D	20	1700-1800	4.41E-02	2.30E-07	1.55E-03	1.81E-01	9.41E-07	6.33E-03	7.94E-03	4.14E-08	2.78E-04	8.61E-03	4.49E-08	3.02E-04
Road 2D	20	1800-1900	3.47E-02	1.39E-07	9.34E-04	1.48E-01	5.90E-07	3.97E-03	6.59E-03	2.64E-08	1.77E-04	7.15E-03	2.86E-08	1.93E-04
Road 2D	20	1900-2000	3.14E-02	8.70E-08	5.86E-04	1.36E-01	3.61E-07	2.43E-03	6.13E-03	1.70E-08	1.14E-04	6.65E-03	1.84E-08	1.24E-04
Road 2D	20	2000-2100	3.07E-02	6.72E-08	4.52E-04	1.33E-01	2.91E-07	1.96E-03	6.04E-03	1.32E-08	8.90E-05	6.56E-03	1.44E-08	9.66E-05
Road 2D	20	2100-2200	3.11E-02	6.23E-08	4.07E-04	1.35E-01	2.70E-07	1.76E-03	6.09E-03	1.22E-08	8.00E-05	6.61E-03	1.33E-08	8.69E-05
Road 2D	20	2200-2300	3.23E-02	6.51E-08	4.38E-04	1.40E-01	2.82E-07	1.90E-03	6.32E-03	1.28E-08	8.42E-05	6.76E-03	1.36E-08	9.15E-05
Road 2D	20	2300-0000	3.37E-02	5.40E-08	3.63E-04	1.30E-01	2.09E-07	1.40E-03	6.51E-03	1.04E-08	7.02E-05	7.07E-03	1.13E-08	7.63E-05
Road 2I	21	0000-0100	9.54E-03	6.26E-08	3.02E-04	4.98E-02	3.27E-07	1.58E-03	2.51E-03	1.65E-08	7.97E-05	2.74E-03	1.80E-08	8.67E-05
Road 2I	21	0100-0200	1.04E-02	5.45E-08	2.18E-04	5.52E-02	2.89E-07	1.15E-03	2.76E-03	1.44E-08	5.78E-05	3.00E-03	1.57E-08	6.30E-05
Road 2I	21	0200-0300	1.13E-02	3.69E-08	1.48E-04	5.41E-02	1.76E-07	7.49E-04	3.00E-03	9.75E-09	3.91E-05	3.26E-03	1.06E-08	5.11E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 21	21	0300-0400	1.22E-02	3.21E-08	1.55E-04	5.68E-02	1.49E-07	7.18E-04	3.23E-03	8.47E-09	4.08E-05	3.51E-03	9.19E-09	4.43E-05
Road 21	21	0400-0500	1.28E-02	3.74E-08	1.80E-04	5.86E-02	1.71E-07	8.24E-04	3.40E-03	9.91E-09	4.78E-05	3.69E-03	1.08E-08	5.19E-05
Road 21	21	0500-0600	1.31E-02	6.71E-08	3.24E-04	5.99E-02	3.06E-07	1.48E-03	3.50E-03	1.79E-08	8.62E-05	3.80E-03	1.94E-08	9.36E-05
Road 21	21	0600-0700	1.37E-02	1.51E-07	7.29E-04	6.28E-02	6.95E-07	3.35E-03	3.64E-03	4.02E-08	1.94E-04	3.95E-03	4.37E-08	2.11E-04
Road 21	21	0700-0800	1.53E-02	3.48E-07	1.68E-03	7.03E-02	1.59E-06	7.47E-03	3.91E-03	8.93E-08	4.31E-04	4.26E-03	9.71E-08	4.69E-04
Road 21	21	0800-0900	1.60E-02	4.26E-07	2.05E-03	6.93E-02	1.85E-06	8.91E-03	3.93E-03	1.05E-07	5.06E-04	4.28E-03	1.14E-07	5.50E-04
Road 21	21	0900-1000	1.80E-02	4.38E-07	2.11E-03	7.71E-02	1.87E-06	9.04E-03	4.60E-03	1.12E-07	5.39E-04	5.00E-03	1.22E-07	5.86E-04
Road 21	21	1000-1100	1.94E-02	4.27E-07	2.06E-03	7.84E-02	1.73E-06	8.35E-03	5.08E-03	1.12E-07	5.41E-04	5.53E-03	1.22E-07	5.88E-04
Road 21	21	1100-1200	2.16E-02	3.89E-07	1.87E-03	8.32E-02	1.50E-06	7.66E-03	5.66E-03	1.02E-07	4.93E-04	6.15E-03	1.11E-07	5.36E-04
Road 21	21	1200-1300	2.25E-02	4.54E-07	2.19E-03	8.54E-02	1.72E-06	8.31E-03	5.84E-03	1.18E-07	5.68E-04	6.36E-03	1.28E-07	6.18E-04
Road 21	21	1300-1400	2.24E-02	4.83E-07	2.33E-03	8.86E-02	1.92E-06	9.24E-03	5.88E-03	1.27E-07	6.13E-04	6.40E-03	1.38E-07	6.67E-04
Road 21	21	1400-1500	2.30E-02	5.11E-07	2.47E-03	8.85E-02	1.97E-06	9.48E-03	5.89E-03	1.31E-07	6.31E-04	6.40E-03	1.42E-07	6.86E-04
Road 21	21	1500-1600	2.21E-02	4.96E-07	2.39E-03	9.09E-02	2.09E-06	1.01E-02	5.58E-03	1.28E-07	6.18E-04	6.07E-03	1.39E-07	6.72E-04
Road 21	21	1600-1700	2.22E-02	5.08E-07	2.45E-03	8.66E-02	1.98E-06	9.53E-03	5.60E-03	1.28E-07	6.20E-04	6.09E-03	1.39E-07	6.72E-04
Road 21	21	1700-1800	1.68E-02	3.96E-07	1.91E-03	7.61E-02	1.79E-06	8.62E-03	4.43E-03	1.04E-07	5.02E-04	4.82E-03	1.13E-07	5.46E-04
Road 21	21	1800-1900	1.19E-02	2.61E-07	1.26E-03	5.62E-02	1.23E-06	5.95E-03	3.25E-03	7.12E-08	3.43E-04	3.52E-03	7.73E-08	3.73E-04
Road 21	21	1900-2000	1.02E-02	1.67E-07	8.05E-04	5.07E-02	8.34E-07	4.02E-03	2.78E-03	4.58E-08	2.21E-04	3.02E-03	4.96E-08	2.39E-04
Road 21	21	2000-2100	9.94E-03	1.28E-07	6.18E-04	5.02E-02	6.48E-07	3.12E-03	2.70E-03	3.51E-08	1.70E-04	2.93E-03	3.83E-08	1.85E-04
Road 21	21	2100-2200	9.75E-03	1.26E-07	6.09E-04	5.32E-02	6.88E-07	3.32E-03	2.68E-03	3.47E-08	1.68E-04	2.92E-03	3.78E-08	1.82E-04
Road 21	21	2200-2300	9.89E-03	1.21E-07	5.84E-04	5.10E-02	6.24E-07	3.01E-03	2.63E-03	3.22E-08	1.56E-04	2.86E-03	3.50E-08	1.69E-04
Road 21	22	2300-0000	1.08E-02	1.01E-07	4.88E-04	5.34E-02	5.01E-07	2.42E-03	2.89E-03	2.71E-08	1.31E-04	3.14E-03	2.94E-08	1.42E-04
Road 22	22	0000-0100	1.05E-02	1.28E-07	8.34E-04	3.80E-01	4.64E-07	3.02E-03	3.12E-02	1.37E-08	8.91E-05	1.22E-02	1.49E-08	9.68E-05
Road 22	22	0100-0200	1.13E-02	1.38E-07	9.44E-04	3.58E-01	4.37E-07	2.99E-03	3.24E-02	1.42E-08	9.74E-05	1.26E-02	1.54E-08	1.05E-04
Road 22	22	0200-0300	9.92E-03	6.59E-08	4.29E-04	3.60E-01	2.40E-07	1.56E-03	3.12E-02	7.43E-09	4.84E-05	1.22E-02	8.09E-09	5.27E-05
Road 22	22	0300-0400	1.01E-01	5.66E-08	3.68E-04	3.67E-01	2.05E-07	1.34E-03	3.14E-02	6.35E-09	4.14E-05	1.24E-02	6.92E-09	4.50E-05
Road 22	22	0400-0500	1.03E-01	6.68E-08	4.35E-04	3.71E-01	2.42E-07	1.58E-03	3.15E-02	7.51E-09	4.89E-05	1.25E-02	8.18E-09	5.32E-05
Road 22	22	0500-0600	1.04E-01	1.29E-07	8.39E-04	3.74E-01	4.68E-07	3.04E-03	3.16E-02	1.45E-08	9.43E-05	1.26E-02	1.58E-08	1.03E-04
Road 22	22	0600-0700	1.29E-01	3.49E-07	2.27E-03	4.59E-01	1.24E-06	8.10E-03	3.29E-02	3.50E-08	2.28E-04	1.40E-02	3.81E-08	2.48E-04
Road 22	22	0700-0800	1.44E-01	8.34E-07	5.43E-03	5.08E-01	2.94E-06	1.91E-02	1.37E-02	7.92E-08	5.16E-04	1.49E-02	8.60E-08	5.60E-04
Road 22	22	0800-0900	1.46E-01	1.01E-06	6.58E-03	5.32E-01	3.67E-06	2.39E-02	1.37E-02	9.46E-08	6.16E-04	1.49E-02	1.03E-07	6.69E-04
Road 22	22	0900-1000	1.50E-01	1.14E-06	7.39E-03	5.54E-01	4.16E-06	2.71E-02	1.41E-02	1.07E-07	6.97E-04	1.54E-02	1.16E-07	7.57E-04
Road 22	22	1000-1100	1.62E-01	1.12E-06	7.27E-03	5.62E-01	3.90E-06	2.54E-02	1.48E-02	1.03E-07	6.68E-04	1.61E-02	1.12E-07	7.26E-04
Road 22	22	1100-1200	1.66E-01	1.12E-06	7.27E-03	5.53E-01	3.96E-06	2.58E-02	1.50E-02	1.07E-07	6.97E-04	1.63E-02	1.16E-07	7.58E-04
Road 22	22	1200-1300	1.59E-01	1.27E-06	8.29E-03	5.59E-01	4.46E-06	2.90E-02	1.46E-02	1.17E-07	7.60E-04	1.59E-02	1.27E-07	8.26E-04
Road 22	22	1300-1400	1.63E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	1.49E-02	1.18E-07	7.69E-04	1.61E-02	1.28E-07	8.35E-04
Road 22	22	1400-1500	1.66E-01	1.32E-06	8.60E-03	5.64E-01	4.49E-06	2.92E-02	1.52E-02	1.21E-07	7.86E-04	1.64E-02	1.30E-07	8.51E-04
Road 22	22	1500-1600	1.56E-01	1.21E-06	7.85E-03	5.43E-01	4.20E-06	2.74E-02	1.44E-02	1.12E-07	7.26E-04	1.56E-02	1.21E-07	7.89E-04
Road 22	22	1600-1700	1.72E-01	1.32E-06	8.56E-03	5.17E-01	3.71E-06	2.41E-02	1.27E-02	9.12E-08	5.93E-04	1.38E-02	9.91E-08	6.45E-04
Road 22	22	1700-1800	1.03E-01	5.44E-07	3.54E-03	4.21E-01	2.23E-06	1.45E-02	1.07E-02	5.64E-08	3.67E-04	1.16E-02	6.12E-08	3.99E-04
Road 22	22	1800-1900	6.67E-02	2.67E-07	1.74E-03	3.85E-01	1.09E-06	7.09E-03	9.97E-03	2.76E-08	1.80E-04	1.06E-02	2.99E-08	1.95E-04
Road 22	22	1900-2000	9.41E-02	2.67E-07	1.74E-03	3.85E-01	1.09E-06	7.09E-03	9.97E-03	2.83E-08	1.84E-04	1.09E-02	3.08E-08	2.01E-04
Road 22	22	2100-2200	9.57E-02	2.78E-07	1.81E-03	3.87E-01	1.12E-06	7.31E-03	1.01E-02	2.92E-08	1.90E-04	1.10E-02	3.18E-08	2.07E-04
Road 22	22	2200-2300	1.05E-01	2.70E-07	1.76E-03	3.79E-01	9.79E-07	6.38E-03	1.05E-02	2.72E-08	1.77E-04	1.15E-02	2.96E-08	1.93E-04
Road 22	22	2300-0000	1.02E-01	2.13E-07	1.39E-03	3.71E-01	7.73E-07	5.03E-03	1.06E-02	2.22E-08	1.44E-04	1.16E-02	2.41E-08	1.57E-04
Road 23	23	0000-0100	1.01E-01	1.96E-08	1.32E-04	3.66E-01	7.10E-08	4.79E-04	1.18E-02	2.28E-09	1.54E-05	1.28E-02	2.48E-09	1.67E-05
Road 23	23	0100-0200	1.01E-01	1.96E-08	1.32E-04	3.66E-01	7.10E-08	4.79E-04	1.18E-02	2.28E-09	1.54E-05	1.28E-02	2.48E-09	1.67E-05
Road 23	23	0200-0300	1.02E-01	1.57E-08	1.06E-04	3.70E-01	5.66E-08	3.82E-04	1.19E-02	1.82E-09	1.22E-05	1.29E-02	1.97E-09	1.33E-05
Road 23	23	0300-0400	9.89E-02	1.28E-08	8.63E-05	3.58E-01	4.64E-08	3.13E-04	1.17E-02	1.52E-09	1.02E-05	1.26E-02	1.65E-09	1.11E-05
Road 23	23	0400-0500	1.05E-01	2.95E-08	1.99E-04	3.80E-01	1.07E-07	7.18E-04	1.22E-02	3.41E-09	2.30E-05	1.32E-02	3.71E-09	2.50E-05
Road 23	23	0500-0600	1.05E-01	1.68E-08	1.13E-04	3.80E-01	6.08E-08	4.10E-04	1.22E-02	1.95E-09	1.31E-05	1.32E-02	2.12E-09	1.43E-05
Road 23	23	0600-0700

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 41	41	0600-0700	1.53E-02	4.73E-08	1.62E-04	5.61E-02	1.73E-07	5.94E-04	3.69E-03	1.14E-08	3.91E-05	4.01E-03	1.24E-08	4.25E-05
Road 41	41	0700-0800	2.09E-02	1.49E-07	5.10E-04	6.46E-02	4.59E-07	1.57E-03	5.05E-03	3.59E-08	1.23E-04	5.48E-03	3.89E-08	1.33E-04
Road 41	41	0800-0900	1.92E-02	1.53E-07	5.23E-04	5.87E-02	4.66E-07	1.60E-03	4.67E-03	3.71E-08	1.27E-04	5.07E-03	4.03E-08	1.38E-04
Road 41	41	0900-1000	2.20E-02	1.49E-07	5.11E-04	6.50E-02	4.41E-07	1.51E-03	5.39E-03	3.66E-08	1.25E-04	5.85E-03	3.97E-08	1.36E-04
Road 41	41	1000-1100	2.43E-02	1.48E-07	5.06E-04	6.99E-02	4.20E-07	1.44E-03	5.95E-03	3.63E-08	1.24E-04	6.47E-03	3.94E-08	1.35E-04
Road 41	41	1100-1200	2.46E-02	1.44E-07	4.94E-04	7.00E-02	4.11E-07	1.41E-03	5.98E-03	3.51E-08	1.20E-04	6.50E-03	3.81E-08	1.31E-04
Road 41	41	1200-1300	2.73E-02	1.74E-07	5.95E-04	7.79E-02	4.96E-07	1.70E-03	6.79E-03	4.32E-08	1.48E-04	7.38E-03	4.70E-08	1.61E-04
Road 41	41	1300-1400	2.70E-02	1.77E-07	6.06E-04	7.92E-02	5.18E-07	1.78E-03	6.78E-03	4.44E-08	1.52E-04	7.37E-03	4.83E-08	1.65E-04
Road 41	41	1400-1500	2.65E-02	1.80E-07	6.17E-04	7.67E-02	5.26E-07	1.80E-03	6.67E-03	4.51E-08	1.54E-04	7.27E-03	4.91E-08	1.68E-04
Road 41	41	1500-1600	2.55E-02	1.77E-07	6.05E-04	7.74E-02	5.37E-07	1.84E-03	6.45E-03	4.48E-08	1.53E-04	7.02E-03	4.87E-08	1.67E-04
Road 41	41	1600-1700	2.55E-02	1.82E-07	6.23E-04	7.47E-02	5.33E-07	1.83E-03	6.39E-03	4.56E-08	1.56E-04	6.95E-03	4.96E-08	1.70E-04
Road 41	41	1700-1800	2.18E-02	1.67E-07	5.72E-04	6.78E-02	5.20E-07	1.78E-03	5.45E-03	4.18E-08	1.43E-04	5.93E-03	4.55E-08	1.56E-04
Road 41	41	1800-1900	1.90E-02	1.51E-07	5.19E-04	5.75E-02	4.71E-07	1.61E-03	4.71E-03	3.78E-08	1.29E-04	5.08E-03	4.07E-08	1.39E-04
Road 41	41	1900-2000	1.10E-02	5.80E-08	1.99E-04	7.94E-02	2.77E-07	1.46E-03	4.96E-03	3.01E-08	1.03E-04	5.58E-03	3.26E-08	1.12E-04
Road 41	41	2000-2100	1.21E-02	5.07E-08	1.74E-04	4.91E-02	2.06E-07	7.06E-04	3.00E-03	1.26E-08	4.32E-05	3.26E-03	1.37E-08	4.69E-05
Road 41	41	2100-2200	1.16E-02	4.89E-08	1.67E-04	4.68E-02	2.04E-07	6.98E-04	2.88E-03	1.21E-08	4.16E-05	3.13E-03	1.32E-08	4.52E-05
Road 41	41	2200-2300	1.18E-02	4.96E-08	1.70E-04	4.77E-02	2.01E-07	6.87E-04	2.94E-03	1.24E-08	4.24E-05	3.19E-03	1.34E-08	4.61E-05
Road 41	41	2300-0000	1.07E-02	4.51E-08	1.54E-04	4.32E-02	1.82E-07	6.23E-04	2.66E-03	1.12E-08	3.84E-05	2.89E-03	1.22E-08	4.17E-05
Road 42	42	0000-0100	3.27E-02	7.35E-08	2.80E-04	9.29E-02	2.09E-07	1.93E-03	5.19E-03	1.16E-08	1.08E-04	5.63E-03	1.26E-08	1.17E-04
Road 42	42	0100-0200	4.06E-02	6.72E-08	6.22E-04	1.06E-01	1.75E-07	1.62E-03	6.54E-03	1.08E-08	1.00E-04	7.09E-03	1.17E-08	1.09E-04
Road 42	42	0200-0300	4.83E-02	6.57E-08	6.08E-04	1.20E-01	1.63E-07	1.51E-03	7.70E-03	1.05E-08	9.69E-05	8.34E-03	1.13E-08	1.05E-04
Road 42	42	0300-0400	5.43E-02	6.47E-08	5.99E-04	1.31E-01	1.56E-07	1.44E-03	8.61E-03	1.03E-08	9.50E-05	9.33E-03	1.11E-08	1.03E-04
Road 42	42	0400-0500	5.22E-02	6.23E-08	5.77E-04	1.29E-01	1.49E-07	1.38E-03	8.43E-03	9.92E-09	9.18E-05	9.14E-03	1.07E-08	9.92E-05
Road 42	42	0500-0600	4.10E-02	7.22E-08	6.68E-04	1.39E-01	1.78E-07	1.65E-03	1.17E-02	1.08E-08	1.00E-04	1.27E-02	1.17E-08	1.08E-04
Road 42	42	0600-0700	3.08E-02	9.65E-08	8.93E-04	9.56E-02	3.00E-07	2.77E-03	4.93E-03	1.55E-08	1.43E-04	5.35E-03	1.68E-08	1.55E-04
Road 42	42	0700-0800	5.33E-02	3.92E-07	3.63E-03	1.41E-01	1.04E-06	9.59E-03	5.09E-03	3.75E-08	3.47E-04	8.30E-03	5.76E-08	5.33E-04
Road 42	42	0800-0900	4.91E-02	3.60E-07	3.33E-03	1.30E-01	9.57E-07	8.85E-03	4.68E-03	3.44E-08	3.19E-04	7.64E-03	5.30E-08	4.91E-04
Road 42	42	0900-1000	5.60E-02	3.98E-07	3.69E-03	1.47E-01	1.04E-06	9.67E-03	7.64E-03	5.43E-08	5.03E-04	8.30E-03	5.90E-08	5.46E-04
Road 42	42	1000-1100	5.93E-02	3.82E-07	3.53E-03	1.52E-01	9.78E-07	9.05E-03	8.28E-03	5.33E-08	4.93E-04	8.97E-03	5.77E-08	5.35E-04
Road 42	42	1100-1200	6.03E-02	3.74E-07	3.47E-03	1.54E-01	9.57E-07	8.86E-03	8.33E-03	5.17E-08	4.79E-04	9.03E-03	5.61E-08	5.19E-04
Road 42	42	1200-1300	7.75E-02	3.71E-07	3.44E-03	1.90E-01	9.11E-07	8.44E-03	1.09E-02	5.24E-08	4.85E-04	1.19E-02	5.72E-08	5.28E-04
Road 42	42	1300-1400	7.64E-02	3.79E-07	3.50E-03	1.87E-01	9.29E-07	8.61E-03	1.08E-02	5.35E-08	4.95E-04	1.18E-02	5.84E-08	5.40E-04
Road 42	42	1400-1500	7.49E-02	3.78E-07	3.50E-03	1.87E-01	9.45E-07	8.75E-03	1.07E-02	5.40E-08	5.00E-04	1.16E-02	5.88E-08	5.44E-04
Road 42	42	1500-1600	7.27E-02	3.74E-07	3.46E-03	1.90E-01	9.78E-07	9.05E-03	1.06E-02	5.46E-08	4.96E-04	1.14E-02	5.84E-08	5.40E-04
Road 42	42	1600-1700	7.26E-02	3.78E-07	3.50E-03	1.82E-01	9.46E-07	8.76E-03	1.04E-02	5.40E-08	5.00E-04	1.13E-02	5.88E-08	5.44E-04
Road 42	42	1700-1800	5.58E-02	3.58E-07	3.31E-03	1.69E-01	9.17E-07	8.49E-03	9.37E-03	5.10E-08	4.72E-04	1.02E-02	5.55E-08	5.14E-04
Road 42	42	1800-1900	6.14E-02	3.58E-07	3.31E-03	1.85E-01	9.17E-07	8.49E-03	1.03E-02	5.10E-08	4.72E-04	1.12E-02	5.55E-08	5.14E-04
Road 42	42	1900-2000	3.05E-02	9.49E-08	8.79E-04	9.22E-02	2.87E-07	2.66E-03	4.91E-03	1.53E-08	1.42E-04	5.33E-03	1.66E-08	1.54E-04
Road 42	42	2000-2100	3.30E-02	8.41E-08	7.78E-04	9.91E-02	2.53E-07	2.34E-03	5.36E-03	1.37E-08	1.27E-04	5.82E-03	1.49E-08	1.37E-04
Road 42	42	2100-2200	3.24E-02	8.30E-08	7.68E-04	9.83E-02	2.52E-07	2.33E-03	5.26E-03	1.35E-08	1.25E-04	5.71E-03	1.46E-08	1.35E-04
Road 42	42	2200-2300	3.21E-02	8.22E-08	7.60E-04	9.74E-02	2.24E-07	2.07E-03	5.21E-03	1.34E-08	1.24E-04	5.66E-03	1.45E-08	1.34E-04
Road 42	42	2300-0000	3.90E-02	7.84E-08	7.25E-04	1.09E-01	2.18E-07	2.02E-03	6.22E-03	1.25E-08	1.16E-04	6.75E-03	1.36E-08	1.26E-04
Road 43	43	0000-0100	6.91E-03	4.08E-09	1.52E-05	3.77E-02	2.23E-08	8.33E-05	1.57E-03	9.25E-10	3.46E-06	1.70E-03	1.00E-09	3.75E-06
Road 43	43	0100-0200	9.19E-03	3.64E-09	1.36E-05	4.17E-02	1.65E-08	6.18E-05	2.12E-03	8.40E-10	3.14E-06	2.30E-03	9.11E-10	3.40E-06
Road 43	43	0200-0300	1.15E-02	3.44E-09	1.29E-05	4.62E-02	1.38E-08	5.17E-05	2.66E-03	7.96E-10	2.97E-06	2.88E-03	8.64E-10	3.23E-06
Road 43	43	0300-0400	1.32E-02	3.44E-09	1.29E-05	5.26E-02	1.38E-08	5.17E-05	3.04E-03	7.96E-10	2.97E-06	3.29E-03	8.64E-10	3.23E-06
Road 43	43	0400-0500	1.32E-02	3.47E-09	1.30E-05	4.95E-02	3.07E-03	8.06E-10	3.01E-06	3.34E-08	8.75E-10	3.27E-06		
Road 43	43	0500-0600	1.01E-02	4.26E-09	1.59E-05	4.49E-02	1.89E-08	7.06E-05	2.35E-03	9.87E-10	3.69E-06	2.55E-03	1.07E-09	4.00E-06
Road 43	43	0600-0700	7.69E-03	6.50E-09	2.43E-05	3.54E-02	1.32E-08	1.77E-03	1.49E-03	5.58E-06	1.92E-03	1.62E-03	6.06E-06	
Road 43	43	0700-0800	1.03E-02	1.83E-08	6.85E-05	4.73E-02	8.13E-08	3.04E-04	3.40E-03	4.32E-09	1.61E-05	3.70E-03	4.70E-09	1.76E-05
Road 43	43	0800-0900	9.37E-03	1.90E-08	7.11E-05	3.97E-02	8.07E-08	3.01E-04	2.22E-03	4.50E-09	1.68E-05	2.40E-03	4.88E-09	1.82E-05
Road 43	43	0900-1000	1.06E-02	1.72E-08	6.42E-05	4.31E-02	6.97E-08	2.60E-04	2.55E-03	4.12E-09	1.54E-05	2.77E-03	4.47E-09	1.67E-05
Road 43	43	1000-1100	1.20E-02	1.66E-08	6.19E-05	4.54E-02	6.30E-08	2.35E-04	2.88E-03	3.98E-09	1.49E-05	3.12E-03	4.33E-09	1.62E-05
Road 43	43	1100-1200	1.18E-02	1.57E-08	5.85E-05	4.60E-02	6.09E-08	2.27E-04	2.81E-03	3.71E-09	1.39E-05	3.05E-03	4.03E-09	1.51E-05
Road 43	43	1200-1300	1.37E-02	1.74E-08	6.47E-05	5.19E-02	6.58E-08	2.45E-04	3.27E-03	4.15E-09	1.54E-05	3.55E-03	4.50E-09	1.68E-05
Road 43	43	1300-1400	1.49E-02	5.31E-08	1.98E-04	5.99E-02	2.14E-07	7.99E-04	3.93E-03	1.40E-08	5.25E-05	4.28E-03	1.53E-08	5.71E-05
Road 43	43	1400-1500	1.48E-02	5.59E-08	2.09E-04	5.85E-02	2.21E-07	8.27E-04	3.88E-03	1.47E-08	5.49E-05	4.23E-03	1.60E-08	5.98E-05
Road 43	43	1500-1600	1.39E-02	5.39E-08	2.01E-04	5.89E-02	2.28E-07	8.52E-04	3.72E-03	1.44E-08	5.39E-05	4.05E-03	1.57E-08	5.87E-05
Road 43	43	1600-1700	1.37E-02	5.51E-08	2.06E-04	5.61E-02	2.26E-07	8.44E-04	3.70E-03	1.49E-08	5.57E-05	4.03E-03	1.62E-08	6.06E-05
Road 43	43	1700-1800	1.07E-02	4.85E-08	1.81E-04	4.28E-02	1.94E-07	7.25E-04	2.88E-03	1.30E-08	4.86E-05	3.13E-03	1.42E-08	5.30E-05
Road 43	43	1800-1900	8.04E-03	3.93E-08	1.47E-04	3.72E-02	1.82E-07	6.80E-04	2.09E-03	1.02E-08	3.82E-05	2.28E-03	1.11E-08	4.16E-05
Road 43	43	1900-2000	6.08E-03	2.29E-08	8.54E-05	3.46E-02	1.30E-07	4.86E-04	1.96E-03	7.39E-09	2.76E-05	2.19E-03	8.26E-09	3.08E-05
Road 43	43	2000-2100	6.10E-03	1.79E-08	6.68E-05	3.84E-02	1.12E-07	4.20E-04	1.54E-03	4.52E-09	1.69E-05	1.68E-03	4.92E-09	1.84E-05
Road 43	43	2100-2200	5.53E-03	1.32E-08	4.92E-05	3.49E-02	8.24E-08	3.08E-04	1.40E-03	3.33E-09	1.24E-05	1.53E-03	3.63E-09	1.35E-05
Road 43	43	2200-2300	5.49E-03	1.56E-08	5.83E-05	3.75E-02	1.07E-07	3.99E-04	1.34E-03	3.81E-09	1.42E-05	1.46E-03	4.15E-09	1.55E-05
Road 43	43	2300-0000	6.28E-03	1.34E-08	5.02E-05	3.93E-02	8.42E-08	3.15E-04	1.55E-03	3.32E-09	1.24E-05	1.69E-03	3.61E-09	1.35E-05
Road 44	44	0000-0100	4.16E-02	9.56E-08	1.79E-04	1.75E-01	4.02E-07	7.52E-04	8.09E-03	1.86E-08	3.48E-05	8.77E-03	2.02E-08	3.77E-05
Road 44	44	0100-0200	3.96E-02	5.99E-08	1.12E-04	1.60E-01	2.42E-07	4.53E-04	7.91E-03	1.20E-08	2.24E-05	8.60E-03	1.30E-08	2.44E-05
Road 44	44	0200-0300	3.85E-02	4.64E-08	8.67E-05	1.61E-01	1.94E-07	3.63E-04	7.76E-03	9.36E-09	1.75E-05	8.45E-03	1.02E-08	1.91E-05
Road 44	44	0300-0400	3.77E-02	4.56E-08	8.52E-05	1.57E-01	1.91E-07	3.57E-04	7.61E-03	9.20E-09	1.72E-05	8.29E-03	1.00E-08	1.88E-05
Road 44	44	0400-0500	3.77E-02	4.56E-08	8.52E-05	1.57E-01	1.91E-07	3.57E-04	7.61E-03	9.20E-09	1.72E-05	8.29E-03	1.00E-08	1.88E-05
Road 44	44	0500-0600	4.10E-02	7.22E-08	6.68E-04	1.39E-01	1.78E-07	1.65E-03	1.17E-02	1.08E-08	1.00E-04	1.27E-02	1.17E-08	1.08E-04
Road 44	44	0600-0700	3.08E-02	9.65E-08	8.93E-04	9.56E-02	3.00E-07	2.77E-03	4.93E-03	1.55E-08	1.43E-04	5.35E-03	1.68E-08	1.55E-04
Road 44	44	0700-0800	5.33E-02	3.92E-07	3.63E-03	1.41E-01	1.04E-06	9.59E-03	5.09E-03	3.75E-08	3.47E-04	8.30E-03	5.76E-08	5.33E-04
Road 44	44	0800-0900	4.91E-02	3.60E-07	3.33E-03	1.30E-01	9.57E-07	8.85E-03	4.68E-03	3.44E-08	3.19E-04	7.64E-03	5.30E-08	4.91E-04
Road 44	44	0900-1000	5.60E-02	3.98E-07	3.69E-03	1.47E-01	1.04E-06	9.67E-03	7.64E-03	5.43E-08	5.03E-04	8.30E-03	5.90E-08	5.46E-04
Road 44	44	1000-1100	5.93E-02	3.82E-07	3.53E-03	1.52E-01	9.78E-07	9.05E-03	8.28E-03	5.33E-08	4.93E-04	8.97E-03	5.77E-08	5.35E-04
Road 44	44	1100-1200	6.03E-02	3.74E-07	3.47E-03	1.54E-01	9.57E-07	8.86E-03	8.33E-03	5.17E-08	4.79E-04	9.03E-03	5.61E-08	5.19E-04
Road 44	44	1200-1300	7.75E-02	3.71E-07	3.44E-03	1.90E-01	9.11E-07	8.44E-03	1.09E-02	5.24E-08	4.85E-04	1.19E-02	5.72E-08	5.28E-04
Road 44	44	1300-1400	7.64E-02	3.79E-07	3.50E-03	1.87E-01	9.29E-07	8.61E-03	1.08E-02	5.35E-08	4.95E-04	1.18E-02	5.84E-08	5.40E-04
Road 44	44	1400-1500	7.49E-02	3.78E-07	3.50E-03	1.87E-01	9.45E-07	8.75E-03	1.07E-02	5.40E-08	5.00E-04	1.16E-02	5.88E-08	5.44E-04
Road 44	44	1500-1600	7.27E-02	3.74E-07	3.46E-03	1.90E-01	9.78E-07	9.05E-03	1.06E-02	5.46E-08	4.96E-04	1.14E-02	5.84E-08	5.40E-04
Road 44	44	1600-1700	7.26E-02	3.78E-07	3.50E-03	1.82E-01	9.46E-07	8.76E-03	1.04E-02	5.40E-08	5.00E-04	1.13E-02	5.88E-08	5.44E-04
Road 44	44	1700-1800	5.58E-02	3.58E-07	3.31E-03	1.69E-01	9.17E-07	8.49E-03	9.37E-03	5.10E-08	4.72E-04	1.02E-02	5.55E-08	5.14E-04
Road 44	44	1800-1900	6.14E-02	3.58E-07	3.31E-03	1.85E-01	9.17E-07	8.49E-03	1.03E-02	5.10E-08	4.72E-04	1.12E-02	5.55E-08	5.14E-04
Road 44	44	1900-2000	3.05E-02	9.49E-08	8.79E-04	9.22E-02	2.87E-07	2.66E-03	4.91E-03	1.53E-08	1.42E-04	5.33E-03	1.66E-08	1.54E-04
Road 44	44	2000-2100	3.30E-02	8.41E-08	7.78E-04	9.91E-02	2.53E-07	2.34E-03	5.36E-03	1.37E-08	1.27E-04	5.82E-03	1.49E-08	1.37E-04
Road 44	44	2100-2200	3.24E-02	8.30E-08	7.68E-04	9.83E-02	2.52E-07	2.33E-03	5.26E-03	1.35E-08	1.25E-04	5.71E-03	1.46E-08	1.35E-04
Road 44	44	2200-2300	3.21E-02	8.22E-08	7.60E-04	9.74E-02	2.24E-07	2.07E-03	5.21E-03	1.34E-08	1.24E-04	5.66E-03	1.45E-08	1.34E-04
Road 44	44	2300-0000	3.90E-02	7.84E-08	7.25E-04	1.09E-01	2.18E-07	2.02E-03	6.22E-03	1.25E-08	1.16E-04	6.75E-03	1.36E-08	1.26E-04
Road 45	45	0000-0100	6.91E-03	4.08E-09	1.52E-05	3.77E-02	2.23E-08	8.33E-05	1.57E-03	9.25E-10	3.46E-06	1.70E-03	1.00E-09	3.75E-06
Road 45	45	0100-0200	9.19E-03	3.64E-09	1.36E-05	4.17E-02	1.65E-08	6.18E-05	2.12E-03	8.40E-10	3.14E-06	2.30E-03	9.11E-10	3.40E-06
Road 45	45	0200-0300	1.15E-02	3.44E-09	1.29E-05	4.62E-02	1.38E-08	5.17E-05	2.66E-03	7.96E-10	2.97E-06	2.88E-03	8.64E-10	3.23E-06
Road 45	45	0300-0400	1.32E-02	3.44E-09	1.29E-05	5.26E-02	1.38E-08	5.17E-05	3.04E-03	7.96E-10	2.97E-06	3.29E-03	8.64E-10	3.23E-06
Road 45	45	0400-0500	1.32E-02	3.47E-09	1.30E-05	4.95E-02	3.07E-03	8.06E-10	3.01E-06	3.34E-08	8.75E-10	3.27E-06		
Road 45	45	0500-0600	1.01E-02	4.26E-09	1.59E-05	4.49E-02	1.89E-08	7.06E-05	2.35E-03	9.87E-10	3.69E-06	2.55E-03	1.07E-09	4.00E-06
Road 45	45	0600-0700	7.69E-03	6.50E-09	2.43E-05	3.54E-02	1.32E-08	1.77E-03	1.49E-03	5.58E-06	1.92E-03	1.62E-03	6.06E-06	
Road 45	45	0700-0800	1.03E-02	1.83E-08	6.85E-05	4.73E-02	8.13E-08	3.04E-04	3.40E-03	4.32E-09	1.61E-05	3.70E-03	4.70E-09	1.76E-05
Road 45	45	0800-0900	9.37E-03	1.90E-08	7.11E-05	3.97E-02	8.07E-08	3.01E-04	2.22E-03	4.50E-09	1.68E-05	2.40E-03	4.88E-09	1.82E-05
Road 45	45	0900-1000	1.06E-02	1.72E-08	6.42E-05	4.31E-02	6.97E-08	2.60E-04	2.55E-03	4.12E-09	1.54E-05	2.77E-03	4.47E-09	1.67E-05
Road 45	45	1000-1100	1.20E-02	1.66E-08	6.19E-05	4.54E-02	6.30E-08	2.35E-04	2.88E-03	3.98E-09	1.49E-05	3.12E-03	4.33E-09	1.62E-05
Road 45	45	1100-1200	1.18E-02	1.57E-08	5.85E-05	4.60E-02	6.09E-08	2.27E-04	2.81E-03	3.71E-09	1.39E-05	3.05E-03	4.03E-09	1.51E-05
Road 45	45	1200-1300	1.37E-02	1.74E-08	6.47E-05	5.19E-02	6.58E-08	2.45E-04	3.27E-03	4.15E-09	1.54E-05	3.55E-03	4.50E-09	1.68E-05
Road 45	45	1300-1400	1.49E-02	5.31E-08	1.98E-04	5.99E-02	2.14E-07	7.99E-04	3.93E-03	1.40E-08	5.25E-05	4.28E-03	1.53E-08	5.71E-05
Road 45	45	1400-1500	1.48E-02	5.59E-08	2.09E-04	5.85E-02	2.21E-07	8.27E-04	3.88E-03	1.47E-08	5.49E-05	4.23E-03	1.60E-08	5.98E-05
Road 45	45	1500-1600	1.39E-02	5.39E-08	2.01E-04	5.89E-02	2.28E-07	8.52E-04	3.72E-03	1.44E-08	5.39E-05	4.05E-03	1.57E-08	5.87E-05
Road 45	45	1600-1700	1.37E-02	5.51E-08	2.06E-04	5.61E-02	2.26E-07	8.44E-04	3.70E-03	1.49E-08	5.57E-05	4.03E-03	1.62E-08	6.06E-05
Road 45	45	1700-1800	1.07E-02	4.85E-08	1.81E-04	4.28E-02	1.94E-07	7.25E-04	2.88E-03	1.30E-08	4.86E-05	3.13E-03	1.42E-08	5.30E-05
Road 45	45	1800-1900	8.04E-03	3.93E-08	1.47E-04	3.72E-02	1.82E-07	6.80E-04	2.09E-03	1.02E-08	3.82E-05	2.28E-03	1.11E-08	4.16E-05
Road 45	45	1900-2000	6.08E-03	2.29E-08	8.54E-05	3.46E-02	1.30E-07	4.86E-04	1.96E-03	7.39E-09	2.76E-05	2.19E-03	8.26E-09	3.08E-05
Road 45	45	2000-2100	6.10E-03	1.79E-08	6.68E-05	3.84E-02	1.12E-07	4.20E-04	1.54E-03	4.52E-09	1.69E-05	1.68E-03	4.92E-09	1.84E-05
Road 45	45	2100-2200	5.53E-03	1.32E-08	4.92E-05	3.49E-02	8.24E-08	3.08E-04	1.40E-03	3.33E-09	1.24E-05	1.53E-03	3.63E-09	1.35E-05
Road 45	45	2200-2300	5.49E-03	1.56E-08	5.83E-05	3.75E-02	1.07E-07	3.99E-04	1.34E-03	3.81E-09	1.42E-05	1.46E-03	4.15E-09	1.55E-05
Road 45	45	2300-0000	6.28E-03	1.34E-08	5.02E-05	3.93E-02	8.42E-08	3.15E-04	1.55E-03	3.32E-09	1.24E-05	1.69E-03	3.61E-09	1.35E-05
Road 46	46	0000-0100	4.46E-03	3.95E-08	8.91E-05	3.41E-02	3.02E-07	6.81E-04	1.09E-03	9.65E-09	2.17E-05	1.18E-03	1.05E-08	2.36E-05
Road 46	46	0100-0200	5.01E-03	2.89E-08	6.52E-05	3.54E-02	2.24E-07	5.04E-04	1.23E-03	7.11E-09	1.60E-05	1.34E-03	7.73E-09	1.74E-05
Road 46	46	0200-0300	5.61E-03	2.37E-08	5.34E-05	3.73E-02	1.57E-07	3.55E-04	1.38E-03	5.83E-09	1.31E-05	1.50E-03	6.34E-09	1.43E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)
Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (Summary) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission			NO Emission			$PM_{2.5}$ Emission			PM_{10} Emission		
			AnnualHourMin			AnnualHourMin			AnnualHourMin			AnnualHourMin		
			g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year	g/km/veh	g/s/m2	tonne/year
Road 51	101	1500-1600	1.17E-02	4.57E-07	6.61E-03	5.30E-02	2.07E-06	2.99E-02	3.29E-03	1.29E-07	1.86E-03	3.58E-03	1.40E-07	2.02E-03
Road 51	101	1600-1700	1.23E-02	5.05E-07	7.30E-03	5.13E-02	2.11E-06	3.05E-02	3.33E-03	1.37E-07	1.98E-03	3.63E-03	1.49E-07	2.16E-03
Road 51	101	1700-1800	8.73E-03	4.02E-07	5.81E-03	4.45E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (annual) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 4	4	0800-0900	7.22E-03	2.60E-07	1.02E-03	4.65E-03	1.64E-06	1.20E-02	1.88E-03	6.77E-08	4.95E-04			
Road 4	4	0900-1000	8.21E-03	2.42E-07	1.77E-03	4.19E-02	1.23E-06	9.03E-03	5.01E-02	1.48E-06	1.08E-02	2.23E-03	6.58E-08	4.81E-04
Road 4	4	1000-1100	9.37E-03	2.38E-07	1.74E-03	4.42E-02	1.12E-06	8.22E-03	5.36E-02	1.36E-06	9.97E-03	2.54E-03	6.47E-08	4.73E-04
Road 4	4	1100-1200	8.89E-03	2.53E-07	1.57E-03	4.41E-02	1.06E-06	7.78E-03	5.30E-02	1.28E-06	9.34E-03	2.39E-03	5.76E-08	4.22E-04
Road 4	4	1200-1300	1.09E-02	3.17E-07	2.32E-03	4.70E-02	1.37E-06	1.01E-02	5.79E-02	1.69E-06	1.24E-02	2.92E-03	8.55E-08	6.25E-04
Road 4	4	1300-1400	1.01E-02	3.27E-07	2.39E-03	4.88E-02	1.58E-06	1.31E-02	3.01E-03	8.98E-08	6.57E-04			
Road 4	4	1400-1500	1.11E-02	3.43E-07	2.98E-03	5.18E-02	1.59E-06	1.39E-02	3.39E-03	9.55E-08	6.98E-04			
Road 4	4	1500-1600	1.04E-02	3.37E-07	2.47E-03	4.86E-02	1.58E-06	1.16E-02	5.41E-02	2.87E-03	9.35E-08	6.84E-04		
Road 4	4	1600-1700	1.09E-02	3.79E-07	2.77E-03	4.70E-02	1.63E-06	1.19E-02	2.92E-03	1.01E-07	7.41E-04			
Road 4	4	1700-1800	1.71E-02	3.03E-07	2.22E-03	4.38E-02	7.77E-07	5.69E-03	2.68E-03	4.75E-08	3.48E-04			
Road 4	4	1800-1900	1.51E-03	2.38E-07	1.74E-03	3.07E-02	1.32E-06	9.69E-03	3.62E-02	1.56E-06	1.14E-02	1.47E-03	6.36E-08	4.65E-04
Road 4	4	1900-2000	4.74E-03	1.63E-07	1.19E-03	2.98E-02	1.19E-06	8.68E-03	1.23E-03	4.23E-08	3.09E-04			
Road 4	4	2000-2100	5.47E-03	1.63E-07	1.19E-03	3.08E-02	1.34E-06	1.01E-02	1.42E-03	4.23E-08	3.09E-04			
Road 4	4	2100-2200	4.00E-03	1.06E-07	7.78E-04	3.23E-02	8.58E-07	6.28E-03	1.03E-03	2.74E-08	2.00E-04			
Road 4	4	2200-2300	3.93E-03	1.02E-07	7.44E-04	3.25E-02	8.42E-07	6.16E-03	3.65E-02	9.43E-07	6.90E-03			
Road 4	4	2300-2400	4.42E-03	1.21E-07	8.82E-04	3.37E-02	9.21E-07	6.73E-03	3.76E-02	1.03E-06	7.50E-03			
Road 5	5	0000-0100	6.14E-03	4.36E-08	1.33E-04	4.48E-02	3.18E-07	9.69E-04	5.09E-02	3.61E-07	1.10E-03	1.05E-02	7.44E-08	2.27E-04
Road 5	5	0100-0200	6.61E-03	3.04E-08	9.27E-05	4.56E-02	2.10E-07	6.40E-04	5.22E-02	2.40E-07	7.33E-04	1.16E-03	5.34E-09	1.63E-05
Road 5	5	0200-0300	7.09E-03	2.38E-08	7.25E-05	4.72E-02	1.58E-07	4.80E-04	5.31E-02	1.78E-07	5.42E-04	1.16E-03	3.90E-09	1.19E-05
Road 5	5	0300-0400	7.74E-03	2.05E-08	6.24E-05	4.90E-02	1.30E-07	3.95E-04	5.44E-02	1.44E-07	4.39E-04	1.27E-03	3.37E-09	1.02E-05
Road 5	5	0400-0500	8.40E-03	2.43E-08	7.40E-05	5.08E-02	1.47E-07	5.22E-04	1.52E-03	4.39E-09	1.34E-05			
Road 5	5	0500-0600	9.34E-03	4.62E-08	1.41E-04	5.57E-02	2.76E-07	8.41E-04	1.71E-03	8.46E-09	2.58E-05			
Road 5	5	0600-0700	1.14E-02	1.22E-07	3.71E-04	6.57E-02	7.03E-07	2.14E-03	2.09E-03	2.23E-08	6.81E-05			
Road 5	5	0700-0800	1.44E-02	3.11E-07	9.47E-04	7.17E-02	1.55E-06	4.71E-03	2.19E-03	4.71E-08	1.44E-04			
Road 5	5	0800-0900	1.45E-02	3.61E-07	1.10E-03	6.80E-02	1.69E-06	5.15E-03	2.25E-03	5.44E-08	1.66E-04			
Road 5	5	0900-1000	1.48E-02	3.10E-07	9.44E-04	7.93E-02	1.66E-06	5.05E-03	2.29E-03	4.80E-08	1.47E-04			
Road 5	5	1000-1100	1.80E-02	3.10E-07	9.44E-04	7.93E-02	1.36E-06	4.15E-03	9.73E-02	1.67E-06	5.10E-03	2.80E-03	4.80E-08	1.47E-04
Road 5	5	1100-1200	1.63E-02	2.65E-07	8.10E-04	7.59E-02	1.24E-06	4.58E-03	2.57E-03	4.18E-08	1.28E-04			
Road 5	5	1200-1300	2.09E-02	2.98E-07	2.28E-03	8.60E-02	1.22E-06	9.32E-03	3.24E-03	4.62E-08	3.53E-04			
Road 5	5	1300-1400	2.16E-02	6.01E-07	1.83E-03	3.52E-02	2.59E-06	7.90E-03	1.15E-01	3.19E-06	9.74E-03	3.05E-03	8.49E-08	2.59E-04
Road 5	5	1400-1500	2.19E-02	6.57E-07	2.00E-03	9.13E-02	2.74E-06	8.35E-03	1.03E-01	3.40E-06	1.04E-02	3.01E-03	9.29E-08	2.83E-04
Road 5	5	1500-1600	2.01E-02	6.54E-07	2.47E-03	8.14E-02	2.65E-06	1.00E-02	1.03E-01	3.36E-06	1.27E-02	3.01E-03	9.79E-08	3.70E-04
Road 5	5	1600-1700	2.37E-02	7.88E-07	2.40E-03	9.43E-02	3.13E-06	9.54E-03	1.18E-01	3.92E-06	1.19E-02	2.52E-03	8.37E-08	2.55E-04
Road 5	5	1700-1800	1.68E-02	6.49E-07	1.98E-03	7.98E-02	3.08E-06	9.40E-03	9.66E-02	3.73E-06	1.14E-02	2.34E-03	9.03E-08	2.75E-04
Road 5	5	1800-1900	1.21E-03	5.25E-07	1.85E-06	5.63E-03	6.22E-02	2.19E-06	6.67E-03	1.37E-03	4.82E-08	1.47E-04		
Road 5	5	1900-2000	9.67E-03	3.40E-07	1.04E-03	5.25E-02	1.85E-06	5.63E-03	6.22E-02	2.19E-06	6.67E-03	1.37E-03	4.82E-08	1.47E-04
Road 5	5	2000-2100	8.53E-03	2.33E-07	7.11E-04	5.43E-02	1.48E-06	4.52E-03	6.28E-02	1.72E-06	5.23E-03	1.25E-03	3.40E-08	1.04E-04
Road 5	5	2100-2200	8.18E-03	2.07E-07	6.31E-04	5.21E-02	1.32E-06	4.03E-03	6.02E-02	1.53E-06	4.66E-03	1.20E-03	3.03E-08	9.24E-05
Road 5	5	2200-2300	6.59E-03	1.75E-07	5.34E-04	5.04E-02	1.34E-06	4.09E-03	5.70E-02	1.52E-06	4.62E-03	9.31E-04	2.48E-08	7.55E-05
Road 5	5	2300-0000	6.95E-03	1.38E-07	4.20E-04	5.02E-02	9.94E-07	3.03E-03	5.71E-02	1.13E-06	3.45E-03	1.04E-03	6.23E-09	1.90E-05
Road 6	6	0000-0100	1.16E-02	4.08E-07	1.55E-03	5.69E-02	2.00E-06	7.60E-03	1.88E-02	6.61E-07	2.51E-03	9.23E-03	3.24E-08	1.23E-04
Road 6	6	0100-0200	1.60E-02	9.80E-08	1.01E-03	7.45E-02	5.54E-07	5.70E-03	2.88E-03	1.76E-08	1.81E-04			
Road 6	6	0200-0300	1.69E-02	7.68E-08	7.89E-04	3.50E-02	9.38E-02	4.27E-07	4.39E-03	3.09E-03	1.40E-08	1.44E-04		
Road 6	6	0300-0400	1.82E-02	6.30E-08	6.47E-04	3.77E-02	1.30E-07	3.32E-04	4.73E-03	1.64E-08	1.68E-04			
Road 6	6	0400-0500	1.92E-02	7.78E-08	8.00E-04	3.97E-02	3.49E-03	1.03E-01	4.17E-07	4.29E-03	1.52E-03	1.43E-08	1.47E-04	
Road 6	6	0500-0600	2.13E-02	1.52E-07	1.56E-03	9.14E-02	6.49E-07	6.67E-03	1.13E-01	8.00E-07	8.22E-03	3.78E-03	2.68E-08	2.76E-04
Road 6	6	0600-0700	2.76E-02	1.97E-07	2.03E-03	1.18E-01	8.42E-07	8.66E-03	1.46E-01	1.04E-06	1.07E-02	4.89E-03	3.48E-08	3.58E-04
Road 6	6	0700-0800	3.72E-02	1.18E-06	1.21E-02	1.46E-01	4.63E-06	5.78E-04	5.94E-02	1.88E-06	5.00E-03	1.58E-07	1.62E-03	
Road 6	6	0800-0900	3.96E-02	1.46E-06	1.50E-02	1.55E-01	5.69E-06	5.85E-02	1.94E-01	7.15E-06	7.35E-02	5.13E-03	1.89E-07	1.94E-03
Road 6	6	0900-1000	4.46E-02	1.46E-06	1.50E-02	1.74E-01	5.69E-06	5.85E-02	2.18E-01	7.15E-06	7.35E-02	5.77E-03	1.89E-07	1.94E-03
Road 6	6	1000-1100	4.91E-02	1.46E-06	1.50E-02	1.91E-01	5.40E-06	5.55E-02	2.30E-01	6.86E-06	7.06E-02	6.58E-03	1.96E-07	2.02E-03
Road 6	6	1100-1200	4.59E-02	1.29E-06	1.33E-02	1.73E-01	4.87E-06	5.00E-02	2.19E-01	6.16E-06	6.33E-02	6.30E-03	1.77E-07	1.82E-03
Road 6	6	1200-1300	5.53E-02	1.61E-06	1.65E-02	2.03E-01	5.90E-06	6.06E-02	2.58E-01	7.51E-06	7.72E-02	7.39E-03	2.15E-07	2.21E-03
Road 6	6	1300-1400	5.53E-02	1.61E-06	1.65E-02	2.03E-01	5.90E-06	6.06E-02	2.58E-01	7.51E-06	7.72E-02	7.39E-03	2.15E-07	2.21E-03
Road 6	6	1400-1500	5.75E-02	1.73E-06	1.78E-02	2.04E-01	6.16E-06	6.34E-02	2.62E-01	7.90E-06	8.12E-02	7.47E-03	2.25E-07	2.32E-03
Road 6	6	1500-1600	5.60E-02	1.68E-06	1.73E-02	2.01E-01	6.01E-06	6.19E-02	2.58E-01	7.71E-06	7.95E-02	7.34E-03	2.20E-07	2.26E-03
Road 6	6	1600-1700	5.37E-02	1.69E-06	1.73E-02	1.94E-01	6.08E-06	6.25E-02	2.47E-01	7.76E-06	7.98E-02	7.05E-03	2.21E-07	2.27E-03
Road 6	6	1700-1800	4.02E-02	1.33E-06	1.37E-02	1.66E-01	5.48E-06	5.64E-02	2.38E-01	7.87E-06	8.09E-02	6.79E-03	2.24E-07	2.30E-03
Road 6	6	1800-1900	2.79E-02	9.81E-07	9.06E-03	1.17E-01	4.12E-06	3.80E-02	1.44E-01	5.06E-06	4.68E-02	4.74E-03	1.66E-07	1.53E-03
Road 6	6	1900-2000	2.11E-02	5.17E-07	5.31E-03	9.32E-02	2.28E-06	2.35E-02	1.08E-01	2.65E-06	2.72E-02	3.58E-03	8.77E-08	9.01E-04
Road 6	6	2000-2100	1.91E-02	3.66E-07	3.76E-03	9.15E-02	1.75E-06	1.80E-02	1.01E-01	1.93E-06	1.98E-02	3.24E-03	6.21E-08	6.38E-04
Road 6	6	2100-2200	1.87E-02	3.58E-07	3.68E-03	9.15E-02	1.75E-06	1.80E-02	1.00E-01	1.93E-06	1.98E-02	3.17E-03	6.07E-08	6.24E-04
Road 6	6	2200-2300	1.82E-02	3.42E-07	3.51E-03	8.88E-02	1.67E-06	1.72E-02	9.76E-02	1.84E-06	1.89E-02	3.09E-03	5.79E-08	5.95E-04
Road 6	6	2300-0000	1.85E-02	2.58E-07	2.65E-03	8.45E-02	1.18E-06	1.21E-02	1.03E-01	1.43E-06	1.47E-02	3.00E-03	4.19E-08	4.29E-04
Road 7	7	0000-0100	4.86E-03	3.32E-08	1.42E-04	3.58E-02	2.44E-07	1.04E-03	4.07E-02	2.77E-07	1.18E-03	1.17E-03	8.02E-09	3.43E-05
Road 7	7	0100-0200	5.46E-03	2.38E-08	7.13E-05	4.02E-02	1.75E-07	5.26E-04	4.57E-02	2.00E-07	6.00E-04	1.32E-03	5.76E-09	1.73E-05
Road 7	7	0200-0300	6.11E-03	2.00E-08	8.55E-05	3.93E-02	1.28E-07	5.49E-04	4.54E-02	1.48E-07	6.35E-04	1.49E-03	4.85E-09	2.07E-05
Road 7	7	0300-0400	6.74E-03	1.74E-08	7.46E-05	4.09E-02	1.06E-07	4.52E-04	4.76E-02	1.23E-07	5.27E-04	1.65E-03	4.28E-09	1.83E-05
Road 7	7	0400-0500	7.39E-03	2.08E-08	8.87E-05	4.24E-02	1.19E-07	5.09E-04	4.98E-02	1.40E-07	5.98E-04	1.81E-03	5.09E-09	2.19E-05
Road 7	7	0500-0600	7.36E-03	3.60E-08	1.54E-04	4.29E-02	2.10E-07	8.98E-04	5.02E-02	2.46E-07	1.05E-03	1.83E-03	8.96E-09	3.83E-05
Road 7	7	0600-0700	7.67E-03	8.02E-08	3.43E-04	4.43E-02	4.63E-07	1.98E-03	5.20E-02	5.43E-07	2.33E-03	1.92E-03	2.00E-08	8.57E-05
Road 7	7	0700-0800	8.34E-03	1.72E-07	7.35E-04	4.81E-02	9.97E-07	4.26E-03	5.44E-02	1.13E-06	4.84E-03	2.09E-03	4.31E-08	1.84E-04
Road 7	7	0800-0900	8.24E-03	2.02E-07	8.65E-04	4.30E-02	1.06E-06	4.52E-03	5.13E-02	1.26E-06	5.38E-03	2.07E-03	5.09E-08	2.18E-04
Road 7	7	0900-1000	9.27E-03	1.87E-07	8.02E-04	4.70E-02	9.51E-07	4.07E-03	5.63E-02	1.14E-06	4.87E-03	2.45E-03	4.95E-08	2.12E-04
Road 7	7	1000-1100	1.05E-02	1.84E-07	7.88E-04	4.90E-02	8.59E-07	3.68E-03	5.95E-02	1.04E-06	4.46E-03	2.79E-03	4.88E-08	2.09E-04
Road 7	7	1100-1200	1.00E-02	1.67E-07	7.13E-04	4.86E-02	8.08E-07	3.46E-03	5.73E-02	9.54E-07	4.08E-03	2.70E-03	4.49E-08	1.92E-04
Road 7	7	1200-1300	1.66E-02	4.27E-07	1.83E-03	6.80E-02	1.74E-06	7.47E-03	8.46E-02	2.17E-06	9.29E-03	4.01E-03	1.03E-07	4.41E-04
Road 7	7	1300-1400	2.12E-02	5.46E-07	2.41E-03	9.87E-02	2.31E-06	1.02E-02	2.87E-02	7.44E-07	3.29E-03	4.41E-03	1.13E-07	4.99E-04
Road 7	7	1400-1500	2.64E-02	7.41E-07	3.17E-03	1.02E-01	2.86E-06	1.22E-02	3.60E-06	1.54E-06	4.70E-03	1.32E-07	5.64E-04	
Road 7	7	1500-1600	2.72E-02	7.82E-07	3.35E-03	1.13E-01	3.25E-06	1.39E-02	4.65E-03	1.34E-07	5.72E-04			

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (annual) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 7	7	1600-1700	3.62E-02	1.09E-06	4.65E-03	1.35E-01	4.04E-06	1.73E-02	1.71E-01	5.13E-06	5.93E-02	3.90E-03	1.88E-03	2.51E-03
Road 7	7	1700-1800	3.50E-02	1.16E-06	4.95E-03	1.50E-01	4.95E-06	2.12E-02	1.85E-01	6.11E-06	2.61E-02	4.30E-03	1.42E-07	6.07E-04
Road 7	7	1800-1900	2.34E-02	8.08E-07	3.46E-03	1.02E-01	3.53E-06	1.51E-02	1.25E-01	4.34E-06	1.86E-02	2.97E-03	1.03E-07	4.39E-04
Road 7	7	1900-2000	6.69E-03	1.81E-07	7.75E-04	3.82E-02	1.03E-06	4.42E-03	4.49E-02	1.21E-06	5.20E-03	1.66E-03	4.50E-08	1.92E-04
Road 7	7	2000-2100	6.06E-03	1.28E-07	5.48E-04	3.93E-02	8.30E-07	3.55E-03	4.54E-02	9.58E-07	4.10E-03	1.58E-03	3.33E-08	1.43E-04
Road 7	7	2100-2200	5.60E-03	1.18E-07	5.05E-04	3.88E-02	8.18E-07	3.50E-03	4.44E-02	9.36E-07	4.01E-03	1.46E-03	3.08E-08	1.32E-04
Road 7	7	2200-2300	5.52E-03	1.12E-07	4.81E-04	3.90E-02	7.95E-07	3.43E-03	4.38E-02	8.92E-07	3.78E-03	1.44E-03	2.83E-08	1.21E-04
Road 7	7	2300-0000	6.11E-03	9.36E-08	4.00E-04	3.92E-02	6.01E-07	2.57E-03	4.53E-02	6.95E-07	2.97E-03	1.56E-03	2.39E-08	1.02E-04
Road 8	8	0000-0100	4.77E-03	2.65E-09	1.95E-05	3.11E-02	1.72E-08	1.27E-04	3.58E-02	1.99E-08	1.47E-04	1.21E-03	6.71E-10	4.96E-06
Road 8	8	0100-0200	5.12E-03	2.23E-09	1.64E-05	3.34E-02	1.45E-08	1.07E-04	3.76E-02	1.67E-08	1.23E-04	1.32E-03	5.64E-10	4.15E-06
Road 8	8	0200-0300	5.72E-03	1.52E-09	1.12E-05	3.72E-02	9.86E-09	7.25E-05	3.96E-02	1.36E-08	1.00E-04	1.48E-03	3.84E-10	2.83E-06
Road 8	8	0300-0400	6.38E-03	1.40E-09	1.03E-05	4.15E-02	9.09E-09	6.68E-05	4.41E-02	1.25E-08	9.23E-05	1.64E-03	3.61E-10	2.66E-06
Road 8	8	0400-0500	7.08E-03	2.54E-09	1.87E-05	4.60E-02	1.65E-08	1.22E-04	4.89E-02	1.75E-08	1.29E-04	1.82E-03	6.52E-10	4.80E-06
Road 8	8	0500-0600	8.04E-03	4.44E-09	3.27E-05	5.22E-02	2.88E-08	2.12E-04	5.54E-02	3.06E-08	2.25E-04	2.06E-03	1.14E-09	8.38E-06
Road 8	8	0600-0700	9.26E-03	1.25E-08	4.12E-05	5.98E-02	8.08E-08	3.56E-04	6.38E-02	8.62E-08	3.80E-04	2.37E-03	3.20E-09	1.41E-05
Road 8	8	0700-0800	1.07E-02	3.58E-08	1.58E-04	6.91E-02	2.32E-07	1.02E-03	7.37E-02	2.47E-07	1.09E-03	2.74E-03	9.20E-09	4.06E-05
Road 8	8	0800-0900	1.09E-02	4.16E-08	1.84E-04	7.03E-02	2.69E-07	1.19E-03	7.50E-02	2.87E-07	1.27E-03	2.79E-03	1.07E-08	4.72E-05
Road 8	8	0900-1000	1.12E-02	3.58E-08	1.58E-04	7.23E-02	2.32E-07	1.02E-03	7.71E-02	2.47E-07	1.09E-03	2.87E-03	9.20E-09	4.06E-05
Road 8	8	1000-1100	1.15E-02	3.58E-08	1.58E-04	7.43E-02	2.32E-07	1.02E-03	7.92E-02	2.47E-07	1.09E-03	2.95E-03	9.20E-09	4.06E-05
Road 8	8	1100-1200	1.03E-02	3.22E-08	1.42E-04	6.65E-02	2.08E-07	9.19E-04	7.09E-02	2.22E-07	9.79E-04	2.64E-03	8.26E-09	3.64E-05
Road 8	8	1200-1300	1.32E-02	2.90E-07	4.17E-03	8.54E-02	1.87E-06	2.69E-02	9.10E-02	2.00E-06	2.87E-02	3.39E-03	7.45E-08	1.07E-03
Road 8	8	1300-1400	1.37E-02	3.74E-07	5.38E-03	8.85E-02	2.41E-06	3.47E-02	9.43E-02	2.58E-06	3.71E-02	3.51E-03	9.61E-08	1.38E-03
Road 8	8	1400-1500	1.39E-02	4.16E-07	5.98E-03	8.97E-02	2.68E-06	3.86E-02	9.56E-02	2.87E-06	4.12E-02	3.56E-03	1.07E-07	1.53E-03
Road 8	8	1500-1600	1.27E-02	4.14E-07	5.47E-03	8.23E-02	2.68E-06	3.54E-02	8.76E-02	2.85E-06	3.77E-02	3.25E-03	1.06E-07	1.40E-03
Road 8	8	1600-1700	1.49E-02	4.96E-07	6.41E-03	9.66E-02	3.21E-06	4.15E-02	1.03E-01	3.42E-06	4.42E-02	3.82E-03	1.27E-07	1.64E-03
Road 8	8	1700-1800	1.06E-02	4.14E-07	5.47E-03	6.87E-02	2.68E-06	3.54E-02	7.31E-02	2.85E-06	3.77E-02	2.71E-03	1.06E-07	1.40E-03
Road 8	8	1800-1900	7.58E-03	3.90E-08	2.88E-04	3.78E-02	1.94E-07	1.43E-03	4.54E-02	2.33E-07	1.72E-03	2.12E-03	1.09E-08	8.03E-05
Road 8	8	1900-2000	6.56E-03	2.65E-08	1.96E-04	3.49E-02	1.41E-07	1.04E-03	4.14E-02	1.68E-07	1.24E-03	1.78E-03	7.21E-09	5.32E-05
Road 8	8	2000-2100	6.26E-03	2.20E-08	1.62E-04	3.46E-02	1.22E-07	8.96E-04	3.78E-02	1.33E-07	9.78E-04	1.70E-03	5.98E-09	4.40E-05
Road 8	8	2100-2200	6.17E-03	1.93E-08	1.43E-04	3.78E-02	1.18E-07	8.72E-04	4.39E-02	1.37E-07	1.01E-03	1.68E-03	5.25E-09	3.88E-05
Road 8	8	2200-2300	6.12E-03	1.86E-08	1.37E-04	3.65E-02	1.11E-07	8.17E-04	4.29E-02	1.30E-07	9.59E-04	1.68E-03	5.12E-09	3.83E-05
Road 8	8	2300-0000	6.75E-03	1.56E-08	1.16E-04	3.68E-02	8.50E-08	6.32E-04	4.73E-02	1.09E-07	8.10E-04	1.85E-03	4.28E-09	3.18E-05
Road 9	9	0000-0100	1.12E-02	7.92E-08	2.15E-04	6.26E-02	4.41E-07	1.20E-03	7.39E-02	5.20E-07	1.41E-03	1.73E-03	1.22E-08	3.31E-05
Road 9	9	0100-0200	1.13E-02	5.21E-08	1.41E-04	6.12E-02	2.81E-07	7.62E-04	7.25E-02	3.34E-07	9.04E-04	1.87E-03	8.58E-09	2.32E-05
Road 9	9	0200-0300	1.18E-02	3.98E-08	1.08E-04	6.30E-02	2.13E-07	5.84E-04	7.45E-02	2.52E-07	6.90E-04	1.96E-03	6.63E-09	1.81E-05
Road 9	9	0300-0400	1.25E-02	3.36E-08	9.10E-05	6.35E-02	1.70E-07	4.61E-04	7.60E-02	2.04E-07	5.52E-04	2.19E-03	5.86E-09	1.59E-05
Road 9	9	0400-0500	1.33E-02	3.92E-08	1.06E-04	6.58E-02	1.94E-07	5.25E-04	7.91E-02	2.33E-07	6.31E-04	2.34E-03	6.89E-09	1.87E-05
Road 9	9	0500-0600	1.43E-02	5.34E-08	1.44E-04	6.91E-02	2.58E-07	6.97E-04	8.17E-02	3.05E-07	8.24E-04	2.51E-03	9.38E-09	2.54E-05
Road 9	9	0600-0700	2.06E-02	2.25E-07	6.09E-04	9.29E-02	1.02E-06	2.75E-03	1.13E-01	1.24E-06	3.36E-03	2.97E-03	3.24E-08	8.79E-05
Road 9	9	0700-0800	3.54E-02	7.86E-07	2.12E-03	1.60E-01	3.56E-06	9.62E-03	1.45E-01	3.22E-06	8.72E-03	1.80E-03	4.00E-08	1.08E-03
Road 9	9	0800-0900	3.53E-02	7.86E-07	2.12E-03	1.59E-01	3.56E-06	9.62E-03	1.45E-01	3.22E-06	8.72E-03	1.80E-03	4.00E-08	1.08E-03
Road 9	9	0900-1000	4.16E-02	8.97E-07	2.43E-03	1.68E-01	3.63E-06	9.84E-03	2.10E-01	4.53E-06	1.23E-02	4.56E-03	9.84E-08	2.67E-04
Road 9	9	1000-1100	4.16E-02	7.85E-07	2.13E-03	1.62E-01	3.05E-06	8.25E-03	2.03E-01	3.83E-06	1.04E-02	4.86E-03	9.16E-08	2.48E-04
Road 9	9	1100-1200	3.20E-02	6.32E-07	1.71E-03	1.30E-01	2.57E-06	6.96E-03	1.61E-01	3.18E-06	8.61E-03	3.84E-03	7.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (diesel) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 31	31	0000-0100	1.38E-02	3.01E-08	6.05E-05	3.16E-02	6.91E-08	1.67E-06	3.76E-02	2.00E-03	8.23E-06	1.42E-04		
Road 31	31	0100-0200	1.65E-02	2.50E-08	8.16E-05	5.68E-02	8.62E-08	3.08E-03	2.28E-02	5.90E-08	1.33E-04			
Road 31	31	0200-0300	1.91E-02	2.26E-08	7.35E-05	6.18E-02	7.30E-08	2.38E-04	8.09E-02	9.56E-08	3.12E-04	4.86E-03	5.74E-09	1.87E-05
Road 31	31	0300-0400	2.13E-02	2.13E-08	8.89E-05	6.52E-02	2.13E-04	8.72E-04	8.63E-02	2.81E-04	5.33E-03	5.34E-09	1.74E-05	
Road 31	31	0400-0500	2.10E-02	2.27E-08	7.40E-05	6.59E-02	7.12E-08	2.32E-04	8.69E-02	9.39E-08	3.06E-04	5.34E-03	5.78E-09	1.88E-05
Road 31	31	0500-0600	1.80E-02	3.14E-08	1.03E-04	6.21E-02	1.08E-07	3.54E-04	8.02E-02	1.40E-07	4.56E-04	4.71E-03	8.21E-09	2.68E-05
Road 31	31	0600-0700	1.57E-02	6.90E-08	1.38E-04	5.46E-02	2.18E-07	7.55E-02	2.69E-07	1.78E-04	3.56E-03	9.50E-09	4.96E-05	
Road 31	31	0700-0800	1.84E-02	1.41E-07	4.60E-04	6.39E-02	4.91E-07	1.60E-03	8.23E-02	6.32E-07	2.06E-03	4.86E-03	3.73E-08	1.22E-04
Road 31	31	0800-0900	1.74E-02	1.53E-07	4.99E-04	6.08E-02	5.34E-07	1.74E-03	7.82E-02	6.87E-07	2.24E-03	4.69E-03	4.13E-08	1.35E-04
Road 31	31	0900-1000	1.79E-02	1.37E-07	4.62E-04	6.25E-02	4.78E-07	1.61E-03	8.04E-02	6.15E-07	2.07E-03	4.83E-03	3.70E-08	1.25E-04
Road 31	31	1000-1100	2.17E-02	1.62E-07	5.30E-04	7.11E-02	5.32E-07	1.73E-03	9.29E-02	6.94E-07	2.26E-03	5.48E-03	4.09E-08	1.34E-04
Road 31	31	1100-1200	2.17E-02	1.54E-07	5.02E-04	7.14E-02	5.07E-07	1.65E-03	9.31E-02	6.61E-07	2.16E-03	5.86E-03	4.16E-08	1.36E-04
Road 31	31	1200-1300	2.02E-02	1.38E-07	4.68E-04	6.66E-02	4.55E-07	1.54E-03	8.67E-02	5.93E-07	2.01E-03	5.46E-03	3.73E-08	1.27E-04
Road 31	31	1300-1400	1.99E-02	1.06E-07	3.46E-04	6.36E-02	3.39E-07	1.11E-03	8.35E-02	4.45E-07	1.45E-03	5.19E-03	2.76E-08	9.01E-05
Road 31	31	1400-1500	1.95E-02	1.09E-07	3.56E-04	6.22E-02	3.47E-07	1.13E-03	8.17E-02	4.56E-07	1.49E-03	5.09E-03	2.84E-08	9.26E-05
Road 31	31	1500-1600	1.86E-02	1.02E-07	3.32E-04	5.94E-02	3.25E-07	1.06E-03	7.80E-02	4.27E-07	1.39E-03	4.86E-03	2.66E-08	8.68E-05
Road 31	31	1600-1700	1.87E-02	1.11E-07	3.62E-04	5.95E-02	3.54E-07	1.15E-03	7.82E-02	4.65E-07	1.52E-03	4.84E-03	2.88E-08	9.38E-05
Road 31	31	1700-1800	1.50E-02	9.79E-08	3.19E-04	5.27E-02	3.43E-07	1.12E-03	6.78E-02	4.41E-07	1.44E-03	3.92E-03	2.55E-08	8.31E-05
Road 31	31	1800-1900	1.24E-02	8.15E-08	2.78E-04	4.25E-02	2.79E-07	9.48E-04	5.49E-02	3.61E-07	1.23E-03	3.23E-03	2.12E-08	7.23E-05
Road 31	31	1900-2000	7.62E-03	3.81E-08	1.24E-04	3.45E-02	1.72E-07	5.62E-04	4.22E-02	2.11E-07	6.87E-04	1.98E-03	9.87E-09	3.22E-05
Road 31	31	2000-2100	8.05E-03	1.08E-08	1.04E-04	3.82E-02	1.51E-07	4.93E-04	4.63E-02	1.83E-07	5.96E-04	2.06E-03	8.15E-09	2.66E-05
Road 31	31	2100-2200	7.69E-03	3.01E-08	9.81E-05	3.80E-02	1.49E-07	4.85E-04	4.57E-02	1.79E-07	5.83E-04	1.97E-03	7.71E-09	2.52E-05
Road 31	31	2200-2300	7.73E-03	2.68E-08	8.68E-05	3.82E-02	1.32E-07	4.29E-04	4.60E-02	1.59E-07	5.16E-04	1.98E-03	6.85E-09	2.22E-05
Road 31	31	2300-0000	9.13E-03	2.66E-08	8.67E-05	4.07E-02	1.19E-07	3.87E-04	4.98E-02	1.45E-07	4.73E-04	2.28E-03	6.65E-09	2.17E-05
Road 32	32	0000-0100	6.86E-03	6.90E-08	1.67E-04	3.03E-02	3.04E-07	7.36E-04	4.63E-02	4.63E-07	1.12E-03	1.84E-03	1.85E-08	4.49E-05
Road 32	32	0100-0200	2.45E-03	3.93E-08	9.54E-05	1.08E-02	1.73E-07	4.20E-04	1.65E-02	2.65E-07	6.43E-04	6.57E-04	1.05E-08	2.56E-05
Road 32	32	0200-0300	8.08E-03	3.93E-08	9.54E-05	4.28E-02	2.08E-07	5.05E-03	5.09E-02	2.48E-07	6.00E-03	2.18E-03	1.06E-08	2.57E-05
Road 32	32	0300-0400	8.68E-03	3.37E-08	8.16E-04	4.44E-02	1.72E-07	4.17E-03	5.31E-02	2.06E-07	4.99E-03	2.34E-03	9.08E-09	2.20E-04
Road 32	32	0400-0500	9.26E-03	3.14E-08	7.61E-04	4.73E-02	1.60E-07	3.88E-03	5.66E-02	1.92E-07	4.65E-03	2.49E-03	8.45E-09	2.05E-04
Road 32	32	0500-0600	9.83E-03	7.39E-08	1.79E-03	4.74E-02	3.56E-07	8.63E-03	5.72E-02	4.30E-07	1.04E-02	2.67E-03	2.01E-08	4.86E-04
Road 32	32	0600-0700	1.04E-02	1.70E-07	4.11E-03	4.92E-02	8.01E-07	1.94E-02	5.97E-02	9.71E-07	2.35E-02	2.83E-03	4.60E-08	1.12E-03
Road 32	32	0700-0800	1.04E-02	4.08E-07	9.88E-03	4.71E-02	1.81E-06	4.39E-02	5.78E-02	2.22E-06	5.37E-02	2.96E-03	1.14E-07	2.76E-03
Road 32	32	0800-0900	1.06E-02	4.08E-07	9.88E-03	4.71E-02	1.81E-06	4.39E-02	5.78E-02	2.22E-06	5.37E-02	2.96E-03	1.14E-07	2.76E-03
Road 32	32	0900-1000	1.24E-02	4.18E-07	1.01E-02	5.33E-02	1.79E-06	4.33E-02	6.80E-02	2.29E-06	5.54E-02	3.48E-03	1.17E-07	2.83E-03
Road 32	32	1000-1100	1.42E-02	3.98E-07	9.65E-03	6.55E-02	1.83E-06	4.44E-02	7.84E-02	2.19E-06	5.31E-02	4.00E-03	1.12E-07	2.72E-03
Road 32	32	1100-1200	1.38E-02	3.91E-07	9.48E-03	6.65E-02	1.60E-06	3.89E-02	7.02E-02	1.99E-06	4.83E-02	3.89E-03	1.10E-07	2.67E-03
Road 32	32	1200-1300	1.34E-02	3.77E-07	8.18E-03	5.37E-02	1.35E-06	3.27E-02	6.71E-02	1.69E-06	4.09E-02	3.69E-03	9.29E-08	2.25E-03
Road 32	32	1300-1400	1.32E-02	3.58E-07	8.69E-03	5.30E-02	1.43E-06	3.47E-02	6.63E-02	1.79E-06	4.34E-02	3.63E-03	9.86E-08	2.39E-03
Road 32	32	1400-1500	1.35E-02	3.71E-07	9.00E-03	5.46E-02	1.50E-06	3.63E-02	6.81E-02	1.87E-06	4.53E-02	3.76E-03	1.03E-07	2.50E-03
Road 32	32	1500-1600	1.25E-02	3.52E-07	8.53E-03	5.45E-02	1.53E-06	3.72E-02	6.70E-02	1.89E-06	4.57E-02	3.58E-03	1.01E-07	2.44E-03
Road 32	32	1600-1700	1.30E-02	3.65E-07	8.86E-03	5.52E-02	1.55E-06	3.76E-02	6.77E-02	1.91E-06	4.63E-02	3.72E-03	1.04E-07	2.53E-03
Road 32	32	1700-1800	9.35E-03	3.05E-07	7.40E-03	4.53E-02	1.48E-06	3.42E-02	5.78E-02	1.88E-06	4.32E-02	2.65E-03	8.65E-08	2.10E-03
Road 32	32	1800-1900	6.66E-03	2.30E-07	5.57E-03	3.38E-02	1.17E-06	2.83E-02	4.05E-02	1.40E-06	3.39E-02	1.87E-03	6.46E-08	1.56E-03
Road 32	32	1900-2000	3.40E-03	1.16E-07	2.81E-03	1.72E-02	5.91E-07	1.43E-02	2.06E-02	7.09E-07	1.72E-02	9.51E-04	3.27E-08	7.92E-04
Road 32	32	2000-2100	5.74E-03	1.22E-07	2.94E-03	3.62E-02	7.67E-07	1.86E-02	4.20E-02	8.89E-07	2.15E-02	1.55E-03	3.29E-08	7.96E-04
Road 32	32	2100-2200	5.24E-03	1.11E-07	2.68E-03	3.56E-02	7.53E-07	1.82E-02	4.09E-02	8.64E-07	2.09E-02	1.43E-03	3.01E-08	7.30E-04
Road 32	32	2200-2300	5.24E-03	1.11E-07	2.68E-03	3.56E-02	7.53E-07	1.82E-02	4.09E-02	8.64E-07	2.09E-02	1.43E-03	3.01E-08	7.30E-04
Road 32	32	2300-0000	5.75E-03	8.82E-08	2.14E-03	3.69E-02	5.67E-07	1.37E-02	4.27E-02	6.55E-07	1.59E-02	1.51E-03	2.32E-08	5.62E-04
Road 33	33	0000-0100	9.91E-03	9.61E-08	5.28E-04	4.75E-02	4.61E-07	2.53E-03	5.73E-02	5.56E-07	3.06E-03	2.53E-03	2.46E-08	1.35E-04
Road 33	33	0100-0200	1.34E-02	6.59E-08	3.62E-04	5.47E-02	2.70E-07	1.48E-03	6.60E-02	3.26E-07	1.79E-03	3.48E-03	1.72E-08	9.44E-05
Road 33	33	0200-0300	1.34E-02	6.59E-08	3.62E-04	5.47E-02	2.70E-07	1.48E-03	6.60E-02	3.26E-07	1.79E-03	3.48E-03	1.67E-08	9.15E-05
Road 33	33	0300-0400	1.49E-02	6.02E-08	3.30E-04	5.78E-02	2.33E-07	1.28E-03	7.27E-02	2.93E-07	1.61E-03	3.76E-03	1.52E-08	8.33E-05
Road 33	33	0400-0500	1.50E-02	6.02E-08	3.30E-04	5.82E-02	2.33E-07	1.28E-03	7.32E-02	2.93E-07	1.61E-03	3.80E-03	1.52E-08	8.36E-05
Road 33	33	0500-0600	1.37E-02	1.02E-07	5.59E-04	5.75E-02	4.28E-07	2.35E-03	7.12E-02	5.30E-07	2.91E-03	3.53E-03	2.62E-08	1.44E-04
Road 33	33	0600-0700	1.29E-02	2.01E-07	1.10E-03	5.75E-02	8.98E-07	4.93E-03	7.12E-02	1.11E-06	6.04E-03	3.36E-03	5.25E-08	2.88E-04
Road 33	33	0700-0800	1.38E-02	5.23E-07	2.87E-03	5.67E-02	2.14E-06	1.18E-02	7.05E-02	2.67E-06	1.46E-02	3.66E-03	1.39E-07	7.61E-04
Road 33	33	0800-0900	1.38E-02	5.23E-07	2.87E-03	5.67E-02	2.14E-06	1.18E-02	7.05E-02	2.67E-06	1.46E-02	3.66E-03	1.39E-07	7.61E-04
Road 33	33	0900-1000	1.60E-02	5.38E-07	2.95E-03	6.42E-02	2.16E-06	1.19E-02	8.01E-02	2.70E-06	1.48E-02	4.32E-03	1.45E-07	7.99E-04
Road 33	33	1000-1100	1.80E-02	4.98E-07	3.00E-03	6.76E-02	2.68E-06	1.61E-02	8.44E-02	3.34E-06	2.01E-02	4.76E-03	1.47E-07	8.06E-04
Road 33	33	1100-1200	1.77E-02	5.11E-07	2.80E-03	6.80E-02	2.70E-06	1.56E-02	8.47E-02	3.36E-06	1.96E-02	4.74E-03	1.36E-07	7.61E-04
Road 33	33	1200-1300	2.04E-02	5.82E-07	3.19E-03	7.27E-02	2.08E-06	1.24E-02	8.43E-02	2.41E-06	1.46E-02	5.46E-03	1.56E-07	8.57E-04
Road 33	33	1300-1400	2.02E-02	6.10E-07	3.35E-03	7.51E-02	2.26E-06	1.24E-02	8.63E-02	2.60E-06	1.43E-02	5.46E-03	1.64E-07	9.01E-04
Road 33	33	1400-1500	2.02E-02	6.04E-07	3.32E-03	7.51E-02	2.24E-06	1.23E-02	8.63E-02	2.57E-06	1.41E-02	5.46E-03	1.63E-07	8.94E-04
Road 33	33	1500-1600	1.87E-02	5.23E-07	2.87E-03	6.92E-02	2.32E-06	1.28E-02	8.01E-02	2.69E-06	1.48E-02	5.04E-03	1.41E-07	7.74E-04
Road 33	33	1600-1700	1.87E-02	5.23E-07	2.87E-03	6.92E-02	2.32E-06	1.28E-02	8.01E-02	2.69E-06	1.48E-02	5.04E-03	1.41E-07	7.74E-04
Road 33	33	1700-1800	1.71E-02	5.23E-07	2.87E-03	6.33E-02	2.32E-06	1.28E-02	7.33E-02	2.69E-06	1.48E-02	4.61E-03	1.41E-07	7.74E-04
Road 33	33	1800-1900	1.15E-02	3.89E-07	2.14E-03	4.84E-02	2.64E-06	8.99E-03	6.00E-02	2.03E-06	1.11E-02	3.11E-03	1.05E-07	5.77E-04
Road 33	33	1900-2000	2.24E-03	1.23E-08	4.33E-05	1.09E-02	5.97E-07	5.22E-03	1.31E-02	7.20E-07	6.30E-03	6.65E-04	3.65E-09	3.19E-05
Road 33	33	2000-2100	2.68E-03	1.71E-07	9.40E-04	4.65E-02	9.17E-07	5.04E-03	5.51E-02	1.09E-06	5.98E-03	2.33E-03	4.60E-08	2.52E-04
Road 33	33	2100-2200	8.67E-03	1.71E-07	9.40E-04	4.65E-02	9.17E-07	5.04E-03	5.51E-02	1.09E-06	5.98E-03	2.33E-03	4.60E-08	2.52E-04
Road 33	33	2200-2300	8.76E-03	1.66E-07	9.09E-04	4.54E-02	8.58E-07	4.71E-03	5.42E-02	1.02E-06	5.62E-03	2.28E-03	4.30E-08	2.36E-04
Road 33	33	2300-0000	9.83E-03	1.62E-07	8.89E-04	3.81E-02	5.78E-07	3.81E-03	4.56E-02	6.91E-07	3.71E-03	2.04E-03	3.12E-08	1.68E-04
Road 34	34	0000-0100	5.30E-03	3.80E-08	3.63E-04	3.54E-02	2.54E-07	2.42E-03	4.07E-02	2.92E-07	2.79E-03	1.30E-03	9.36E-09	8.94E-05
Road 34	34	0100-0200	6.20E-03	2.91E-08	2.78E-04	3.72E-02	1.75E-07	1.67E-03	4.34E-02	2.04E-07	1.95E-03	1.53E-03	7.20E-09	6.88E-05
Road 34	34	0200-0300	7.15E-03	2.48E-08	2.37E-04	3.97E-02	1.38E-07	1.32E-03	4.68E-02	1.62E-07	1.55E-03	1.76E-03	6.10E-09	5.83E-05
Road 34	34	0300-0400	8.07E-03	2.22E-08	2.12E-04	4.16E-02	1.15E-07	1.09E-03	4.96E-02	1.37E-07	1.31E-03	1.99E-03	5.48E-09	5.24E-05
Road 34	34	0400-0500	8.30E-03	2.39E-08	4.23E-02	1.27E-07	1.22E-03	5.06E-02	1.52E-07	1.46E-03	2.06E-03	6.20E-09	5.92E-05	
Road 34	34	0500-0600	7.86E-03	4.02E-08	3.85E-04	4.21E-02	2.06E-07	1.99E-03	5.02E-02	2.56E-07	2.47E-03	1.97E-03	1.01E-08	9.67E-05
Road 34	34	0600-0700	7.69E-03	8.34E-08	7.96E-04	4.26E-02	4.62E-07	4.41E-03	5.03E-02	5.46E-07	5.21E-03	1.95E-03	2.12E-08	2.01E-04
Road 34	34	0700-0800	8.62E-03	1.90E-07	1.82E-03	4.41E-02	9.74E-07	9.30E-03	5.27E-02	1.16E-06	1.11E-02	2.19E-03	4.84E-08	4.62E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (diesel) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 34	34	0800-0900	8.13E-03	2.07E-07	1.98E-03	1.93E-02	1.00E-06	9.56E-03	4.74E-02	1.21E-06	1.15E-02	2.11E-03	5.37E-08	5.13E-04
Road 34	34	0900-1000	9.32E-03	1.95E-07	1.86E-03	4.33E-02	9.05E-07	8.65E-03	5.27E-02	1.10E-06	1.05E-02	2.50E-03	5.22E-08	4.98E-04
Road 34	34	1000-1100	1.06E-02	1.91E-07	1.82E-03	4.58E-02	8.27E-07	7.90E-03	5.64E-02	1.02E-06	9.72E-03	2.83E-03	5.11E-08	4.88E-04
Road 34	34	1100-1200	1.02E-02	1.75E-07	1.67E-03	4.59E-02	7.86E-07	7.51E-03	5.60E-02	9.61E-07	9.18E-03	2.70E-03	4.63E-08	4.42E-04
Road 34	34	1200-1300	1.61E-02	2.67E-07	2.55E-03	5.79E-02	9.61E-07	9.18E-03	7.41E-02	1.23E-06	1.17E-02	4.43E-03	7.35E-08	7.02E-04
Road 34	34	1300-1400	1.61E-02	2.79E-07	2.66E-03	5.99E-02	1.04E-06	9.89E-03	7.61E-02	1.31E-06	1.26E-02	4.52E-03	7.81E-08	7.46E-04
Road 34	34	1400-1500	1.61E-02	2.90E-07	2.77E-03	5.97E-02	1.08E-06	1.01E-02	7.47E-02	1.35E-06	1.29E-02	4.52E-03	8.07E-08	7.71E-04
Road 34	34	1500-1600	1.49E-02	2.75E-07	2.63E-03	5.85E-02	1.08E-06	1.04E-02	7.34E-02	1.36E-06	1.30E-02	4.25E-03	7.87E-08	7.52E-04
Road 34	34	1600-1700	1.51E-02	2.90E-07	2.77E-03	5.57E-02	1.07E-06	1.02E-02	7.08E-02	1.36E-06	1.30E-02	4.19E-03	8.04E-08	7.68E-04
Road 34	34	1700-1800	1.14E-02	2.27E-07	2.26E-03	4.35E-02	8.66E-07	8.63E-03	5.56E-02	1.11E-06	1.10E-02	3.23E-03	6.71E-08	6.41E-04
Road 34	34	1800-1900	8.47E-03	1.79E-07	1.71E-03	3.69E-02	7.78E-07	7.43E-03	4.53E-02	9.57E-07	9.14E-03	2.38E-03	5.01E-08	4.79E-04
Road 34	34	1900-2000	6.82E-03	1.12E-07	1.07E-03	3.36E-02	5.52E-07	5.27E-03	4.04E-02	6.64E-07	6.34E-03	1.89E-03	3.11E-08	2.97E-04
Road 34	34	2000-2100	7.76E-03	1.38E-07	1.32E-03	3.82E-02	6.80E-07	6.50E-03	4.60E-02	8.19E-07	7.82E-03	2.15E-03	3.83E-08	3.66E-04
Road 34	34	2100-2200	6.51E-03	8.29E-08	7.91E-04	3.20E-02	4.06E-07	3.87E-03	4.29E-02	5.44E-07	5.22E-03	1.81E-03	2.31E-08	2.20E-04
Road 34	34	2200-2300	6.49E-03	8.01E-08	7.65E-04	3.57E-02	4.41E-07	4.21E-03	4.29E-02	5.21E-07	4.97E-03	1.73E-03	2.14E-08	2.04E-04
Road 34	34	2300-0000	7.24E-03	6.76E-08	6.46E-04	3.98E-02	3.75E-07	3.58E-03	4.78E-02	4.46E-07	4.26E-03	1.93E-03	1.81E-08	1.72E-04
Road 35	35	0000-0100	2.90E-02	3.50E-08	3.11E-05	8.86E-02	1.07E-07	9.52E-05	1.18E-01	1.42E-07	1.26E-04	4.91E-02	5.94E-08	5.27E-05
Road 35	35	0100-0200	3.66E-02	3.21E-08	2.85E-05	1.02E-01	8.95E-08	7.95E-05	1.39E-01	1.22E-07	1.08E-04	6.12E-03	5.38E-09	4.78E-06
Road 35	35	0200-0300	3.56E-02	3.20E-08	2.84E-05	1.00E-01	8.98E-08	7.98E-05	1.36E-01	1.22E-07	1.08E-04	2.63E-03	2.36E-09	2.10E-06
Road 35	35	0300-0400	4.86E-02	3.00E-08	2.66E-05	1.23E-01	7.63E-08	6.77E-05	1.72E-01	1.06E-07	9.43E-05	7.99E-03	4.93E-09	4.38E-06
Road 35	35	0400-0500	4.71E-02	3.09E-08	2.74E-05	1.22E-01	8.00E-08	7.10E-05	1.69E-01	1.11E-07	9.84E-05	7.79E-03	5.11E-09	4.54E-06
Road 35	35	0500-0600	3.74E-02	3.58E-08	3.19E-05	1.07E-01	1.02E-07	9.16E-05	1.46E-01	1.39E-07	1.24E-04	6.19E-03	5.91E-09	5.26E-06
Road 35	35	0600-0700	2.99E-02	5.19E-08	4.61E-05	8.56E-02	1.48E-07	1.32E-04	1.16E-01	2.01E-07	1.79E-04	4.95E-03	8.59E-09	7.63E-06
Road 35	35	0700-0800	4.22E-02	1.72E-07	1.53E-04	1.22E-01	4.99E-07	4.43E-04	1.64E-01	6.71E-07	5.96E-04	6.61E-03	2.71E-08	2.40E-05
Road 35	35	0800-0900	4.05E-02	1.87E-07	1.66E-04	1.18E-01	5.44E-07	4.83E-04	1.59E-01	7.31E-07	6.49E-04	6.28E-03	2.90E-08	2.57E-05
Road 35	35	0900-1000	4.48E-02	1.82E-07	1.62E-04	1.31E-01	5.31E-07	4.72E-04	1.76E-01	7.13E-07	6.34E-04	6.96E-03	2.82E-08	2.51E-05
Road 35	35	1000-1100	4.87E-02	1.83E-07	1.62E-04	1.37E-01	5.15E-07	4.58E-04	1.86E-01	6.98E-07	6.20E-04	7.76E-03	2.91E-08	2.58E-05
Road 35	35	1100-1200	4.93E-02	1.67E-07	1.48E-04	1.39E-01	4.69E-07	4.17E-04	1.88E-01	6.37E-07	5.66E-04	7.77E-03	2.79E-08	2.48E-05
Road 35	35	1200-1300	4.82E-02	1.67E-07	1.48E-04	1.36E-01	4.69E-07	4.17E-04	1.84E-01	6.37E-07	5.66E-04	7.59E-03	2.79E-08	2.48E-05
Road 35	35	1300-1400	5.60E-02	1.44E-07	1.28E-04	1.45E-01	3.73E-07	3.31E-04	2.01E-01	5.17E-07	4.59E-04	8.78E-03	2.26E-08	2.00E-05
Road 35	35	1400-1500	5.45E-02	1.46E-07	1.29E-04	1.41E-01	3.76E-07	3.33E-04	1.95E-01	5.21E-07	4.63E-04	8.55E-03	2.29E-08	2.04E-05
Road 35	35	1500-1600	5.25E-02	1.47E-07	1.31E-04	1.36E-01	3.80E-07	3.37E-04	1.88E-01	5.27E-07	4.68E-04	8.24E-03	2.32E-08	2.06E-05
Road 35	35	1600-1700	5.25E-02	1.47E-07	1.31E-04	1.36E-01	3.80E-07	3.37E-04	1.88E-01	5.27E-07	4.68E-04	8.28E-03	2.32E-08	2.06E-05
Road 35	35	1700-1800	4.60E-02	1.39E-07	1.23E-04	1.31E-01	3.71E-07	3.30E-04	1.69E-01	5.10E-07	4.53E-04	7.23E-03	2.18E-08	1.94E-05
Road 35	35	1800-1900	3.48E-02	1.14E-07	1.01E-04	1.00E-01	3.29E-07	2.93E-04	1.48E-01	4.88E-07	4.34E-04	5.47E-03	1.79E-08	1.59E-05
Road 35	35	1900-2000	2.07E-02	4.11E-08	3.65E-05	6.86E-02	1.36E-07	1.21E-04	8.93E-02	1.77E-07	1.58E-04	3.49E-03	6.94E-09	6.17E-06
Road 35	35	2000-2100	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04	3.88E-03	6.21E-09	5.51E-06
Road 35	35	2100-2200	2.36E-02	3.53E-08	3.13E-05	7.79E-02	1.16E-07	1.04E-04	1.01E-01	1.52E-07	1.35E-04	3.92E-03	5.87E-09	5.21E-06
Road 35	35	2200-2300	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.54E-07	1.37E-04	3.74E-03	5.83E-09	5.17E-06
Road 35	35	2300-0000	2.68E-02	3.29E-08	2.92E-05	8.24E-02	1.01E-07	9.01E-05	1.09E-01	1.34E-07	1.19E-04	4.45E-03	5.48E-09	4.86E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for Year 2043

AERMOD model (January)

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 103	103	1600-1700	1.19E-02	5.48E-07	2.01E-03	2.56E-02	1.18E-06	4.33E-03	5.52E-02	2.54E-06	9.33E-03
Road 103	103	1700-1800	8.50E-03	4.42E-07	3.88E-03	4.56E-02	2.37E-06	2.08E-02	5.41E-02	2.81E-06	2.47E-02
Road 103	103	1800-1900	6.51E-03	3.67E-07	3.22E-03	3.60E-02	2.03E-06	1.78E-02	4.25E-02	2.40E-06	2.11E-02
Road 103	103	1900-2000	5.17E-03	3.12E-07	2.60E-03	3.22E-02	1.43E-06	1.28E-02	3.73E-02	1.66E-06	1.49E-02
Road 103	103	2000-2100	4.96E-03	1.72E-07	1.51E-03	3.50E-02	1.21E-06	1.06E-02	3.99E-02	1.38E-06	1.21E-02
Road 103	103	2100-2200	4.36E-03	1.51E-07	1.33E-03	3.41E-02	1.18E-06	1.04E-02	3.84E-02	1.33E-06	1.17E-02
Road 103	103	2200-2300	4.30E-03	1.49E-07	1.32E-03	3.24E-02	1.12E-06	9.93E-03	3.58E-02	1.24E-06	1.10E-02
Road 103	103	2300-0000	4.80E-03	1.21E-07	1.06E-03	3.55E-02	8.93E-07	7.83E-03	3.95E-02	9.93E-07	8.71E-03
Road 104	104	0000-0100	8.21E-03	9.19E-08	4.47E-02	5.01E-02	5.61E-07	2.72E-02	5.43E-02	6.08E-07	2.95E-02
Road 104	104	0100-0200	8.89E-03	3.61E-08	1.76E-02	5.51E-02	2.24E-07	1.09E-02	5.98E-02	2.43E-07	1.18E-02
Road 104	104	0200-0300	5.61E-03	5.26E-08	2.56E-02	3.72E-02	3.49E-07	1.70E-02	4.03E-02	3.78E-07	1.84E-02
Road 104	104	0300-0400	5.26E-03	2.91E-08	1.42E-02	3.26E-02	1.80E-07	8.80E-03	3.53E-02	1.95E-07	9.54E-03
Road 104	104	0400-0500	5.61E-03	5.26E-08	2.56E-02	3.72E-02	3.49E-07	1.70E-02	4.03E-02	3.78E-07	1.84E-02
Road 104	104	0500-0600	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	6.82E-02	3.05E-06	2.27E-02
Road 104	104	0600-0700	1.22E-02	2.28E-07	1.70E-03	5.39E-02	1.00E-06	7.48E-03	6.61E-02	1.23E-06	9.18E-03
Road 104	104	0700-0800	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	6.82E-02	3.05E-06	2.27E-02
Road 104	104	0800-0900	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	6.82E-02	3.05E-06	2.27E-02
Road 104	104	0900-1000	1.46E-02	5.85E-07	4.35E-03	6.45E-02	2.58E-06	1.92E-02	7.91E-02	3.17E-06	2.35E-02
Road 104	104	1000-1100	1.65E-02	6.61E-07	4.91E-03	7.29E-02	2.92E-06	2.17E-02	8.94E-02	3.58E-06	2.66E-02
Road 104	104	1100-1200	1.60E-02	6.42E-07	4.77E-03	7.08E-02	2.84E-06	2.11E-02	8.69E-02	3.48E-06	2.59E-02
Road 104	104	1200-1300	1.65E-02	6.61E-07	4.91E-03	7.29E-02	2.92E-06	2.17E-02	8.94E-02	3.58E-06	2.66E-02
Road 104	104	1300-1400	1.65E-02	6.61E-07	4.91E-03	7.29E-02	2.92E-06	2.17E-02	8.94E-02	3.58E-06	2.66E-02
Road 104	104	1400-1500	1.65E-02	6.61E-07	4.91E-03	7.29E-02	2.92E-06	2.17E-02	8.94E-02	3.58E-06	2.66E-02
Road 104	104	1500-1600	9.80E-03	2.68E-07	1.99E-03	4.70E-02	1.29E-06	9.56E-03	5.51E-02	1.51E-06	1.12E-02
Road 104	104	1600-1700	1.04E-02	3.05E-07	2.27E-03	4.56E-02	1.34E-06	9.96E-03	5.41E-02	1.59E-06	1.18E-02
Road 104	104	1700-1800	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	6.82E-02	3.05E-06	2.27E-02
Road 104	104	1800-1900	5.24E-03	1.95E-07	1.45E-03	2.95E-02	1.10E-06	8.15E-03	3.48E-02	1.29E-06	9.60E-03
Road 104	104	1900-2000	4.58E-03	1.35E-07	1.01E-03	2.98E-02	8.79E-07	6.53E-03	3.43E-02	1.01E-06	7.53E-03
Road 104	104	2000-2100	4.47E-03	1.66E-07	1.23E-03	2.90E-02	1.08E-06	8.01E-03	3.34E-02	1.24E-06	9.22E-03
Road 104	104	2100-2200	3.78E-03	8.67E-08	6.44E-04	3.23E-02	7.40E-07	5.50E-03	3.72E-02	8.52E-07	6.33E-03
Road 104	104	2200-2300	3.71E-03	8.26E-08	6.14E-04	3.27E-02	7.28E-07	5.41E-03	3.76E-02	8.37E-07	6.22E-03
Road 104	104	2300-0000	3.14E-02	7.76E-07	4.83E-03	1.18E-01	2.91E-06	1.81E-02	1.36E-01	3.34E-06	2.08E-02
Road 105	105	0000-0100	1.22E-02	2.37E-08	3.60E-04	6.41E-02	1.24E-07	1.89E-03	7.63E-02	1.48E-07	2.25E-03
Road 105	105	0100-0200	1.29E-02	1.64E-08	2.49E-04	6.56E-02	8.35E-08	1.27E-03	7.85E-02	9.99E-08	1.52E-03
Road 105	105	0200-0300	1.02E-02	2.60E-08	3.94E-04	5.44E-02	1.39E-07	2.11E-03	6.46E-02	1.65E-07	2.51E-03
Road 105	105	0300-0400	1.50E-02	1.13E-08	1.72E-04	7.24E-02	5.44E-08	8.27E-04	8.74E-02	6.57E-08	9.99E-04
Road 105	105	0400-0500	1.60E-02	2.03E-08	7.53E-02	6.27E-02	7.61E-08	1.16E-03	3.07E-02	2.56E-09	3.89E-05
Road 105	105	0500-0600	1.29E-02	5.56E-08	8.45E-04	6.27E-02	2.70E-07	4.11E-03	7.57E-02	3.26E-07	4.96E-03
Road 105	105	0600-0700	1.99E-02	6.29E-08	9.56E-04	8.82E-02	2.79E-07	4.24E-03	1.08E-01	3.42E-07	5.20E-03
Road 105	105	0700-0800	2.39E-02	1.55E-07	1.02E-01	6.57E-02	9.99E-02	1.26E-01	8.96E-02	5.78E-02	7.29E-02
Road 105	105	0800-0900	2.35E-02	1.02E-01	6.57E-02	9.99E-02	1.26E-01	8.11E-02	1.23E-02	3.99E-03	2.58E-03
Road 105	105	0900-1000	2.87E-02	1.91E-07	2.90E-03	1.18E-01	7.88E-07	1.20E-02	1.47E-01	9.79E-07	1.49E-02
Road 105	105	1000-1100	3.16E-02	1.88E-07	2.87E-03	1.23E-01	7.33E-07	1.12E-02	1.55E-01	9.22E-07	1.40E-02
Road 105	105	1100-1200	3.01E-02	1.24E-07	1.89E-03	1.17E-01	4.82E-07	7.34E-03	1.47E-01	6.07E-07	9.24E-03
Road 105	105	1200-1300	5.15E-02	1.17E-07	1.77E-03	1.79E-01	4.05E-07	6.16E-03	2.30E-01	5.21E-07	7.92E-03
Road 105	105	1300-1400	4.95E-02	1.25E-07	1.90E-03	1.81E-01	4.56E-07	6.91E-03	2.27E-01	5.73E-07	8.66E-03
Road 105	105	1400-1500	4.54E-02	1.19E-07	1.81E-03	1.78E-01	4.68E-07	7.11E-03	2.24E-01	5.87E-07	8.93E-03
Road 105	105	1500-1600	4.54E-02	1.19E-07	1.81E-03	1.78E-01	4.68E-07	7.11E-03	2.24E-01	5.87E-07	8.93E-03
Road 105	105	1600-1700	4.84E-02	1.19E-07	1.81E-03	1.76E-01	4.33E-07	6.59E-03	2.24E-01	5.51E-07	8.38E-03
Road 105	105	1700-1800	3.08E-02	1.21E-07	1.84E-03	1.21E-01	4.75E-07	7.22E-03	1.52E-01	5.96E-07	9.06E-03
Road 105	105	1800-1900	3.37E-02	5.86E-08	8.91E-04	1.44E-01	2.50E-07	3.80E-03	1.69E-01	2.94E-07	4.47E-03
Road 105	105	1900-2000	3.19E-02	3.80E-08	5.79E-04	1.32E-01	1.57E-07	2.39E-03	1.63E-01	1.94E-07	2.95E-03
Road 105	105	2000-2100	3.06E-02	2.95E-08	4.48E-04	1.31E-01	1.26E-07	1.92E-03	1.62E-01	1.56E-07	2.37E-03
Road 105	105	2100-2200	3.06E-02	2.95E-08	4.48E-04	1.31E-01	1.26E-07	1.92E-03	1.62E-01	1.56E-07	2.37E-03
Road 105	105	2200-2300	3.30E-02	2.85E-08	4.34E-04	1.28E-01	1.10E-07	1.68E-03	1.58E-01	1.36E-07	2.07E-03
Road 105	105	2300-0000	3.14E-02	7.76E-07	4.83E-03	1.18E-01	2.91E-06	1.81E-02	1.36E-01	3.34E-06	2.08E-02
Road 106	106	0000-0100	1.17E-02	6.32E-08	7.29E-04	6.39E-02	3.44E-07	3.97E-03	1.99E-03	1.08E-08	1.24E-04
Road 106	106	0100-0200	1.20E-02	4.24E-08	4.88E-04	6.38E-02	2.26E-07	2.60E-03	1.98E-03	7.00E-09	8.06E-05
Road 106	106	0200-0300	1.26E-02	3.80E-08	4.37E-04	6.66E-02	2.01E-07	2.31E-03	2.07E-03	6.24E-09	7.18E-05
Road 106	106	0300-0400	1.32E-02	2.74E-08	3.16E-04	6.39E-02	1.33E-07	1.53E-03	1.99E-03	4.14E-09	4.77E-05
Road 106	106	0400-0500	1.42E-02	3.25E-08	3.74E-04	6.99E-02	1.60E-07	1.84E-03	2.17E-03	4.97E-09	5.72E-05
Road 106	106	0500-0600	1.61E-02	6.44E-08	7.42E-04	7.64E-02	3.05E-07	3.52E-03	9.25E-02	3.70E-07	4.26E-03
Road 106	106	0600-0700	2.11E-02	6.66E-08	7.67E-04	9.42E-02	2.97E-07	3.42E-03	1.16E-01	3.66E-07	4.21E-03
Road 106	106	0700-0800	2.70E-02	4.74E-07	5.46E-03	1.14E-01	2.00E-06	2.30E-02	1.41E-01	2.48E-06	2.85E-02
Road 106	106	0800-0900	2.85E-02	5.83E-07	6.72E-03	1.17E-01	2.40E-06	2.76E-02	1.44E-01	2.96E-06	3.40E-02
Road 106	106	0900-1000	3.56E-02	6.66E-07	7.67E-03	1.58E-01	2.96E-06	3.41E-02	1.95E-01	3.64E-06	4.19E-02
Road 106	106	1000-1100	3.63E-02	5.65E-07	6.51E-03	1.41E-01	2.19E-06	2.52E-02	1.77E-01	2.75E-06	3.17E-02
Road 106	106	1100-1200	3.37E-02	4.95E-07	5.71E-03	1.34E-01	1.97E-06	2.27E-02	1.68E-01	2.48E-06	2.85E-02
Road 106	106	1200-1300	3.12E-02	4.46E-07	5.14E-03	1.24E-01	1.78E-06	2.04E-02	1.56E-01	2.23E-06	2.57E-02
Road 106	106	1300-1400	5.61E-02	1.23E-06	1.42E-02	2.14E-01	4.69E-06	5.41E-02	2.70E-01	5.92E-06	6.83E-02
Road 106	106	1400-1500	5.83E-02	1.34E-06	1.54E-02	2.15E-01	4.93E-06	5.67E-02	2.70E-01	6.21E-06	7.15E-02
Road 106	106	1500-1600	5.37E-02	1.23E-06	1.42E-02	2.14E-01	4.89E-06	5.63E-02	2.70E-01	6.16E-06	7.09E-02
Road 106	106	1600-1700	5.46E-02	1.32E-06	1.53E-02	2.03E-01	4.92E-06	5.67E-02	2.58E-01	6.24E-06	7.19E-02
Road 106	106	1700-1800	3.97E-02	1.04E-06	1.20E-02	1.70E-01	4.47E-06	5.15E-02	2.16E-01	5.68E-06	6.54E-02
Road 106	106	1800-1900	2.76E-02	7.39E-07	8.51E-03	1.22E-01	3.34E-06	3.85E-02	1.54E-01	4.24E-06	4.88E-02
Road 106	106	1900-2000	1.96E-02	4.05E-07	4.66E-03	8.94E-02	1.85E-06	2.13E-02	1.09E-01	2.30E-06	2.65E-02
Road 106	106	2000-2100	1.68E-02	2.71E-07	3.13E-03	8.55E-02	1.38E-06	1.59E-02	1.02E-01	1.65E-06	1.90E-02
Road 106	106	2100-2200	1.94E-02	2.27E-07	2.62E-03	9.40E-02	1.10E-06	1.27E-02	1.13E-01	1.33E-06	1.53E-02
Road 106	106	2200-2300	1.53E-02	2.38E-07	2.74E-03	7.86E-02	1.22E-06	1.40E-02	9.40E-02	1.46E-06	1.68E-02
Road 106	106	2300-0000	1.57E-02	1.84E-07	2.12E-03	7.84E-02	9.19E-07	1.06E-02	9.41E-02	1.10E-06	1.27E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for Year 2043

AERMOD model (February)

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	4.44E-03	4.68E-08	9.39E-04	3.31E-02	3.38E-07	4.91E-03	3.82E-02	3.76E-07	7.52E-04
Road 1	1	0100-0200	4.94E-03	4.68E-08	9.39E-04	3.51E-02	3.33E-07	6.68E-03	4.01E-02	3.79E-07	7.62E-03
Road 1	1	0200-0300	5.47E-03	3.79E-08	7.61E-04	3.68E-02	2.55E-07	5.12E-03	4.22E-02	2.93E-07	5.88E-03
Road 1	1	0300-0400	5.98E-03	3.27E-08	6.58E-04	3.81E-02	2.08E-07	4.19E-03	4.41E-02	2.41E-07	4.85E-03
Road 1	1	0400-0500	6.43E-03	3.86E-08	7.75E-04	3.94E-02	2.36E-07	4.75E-03	4.58E-02	2.75E-07	5.52E-03
Road 1	1	0500-0600	6.79E-03	7.05E-08	1.42E-03	4.04E-02	4.19E-07	8.43E-03	4.72E-02	4.90E-07	9.84E-03
Road 1	1	0600-0700	7.21E-03	1.60E-07	3.22E-03	4.18E-02	9.28E-07	1.86E-02	4.90E-02	1.09E-06	2.19E-02
Road 1	1	0700-0800	7.73E-03	3.47E-07	6.98E-03	4.28E-02	1.92E-06	3.87E-02	5.05E-02	2.27E-06	4.56E-02
Road 1	1	0800-0900	7.45E-03	3.88E-07	7.79E-03	3.88E-02	2.02E-06	4.05E-02	4.62E-02	2.40E-06	4.83E-02
Road 1	1	0900-1000	6.50E-03	3.63E-07	7.30E-03	3.29E-02	1.84E-06	3.69E-02	3.96E-02	2.21E-06	4.44E-02
Road 1	1	1000-1100	9.68E-03	3.58E-07	7.19E-03	4.47E-02	1.65E-06	3.32E-02	5.43E-02	2.01E-06	4.03E-02
Road 1	1	1100-1200	9.21E-03	3.22E-07	6.48E-03	4.45E-02	1.56E-06	3.13E-02	5.37E-02	1.88E-06	3.78E-02
Road 1	1	1200-1300	1.25E-02	6.96E-07	2.52E-03	5.08E-02	2.83E-06	1.02E-02	6.47E-02	3.61E-06	1.30E-02
Road 1	1	1300-1400	1.26E-02	6.31E-07	1.27E-02	5.45E-02	2.72E-06	5.47E-02	6.72E-02	3.35E-06	6.74E-02
Road 1	1	1400-1500	1.27E-02	6.72E-07	1.35E-02	5.39E-02	2.85E-06	5.73E-02	6.66E-02	3.52E-06	7.08E-02
Road 1	1	1500-1600	1.31E-02	6.44E-07	1.29E-02	5.46E-02	2.68E-06	5.39E-02	6.74E-02	3.31E-06	6.65E-02
Road 1	1	1600-1700	1.23E-02	7.05E-07	1.42E-02	5.24E-02	2.99E-06	6.01E-02	6.47E-02	3.70E-06	7.43E-02
Road 1	1	1700-1800	8.86E-03	5.65E-07	1.14E-02	4.55E-02	2.91E-06	5.84E-02	5.44E-02	3.47E-06	6.97E-02
Road 1	1	1800-1900	6.29E-03	3.98E-07	8.00E-03	3.38E-02	2.14E-06	4.30E-02	4.09E-02	2.59E-06	5.20E-02
Road 1	1	1900-2000	5.33E-03	2.88E-07	5.79E-03	3.17E-02	1.71E-06	3.45E-02	3.71E-02	2.00E-06	4.02E-02
Road 1	1	2000-2100	5.13E-03	2.16E-07	4.34E-03	3.44E-02	1.45E-06	2.91E-02	3.95E-02	1.66E-06	3.34E-02
Road 1	1	2100-2200	4.61E-03	1.94E-07	3.89E-03	3.38E-02	1.42E-06	2.85E-02	3.84E-02	1.61E-06	3.24E-02
Road 1	1	2200-2300	4.57E-03	1.86E-07	3.73E-03	3.37E-02	1.37E-06	2.76E-02	3.83E-02	1.56E-06	3.14E-02
Road 1	1	2300-0000	5.10E-03	1.56E-07	3.13E-03	3.52E-02	1.07E-06	2.16E-02	4.03E-02	1.23E-06	2.47E-02
Road 2	2	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	4.32E-02	5.86E-07	1.08E-02
Road 2	2	0100-0200	6.83E-03	8.42E-08	1.56E-03	4.01E-02	4.95E-07	9.16E-03	4.55E-02	5.61E-07	1.04E-02
Road 2	2	0200-0300	7.48E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.92E-02	3.22E-07	5.95E-03
Road 2	2	0300-0400	8.10E-03	4.22E-08	7.81E-04	4.33E-02	2.26E-07	4.17E-03	5.14E-02	2.68E-07	4.95E-03
Road 2	2	0400-0500	8.68E-03	4.98E-08	9.20E-04	4.48E-02	2.57E-07	4.75E-03	5.32E-02	3.05E-07	5.63E-03
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	5.54E-02	5.55E-07	1.03E-02
Road 2	2	0600-0700	9.62E-03	2.08E-07	3.84E-03	4.78E-02	1.03E-06	1.91E-02	5.74E-02	1.24E-06	2.29E-02
Road 2	2	0700-0800	1.02E-02	4.50E-07	8.31E-03	4.94E-02	2.18E-06	4.03E-02	5.96E-02	2.63E-06	4.86E-02
Road 2	2	0800-0900	9.94E-03	5.08E-07	9.38E-03	4.62E-02	2.36E-06	4.36E-02	5.61E-02	2.87E-06	5.30E-02
Road 2	2	0900-1000	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	6.32E-02	2.78E-06	5.14E-02
Road 2	2	1000-1100	1.32E-02	5.31E-07	9.81E-03	5.82E-02	2.34E-06	4.32E-02	7.14E-02	2.87E-06	5.30E-02
Road 2	2	1100-1200	1.27E-02	4.69E-07	8.67E-03	5.40E-02	2.00E-06	3.69E-02	6.68E-02	2.46E-06	4.55E-02
Road 2	2	1200-1300	1.32E-02	6.04E-07	1.12E-02	5.38E-02	2.45E-06	4.54E-02	6.70E-02	3.06E-06	5.66E-02
Road 2	2	1300-1400	1.34E-02	5.31E-07	1.71E-02	5.51E-02	2.18E-06	7.02E-02	6.85E-02	2.71E-06	8.73E-02
Road 2	2	1400-1500	1.34E-02	6.76E-07	1.24E-02	5.55E-02	2.77E-06	5.11E-02	6.89E-02	3.44E-06	6.35E-02
Road 2	2	1500-1600	1.25E-02	6.39E-07	1.18E-02	5.61E-02	2.87E-06	5.30E-02	6.86E-02	3.51E-06	6.48E-02
Road 2	2	1600-1700	1.32E-02	6.05E-07	1.12E-02	5.44E-02	2.49E-06	4.61E-02	6.76E-02	3.10E-06	5.73E-02
Road 2	2	1700-1800	9.35E-03	5.55E-07	1.03E-02	4.68E-02	2.78E-06	5.14E-02	5.62E-02	3.33E-06	6.16E-02
Road 2	2	1800-1900	6.62E-03	4.16E-07	7.70E-03	3.47E-02	2.18E-06	4.03E-02	4.13E-02	2.60E-06	4.80E-02
Road 2	2	1900-2000	5.46E-03	2.51E-07	4.65E-03	3.55E-02	1.63E-06	3.02E-02	4.29E-02	1.96E-06	3.63E-02
Road 2	2	2000-2100	5.46E-03	2.11E-07	3.89E-03	3.55E-02	1.37E-06	2.53E-02	4.10E-02	1.58E-06	2.92E-02
Road 2	2	2100-2200	4.97E-03	1.91E-07	3.53E-03	3.43E-02	1.32E-06	2.44E-02	3.96E-02	1.53E-06	2.83E-02
Road 2	2	2200-2300	4.97E-03	1.81E-07	3.34E-03	3.24E-02	1.18E-06	2.18E-02	3.74E-02	1.36E-06	2.51E-02
Road 2	2	2300-0000	5.61E-03	1.51E-07	2.78E-03	3.55E-02	9.55E-07	1.76E-02	4.10E-02	1.10E-06	2.03E-02
Road 3	3	0000-0100	4.85E-03	2.66E-08	5.95E-04	3.54E-02	1.94E-07	4.35E-04	4.02E-02	2.21E-07	4.94E-04
Road 3	3	0100-0200	5.44E-03	1.44E-08	3.23E-04	3.75E-02	9.92E-08	2.22E-04	4.25E-02	1.12E-07	2.51E-04
Road 3	3	0200-0300	6.08E-03	1.59E-08	3.57E-04	3.89E-02	1.02E-07	2.28E-04	4.50E-02	1.18E-07	2.64E-04
Road 3	3	0300-0400	6.69E-03	1.39E-08	3.11E-04	4.04E-02	8.40E-08	1.88E-04	4.71E-02	9.79E-08	2.19E-04
Road 3	3	0400-0500	7.19E-03	1.85E-08	4.14E-04	4.19E-02	1.08E-07	2.41E-04	4.89E-02	1.26E-07	2.82E-04
Road 3	3	0500-0600	7.34E-03	2.88E-08	6.46E-04	4.25E-02	1.67E-07	3.74E-04	4.99E-02	1.96E-07	4.39E-04
Road 3	3	0600-0700	7.67E-03	6.44E-08	1.44E-04	4.40E-02	3.69E-07	8.27E-04	5.17E-02	4.34E-07	9.71E-04
Road 3	3	0700-0800	8.63E-03	1.70E-07	3.80E-04	4.42E-02	8.70E-07	1.95E-03	5.28E-02	1.04E-06	2.33E-03
Road 3	3	0800-0900	8.63E-03	1.52E-07	3.41E-04	4.76E-02	7.75E-07	1.74E-03	5.70E-02	9.27E-07	2.08E-03
Road 3	3	0900-1000	9.35E-03	1.52E-07	3.41E-04	4.76E-02	7.75E-07	1.74E-03	5.70E-02	9.27E-07	2.08E-03
Road 3	3	1000-1100	1.06E-02	1.52E-07	3.41E-04	4.66E-02	7.01E-07	1.57E-03	6.02E-02	9.50E-07	2.13E-03
Road 3	3	1100-1200	1.35E-02	3.03E-07	6.79E-04	4.92E-02	1.10E-06	2.47E-03	6.27E-02	1.41E-06	3.15E-03
Road 3	3	1200-1300	1.26E-02	1.67E-07	3.69E-04	4.96E-02	6.58E-07	1.47E-03	6.22E-02	8.25E-07	1.85E-03
Road 3	3	1300-1400	7.60E-02	1.75E-06	3.91E-03	2.67E-01	6.14E-06	1.37E-02	3.27E-01	7.52E-06	1.68E-02
Road 3	3	1400-1500	7.27E-02	1.63E-06	3.64E-03	2.66E-01	5.96E-06	1.33E-02	3.26E-01	7.31E-06	1.63E-02
Road 3	3	1500-1600	1.36E-01	3.14E-06	7.00E-03	4.78E-01	1.10E-05	2.47E-02	5.86E-01	1.35E-05	3.02E-02
Road 3	3	1600-1700	1.38E-01	3.19E-06	7.12E-03	4.86E-01	1.12E-05	2.51E-02	5.96E-01	1.38E-05	3.07E-02
Road 3	3	1700-1800	1.33E-01	3.06E-06	6.83E-03	4.68E-01	1.08E-05	2.41E-02	5.74E-01	1.32E-05	2.95E-02
Road 3	3	1800-1900	7.78E-02	1.80E-06	4.02E-03	2.74E-01	6.33E-06	1.41E-02	3.36E-01	7.76E-06	1.73E-02
Road 3	3	1900-2000	5.56E-02	1.29E-06	2.87E-03	2.74E-01	6.33E-06	1.41E-02	3.36E-01	7.76E-06	1.73E-02
Road 3	3	2000-2100	4.96E-02	1.15E-06	2.56E-03	2.74E-01	6.33E-06	1.41E-02	3.36E-01	7.76E-06	1.73E-02
Road 3	3	2100-2200	4.96E-02	1.15E-06	2.56E-03	2.74E-01	6.33E-06	1.41E-02	3.36E-01	7.76E-06	1.73E-02
Road 3	3	2200-2300	4.96E-02	1.15E-06	2.56E-03	2.74E-01	6.33E-06	1.41E-02	3.36E-01	7.76E-06	1.73E-02
Road 3	3	2300-0000	4.96E-02	1.15E-06	2.56E-03	2.74E-01	6.33E-06	1.41E-02	3.36E-01	7.76E-06	1.73E-02
Road 4	4	0000-0100	2.68E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February)

Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyAverage			MonthlyHourMin			MonthlyAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 24	24	0800-0900	1.26E-01	2.44E-07	7.25E-04	4.78E-01	9.26E-07	2.75E-03	1.32E-02	2.56E-08	7.60E-05	1.30E-01	2.52E-07	7.48E-04
Road 24	24	0900-1000	1.26E-01	2.75E-07	2.51E-04	4.72E-01	1.03E-06	9.38E-04	5.98E-01	1.30E-06	1.19E-03	1.34E-02	2.91E-08	2.66E-05
Road 24	24	1000-1100	1.35E-01	2.89E-07	2.65E-04	4.78E-01	1.02E-06	9.36E-04	6.13E-01	1.31E-06	1.20E-03	1.40E-02	3.00E-08	2.74E-05
Road 24	24	1100-1200	1.35E-01	2.47E-07	4.79E-04	4.70E-01	9.60E-07	8.78E-04	6.14E-01	1.13E-06	1.39E-03	2.79E-08	2.56E-05	
Road 24	24	1200-1300	1.41E-01	2.86E-07	2.62E-04	4.80E-01	9.70E-07	8.88E-04	6.21E-01	1.26E-06	1.15E-03	1.44E-02	2.91E-08	2.66E-05
Road 24	24	1300-1400	1.42E-01	3.24E-07	2.96E-04	5.05E-01	1.15E-06	1.05E-03	6.47E-01	1.47E-06	1.35E-03	1.42E-02	3.25E-08	2.97E-05
Road 24	24	1400-1500	1.46E-01	3.26E-07	3.01E-04	5.01E-01	1.12E-06	1.04E-03	6.68E-01	1.49E-06	1.38E-03	1.45E-02	3.24E-08	3.00E-05
Road 24	24	1500-1600	1.30E-01	3.07E-07	2.81E-04	4.96E-01	1.17E-06	1.07E-03	6.26E-01	1.48E-06	1.35E-03	1.35E-02	3.18E-08	2.91E-05
Road 24	24	1600-1700	1.33E-01	2.90E-07	2.65E-04	4.73E-01	1.03E-06	9.43E-04	6.06E-01	1.32E-06	1.21E-03	1.39E-02	3.01E-08	2.76E-05
Road 24	24	1700-1800	1.33E-01	2.98E-07	2.73E-04	4.73E-01	1.06E-06	9.71E-04	6.06E-01	1.36E-06	1.24E-03	1.39E-02	3.12E-08	2.85E-05
Road 24	24	1800-1900	1.02E-01	1.38E-07	1.26E-04	4.21E-01	5.71E-07	5.24E-04	5.22E-01	7.06E-07	6.48E-04	1.05E-02	1.42E-08	1.30E-05
Road 24	24	1900-2000	9.89E-02	8.82E-08	8.07E-05	3.92E-01	3.50E-07	3.20E-04	4.93E-01	4.40E-07	4.02E-04	9.78E-03	8.72E-09	7.98E-06
Road 24	24	2000-2100	9.71E-02	8.22E-08	7.52E-05	3.92E-01	3.32E-07	3.03E-04	4.84E-01	4.09E-07	3.74E-04	9.78E-03	8.28E-09	7.57E-06
Road 24	24	2100-2200	1.04E-01	6.60E-08	6.04E-05	3.74E-01	2.38E-07	2.18E-04	4.78E-01	3.03E-07	2.77E-04	9.32E-03	5.92E-09	5.41E-06
Road 24	24	2200-2300	1.05E-01	6.65E-08	3.78E-05	3.78E-01	2.40E-07	1.36E-04	4.83E-01	3.06E-07	1.74E-04	9.42E-03	5.97E-09	3.39E-06
Road 24	24	2300-2400	1.08E-01	4.18E-05	3.71E-01	3.62E-01	1.40E-03	1.24E-01	4.97E-01	1.92E-03	1.70E-01	9.04E-03	3.50E-07	3.11E-04
Road 25	25	0000-0100	1.03E-01	4.50E-08	4.18E-05	3.71E-01	1.62E-07	1.50E-04	5.14E-01	2.25E-07	2.08E-04	9.25E-03	4.05E-09	3.75E-06
Road 25	25	0100-0200	1.04E-01	3.20E-08	2.98E-05	3.75E-01	1.16E-07	1.08E-04	4.79E-01	1.47E-07	1.37E-04	9.42E-03	2.90E-09	2.69E-06
Road 25	25	0200-0300	1.05E-01	2.38E-08	2.18E-05	3.78E-01	8.57E-08	7.85E-05	5.27E-01	1.19E-07	1.09E-04	9.42E-03	2.13E-09	1.95E-06
Road 25	25	0300-0400	1.06E-01	2.19E-08	2.04E-05	3.83E-01	7.91E-08	7.36E-05	4.89E-01	1.01E-07	9.40E-05	1.23E-02	2.53E-09	2.36E-06
Road 25	25	0400-0500	1.07E-01	2.59E-08	2.41E-05	3.85E-01	9.34E-08	8.69E-05	4.92E-01	1.19E-07	1.11E-04	1.23E-02	2.99E-09	2.79E-06
Road 25	25	0500-0600	1.13E-01	5.05E-08	4.70E-05	4.05E-01	1.80E-07	1.68E-04	5.18E-01	2.32E-07	2.16E-04	1.30E-02	5.81E-09	5.40E-06
Road 25	25	0600-0700	1.16E-01	1.23E-07	1.18E-04	4.15E-01	4.41E-07	4.06E-04	5.32E-01	5.67E-07	5.20E-04	1.33E-02	1.42E-08	1.30E-05
Road 25	25	0700-0800	1.32E-01	2.89E-07	2.69E-04	4.69E-01	1.03E-06	9.57E-04	6.08E-01	1.33E-06	1.23E-03	1.37E-02	2.99E-08	2.78E-05
Road 25	25	0800-0900	1.33E-01	3.49E-07	3.25E-04	4.90E-01	1.29E-06	1.20E-03	6.12E-01	1.52E-06	1.42E-03	1.38E-02	3.62E-08	3.37E-05
Road 25	25	0900-1000	1.33E-01	3.68E-07	3.42E-04	4.90E-01	1.35E-06	1.26E-03	6.12E-01	1.58E-06	1.47E-03	1.38E-02	3.82E-08	3.55E-05
Road 25	25	1000-1100	1.43E-01	4.15E-07	3.86E-04	5.03E-01	1.46E-06	1.36E-03	6.46E-01	1.87E-06	1.74E-03	1.44E-02	4.17E-08	3.88E-05
Road 25	25	1100-1200	1.42E-01	3.87E-07	3.60E-04	5.04E-01	1.37E-06	1.27E-03	6.44E-01	1.76E-06	1.63E-03	1.43E-02	3.89E-08	3.62E-05
Road 25	25	1200-1300	1.41E-01	3.81E-07	3.54E-04	5.01E-01	1.35E-06	1.25E-03	6.41E-01	1.73E-06	1.61E-03	1.42E-02	3.84E-08	3.57E-05
Road 25	25	1300-1400	1.43E-01	4.40E-07	4.10E-04	5.09E-01	1.56E-06	1.45E-03	6.52E-01	2.00E-06	1.86E-03	1.44E-02	4.41E-08	4.11E-05
Road 25	25	1400-1500	1.47E-01	4.47E-07	4.16E-04	5.07E-01	1.54E-06	1.43E-03	6.74E-01	2.05E-06	1.91E-03	1.45E-02	4.41E-08	4.11E-05
Road 25	25	1500-1600	1.31E-01	3.86E-07	3.59E-04	4.96E-01	1.46E-06	1.36E-03	6.29E-01	1.85E-06	1.72E-03	1.35E-02	3.98E-08	3.70E-05
Road 25	25	1600-1700	1.42E-01	4.15E-07	3.86E-04	5.02E-01	1.47E-06	1.37E-03	6.44E-01	1.88E-06	1.75E-03	1.43E-02	4.19E-08	3.90E-05
Road 25	25	1700-1800	1.24E-01	3.26E-07	3.03E-04	4.92E-01	1.30E-06	1.21E-03	6.32E-01	1.66E-06	1.54E-03	1.32E-02	3.47E-08	3.22E-05
Road 25	25	1800-1900	1.17E-01	2.90E-07	2.69E-04	4.64E-01	1.15E-06	1.07E-03	6.03E-01	1.49E-06	1.39E-03	1.24E-02	3.09E-08	2.87E-05
Road 25	25	1900-2000	1.08E-01	2.26E-07	2.10E-04	4.24E-01	8.90E-07	8.27E-04	5.52E-01	1.16E-06	1.08E-03	1.14E-02	2.39E-08	2.22E-05
Road 25	25	2000-2100	9.92E-02	1.67E-07	1.55E-04	4.07E-01	6.84E-07	6.36E-04	5.07E-01	8.52E-07	7.92E-04	1.05E-02	1.77E-08	1.64E-05
Road 25	25	2100-2200	9.42E-02	8.77E-05	4.05E-01	3.38E-07	3.14E-04	5.18E-01	4.32E-07	4.02E-04	1.24E-02	1.03E-02	9.61E-06	4.44E-03
Road 25	25	2200-2300	1.13E-01	9.42E-08	4.35E-05	3.88E-01	3.24E-07	1.49E-04	5.18E-01	4.32E-07	1.99E-04	1.24E-02	1.03E-08	4.76E-06
Road 25	25	2300-0000	1.09E-01	7.44E-08	6.92E-05	3.90E-01	2.66E-07	2.47E-04	5.18E-01	3.54E-07	3.29E-04	1.24E-02	8.47E-09	7.87E-06
Road 25	25	0000-0100	1.08E-01	6.92E-08	6.44E-05	3.87E-01	2.47E-07	2.30E-04	5.14E-01	3.29E-07	3.06E-04	1.23E-02	7.87E-09	7.32E-06
Road 26	26	0100-0200	1.05E-01	2.95E-08	4.05E-05	3.79E-01	1.07E-07	1.46E-04	4.84E-01	1.36E-07	1.86E-04	1.22E-02	3.44E-09	4.71E-06
Road 26	26	0200-0300	1.06E-01	2.36E-08	3.23E-05	3.81E-01	8.51E-08	1.17E-04	4.89E-01	1.09E-07	1.49E-04	1.23E-02	2.74E-09	3.75E-06
Road 26	26	0300-0400	1.07E-01	2.19E-08	3.00E-05	3.85E-01	7.88E-08	1.08E-04	4.92E-01	1.01E-07	1.38E-04	1.23E-02	2.53E-09	3.46E-06
Road 26	26	0400-0500	1.08E-01	2.39E-08	3.27E-05	3.88E-01	8.60E-08	1.18E-04	4.96E-01	1.10E-07	1.51E-04	1.25E-02	2.76E-09	3.79E-06
Road 26	26	0500-0600	1.08E-01	4.44E-08	6.09E-05	3.90E-01	1.60E-07	2.19E-04	4.99E-01	2.05E-07	2.80E-04	1.25E-02	5.14E-09	7.04E-06
Road 26	26	0600-0700	1.12E-01	1.68E-08	2.31E-05	4.02E-01	6.03E-08	8.29E-05	5.14E-01	7.71E-08	1.06E-04	1.29E-02	1.93E-09	2.65E-06
Road 26	26	0700-0800	1.33E-01	2.66E-07	4.73E-04	4.73E-01	9.48E-07	1.30E-03	6.06E-01	1.21E-06	1.66E-03	1.38E-02	2.76E-08	3.78E-05
Road 26	26	0800-0900	1.34E-01	3.22E-07	4.41E-04	4.93E-01	1.18E-06	1.62E-03	6.27E-01	1.51E-06	2.06E-03	1.37E-02	3.29E-08	4.50E-05
Road 26	26	0900-1000	1.34E-01	3.83E-07	5.24E-04	4.93E-01	1.41E-06	1.93E-03	6.27E-01	1.79E-06	2.45E-03	1.37E-02	3.92E-08	5.36E-05
Road 26	26	1000-1100	1.43E-01	3.83E-07	5.24E-04	5.05E-01	1.35E-06	1.85E-03	6.48E-01	1.73E-06	2.37E-03	1.44E-02	3.85E-08	5.28E-05
Road 26	26	1100-1200	1.43E-01	3.57E-07	4.89E-04	5.06E-01	1.26E-06	1.73E-03	6.47E-01	1.61E-06	2.22E-03	1.44E-02	3.59E-08	4.92E-05
Road 26	26	1200-1300	1.42E-01	3.54E-07	4.85E-04	5.03E-01	1.25E-06	1.72E-03	6.44E-01	1.60E-06	2.20E-03	1.43E-02	3.56E-08	4.88E-05
Road 26	26	1300-1400	1.37E-01	4.07E-07	5.58E-04	4.87E-01	1.45E-06	1.99E-03	6.23E-01	1.85E-06	2.54E-03	1.37E-02	4.09E-08	5.61E-05
Road 26	26	1400-1500	1.40E-01	4.14E-07	5.67E-04	4.82E-01	1.43E-06	1.96E-03	6.40E-01	1.90E-06	2.60E-03	1.35E-02	3.90E-08	5.34E-05
Road 26	26	1500-1600	1.34E-01	3.86E-07	5.29E-04	4.75E-01	1.37E-06	1.87E-03	6.09E-01	1.76E-06	2.40E-03	1.35E-02	3.90E-08	5.34E-05
Road 26	26	1600-1700	1.34E-01	3.86E-07	5.29E-04	4.75E-01	1.37E-06	1.87E-03	6.09E-01	1.76E-06	2.40E-03	1.35E-02	3.90E-08	5.34E-05
Road 26	26	1700-1800	1.14E-01	3.03E-07	4.15E-04	4.54E-01	1.21E-06	1.66E-03	5.70E-01	1.52E-06	2.08E-03	1.26E-02	3.22E-08	4.41E-05
Road 26	26	1800-1900	1.08E-01	2.76E-07	3.78E-04	4.32E-01	1.10E-06	1.51E-03	5.43E-01	1.38E-06	1.89E-03	1.20E-02	3.06E-08	4.19E-05
Road 26	26	1900-2000	9.15E-02	2.32E-07	3.18E-04	4.07E-01	1.03E-06	1.42E-03	5.12E-01	1.30E-06	1.78E-03	1.13E-02	2.87E-08	3.94E-05
Road 26	26	2000-2100	8.43E-02	8.66E-08	1.19E-04	3.48E-01	3.58E-07	4.90E-04	4.72E-01	4.85E-07	6.64E-04	1.04E-02	1.07E-08	1.47E-05
Road 26	26	2100-2200	8.57E-02	9.00E-08	1.23E-04	3.50E-01	3.67E-07	5.03E-04	4.80E-01	5.04E-07	6.90E-04	1.06E-02	1.11E-08	1.52E-05
Road 26	26	2200-2300	9.39E-02	1.20E-07	3.43E-05	3.57E-01	4.57E-07	1.31E-04	4.89E-01	6.25E-07	1.79E-04	1.09E-02	1.39E-08	3.98E-06
Road 26	26	2300-0000	9.18E-02	6.91E-08	9.47E-05	3.56E-01	2.68E-07	3.67E-04	4.87E-01	3.66E-07	5.02E-04	1.08E-02	8.14E-09	1.12E-05
Road 26	26	0000-0100	9.05E-02	6.81E-08	9.33E-05	3.51E-01	2.64E-07	3.62E-04	4.80E-01	3.61E-07	4.95E-04	1.07E-02	8.03E-09	1.10E-05
Road 27	27	0100-0200	1.07E-01	2.57E-07	3.52E-04	4.46E-01	1.07E-06	1.47E-03	5.46E-01	1.31E-06	1.80E-03	1.27E-02	3.05E-08	4.18E-05
Road 27	27	0200-0300	1.08E-01	2.38E-07	3.26E-04	4.49E-01	9.91E-07	1.36E-03	5.49E-01	1.21E-06	1.66E-03	1.28E-02	2.83E-08	3.87E-05
Road 27	27	0300-0400	1.09E-01	2.19E-07	3.00E-04	4.53E-01	9.12E-07	1.25E-03	5.52E-01	1.12E-06	1.53E-03	1.29E-02	2.61E-08	3.56E-05
Road 27	27	0400-0500	1.10E-01	2.39E-07	3.27E-04	4.55E-01	9.63E-07	1.32E-03	5.55E-01	1.17E-06	1.61E-03	1.30E-02	2.76E-08	3.78E-05
Road 27	27	0500-0600	1.15E-01	5.11E-07	7.00E-04	4.71E-01	2.09E-06	2.86E-03	5.61E-01	2.49E-06	3.41E-03	1.34E-02	5.95E-08	8.15E-05
Road 27	27	0600-0700	1.17E-01	1.06E-07	1.45E-04	4.77E-01	4.33E-07	5.93E-04	5.67E-01	5.15E-07	7.05E-04	1.35E-02	1.23E-08	1.68E-05
Road 27	27	0700-0800	1.31E-01	2.66E-07	4.73E-04	4.69E-01	9.52E-07	1.69E-03	6.03E-01	1.23E-06	2.18E-03	1.37E-02	2.78E-08	4.94E-05
Road 27	27	0800-0900	1.31E-01	3.03E-07	3.40E-04	4.82E-01	1.12E-06	1.26E-03	6.04E-01	1.39E-06	1.55E-03	1.37E-02	3.16E-08	3.54E-05
Road 27	27	0900-1000	1.32E-01	3.24E-07	4.91E-04	4.91E-01	1.27E-06	1.92E-03	6.05E-01	1.49E-06	2.26E-03	1.37E-02	3.51E-08	5.31E-05
Road 27	27	1000-1100	1.42E-01	3.83E-07	5.77E-04	5.02E-01	1.35E-06	2.03E-03	6.45E-01	1.73E-06	2.61E-03	1.43E-02	3.85E-08	5.80E-05
Road 27	27	1100-1200	1.41E-01	3.66E-07	5.51E-04	5.00E-01	1.29E-06	1.94E-03	6.42E-01	1.66E-06	2.50E-03	1.42E-02	3.68E-08	5.54E-05
Road 27	27	1200-1300	1.40E-01	3.55E-07	3.99E-04	5.07E-01	1.28E-06	1.75E-03	6.41E-01	1.62E-06	2.21E-03	1.42E-02	3.51E-08	3.94E-05
Road 27	27	1300-1400	1.46E-01	4.08E-07	4.58E-04	5.04E-01	1.41E-06	1.93E-03	6.50E-01	1.82E-06	2.48E-03	1.44E-02	4.03E-08	4.53E-05
Road 27	27	1400-1500	1.46E-01	3.87E-07	4.35E-04	5.03E-01	1.33E-06	1.49E-03	6.50E-01	1.72E-06	1.92E-03	1.44E-02	3.82E-08	4.29E-05
Road 27	27	1500-1600	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.36E-02	3.75E-08	4.21E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (February)

Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyAverage			MonthlyHourMin			MonthlyAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 27	27	1600-1700	1.41E-01	3.60E-07	4.10E-04	4.92E-01	1.25E-06	1.43E-03	6.41E-01	1.63E-06	1.84E-03	1.43E-02	3.64E-08	4.08E-05
Road 27	27	1700-1800	1.23E-01	2.82E-07	3.17E-04	4.88E-01	1.12E-06	1.26E-03	6.11E-01	1.41E-06	1.58E-03	1.29E-02	2.97E-08	3.34E-05
Road 27	27	1800-1900	1.08E-01	1.71E-07	1.92E-04	4.47E-01	7.05E-07	7.92E-04	5.55E-01	8.76E-07	9.84E-04	1.29E-02	1.88E-08	2.11E-05
Road 27	27	1900-2000	1.01E-01	1.04E-07	1.17E-04	3.99E-01	4.11E-07	4.62E-04	5.00E-01	5.15E-07	5.78E-04	1.15E-02	1.18E-08	1.33E-05
Road 27	27	2000-2100	9.78E-02	8.03E-08	9.03E-05	4.00E-01	3.29E-07	3.69E-04	4.98E-01	4.09E-07	4.59E-04	1.13E-02	9.25E-09	1.04E-05
Road 27	27	2100-2200	9.94E-02	8.40E-08	9.43E-05	4.01E-01	3.38E-07	3.80E-04	5.00E-01	4.22E-07	4.75E-04	1.14E-02	9.62E-09	1.08E-05
Road 27	27	2200-2300	1.06E-01	7.77E-08	8.73E-05	3.91E-01	2.80E-07	3.15E-04	4.87E-01	3.58E-07	4.02E-04	1.08E-02	8.77E-09	9.85E-06
Road 27	27	2300-0000	1.07E-01	6.45E-08	7.24E-05	3.85E-01	2.32E-07	2.61E-04	4.91E-01	2.97E-07	3.33E-04	1.21E-02	7.31E-09	8.21E-06
Road 28	28	0000-0100	7.82E-03	8.56E-08	1.77E-03	4.09E-02	4.48E-07	9.28E-03	4.88E-02	5.34E-07	1.11E-02	2.09E-03	2.29E-08	4.73E-04
Road 28	28	0100-0200	7.96E-03	6.34E-08	1.31E-03	4.30E-02	3.42E-07	7.08E-03	4.96E-02	3.95E-07	8.17E-03	2.22E-03	1.77E-08	3.66E-04
Road 28	28	0200-0300	9.75E-03	5.25E-08	1.09E-03	4.57E-02	2.46E-07	5.11E-03	5.54E-02	2.98E-07	6.18E-03	2.58E-03	1.39E-08	2.88E-04
Road 28	28	0300-0400	1.07E-02	4.62E-08	9.57E-04	4.78E-02	2.07E-07	4.28E-03	5.85E-02	2.53E-07	5.24E-03	2.82E-03	1.22E-08	2.53E-04
Road 28	28	0400-0500	1.11E-02	5.30E-08	1.10E-03	4.90E-02	2.34E-07	4.85E-03	6.01E-02	2.87E-07	5.95E-03	2.90E-03	1.41E-08	2.92E-04
Road 28	28	0500-0600	1.11E-02	9.13E-08	1.89E-03	4.99E-02	4.10E-07	8.54E-03	6.10E-02	5.01E-07	1.04E-02	2.97E-03	2.45E-08	5.07E-04
Road 28	28	0600-0700	1.12E-02	1.98E-07	4.10E-03	5.07E-02	8.98E-07	1.86E-02	6.19E-02	1.10E-06	2.27E-02	3.02E-03	5.35E-08	1.11E-03
Road 28	28	0700-0800	1.21E-02	4.60E-07	9.51E-03	5.34E-02	2.03E-06	4.20E-02	6.62E-02	2.52E-06	5.21E-02	3.23E-03	1.23E-07	2.54E-03
Road 28	28	0800-0900	1.17E-02	4.90E-07	1.02E-02	5.27E-02	2.20E-06	4.59E-02	6.44E-02	2.69E-06	5.62E-02	3.13E-03	1.31E-07	2.73E-03
Road 28	28	0900-1000	1.35E-02	5.04E-07	1.04E-02	5.58E-02	2.08E-06	4.30E-02	6.94E-02	2.58E-06	5.35E-02	3.82E-03	1.42E-07	2.95E-03
Road 28	28	1000-1100	1.38E-02	5.55E-07	2.87E-03	5.67E-02	2.28E-06	4.73E-03	7.09E-02	2.85E-06	5.91E-03	3.90E-03	1.57E-07	3.25E-04
Road 28	28	1100-1200	1.50E-02	4.72E-07	9.81E-03	5.88E-02	1.85E-06	3.84E-02	7.38E-02	2.33E-06	4.82E-02	4.19E-03	1.32E-07	2.74E-03
Road 28	28	1200-1300	1.43E-02	3.89E-07	8.05E-03	5.50E-02	1.49E-06	3.09E-02	6.93E-02	1.88E-06	3.90E-02	3.89E-03	1.06E-07	2.19E-03
Road 28	28	1300-1400	1.43E-02	4.24E-07	8.78E-03	5.50E-02	1.63E-06	3.37E-02	7.10E-02	2.11E-06	4.38E-02	3.89E-03	1.16E-07	2.39E-03
Road 28	28	1400-1500	1.43E-02	4.07E-07	8.43E-03	5.52E-02	1.57E-06	3.25E-02	7.10E-02	2.02E-06	4.19E-02	3.91E-03	1.11E-07	2.31E-03
Road 28	28	1500-1600	1.33E-02	4.03E-07	8.35E-03	5.54E-02	1.68E-06	3.48E-02	6.87E-02	2.08E-06	4.32E-02	3.75E-03	1.14E-07	2.36E-03
Road 28	28	1600-1700	1.37E-02	4.36E-07	9.03E-03	5.33E-02	1.69E-06	3.50E-02	6.70E-02	2.13E-06	4.41E-02	3.75E-03	1.19E-07	2.46E-03
Road 28	28	1700-1800	1.21E-02	3.90E-07	8.07E-03	5.12E-02	1.62E-06	3.36E-02	6.53E-02	2.07E-06	4.28E-02	3.61E-03	1.15E-07	2.38E-03
Road 28	28	1800-1900	7.40E-03	2.74E-07	5.69E-03	3.49E-02	1.29E-06	2.68E-02	4.23E-02	1.57E-06	3.25E-02	2.04E-03	7.56E-08	1.57E-03
Road 28	28	1900-2000	6.10E-03	1.76E-07	3.65E-03	3.32E-02	9.62E-07	1.99E-02	3.93E-02	1.14E-06	2.36E-02	1.65E-03	4.76E-08	9.87E-04
Road 28	28	2000-2100	5.53E-03	1.24E-07	2.58E-03	3.59E-02	8.08E-07	1.67E-02	4.14E-02	9.32E-07	1.93E-02	1.49E-03	3.36E-08	6.96E-04
Road 28	28	2100-2200	5.50E-03	1.20E-07	2.48E-03	3.59E-02	7.81E-07	1.62E-02	4.14E-02	9.01E-07	1.87E-02	1.42E-03	3.10E-08	6.42E-04
Road 28	28	2200-2300	5.60E-03	1.20E-07	2.48E-03	3.64E-02	7.81E-07	1.62E-02	4.20E-02	9.01E-07	1.87E-02	1.44E-03	3.10E-08	6.42E-04
Road 28	28	2300-0000	5.28E-03	4.62E-08	1.16E-03	3.52E-02	3.08E-07	7.75E-03	4.04E-02	3.54E-07	8.91E-03	1.30E-03	1.14E-08	2.87E-04
Road 29	29	0000-0100	5.26E-03	4.62E-08	1.16E-03	3.52E-02	3.08E-07	7.75E-03	4.04E-02	3.54E-07	8.91E-03	1.30E-03	1.14E-08	2.87E-04
Road 29	29	0100-0200	6.15E-03	3.52E-08	8.88E-04	3.69E-02	2.12E-07	5.34E-03	4.31E-02	2.47E-07	6.22E-03	1.52E-03	8.73E-09	2.20E-04
Road 29	29	0200-0300	7.08E-03	2.68E-08	6.75E-04	3.91E-02	1.48E-07	3.73E-03	4.56E-02	1.73E-07	4.36E-03	1.61E-03	6.11E-09	1.54E-04
Road 29	29	0300-0400	7.98E-03	2.68E-08	6.75E-04	4.12E-02	1.39E-07	3.49E-03	4.92E-02	1.65E-07	4.17E-03	1.97E-03	6.63E-09	1.67E-04
Road 29	29	0400-0500	8.22E-03	3.02E-08	7.60E-04	4.20E-02	1.54E-07	3.89E-03	5.02E-02	1.84E-07	4.65E-03	2.04E-03	7.50E-09	1.89E-04
Road 29	29	0500-0600	8.09E-03	4.51E-08	1.14E-03	4.24E-02	2.36E-07	5.97E-03	5.01E-02	2.79E-07	7.05E-03	2.03E-03	1.13E-08	2.86E-04
Road 29	29	0600-0700	7.68E-03	1.02E-07	2.56E-03	4.24E-02	5.61E-07	1.41E-02	5.01E-02	6.63E-07	1.67E-02	1.95E-03	2.58E-08	6.49E-04
Road 29	29	0700-0800	8.59E-03	2.32E-07	5.84E-03	4.38E-02	1.18E-06

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ASR/MOD model (February) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAve		MonthlyHourMax		MonthlyHourMin		MonthlyHourAve		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	4.23E-03	3.76E-08	2.08E-04	1.01E-02	8.97E-08	1.64E-06	1.20E-02	1.88E-03	6.77E-08	4.95E-04	7.75E-08	5.60E-05
Road 51	51	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	1.48E-06	1.08E-02	2.23E-03	6.58E-08	4.81E-04
Road 51	51	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-07	1.05E-02	1.27E-03	4.75E-09	3.23E-05
Road 51	51	0300-0400	5.53E-03	1.31E-08	9.84E-05	3.78E-02	8.97E-08	6.74E-04	4.28E-02	1.27E-06	8.62E-03	1.38E-03	4.08E-09	2.78E-05
Road 51	51	0400-0500	5.96E-03	1.31E-08	1.04E-04	3.94E-02	8.66E-08	6.87E-04	4.44E-02	9.77E-07	1.55E-02	4.85E-03	3.30E-05	2.62E-04
Road 51	51	0500-0600	6.40E-03	3.59E-08	2.44E-04	3.95E-02	2.21E-07	1.51E-03	4.75E-02	1.62E-03	9.07E-09	6.17E-05		
Road 51	51	0600-0700	6.88E-03	4.25E-08	3.51E-04	4.11E-02	4.92E-07	3.39E-03	4.88E-02	3.76E-07	3.91E-03	2.69E-02	1.42E-04	
Road 51	51	0700-0800	7.30E-03	1.76E-07	1.20E-03	4.17E-02	1.01E-06	8.07E-03	1.86E-03	4.51E-08	3.07E-04			
Road 51	51	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.70E-02	1.03E-06	7.04E-03	4.40E-02	1.23E-06	8.36E-03	1.82E-03	5.08E-08	3.45E-04
Road 51	51	0900-1000	7.88E-03	2.63E-07	1.79E-03	4.35E-02	1.45E-06	9.89E-03	4.68E-02	1.56E-06	1.06E-02	1.82E-03	6.06E-08	4.13E-04
Road 51	51	1000-1100	8.93E-03	1.74E-07	1.19E-03	4.27E-02	8.34E-07	5.68E-03	5.16E-02	1.00E-06	6.84E-03	1.82E-03	3.55E-08	2.42E-04
Road 51	51	1100-1200	8.46E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.38E-03	5.11E-02	9.47E-07	6.44E-03	2.28E-03	4.21E-08	2.87E-04
Road 51	51	1200-1300	1.50E-02	2.72E-07	1.85E-03	7.09E-02	1.28E-06	8.73E-03	1.23E-02	2.23E-07	1.52E-03	3.13E-03	5.68E-08	3.87E-04
Road 51	51	1300-1400	1.51E-02	2.91E-07	1.98E-03	7.44E-02	1.43E-06	9.64E-03	4.29E-02	8.28E-08	5.64E-04			
Road 51	51	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 51	51	1500-1600	1.38E-02	2.96E-07	2.01E-03	5.71E-02	1.23E-06	8.35E-03	7.16E-02	1.54E-06	1.05E-02	4.26E-03	9.16E-08	6.23E-04
Road 51	51	1600-1700	1.41E-02	3.03E-07	2.06E-03	5.42E-02	1.16E-06	7.90E-03	6.83E-02	1.46E-06	9.96E-03	3.98E-03	8.53E-08	5.80E-04
Road 51	51	1700-1800	1.04E-02	2.41E-07	1.64E-03	4.70E-02	1.09E-06	7.40E-03	5.47E-02	1.33E-06	9.04E-03	3.02E-03	7.00E-08	4.76E-04
Road 51	51	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.62E-03	4.25E-02	1.00E-06	6.81E-03	2.47E-03	5.81E-08	3.96E-04
Road 51	51	1900-2000	6.49E-03	1.21E-07	8.21E-04	3.30E-02	6.13E-07	4.17E-03	3.95E-02	7.34E-07	4.99E-03	1.82E-03	3.39E-08	2.31E-04
Road 51	51	2000-2100	6.31E-03	9.22E-08	6.27E-04	3.54E-02	5.17E-07	3.52E-03	4.17E-02	6.09E-07	4.15E-03	1.77E-03	2.59E-08	1.76E-04
Road 51	51	2100-2200	6.08E-03	8.74E-08	5.95E-04	3.53E-02	5.07E-07	3.46E-03	4.08E-02	5.87E-07	4.00E-03	1.68E-03	2.41E-08	1.64E-04
Road 51	51	2200-2300	5.68E-03	8.74E-08	5.95E-04	3.53E-02	5.43E-07	3.70E-03	4.08E-02	6.27E-07	4.27E-03	1.68E-03	2.58E-08	1.76E-04
Road 51	51	2300-0000	6.64E-03	6.98E-08	4.75E-04	3.64E-02	3.83E-07	2.60E-03	4.30E-02	4.53E-07	3.08E-03	1.81E-03	1.90E-08	1.30E-04
Road 52	52	0000-0100	4.73E-02	2.38E-08	4.45E-05	1.72E-01	8.65E-08	1.62E-04	1.10E-02	2.06E-04	9.38E-03	4.72E-02	8.83E-08	1.65E-04
Road 52	52	0100-0200	4.78E-02	1.91E-08	3.57E-05	1.74E-01	6.95E-08	1.30E-04	1.11E-02	1.65E-04	7.52E-03	4.77E-02	7.08E-08	1.32E-04
Road 52	52	0200-0300	4.63E-02	1.31E-08	2.45E-05	1.69E-01	4.77E-08	8.91E-05	2.15E-01	6.07E-08	1.14E-04	9.36E-03	2.65E-09	4.95E-06
Road 52	52	0300-0400	4.66E-02	1.12E-08	2.10E-05	1.70E-01	4.09E-08	7.64E-05	2.16E-01	5.21E-08	9.74E-05	9.39E-03	2.26E-09	4.22E-06
Road 52	52	0400-0500	4.68E-02	1.12E-08	2.48E-05	1.71E-01	4.09E-08	9.04E-05	2.16E-01	5.18E-08	1.15E-04	9.42E-03	2.26E-09	4.99E-06
Road 52	52	0500-0600	4.84E-02	2.55E-08	4.76E-05	1.76E-01	9.25E-08	1.73E-04	2.21E-01	1.18E-07	2.21E-04	9.55E-03	5.02E-09	9.40E-06
Road 52	52	0600-0700	5.03E-02	6.04E-08	1.13E-04	1.82E-01	2.19E-07	4.09E-04	2.27E-01	2.73E-07	5.10E-04	9.88E-03	1.16E-08	2.17E-05
Road 52	52	0700-0800	5.59E-02	1.31E-07	2.59E-04	1.96E-01	4.59E-07	9.07E-04	2.39E-01	5.61E-07	1.11E-03	1.04E-02	2.44E-08	4.82E-05
Road 52	52	0800-0900	5.32E-02	1.65E-07	3.08E-04	1.99E-01	6.16E-07	1.15E-03	2.51E-01	7.81E-07	1.46E-03	9.78E-03	3.02E-08	5.66E-05
Road 52	52	0900-1000	5.48E-02	1.92E-07	3.60E-04	2.06E-01	7.25E-07	1.36E-03	2.61E-01	9.17E-07	1.72E-03	9.90E-03	3.48E-08	6.51E-05
Road 52	52	1000-1100	5.84E-02	1.89E-07	3.54E-04	2.09E-01	6.77E-07	1.27E-03	2.70E-01	8.74E-07	1.64E-03	1.04E-02	3.36E-08	6.30E-05
Road 52	52	1100-1200	5.82E-02	1.89E-07	3.54E-04	2.09E-01	6.77E-07	1.27E-03	2.62E-01	8.48E-07	1.59E-03	1.03E-02	3.35E-08	6.26E-05
Road 52	52	1200-1300	5.95E-02	2.01E-07	3.75E-04	2.04E-01	6.89E-07	1.29E-03	2.64E-01	8.89E-07	1.66E-03	1.04E-02	3.49E-08	6.53E-05
Road 52	52	1300-1400	5.98E-02	2.34E-07	4.38E-04	2.05E-01	8.03E-07	1.50E-03	2.62E-01	1.02E-06	1.92E-03	1.04E-02	4.06E-08	7.60E-05
Road 52	52	1400-1500	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1500-1600	5.40E-02	2.12E-07	3.97E-04	2.09E-01	8.20E-07	1.53E-03	2.63E-01	1.03E-06	1.93E-03	9.62E-03	3.78E-08	7.07E-05
Road 52	52	1600-1700	5.61E-02	2.04E-07	3.81E-04	2.07E-01	7.52E-07	1.41E-03	2.67E-01	9.72E-07	1.82E-03	1.04E-02	3.79E-08	7.09E-05
Road 52	52	1700-1800	4.69E-02	1.55E-07	2.90E-04	1.91E-01	6.29E-07	1.18E-03	2.38E-01	7.84E-07	1.47E-03	8.85E-03	2.92E-08	5.46E-05
Road 52	52	1800-1900	4.16E-02	9.56E-08	1.79E-04	1.75E-01	4.02E-07	7.52E-04	2.16E-01	4.98E-07	9.31E-04	8.09E-03	1.86E-08	3.48E-05
Road 52	52	1900-2000	3.42E-02	6.44E-08	1.20E-04	1.44E-01	2.71E-07	5.06E-04	1.78E-01	3.35E-07	6.27E-04	6.65E-03	1.25E-08	2.35E-05
Road 52	52	2000-2100	3.85E-02	4.64E-08	8.67E-05	1.61E-01	1.94E-07	3.63E-04	1.99E-01	2.40E-07	4.50E-04	7.77E-03	9.37E-09	1.75E-05
Road 52	52	2100-2200	3.91E-02	4.84E-08	9.06E-05	1.62E-01	2.00E-07	3.74E-04	2.01E-01	2.48E-07	4.64E-04	7.86E-03	9.73E-09	1.82E-05
Road 52	52	2200-2300	4.14E-02	5.22E-08	9.75E-05	1.67E-01	2.11E-07	3.94E-04	2.06E-01	2.60E-07	4.86E-04	8.02E-03	1.01E-08	1.89E-05
Road 52	52	2300-0000	4.26E-02	3.77E-08	7.06E-05	1.57E-01	1.39E-07	2.60E-04	2.00E-01	1.77E-07	3.31E-04	8.45E-03	7.49E-09	1.40E-05
Road 53	53	0000-0100	6.62E-02	3.05E-08	2.58E-04	2.33E-01	1.07E-07	9.11E-04	2.99E-01	1.38E-07	1.17E-03	1.04E-02	4.80E-09	4.07E-05
Road 53	53	0100-0200	6.46E-02	1.91E-08	1.62E-04	2.27E-01	6.72E-08	5.70E-04	2.92E-01	8.63E-08	7.31E-04	1.04E-02	3.77E-09	3.19E-05
Road 53	53	0200-0300	6.82E-02	1.61E-08	1.36E-04	2.41E-01	5.67E-08	4.81E-04	3.09E-01	7.27E-08	6.17E-04	1.06E-02	2.49E-09	2.11E-05
Road 53	53	0300-0400	7.04E-02	1.35E-08	1.15E-04	2.48E-01	4.78E-08	4.05E-04	3.19E-01	6.13E-08	5.20E-04	1.08E-02	2.07E-09	1.76E-05
Road 53	53	0400-0500	7.25E-02	1.35E-08	1.32E-04	2.55E-01	4.92E-08	4.66E-04	3.29E-01	6.26E-08	5.98E-04	1.09E-02	2.07E-09	2.03E-05
Road 53	53	0500-0600	7.74E-02	3.03E-08	2.57E-04	2.72E-01	1.07E-07	9.04E-04	3.50E-01	1.37E-07	1.16E-03	1.13E-02	4.43E-09	3.76E-05
Road 53	53	0600-0700	8.69E-02	7.53E-08	6.39E-04	3.04E-01	2.64E-07	2.24E-03	3.91E-01	3.39E-07	2.87E-03	1.26E-02	1.09E-08	9.26E-05
Road 53	53	0700-0800	7.74E-02	1.76E-07	1.49E-03	2.70E-01	6.40E-07	5.43E-03	3.48E-01	7.91E-07	6.71E-03	1.12E-02	2.55E-08	2.16E-04
Road 53	53	0800-0900	9.54E-02	1.95E-07	1.65E-03	3.43E-01	8.97E-07	7.60E-03	1.20E-02	2.46E-08	2.09E-04			
Road 53	53	0900-1000	1.03E-01	2.15E-07	1.83E-03	3.73E-01	1.01E-06	8.56E-03	1.29E-02	2.69E-08	2.28E-04			
Road 53	53	1000-1100	1.12E-01	2.21E-07	1.87E-03	3.98E-01	7.84E-07	6.64E-03	1.40E-02	2.76E-08	2.34E-04			
Road 53	53	1100-1200	1.11E-01	2.07E-07	1.75E-03	3.88E-01	7.24E-07	6.12E-03	9.47E-03	1.76E-08	1.49E-04			
Road 53	53	1200-1300	1.79E-01	3.35E-07	2.83E-03	7.87E-01	6.68E-03	4.33E-01	1.02E-06	2.50E-08	2.12E-04			
Road 53	53	1300-1400	9.72E-02	2.43E-07	2.06E-03	3.49E-01	8.73E-07	7.40E-03	4.46E-02	1.12E-06	9.47E-03	1.06E-02	2.65E-08	2.25E-04
Road 53	53	1400-1500	9.69E-02	2.22E-07	1.88E-03	3.48E-01	7.98E-07	6.77E-03	3.81E-02	8.73E-08	7.40E-04	1.06E-02	2.43E-08	2.06E-04
Road 53	53	1500-1600	8.87E-02	2.35E-07	2.00E-03	3.39E-01	9.01E-07	7.64E-03	4.28E-01	1.14E-06	9.64E-03	1.06E-02	2.66E-08	2.26E-04
Road 53	53	1600-1700	9.11E-02	2.41E-07	2.04E-03	3.23E-01	8.53E-07	7.23E-03	4.14E-01	1.09E-06	9.28E-03	1.01E-02	2.67E-08	2.27E-04
Road 53	53	1700-1800	7.27E-02	2.02E-07	1.71E-03	2.58E-01	7.16E-07	6.07E-03	3.31E-01	9.21E-07	7.81E-03	8.04E-03	2.23E-08	1.89E-04
Road 53	53	1800-1900	5.29E-02	1.36E-07	1.15E-03	1.88E-01	4.63E-07	3.92E-03	2.41E-01	6.22E-07	5.27E-03	5.85E-03	1.50E-08	1.27E-04
Road 53	53	1900-2000	4.64E-02	9.07E-08	7.69E-04	1.84E-01	3.59E-07	3.05E-03	2.30E-01	4.50E-07	3.82E-03	1.82E-03	3.56E-09	3.02E-05
Road 53	53	2000-2100	4.29E-02	6.95E-08	5.89E-04	1.89E-01	2.92E-07	2.48E-03	2.34E-01	3.62E-07	3.07E-03	1.61E-03	2.61E-09	2.21E-05
Road 53	53	2100-2200	4.58E-02	6.63E-08	5.62E-04	1.80E-01	2.61E-07	2.21E-03	2.27E-01	3.28E-07	2.78E-03	1.72E-03	2.49E-09	2.11E-05
Road 53	53	2200-2300	4.70E-02	5.20E-08	4.41E-04	1.83E-01	2.01E-07	1.71E-03	2.30E-01	2.55E-07	2.16E-03	6.16E-03	6.82E-09	5.78E-05
Road 53	53	2300-0000	4.71E-02	3.77E-08	3.20E-04	1.83E-01	1.46E-07	1.24E-03	2.30E-01	1.84E-07	1.56E-03	5.48E-03	4.39E-09	3.72E-05
Road 54	54	0000-0100	5.11E-02	4.56E-08	3.79E-04	1.92E-01	1.71E-07	1.42E-03	2.31E-01	4.04E-06	1.73E-02	4.65E-03	1.35E-01	1.40E-03
Road 54	54	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	1.48E-06	1.08E-02	2.23E-03	6.58E-08	4.81E-04
Road 54	54	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-07	1.05E-02	1.27E-03	4.75E-09	3.23E-05
Road 54	54	0300-0400	5.53E-03	1.31E-08	9.84E-05	3.78E-02	8.97E-08	6.74E-04	4.28E-02	1.27E-06	8.62E-03	1.38E-03	4.08E-09	2.78E-05
Road 54	54	0400-0500	5.96E-03	1.31E-08	1.04E-04	3.94E-02	8.66E-08	6.87E-04	4.44E-02	9.77E-07	1.55E-02	4.85E-03	3.30E-05	2.62E-04
Road 54	54	0500-0600	6.40E-03	3.59E-08	2.44E-04	3.95E-02	2.21E-07	1.51E-03	4.75E-02	1.62E-03	9.07E-09	6.17E-05		
Road 54	54	0600-0700	6.88E-03	4.25E-08	3.51E-04	4.11E-02	4.92E-07	3.39E-03	4.88E-02	3.76E-07	3.91E-03	2.69E-02	1.42E-04	
Road 54	54	0700-0800	7.30E-03	1.76E-07	1.20E-03	4.17E-02	1.01E-06	8.07E-03	1.86E-03	4.51E-08	3.07E-04			
Road 54	54	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.70E-02	1.03E-06	7.04E-03	4.40E-02	1.23E-06	8.36E-03	1.82E-03	5.08E-08	3.45E-04
Road 54	54	0900-1000	7.88E-03	2.63E-07	1.79E-03	4.35E-02	1.45E-06	9.89E-03	4.68E-02	1.56E-06	1.06E-02	1.82E-03	6.06E-08	4.13E-04
Road 54	54	1000-1100	8.93E-03	1.74E-07	1.19E-03	4.27E-02	8.34E-07	5.68E-03	5.16E-02	1.00E-06	6.84E-03	1.82E-03	3.55E-08	2.42E-04
Road 54	54	1100-1200	8.46E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.38E-03	5.11E-02	9.47E-07	6.44E-03	2.28E-03	4.21E-08	2.87E-04
Road 54	54	1200-1300	1.50E-02	2.72E-07	1.85E-03	7.09E-02	1.28E-06	8.73E-03	1.23E-02	2.23E-07	1.52E-03	3.13E-03	5.68E-08	3.87E-04
Road 54	54	1300-1400	1.51E-02	2.91E-07	1.98E-03	7.44E-02	1.43E-06	9.64E-03	4.29E-02	8.28E-08	5.64E-04			
Road 54	54	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 54	54	1500-1600	1.38E-02	2.96E-07	2.01E-03	5.71E-02	1.23E-06	8.35E-03	7.16E-02	1.54E-06	1.05E-02	4.26E-03	9.16E-08	6.23E-04
Road 54	54	1600-1700	1.41E-02	3.03E-07	2.06E-03	5.42E-02	1.16E-06	7.90E-03	6.83E-02	1.46E-06	9.96E-03	3.98E-03	8.53E-08	5.80E-04
Road 54	54	1700-1800	1.04E-02	2.41E-07	1.64E-03	4.70E-02	1.09E-06	7.40E-03	5.47E-02	1.33E-06	9.04E-03	3.02E-03	7.00E-08	4.76E-04
Road 54	54	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.62E-03	4.25E-02	1.00E-06	6.81E-03	2.47E-03	5.81E-08	3.96E-04
Road 54	54	1900-2000	6.49E-03	1.21E-07	8.21E-04	3.30E-02	6.13E-07	4.17E-03	3.95E-02	7.34E-07	4.99E-03	1.82E-03	3.39E-08	2.31E-04
Road 54	54	2000-2100	6.31E-03	9.22E-08	6.27E-04	3.54E-02	5.17E-07	3.52E-03	4.17E-02	6.09E-07	4.15E-03	1.77E-03	2.59E-08	1.76E-04
Road 54	54	2100-2200	6.08E-03	8.74E-08	5.95E-04	3.53E-02	5.07E-07	3.46E-03	4.08E-02	5.87E-07	4.00E-03	1.68E-03	2.41E-08	1.64E-04
Road 54	54	2200-2300	5.68E-03	8.74E-08	5.95E-04	3.53E-02	5.43E-07	3.70E-03	4.08E-02	6.27E-07	4.27E-03	1.68E-03	2.58E-08	1.76E-04
Road 54	54	2300-0000	6.64E-03	6.98E-08	4.75E-04	3.64E-02	3.83E-07	2.60E-03	4.30E-02	4.53E-07	3.08E-03	1.81E-03	1.90E-08	1.30E-04
Road 54	54	0000-0100	5.11E-02	4.56E-08	3.79E-04	1.92E-01	1.71E-07	1.42E-03	2.31E-01	4.04E-06	1.73E-02	4.65E-03	1.35E-01	1.40E-03
Road 54	54	0100-0200	5.43E-02	2.23E-08	1.90E-04	2.03E-01	8.29E-08	6.81E-04	2.61E-01	1.07E-07	9.14E-04	5.52E-03	2.26E-08	1.93E-04
Road 54	54	0200-0300	5.43E-02	2.23E-08	2.09E-04	2.03E-01	8.29E-08	7.49E-04	2.61E-01	1.07E-07	1.01E-03	5.52E-03	2.26E-08	2.12E-04
Road 54	54	0300-0400	5.44E-02	1.96E-08	1.63E-04	2.02E-01	7.30E-08	6.07E-04	2.51E-01	9.26E-08	7.71E-04	7.87E-03	2.84E-09	2.36E-05
Road 54	54	0400-0500	5.92E-02	2.40E-08	2.08E-04	2.18E-01	8.85E-08	7.37E-04	2.78E-01	1.13E-07	9.37E-04	8.29E-03	3.36E-09	2.80E-05
Road 54	54	0500-0600	6.44E-02	4.83E-08	3.86E-04	2.37E-01	1.41E-07	1.13E-03	3.00E-01	2.25E-07	1.80E-03	8.73E-03	7.24E-09	5.79E-05
Road 54	54	0600-0700	7.34E-02	1.16E-07	9.65E-04	2.66E-01	4.19E-07	3.49E-03	3.39E-01	5.35E-07	4.46E-03	9.36E-03	1.48E-08	1.23E-04
Road 54	54	0700-0800	8.35E-02	2.73E-07	2.27E-03	2.98E-01	9.73E-07	8.10E-03	3.81E-01	1.25E-06	1.04E-02	1.01E-02	3.30E-08	2.74E-04
Road 55	55	0000-0100	4.23E-03	3.76E-08	2.08E-04	1.01E-02	8.97E-08	1.64E-06	1.20E-02	1.88E-03	6.77E-08	4.95E-04		
Road 55	55	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	1.48E-06	1.08E-02	2.23E-03	6.58E-08	4.81E-04
Road 55	55	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-07	1.05E-02	1.27E-03	4.75E-09	3.23E-05
Road 55	55	0300-0400	5.53E-03	1.31E-08	9.84E-05	3.78E-02	8.97E-08	6.74E-04	4.28E-02	1.27E-06	8.62E-03	1.38E-03	4.08E-09	2.78E-05
Road 55	55	0400-0500	5.96E-03	1.31E-08	1.04E-04	3.94E-02	8.66E-08	6.87E-04	4.44E-02	9.77E-07	1.55E-02	4.85E-03	3.30E-05	2.62E-04
Road 55	55	0500-0600	6.40E-03	3.59E-08	2.44E-04	3.95E-02	2.21E-07	1.51E-03	4.75E-02	1.62E-03	9.07E-09	6.17E-05		
Road 55	55	0600-0700	6.88E-03	4.25E-08	3.51E-04	4.11E-02	4.92E-07	3.39E-03	4.88E-02	3.76E-07	3.91E-03	2.69E-02	1.42E-04	
Road 55	55	0700-0800	7.30E-03	1.76E-07	1.20E-03	4.17E-02	1.01E-06	8.07E-03	1.86E-03	4.51E-08	3.07E-04			
Road 55	55	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.70E-02	1.03E-06	7.04E-03	4.40E-02	1.23E-06	8.36E-03	1.82E-03	5.08E-08	3.45E-04
Road 55	55	0900-1000	7.88E-03	2.63E-07	1.79E-03	4.35E-02	1.45E-06	9.89E-03	4.68E-02	1.56E-06	1.06E-02	1.82E-03	6.06E-08	4.13E-04
Road 55	55	1000-1100	8.93E-03	1.74E-07	1.19E-03	4.27E-02	8.34E-07	5.68E-03	5.16E-02	1.00E-06	6.84E-03	1.82E-03	3.55E-08	2.42E-04
Road 55	55	1100-1200	8.46E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.38E-03	5.11E-02	9.47E-07	6.44E-03	2.28E-03	4.21E-08	2.87E-04
Road 55	55	1200-1300	1.50E-02	2.72E-07	1.85E-03	7.09E-02	1.28E-06	8.73E-03	1.23E-02	2.23E-07	1.52E-03	3.13E-03	5.68E-08	3.87E-04
Road 55	55	1300-1400	1.51E-02	2.91E-07	1.98E-03	7.44E-02	1.43E-06	9.64E-03	4.29E-02	8.28E-08	5.64E-04			
Road 55	55	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-03	8.58E-08	5.84E-04
Road 55	55	1500-1600	1.38E-02	2.96E-07	2.01E-03	5.71E-02	1.23E-06	8.35E-03	7.16E-02	1.54E-06	1.05E-02	4.26E-03	9.16E-08	6.23E-04
Road 55	55	1600-1700	1.41E-02	3.03E-07	2.06E-03	5.42E-02	1.16E-06	7.90E-03	6.83E-02	1.46E-06	9.96E-03	3.98E-03	8.53E-08	5.80E-04
Road 55	55	1700-1800	1.04E-02	2.41E-07	1.64E-03	4.70E-02	1.09E-06	7.40E-03	5.47E-02	1.33E-06	9.04E-03	3.02E-03	7.00E-08	4.76E-04
Road 55	55	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.62E-03	4.25E-02	1.00E-06	6.81E-03	2.47E-03	5.81E-08	3.96E-04
Road 55	55	1900-2000	6.49E-03	1.21E-07	8.21E-04	3.30E-02	6.13E-07	4.17E-03	3.95E-02	7.34E-07	4.99E-03	1.82E-03	3.39E-08	2.31E-04
Road 55	55	2000-2100	6.31E-03	9.22E-08	6.27E-04	3.54E-02	5.17E-07	3.52E-03	4.17E-02	6.09E-07	4.15E-03	1.77E-03	2.59E-08	1.76E-04
Road 55	55	2100-2200	6.08E-03	8.74E-08	5.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2043

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 17	17	1600-1700	5.67E-02	1.53E-06	5.82E-03	1.12E-01	3.02E-06	1.44E-02	7.45E-03	2.01E-07	2.13E-03	6.98E-02	1.88E-06	8.94E-03
Road 17	17	1700-1800	3.95E-02	1.11E-06	1.18E-02	1.61E-01	4.53E-06	4.83E-02	2.01E-01	5.64E-06	6.02E-02	5.65E-03	1.59E-07	1.69E-03
Road 17	17	1800-1900	2.03E-02	5.47E-07	5.84E-03	8.79E-02	2.37E-06	2.53E-02	1.08E-01	2.91E-06	3.11E-02	3.61E-03	9.72E-08	1.04E-03
Road 17	17	1900-2000	1.16E-02	2.97E-07	2.53E-03	5.54E-02	1.41E-06	1.23E-02	6.80E-02	1.98E-06	1.48E-02	2.67E-03	5.43E-08	5.80E-04
Road 17	17	2000-2100	9.54E-03	1.52E-07	1.62E-03	5.21E-02	8.31E-07	8.87E-03	6.16E-02	9.83E-07	1.05E-02	2.50E-03	3.98E-08	4.25E-04
Road 17	17	2100-2200	9.28E-03	1.48E-07	1.58E-03	5.19E-02	8.30E-07	8.86E-03	6.12E-02	9.79E-07	1.04E-02	2.44E-03	3.89E-08	4.15E-04
Road 17	17	2200-2300	9.14E-03	1.28E-07	1.48E-03	5.17E-02	8.01E-07	5.85E-02	8.90E-02	3.48E-06	2.56E-02	3.56E-03	3.56E-08	3.84E-04
Road 17	17	2300-0000	9.77E-03	1.13E-07	1.21E-03	5.09E-02	5.91E-07	6.31E-03	6.07E-02	7.04E-07	7.52E-03	2.59E-03	3.01E-08	3.21E-04
Road 18	18	0000-0100	6.30E-03	4.93E-08	7.03E-04	3.99E-02	3.12E-07	4.46E-03	4.62E-02	3.62E-07	5.16E-03	1.58E-03	1.24E-08	1.77E-04
Road 18	18	0100-0200	7.08E-03	1.54E-08	2.18E-04	4.18E-02	9.08E-08	1.29E-03	4.89E-02	1.06E-07	1.50E-03	1.68E-03	3.66E-09	5.17E-05
Road 18	18	0200-0300	7.99E-03	4.27E-08	6.40E-04	1.67E-02	2.38E-07	5.19E-02	1.97E-02	2.80E-07	4.19E-03	7.55E-04	1.08E-08	1.62E-04
Road 18	18	0300-0400	8.71E-03	2.63E-08	3.75E-04	4.62E-02	1.39E-07	1.66E-02	2.36E-03	2.20E-03	6.63E-09	9.46E-05		
Road 18	18	0400-0500	8.14E-03	4.48E-08	6.39E-04	1.90E-02	2.29E-07	1.58E-03	5.15E-02	2.76E-07	7.70E-03	1.16E-03	6.37E-09	9.08E-05
Road 18	18	0500-0600	9.25E-03	5.31E-08	7.57E-04	4.85E-02	2.78E-07	3.31E-02	4.72E-03	2.37E-03	1.36E-08	1.93E-04		
Road 18	18	0600-0700	9.53E-03	1.17E-07	1.67E-03	5.01E-02	6.14E-07	8.76E-03	5.96E-02	7.31E-07	1.04E-02	2.44E-03	3.00E-08	4.27E-04
Road 18	18	0700-0800	1.04E-02	1.78E-07	2.53E-03	5.46E-02	9.34E-07	1.33E-02	1.82E-02	3.12E-07	4.44E-03	2.66E-03	4.57E-08	6.50E-04
Road 18	18	0800-0900	1.02E-02	2.96E-07	4.22E-03	4.92E-02	1.43E-06	2.04E-02	5.94E-02	1.73E-06	2.46E-02	2.63E-03	7.63E-08	1.09E-03
Road 18	18	0900-1000	1.17E-02	2.88E-07	4.11E-03	5.50E-02	1.36E-06	1.94E-02	6.66E-02	1.65E-06	2.35E-02	3.14E-03	7.75E-08	1.11E-03
Road 18	18	1000-1100	1.33E-02	2.96E-07	4.13E-03	5.88E-02	1.30E-06	1.82E-02	7.21E-02	1.61E-06	2.24E-02	3.57E-03	7.97E-08	1.11E-03
Road 18	18	1100-1200	1.29E-02	2.65E-07	3.78E-03	5.82E-02	1.20E-06	1.71E-02	7.10E-02	1.46E-06	2.08E-02	3.42E-03	7.03E-08	1.00E-03
Road 18	18	1200-1300	1.60E-02	3.58E-07	5.11E-03	6.52E-02	1.46E-06	2.08E-02	8.13E-02	1.82E-06	2.59E-02	4.27E-03	9.54E-08	1.36E-03
Road 18	18	1300-1400	1.62E-02	3.71E-07	5.38E-03	6.62E-02	1.52E-06	2.21E-02	8.44E-02	1.93E-06	2.81E-02	4.37E-03	1.00E-07	1.45E-03
Road 18	18	1400-1500	1.61E-02	3.47E-07	5.62E-03	6.60E-02	1.42E-06	2.30E-02	8.49E-02	1.83E-06	2.96E-02	4.36E-03	9.39E-08	1.52E-03
Road 18	18	1500-1600	1.49E-02	3.75E-07	5.35E-03	6.09E-02	1.53E-06	2.19E-02	8.05E-02	2.02E-06	2.89E-02	4.03E-03	1.01E-07	1.45E-03
Road 18	18	1600-1700	1.57E-02	4.06E-07	5.79E-03	6.44E-02	1.67E-06	2.38E-02	8.01E-02	2.08E-06	2.96E-02	4.12E-03	1.07E-07	1.52E-03
Road 18	18	1700-1800	1.54E-02	4.48E-07	6.39E-03	6.31E-02	1.84E-06	2.62E-02	7.87E-02	2.29E-06	3.26E-02	4.04E-03	1.18E-07	1.68E-03
Road 18	18	1800-1900	8.32E-03	2.42E-07	3.45E-03	4.18E-02	1.22E-06	1.73E-02	5.02E-02	1.46E-06	2.08E-02	2.21E-03	6.41E-08	9.14E-04
Road 18	18	1900-2000	6.83E-03	1.54E-07	2.19E-03	3.82E-02	8.61E-07	1.23E-02	4.50E-02	1.01E-06	1.45E-02	1.80E-03	4.06E-08	5.79E-04
Road 18	18	2000-2100	6.08E-03	1.40E-07	1.99E-03	3.42E-02	7.88E-07	1.12E-02	4.03E-02	9.26E-07	1.32E-02	1.61E-03	3.72E-08	5.30E-04
Road 18	18	2100-2200	6.26E-03	1.10E-07	1.57E-03	4.07E-02	7.16E-07	1.02E-02	4.70E-02	8.26E-07	1.18E-02	1.66E-03	2.91E-08	4.15E-04
Road 18	18	2200-2300	6.24E-03	1.06E-07	1.51E-03	4.00E-02	6.78E-07	9.67E-03	4.63E-02	7.84E-07	1.12E-02	1.59E-03	2.69E-08	3.83E-04
Road 18	18	2300-0000	6.36E-03	8.28E-08	1.18E-03	4.07E-02	5.30E-07	7.56E-03	4.62E-02	6.01E-07	8.57E-03	1.59E-03	2.07E-08	2.95E-04
Road 19	19	0000-0100	8.36E-03	6.92E-08	7.27E-04	4.62E-02	3.82E-07	4.02E-03	5.46E-02	4.52E-07	4.75E-03	2.17E-03	1.80E-08	1.89E-04
Road 19	19	0100-0200	9.21E-03	5.04E-08	5.30E-04	4.81E-02	2.63E-07	2.77E-03	5.73E-02	3.13E-07	3.30E-03	2.41E-03	1.32E-08	1.39E-04
Road 19	19	0200-0300	1.12E-02	4.83E-08	6.04E-04	5.62E-02	2.52E-07	3.15E-03	6.82E-02	2.94E-07	3.68E-03	2.87E-03	1.24E-08	1.55E-04
Road 19	19	0300-0400	1.10E-02	3.59E-08	3.78E-04	5.30E-02	1.73E-07	1.82E-03	6.40E-02	2.09E-07	2.20E-03	2.87E-03	9.36E-09	9.84E-05
Road 19	19	0400-0500	1.15E-02	4.17E-08	4.39E-04	5.46E-02	1.98E-07	2.08E-03	6.72E-02	2.43E-07	2.56E-03	3.02E-03	1.09E-08	1.15E-04
Road 19	19	0500-0600	1.18E-02	4.72E-08	4.96E-04	5.55E-02	2.22E-07	2.33E-03	6.77E-02	2.71E-07	2.85E-03	3.03E-03	1.21E-08	1.27E-04
Road 19	19	0600-0700	1.22E-02	1.66E-07	1.75E-03	5.84E-02	7.94E-07	8.34E-03	7.07E-02	9.60E-07	1.01E-02	3.22E-03	4.37E-08	4.60E-04
Road 19	19	0700-0800	1.34E-02	3.74E-07	3.94E-03	6.20E-02	1.73E-06	1.82E-02	7.54E-02	2.11E-06	2.21E-02	3.47E-03	9.70E-08	1.02E-03
Road 19	19	0800-0900	1.32E-02	3.80E-07	4.00E-03	6.14E-02	1.76E-06	1.85E-02	7.46E-02	2.14E-06	2.25E-02	3.44E-03	9.87E-08	1.04E-03
Road 19	19	0900-1000	1.51E-02	4.38E-07	4.61E-03	6.70E-02	1.94E-06	2.04E-02	8.21E-02	2.38E-06	2.50E-02	4.07E-03	1.18E-07	1.24E-03
Road 19	19	1000-1100	1.72E-02	4.48E-07	4.71E-03	7.13E-02	1.86E-06	1.95E-02	8.85E-02	2.31E-06	2.42E-02	4.58E-03	1.19E-07	1.25E-03
Road 19	19	1100-1200	1.44E-02	4.24E-07	4.37E-03	5.97E-02	1.76E-06	1.81E-02	7.39E-02	2.18E-06	2.24E-02	3.82E-03	1.12E-07	1.16E-03
Road 19	19	1200-1300	2.06E-02	4.92E-07	5.17E-03	7.94E-02	1.89E-06	1.99E-02	1.00E-01	2.38E-06	2.51E-02	5.45E-03	1.30E-07	1.37E-03
Road 19	19	1300-1400	2.06E-02	4.92E-07	5.27E-03	7.94E-02	1.89E-06	2.03E-02	1.00E-01	2.38E-06	2.56E-02	5.45E-03	1.30E-07	1.40E-03
Road 19	19	1400-1500	2.06E-02	4.92E-07	5.27E-03	7.94E-02	1.89E-06	2.03E-02	1.00E-01	2.38E-06	2.56E-02	5.45E-03	1.30E-07	1.40E-03
Road 19	19	1500-1600	1.89E-02	5.10E-07	5.36E-03	8.09E-02	2.19E-06	2.30E-02	9.98E-02	2.70E-06	2.84E-02	5.17E-03	1.40E-07	1.47E-03
Road 19	19	1600-1700	1.94E-02	5.26E-07	5.53E-03	7.69E-02	2.09E-06	2.19E-02	9.62E-02	2.61E-06	2.75E-02	5.17E-03	1.40E-07	1.48E-03
Road 19	19	1700-1800	1.07E-02	2.89E-07	3.04E-03	5.13E-02	1.39E-06	1.46E-02	6.19E-02	1.68E-06	1.77E-02	2.95E-03	8.02E-08	8.43E-04
Road 19	19	1800-1900	1.07E-02	2.89E-07	3.04E-03	5.13E-02	1.39E-06	1.46E-02	6.19E-02	1.68E-06	1.77E-02	2.95E-03	8.02E-08	8.43E-04
Road 19	19	1900-2000	9.19E-03	1.89E-07	1.98E-03	4.68E-02	9.60E-07	1.01E-02	5.60E-02	1.15E-06	1.21E-02	2.50E-03	5.13E-08	5.39E-04
Road 19	19	2000-2100	8.75E-03	1.41E-07	1.48E-03	4.93E-02	7.94E-07	8.35E-03	5.80E-02	9.35E-07	9.83E-03	2.40E-03	3.87E-08	4.06E-04
Road 19	19	2100-2200	8.86E-03	1.36E-07	1.43E-03	4.79E-02	7.33E-07	7.71E-03	5.67E-02	8.69E-07	9.14E-03	2.34E-03	3.59E-08	3.77E-04
Road 19	19	2200-2300	8.66E-03	1.28E-07	1.35E-03	4.68E-02	6.90E-07	7.25E-03	5.54E-02	8.17E-07	8.59E-03	2.28E-03	3.37E-08	3.54E-04
Road 19	19	2300-0000	8.66E-03	1.33E-07	1.40E-03	4.68E-02	7.20E-07	7.56E-03	5.54E-02	8.52E-07	8.96E-03	2.28E-03	3.52E-08	3.70E-04
Road 20	20	0000-0100	3.44E-02	2.49E-08	2.35E-04	1.32E-01	1.34E-07	1.61E-03	6.78E-02	6.88E-09	4.63E-05	7.39E-03	5.34E-09	2.25E-05
Road 20	20	0100-0200	3.55E-02	2.49E-08	1.67E-04	1.36E-01	9.49E-08	6.39E-04	7.11E-02	4.96E-09	3.34E-05	7.61E-03	5.31E-09	1.79E-05
Road 20	20	0200-0300	3.66E-02	2.38E-08	1.33E-04	1.40E-01	9.09E-08	5.07E-04	7.32E-02	4.76E-09	2.65E-05	7.84E-03	5.09E-09	1.42E-05
Road 20	20	0300-0400	3.77E-02	1.70E-08	1.15E-04	1.44E-01	6.44E-08	4.37E-04	7.53E-02	3.40E-09	2.30E-05	8.06E-03	3.64E-09	1.23E-05
Road 20	20	0400-0500	3.85E-02	2.01E-08	1.35E-04	1.45E-01	7.58E-08	5.10E-04	6.83E-02	3.58E-09	2.41E-05	7.39E-03	3.87E-09	2.60E-05
Road 20	20	0500-0600	3.93E-02	3.74E-08	2.52E-04	1.47E-01	1.40E-07	9.44E-04	1.87E-01	1.78E-08	1.20E-04	7.71E-03	7.35E-09	4.96E-05
Road 20	20	0600-0700	4.28E-02	2.47E-08	1.67E-04	1.61E-01	9.31E-08	6.29E-04	1.87E-01	1.08E-08	7.29E-05	8.34E-03	4.82E-09	3.25E-05
Road 20	20	0700-0800	4.80E-02	2.18E-07	1.47E-03	1.77E-01	8.02E-07	5.40E-03	2.25E-01	1.02E-06	6.86E-03	8.47E-03	3.85E-08	2.59E-04
Road 20	20	0800-0900	4.79E-02	2.59E-07	1.74E-03	1.81E-01	9.81E-07	6.60E-03	2.29E-01	1.24E-06	8.34E-03	8.38E-03	4.53E-08	3.05E-04
Road 20	20	0900-1000	5.20E-02	2.02E-07	1.83E-03	1.96E-01	7.65E-07	6.92E-03	2.49E-01	9.68E-07	8.76E-03	9.29E-03	3.61E-08	3.26E-04
Road 20	20	1000-1100	5.44E-02	2.04E-07	2.03E-03	1.96E-01	7.33E-07	7.30E-03	2.61E-01	9.44E-07	9.41E-03	9.72E-03	3.64E-08	3.63E-04
Road 20	20	1100-1200	5.25E-02	2.18E-07	2.04E-03	1.89E-01	7.85E-07	7.34E-03	2.52E-01	1.05E-06	9.79E-03	9.38E-03	3.90E-08	3.65E-04
Road 20	20	1200-1300	5.67E-02	2.49E-07	2.34E-03	2.04E-01	8.96E-07	8.42E-03	2.72E-01	1.20E-06	1.13E-02	9.77E-03	4.29E-08	4.04E-04
Road 20	20	1300-1400	5.64E-02	3.18E-07	2.41E-03	2.03E-01	1.14E-06	8.68E-03	2.71E-01	1.53E-06	1.16E-02	9.72E-03	5.48E-08	4.16E-04
Road 20	20	1400-1500	5.74E-02	3.24E-07	2.18E-03	2.02E-01	1.14E-06	7.67E-03	2.59E-01	1.46E-06	9.85E-03	9.59E-03	5.41E-08	3.64E-04
Road 20	20	1500-1600	5.15E-02	3.02E-07	2.08E-03	1.81E-01	1.06E-06	7.32E-03	2.47E-01	1.45E-06	9.98E-03	8.94E-03	5.25E-08	3.61E-04
Road 20	20	1600-1700	5.27E-02	2.92E-07	1.97E-03	1.91E-01	1.06E-06	7.10E-03	2.43E-01	1.35E-06	9.07E-03	9.15E-03	5.07E-08	3.41E-04
Road 20	20	1700-1800	4.41E-02	2.30E-07	1.55E-03	1.81E-01	9.41E-07	6.33E-03	2.25E-01	1.17E-06	7.88E-03	7.94E-03	4.14E-08	2.78E-04
Road 20	20	1800-1900	3.47E-02	1.39E-07	9.34E-04	1.48E-01	5.93E-07	3.97E-03	1.82E-01	7.29E-07	4.91E-03	6.56E-03	2.64E-08	1.77E-04
Road 20	20	1900-2000	3.14E-02	8.70E-08	5.86E-04	1.31E-01	3.61E-07	2.43E-03	1.62E-01	4.48E-07	3.02E-03	6.13E-03	1.70E-08	1.14E-04
Road 20	20	2000-2100	3.07E-02	6.72E-08	4.52E-04	1.33E-01	2.91E-07	1.96E-03	1.64E-01	3.58E-07	2.41E-03	6.04E-03	1.32E-08	8.90E-05
Road 20	20	2100-2200	3.11E-02	5.83E-08	4.67E-04	1.34E-01	2.98E-07	2.06E-03	1.64E-01	3.67E-07	2.53E-03	6.04E-03	1.13E-08	7.80E-05
Road 20	20	2200-2300	3.23E-02	6.51E-08	4.38E-04	1.26E-01	2.54E-07	1.71E-03	1.58E-01	3.19E-07	2.14E-03	6.22E-03	1.25E-08	8.42E-05
Road 20	20	2300-0000	3.37E-02	5.40E-08	3.63E-04	1.30E-01	2.09E-07	1.40E-03	1.64E-01	2.63E-07	1.77E-03	6.51E-03	1.04E-08	7.02E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2043

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	9.54E-03	6.26E-08	3.02E-04	4.98E-02	3.27E-07	1.58E-03	5.93E-02	3.90E-07	1.88E-03	2.51E-03	1.65E-08	7.97E-05
Road 21	21	0100-0200	1.04E-02	4.54E-08	2.19E-04	5.17E-02	2.25E-07	1.09E-03	6.21E-02	2.71E-07	1.31E-03	2.76E-03	1.20E-08	5.80E-05
Road 21	21	0200-0300	1.13E-02	3.69E-08	1.78E-04	5.41E-02	1.76E-07	8.49E-04	6.55E-02	2.13E-07	1.03E-03	3.00E-03	9.75E-09	4.71E-05
Road 21	21	0300-0400	1.22E-02	3.21E-08	1.55E-04	5.68E-02	1.49E-07	7.18E-04	6.90E-02	1.81E-07	8.73E-04	3.23E-03	8.47E-09	4.08E-05
Road 21	21	0400-0500	1.28E-02	3.74E-08	1.80E-04	5.86E-02	1.71E-07	8.24E-04	7.14E-02	2.08E-07	1.00E-03	3.40E-03	9.91E-09	4.78E-05
Road 21	21	0500-0600	1.31E-02	6.71E-08	3.24E-04	5.99E-02	3.06E-07	1.48E-03	7.31E-02	3.73E-07	1.80E-03	3.50E-03	1.79E-08	8.62E-05
Road 21	21	0600-0700	1.27E-02	1.51E-07	2.29E-04	5.81E-02	6.98E-07	1.06E-03	7.07E-02	8.46E-07	1.28E-03	3.39E-03	4.02E-08	1.94E-04
Road 21	21	0700-0800	1.53E-02	3.48E-07	1.68E-03	6.79E-02	1.55E-06	7.47E-03	8.31E-02	1.89E-06	1.02E-02	3.96E-03	9.01E-08	4.35E-04
Road 21	21	0800-0900	1.60E-02	4.26E-07	2.05E-03	6.93E-02	1.85E-06	8.91E-03	8.53E-02	2.27E-06	1.09E-02	3.93E-03	1.05E-07	5.06E-04
Road 21	21	0900-1000	1.68E-02	4.38E-07	2.11E-03	7.76E-02	2.02E-06	9.73E-03	9.24E-02	2.41E-06	1.16E-02	4.27E-03	1.11E-07	5.35E-04
Road 21	21	1000-1100	1.94E-02	4.27E-07	2.06E-03	8.72E-02	1.92E-06	9.26E-03	1.08E-01	2.38E-06	1.15E-02	4.80E-03	1.06E-07	5.11E-04
Road 21	21	1100-1200	1.94E-02	4.27E-07	2.06E-03	8.72E-02	1.92E-06	9.26E-03	1.08E-01	2.38E-06	1.15E-02	4.80E-03	1.06E-07	5.11E-04
Road 21	21	1200-1300	2.02E-02	4.45E-07	2.15E-03	9.09E-02	2.00E-06	9.65E-03	1.13E-01	2.48E-06	1.20E-02	5.00E-03	1.10E-07	5.32E-04
Road 21	21	1300-1400	2.24E-02	4.93E-07	2.38E-03	1.01E-01	2.22E-06	1.07E-02	1.26E-01	2.77E-06	1.34E-02	5.56E-03	1.22E-07	5.91E-04
Road 21	21	1400-1500	2.30E-02	5.08E-07	2.45E-03	1.04E-01	2.29E-06	1.10E-02	1.29E-01	2.86E-06	1.38E-02	5.71E-03	1.26E-07	6.08E-04
Road 21	21	1500-1600	2.30E-02	5.08E-07	2.45E-03	1.04E-01	2.29E-06	1.10E-02	1.29E-01	2.86E-06	1.38E-02	5.71E-03	1.26E-07	6.08E-04
Road 21	21	1600-1700	2.24E-02	5.08E-07	2.45E-03	1.01E-01	2.29E-06	1.10E-02	1.26E-01	2.86E-06	1.38E-02	5.56E-03	1.26E-07	6.08E-04
Road 21	21	1700-1800	1.96E-02	5.08E-07	2.45E-03	8.84E-02	2.29E-06	1.10E-02	1.10E-01	2.86E-06	1.38E-02	4.86E-03	1.26E-07	6.08E-04
Road 21	21	1800-1900	1.96E-02	5.08E-07	2.45E-03	8.84E-02	2.29E-06	1.10E-02	1.10E-01	2.86E-06	1.38E-02	4.86E-03	1.26E-07	6.08E-04
Road 21	21	1900-2000	1.02E-02	2.56E-08	1.23E-04	4.62E-02	1.16E-07	5.58E-04	5.74E-02	1.44E-07	6.94E-04	2.53E-03	6.37E-09	3.06E-05
Road 21	21	2000-2100	9.94E-03	2.18E-07	1.79E-03	4.50E-02	9.87E-07	8.10E-03	5.57E-02	1.23E-06	1.01E-02	2.46E-03	5.41E-08	4.44E-04
Road 21	21	2100-2200	9.82E-03	1.96E-07	1.61E-03	4.45E-02	8.87E-07	7.27E-03	5.51E-02	1.11E-06	9.08E-03	2.43E-03	4.86E-08	3.98E-04
Road 21	21	2200-2300	9.76E-03	4.35E-08	2.93E-04	4.42E-02	1.97E-07	1.32E-03	5.48E-02	2.46E-07	1.65E-03	2.41E-03	1.08E-08	7.25E-05
Road 21	21	2300-0000	9.76E-03	4.35E-08	2.93E-04	4.42E-02	1.97E-07	1.32E-03	5.48E-02	2.46E-07	1.65E-03	2.41E-03	1.08E-08	7.25E-05
Road 22	22	0000-0100	1.02E-01	3.31E-08	3.03E-04	3.65E-01	1.18E-07	1.08E-03	2.21E-01	7.17E-08	6.56E-04	2.09E-02	6.78E-09	6.20E-05
Road 22	22	0100-0200	1.04E-01	2.68E-08	2.45E-04	3.60E-01	9.26E-08	8.46E-04	2.26E-01	5.82E-08	5.32E-04	2.06E-02	5.30E-09	4.85E-05
Road 22	22	0200-0300	9.92E-02	6.59E-08	4.29E-04	3.60E-01	2.40E-07	1.56E-03	4.95E-01	3.05E-07	1.99E-03	1.12E-02	7.43E-09	4.84E-05
Road 22	22	0300-0400	1.01E-01	5.66E-08	3.68E-04	3.67E-01	2.05E-07	1.34E-03	4.68E-01	2.62E-07	1.70E-03	1.14E-02	6.35E-09	4.14E-05
Road 22	22	0400-0500	1.03E-01	2.68E-08	2.45E-04	3.74E-01	9.72E-08	8.91E-04	2.41E-01	6.28E-08	5.74E-04	2.17E-02	5.64E-09	5.16E-05
Road 22	22	0500-0600	1.15E-01	1.37E-07	8.93E-04	4.12E-01	4.93E-07	3.21E-03	5.27E-01	6.31E-07	4.11E-03	1.22E-02	1.46E-08	9.50E-05
Road 22	22	0600-0700	1.29E-01	3.49E-07	2.27E-03	4.59E-01	1.24E-06	8.10E-03	5.87E-01	1.59E-06	1.04E-02	1.29E-02	3.50E-08	2.28E-04
Road 22	22	0700-0800	1.44E-01	3.43E-07	3.45E-03	5.12E-01	1.22E-06	1.23E-02	6.55E-01	1.56E-06	1.58E-02	1.44E-02	3.44E-08	3.46E-04
Road 22	22	0800-0900	1.46E-01	1.01E-06	6.58E-03	5.32E-01	3.67E-06	2.39E-02	6.78E-01	4.68E-06	3.05E-02	1.37E-02	9.46E-08	6.16E-04
Road 22	22	0900-1000	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02	1.41E-02	1.07E-07	6.97E-04
Road 22	22	1000-1100	1.63E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02	1.49E-02	1.18E-07	7.69E-04
Road 22	22	1100-1200	1.66E-01	1.19E-06	7.72E-03	5.55E-01	3.96E-06	2.58E-02	7.21E-01	5.14E-06	3.35E-02	1.50E-02	1.07E-07	6.97E-04
Road 22	22	1200-1300	1.63E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02	1.49E-02	1.18E-07	7.69E-04
Road 22	22	1300-1400	1.56E-01	1.25E-06	7.85E-03	5.46E-01	4.35E-06	2.95E-02	6.92E-01	5.73E-06	3.73E-02	1.38E-02	1.15E-07	7.46E-04
Road 22	22	1400-1500	1.56E-01	1.21E-06	7.85E-03	5.46E-01	4.21E-06	2.95E-02	6.92E-01	5.57E-06	3.73E-02	1.38E-02	1.12E-07	7.46E-04
Road 22	22	1500-1600	1.70E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	7.17E-01

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (March) — Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMax		MonthlyAverage		MonthlyHourMax		MonthlyAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 44	44	0800-0900	6.55E-03	2.70E-07	5.08E-04	3.76E-03	2.00E-03	6.32E-08	1.42E-04		
Road 44	44	0900-1000	8.63E-03	2.23E-07	5.02E-04	4.42E-02	1.14E-06	2.58E-07	1.33E-04		
Road 44	44	1000-1100	9.72E-03	2.17E-07	4.89E-04	4.56E-02	1.02E-06	2.29E-07	1.33E-04		
Road 44	44	1100-1200	9.24E-03	1.91E-07	4.40E-04	4.53E-02	9.36E-07	2.16E-07	1.33E-04		
Road 44	44	1200-1300	1.11E-02	2.91E-07	6.56E-04	4.95E-02	1.29E-06	3.57E-07	2.92E-07	1.63E-08	1.72E-04
Road 44	44	1300-1400	1.13E-02	3.01E-07	6.78E-04	5.18E-02	1.38E-06	3.72E-07	3.01E-07	8.03E-08	1.81E-04
Road 44	44	1400-1500	1.29E-02	3.43E-07	7.73E-04	5.35E-02	1.42E-06	3.20E-07	2.83E-07	7.53E-08	1.70E-04
Road 44	44	1500-1600	1.22E-02	3.56E-07	8.02E-04	5.81E-02	1.69E-06	3.80E-07	2.96E-07	8.62E-08	1.94E-04
Road 44	44	1600-1700	1.73E-02	5.37E-07	1.21E-03	7.09E-02	2.20E-06	4.96E-07	3.83E-07	1.19E-07	2.68E-04
Road 44	44	1700-1800	1.97E-02	6.07E-07	1.37E-03	8.61E-02	2.65E-06	5.98E-07	4.65E-07	1.43E-07	3.23E-04
Road 44	44	1800-1900	2.50E-02	9.71E-07	2.19E-03	1.05E-01	4.09E-06	9.23E-07	4.42E-07	1.72E-07	3.88E-04
Road 44	44	1900-2000	4.84E-03	1.49E-07	3.36E-04	3.11E-02	9.58E-07	2.16E-07	1.99E-04		
Road 44	44	2000-2100	5.24E-03	1.62E-07	3.64E-04	3.32E-02	1.03E-06	2.31E-07	2.12E-04		
Road 44	44	2100-2200	4.04E-03	9.65E-08	2.18E-04	2.62E-02	6.26E-07	1.41E-07	1.70E-04		
Road 44	44	2200-2300	3.95E-03	9.19E-08	2.07E-04	2.56E-02	5.96E-07	1.34E-07	1.66E-04		
Road 44	44	2300-2400	3.86E-03	8.75E-08	1.97E-04	2.50E-02	5.67E-07	1.28E-07	1.62E-04		
Road 45	45	0000-0100	3.86E-03	8.75E-08	1.97E-04	2.50E-02	5.67E-07	1.28E-07	1.62E-04		
Road 45	45	0100-0200	4.76E-03	2.47E-08	1.11E-04	3.50E-02	1.81E-07	8.14E-07	2.74E-05		
Road 45	45	0200-0300	5.25E-03	1.98E-08	8.91E-05	3.86E-02	1.46E-07	6.57E-07	2.74E-05		
Road 45	45	0300-0400	5.71E-03	1.70E-08	7.65E-05	3.80E-02	1.13E-07	5.09E-07	4.37E-02	1.30E-07	5.86E-04
Road 45	45	0400-0500	6.17E-03	2.02E-08	9.07E-05	3.91E-02	1.28E-07	5.75E-07	4.53E-02	1.48E-07	6.66E-04
Road 45	45	0500-0600	6.63E-03	3.76E-08	1.69E-04	4.03E-02	2.29E-07	1.03E-06	4.70E-02	2.66E-07	1.20E-03
Road 45	45	0600-0700	1.73E-02	1.48E-06	3.89E-04	1.03E-01	8.84E-06	2.32E-06	5.96E-02	5.10E-06	1.34E-03
Road 45	45	0700-0800	1.89E-02	4.39E-06	1.08E-06	4.84E-03	5.16E-02	1.27E-06	5.69E-03	1.94E-03	4.76E-08
Road 45	45	0800-0900	7.48E-03	2.13E-07	9.55E-04	4.49E-02	1.28E-06	5.72E-07	3.92E-05	1.12E-07	5.04E-04
Road 45	45	0900-1000	9.58E-03	1.93E-07	8.66E-04	4.54E-02	9.14E-07	4.97E-03	2.58E-03	5.19E-08	2.33E-04
Road 45	45	1000-1100	9.08E-03	1.73E-07	7.78E-04	4.51E-02	8.59E-07	3.85E-04	1.91E-03	3.64E-08	1.63E-04
Road 45	45	1100-1200	1.06E-02	2.26E-07	1.01E-03	4.64E-02	9.88E-07	4.44E-03	2.03E-03	4.32E-08	1.94E-04
Road 45	45	1200-1300	1.07E-02	2.42E-07	1.09E-03	4.96E-02	1.12E-06	5.04E-03	2.30E-03	5.19E-08	2.33E-04
Road 45	45	1300-1400	1.07E-02	2.42E-07	1.09E-03	4.96E-02	1.12E-06	5.04E-03	6.03E-02	1.36E-06	6.13E-03
Road 45	45	1400-1500	1.08E-02	2.84E-07	1.28E-03	5.73E-02	1.51E-06	6.80E-03	6.03E-02	1.59E-06	7.16E-03
Road 45	45	1500-1600	1.08E-02	2.84E-07	1.28E-03	5.73E-02	1.51E-06	6.80E-03	5.91E-02	1.56E-06	7.01E-03
Road 45	45	1600-1700	1.08E-02	2.84E-07	1.28E-03	5.73E-02	1.51E-06	6.80E-03	5.91E-02	1.56E-06	7.01E-03
Road 45	45	1700-1800	9.28E-03	2.79E-07	1.25E-03	4.91E-02	1.48E-06	6.63E-03	4.84E-02	1.46E-06	6.53E-03
Road 45	45	1800-1900	4.66E-03	1.23E-07	5.52E-04	3.02E-02	7.95E-07	1.79E-07	1.93E-04		
Road 45	45	1900-2000	4.44E-03	9.12E-08	4.09E-04	2.87E-02	5.90E-07	1.33E-07	1.86E-04		
Road 45	45	2000-2100	4.23E-03	8.69E-08	3.90E-04	2.73E-02	5.62E-07	1.26E-07	1.77E-04		
Road 45	45	2100-2200	3.78E-03	7.51E-08	3.38E-04	3.21E-02	9.14E-04	1.82E-08	8.17E-05		
Road 45	45	2200-2300	3.78E-03	7.51E-08	3.38E-04	3.21E-02	9.14E-04	1.82E-08	8.17E-05		
Road 45	45	2300-0000	4.21E-03	6.26E-08	2.81E-04	3.31E-02	4.92E-07	1.04E-03	1.55E-06	6.96E-05	
Road 46	46	0000-0100	4.58E-03	1.04E-08	7.07E-05	3.49E-02	7.93E-08	5.38E-04	3.94E-02	8.97E-08	6.08E-04
Road 46	46	0100-0200	4.58E-03	1.04E-08	7.07E-05	3.49E-02	7.93E-08	5.38E-04	3.94E-02	8.97E-08	6.08E-04
Road 46	46	0200-0300	5.06E-03	8.39E-09	5.69E-05	3.66E-02	6.07E-08	4.12E-04	4.16E-02	6.91E-08	4.69E-04
Road 46	46	0300-0400	5.52E-03	1.23E-08	8.35E-05	3.82E-02	8.51E-08	5.77E-04	4.32E-02	9.62E-08	6.52E-04
Road 46	46	0400-0500	5.96E-03	8.55E-09	5.79E-05	3.89E-02	5.58E-08	3.78E-04	4.48E-02	6.43E-08	4.36E-04
Road 46	46	0500-0600	6.41E-03	1.59E-08	1.08E-04	4.00E-02	9.95E-08	6.74E-04	4.65E-02	1.15E-07	7.82E-04
Road 46	46	0600-0700	1.68E-02	1.61E-06	3.91E-04	1.02E-01	9.77E-06	2.37E-06	5.94E-02	5.69E-06	1.38E-03
Road 46	46	0700-0800	7.33E-03	7.87E-08	5.34E-04	4.23E-02	4.54E-07	3.08E-03	4.96E-02	5.33E-07	3.61E-03
Road 46	46	0800-0900	7.02E-03	8.73E-08	5.92E-04	3.76E-02	4.68E-07	3.17E-03	4.46E-02	5.55E-07	3.76E-03
Road 46	46	0900-1000	9.09E-03	1.44E-07	9.76E-04	4.46E-02	7.07E-07	4.79E-03	4.69E-02	7.43E-07	5.04E-03
Road 46	46	1000-1100	9.09E-03	7.93E-08	5.37E-04	4.36E-02	3.80E-07	2.57E-03	4.69E-02	4.09E-07	2.77E-03
Road 46	46	1100-1200	8.60E-03	7.11E-08	4.82E-04	4.35E-02	3.60E-07	2.44E-03	4.69E-02	3.88E-07	2.63E-03
Road 46	46	1200-1300	1.17E-02	1.32E-07	8.97E-04	5.11E-02	5.75E-07	3.90E-03	5.47E-02	6.16E-07	4.18E-03
Road 46	46	1300-1400	1.18E-02	1.32E-07	8.97E-04	5.11E-02	5.75E-07	3.90E-03	5.47E-02	6.16E-07	4.18E-03
Road 46	46	1400-1500	1.18E-02	1.62E-07	1.09E-03	5.29E-02	7.45E-07	5.05E-03	5.25E-02	7.39E-07	5.01E-03
Road 46	46	1500-1600	1.16E-02	1.62E-07	1.09E-03	5.29E-02	7.45E-07	5.05E-03	5.25E-02	7.39E-07	5.01E-03
Road 46	46	1600-1700	1.16E-02	1.50E-07	1.02E-03	4.86E-02	6.31E-07	4.28E-03	4.86E-02	6.31E-07	4.28E-03
Road 46	46	1700-1800	8.16E-03	1.19E-07	8.08E-04	4.19E-02	6.12E-07	4.15E-03	4.95E-02	7.25E-07	4.92E-03
Road 46	46	1800-1900	4.90E-03	1.26E-07	8.54E-04	3.38E-02	1.90E-03	1.28E-08	8.43E-05		
Road 46	46	1900-2000	5.06E-03	6.35E-08	4.30E-04	3.50E-02	4.39E-07	2.97E-03	1.33E-06	6.67E-05	
Road 46	46	2000-2100	4.90E-03	4.78E-08	3.24E-04	3.34E-02	3.26E-07	2.21E-03	1.24E-06	8.43E-05	
Road 46	46	2100-2200	4.34E-03	4.22E-08	2.86E-04	3.35E-02	3.26E-07	2.21E-03	1.29E-06	8.43E-05	
Road 46	46	2200-2300	4.28E-03	4.16E-08	2.82E-04	3.30E-02	3.21E-07	2.18E-03	1.27E-06	8.43E-05	
Road 46	46	2300-0000	4.78E-03	3.38E-08	2.29E-04	3.49E-02	2.47E-07	1.67E-03	1.49E-07	4.20E-04	
Road 47	47	0000-0100	7.36E-03	1.06E-08	1.21E-04	4.88E-02	7.06E-08	8.05E-04	5.61E-02	8.12E-08	9.26E-04
Road 47	47	0100-0200	8.10E-03	5.62E-09	6.41E-05	5.36E-02	3.72E-08	4.24E-04	6.17E-02	4.28E-08	4.88E-04
Road 47	47	0200-0300	8.65E-03	5.96E-09	6.79E-05	5.26E-02	3.62E-08	4.13E-04	6.13E-02	4.22E-08	4.81E-04
Road 47	47	0300-0400	9.40E-03	5.12E-09	5.83E-05	5.48E-02	2.98E-08	3.39E-04	6.41E-02	3.49E-08	3.97E-04
Road 47	47	0400-0500	1.01E-02	3.87E-09	4.41E-05	5.46E-02	2.09E-08	2.38E-04	6.39E-02	2.45E-08	2.79E-04
Road 47	47	0500-0600	1.12E-02	1.17E-08	1.33E-04	6.02E-02	6.25E-08	7.12E-04	7.15E-02	7.46E-08	8.50E-04
Road 47	47	0600-0700	1.24E-02	2.76E-08	3.15E-04	6.44E-02	1.43E-07	1.63E-03	7.68E-02	1.71E-07	1.95E-03
Road 47	47	0700-0800	1.36E-02	1.03E-08	9.38E-05	3.37E-02	2.47E-08	2.23E-04	7.68E-02	5.83E-08	5.27E-04
Road 47	47	0800-0900	1.36E-02	7.09E-08	8.09E-04	6.40E-02	3.35E-07	3.82E-03	7.75E-02	4.06E-07	4.63E-03
Road 47	47	0900-1000	1.55E-02	6.71E-08	7.65E-04	7.23E-02	3.13E-07	3.56E-03	8.79E-02	3.80E-07	4.33E-03
Road 47	47	1000-1100	1.79E-02	7.61E-08	7.91E-04	7.91E-02	3.36E-07	3.49E-03	8.56E-02	3.64E-07	3.78E-03
Road 47	47	1100-1200	1.70E-02	6.05E-08	6.89E-04	7.71E-02	2.73E-07	3.12E-03	9.26E-02	3.29E-07	3.75E-03
Road 47	47	1200-1300	1.97E-02	3.11E-07	3.55E-03	8.32E-02	1.31E-06	1.50E-02	1.03E-01	1.62E-06	1.85E-02
Road 47	47	1300-1400	2.02E-02	3.19E-07	3.64E-03	8.53E-02	1.35E-06	1.54E-02	1.06E-01	1.67E-06	1.90E-02
Road 47	47	1400-1500	2.02E-02	3.46E-07	3.95E-03	8.52E-02	1.46E-06	1.67E-02	1.05E-01	1.81E-06	2.06E-02
Road 47	47	1500-1600	1.90E-02	3.33E-07	3.80E-03	8.61E-02	1.51E-06	1.72E-02	1.06E-01	1.86E-06	2.12E-02
Road 47	47	1600-1700	1.98E-02	3.47E-07	3.96E-03	8.97E-02	1.57E-06	1.79E-02	1.11E-01	1.94E-06	2.21E-02
Road 47	47	1700-1800	1.98E-02	3.47E-07	3.96E-03	8.97E-02	1.57E-06	1.79E-02	1.11E-01	1.94E-06	2.21E-02
Road 47	47	1800-1900	1.96E-02	7.09E-08	8.09E-04	6.40E-02	2.35E-07	2.68E-03	7.75E-02	2.85E-07	3.25E-03
Road 47	47	1900-2000	1.96E-02	4.05E-07	4.66E-03	8.94E-02	1.85E-06	2.12E-02	1.08E-01	2.24E-06	2.57E-02
Road 47	47	2000-2100	1.68E-02	2.71E-07	3.13E-03	8.55E-02	1.38E-06	1.59E-02	1.08E-01	1.74E-06	2.01E-02
Road 47	47	2100-2200	1.53E-02	2.38E-07	2.74E-03	7.86E-02	1.22E-06	1.40E-02	1.03E-01	1.60E-06	1.84E-02
Road 47	47	2200-2300	1.57E-02	1.84E-07	2.12E-03	7.84E-02	9.19E-07	1.06E-02	9.41E-02	1.10E-06	1.27E-02
Road 47	47	2300-0000	1.57E-02	1.84E-07	2.12E-03	7.84E-02	9.19E-07	1.06E-02	9.41E-02	1.10E-06	1.27E-02

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April) — Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			MonthlyHourMax		MonthlyAverage		MonthlyHourMax		MonthlyAverage	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	2.68E-02	3.94E-07	4.50E-03	1.47E-02	1.60E-06	1.83E-02	1.06E-01	2.00E-06	2.28E-02
Road 1	1	0100-0200	4.94E-03	4.68E-08	9.39E-04	3.51E-02	3.33E-07	6.68E-03	4.01E-02	3.79E-07	7.62E-03
Road 1	1	0200-0300	5.47E-03	3.79E-08	7.61E-04	3.68E-02	2.55E-07	5.12E-03	4.22E-02	2.93E-07	5.88E-03
Road 1	1	0300-0400	5.98E-03	3.27E-08	6.58E-04	3.81E-02	2.08E-07	4.19E-03	4.41E-02	2.41E-07	4.85E-03
Road 1	1	0400-0500	6.43E-03	3.86E-08	7.75E-04	3.94E-02	2.36E-07	4.75E-03	4.58E-02	2.75E-07	5.52E-03
Road 1	1	0500-0600	6.79E-03	7.05E-08	1.42E-03	4.04E-02	4.19E-07	8.43E-03	4.72E-02	4.90E-07	9.84E-03
Road 1	1	0600-0700	6.22E-03	9.30E-08	1.86E-03	4.22E-02	6.31E-07	1.26E-02	5.40E-02	8.15E-07	1.63E-02
Road 1	1	0700-0800	7.73E-03	3.47E-07	6.98E-03	4.28E-02	1.92E-06	3.87E-02	5.05E-02	2.27E-06	4.56E-02
Road 1	1	0800-0900	7.45E-03	3.88E-07	7.79E-03	3.88E-02	2.02E-06	4.05E-02	4.62E-02	2.40E-06	4.83E-02
Road 1	1	0900-1000	8.56E-03	3.63E-07	7.30E-03	4.39E-02	1.86E-06	3.74E-02	5.31E-02	2.25E-06	4.53E-02
Road 1	1	1000-1100	9.68E-03	3.58E-07	7.19E-03	4.47E-02	1.65E-06	3.32E-02	5.43E-02	2.01E-06	4.03E-02
Road 1	1	1100-1200	9.21E-03	3.22E-07	6.48E-03	4.45E-02	1.56E-06	3.13E-02	5.37E-02	1.88E-06	3.78E-02
Road 1	1	1200-1300	1.24E-02	6.96E-07	1.40E-02	4.94E-02	2.77E-06	5.57E-02	5.97E-02	3.35E-06	6.73E-02
Road 1	1	1300-1400	1.26E-02	6.31E-07	1.27E-02	5.45E-02	2.72E-06	5.47E-02	6.72E-02	3.35E-06	6.74E-02
Road 1	1	1400-1500	1.27E-02	6.72E-07	1.35E-02	5.39E-02	2.85E-06	5.73E-02	6.66E-02	3.52E-06	7.08E-02
Road 1	1	1500-1600	1.19E-02	6.44E-07	1.29E-02	5.04E-02	2.72E-06	5.47E-02	6.23E-02	3.37E-06	6.77E-02
Road 1	1	1600-1700	1.23E-02	7.05E-07	1.42E-02	5.24E-02	2.99E-06	6.01E-02	6.47E-02	3.70E-06	7.43E-02
Road 1	1	1700-1800	8.86E-03	5.65E-07	1.14E-02	4.55E-02	2.91E-06	5.84E-02	5.44E-02	3.47E-06	6.97E-02
Road 1	1	1800-1900	9.29E-03	9.61E-07	2.11E-02	1.11E-02	4.46E-02	1.02E-01	5.14E-02	2.76E-06	6.31E-02
Road 1	1	1900-2000	5.33E-03	2.88E-07	5.79E-03	3.17E-02	1.71E-06	3.45E-02	3.71E-02	2.00E-06	4.02E-02
Road 1	1	2000-2100	5.13E-03	2.16E-07	4.34E-03	3.44E-02	1.45E-06	2.91E-02	3.95E-02	1.66E-06	3.34E-02
Road 1	1	2100-2200	4.61E-03	1.94E-07	3.89E-03	3.08E-02	1.44E-06	2.89E-02	3.54E-02	1.61E-06	3.24E-02
Road 1	1	2200-2300	4.57E-03	1.86E-07	3.73E-03	3.37E-02	1.37E-06	2.76E-02	3.83E-02	1.56E-06	3.14E-02
Road 1	1	2300-0000	5.10E-03	1.56E-07	3.13E-03	3.52E-02	1.07E-06	2.16E-02	4.03E-02	1.23E-06	2.47E-02
Road 2	2	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	4.43E-02	6.01E-07	1.11E-02
Road 2	2	0100-0200	6.83E-03	8.08E-08	1.62E-03	4.20E-02	4.97E-07	9.96E-03	4.87E-02	5.76E-07	1.16E-02
Road 2	2	0200-0300	7.48E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.92E-02	3.22E-07	5.95E-03
Road 2	2	0300-0400	8.10E-03	4.22E-08	7.81E-04	4.33E-02	2.26E-07	4.17E-03	5.14E-02	2.68E-07	4.95E-03
Road 2	2	0400-0500	8.68E-03	4.98E-08	9.20E-04	4.48E-02	2.57E-07	4.75E-03	5.32E-02	3.05E-07	5.64E-03
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	5.54E-02	5.55E-07	1.03E-02
Road 2	2	0600-0700	9.62E-03	2.08E-07	3.84E-03	4.78E-02	1.03E-06	1.91E-02	5.74E-02	1.24E-06	2.29E-02
Road 2	2	0700-0800	1.22E-02	4.50E-07	8.31E-03	4.64E-02	1.71E-06	3.16E-02	5.52E-02	2.04E-06	3.76E-02
Road 2	2	0800-0900	9.94E-03	5.08E-07	9.38E-03	4.62E-02	2.36E-06	4.36E-02	5.61E-02	2.87E-06	5.30E-02
Road 2	2	0900-1000	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	6.32E-02	2.78E-06	5.14E-02
Road 2	2	1000-1100	1.32E-02	5.13E-07	9.48E-03	5.45E-02	2.12E-06	3.91E-02	6.68E-02	2.59E-06	4.78E-02
Road 2	2	1100-1200	1.27E-02	4.69E-07	8.67E-03	5.40E-02	1.99E-06	3.68E-02	6.68E-02	2.46E-06	4.55E-02
Road 2	2	1200-1300	1.32E-02	6.04E-07	1.12E-02	5.38E-02	2.45E-06	4.54E-02	6.70E-02	3.06E-06	5.66E-02
Road 2	2	1300-1400	1.31E-02	5.71E-07	1.06E-02	5.32E-02	2.32E-06	4.30E-02	6.63E-02	2.89E-06	5.36E-02
Road 2	2	1400-1500	1.34E-02	6.70E-07	1.24E-02	5.55E-02	2.77E-06	5.11E-02	6.89E-02	3.44E-06	6.35E-02
Road 2	2	1500-1600	1.25E-02	6.39E-07	1.18E-02	5.61E-02	2.87E-06	5.30E-02	6.86E-02	3.51E-06	6.48E-02
Road 2	2	1600-1700	1.30E-02	6.90E-07	1.27E-02	5.53E-02	2.93E-06	5.41E-02	6.83E-02	3.62E-06	6.68E-02
Road 2	2	1700-1800	9.35E-03	5.55E-07	1.03E-02	4.68E-02	2.78E-06	5.14E-02	5.62E-02	3.33E-06	6.16E-02
Road 2	2	1800-1900	6.62E-03	4.16E-07	7.70E-03	3.47E-02	2.18E-06	4.03E-02	4.13E-02	2.60E-06	4.80E-02
Road 2	2	1900-2000	5.46E-03	2.11E-07	4.25E-03	3.44E-02	1.33E-06	2.68E-02	3.58E-02	1.38E-06	2.78E-02
Road 2	2	2000-2100	5.46E-03	2.11E-07	4.25E-03	3.44E-02	1.33E-06	2.68E-02	3.58E-02	1.38E-06	2.78E-02
Road 2	2	2100-2200	4.97E-03	1.91E-07	3.53E-03	3.14E-02	1.21E-06	2.24E-02	3.36E-02	1.29E-06	2.39E-02
Road 2	2	2200-2300	5.03E-03	1.82E-07	3.37E-03	3.30E-02	1.19E-06	2.21E-02	3.54E-02	1.28E-06	2.37E-02
Road 2	2	2300-0000	5.03E-03	1.82E-07	3.37E-03	3.30E-02	1.19E-06	2.21E-02	3.54E-02	1.28E-06	2.37E-02
Road 3	3	0000-0100	4.85E-03	2.66E-08	5.95E-05	3.54E-02	1.94E-07	4.35E-04	4.02E-02	2.21E-07	4.94E-04
Road 3	3	0100-0200	5.44E-03	1.44E-08	3.23E-05	3.97E-02	1.05E-07	2.35E-04	4.51E-02	1.20E-07	2.68E-04
Road 3	3	0200-0300	6.08E-03	1.59E-08	3.57E-05	3.89E-02	1.02E-07	2.28E-04	4.42E-02	1.16E-07	2.60E-04
Road 3	3	0300-0400	6.66E-03	1.39E-08	3.11E-05	4.04E-02	8.40E-08	1.88E-04	4.71E-02	9.79E-08	2.19E-04
Road 3	3	0400-0500	7.14E-03	2.88E-08	6.46E-05	4.25E-02	1.67E-07	3.74E-04	4.99E-02	1.96E-07	4.39E-04
Road 3	3	0500-0600	7.34E-03	2.88E-08	6.46E-05	4.25E-02	1.67E-07	3.74E-04	4.99E-02	1.96E-07	4.39E-04
Road 3	3	0600-0700	7.67E-03	6.44E-08	1.44E-04	4.40E-02	3.69E-07	8.27E-04	5.17E-02	4.34E-07	9.71E-04
Road 3	3	0700-0800	8.37E-03	1.70E-07	3.80E-04	4.42E-02	8.70E-07	1.95E-03	5.28E-02	1.04E-06	2.33E-03
Road 3	3	0800-0900	9.35E-03	1.52E-07	3.41E-04	4.76E-02	7.75E-07	1.74E-03	5.70E-02	9.27E-07	2.08E-03
Road 3	3	0900-1000	9.35E-03	1.06E-07	2.37E-04	4.76E-02	5.40E-07	1.21E-03	5.70E-02	6.58E-07	1.47E-03
Road 3	3	1000-1100	1.01E-02	1.35E-07	3.03E-04	4.64E-02	6.21E-07	1.39E-03	5.58E-02	7.46E-07	1.67E-03
Road 3	3	1100-1200	9.74E-03	1.06E-07	2.30E-04	4.96E-02	5.39E-07	1.17E-03	5.94E-02	6.46E-07	1.40E-03
Road 3	3	1200-1300	1.26E-02	1.46E-07	3.27E-04	5.16E-02	5.98E-07	1.34E-03	6.21E-02	7.19E-07	1.61E-03
Road 3	3	1300-1400	1.27E-02	1.46E-07	3.27E-04	5.16E-02	5.98E-07	1.34E-03	6.21E-02	7.19E-07	1.61E-03
Road 3	3	1400-1500	1.27E-02	1.79E-07	4.01E-04	5.29E-02	7.45E-07	1.67E-03	6.36E-02	8.96E-07	2.01E-03
Road 3	3	1500-1600	1.19E-02	1.70E-07	3.80E-04	5.04E-02	7.21E-07	1.61E-03	6.06E-02	8.66E-07	1.94E-03
Road 3	3	1600-1700	1.23E-02	1.76E-07	3.93E-04	5.24E-02	7.48E-07	1.67E-03	6.30E-02	8.99E-07	2.01E-03
Road 3	3	1700-1800	8.86E-03	1.41E-07	3.16E-04	4.55E-02	7.25E-07	1.62E-03	5.44E-02	8.67E-07	1.94E-03
Road 3	3	1800-1900	6.19E-03	8.11E-08	1.82E-04	3.67E-02	4.81E-07	1.08E-03	4.31E-02	5.65E-07	1.26E-03
Road 3	3	1900-2000	5.19E-03	2.49E-08	1.82E-04	3.67E-02	1.76E-07	1.29E-03	4.31E-02	2.07E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April) Year 2043

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	2.35E-02	1.83E-07	1.56E-04	1.16E-01	9.03E-07	7.68E-04	1.63E-03	4.54E-03	3.53E-08	4.95E-05		
Road 11	11	0100-0200	2.60E-02	1.35E-07	1.89E-04	1.31E-01	6.76E-07	9.47E-04	1.57E-03	8.20E-03	4.26E-08	5.73E-05		
Road 11	11	0200-0300	2.89E-02	1.12E-07	1.57E-04	1.38E-01	5.34E-07	7.48E-04	1.67E-01	6.46E-07	9.04E-04	5.60E-03	2.16E-08	3.03E-05
Road 11	11	0300-0400	3.21E-02	1.24E-07	1.45E-04	1.45E-01	6.36E-07	7.45E-04	1.77E-01	5.54E-07	7.76E-04	6.14E-03	1.92E-08	2.68E-05
Road 11	11	0400-0500	3.33E-02	1.14E-07	1.59E-04	1.49E-01	5.14E-07	7.19E-04	1.84E-01	6.27E-07	8.79E-04	6.41E-03	2.19E-08	3.06E-05
Road 11	11	0500-0600	3.38E-02	1.94E-07	2.72E-04	1.58E-01	9.08E-07	1.27E-03	1.92E-01	1.10E-06	1.54E-03	6.51E-03	3.74E-08	5.24E-05
Road 11	11	0600-0700	3.63E-02	2.07E-07	2.90E-04	1.68E-01	9.62E-07	1.35E-03	2.08E-01	1.19E-06	1.66E-03	6.98E-03	3.98E-08	5.57E-05
Road 11	11	0700-0800	4.78E-02	1.19E-06	1.67E-03	2.04E-01	5.10E-06	7.14E-03	2.52E-01	6.29E-06	8.81E-03	8.83E-03	1.95E-07	2.73E-04
Road 11	11	0800-0900	4.81E-02	1.38E-06	1.94E-03	1.92E-01	5.52E-06	7.73E-03	2.40E-01	6.90E-06	9.66E-03	6.52E-03	1.87E-07	2.63E-04
Road 11	11	0900-1000	5.61E-02	1.56E-06	2.19E-03	1.71E-01	4.75E-06	6.65E-03	2.14E-01	5.94E-06	8.32E-03	5.41E-03	1.50E-07	2.11E-04
Road 11	11	1000-1100	6.03E-02	1.30E-06	1.82E-03	2.14E-01	4.61E-06	6.46E-03	2.74E-01	5.91E-06	8.28E-03	6.42E-03	1.39E-07	1.94E-04
Road 11	11	1100-1200	5.88E-02	1.20E-06	1.69E-03	2.11E-01	4.31E-06	6.04E-03	2.69E-01	5.51E-06	7.72E-03	6.12E-03	1.25E-07	1.76E-04
Road 11	11	1200-1300	7.72E-02	1.58E-06	2.21E-03	2.77E-01	5.67E-06	7.94E-03	3.34E-01	6.83E-06	9.57E-03	7.90E-03	1.62E-07	2.27E-04
Road 11	11	1300-1400	8.07E-02	2.01E-06	2.82E-03	2.73E-01	6.79E-06	9.52E-03	3.53E-01	8.80E-06	1.23E-02	7.61E-03	1.90E-07	2.66E-04
Road 11	11	1400-1500	8.02E-02	2.09E-06	2.93E-03	2.70E-01	7.05E-06	9.87E-03	3.58E-01	9.14E-06	1.28E-02	7.86E-03	2.05E-07	2.87E-04
Road 11	11	1500-1600	8.12E-02	3.01E-06	4.21E-03	2.74E-01	1.01E-05	1.42E-02	3.62E-01	1.34E-05	1.87E-02	7.96E-03	2.95E-07	4.13E-04
Road 11	11	1600-1700	7.65E-02	2.11E-06	2.96E-03	2.61E-01	7.22E-06	1.01E-02	3.38E-01	9.32E-06	1.30E-02	7.45E-03	2.05E-07	2.87E-04
Road 11	11	1700-1800	6.26E-02	1.87E-06	2.62E-03	2.42E-01	7.23E-06	1.01E-02	3.04E-01	9.11E-06	1.28E-02	7.93E-03	2.38E-07	3.33E-04
Road 11	11	1800-1900	4.37E-02	1.34E-06	1.88E-03	2.17E-01	6.68E-06	9.35E-03	2.52E-01	7.76E-06	1.08E-02	7.38E-03	2.27E-07	3.17E-04
Road 11	11	1900-2000	3.07E-02	7.20E-07	1.01E-03	1.39E-01	3.25E-06	4.55E-03	1.69E-01	3.97E-06	5.56E-03	4.49E-03	1.05E-07	1.47E-04
Road 11	11	2000-2100	3.00E-02	5.50E-07	7.71E-04	1.43E-01	2.63E-06	3.68E-03	1.74E-01	3.18E-06	4.45E-03	4.34E-03	7.95E-08	1.11E-04
Road 11	11	2100-2200	2.95E-02	5.42E-07	7.57E-04	1.44E-01	2.66E-06	3.72E-03	1.75E-01	3.22E-06	4.50E-03	4.27E-03	7.85E-08	1.10E-04
Road 11	11	2200-2300	2.69E-02	4.72E-07	6.63E-04	1.36E-01	2.38E-06	3.34E-03	1.66E-01	2.91E-06	4.08E-03	4.02E-03	7.05E-08	9.89E-05
Road 11	11	2300-0000	2.88E-02	3.86E-07	5.40E-04	1.40E-01	1.87E-06	2.62E-03	1.70E-01	2.27E-06	3.18E-03	4.51E-03	6.03E-08	8.45E-05
Road 12	12	0000-0100	2.25E-02	1.41E-07	1.27E-04	1.37E-01	8.47E-07	7.62E-04	1.92E-03	1.20E-02	1.08E-07	1.31E-04		
Road 12	12	0100-0200	2.12E-02	1.41E-07	1.27E-04	1.28E-01	8.51E-07	7.66E-04	1.81E-03	1.20E-02	1.08E-07	1.23E-04		
Road 12	12	0200-0300	2.36E-02	1.41E-07	1.27E-04	4.88E-01	2.91E-07	2.62E-03	7.24E-01	4.32E-07	3.89E-03	2.16E-02	1.29E-07	1.16E-03
Road 12	12	0300-0400	2.38E-02	1.41E-07	1.26E-03	4.92E-01	2.91E-07	2.61E-03	7.30E-01	4.32E-07	3.88E-03	2.18E-02	1.29E-07	1.16E-03
Road 12	12	0400-0500	2.32E-02	1.41E-07	1.26E-03	4.84E-01	2.94E-07	2.64E-03	7.16E-01	4.34E-07	3.91E-03	2.14E-02	1.30E-07	1.17E-03
Road 12	12	0500-0600	2.32E-02	1.42E-07	1.28E-03	4.86E-01	2.98E-07	2.68E-03	7.18E-01	4.40E-07	3.96E-03	2.13E-02	1.31E-07	1.18E-03
Road 12	12	0600-0700	2.32E-02	1.54E-07	1.39E-03	4.96E-01	3.30E-07	2.97E-03	7.18E-01	4.78E-07	4.30E-03	2.13E-02	1.42E-07	1.28E-03
Road 12	12	0700-0800	2.83E-02	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.75E-01	2.12E-06	1.91E-02	2.60E-02	6.30E-07	5.67E-03
Road 12	12	0800-0900	2.83E-02	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.75E-01	2.12E-06	1.91E-02	2.60E-02	6.30E-07	5.67E-03
Road 12	12	0900-1000	2.86E-02	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.84E-01	2.12E-06	1.91E-02	2.63E-02	6.30E-07	5.67E-03
Road 12	12	1000-1100	2.90E-02	6.88E-07	6.19E-03	6.04E-01	1.44E-06	1.29E-02	8.97E-01	2.13E-06	1.92E-02	2.67E-02	6.32E-07	5.69E-03
Road 12	12	1100-1200	2.90E-02	6.88E-07	6.19E-03	6.06E-01	1.44E-06	1.29E-02	8.97E-01	2.13E-06	1.92E-02	2.67E-02	6.32E-07	5.69E-03
Road 12	12	1200-1300	2.90E-02	6.88E-07	6.19E-03	6.06E-01	1.44E-06	1.29E-02	8.97E-01	2.13E-06	1.92E-02	2.67E-02	6.32E-07	5.69E-03
Road 12	12	1300-1400	2.90E-02	6.88E-07	6.19E-03	6.06E-01	1.44E-06	1.29E-02	8.97E-01	2.13E-06	1.92E-02	2.67E-02	6.32E-07	5.69E-03
Road 12	12	1400-1500	2.86E-02	6.87E-07	6.18E-03	6.00E-01	1.44E-06	1.29E-02	8.86E-01	2.13E-06	1.91E-02	2.65E-02	6.32E-07	5.68E-03
Road 12	12	1500-1600	2.86E-02	6.87E-07	6.18E-03	6.00E-01	1.44E-06	1.29E-02	8.86E-01	2.13E-06	1.91E-02	2.65E-02	6.32E-07	5.68E-03
Road 12	12	1600-1700	2.83E-02	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.75E-01	2.12E-06	1.91E-02	2.60E-02	6.30E-07	5.67E-03
Road 12	12	1700-1800	2.83E-02	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.75E-01	2.12E-06	1.91E-02	2.60E-02	6.30E-07	5.67E-03
Road 12	12	1800-1900	2.80E-02	6.79E-07	6.11E-03	5.84E-01	1.42E-06	1.28E-02	8.65E-01	2.10E-06	1.89E-02	2.56E-02	6.20E-07	5.58E-03
Road 12	12	1900-2000	2.74E-02	1.34E-07	1.80E-04	1.37E-01	6.71E-07	9.02E-04	1.76E-03	8.61E-03	1.16E-07	1.55E-04		
Road 12	12	2000-2100	2.14E-02	1.52E-07	1.37E-04	4.61E-01	3.28E-07	2.96E-03	6.85E-01	4.87E-07	4.39E-03	2.03E-02	1.44E-07	1.30E-03
Road 12	12	2100-2200	2.14E-02	1.52E-07	1.37E-04	4.61E-01	3.28E-07	2.96E-03	6.85E-01	4.87E-07	4.39E-03	2.03E-02	1.44E-07	1.30E-03
Road 12	12	2200-2300	2.14E-02	1.52E-07	1.37E-04	4.61E-01	3.28E-07	2.96E-03	6.85E-01	4.87E-07	4.39E-03	2.03E-02	1.44E-07	1.30E-03
Road 12	12	2300-0000	2.12E-02	1.43E-07	1.28E-04	4.51E-01	3.04E-07	2.74E-03	6.81E-01	4.59E-07	4.13E-03	2.02E-02	1.36E-07	1.22E-03
Road 13	13	0000-0100	2.24E-02	1.40E-07	1.26E-04	4.65E-01	2.91E-07	2.62E-03	6.91E-01	4.32E-07	3.89E-03	2.06E-02	1.29E-07	1.16E-03
Road 13	13	0100-0200	2.04E-02	1.40E-07	1.26E-04	4.71E-01	3.24E-07	2.92E-03	6.74E-01	4.62E-07	4.16E-03	1.96E-02	1.34E-07	1.21E-03
Road 13	13	0200-0300	2.35E-02	1.40E-07	1.26E-04	4.84E-01	2.89E-07	2.64E-03	7.19E-01	4.29E-07	3.91E-03	2.15E-02	1.28E-07	1.17E-03
Road 13	13	0300-0400	2.37E-02	1.40E-07	1.28E-04	4.88E-01	2.89E-07	2.63E-03	7.25E-01	4.29E-07	3.91E-03	2.17E-02	1.28E-07	1.17E-03
Road 13	13	0400-0500	2.31E-02	1.41E-07	1.28E-04	4.76E-01	2.93E-07	2.68E-03	7.09E-01	4.35E-07	3.97E-03	2.11E-02	1.30E-07	1.18E-03
Road 13	13	0500-0600	2.31E-02	1.41E-07	1.29E-04	4.78E-01	2.93E-07	2.68E-03	7.09E-01	4.35E-07	3.97E-03	2.11E-02	1.30E-07	1.18E-03
Road 13	13	0600-0700	2.28E-02	1.52E-07	1.39E-04	4.72E-01	3.14E-07	2.87E-03	7.00E-01	4.65E-07	4.25E-03	2.09E-02	1.38E-07	1.26E-03
Road 13	13	0700-0800	2.81E-02	6.80E-07	6.23E-03	5.96E-01	1.42E-06	1.29E-02	8.83E-01	2.10E-06	1.92E-02	2.58E-02	6.24E-07	5.72E-03
Road 13	13	0800-0900	2.81E-02	6.80E-07	6.23E-03	5.96E-01	1.42E-06	1.29E-02	8.83E-01	2.10E-06	1.92E-02	2.58E-02	6.24E-07	5.72E-03
Road 13	13	0900-1000	2.83E-02	6.81E-07	6.23E-03	5.96E-01	1.42E-06	1.29E-02	8.91E-01	2.10E-06	1.92E-02	2.60E-02	6.24E-07	5.72E-03
Road 13	13	1000-1100	2.88E-02	6.81E-07	6.23E-03	6.02E-01	1.42E-06	1.29E-02	9.06E-01	2.10E-06	1.92E-02	2.65E-02	6.24E-07	5.72E-03
Road 13	13	1100-1200	2.88E-02	6.81E-07	6.23E-03	6.02E-01	1.42E-06	1.29E-02	9.06E-01	2.10E-06	1.92E-02	2.65E-02	6.24E-07	5.72E-03
Road 13	13	1200-1300	2.87E-02	6.81E-07	6.23E-03	5.96E-01	1.42E-06	1.29E-02	9.02E-01	2.10E-06	1.92E-02	2.63E-02	6.24E-07	5.72E-03
Road 13	13	1300-1400	2.86E-02	6.84E-07	6.26E-03	5.96E-01	1.42E-06	1.29E-02	8.98E-01	2.11E-06	1.93E-02	2.62E-02	6.27E-07	5.74E-03
Road 13	13	1400-1500	2.84E-02	6.81E-07	6.23E-03	5.96E-01	1.42E-06	1.29E-02	8.91E-01	2.10E-06	1.92E-02	2.60E-02	6.24E-07	5.72E-03
Road 13	13	1500-1600	2.82E-02	6.76E-07	6.20E-03	5.90E-01	1.41E-06	1.29E-02	8.85E-01	2.09E-06	1.91E-02	2.58E-02	6.21E-07	5.69E-03
Road 13	13	1600-1700	2.81E-02	6.81E-07	6.21E-03	5.89E-01	1.42E-06	1.29E-02	8.83E-01	2.10E-06	1.92E-02	2.57E-02	6.24E-07	5.72E-03
Road 13	13	1700-1800	2.81E-02	6.81E-07	6.21E-03	5.89E-01	1.42E-06	1.29E-02	8.83E-01	2.10E-06	1.92E-02	2.57E-02	6.24E-07	5.72E-03
Road 13	13	1800-1900	2.78E-02	6.75E-07	6.15E-03	5.77E-01	1.40E-06	1.28E-02	8.55E-01	2.07E-06	1.89E-02	2.52E-02	6.12E-07	5.58E-03
Road 13	13	1900-2000	2.01E-02	1.51E-07	1.38E-04	4.28E-01	3.22E-07	2.94E-03	6.29E-01	4.73E-07	4.32E-03	1.81E-02	1.36E-07	1.24E-03
Road 13	13	2000-2100	2.12E-02	1.51E-07	1.37E-04	4.67E-01	3.32E-07	3.01E-03	6.85E-01	4.87E-07	4.42E-03	2.04E-02	1.45E-07	1.31E-03
Road 13	13	2100-2200	2.01E-02	1.50E-07	1.37E-04	4.46E-01	3.18E-07	2.90E-03	6.66E-01	4.67E-07	4.26E-03	1.89E-02	1.35E-07	1.23E-03
Road 13	13	2200-2300	2.12E-02	1.50E-07	1.37E-04	4.47E-01	3.16E-07	2.88E-03	6.59E-01	4.65E-07	4.25E-03	1.90E-02	1.34E-07	1.22E-03
Road 13	13	2300-0000	2.10E-02	1.49E-07	1.36E-04	4.46E-01	3.16E-07	2.88E-03	6.59E-01	4.67E-07	4.25E-03	1.89E-02	1.34E-07	1.22E-03
Road 14	14	0000-0100	1.39E-02	1.08E-07	6.71E-04	6.48E-02	5.01E-07	3.12E-03	7.87E-02	6.09E-07	3.79E-03	2.25E-03	1.74E-08	1.08E-04
Road 14	14	0100-0200	1.57E-02	8.06E-08	5.01E-04	6.71E-02	3.45E-07	2.15E-03	8.28E-02	4.25E-07	2.65E-03	2.62E-03	1.35E-08	8.39E-05
Road 14	14	0200-0300	1.78E-02	8.05E-08	5.00E-04	7.46E-02	3.37E-07	2.09E-03	8.93E-02	4.03E-07	2.50E-03	2.98E-03	1.34E-08	8.33E-05
Road 14	14	0300-0400	2.03E-02	6.29E-08	3.91E-04	7.66E-02	2.38E-07	1.48E-03	9.69E-02	3.01E-07	1.87E-03	3.40E-03	1.06E-08	6.57E-05
Road 14	14	0400-0500	2.04E-02	6.91E-08	4.30E-04	7.77E-02	2.64E-07	1.64E-03	9.81E-02	3.33E-07	2.07E-03	3.46E-03	1.17E-08	7.29E-05
Road 14	14	0500-0600	1.94E-02	1.12E-07	6.90E-04	7.34E-02	4.23E-07	2.61E-03	9.34E-02	5.63E-07	3.47E-03	3.29E-03	1.85E-08	1.14E-04
Road 14	14	0600-0700	2.06E-02	2.46E-07	1.53E-03	8.75E-02	1.05E-06	6.51E-03	1.08E-01	1.29E-06	8.04E-03	3.24E-02	3.87E-07	2.41E-04
Road 14	14	0700-0800	3.14E-02	7.76E-07	4.83E-03	1.18E-01	2.91E-06	1.81E-02	1.49E-01	3.69E-06	2.30E-02	4.13E-03	1.02E-07	6.37E-04

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\Appendix A\Appendix 3.5.4 Emission Factor in 2043-5.8.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April) Year 2043

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	3.11E-02	8.89E-07	5.53E-03	1.16E-01	3.31E-06	2.06E-02	1.47E-01	4.19E-06	2.61E-02	4.06E-03	1.16E-07	7.22E-04
Road 14	14	0900-1000	3.55E-02	8.62E-07	5.37E-03	1.32E-01	3.20E-06	1.99E-02	1.67E-01	4.06E-06	2.53E-02	4.75E-03	1.15E-07	7.18E-04
Road 14	14	1000-1100	3.90E-02	8.35E-07	5.20E-03	1.38E-01	2.95E-06	1.83E-02	1.76E-01	3.78E-06	2.35E-02	5.28E-03	1.13E-07	7.04E-04
Road 14	14	1100-1200	3.66E-02	7.45E-07	4.63E-03	1.32E-01	2.68E-06	1.67E-02	1.69E-01	3.43E-06	2.13E-02	5.05E-03	1.03E-07	6.39E-04
Road 14	14	1200-1300	4.95E-02	1.17E-06	7.27E-03	1.62E-01	3.84E-06	2.39E-02	2.61E-01	6.50E-06	3.54E-02	9.55E-03	2.26E-07	1.40E-03
Road 14	14	1300-1400	5.19E-02	1.28E-06	7.95E-03	1.82E-01	4.48E-06	2.79E-02	2.34E-01	5.76E-06	3.58E-02	6.73E-03	1.66E-07	1.03E-03
Road 14	14	1400-1500	5.12E-02	1.32E-06	8.27E-03	1.76E-01	4.52E-06	2.81E-02	2.27E-01	5.84E-06	3.56E-02	6.51E-03	1.71E-07	1.06E-03
Road 14	14	1500-1600	4.97E-02	1.31E-06	8.18E-03	1.84E-01	4.86E-06	3.02E-02	2.33E-01	6.17E-06	3.84E-02	6.45E-03	1.71E-07	1.06E-03
Road 14	14	1600-1700	5.03E-02	1.37E-06	8.53E-03	1.73E-01	4.71E-06	2.93E-02	2.23E-01	6.08E-06	3.79E-02	6.42E-03	1.75E-07	1.09E-03
Road 14	14	1700-1800	3.80E-02	1.12E-06	6.98E-03	1.47E-01	4.33E-06	2.66E-02	1.89E-01	5.45E-06	3.36E-02	5.45E-03	1.60E-07	9.86E-04
Road 14	14	1800-1900	2.84E-02	8.59E-07	5.35E-03	1.08E-01	3.28E-06	2.04E-02	1.37E-01	4.14E-06	2.58E-02	3.70E-03	1.12E-07	6.96E-04
Road 14	14	1900-2000	2.02E-02	4.77E-07	6.68E-04	1.00E-01	2.36E-06	3.31E-03	1.22E-01	2.88E-06	4.03E-03	2.63E-03	6.20E-08	8.69E-05
Road 14	14	2000-2100	2.01E-02	3.65E-07	5.11E-04	1.02E-01	1.85E-06	2.59E-03	1.24E-01	2.25E-06	3.15E-03	2.62E-03	4.76E-08	6.67E-05
Road 14	14	2100-2200	1.96E-02	3.64E-07	5.10E-04	9.94E-02	1.84E-06	2.58E-03	1.21E-01	2.24E-06	3.14E-03	2.55E-03	4.74E-08	6.64E-05
Road 14	14	2200-2300	1.61E-02	2.50E-07	3.50E-04	8.16E-02	1.27E-06	1.78E-03	9.94E-02	1.54E-06	2.16E-03	2.09E-03	3.24E-08	4.54E-05
Road 14	14	2300-0000	1.66E-02	2.32E-07	3.25E-04	8.41E-02	1.18E-06	1.65E-03	1.02E-01	1.43E-06	2.00E-03	2.16E-03	3.01E-08	4.21E-05
Road 15	15	0000-0100	2.20E-02	4.62E-08	1.56E-04	1.29E-02	2.61E-07	8.82E-04	1.68E-02	3.53E-08	1.19E-04	2.11E-03	4.43E-09	1.50E-05
Road 15	15	0100-0200	2.64E-02	4.06E-08	1.37E-04	8.21E-02	1.26E-07	4.27E-04	1.09E-01	1.67E-07	5.64E-04	4.30E-03	6.61E-09	2.23E-05
Road 15	15	0200-0300	3.22E-02	3.87E-08	1.31E-04	1.54E-01	1.85E-07	6.25E-04	1.51E-01	1.81E-07	6.13E-04	5.24E-03	6.29E-09	2.11E-05
Road 15	15	0300-0400	3.59E-02	3.63E-08	1.23E-04	1.91E-01	1.00E-07	3.39E-04	1.35E-01	1.37E-07	4.62E-04	5.89E-03	5.96E-09	2.01E-05
Road 15	15	0400-0500	3.60E-02	3.89E-08	1.32E-04	1.01E-01	1.09E-07	3.69E-04	1.37E-01	1.48E-07	5.00E-04	5.81E-03	6.29E-09	2.12E-05
Road 15	15	0500-0600	3.60E-02	4.76E-08	1.62E-04	2.78E-01	3.67E-07	1.24E-03	1.37E-01	1.81E-07	6.14E-04	5.89E-03	7.66E-09	2.58E-05
Road 15	15	0600-0700	3.54E-02	2.50E-07	8.46E-04	1.10E-01	7.77E-07	2.62E-03	1.45E-01	1.03E-06	3.47E-03	5.05E-03	3.57E-08	1.21E-04
Road 15	15	0800-0900	3.39E-02	2.72E-07	9.20E-04	1.04E-01	8.39E-07	2.83E-03	1.38E-01	1.11E-06	3.75E-03	4.77E-03	3.84E-08	1.30E-04
Road 15	15	0900-1000	3.82E-02	2.62E-07	8.77E-04	1.16E-01	8.02E-07	2.68E-03	1.54E-01	1.06E-06	3.56E-03	5.41E-03	3.70E-08	1.24E-04
Road 15	15	1000-1100	4.13E-02	2.51E-07	8.47E-04	1.22E-01	7.40E-07	2.50E-03	1.63E-01	9.90E-07	3.35E-03	6.08E-03	3.69E-08	1.25E-04
Road 15	15	1100-1200	4.15E-02	2.41E-07	8.13E-04	1.23E-01	7.11E-07	2.41E-03	1.64E-01	9.54E-07	3.22E-03	6.05E-03	3.51E-08	1.18E-04
Road 15	15	1200-1300	5.24E-02	2.44E-07	8.24E-04	1.48E-01	7.21E-07	2.44E-03	2.08E-01	9.68E-07	3.27E-03	7.68E-03	3.57E-08	1.21E-04
Road 15	15	1300-1400	5.20E-02	2.54E-07	8.59E-04	1.54E-01	7.65E-07	2.59E-03	1.45E-01	4.88E-03	2.17E-01	1.90E-06	6.42E-03	7.49E-03
Road 15	15	1400-1500	5.32E-02	2.43E-07	8.21E-04	1.63E-01	7.46E-07	2.52E-03	1.51E-01	5.10E-03	2.19E-01	1.99E-06	6.73E-03	7.48E-03
Road 15	15	1500-1600	5.04E-02	2.40E-07	8.12E-04	1.58E-01	7.37E-07	2.49E-03	1.47E-01	5.06E-03	2.19E-01	1.93E-06	6.71E-03	7.14E-03
Road 15	15	1600-1700	5.04E-02	4.80E-07	1.62E-03	1.58E-01	1.51E-06	5.09E-03	2.09E-01	1.99E-06	6.71E-03	7.14E-03	6.79E-08	2.30E-04
Road 15	15	1700-1800	4.08E-02	4.15E-07	1.40E-03	1.34E-01	1.41E-06	4.76E-03	1.79E-01	1.82E-06	6.16E-03	5.83E-03	5.93E-08	2.00E-04
Road 15	15	1800-1900	3.08E-02	3.52E-07	1.19E-03	1.09E-01	1.24E-06	4.19E-03	1.41E-01	1.61E-06	5.44E-03	4.96E-03	5.63E-08	1.90E-04
Road 15	15	1900-2000	1.88E-02	1.39E-07	4.69E-04	7.61E-02	5.61E-07	1.89E-03	9.49E-02	6.99E-07	2.36E-03	3.03E-03	2.23E-08	7.54E-05
Road 15	15	2000-2100	1.90E-02	1.10E-07	3.73E-04	8.00E-02	4.65E-07	1.57E-03	9.90E-02	5.75E-07	1.94E-03	3.09E-03	1.79E-08	6.06E-05
Road 15	15	2100-2200	1.82E-02	1.07E-07	3.61E-04	7.72E-02	4.51E-07	1.52E-03	9.58E-02	5.61E-07	1.89E-03	2.99E-03	1.75E-08	5.91E-05
Road 15	15	2200-2300	1.80E-02	1.00E-07	3.39E-04	7.51E-02	4.20E-07	1.42E-03	9.31E-02	5.21E-07	1.76E-03	2.88E-03	1.61E-08	5.44E-05
Road 15	15	2300-0000	2.01E-02	8.64E-08	2.92E-04	8.40E-02	3.61E-07	1.22E-03	1.04E-01	4.49E-07	1.51E-03	3.29E-03	1.42E-08	4.79E-05
Road 16	16	0100-0200	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.86E-03	1.79E-03	9.31E-09	1.04E-04
Road 16	16	0200-0300	7.91E-03	3.04E-08	3.40E-04	4.42E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	5.64E-02	9.40E-09	0.96E-03	1.83E-01	4.30E-08	3.61E-06	6.54E-03	1.12E-09	9.23E-07			
Road 37	37	1700-1800	4.82E-02	8.68E-09	2.27E-06	1.93E-01	3.47E-08	3.64E-05	6.83E-03	1.23E-09	1.03E-06			
Road 37	37	1800-1900	3.24E-02	5.83E-09	4.88E-06	1.38E-01	2.49E-08	2.09E-05	1.71E-01	3.07E-08	2.58E-05	5.04E-03	9.07E-10	7.60E-07
Road 37	37	1900-2000	2.70E-02	1.35E-09	1.95E-06	1.25E-01	1.72E-08	1.24E-05	1.76E-05	4.22E-03	5.85E-10	4.90E-07		
Road 37	37	2000-2100	2.76E-02	2.98E-09	2.50E-06	1.34E-01	1.44E-08	1.21E-05	1.61E-04	4.46E-10	3.74E-07			
Road 37	37	2100-2200	2.73E-02	2.96E-09	2.48E-06	1.36E-01	1.47E-08	1.23E-05	1.65E-04	4.28E-03	4.64E-10	3.89E-07		
Road 37	37	2200-2300	2.41E-02	2.60E-09	2.06E-06	1.30E-01	1.40E-08	1.15E-05	1.58E-04	4.33E-03	4.07E-10	3.41E-07		
Road 37	37	2300-0000	2.66E-02	2.09E-09	1.75E-06	1.33E-01	1.05E-08	8.76E-06	1.60E-04	1.26E-08	1.05E-06	4.33E-03	3.40E-10	2.85E-07
Road 38	38	0000-0100	4.97E-02	7.34E-08	2.19E-04	1.63E-01	2.42E-07	7.22E-04	2.13E-01	3.15E-07	9.41E-04	7.87E-03	1.16E-08	3.48E-05
Road 38	38	0100-0200	4.68E-02	7.88E-08	2.35E-04	1.58E-01	2.66E-07	7.93E-04	2.12E-01	3.57E-07	1.06E-03	7.58E-03	1.28E-08	3.81E-05
Road 38	38	0200-0300	6.25E-02	5.74E-08	1.72E-04	1.80E-01	1.65E-07	4.94E-04	2.42E-01	2.22E-07	6.65E-04	9.97E-03	9.16E-09	2.74E-05
Road 38	38	0300-0400	6.74E-02	5.48E-08	1.64E-04	1.86E-01	1.51E-07	4.52E-04	2.53E-01	2.06E-07	6.16E-04	1.07E-02	8.72E-09	2.60E-05
Road 38	38	0400-0500	6.74E-02	6.11E-08	1.83E-04	1.87E-01	1.70E-07	5.07E-04	2.53E-01	2.29E-07	6.85E-04	1.07E-02	9.71E-09	2.90E-05
Road 38	38	0500-0600	6.22E-02	7.63E-08	2.28E-04	1.93E-01	2.37E-07	7.09E-04	2.56E-01	3.13E-07	9.37E-04	9.75E-03	1.20E-08	3.57E-05
Road 38	38	0600-0700	5.70E-02	1.26E-07	3.77E-04	1.99E-01	4.42E-07	1.32E-03	2.64E-01	5.86E-07	1.75E-03	9.43E-03	2.09E-08	6.24E-05
Road 38	38	0700-0800	7.24E-02	4.25E-07	1.27E-03	2.20E-01	1.29E-06	3.85E-03	2.92E-01	1.71E-06	5.12E-03	9.36E-03	5.49E-08	1.64E-04
Road 38	38	0800-0900	7.91E-02	4.31E-07	1.29E-03	2.33E-01	1.27E-06	3.79E-03	3.12E-01	1.70E-06	5.08E-03	9.44E-03	5.14E-08	1.54E-04
Road 38	38	0900-1000	8.36E-02	4.23E-07	1.27E-03	2.41E-01	1.22E-06	3.68E-03	3.23E-01	1.63E-06	4.91E-03	9.73E-03	4.92E-08	1.48E-04
Road 38	38	1000-1100	8.45E-02	4.11E-07	1.23E-03	2.40E-01	1.17E-06	3.46E-03	3.22E-01	1.56E-06	4.71E-03	9.85E-03	4.79E-08	1.43E-04
Road 38	38	1100-1200	8.45E-02	4.11E-07	1.23E-03	2.40E-01	1.17E-06	3.46E-03	3.22E-01	1.56E-06	4.71E-03	9.85E-03	4.79E-08	1.43E-04
Road 38	38	1200-1300	1.05E-01	2.89E-07	8.64E-04	2.62E-01	7.22E-07	2.16E-03	3.63E-01	1.00E-06	3.02E-03	1.31E-02	3.60E-08	1.07E-04
Road 38	38	1300-1400	1.06E-01	3.09E-07	9.11E-04	2.70E-01	7.87E-07	2.32E-03	3.76E-01	1.09E-06	3.22E-03	1.36E-02	3.96E-08	1.17E-04
Road 38	38	1400-1500	1.04E-01	3.02E-07	9.02E-04	2.67E-01	7.76E-07	2.32E-03	3.72E-01	1.08E-06	3.23E-03	1.34E-02	3.90E-08	1.16E-04
Road 38	38	1500-1600	1.05E-01	3.10E-07	9.27E-04	2.74E-01	8.07E-07	2.41E-03	3.79E-01	1.12E-06	3.34E-03	1.25E-02	3.69E-08	1.10E-04
Road 38	38	1600-1700	1.04E-01	2.99E-07	8.94E-04	2.64E-01	7.58E-07	2.26E-03	3.72E-01	1.07E-06	3.18E-03	1.29E-02	3.70E-08	1.10E-04
Road 38	38	1700-1800	1.03E-01	3.01E-07	2.27E-06	2.66E-01	7.74E-07	5.84E-06	3.68E-01	1.07E-06	8.08E-06	1.28E-02	3.73E-08	2.82E-07
Road 38	38	1800-1900	9.17E-02	2.41E-07	7.19E-04	2.32E-01	6.08E-07	1.82E-03	3.21E-01	8.43E-07	2.52E-03	1.13E-02	2.96E-08	8.85E-05
Road 38	38	1900-2000	7.17E-02	8.67E-08	2.59E-04	2.08E-01	2.51E-07	7.49E-04	2.88E-01	3.48E-07	1.04E-03	8.84E-03	1.07E-08	3.19E-05
Road 38	38	2000-2100	6.87E-02	8.31E-08	2.48E-04	2.08E-01	2.51E-07	7.49E-04	2.88E-01	3.48E-07	1.04E-03	8.47E-03	1.02E-08	3.06E-05
Road 38	38	2100-2200	7.30E-02	7.62E-08	2.28E-04	2.11E-01	2.19E-07	6.56E-04	2.84E-01	2.96E-07	8.83E-04	9.64E-03	1.00E-08	3.00E-05
Road 38	38	2200-2300	7.07E-02	7.00E-08	2.09E-04	1.99E-01	1.97E-07	5.88E-04	2.67E-01	2.64E-07	7.89E-04	9.51E-03	9.41E-09	2.81E-05
Road 38	38	2300-0000	6.64E-02	5.38E-08	1.61E-04	1.92E-01	1.56E-07	4.66E-04	2.58E-01	2.09E-07	6.25E-04	9.18E-03	7.44E-09	2.22E-05
Road 39	39	0000-0100	9.12E-02	1.80E-08	5.59E-05	2.89E-01	5.69E-08	1.77E-04	3.80E-01	7.49E-08	2.33E-04	6.68E-03	1.71E-09	5.32E-06
Road 39	39	0100-0200	9.28E-02	1.39E-08	4.29E-05	2.93E-01	4.05E-08	1.25E-04	3.85E-01	5.33E-08	1.66E-04	8.82E-03	1.22E-09	3.79E-06
Road 39	39	0200-0300	9.28E-02	1.39E-08	4.29E-05	2.93E-01	4.05E-08	1.25E-04	3.85E-01	5.33E-08	1.66E-04	8.82E-03	1.22E-09	3.79E-06
Road 39	39	0300-0400	9.56E-02	8.77E-09	2.72E-05	3.00E-01	2.75E-08	8.56E-05	3.96E-01	3.63E-08	1.13E-04	8.05E-03	8.30E-10	2.58E-06
Road 39	39	0400-0500	9.67E-02	1.04E-08	3.22E-05	3.03E-01	3.25E-08	1.01E-04	4.00E-01	4.29E-08	1.33E-04	9.15E-03	9.81E-10	3.05E-06
Road 39	39	0500-0600	9.78E-02	1.30E-08	4.05E-05	3.06E-01	4.07E-08	1.27E-04	4.04E-01	5.37E-08	1.67E-04	9.47E-03	1.26E-09	3.92E-06
Road 39	39	0600-0700	1.00E-01	4.49E-08	1.39E-04	3.13E-01	1.40E-07	4.37E-04	4.13E-01	1.85E-07	5.76E-04	9.41E-03	4.22E-09	1.31E-05
Road 39	39	0700-0800	1.01E-01	9.65E-08	3.00E-04	3.15E-01	3.02E-07	9.37E-04	4.15E-01	3.98E-07	1.24E-03	9.48E-03	9.09E-09	2.82E-05
Road 39	39	0800-0900	1.03E-01	1.18E-07	3.67E-04	3.21E-01	3.69E-07	1.15E-03	4.24E-01	4.87E-07	1.51E-03	9.68E-03	1.11E-08	3.45E-05
Road 39	39	0900-1000	1.06E-01	1.35E-07	4.20E-04	3.33E-01	4.23E-07	1.31E-03	4.39E-01	5.58E-07	1.73E-03	9.18E-03	1.17E-08	3.63E-05
Road 39	39	1000-1100	1.06E-01	1.32E-07	4.11E-04	3.26E-01	4.06E-07	1.26E-03	4.26E-01	5.31E-07	1.65E-03	9.18E-03	1.14E-08	3.55E-05
Road 39	39	1100-1200	1.06E-01	1.32E-07	4.11E-04	3.26E-01	4.06E-07	1.26E-03	4.26E-01	5.31E-07	1.65E-03	9.18E-03	1.14E-08	3.55E-05
Road 39	39	1200-1300	4.17E-02	1.34E-08	4.18E-05	1.59E-01	5.14E-08	1.60E-04	2.01E-01	6.48E-08	2.01E-04	5.08E-03	1.64E-09	5.09E-06
Road 39	39	1300-1400	4.49E-02	1.49E-08	4.64E-05	1.70E-01	5.65E-08	1.75E-04	2.15E-01	7.15E-08	2.22E-04	5.16E-03	1.71E-09	5.33E-06
Road 39	39	1400-1500	4.49E-02	1.49E-08	4.64E-05	1.70E-01	5.65E-08	1.75E-04	2.15E-01	7.15E-08	2.22E-04	5.16E-03	1.71E-09	5.33E-06
Road 39	39	1500-1600	4.47E-02	1.62E-08	5.02E-05	1.73E-01	6.26E-08	1.94E-04	2.18E-01	7.87E-08	2.45E-04	5.13E-03	1.86E-09	5.77E-06
Road 39	39	1600-1700	4.19E-02	1.56E-08	4.83E-05	1.62E-01	6.03E-08	1.93E-04	2.05E-01	7.63E-08	2.45E-04	4.82E-03	1.79E-09	5.55E-06
Road 39	39	1700-1800	4.08E-02	1.51E-08	1.21E-05	1.58E-01	5.86E-08	4.68E-05	2.00E-01	7.41E-08	5.92E-05	4.69E-03	1.74E-09	1.39E-06
Road 39	39	1800-1900	2.16E-02	9.89E-09	3.07E-05	1.09E-01	5.98E-08	1.86E-04	4.54E-03	2.08E-09	6.46E-06			
Road 39	39	1900-2000	1.79E-02	6.45E-09	2.01E-05	1.00E-01	3.61E-08	1.12E-04	1.18E-02	4.26E-09	1.32E-05	3.70E-03	1.33E-09	4.14E-06
Road 39	39	2000-2100	1.58E-02	4.93E-09	1.53E-05	1.11E-01	3.46E-08	1.08E-04	1.32E-02	4.11E-09	1.28E-05	3.26E-03	1.02E-09	3.17E-06
Road 39	39	2100-2200	1.76E-02	4.93E-09	1.53E-05	1.11E-01	3.11E-08	9.67E-05	1.29E-02	3.61E-09	1.12E-05	3.73E-03	1.05E-09	3.26E-06
Road 39	39	2200-2300	1.56E-02	4.20E-09	1.30E-05	1.05E-01	2.85E-08	8.85E-05	1.26E-02	3.37E-09	1.05E-05	3.33E-03	9.04E-10	2.81E-06
Road 39	39	2300-0000	1.56E-02	2.33E-09	1.81E-05	1.05E-01	1.57E-08	1.22E-04	1.26E-02	1.89E-09	1.47E-05	3.33E-03	5.00E-10	3.88E-06
Road 40	40	0000-0100	4.39E-02	1.27E-07	2.25E-04	1.54E-01	4.46E-07	7.93E-04	2.08E-01	6.02E-07	2.13E-03	7.19E-03	2.08E-08	3.69E-05
Road 40	40	0100-0200	5.20E-02	1.10E-07	1.95E-04	1.66E-01	3.52E-07	6.22E-04	2.19E-01	4.64E-07	8.19E-04	8.39E-03	1.78E-08	3.15E-05
Road 40	40	0200-0300	5.20E-02	1.10E-07	1.95E-04	1.66E-01	3.52E-07	6.22E-04	2.19E-01	4.64E-07	8.19E-04	8.39E-03	1.78E-08	3.15E-05
Road 40	40	0300-0400	5.26E-02	9.43E-08	1.67E-04	1.81E-01	3.24E-07	5.74E-04	2.38E-01	4.26E-07	7.55E-04	8.49E-03	1.52E-08	2.69E-05
Road 40	40	0400-0500	6.22E-02	9.95E-08	1.77E-04	1.84E-01	2.94E-07	5.22E-04	2.44E-01	3.90E-07	6.92E-04	1.07E-02	1.71E-08	3.04E-05
Road 40	40	0500-0600	6.22E-02	1.26E-07	2.24E-04	1.84E-01	3.72E-07	6.61E-04	2.44E-01	4.93E-07	8.76E-04	1.07E-02	2.16E-08	3.84E-05
Road 40	40	0600-0700	5.70E-02	1.26E-07	3.77E-04	1.99E-01	4.42E-07	1.32E-03	2.64E-01	5.86E-07	1.75E-03	9.43E-03	2.09E-08	6.24E-05
Road 40	40	0700-0800	7.24E-02	4.25E-07	1.27E-03	2.20E-01	1.29E-06	3.85E-03	2.92E-01	1.71E-06	5.12E-03	9.36E-03	5.49E-08	1.64E-04
Road 40	40	0800-0900	7.91E-02	4.31E-07	1.29E-03	2.33E-01	1.27E-06	3.79E-03	3.12E-01	1.70E-06	5.08E-03	9.44E-03	5.14E-08	1.54E-04
Road 40	40	0900-1000	8.36E-02	4.23E-07	1.27E-03	2.41E-01	1.22E-06	3.68E-03	3.23E-01	1.63E-06	4.91E-03	9.73E-03	4.92E-08	1.48E-04
Road 40	40	1000-1100	8.45E-02	4.11E-07	1.23E-03	2.40E-01	1.17E-06	3.46E-03	3.22E-01	1.56E-06	4.71E-03	9.85E-03	4.79E-08	1.43E-04
Road 40	40	1100-1200	8.45E-02	4.11E-07	1.23E-03	2.40E-01	1.17E-06	3.46E-03	3.22E-01	1.56E-06	4.71E-03	9.85E-03	4.79E-08	1.43E-04
Road 40	40	1200-1300	1.05E-01	2.89E-07	8.64E-04	2.62E-01	7.22E-07	2.16E-03	3.63E-01	1.00E-06	3.02E-03	1.31E-02	3.60E-08	1.07E-04
Road 40	40	1300-1400	1.06E-01	3.09E-07	9.11E-04	2.70E-01	7.87E-07	2.32E-03	3.76E-01	1.09E-06	3.22E-03	1.36E-02	3.96E-08	1.17E-04
Road 40	40	1400-1500	1.03E-01	6.71E-07	1.99E-03	2.76E-01	1.47E-06	4.39E-03	3.66E-01	2.16E-06	6.45E-03	1.16E-02	7.58E-08	1.35E-04
Road 40	40	1500-1600	1.03E-01	6.67E-07	1.98E-03	2.74E-01	1.46E-06	4.35E-03	3.63E-01	2.14E-06	6.39E-03	1.15E-02	7.51E-08	1.34E-04
Road 40	40	1600-1700	1.01E-01	6.69E-07	1.99E-03	2.73E-01	1.81E-06	5.42E-03	3.61E-01	2.39E-06	7.16E-03	1.14E-02	7.55E-08	1.36E-04
Road 40	40	1700-1800	9.33E-02	6.34E-07	1.13E-03	2.65E-01	1.80E-06	3.20E-03	3.58E-01	2.44E-06	4.33E-03	1.14E-02	7.73E-08	1.37E-04
Road 40	40	1800-1900	7.93E-02	5.21E-07	9.25E-04	2.18E-01	1.43E-06	2.54E-03	2.98E-01	1.96E-06	3.47E-03	1.02E-02	6.70E-08	1.19E-04
Road 40	40	1900-2000	4.90E-02	1.84E-07	3.27E-04	1.65E-01	6.20E-07	1.10E-03	2.14E-01	8.04E-07	1.43E-03	6.76E-03	2.54E-08	4.51E-05
Road 40	40	2000-2100	5.24E-02	1.61E-07	2.86E-04	1.75E-01	5.39E-07	9.57E-04	2.28E-01	7.00E-07	1.24E-03	7.13E-03	2.19E-08	3.89E-05
Road 40	40	2100-2200	5.22E-02	1.61E-07	2.87E-04	1.75E-01	5.39E-07	9.57E-04	2.28E-01	7.00E-07	1.24E-03	7.13E-03	2.19E-08	3.89E-05
Road 40	40	2200-2300	4.98E-02	1.47E-07	2.62E-04	1.67E-01	4.95E-07	8.78E-04	2.17E-01	6.42E-07	1.14E-03	7.00E-03	2.07E-08	3.68E-05
Road 40	40	2300-0000	5.44E-02	1.31E-07	2.33E-04	1.74E-01	4.19E-07	7.43E-04	2.28E-01	5.50E-07	9.76E-04	7.91E-03	1.91E-08	3.39E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (April)
Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	1.62E-02	9.28E-03	3.80E-01	1.42E-01	1.18E-02	9.58E-03	3.58E-01	2.98E-04				
Road 41	41	0100-0200	2.10E-02	3.35E-08	1.15E-04	6.21E-02	9.91E-08	3.39E-04	8.31E-02	1.33E-07	4.54E-04	5.02E-03	8.01E-09	2.74E-05
Road 41	41	0200-0300	2.52E-02	3.25E-08	1.11E-04	6.94E-02	8.97E-08	3.07E-04	9.45E-02	1.22E-07	4.19E-04	5.99E-03	7.74E-09	2.65E-05
Road 41	41	0300-0400	2.85E-02	3.19E-08	1.09E-04	7.49E-02	8.39E-08	2.87E-04	1.03E-01	1.16E-07	3.97E-04	6.78E-03	7.58E-09	2.60E-05
Road 41	41	0400-0500	2.76E-02	3.26E-08	1.12E-04	7.38E-02	8.71E-08	2.98E-04	1.01E-01	1.20E-07	4.10E-04	6.57E-03	7.76E-09	2.66E-05
Road 41	41	0500-0600	2.15E-02	3.64E-08	1.25E-04	6.47E-02	1.10E-07	3.76E-04	8.62E-02	1.46E-07	5.01E-04	5.14E-03	8.72E-09	2.99E-05
Road 41	41	0600-0700	1.53E-02	4.73E-08	1.62E-04	5.94E-02	7.13E-02	2.21E-07	7.56E-02	6.66E-03	1.14E-08	3.91E-05		
Road 41	41	0700-0800	2.09E-02	1.49E-07	5.10E-04	6.46E-02	4.59E-07	1.57E-03	8.56E-02	6.08E-07	2.08E-03	5.05E-03	3.59E-08	1.23E-04
Road 41	41	0800-0900	1.92E-02	1.53E-07	5.23E-04	5.87E-02	4.66E-07	1.60E-03	7.79E-02	6.19E-07	2.12E-03	4.67E-03	3.71E-08	1.27E-04
Road 41	41	0900-1000	1.74E-02	1.49E-07	5.11E-04	5.42E-02	4.64E-07	1.59E-03	8.69E-02	6.50E-07	2.22E-03	4.25E-03	3.64E-08	1.24E-04
Road 41	41	1000-1100	2.43E-02	1.48E-07	5.06E-04	6.89E-02	4.20E-07	1.44E-03	9.32E-02	5.68E-07	1.94E-03	5.95E-03	3.63E-08	1.24E-04
Road 41	41	1100-1200	2.46E-02	1.44E-07	4.94E-04	7.00E-02	4.11E-07	1.41E-03	9.46E-02	5.55E-07	1.90E-03	5.98E-03	3.51E-08	1.20E-04
Road 41	41	1200-1300	2.72E-02	1.74E-07	5.95E-04	7.74E-02	4.96E-07	1.70E-03	1.05E-01	6.72E-07	2.30E-03	6.62E-03	4.24E-08	1.45E-04
Road 41	41	1300-1400	2.70E-02	1.72E-07	5.87E-04	7.70E-02	4.91E-07	1.68E-03	1.04E-01	6.65E-07	2.27E-03	6.57E-03	4.20E-08	1.43E-04
Road 41	41	1400-1500	2.65E-02	1.80E-07	6.16E-04	7.73E-02	5.26E-07	1.80E-03	1.04E-01	7.05E-07	2.42E-03	6.65E-03	4.52E-08	1.55E-04
Road 41	41	1500-1600	2.55E-02	1.71E-07	5.85E-04	7.46E-02	5.01E-07	1.71E-03	1.01E-01	6.72E-07	2.30E-03	6.41E-03	4.30E-08	1.48E-04
Road 41	41	1600-1700	2.55E-02	1.82E-07	6.23E-04	7.47E-02	5.33E-07	1.83E-03	1.00E-01	7.15E-07	2.45E-03	6.39E-03	4.56E-08	1.56E-04
Road 41	41	1700-1800	2.18E-02	1.67E-07	5.72E-04	6.78E-02	5.20E-07	1.78E-03	8.96E-02	6.87E-07	2.35E-03	5.45E-03	4.18E-08	1.43E-04
Road 41	41	1800-1900	1.96E-02	1.51E-07	5.16E-04	6.10E-02	4.69E-07	1.61E-03	8.07E-02	6.21E-07	2.12E-03	4.91E-03	3.78E-08	1.29E-04
Road 41	41	1900-2000	1.10E-02	5.80E-08	1.99E-04	4.41E-02	2.32E-07	7.94E-04	5.51E-02	2.90E-07	9.93E-04	2.77E-03	1.46E-08	4.99E-05
Road 41	41	2000-2100	1.21E-02	5.07E-08	1.74E-04	4.91E-02	2.06E-07	7.06E-04	6.12E-02	2.57E-07	8.80E-04	3.00E-03	1.26E-08	4.32E-05
Road 41	41	2100-2200	1.16E-02	4.89E-08	1.67E-04	4.64E-02	2.04E-07	6.98E-04	6.02E-02	2.53E-07	8.68E-04	2.98E-03	1.27E-08	4.36E-05
Road 41	41	2200-2300	1.18E-02	4.79E-08	1.64E-04	4.85E-02	1.97E-07	6.74E-04	6.29E-02	2.55E-07	8.74E-04	2.98E-03	1.21E-08	4.16E-05
Road 41	41	2300-0000	1.40E-02	4.46E-08	1.53E-04	5.25E-02	1.67E-07	5.72E-04	6.65E-02	2.12E-07	7.25E-04	3.43E-03	1.09E-08	3.73E-05
Road 42	42	0000-0100	3.27E-02	7.35E-08	6.80E-04	9.29E-02	2.09E-07	1.93E-03	1.26E-01	2.82E-07	2.61E-03	5.15E-03	1.16E-08	1.08E-04
Road 42	42	0100-0200	4.06E-02	6.22E-08	6.22E-04	1.15E-01	1.77E-07	1.77E-03	1.56E-01	2.39E-07	2.39E-03	6.38E-03	9.80E-09	9.80E-05
Road 42	42	0200-0300	4.83E-02	6.57E-08	6.08E-04	1.20E-01	1.63E-07	1.51E-03	1.68E-01	2.29E-07	2.12E-03	7.70E-03	1.05E-08	9.69E-05
Road 42	42	0300-0400	5.43E-02	6.47E-08	5.99E-04	1.31E-01	1.56E-07	1.44E-03	1.85E-01	2.20E-07	2.04E-03	8.61E-03	1.03E-08	9.55E-05
Road 42	42	0400-0500	5.25E-02	6.58E-08	6.08E-04	1.28E-01	1.61E-07	1.47E-03	1.82E-01	2.28E-07	2.10E-03	8.31E-03	1.04E-08	9.61E-05
Road 42	42	0500-0600	4.10E-02	7.22E-08	6.68E-04	1.09E-01	1.93E-07	1.78E-03	1.50E-01	2.65E-07	2.45E-03	6.65E-03	1.17E-08	1.08E-04
Road 42	42	0600-0700	3.08E-02	9.65E-08	8.93E-04	9.56E-02	3.00E-07	2.77E-03	1.26E-01	3.96E-07	3.67E-03	4.93E-03	1.55E-08	1.43E-04
Road 42	42	0700-0800	4.91E-02	4.02E-07	3.72E-03	1.30E-01	1.06E-06	9.85E-03	1.79E-01	1.47E-06	1.36E-02	6.68E-03	5.47E-08	5.06E-04
Road 42	42	0800-0900	4.91E-02	4.02E-07	3.72E-03	1.30E-01	1.06E-06	9.85E-03	1.79E-01	1.47E-06	1.36E-02	6.68E-03	5.47E-08	5.06E-04
Road 42	42	0900-1000	5.60E-02	3.98E-07	3.69E-03	1.47E-01	1.04E-06	9.67E-03	2.03E-01	1.44E-06	1.34E-02	7.64E-03	5.43E-08	5.03E-04
Road 42	42	1000-1100	6.32E-02	3.92E-07	3.63E-03	1.65E-01	1.02E-06	9.53E-03	2.28E-01	1.42E-06	1.32E-02	8.61E-03	5.34E-08	4.95E-04
Road 42	42	1100-1200	6.03E-02	3.74E-07	3.47E-03	1.54E-01	9.57E-07	8.86E-03	2.14E-01	1.33E-06	1.23E-02	8.33E-03	5.17E-08	4.79E-04
Road 42	42	1200-1300	7.75E-02	3.71E-07	3.44E-03	1.98E-01	9.51E-07	8.44E-03	2.68E-01	1.28E-06	1.19E-02	1.09E-02	5.24E-08	4.85E-04
Road 42	42	1300-1400	7.49E-02	3.78E-07	3.50E-03	1.91E-01	9.68E-07	8.97E-03	2.58E-01	1.30E-06	1.21E-02	1.05E-02	5.30E-08	4.91E-04
Road 42	42	1400-1500	7.49E-02	3.78E-07	3.50E-03	1.87E-01	9.45E-07	8.75E-03	2.62E-01	1.32E-06	1.23E-02	1.07E-02	5.40E-08	5.00E-04
Road 42	42	1500-1600	7.27E-02	3.74E-07	3.46E-03	1.87E-01	9.60E-07	8.88E-03	2.59E-01	1.33E-06	1.23E-02	1.04E-02	5.36E-08	4.96E-04
Road 42	42	1600-1700	7.27E-02	3.74E-07	3.46E-03	1.87E-01	9.60E-07	8.88E-03	2.59E-01	1.33E-06	1.23E-02	1.04E-02	5.36E-08	4.96E-04
Road 42	42	1700-1800	6.58

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			Monthly/Hour/Min		Monthly/Hour/Average		Monthly/Hour/Min		Monthly/Hour/Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 1	1	0100-0200	1.11E-03	2.36E-07	9.13E-05	1.49E-06	1.11E-02	1.71E-03	6.15E-08	4.50E-04	
Road 1	1	0200-0300	1.13E-03	2.41E-07	9.29E-05	1.52E-06	1.13E-02	1.74E-03	6.26E-08	4.58E-04	
Road 1	1	0300-0400	1.21E-03	2.57E-07	9.95E-05	1.63E-06	1.21E-02	1.87E-03	6.70E-08	4.90E-04	
Road 1	1	0400-0500	1.33E-03	2.83E-07	1.09E-04	1.79E-06	1.33E-02	2.05E-03	7.37E-08	5.39E-04	
Road 1	1	0500-0600	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 1	1	0600-0700	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 1	1	0700-0800	1.47E-03	3.12E-07	1.21E-04	1.97E-06	1.47E-02	2.26E-03	8.12E-08	5.94E-04	
Road 1	1	0800-0900	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 1	1	0900-1000	1.41E-03	3.00E-07	1.16E-04	1.89E-06	1.41E-02	2.17E-03	7.80E-08	5.70E-04	
Road 1	1	1000-1100	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 1	1	1100-1200	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 1	1	1200-1300	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 1	1	1300-1400	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 1	1	1400-1500	1.26E-03	2.68E-07	1.04E-04	1.69E-06	1.26E-02	1.94E-03	6.96E-08	5.09E-04	
Road 1	1	1500-1600	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 1	1	1600-1700	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 1	1	1700-1800	1.25E-03	2.66E-07	1.03E-04	1.67E-06	1.25E-02	1.92E-03	6.90E-08	5.05E-04	
Road 1	1	1800-1900	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 1	1	1900-2000	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 1	1	2000-2100	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 1	1	2100-2200	1.34E-03	2.85E-07	1.10E-04	1.80E-06	1.34E-02	2.06E-03	7.41E-08	5.42E-04	
Road 1	1	2200-2300	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 1	1	2300-2400	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 2	2	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 2	2	0100-0200	1.11E-03	2.36E-07	9.13E-05	1.49E-06	1.11E-02	1.71E-03	6.15E-08	4.50E-04	
Road 2	2	0200-0300	1.13E-03	2.41E-07	9.29E-05	1.52E-06	1.13E-02	1.74E-03	6.26E-08	4.58E-04	
Road 2	2	0300-0400	1.21E-03	2.57E-07	9.95E-05	1.63E-06	1.21E-02	1.87E-03	6.70E-08	4.90E-04	
Road 2	2	0400-0500	1.33E-03	2.83E-07	1.09E-04	1.79E-06	1.33E-02	2.05E-03	7.37E-08	5.39E-04	
Road 2	2	0500-0600	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 2	2	0600-0700	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 2	2	0700-0800	1.47E-03	3.12E-07	1.21E-04	1.97E-06	1.47E-02	2.26E-03	8.12E-08	5.94E-04	
Road 2	2	0800-0900	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 2	2	0900-1000	1.41E-03	3.00E-07	1.16E-04	1.89E-06	1.41E-02	2.17E-03	7.80E-08	5.70E-04	
Road 2	2	1000-1100	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 2	2	1100-1200	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 2	2	1200-1300	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 2	2	1300-1400	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 2	2	1400-1500	1.26E-03	2.68E-07	1.04E-04	1.69E-06	1.26E-02	1.94E-03	6.96E-08	5.09E-04	
Road 2	2	1500-1600	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 2	2	1600-1700	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 2	2	1700-1800	1.25E-03	2.66E-07	1.03E-04	1.67E-06	1.25E-02	1.92E-03	6.90E-08	5.05E-04	
Road 2	2	1800-1900	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 2	2	1900-2000	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 2	2	2000-2100	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 2	2	2100-2200	1.34E-03	2.85E-07	1.10E-04	1.80E-06	1.34E-02	2.06E-03	7.41E-08	5.42E-04	
Road 2	2	2200-2300	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 2	2	2300-2400	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 3	3	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 3	3	0100-0200	1.11E-03	2.36E-07	9.13E-05	1.49E-06	1.11E-02	1.71E-03	6.15E-08	4.50E-04	
Road 3	3	0200-0300	1.13E-03	2.41E-07	9.29E-05	1.52E-06	1.13E-02	1.74E-03	6.26E-08	4.58E-04	
Road 3	3	0300-0400	1.21E-03	2.57E-07	9.95E-05	1.63E-06	1.21E-02	1.87E-03	6.70E-08	4.90E-04	
Road 3	3	0400-0500	1.33E-03	2.83E-07	1.09E-04	1.79E-06	1.33E-02	2.05E-03	7.37E-08	5.39E-04	
Road 3	3	0500-0600	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 3	3	0600-0700	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 3	3	0700-0800	1.47E-03	3.12E-07	1.21E-04	1.97E-06	1.47E-02	2.26E-03	8.12E-08	5.94E-04	
Road 3	3	0800-0900	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 3	3	0900-1000	1.41E-03	3.00E-07	1.16E-04	1.89E-06	1.41E-02	2.17E-03	7.80E-08	5.70E-04	
Road 3	3	1000-1100	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 3	3	1100-1200	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 3	3	1200-1300	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 3	3	1300-1400	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 3	3	1400-1500	1.26E-03	2.68E-07	1.04E-04	1.69E-06	1.26E-02	1.94E-03	6.96E-08	5.09E-04	
Road 3	3	1500-1600	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 3	3	1600-1700	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 3	3	1700-1800	1.25E-03	2.66E-07	1.03E-04	1.67E-06	1.25E-02	1.92E-03	6.90E-08	5.05E-04	
Road 3	3	1800-1900	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 3	3	1900-2000	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 3	3	2000-2100	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 3	3	2100-2200	1.34E-03	2.85E-07	1.10E-04	1.80E-06	1.34E-02	2.06E-03	7.41E-08	5.42E-04	
Road 3	3	2200-2300	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 3	3	2300-2400	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 4	4	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 4	4	0100-0200	1.11E-03	2.36E-07	9.13E-05	1.49E-06	1.11E-02	1.71E-03	6.15E-08	4.50E-04	
Road 4	4	0200-0300	1.13E-03	2.41E-07	9.29E-05	1.52E-06	1.13E-02	1.74E-03	6.26E-08	4.58E-04	
Road 4	4	0300-0400	1.21E-03	2.57E-07	9.95E-05	1.63E-06	1.21E-02	1.87E-03	6.70E-08	4.90E-04	
Road 4	4	0400-0500	1.33E-03	2.83E-07	1.09E-04	1.79E-06	1.33E-02	2.05E-03	7.37E-08	5.39E-04	
Road 4	4	0500-0600	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 4	4	0600-0700	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 4	4	0700-0800	1.47E-03	3.12E-07	1.21E-04	1.97E-06	1.47E-02	2.26E-03	8.12E-08	5.94E-04	
Road 4	4	0800-0900	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 4	4	0900-1000	1.41E-03	3.00E-07	1.16E-04	1.89E-06	1.41E-02	2.17E-03	7.80E-08	5.70E-04	
Road 4	4	1000-1100	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 4	4	1100-1200	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 4	4	1200-1300	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 4	4	1300-1400	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 4	4	1400-1500	1.26E-03	2.68E-07	1.04E-04	1.69E-06	1.26E-02	1.94E-03	6.96E-08	5.09E-04	
Road 4	4	1500-1600	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 4	4	1600-1700	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 4	4	1700-1800	1.25E-03	2.66E-07	1.03E-04	1.67E-06	1.25E-02	1.92E-03	6.90E-08	5.05E-04	
Road 4	4	1800-1900	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 4	4	1900-2000	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 4	4	2000-2100	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 4	4	2100-2200	1.34E-03	2.85E-07	1.10E-04	1.80E-06	1.34E-02	2.06E-03	7.41E-08	5.42E-04	
Road 4	4	2200-2300	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 4	4	2300-2400	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 5	5	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 5	5	0100-0200	1.11E-03	2.36E-07	9.13E-05	1.49E-06	1.11E-02	1.71E-03	6.15E-08	4.50E-04	
Road 5	5	0200-0300	1.13E-03	2.41E-07	9.29E-05	1.52E-06	1.13E-02	1.74E-03	6.26E-08	4.58E-04	
Road 5	5	0300-0400	1.21E-03	2.57E-07	9.95E-05	1.63E-06	1.21E-02	1.87E-03	6.70E-08	4.90E-04	
Road 5	5	0400-0500	1.33E-03	2.83E-07	1.09E-04	1.79E-06	1.33E-02	2.05E-03	7.37E-08	5.39E-04	
Road 5	5	0500-0600	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 5	5	0600-0700	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 5	5	0700-0800	1.47E-03	3.12E-07	1.21E-04	1.97E-06	1.47E-02	2.26E-03	8.12E-08	5.94E-04	
Road 5	5	0800-0900	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 5	5	0900-1000	1.41E-03	3.00E-07	1.16E-04	1.89E-06	1.41E-02	2.17E-03	7.80E-08	5.70E-04	
Road 5	5	1000-1100	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 5	5	1100-1200	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 5	5	1200-1300	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 5	5	1300-1400	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 5	5	1400-1500	1.26E-03	2.68E-07	1.04E-04	1.69E-06	1.26E-02	1.94E-03	6.96E-08	5.09E-04	
Road 5	5	1500-1600	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 5	5	1600-1700	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 5	5	1700-1800	1.25E-03	2.66E-07	1.03E-04	1.67E-06	1.25E-02	1.92E-03	6.90E-08	5.05E-04	
Road 5	5	1800-1900	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 5	5	1900-2000	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 5	5	2000-2100	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 5	5	2100-2200	1.34E-03	2.85E-07	1.10E-04	1.80E-06	1.34E-02	2.06E-03	7.41E-08	5.42E-04	
Road 5	5	2200-2300	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 5	5	2300-2400	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 6	6	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 6	6	0100-0200	1.11E-03	2.36E-07	9.13E-05	1.49E-06	1.11E-02	1.71E-03	6.15E-08	4.50E-04	
Road 6	6	0200-0300	1.13E-03	2.41E-07	9.29E-05	1.52E-06	1.13E-02	1.74E-03	6.26E-08	4.58E-04	
Road 6	6	0300-0400	1.21E-03	2.57E-07	9.95E-05	1.63E-06	1.21E-02	1.87E-03	6.70E-08	4.90E-04	
Road 6	6	0400-0500	1.33E-03	2.83E-07	1.09E-04	1.79E-06	1.33E-02	2.05E-03	7.37E-08	5.39E-04	
Road 6	6	0500-0600	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 6	6	0600-0700	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 6	6	0700-0800	1.47E-03	3.12E-07	1.21E-04	1.97E-06	1.47E-02	2.26E-03	8.12E-08	5.94E-04	
Road 6	6	0800-0900	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 6	6	0900-1000	1.41E-03	3.00E-07	1.16E-04	1.89E-06	1.41E-02	2.17E-03	7.80E-08	5.70E-04	
Road 6	6	1000-1100	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 6	6	1100-1200	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 6	6	1200-1300	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 6	6	1300-1400	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 6	6	1400-1500	1.26E-03	2.68E-07	1.04E-04	1.69E-06	1.26E-02	1.94E-03	6.96E-08	5.09E-04	
Road 6	6	1500-1600	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 6	6	1600-1700	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 6	6	1700-1800	1.25E-03	2.66E-07	1.03E-04	1.67E-06	1.25E-02	1.92E-03	6.90E-08	5.05E-04	
Road 6	6	1800-1900	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 6	6	1900-2000	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 6	6	2000-2100	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 6	6	2100-2200	1.34E-03	2.85E-07	1.10E-04	1.80E-06	1.34E-02	2.06E-03	7.41E-08	5.42E-04	
Road 6	6	2200-2300	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 6	6	2300-2400	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 7	7	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 7	7	0100-0200	1.11E-03	2.36E-07	9.13E-05	1.49E-06	1.11E-02	1.71E-03	6.15E-08	4.50E-04	
Road 7	7	0200-0300	1.13E-03	2.41E-07	9.29E-05	1.52E-06	1.13E-02	1.74E-03	6.26E-08	4.58E-04	
Road 7	7	0300-0400	1.21E-03	2.57E-07	9.95E-05	1.63E-06	1.21E-02	1.87E-03	6.70E-08	4.90E-04	
Road 7	7	0400-0500	1.33E-03	2.83E-07	1.09E-04	1.79E-06	1.33E-02	2.05E-03	7.37E-08	5.39E-04	
Road 7	7	0500-0600	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 7	7	0600-0700	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 7	7	0700-0800	1.47E-03	3.12E-07	1.21E-04	1.97E-06	1.47E-02	2.26E-03	8.12E-08	5.94E-04	
Road 7	7	0800-0900	1.48E-03	3.15E-07	1.22E-04	1.99E-06	1.48E-02	2.28E-03	8.19E-08	5.99E-04	
Road 7	7	0900-1000	1.41E-03	3.00E-07	1.16E-04	1.89E-06	1.41E-02	2.17E-03	7.80E-08	5.70E-04	
Road 7	7	1000-1100	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 7	7	1100-1200	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 7	7	1200-1300	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 7	7	1300-1400	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 7	7	1400-1500	1.26E-03	2.68E-07	1.04E-04	1.69E-06	1.26E-02	1.94E-03	6.96E-08	5.09E-04	
Road 7	7	1500-1600	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 7	7	1600-1700	1.24E-03	2.64E-07	1.02E-04	1.66E-06	1.24E-02	1.91E-03	6.85E-08	5.01E-04	
Road 7	7	1700-1800	1.25E-03	2.66E-07	1.03E-04	1.67E-06	1.25E-02	1.92E-03	6.90E-08	5.05E-04	
Road 7	7	1800-1900	1.27E-03	2.70E-07	1.04E-04	1.70E-06	1.27E-02	1.95E-03	7.01E-08	5.13E-04	
Road 7	7	1900-2000	1.29E-03	2.74E-07	1.06E-04	1.73E-06	1.29E-02	1.98E-03	7.12E-08	5.21E-04	
Road 7	7	2000-2100	1.31E-03	2.79E-07	1.08E-04	1.76E-06	1.31E-02	2.02E-03	7.25E-08	5.30E-04	
Road 7	7	2100-2200	1.34E-03	2.85E-07	1.10E-04	1.80E-06	1.34E-02	2.06E-03	7.41E-08	5.42E-04	
Road 7	7	2200-2300	1.36E-03	2.89E-07	1.12E-04	1.82E-06	1.36E-02	2.09E-03	7.52E-08	5.50E-04	
Road 7	7	2300-2400	1.38E-03	2.94E-07	1.13E-04	1.85E-06	1.38E-02	2.13E-03	7.64E-08	5.59E-04	
Road 8	8	0000-0100	1.22E-03	2.60E-07	1.00E-04	1.64E-06	1.22E-02	1.88E-03	6.77E-08	4.95E-04	
Road 8	8	0100-0

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Average			Monthly/Hour/Min			Monthly/Hour/Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 31	31	0000-0100	1.38E-02	3.01E-08	0.05	5.16E-03	1.67E-06	3.76E-03	2.00E-03	6.32E-08	1.42E-04	3.59E-03	7.85E-09	2.56E-05
Road 31	31	0100-0200	1.65E-02	2.50E-08	8.16E-05	5.68E-02	8.62E-08	2.81E-04	7.33E-03	1.11E-07	3.63E-04	4.25E-02	6.45E-09	2.10E-05
Road 31	31	0200-0300	1.91E-02	2.26E-08	7.35E-05	6.18E-02	7.30E-08	2.38E-04	8.09E-02	9.56E-08	3.12E-04	4.86E-03	5.74E-09	1.87E-05
Road 31	31	0300-0400	2.13E-02	2.03E-08	6.59E-05	6.52E-08	2.13E-04	8.72E-02	8.63E-08	2.81E-04	5.33E-03	5.34E-09	1.74E-05	
Road 31	31	0400-0500	2.10E-02	2.27E-08	7.40E-05	6.59E-02	7.12E-08	2.32E-04	9.39E-08	3.06E-04	5.34E-03	5.78E-09	1.88E-05	
Road 31	31	0500-0600	1.80E-02	3.14E-08	1.03E-04	6.21E-02	1.08E-07	3.54E-04	8.02E-02	1.40E-07	4.56E-04	4.71E-03	8.21E-09	2.68E-05
Road 31	31	0600-0700	1.57E-02	4.08E-08	1.33E-04	5.98E-02	1.55E-07	5.06E-04	7.55E-02	2.69E-07	8.76E-04	4.26E-03	1.51E-08	4.90E-05
Road 31	31	0700-0800	1.84E-02	1.41E-07	4.60E-04	6.39E-02	4.91E-07	1.60E-03	8.23E-02	6.32E-07	2.06E-03	4.86E-03	3.73E-08	1.22E-04
Road 31	31	0800-0900	1.74E-02	1.53E-07	4.99E-04	6.08E-02	5.34E-07	1.74E-03	7.82E-02	6.87E-07	2.24E-03	4.69E-03	4.13E-08	1.35E-04
Road 31	31	0900-1000	1.96E-02	1.09E-07	3.56E-04	6.25E-02	3.47E-07	1.13E-03	7.08E-02	3.94E-07	1.28E-03	4.27E-03	2.37E-08	7.74E-05
Road 31	31	1000-1100	2.17E-02	1.62E-07	5.30E-04	7.11E-02	5.32E-07	1.73E-03	9.29E-02	6.94E-07	2.26E-03	5.42E-03	4.05E-08	1.32E-04
Road 31	31	1100-1200	2.17E-02	1.54E-07	5.02E-04	7.14E-02	5.07E-07	1.65E-03	9.31E-02	6.61E-07	2.16E-03	5.86E-03	4.16E-08	1.36E-04
Road 31	31	1200-1300	2.22E-02	1.38E-07	4.50E-04	7.32E-02	4.55E-07	1.48E-03	9.52E-02	5.91E-07	1.93E-03	6.00E-03	3.72E-08	1.21E-04
Road 31	31	1300-1400	1.99E-02	1.06E-07	3.46E-04	6.36E-02	3.39E-07	1.11E-03	8.35E-02	4.45E-07	1.45E-03	5.36E-03	2.85E-08	9.31E-05
Road 31	31	1400-1500	1.95E-02	1.09E-07	3.56E-04	6.22E-02	3.47E-07	1.13E-03	5.09E-03	2.84E-08	9.26E-05			
Road 31	31	1500-1600	1.86E-02	1.05E-07	3.42E-04	5.94E-02	3.34E-07	1.09E-03	4.86E-03	2.73E-08	8.88E-05			
Road 31	31	1600-1700	1.87E-02	1.11E-07	3.62E-04	5.95E-02	3.54E-07	1.15E-03	4.87E-03	2.89E-08	9.43E-05			
Road 31	31	1700-1800	1.91E-02	1.50E-07	4.90E-04	6.08E-02	4.77E-07	1.56E-03	4.98E-03	3.91E-08	1.28E-04			
Road 31	31	1800-1900	1.74E-02	1.45E-07	4.72E-04	5.56E-02	4.63E-07	1.51E-03	4.54E-03	3.78E-08	1.23E-04			
Road 31	31	1900-2000	1.67E-02	1.32E-07	4.31E-04	5.32E-02	4.22E-07	1.37E-03	4.35E-03	3.45E-08	1.12E-04			
Road 31	31	2000-2100	1.60E-02	1.27E-07	4.14E-04	5.09E-02	4.04E-07	1.32E-03	4.17E-03	3.31E-08	1.08E-04			
Road 31	31	2100-2200	1.54E-02	1.22E-07	3.98E-04	4.90E-02	3.89E-07	1.27E-03	4.01E-03	3.18E-08	1.04E-04			
Road 31	31	2200-2300	1.48E-02	1.18E-07	3.84E-04	4.72E-02	3.75E-07	1.22E-03	3.86E-03	3.06E-08	9.98E-05			
Road 31	31	2300-2400	1.42E-02	1.13E-07	3.69E-04	4.54E-02	3.61E-07	1.18E-03	3.71E-03	2.95E-08	9.60E-05			

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)
Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Average			Monthly/Hour/Min			Monthly/Hour/Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 34	34	0800-0900	8.13E-03	2.07E-07	1.98E-03	1.93E-02	1.00E-06	9.56E-03	4.74E-02	1.21E-06	1.15E-02	2.11E-03	5.37E-08	5.13E-04
Road 34	34	0900-1000	9.32E-03	1.95E-07	1.86E-03	4.33E-02	9.05E-07	8.65E-03	5.27E-02	1.10E-06	1.05E-02	2.50E-03	5.22E-08	4.98E-04
Road 34	34	1000-1100	1.06E-02	1.91E-07	1.82E-03	4.58E-02	8.27E-07	7.90E-03	5.64E-02	1.02E-06	9.72E-03	2.83E-03	5.11E-08	4.88E-04
Road 34	34	1100-1200	1.02E-02	1.75E-07	1.67E-03	4.59E-02	7.86E-07	7.51E-03	5.60E-02	9.61E-07	9.18E-03	2.70E-03	4.63E-08	4.42E-04
Road 34	34	1200-1300	1.61E-02	2.67E-07	2.55E-03	5.79E-02	9.61E-07	9.18E-03	7.41E-02	1.23E-06	1.17E-02	4.43E-03	7.35E-08	7.02E-04
Road 34	34	1300-1400	1.61E-02	2.79E-07	2.66E-03	5.99E-02	1.04E-06	9.89E-03	7.61E-02	1.31E-06	1.26E-02	4.52E-03	7.81E-08	7.46E-04
Road 34	34	1400-1500	1.61E-02	2.90E-07	2.77E-03	5.97E-02	1.08E-06	1.01E-02	7.47E-02	1.35E-06	1.28E-02	4.39E-03	8.07E-08	7.71E-04
Road 34	34	1500-1600	1.49E-02	2.75E-07	2.63E-03	5.85E-02	1.08E-06	1.04E-02	7.34E-02	1.36E-06	1.30E-02	4.25E-03	7.87E-08	7.52E-04
Road 34	34	1600-1700	1.51E-02	2.90E-07	2.77E-03	5.57E-02	1.07E-06	1.02E-02	7.08E-02	1.36E-06	1.30E-02	4.19E-03	8.04E-08	7.68E-04
Road 34	34	1700-1800	1.14E-02	2.27E-07	2.26E-03	4.33E-02	8.62E-07	8.57E-03	5.60E-02	1.12E-06	1.11E-02	3.12E-03	6.21E-08	6.41E-04
Road 34	34	1800-1900	8.47E-03	1.79E-07	1.71E-03	3.69E-02	7.78E-07	7.43E-03	4.53E-02	9.57E-07	9.14E-03	2.38E-03	5.01E-08	4.79E-04
Road 34	34	1900-2000	6.82E-03	1.12E-07	1.07E-03	3.36E-02	5.52E-07	5.27E-03	4.04E-02	6.64E-07	6.34E-03	1.89E-03	3.11E-08	2.97E-04
Road 34	34	2000-2100	6.76E-03	1.18E-07	1.13E-03	3.34E-02	5.82E-07	5.56E-03	4.00E-02	7.00E-07	6.69E-03	1.87E-03	3.28E-08	3.13E-04
Road 34	34	2100-2200	6.51E-03	8.29E-08	7.91E-04	3.64E-02	4.63E-07	4.43E-03	4.29E-02	5.46E-07	5.22E-03	1.81E-03	2.31E-08	2.20E-04
Road 34	34	2200-2300	6.49E-03	8.01E-08	7.65E-04	3.57E-02	4.41E-07	4.21E-03	4.22E-02	5.21E-07	4.97E-03	1.73E-03	2.14E-08	2.04E-04
Road 34	34	2300-2400	6.24E-03	7.76E-08	7.41E-04	3.43E-02	4.27E-07	4.07E-03	4.06E-02	5.04E-07	4.81E-03	1.66E-03	2.07E-08	1.97E-04
Road 35	35	0000-0100	2.90E-02	3.50E-08	3.11E-05	8.86E-02	1.07E-07	9.52E-05	1.18E-01	1.42E-07	1.26E-04	4.91E-02	5.94E-08	5.27E-05
Road 35	35	0100-0200	3.66E-02	3.21E-08	2.85E-05	1.02E-01	8.95E-08	7.95E-05	1.39E-01	1.22E-07	1.08E-04	6.12E-03	5.38E-09	4.78E-06
Road 35	35	0200-0300	3.50E-02	3.08E-08	2.73E-05	9.48E-02	8.34E-08	7.41E-05	1.36E-01	1.20E-07	1.06E-04	5.85E-03	5.15E-09	4.58E-06
Road 35	35	0300-0400	4.86E-02	3.00E-08	2.66E-05	1.23E-01	7.63E-08	6.77E-05	1.72E-01	1.06E-07	9.43E-05	7.99E-03	4.93E-09	4.38E-06
Road 35	35	0400-0500	4.71E-02	3.09E-08	2.74E-05	1.22E-01	8.00E-08	7.10E-05	1.69E-01	1.11E-07	9.84E-05	7.79E-03	5.11E-09	4.54E-06
Road 35	35	0500-0600	3.74E-02	3.52E-08	3.12E-05	1.06E-01	9.97E-08	8.85E-05	1.46E-01	1.37E-07	1.22E-04	6.37E-03	6.01E-09	5.34E-06
Road 35	35	0600-0700	2.99E-02	5.19E-08	4.61E-05	8.49E-02	1.47E-07	1.30E-04	1.25E-01	2.17E-07	1.92E-04	5.09E-03	8.84E-09	7.85E-06
Road 35	35	0700-0800	4.22E-02	1.72E-07	1.53E-04	1.22E-01	4.98E-07	4.41E-04	1.78E-01	7.25E-07	6.43E-04	7.23E-03	2.95E-08	2.61E-05
Road 35	35	0800-0900	4.05E-02	1.87E-07	1.66E-04	1.18E-01	5.44E-07	4.83E-04	1.59E-01	7.31E-07	6.49E-04	6.28E-03	2.90E-08	2.57E-05
Road 35	35	0900-1000	4.82E-02	1.62E-07	1.44E-04	1.40E-01	4.71E-07	4.18E-04	1.73E-01	5.81E-07	5.16E-04	6.84E-03	2.30E-08	2.04E-05
Road 35	35	1000-1100	4.87E-02	1.83E-07	1.62E-04	1.37E-01	5.15E-07	4.58E-04	1.86E-01	6.98E-07	6.20E-04	7.76E-03	2.91E-08	2.58E-05
Road 35	35	1100-1200	4.93E-02	1.76E-07	1.57E-04	1.39E-01	4.95E-07	4.40E-04	1.88E-01	6.71E-07	6.01E-04	7.77E-03	2.79E-08	2.48E-05
Road 35	35	1200-1300	4.82E-02	2.07E-07	1.84E-04	1.36E-01	5.82E-07	5.17E-04	1.83E-01	7.86E-07	6.97E-04	7.60E-03	3.27E-08	2.90E-05
Road 35	35	1300-1400	5.60E-02	1.44E-07	1.28E-04	1.45E-01	3.73E-07	3.31E-04	2.01E-01	5.17E-07	4.59E-04	8.78E-03	2.26E-08	2.00E-05
Road 35	35	1400-1500	5.45E-02	1.46E-07	1.29E-04	1.41E-01	3.76E-07	3.33E-04	1.95E-01	5.21E-07	4.63E-04	8.55E-03	2.29E-08	2.04E-05
Road 35	35	1500-1600	5.11E-02	1.44E-07	1.28E-04	1.32E-01	3.72E-07	3.30E-04	1.83E-01	5.17E-07	4.58E-04	8.02E-03	2.26E-08	2.00E-05
Road 35	35	1600-1700	5.25E-02	1.47E-07	1.31E-04	1.36E-01	3.80E-07	3.37E-04	1.88E-01	5.27E-07	4.68E-04	8.24E-03	2.32E-08	2.06E-05
Road 35	35	1700-1800	4.60E-02	1.39E-07	1.23E-04	1.19E-01	3.60E-07	3.19E-04	1.65E-01	4.98E-07	4.42E-04	7.22E-03	2.18E-08	1.94E-05
Road 35	35	1800-1900	4.03E-02	1.48E-07	1.31E-04	1.04E-01	3.83E-07	3.40E-04	1.44E-01	5.29E-07	4.69E-04	6.32E-03	2.32E-08	2.06E-05
Road 35	35	1900-2000	2.07E-02	4.11E-08	3.65E-05	6.86E-02	1.36E-07	1.21E-04	8.93E-02	1.77E-07	1.58E-04	5.49E-03	6.94E-09	6.17E-06
Road 35	35	2000-2100	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04	3.88E-03	6.21E-09	5.51E-06
Road 35	35	2100-2200	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.54E-07	1.37E-04	3.74E-03	5.83E-09	5.17E-06
Road 35	35	2200-2300	2.26E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.54E-07	1.37E-04	3.74E-03	5.83E-09	5.17E-06
Road 35	35	2300-2400	2.68E-02	3.29E-08	2.92E-05	8.24E-02	1.01E-07	9.01E-05	1.09E-01	1.34E-07	1.19E-04	4.45E-03	5.48E-09	4.86E-06
Road 36	36	0000-0100	3.17E-02	3.58E-08	3.18E-05	9.68E-02	1.09E-07	9.71E-05	1.29E-01	1.46E-07	1.30E-04	5.27E-03	5.95E-09	5.29E-06
Road 36	36	0100-0200	4.18E-02	4.66E-08	4.29E-05	1.48E-01	1.65E-07	1.52E-04	1.90E-01	2.12E-07	1.95E-04	7.41E-03	8.26E-09	7.60E-06
Road 36	36	0200-0300	4.81E-02	4.29E-08	3.94E-05	1.58E-01	1.41E-07	1.30E-04	2.07E-01	1.84E-07	1.69E-04	8.37E-03	7.46E-09	6.86E-06
Road 36	36	0300-0400	4.81E-02	4.29E-08	3.94E-05	1.58E-01	1.41E-07	1.30E-04	2.07E-01	1.84E-07	1.69E-04	8.37E-03	7.46E-09	6.86E-06
Road 36	36	0400-0500	5.30E-02	4.32E-08	3.97E-05	1.69E-01	1.38E-07	1.27E-04	2.22E-01	1.81E-07	1.67E-04	9.19E-03	7.50E-09	6.89E-06
Road 36	36	0500-0600	4.67E-02	5.70E-08	5.24E-05	1.68E-01	2.05E-07	1.88E-04	2.15E-01	2.62E-07	2.41E-04	8.37E-03	1.02E-08	9.39E-06
Road 36	36	0600-0700	4.12E-02	1.01E-07	9.28E-05	1.48E-01	3.63E-07	3.33E-04	1.90E-01	4.66E-07	4.28E-04	7.39E-03	1.81E-08	1.66E-05
Road 36	36	0700-0800	5.47E-02	2.85E-07	2.62E-04	1.94E-01	1.01E-06	9.27E-04	2.48E-01	1.29E-06	1.19E-03	9.13E-03	4.75E-08	4.37E-05
Road 36	36	0800-0900	5.27E-02	3.10E-07	2.85E-04	1.79E-01	1.05E-06	9.69E-04	2.32E-01	1.36E-06	1.25E-03	7.78E-03	4.58E-08	4.21E-05
Road 36	36	0900-1000	5.60E-02	2.08E-07	1.91E-04	2.00E-01	7.43E-07	6.83E-04	2.46E-01	9.14E-07	8.41E-04	8.74E-03	3.24E-08	2.98E-05
Road 36	36	1000-1100	6.57E-02	3.05E-07	2.84E-04	2.01E-01	9.44E-07	8.68E-04	2.66E-01	1.25E-06	1.15E-03	8.16E-03	3.84E-08	3.54E-05
Road 36	36	1100-1200	6.49E-02	2.93E-07	2.69E-04	1.99E-01	8.95E-07	8.23E-04	2.64E-01	1.19E-06	1.09E-03	8.00E-03	3.61E-08	3.31E-05
Road 36	36	1200-1300	6.49E-02	2.93E-07	2.69E-04	1.99E-01	8.95E-07	8.23E-04	2.64E-01	1.19E-06	1.09E-03	8.00E-03	3.61E-08	3.31E-05
Road 36	36	1300-1400	7.97E-02	3.10E-07	2.85E-04	2.31E-01	9.01E-07	8.29E-04	3.11E-01	1.21E-06	1.11E-03	9.37E-03	3.65E-08	3.35E-05
Road 36	36	1400-1500	7.72E-02	3.10E-07	2.85E-04	2.25E-01	9.02E-07	8.29E-04	3.02E-01	1.21E-06	1.11E-03	9.09E-03	3.65E-08	3.35E-05
Road 36	36	1500-1600	7.52E-02	3.12E-07	2.87E-04	2.21E-01	9.08E-07	8.35E-04	2.94E-01	1.22E-06	1.12E-03	8.85E-03	3.67E-08	3.38E-05
Road 36	36	1600-1700	7.50E-02	3.12E-07	2.87E-04	2.21E-01	9.08E-07	8.35E-04	2.93E-01	1.22E-06	1.12E-03	8.83E-03	3.67E-08	3.38E-05
Road 36	36	1700-1800	7.26E-02	3.12E-07	2.87E-04	2.14E-01	9.08E-07	8.35E-04	2.84E-01	1.22E-06	1.12E-03	8.56E-03	3.67E-08	3.38E-05
Road 36	36	1800-1900	6.32E-02	3.12E-07	2.87E-04	1.86E-01	9.08E-07	8.35E-04	2.47E-01	1.22E-06	1.12E-03	7.45E-03	3.67E-08	3.38E-05
Road 36	36	1900-2000	3.61E-02	1.02E-07	9.37E-05	1.06E-01	3.00E-07	2.76E-04	1.41E-01	4.00E-07	3.68E-04	4.25E-03	1.20E-08	1.11E-05
Road 36	36	2000-2100	3.50E-02	1.01E-07	9.28E-05	1.03E-01	2.97E-07	2.73E-04	1.37E-01	3.96E-07	3.64E-04	4.13E-03	1.19E-08	1.09E-05
Road 36	36	2100-2200	3.73E-02	8.47E-08	7.80E-05	1.10E-01	2.49E-07	2.29E-04	1.46E-01	3.32E-07	3.05E-04	4.40E-03	9.98E-09	9.19E-06
Road 36	36	2200-2300	3.97E-02	8.20E-08	7.55E-05	1.17E-01	2.41E-07	2.22E-04	1.56E-01	3.21E-07	2.96E-04	4.69E-03	9.66E-09	8.89E-06
Road 36	36	2300-2400	3.97E-02	6.81E-08	6.26E-05	1.49E-01	2.56E-07	2.35E-04	1.89E-01	3.24E-07	2.98E-04	6.27E-03	1.08E-08	9.89E-06
Road 37	37	0000-0100	3.00E-02	1.32E-08	1.11E-05	1.44E-01	6.34E-09	5.31E-06	1.74E-01	7.67E-09	6.42E-06	4.78E-03	2.11E-10	1.77E-07
Road 37	37	0100-0200	3.52E-02	1.26E-08	1.06E-05	1.69E-01	6.05E-09	5.07E-06	2.04E-01	7.31E-09	6.13E-06	5.61E-03	2.01E-10	1.69E-07
Road 37	37	0200-0300	3.51E-02	7.58E-10	6.35E-07	1.60E-01	3.46E-09	2.90E-06	1.95E-01	4.22E-09	3.53E-06	5.55E-03	1.20E-10	1.00E-07
Road 37	37	0300-0400	3.85E-02	6.66E-09	5.58E-06	1.75E-01	3.04E-08	2.55E-05	2.13E-01	3.69E-08	3.09E-05	6.07E-03	1.05E-09	8.80E-07
Road 37	37	0400-0500	3.76E-02	6.50E-10	5.45E-07	1.71E-01	2.96E-09	2.48E-06	2.08E-01	3.60E-09	3.02E-06	5.93E-03	1.03E-10	8.60E-08
Road 37	37	0500-0600	4.22E-02	2.32E-08	1.94E-05	1.92E-01	1.06E-07	8.88E-05	2.34E-01	1.28E-07	1.07E-04	6.65E-03	3.66E-09	3.07E-06
Road 37	37	0600-0700	3.31E-02	1.46E-08	1.22E-05	1.51E-01	6.66E-09	5.58E-06	1.84E-01	8.11E-09	6.79E-06	5.24E-03	2.31E-09	1.93E-06
Road 37	37	0700-0800	4.62E-02	1.72E-07	1.53E-04	2.11E-01	7.85E-07	6.96E-04	2.57E-01	9.56E-07	8.47E-04	8.15E-03	3.03E-08	2.68E-05
Road 37	37	0800-0900	4.72E-02	8.41E-08	7.04E-05	2.16E-01	3.85E-07	3.22E-04	2.63E-01	4.68E-07	3.92E-04	8.33E-03	1.48E-08	1.24E-05
Road 37	37	0900-1000	5.63E-02	9.06E-08	7.59E-05	2.57E-01	4.14E-07	3.47E-04	3.14E-01	5.05E-07	4.23E-04	9.94E-03	1.60E-08	1.34E-05
Road 37	37	1000-1100	6.01E-02	8.75E-08	7.33E-05	2.74E-01	4.00E-07	3.35E-04	3.35E-01	4.88E-07	4.08E-04	1.06E-02	1.55E-08	1.29E-05
Road 37	37	1100-1200	6.03E-02	8.27E-08	6.93E-05	2.75E-01	3.78E-07	3.16E-04	3.36E-01	4.61E-07	3.86E-04	1.06E-02	1.46E-08	1.22E-05
Road 37	37	1200-1300	5.71E-02	8.33E-08	6.98E-05	2.61E-01	3.81E-07	3.19E-04	3.18E-01	4.64E-07	3.89E-04	1.00E-02	1.47E-08	1.23E-05
Road 37	37	1300-1400	5.84E-02	8.27E-08	6.93E-05	2.67E-01	3.78E-07	3.16E-04	3.25E-01	4.61E-07	3.86E-04	1.03E-02	1.46E-08	1.22E-05
Road 37	37	1400-1500	5.82E-02	8.27E-08	6.93E-05	2.66E-01	3.78E-07	3.16E-04	3.24E-01	4.61E-07	3.86E-04	1.03E-02	1.46E-08	1.22E-05
Road 37	37	1500-1600	6.06E-02	1.00E-08	8.39E-06	2.14E-01	3.54E-08	2.97E-05	2.75E-01	4.54E-08	3.80E-05	6.12E-03	1.01E-09	8.47E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)
Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			Monthly/Hour/Min			Monthly/Hour/Average			Monthly/Hour/Min			Monthly/Hour/Average		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	5.64E-02	9.43E-08	7.90E-05	1.99E-01	3.69E-07	3.09E-04	2.81E-01	4.72E-07	3.95E-04	9.23E-03	1.73E-08	1.45E-05
Road 37	37	1700-1800	4.82E-02	8.68E-08	7.27E-05	1.93E-01	3.47E-07	2.91E-04	2.41E-01	4.34E-07	3.64E-04	6.83E-03	1.23E-08	1.03E-06
Road 37	37	1800-1900	3.24E-02	5.83E-09	4.88E-06	1.38E-01	2.49E-08	2.09E-05	1.71E-01	3.07E-08	2.58E-05	5.04E-03	9.07E-10	7.60E-07
Road 37	37	1900-2000	2.44E-02	7.27E-09	6.09E-06	1.25E-01	3.72E-08	3.12E-05	1.44E-01	4.29E-08	3.60E-05	4.38E-03	1.30E-09	1.09E-06
Road 37	37	2000-2100	2.76E-02	2.98E-09	2.50E-06	1.34E-01	1.44E-08	1.21E-05	1.61E-01	1.74E-08	1.46E-05	4.14E-03	4.46E-10	3.74E-07
Road 37	37	2100-2200	2.73E-02	2.96E-09	2.48E-06	1.36E-01	1.47E-08	1.23E-05	1.63E-01	1.77E-08	1.48E-05	4.28E-03	4.64E-10	3.89E-07
Road 37	37	2200-2300	2.61E-02	2.50E-09	2.09E-06	1.30E-01	1.24E-08	1.04E-05	1.55E-01	1.48E-08	1.24E-05	4.07E-03	3.90E-10	3.27E-07
Road 37	37	2300-0000	2.66E-02	2.09E-09	1.75E-06	1.33E-01	1.05E-08	8.76E-06	1.60E-01	1.26E-08	1.05E-05	4.33E-03	3.40E-10	2.85E-07
Road 38	38	0000-0100	4.97E-02	7.34E-08	2.19E-04	1.63E-01	2.42E-07	7.22E-04	2.13E-01	3.15E-07	9.41E-04	7.87E-03	1.16E-08	3.48E-05
Road 38	38	0100-0200	5.61E-02	6.28E-08	1.88E-04	1.84E-01	2.07E-07	6.18E-04	2.42E-01	2.70E-07	8.07E-04	8.62E-03	9.96E-09	2.97E-05
Road 38	38	0200-0300	6.25E-02	5.74E-08	1.72E-04	1.80E-01	1.65E-07	4.94E-04	2.42E-01	2.23E-07	6.65E-04	9.97E-03	9.17E-09	2.74E-05
Road 38	38	0300-0400	6.25E-02	5.74E-08	1.72E-04	1.80E-01	1.65E-07	4.94E-04	2.42E-01	2.23E-07	6.65E-04	9.97E-03	9.17E-09	2.74E-05
Road 38	38	0400-0500	6.74E-02	5.48E-08	1.64E-04	1.86E-01	1.51E-07	4.52E-04	2.53E-01	2.06E-07	6.16E-04	1.07E-02	8.72E-09	2.60E-05
Road 38	38	0500-0600	6.22E-02	7.63E-08	2.28E-04	1.93E-01	2.37E-07	7.09E-04	2.56E-01	3.31E-07	9.87E-04	9.25E-03	1.14E-08	3.41E-05
Road 38	38	0600-0700	5.70E-02	1.26E-07	3.77E-04	1.99E-01	4.42E-07	1.32E-03	2.56E-01	5.69E-07	1.70E-03	8.80E-03	1.95E-08	5.83E-05
Road 38	38	0700-0800	7.24E-02	2.27E-07	6.77E-04	2.50E-01	7.96E-07	2.38E-03	3.30E-01	1.04E-06	3.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (May)
Year 2043

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 103	103	1600-1700	1.19E-02	5.48E-07	2.01E-03	2.54E-02	1.16E-06	1.63E-03	4.54E-03	3.53E-06	4.95E-05
Road 103	103	1700-1800	8.50E-03	4.42E-07	2.38E-03	4.56E-02	2.37E-06	2.81E-03	2.47E-02	2.27E-03	1.27E-03
Road 103	103	1800-1900	6.51E-03	3.67E-07	3.22E-03	3.60E-02	2.03E-06	1.78E-02	4.25E-02	2.40E-06	2.11E-02
Road 103	103	1900-2000	5.17E-03	3.12E-07	2.60E-03	3.22E-02	1.43E-06	1.28E-02	3.73E-02	1.66E-06	1.46E-02
Road 103	103	2000-2100	4.96E-03	1.72E-07	1.51E-03	3.50E-02	1.21E-06	1.06E-02	3.99E-02	1.38E-06	1.21E-02
Road 103	103	2100-2200	4.36E-03	1.51E-07	1.33E-03	3.41E-02	1.18E-06	1.04E-02	3.84E-02	1.33E-06	1.17E-02
Road 103	103	2200-2300	4.30E-03	1.49E-07	1.31E-03	1.05E-02	3.66E-07	3.22E-03	1.20E-02	4.16E-07	3.66E-03
Road 103	103	2300-0000	4.80E-03	1.21E-07	1.06E-03	3.55E-02	8.93E-07	7.84E-03	4.03E-02	1.01E-06	8.90E-03
Road 104	104	0000-0100	8.21E-03	9.19E-08	6.83E-04	4.47E-02	5.01E-07	3.72E-03	5.01E-02	5.61E-07	4.17E-03
Road 104	104	0100-0200	8.89E-03	8.16E-08	6.64E-04	4.84E-02	4.44E-07	3.61E-03	5.42E-02	4.98E-07	4.05E-03
Road 104	104	0200-0300	5.61E-03	5.26E-08	3.91E-04	4.88E-02	4.57E-07	3.40E-03	5.47E-02	5.12E-07	3.81E-03
Road 104	104	0300-0400	5.26E-03	3.91E-08	2.91E-04	3.72E-02	2.76E-07	2.05E-03	4.17E-02	3.09E-07	2.30E-03
Road 104	104	0400-0500	5.61E-03	5.26E-08	3.91E-04	3.20E-02	3.00E-07	2.23E-03	3.58E-02	3.36E-07	2.50E-03
Road 104	104	0500-0600	1.16E-02	9.94E-08	7.38E-04	4.62E-02	3.96E-07	2.94E-03	5.17E-02	4.43E-07	3.29E-03
Road 104	104	0600-0700	1.22E-02	2.28E-07	1.70E-03	5.59E-02	1.04E-06	7.74E-03	6.26E-02	1.17E-06	8.67E-03
Road 104	104	0700-0800	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	6.22E-02	2.79E-06	2.07E-02
Road 104	104	0800-0900	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	6.22E-02	2.79E-06	2.07E-02
Road 104	104	0900-1000	1.46E-02	5.85E-07	4.35E-03	6.25E-02	2.50E-06	1.86E-02	6.99E-02	2.80E-06	2.08E-02
Road 104	104	1000-1100	1.65E-02	5.96E-07	4.43E-03	6.51E-02	2.35E-06	1.75E-02	7.28E-02	2.63E-06	1.95E-02
Road 104	104	1100-1200	1.60E-02	5.48E-07	4.07E-03	6.46E-02	2.21E-06	1.64E-02	7.23E-02	2.47E-06	1.83E-02
Road 104	104	1200-1300	1.03E-02	2.52E-07	1.87E-03	4.60E-02	1.13E-06	8.40E-03	5.14E-02	1.26E-06	9.41E-03
Road 104	104	1300-1400	1.03E-02	2.52E-07	1.87E-03	4.60E-02	1.13E-06	8.40E-03	5.14E-02	1.26E-06	9.41E-03
Road 104	104	1400-1500	1.03E-02	2.52E-07	1.87E-03	4.60E-02	1.13E-06	8.40E-03	5.14E-02	1.26E-06	9.41E-03
Road 104	104	1500-1600	9.80E-03	2.68E-07	1.99E-03	4.70E-02	1.29E-06	9.56E-03	5.26E-02	1.44E-06	1.07E-02
Road 104	104	1600-1700	1.04E-02	3.05E-07	2.27E-03	4.56E-02	1.34E-06	9.96E-03	5.10E-02	1.50E-06	1.11E-02
Road 104	104	1700-1800	1.26E-02	2.32E-07	1.72E-03	5.54E-02	1.02E-06	7.56E-03	6.20E-02	1.14E-06	8.46E-03
Road 104	104	1800-1900	5.24E-03	1.95E-07	1.45E-03	2.95E-02	1.10E-06	8.13E-03	2.30E-02	8.55E-07	6.34E-03
Road 104	104	1900-2000	4.58E-03	1.35E-07	1.01E-03	2.98E-02	8.79E-07	6.53E-03	3.34E-02	9.84E-07	7.31E-03
Road 104	104	2000-2100	4.37E-03	1.29E-07	9.59E-04	2.84E-02	8.38E-07	6.22E-03	3.18E-02	9.38E-07	6.97E-03
Road 104	104	2100-2200	3.78E-03	8.67E-08	6.44E-04	3.23E-02	8.27E-07	6.14E-03	9.53E-04	2.19E-08	1.62E-04
Road 104	104	2200-2300	3.71E-03	8.26E-08	6.14E-04	3.27E-02	7.29E-07	5.42E-03	9.64E-04	2.15E-08	1.60E-04
Road 104	104	2300-0000	4.15E-03	6.56E-08	5.08E-04	3.59E-02	5.68E-07	4.40E-03	1.06E-03	1.67E-08	1.30E-04
Road 105	105	0000-0100	1.22E-02	2.37E-08	3.60E-04	6.41E-02	1.24E-07	1.89E-03	7.63E-02	1.48E-07	2.25E-03
Road 105	105	0100-0200	1.29E-02	1.64E-08	2.49E-04	6.56E-02	8.35E-08	1.27E-03	7.85E-02	9.99E-08	1.52E-03
Road 105	105	0200-0300	1.02E-02	1.60E-08	2.43E-04	6.59E-02	1.03E-07	1.57E-03	7.89E-02	1.23E-07	1.87E-03
Road 105	105	0300-0400	1.50E-02	1.13E-08	1.72E-04	7.24E-02	5.44E-08	8.27E-04	8.74E-02	6.57E-08	9.99E-04
Road 105	105	0400-0500	1.60E-02	1.33E-08	2.03E-04	7.53E-02	6.27E-08	9.54E-04	9.14E-02	7.61E-08	1.16E-03
Road 105	105	0500-0600	1.56E-02	1.56E-08	3.80E-04	8.82E-02	8.79E-08	2.14E-03	1.04E-01	1.04E-07	2.53E-03
Road 105	105	0600-0700	1.99E-02	6.29E-08	1.53E-03	9.56E-02	3.02E-07	7.35E-03	1.14E-01	3.61E-07	8.79E-03
Road 105	105	0700-0800	2.39E-02	1.55E-07	3.77E-03	9.99E-02	6.48E-07	1.58E-02	1.19E-01	7.72E-07	1.88E-02
Road 105	105	0800-0900	2.39E-02	1.55E-07	3.77E-03	9.99E-02	6.48E-07	1.58E-02	1.19E-01	7.72E-07	1.88E-02
Road 105	105	0900-1000	2.87E-02	1.91E-07	2.90E-03	1.18E-01	7.88E-07	1.20E-02	1.47E-01	9.79E-07	1.49E-02
Road 105	105	1000-1100	3.16E-02	1.88E-07	2.87E-03	1.23E-01	7.33E-07	1.12E-02	1.53E-01	9.12E-07	1.39E-02
Road 105	105	1100-1200	3.07E-02	1.72E-07	2.60E-03	1.21E-01	6.77E-07	1.02E-02	1.50E-01	8.43E-07	1.27E-02
Road 105	105	1200-1300	5.15E-02	1.17E-07	1.79E-03	1.95E-01	4.44E-07	6.77E-03	2.43E-01	5.52E-07	8.43E-03
Road 105	105	1300-1400	4.95E-02	1.25E-07	1.90E-03	1.81E-01	4.56E-07	6.95E-03	2.27E-01	5.71E-07	8.71E-03
Road 105	105	1400-1500	4.56E-02	1.29E-07	1.96E-03	1.81E-01	5.13E-07	7.82E-03	2.27E-01	6.42E-07	9.79E-03
Road 105	105	1500-1600	4.54E-02	1.19E-07	1.81E-03	1.78E-01	4.68E-07	7.11E-03	2.24E-01	5.87E-07	8.93E-03
Road 105	105	1600-1700	4.84E-02	1.19E-07	1.81E-03	1.76E-01	4.33E-07	6.59E-03	2.24E-01	5.43E-07	8.26E-03
Road 105	105	1700-1800	3.37E-02	5.86E-08	8.91E-04	1.44E-01	2.50E-07	3.80E-03	1.81E-01	3.13E-07	4.76E-03
Road 105	105	1800-1900	3.37E-02	5.86E-08	8.91E-04	1.44E-01	2.50E-07	3.80E-03	1.81E-01	3.13E-07	4.76E-03
Road 105	105	1900-2000	3.19E-02	3.80E-08	5.79E-04	1.32E-01	1.57E-07	2.39E-03	1.66E-01	1.97E-07	2.99E-03
Road 105	105	2000-2100	3.06E-02	2.95E-08	4.48E-04	1.31E-01	1.26E-07	1.92E-03	1.64E-01	1.58E-07	2.40E-03
Road 105	105	2100-2200	3.30E-02	2.85E-08	4.34E-04	1.28E-01	1.10E-07	1.68E-03	1.60E-01	1.38E-07	2.10E-03
Road 105	105	2200-2300	3.30E-02	2.85E-08	4.34E-04	1.28E-01	1.10E-07	1.68E-03	1.60E-01	1.38E-07	2.10E-03
Road 105	105	2300-0000	3.30E-02	2.85E-08	4.34E-04	1.28E-01	1.10E-07	1.68E-03	1.60E-01	1.38E-07	2.10E-03
Road 106	106	0000-0100	1.17E-02	6.32E-08	7.29E-04	6.39E-02	3.46E-07	4.00E-03	7.99E-02	4.33E-07	5.00E-03
Road 106	106	0100-0200	1.20E-02	4.24E-08	4.88E-04	6.38E-02	2.26E-07	2.61E-03	7.97E-02	2.83E-07	3.26E-03
Road 106	106	0200-0300	1.26E-02	3.80E-08	4.66E-04	6.72E-02	2.03E-07	2.49E-03	8.40E-02	2.54E-07	3.11E-03
Road 106	106	0300-0400	1.32E-02	2.74E-08	3.16E-04	6.72E-02	1.39E-07	1.60E-03	8.40E-02	1.74E-07	2.00E-03
Road 106	106	0400-0500	1.42E-02	3.25E-08	3.74E-04	6.99E-02	1.60E-07	1.84E-03	8.74E-02	2.00E-07	2.30E-03
Road 106	106	0500-0600	1.61E-02	6.44E-08	7.42E-04	7.64E-02	3.05E-07	3.52E-03	9.25E-02	3.70E-07	4.26E-03
Road 106	106	0600-0700	2.11E-02	2.00E-07	2.30E-03	9.42E-02	8.92E-07	1.03E-02	1.04E-01	9.91E-07	1.14E-02
Road 106	106	0700-0800	2.70E-02	4.74E-07	5.46E-03	1.14E-01	2.00E-06	2.85E-02	1.34E-01	2.35E-06	3.38E-02
Road 106	106	0800-0900	2.85E-02	5.83E-07	6.72E-03	1.17E-01	2.39E-06	3.44E-02	3.91E-03	8.00E-08	9.22E-04
Road 106	106	0900-1000	3.09E-02	6.66E-07	5.13E-03	1.29E-01	2.78E-06	2.14E-02	4.24E-03	9.13E-08	7.03E-04
Road 106	106	1000-1100	3.63E-02	5.65E-07	6.51E-03	1.41E-01	2.19E-06	2.52E-02	1.77E-01	2.75E-06	3.17E-02
Road 106	106	1100-1200	3.37E-02	4.95E-07	5.71E-03	1.34E-01	1.97E-06	2.27E-02	1.68E-01	2.47E-06	2.85E-02
Road 106	106	1200-1300	3.12E-02	2.94E-07	4.46E-03	1.31E-01	1.23E-06	1.87E-02	1.64E-01	1.54E-06	2.34E-02
Road 106	106	1300-1400	5.61E-02	1.23E-06	1.42E-02	2.14E-01	4.69E-06	5.41E-02	2.70E-01	5.92E-06	6.83E-02
Road 106	106	1400-1500	5.83E-02	1.34E-06	1.54E-02	2.15E-01	4.93E-06	5.67E-02	2.71E-01	6.22E-06	7.15E-02
Road 106	106	1500-1600	5.37E-02	1.02E-06	1.48E-02	2.17E-01	4.13E-06	5.98E-02	2.73E-01	5.21E-06	7.54E-02
Road 106	106	1600-1700	5.46E-02	1.32E-06	1.53E-02	2.03E-01	4.92E-06	5.72E-02	2.56E-01	6.20E-06	7.20E-02
Road 106	106	1700-1800	3.97E-02	1.04E-06	1.20E-02	1.70E-01	4.47E-06	5.15E-02	2.15E-01	5.64E-06	6.50E-02
Road 106	106	1800-1900	2.76E-02	7.39E-07	8.51E-03	1.21E-01	3.24E-06	3.73E-02	1.53E-01	4.09E-06	4.71E-02
Road 106	106	1900-2000	1.96E-02	4.05E-07	4.66E-03	8.94E-02	1.85E-06	2.60E-02	1.13E-01	2.33E-06	3.28E-02
Road 106	106	2000-2100	1.68E-02	2.71E-07	3.13E-03	8.55E-02	1.38E-06	1.59E-02	1.02E-01	1.65E-06	1.90E-02
Road 106	106	2100-2200	1.94E-02	2.52E-07	3.87E-03	8.42E-02	1.09E-06	1.68E-02	1.02E-01	1.32E-06	2.03E-02
Road 106	106	2200-2300	1.53E-02	2.38E-07	2.74E-03	7.86E-02	1.22E-06	2.18E-02	9.40E-02	1.46E-06	2.61E-02
Road 106	106	2300-0000	1.57E-02	1.84E-07	2.12E-03	7.84E-02	9.19E-07	1.06E-02	9.41E-02	1.10E-06	1.27E-02

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June)
Year 2043

Road Name	Road ID	Hour	NO_2 Emission				NO Emission			
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMin		MonthlyHourAverage	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 1	1	0000-0100	4.44E-03	6.46E-08	1.30E-03	3.38E-02	4.91E-07	9.87E-03	3.82E-02	5.56E-07	1.12E-02
Road 1	1	0100-0200	4.94E-03	4.68E-08	9.39E-04	3.51E-02	3.33E-07	6.68E-03	4.01E-02	3.79E-07	7.62E-03
Road 1	1	0200-0300	5.47E-03	3.79E-08	7.61E-04	3.68E-02	2.55E-07	5.12E-03	4.22E-02	2.93E-07	5.88E-03
Road 1	1	0300-0400	5.98E-03	3.27E-08	6.58E-04	3.81E-02	2.08E-07	4.19E-03	4.41E-02	2.41E-07	4.85E-03
Road 1	1	0400-0500	6.43E-03	3.86E-08	7.75E-04	3.94E-02	2.36E-07	4.75E-03	4.58E-02	2.75E-07	5.52E-03
Road 1	1	0500-0600	6.79E-03	7.05E-08	1.42E-03	4.04E-02	4.19E-07	8.43E-03	4.72E-02	4.90E-07	9.84E-03
Road 1	1	0600-0700	7.21E-03	1.60E-07	3.22E-03	4.18E-02	9.28E-07	1.86E-02	4.90E-02	1.09E-06	2.19E-02
Road 1	1	0700-0800	7.73E-03	3.47E-07	6.98E-03	4.28E-02	1.92E-06	3.87E-02	5.05E-02	2.27E-06	4.56E-02
Road 1	1	0800-0900	7.45E-03	3.88E-07	7.79E-03	3.88E-02	2.02E-06	4.05E-02	4.62E-02	2.40E-06	4.83E-02
Road 1	1	0900-1000	7.50E-03	3.63E-07	7.30E-03	4.29E-02	2.08E-06	4.18E-02	5.12E-02	2.48E-06	4.98E-02
Road 1	1	1000-1100	9.68E-03	3.58E-07	7.19E-03	4.47E-02	1.65E-06	3.32E-02	5.43E-02	2.01E-06	4.03E-02
Road 1	1	1100-1200	9.21E-03	3.22E-07	6.48E-03	4.45E-02	1.56E-06	3.13E-02	5.37E-02	1.88E-06	3.78E-02
Road 1	1	1200-1300	1.25E-02	3.06E-07	6.15E-03	4.60E-02	1.12E-06	2.26E-02	5.57E-02	1.36E-06	2.73E-02
Road 1	1	1300-1400	1.26E-02	6.31E-07	1.27E-02	5.45E-02	2.72E-06	5.47E-02	6.72E-02	3.35E-06	6.74E-02
Road 1	1	1400-1500	1.27E-02	6.72E-07	1.35E-02	5.39E-02	2.85E-06	5.73E-02	6.66E-02	3.52E-06	7.08E-02
Road 1	1	1500-1600	1.31E-02	6.44E-07	1.29E-02	5.66E-02	2.78E-06	5.58E-02	6.98E-02	3.43E-06	6.89E-02
Road 1	1	1600-1700	1.23E-02	7.05E-07	1.42E-02	5.24E-02	2.99E-06	6.01E-02	6.47E-02	3.70E-06	7.43E-02
Road 1	1	1700-1800	8.86E-03	5.65E-07	1.14E-02	4.55E-02	2.91E-06	5.84E-02	5.44E-02	3.47E-06	6.97E-02
Road 1	1	1800-1900	9.29E-03	3.46E-07	6.95E-03	4.55E-02	1.69E-06	3.40E-02	5.62E-02	2.09E-06	4.20E-02
Road 1	1	1900-2000	5.33E-03	2.88E-07	5.79E-03	3.17E-02	1.71E-06	3.45E-02	3.71E-02	2.00E-06	4.02E-02
Road 1	1	2000-2100	5.13E-03	2.16E-07	4.34E-03	3.44E-02	1.45E-06	2.91E-02	3.95E-02	1.66E-06	3.34E-02
Road 1	1	2100-2200	4.61E-03	1.94E-07	3.89E-03	3.38E-02	1.42E-06	2.85E-02	3.84E-02	1.61E-06	3.24E-02
Road 1	1	2200-2300	4.57E-03	1.86E-07	3.73E-03	3.37E-02	1.37E-06	2.76E-02	3.83E-02	1.56E-06	3.14E-02
Road 1	1	2300-0000	5.10E-03	1.56E-07	3.13E-03	3.52E-02	1.07E-06	2.16E-02	4.03E-02	1.23E-06	2.47E-02
Road 2	2	0000-0100	6.21E-03	8.42E-08	1.56E-03	3.81E-02	5.17E-07	9.55E-03	4.32E-02	5.86E-07	1.08E-02
Road 2	2	0100-0200	6.83E-03	6.12E-08	1.25E-03	3.82E-02	3.42E-07	6.87E-03	4.33E-02	3.89E-07	7.81E-03
Road 2	2	0200-0300	7.48E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.92E-02	3.22E-07	5.95E-03
Road 2	2	0300-0400	8.10E-03	4.22E-08	7.81E-04	4.33E-02	2.26E-07	4.17E-03	5.14E-02	2.68E-07	4.95E-03
Road 2	2	0400-0500	8.68E-03	4.98E-08	9.20E-04	4.48E-02	2.57E-07	4.75E-03	5.31E-02	3.05E-07	5.63E-03
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	5.54E-02	5.55E-07	1.03E-02
Road 2	2	0600-0700	9.62E-03	2.08E-07	3.84E-03	4.78E-02	1.03E-06	1.91E-02	5.74E-02	1.24E-06	2.29E-02
Road 2	2	0700-0800	1.02E-02	4.50E-07	8.31E-03	4.94E-02	2.18E-06	4.03E-02	5.94E-02	2.62E-06	4.85E-02
Road 2	2	0800-0900	9.94E-03	5.08E-07	9.38E-03	4.62E-02	2.36E-06	4.36E-02	5.61E-02	2.87E-06	5.30E-02
Road 2	2	0900-1000	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	6.32E-02	2.78E-06	5.14E-02
Road 2	2	1000-1100	1.32E-02	5.13E-07	9.48E-03	5.42E-02	2.10E-06	3.89E-02	6.74E-02	2.61E-06	4.84E-02
Road 2	2	1100-1200	1.27E-02	4.69E-07	8.67E-03	5.40E-02	1.99E-06	3.68E-02	6.68E-02	2.46E-06	4.55E-02
Road 2	2	1200-1300	1.32E-02	6.04E-07	1.12E-02	5.38E-02	2.45E-06	4.54E-02	6.70E-02	3.06E-06	5.66E-02
Road 2	2	1300-1400	1.34E-02	5.31E-07	9.81E-03	5.51E-02	2.18E-06	4.03E-02	6.85E-02	2.71E-06	5.01E-02
Road 2	2	1400-1500	1.34E-02	6.76E-07	1.24E-02	5.55E-02	2.77E-06	5.11E-02	6.89E-02	3.44E-06	6.35E-02
Road 2	2	1500-1600	1.25E-02	6.39E-07	1.18E-02	5.61E-02	2.87E-06	5.30E-02	6.86E-02	3.51E-06	6.48E-02
Road 2	2	1600-1700	1.30E-02	6.95E-07	1.28E-02	5.39E-02	2.88E-06	5.32E-02	6.69E-02	3.57E-06	6.60E-02
Road 2	2	1700-1800	9.35E-03	5.55E-07	1.03E-02	4.68E-02	2.78E-06	5.14E-02	5.62E-02	3.33E-06	6.16E-02
Road 2	2	1800-1900	6.62E-03	4.16E-07	7.70E-03	3.47E-02	2.18E-06	4.03E-02	4.13E-02	2.60E-06	4.80E-02
Road 2	2	1900-2000	5.46E-03	2.51E-07	4.64E-03	3.55E-02	1.63E-06	3.01E-02	4.26E-02	1.96E-06	3.61E-02
Road 2	2	2000-2100	5.46E-03	2.11E-07	3.89E-03	3.55E-02	1.37E-06	2.53E-02	4.10E-02	1.58E-06	2.92E-02
Road 2	2	2100-2200	4.97E-03	1.91E-07	3.53E-03	3.44E-02	1.32E-06	2.44E-02	3.98E-02	1.53E-06	2.83E-02
Road 2	2	2200-2300	4.97E-03	1.83E-07	3.38E-03	3.43E-02	1.26E-06	2.33E-02	3.96E-02	1.46E-06	2.70E-02
Road 2	2	2300-0000	5.51E-03	1.54E-07	2.85E-03	3.63E-02	1.02E-06	1.88E-02	4.18E-02	1.17E-06	2.16E-02
Road 3	3	0000-0100	4.85E-03	2.66E-08	5.95E-04	3.54E-02	1.94E-07	4.35E-04	4.02E-02	2.21E-07	4.94E-04
Road 3	3	0100-0200	5.44E-03	1.44E-08	3.24E-04	3.58E-02	9.46E-08	2.12E-03	4.06E-02	1.07E-07	2.40E-03
Road 3	3	0200-0300	6.08E-03	1.59E-08	3.57E-04	3.89E-02	1.02E-07	2.28E-03	4.42E-02	1.16E-07	2.64E-03
Road 3	3	0300-0400	6.69E-03	1.36E-08	3.05E-04	4.08E-02	8.27E-08	1.85E-03	4.64E-02	9.40E-08	2.10E-03
Road 3	3	0400-0500	7.34E-03	2.88E-08	6.46E-04	4.25E-02	1.67E-07	3.74E-04	4.99E-02	1.96E-07	4.39E-04
Road 3	3	0500-0600	7.67E-03	6.44E-08	1.44E-03	4.40E-02	3.69E-07	8.27E-04	5.17E-02	4.34E-07	9.71E-04
Road 3	3	0600-0700	8.63E-03	1.70E-07	3.80E-03	4.42E-02	8.70E-07	1.95E-03	5.28E-02	1.04E-06	2.33E-03
Road 3	3	0700-0800	9.95E-03	3.55E-07	7.96E-03	4.76E-02	1.70E-06	3.81E-03	5.72E-02	2.04E-06	4.57E-03
Road 3	3	0800-0900	9.35E-03	1.52E-07	3.41E-04	4.76E-02	7.75E-07	1.74E-03	5.70E-02	9.27E-07	2.08E-03
Road 3	3	0900-1000	9.35E-03	1.52E-07	3.41E-04	4.76E-02	7.75E-07	1.74E-03	5.70E-02	9.27E-07	2.08E-03
Road 3	3	1000-1100	1.06E-02	1.52E-07	3.41E-04	4.66E-02	6.70E-07	1.50E-03	5.58E-02	8.02E-07	1.80E-03
Road 3	3	1100-1200	1.37E-02	1.37E-07	3.08E-04	4.92E-02	6.58E-07	1.47E-03	5.90E-02	7.88E-07	1.76E-03
Road 3	3	1200-1300	1.64E-02	1.03E-06	2.30E-03	1.67E-01	3.69E-06	8.26E-03	2.13E-01	4.71E-06	1.06E-02
Road 3	3	1300-1400	7.60E-02	1.75E-06	3.91E-03	2.78E-01	6.39E-06	1.43E-02	3.54E-01	8.14E-06	1.82E-02
Road 3	3	1400-1500	5.12E-02	1.32E-06	2.97E-03	2.11E-01	5.42E-06	1.21E-02	2.69E-01	6.91E-06	1.55E-02
Road 3	3	1500-1600	1.56E-01	3.88E-06	8.69E-03	4.38E-01	1.33E-05	2.99E-02	6.94E-01	1.72E-05	3.86E-02
Road 3	3	1600-1700	1.13E-01	3.20E-06	7.16E-03	3.61E-01	1.02E-05	2.29E-02	5.72E-01	1.62E-05	3.63E-02
Road 3	3	1700-1800	1.38E-01	3.20E-06	7.16E-03	3.61E-01	8.36E-06	1.87E-02	5.72E-01	1.32E-05	2.97E-02
Road 3	3	1800-1900	7.86E-02	2.32E-06	5.20E-03	2.41E-01	7.13E-06	1.60E-02	3.82E-01	1.13E-05	2.53E-02
Road 3	3	1900-2000	1.96E-02	4.05E-07	4.66E-03	8.94E-02	1.85E-06	2.60E-02	1.13E-01	2.33E-06	3.28E-02
Road 3	3	2000-2100	1.68E-02	2.71E-07	3.13E-03	8.55E-02	1.38E-06	1.59E-02	1.02E-01	1.65E-06	1.90E-02
Road 3	3	2100-2200	1.94E-02	2.52E-07	3.87E-03	8.42E-02	1.09E-06	1.68E-02	1.02E-01	1.32E-06	2.03E-02
Road 3	3	2200-2300	1.53E-02	2.38E-07	2.74E-03	7.86E-02	1.22E-06	2.18E-02	9.40E-02	1.46E-06	2.61E-02
Road 3	3	2300-0000	1.57E-02	1.84E-07	2.12E-03	7.84E-02	9.19E-07	1.06E-02	9.41E-02	1.10E-06	1.27E-02
Road 4	4	0000-0100	7.22E-03	2.50E-07	1.00E-03	3.13E

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Mean		Monthly Average		Monthly Hour Mean		Monthly Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 24	24	0800-0900	1.26E-01	2.44E-07	7.25E-04	4.70E-01	9.10E-07	1.15E-06	1.05E-03	1.32E-02	2.56E-08
Road 24	24	0900-1000	1.26E-01	2.75E-07	2.51E-04	4.72E-01	1.03E-06	1.30E-06	1.19E-03	1.34E-02	2.91E-08
Road 24	24	1000-1100	1.35E-01	2.89E-07	2.65E-04	4.78E-01	1.02E-06	9.36E-04	6.13E-01	1.31E-06	1.20E-03
Road 24	24	1100-1200	1.35E-01	2.47E-07	4.79E-04	4.76E-01	8.70E-07	1.68E-03	1.23E-06	1.13E-03	1.39E-02
Road 24	24	1200-1300	1.41E-01	2.86E-07	2.62E-04	4.80E-01	9.70E-07	8.88E-04	6.21E-01	1.26E-06	1.15E-03
Road 24	24	1300-1400	1.42E-01	3.24E-07	2.96E-04	5.05E-01	1.15E-06	1.05E-03	1.42E-06	1.32E-03	1.42E-02
Road 24	24	1400-1500	1.46E-01	3.01E-07	3.16E-04	5.06E-01	1.04E-06	6.48E-01	1.46E-06	1.34E-03	1.42E-02
Road 24	24	1500-1600	1.30E-01	3.07E-07	2.81E-04	4.96E-01	1.17E-06	1.07E-03	6.26E-01	1.48E-06	1.35E-03
Road 24	24	1600-1700	1.33E-01	2.90E-07	2.65E-04	4.73E-01	1.03E-06	9.43E-04	6.06E-01	1.32E-06	1.21E-03
Road 24	24	1700-1800	1.16E-01	2.38E-07	2.18E-04	4.25E-01	8.72E-07	7.98E-04	5.72E-01	1.17E-06	1.07E-03
Road 24	24	1800-1900	1.02E-01	1.38E-07	1.26E-04	4.21E-01	5.73E-07	5.24E-04	5.22E-01	7.04E-07	6.44E-04
Road 24	24	1900-2000	9.89E-02	8.82E-08	8.07E-05	3.92E-01	3.50E-07	3.21E-04	4.93E-01	4.39E-07	4.02E-04
Road 24	24	2000-2100	9.54E-02	8.00E-08	7.32E-05	3.76E-01	3.15E-07	2.89E-04	4.73E-01	3.97E-07	3.63E-04
Road 24	24	2100-2200	9.31E-02	6.79E-08	6.22E-05	3.77E-01	2.75E-07	2.52E-04	4.75E-01	3.46E-07	3.17E-04
Road 24	24	2200-2300	1.04E-01	6.60E-08	6.04E-05	3.74E-01	2.38E-07	2.18E-04	4.78E-01	3.04E-07	2.78E-04
Road 24	24	2300-0000	1.05E-01	5.54E-08	5.07E-05	3.78E-01	1.99E-07	1.82E-04	4.83E-01	2.55E-07	2.33E-04
Road 25	25	0000-0100	1.03E-01	4.50E-08	4.18E-05	3.71E-01	1.62E-07	1.51E-04	4.74E-01	2.07E-07	1.92E-04
Road 25	25	0100-0200	1.04E-01	3.20E-08	2.98E-05	3.75E-01	1.16E-07	1.08E-04	4.79E-01	1.48E-07	1.37E-04
Road 25	25	0200-0300	1.05E-01	2.38E-08	2.21E-05	3.78E-01	8.57E-08	7.96E-05	4.83E-01	1.09E-07	1.01E-04
Road 25	25	0300-0400	1.06E-01	2.19E-08	2.04E-05	3.83E-01	7.91E-08	7.36E-05	4.89E-01	1.01E-07	9.39E-05
Road 25	25	0400-0500	1.07E-01	2.59E-08	2.41E-05	3.85E-01	9.34E-08	8.69E-05	4.92E-01	1.19E-07	1.11E-04
Road 25	25	0500-0600	1.13E-01	5.05E-08	4.70E-05	4.05E-01	1.80E-07	1.68E-04	5.18E-01	2.32E-07	2.16E-04
Road 25	25	0600-0700	1.18E-01	1.22E-07	1.13E-04	4.25E-01	4.38E-07	4.08E-04	5.43E-01	5.60E-07	5.21E-04
Road 25	25	0700-0800	1.32E-01	2.89E-07	2.69E-04	4.69E-01	1.03E-06	9.57E-04	6.01E-01	1.32E-06	1.23E-03
Road 25	25	0800-0900	1.33E-01	3.49E-07	3.25E-04	4.90E-01	1.29E-06	1.20E-03	6.32E-01	1.66E-06	1.54E-03
Road 25	25	0900-1000	1.32E-01	3.28E-07	3.05E-04	4.88E-01	1.21E-06	1.13E-03	6.30E-01	1.56E-06	1.45E-03
Road 25	25	1000-1100	1.43E-01	4.15E-07	3.86E-04	5.03E-01	1.46E-06	1.36E-03	6.46E-01	1.87E-06	1.74E-03
Road 25	25	1100-1200	1.42E-01	3.87E-07	3.60E-04	5.04E-01	1.37E-06	1.27E-03	6.48E-01	1.76E-06	1.63E-03
Road 25	25	1200-1300	1.48E-01	4.31E-07	3.96E-04	5.09E-01	1.48E-06	1.36E-03	6.54E-01	1.90E-06	1.75E-03
Road 25	25	1300-1400	1.43E-01	4.40E-07	4.10E-04	5.09E-01	1.56E-06	1.45E-03	6.52E-01	2.00E-06	1.86E-03
Road 25	25	1400-1500	1.47E-01	4.47E-07	4.16E-04	5.07E-01	1.54E-06	1.43E-03	6.52E-01	1.98E-06	1.84E-03
Road 25	25	1500-1600	1.31E-01	4.08E-07	3.77E-04	4.96E-01	1.54E-06	1.42E-03	6.26E-01	1.95E-06	1.80E-03
Road 25	25	1600-1700	1.42E-01	4.15E-07	3.86E-04	5.02E-01	1.47E-06	1.37E-03	6.44E-01	1.88E-06	1.75E-03
Road 25	25	1700-1800	1.24E-01	3.66E-07	3.37E-04	4.76E-01	1.40E-06	1.29E-03	6.12E-01	1.80E-06	1.66E-03
Road 25	25	1800-1900	1.17E-01	2.67E-07	2.48E-04	4.47E-01	1.02E-06	9.49E-04	5.74E-01	1.31E-06	1.22E-03
Road 25	25	1900-2000	1.08E-01	2.26E-07	2.09E-04	4.27E-01	8.92E-07	8.24E-04	5.49E-01	1.15E-06	1.06E-03
Road 25	25	2000-2100	9.92E-02	9.25E-08	8.61E-05	4.05E-01	3.78E-07	3.51E-04	5.21E-01	4.86E-07	4.51E-04
Road 25	25	2100-2200	1.13E-01	9.42E-08	8.77E-05	4.05E-01	3.38E-07	3.14E-04	5.21E-01	4.34E-07	4.04E-04
Road 25	25	2200-2300	1.13E-01	9.42E-08	8.77E-05	4.05E-01	3.38E-07	3.14E-04	5.21E-01	4.34E-07	4.04E-04
Road 25	25	2300-0000	1.09E-01	7.44E-08	6.92E-05	3.90E-01	2.66E-07	2.47E-04	5.02E-01	3.43E-07	3.19E-04
Road 26	26	0000-0100	1.05E-01	2.95E-08	4.05E-05	3.79E-01	1.07E-07	1.46E-04	4.84E-01	1.36E-07	1.86E-04
Road 26	26	0100-0200	1.05E-01	2.95E-08	4.05E-05	3.79E-01	1.07E-07	1.46E-04	4.84E-01	1.36E-07	1.86E-04
Road 26	26	0200-0300	1.06E-01	2.36E-08	3.23E-05	3.83E-01	8.51E-08	1.17E-04	4.89E-01	1.09E-07	1.49E-04
Road 26	26	0300-0400	1.07E-01	2.19E-08	3.00E-05	3.85E-01	7.91E-08	1.08E-04	4.92E-01	1.01E-07	1.38E-04
Road 26	26	0400-0500	1.08E-01	2.39E-08	3.27E-05	3.88E-01	8.60E-08	1.18E-04	4.96E-01	1.10E-07	1.51E-04
Road 26	26	0500-0600	1.08E-01	4.44E-08	6.09E-05	3.90E-01	1.60E-07	2.19E-04	4.99E-01	2.05E-07	2.80E-04
Road 26	26	0600-0700	1.09E-01	1.07E-07	1.47E-04	3.92E-01	3.86E-07	5.29E-04	5.01E-01	4.93E-07	6.76E-04
Road 26	26	0700-0800	1.33E-01	2.66E-07	4.73E-04	4.73E-01	9.48E-07	1.30E-03	6.06E-01	1.21E-06	1.66E-03
Road 26	26	0800-0900	1.34E-01	3.22E-07	4.41E-04	4.93E-01	1.18E-06	1.62E-03	6.27E-01	1.51E-06	2.06E-03
Road 26	26	0900-1000	1.33E-01	3.02E-07	4.14E-04	4.91E-01	1.11E-06	1.52E-03	6.25E-01	1.42E-06	1.94E-03
Road 26	26	1000-1100	1.43E-01	3.83E-07	5.24E-04	5.05E-01	1.35E-06	1.85E-03	6.48E-01	1.73E-06	2.37E-03
Road 26	26	1100-1200	1.43E-01	3.57E-07	4.89E-04	5.06E-01	1.26E-06	1.73E-03	6.49E-01	1.62E-06	2.22E-03
Road 26	26	1200-1300	1.48E-01	3.97E-07	5.44E-04	5.12E-01	1.37E-06	1.88E-03	6.56E-01	1.76E-06	2.41E-03
Road 26	26	1300-1400	1.43E-01	4.07E-07	5.58E-04	4.87E-01	1.39E-06	1.90E-03	6.25E-01	1.78E-06	2.44E-03
Road 26	26	1400-1500	1.46E-01	4.14E-07	5.67E-04	4.82E-01	1.43E-06	1.96E-03	6.20E-01	1.84E-06	2.52E-03
Road 26	26	1500-1600	1.30E-01	3.61E-07	4.95E-04	4.98E-01	1.38E-06	1.89E-03	6.26E-01	1.73E-06	2.37E-03
Road 26	26	1600-1700	1.34E-01	3.86E-07	5.29E-04	4.75E-01	1.37E-06	1.88E-03	6.07E-01	1.75E-06	2.40E-03
Road 26	26	1700-1800	1.14E-01	3.03E-07	4.15E-04	4.26E-01	1.13E-06	1.55E-03	5.46E-01	1.45E-06	1.99E-03
Road 26	26	1800-1900	1.02E-01	2.30E-07	3.15E-04	4.21E-01	9.50E-07	1.30E-03	5.22E-01	1.18E-06	1.61E-03
Road 26	26	1900-2000	9.91E-02	1.87E-07	2.56E-04	3.92E-01	7.39E-07	1.01E-03	4.93E-01	9.31E-07	1.27E-03
Road 26	26	2000-2100	9.56E-02	1.70E-07	2.33E-04	3.76E-01	6.68E-07	9.15E-04	4.73E-01	8.40E-07	1.15E-03
Road 26	26	2100-2200	9.33E-02	1.44E-07	1.97E-04	3.77E-01	5.82E-07	7.97E-04	4.75E-01	7.33E-07	1.00E-03
Road 26	26	2200-2300	1.05E-01	1.40E-07	1.92E-04	3.74E-01	5.05E-07	6.91E-04	4.78E-01	6.45E-07	8.83E-04
Road 26	26	2300-0000	1.05E-01	1.17E-07	1.61E-04	3.78E-01	4.22E-07	5.77E-04	4.83E-01	5.40E-07	7.39E-04
Road 27	27	0000-0100	1.03E-01	1.52E-07	1.41E-04	3.71E-01	5.47E-07	5.08E-04	4.74E-01	6.98E-07	6.48E-04
Road 27	27	0100-0200	1.04E-01	1.08E-07	1.00E-04	3.75E-01	3.89E-07	3.61E-04	4.79E-01	4.97E-07	4.61E-04
Road 27	27	0200-0300	1.05E-01	8.03E-08	7.45E-05	3.78E-01	2.89E-07	2.68E-04	4.83E-01	3.69E-07	3.42E-04
Road 27	27	0300-0400	1.06E-01	7.39E-08	6.86E-05	3.83E-01	2.66E-07	2.47E-04	4.89E-01	3.40E-07	3.15E-04
Road 27	27	0400-0500	1.07E-01	8.74E-08	8.11E-05	3.85E-01	3.15E-07	2.92E-04	4.92E-01	4.02E-07	3.73E-04
Road 27	27	0500-0600	1.13E-01	1.70E-07	1.58E-04	4.05E-01	6.08E-07	5.64E-04	5.18E-01	7.78E-07	7.22E-04
Road 27	27	0600-0700	1.18E-01	4.12E-07	3.82E-04	4.25E-01	1.48E-06	1.37E-03	5.43E-01	1.89E-06	1.75E-03
Road 27	27	0700-0800	1.31E-01	9.74E-07	9.04E-04	4.69E-01	3.48E-06	3.23E-03	6.01E-01	4.46E-06	4.14E-03
Road 27	27	0800-0900	1.31E-01	1.18E-06	1.09E-03	4.90E-01	4.36E-06	4.05E-03	6.32E-01	5.62E-06	5.21E-03
Road 27	27	0900-1000	1.32E-01	1.11E-06	1.03E-03	4.88E-01	4.09E-06	3.80E-03	6.30E-01	5.27E-06	4.89E-03
Road 27	27	1000-1100	1.43E-01	1.40E-06	1.30E-03	5.03E-01	4.93E-06	4.58E-03	6.46E-01	6.32E-06	5.87E-03
Road 27	27	1100-1200	1.41E-01	1.31E-06	1.21E-03	5.04E-01	4.63E-06	4.30E-03	6.48E-01	5.95E-06	5.52E-03
Road 27	27	1200-1300	1.50E-01	1.46E-06	1.35E-03	5.09E-01	4.98E-06	4.62E-03	6.54E-01	6.40E-06	5.94E-03
Road 27	27	1300-1400	1.43E-01	1.48E-06	1.37E-03	5.09E-01	5.27E-06	4.89E-03	6.52E-01	6.76E-06	6.27E-03
Road 27	27	1400-1500	1.46E-01	1.51E-06	1.40E-03	5.07E-01	5.21E-06	4.84E-03	6.52E-01	6.69E-06	6.21E-03
Road 27	27	1500-1600	1.30E-01	1.31E-06	1.21E-03	4.96E-01	5.01E-06	4.65E-03	6.26E-01	6.44E-06	5.97E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2043

Road Name	Road ID	Hour	NO2 Emission				NO Emission			
			Monthly Hour Mean		Monthly Average		Monthly Hour Mean		Monthly Average	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 27	27	1600-1700	1.41E-01	3.60E-07	4.30E-04	4.92E-01	1.25E-06	1.48E-03	6.41E-01	1.63E-06	1.94E-03
Road 27	27	1700-1800	1.23E-01	2.82E-07	3.17E-04	4.88E-01	1.12E-06	1.26E-03	6.11E-01	1.40E-06	1.58E-03
Road 27	27	1800-1900	1.08E-01	1.71E-07	1.92E-04	4.47E-01	7.05E-07	7.92E-04	5.55E-01	8.76E-07	9.84E-04
Road 27	27	1900-2000	1.01E-01	1.04E-07	1.17E-04	3.99E-01	4.11E-07	4.62E-04	5.00E-01	5.15E-07	5.78E-04
Road 27	27	2000-2100	9.78E-02	8.03E-08	9.03E-05	4.00E-01	3.29E-07	3.69E-04	4.98E-01	4.09E-07	4.59E-04
Road 27	27	2100-2200	9.94E-02	8.40E-08	9.43E-05	4.01E-01	3.38E-07	3.80E-04	5.00E-01	4.22E-07	4.75E-04
Road 27	27	2200-2300	1.06E-01	7.77E-08	8.73E-05	3.98E-01	2.91E-07	3.27E-04	4.97E-01	3.64E-07	4.09E-04
Road 27	27	2300-0000	1.07E-01	6.45E-08	7.24E-05	3.85E-01	2.32E-07	2.61E-04	4.91E-01	2.97E-07	3.33E-04
Road 28	28	0000-0100	7.82E-03	8.56E-08	1.77E-03	4.09E-02	4.48E-07	9.28E-03	4.88E-02	5.34E-07	1.11E-02
Road 28	28	0100-0200	7.96E-03	6.34E-08	1.31E-03	4.30E-02	3.42E-07	7.08E-03	5.14E-02	4.08E-07	8.45E-03
Road 28	28	0200-0300	9.75E-03	5.25E-08	1.09E-03	4.57E-02	2.46E-07	5.09E-03	5.54E-02	2.98E-07	6.18E-03
Road 28	28	0300-0400	1.07E-02	4.62E-08	9.57E-04	4.78E-02	2.07E-07	4.28E-03	5.85E-02	2.53E-07	5.24E-03
Road 28	28	0400-0500	1.11E-02	5.30E-08	1.10E-03	4.96E-02	2.37E-07	4.90E-03	6.01E-02	2.87E-07	5.95E-03
Road 28	28	0500-0600	1.11E-02	9.13E-08	1.89E-03	4.99E-02	4.12E-07	8.54E-03	6.10E-02	5.03E-07	1.04E-02
Road 28	28	0600-0700	1.12E-02	1.98E-07	4.10E-03	5.07E-02	8.98E-07	1.86E-02	6.19E-02	1.10E-06	2.27E-02
Road 28	28	0700-0800	1.17E-02	2.52E-07	5.21E-03	5.25E-02	1.13E-06	2.34E-02	6.42E-02	1.38E-06	2.86E-02
Road 28	28	0800-0900	1.17E-02	4.90E-07	1.02E-02	4.97E-02	2.09E-06	4.33E-02	6.13E-02	2.58E-06	5.35E-02
Road 28	28	0900-1000	1.35E-02	5.04E-07	1.04E-02	5.58E-02	2.08E-06	4.30E-02	6.94E-02	2.58E-06	5.35E-02
Road 28	28	1000-1100	1.36E-02	5.54E-07	1.15E-02	5.54E-02	2.26E-06	4.68E-02	6.90E-02	2.81E-06	5.82E-02
Road 28	28	1100-1200	1.50E-02	4.73E-07	9.81E-03	5.88E-02	1.85E-06	3.84E-02	7.38E-02	2.33E-06	4.82E-02
Road 28	28	1200-1300	1.43E-02	3.89E-07	8.05E-03	5.50E-02	1.49E-06	3.09E-02	6.93E-02	1.88E-06	3.90E-02
Road 28	28	1300-1400	1.43E-02	4.02E-07	8.34E-03	5.67E-02	1.59E-06	3.30E-02	7.10E-02	1.99E-06	4.13E-02
Road 28	28	1400-1500	1.43E-02	4.24E-07	8.79E-03	5.57E-02	1.65E-06	3.42E-02	6.97E-02	2.07E-06	4.29E-02
Road 28	28	1500-1600	1.33E-02	4.03E-07	8.35E-03	5.54E-02	1.68E-06	3.48E-02	6.87E-02	2.08E-06	4.32E-02
Road 28	28	1600-1700	1.37E-02	4.36E-07	9.03E-03	5.30E-02	1.68E-06	3.48E-02	6.61E-02	2.09E-06	4.32E-02
Road 28	28	1700-1800	1.26E-02	4.06E-07	8.41E-03	5.04E-02	1.62E-06	3.36E-02	6.29E-02	2.02E-06	4.19E-02
Road 28	28	1800-1900	7.40E-03	2.74E-07	5.69E-03	3.49E-02	1.29E-06	2.68E-02	4.42E-02	1.63E-06	3.39E-02
Road 28	28	1900-2000	6.10E-03	1.76E-07	3.65E-03	3.32E-02	9.56E-07	1.98E-02	4.23E-02	1.22E-06	2.53E-02
Road 28	28	2000-2100	5.53E-03	1.24E-07	2.58E-03	3.59E-02	8.08E-07	1.67E-02	4.14E-02	9.32E-07	1.93E-02
Road 28	28	2100-2200	5.50E-03	1.20E-07	2.48E-03	3.59E-02	7.81E-07	1.62E-02	4.14E-02	9.00E-07	1.87E-02
Road 28	28	2200-2300	5.50E-03	1.20E-07	2.48E-03	3.59E-02	7.81E-07	1.62E-02	4.14E-02	9.00E-07	1.87E-02
Road 28	28	2300-0000	5.28E-03	4.62E-08	9.57E-04	3.42E-02	2.99E-07	6.20E-03	3.94E-02	3.45E-07	7.14E-03
Road 29	29	0000-0100	5.28E-03	4.62E-08	1.16E-03	3.52E-02	3.08E-07	7.75E-03	4.04E-02	3.54E-07	8.91E-03
Road 29	29	0100-0200	6.15E-03	3.52E-08	8.88E-04	3.69E-02	2.12E-07	5.34E-03	4.31E-02	2.47E-07	6.22E-03
Road 29	29	0200-0300	7.08E-03	2.98E-08	7.52E-04	4.24E-02	1.78E-07	4.50E-03	4.87E-02	2.05E-07	5.17E-03
Road 29	29	0300-0400	7.98E-03	2.68E-08	6.75E-04	4.12E-02	1.39E-07	3.49E-03	4.92E-02	1.65E-07	4.17E-03
Road 29	29	0400-0500	8.22E-03	3.02E-08	7.60E-04	4.20E-02	1.54E-07	3.89E-03	5.02E-02	1.84E-07	4.65E-03
Road 29	29	0500-0600	8.22E-03	5.46E-08	1.37E-03	4.20E-02	2.79E-07	7.03E-03	5.02E-02	3.34E-07	8.41E-03
Road 29	29	0600-0700	7.68E-03	1.02E-07	2.56E-03	4.24E-02	5.61E-07	1.41E-02	5.01E-02	6.63E-07	1.67E-02
Road 29	29	0700-0800	8.59E-03	2.32E-07	5.84E-03	4.38E-02	1.18E-06	2.98E-02	5.24E-02	1.41E-06	3.56E-02
Road 29	29	0800-0900	9.29E-03	2.37E-07	5.98E-03	4.30E-02	1.10E-06	2.76E-02	5.23E-02	1.33E-06	3.36E-02
Road 29	29	0900-1000	1.06E-02	2.34E-07	5.89E-03	4.58E-02	1.01E-06	2.55E-02	5.64E-02	1.25E-06	3.14E-02
Road 29	29	1000-1100	1.06E-02	2.34E-07	5.89E-03	4.58E-02	1.01E-06	2.55E-02	5.64E-02	1.25E-06	3.14E-02
Road 29	29	1100-1200	1.60E-02	3.56E-07	8.97E-03	5.79E-02	1.29E-06	3.24E-02	7.39E-02	1.64E-06	4.14E-02
Road 29	29	1200-1300	1.60E-02	3.56E-07	8.97E-03	5.79E-02	1.29E-06	3.24E-02	7.39E-02	1.64E-06	4.14E-02
Road 29	29	1300-1400	1.60E-02	3.72E-07	9.36E-03	5.99E-02	1.39E-06	3.50E-02	7.59E-02	1.76E-06	4.43E-02
Road 29	29	1400-1500	1.60E-02	3.72E-07	9.36E-03	5.99E-02	1.39E-06	3.50E-02	7.59E-02	1.76E-06	4.43E-02
Road 29	29	1500-1600	1.47E-02	3.66E-07	9.22E-03	5.83E-02	1.45E-06	3.65E-02	7.31E-02	1.81E-06	4.57E-02
Road 29	29	1600-1700	1.50E-02	3.86E-07	9.73E-03	5.56E-02	1.43E-06	3.60E-02	7.06E-02	1.81E-06	4.57E-02
Road 29	29	1700-1800	1.31E-02	3.19E-07	8.04E-03	5.13E-02	1.24E-06	3.13E-02	6.51E-02	1.58E-06	3.98E-02
Road 29	29	1800-1900	8.32E-03	2.35E-07	5.92E-03	3.66E-02	1.03E-06	2.61E-02	4.50E-02	1.27E-06	3.20E-02
Road 29	29	1900-2000	6.76E-03	1.49E-07	3.75E-03	3.35E-02	7.37E-07	1.86E-02	4.03E-02	8.86E-07	2.23E-02
Road 29	29	2000-2100	6.43E-03	1.10E-07	2.76E-03	3.62E-02	6.18E-07	1.56E-02	4.27E-02	7.27E-07	1.83E-02
Road 29	29	2100-2200	6.42E-03	1.06E-07	2.67E-03	3.56E-02	5.88E-07	1.48E-02	4.20E-02	6.94E-07	1.75E-02
Road 29	29	2200-2300	6.42E-03	1.06E-07	2.67E-03	3.56E-02	5.88E-07	1.48E-02	4.20E-02	6.94E-07	1.75E-02
Road 29	29	2300-0000	6.28E-03	8.56E-08	2.15E-03	3.48E-02	4.74E-07	1.19E-02	4.10E-02	5.59E-07	1.41E-02
Road 30	30	0000-0100	9.05E-03	9.34E-08	3.34E-04	4.60E-02	4.75E-07	1.70E-03	5.51E-02	5.68E-07	2.03E-03
Road 30	30	0100-0200	1.05E-02	7.25E-08	2.59E-04	4.90E-02	3.38E-07	1.21E-03	5.95E-02	4.10E-07	1.47E-03
Road 30	30	0200-0300	1.20E-02	6.23E-08	2.23E-04	5.46E-02	2.83E-07	1.01E-03	6.62E-02	3.43E-07	1.23E-03
Road 30	30	0300-0400	1.34E-02	5.63E-08	2.01E-04	5.54E-02	2.33E-07	8.32E-04	6.72E-02	2.83E-07	1.01E-03
Road 30	30	0400-0500	1.36E-02	6.29E-08	2.25E-04	5.64E-02	2.61E-07	9.32E-04	7.00E-02	3.24E-07	1.16E-03
Road 30	30	0500-0600	1.27E-02	9.94E-08	3.55E-04	5.58E-02	4.38E-07	1.56E-03	6.85E-02	5.37E-07	1.92E-03
Road 30	30	0600-0700	1.22E-02	2.01E-07	7.18E-04	5.85E-02	9.60E-07	3.43E-03	7.07E-02	1.16E-06	4.14E-03
Road 30	30	0700-0800	1.36E-02	4.56E-07	1.63E-03	6.42E-02	2.15E-06	7.68E-03	7.78E-02	2.60E-06	9.29E-03
Road 30	30	0800-0900	1.37E-02	5.53E-07	1.98E-03	5.99E-02	2.42E-06	8.65E-03	7.36E-02	2.97E-06	1.06E-02
Road 30	30	0900-1000	1.39E-02	5.20E-07	1.86E-03	6.26E-02	2.34E-06	8.37E-03	7.65E-02	2.86E-06	1.02E-02
Road 30	30	1000-1100	1.49E-02	5.82E-07	2.08E-03	6.46E-02	2.52E-06	9.01E-03	7.95E-02	3.09E-06	1.11E-02
Road 30	30	1100-1200	1.47E-02	5.49E-07	1.96E-03	6.46E-02	2.41E-06	8.62E-03	7.93E-02	2.96E-06	1.06E-02
Road 30	30	1200-1300	1.54E-02	5.76E-07	2.06E-03	6.52E-02	2.44E-06	8.71E-03	8.06E-02	3.01E-06	1.08E-02
Road 30	30	1300-1400	1.49E-02	5.82E-07	2.08E-03	6.42E-02	2.50E-06	8.94E-03	7.91E-02	3.09E-06	1.10E-02
Road 30	30	1400-1500	1.50E-02	5.91E-07	2.11E-03	6.40E-02	2.52E-06	9.02E-03	7.90E-02	3.11E-06	1.11E-02
Road 30	30	1500-1600	1.38E-02	5.73E-07	2.05E-03	6.26E-02	2.60E-06	9.30E-03	7.64E-02	3.18E-06	1.14E-02
Road 30	30	1600-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (June) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAve		MonthlyHourMax		MonthlyHourMin		MonthlyHourAve		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 51	51	0000-0100	4.23E-03	3.76E-08	2.08E-04	1.01E-02	8.97E-08	1.64E-06	1.20E-02	1.88E-03	6.77E-08	4.95E-04		
Road 51	51	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	2.01E-07	1.37E-03	1.15E-03	5.92E-09	4.03E-05
Road 51	51	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-07	1.05E-03	1.27E-03	4.75E-09	3.23E-05
Road 51	51	0300-0400	5.53E-03	1.31E-08	9.84E-05	3.79E-02	9.00E-08	6.75E-04	4.28E-02	1.01E-07	7.58E-04	1.38E-03	3.28E-09	2.46E-05
Road 51	51	0400-0500	5.96E-03	1.93E-08	1.31E-04	3.84E-02	1.24E-07	8.46E-04	4.44E-02	1.44E-07	9.77E-04	1.50E-03	4.85E-09	3.30E-05
Road 51	51	0500-0600	6.40E-03	3.59E-08	2.44E-04	3.95E-02	2.21E-07	1.51E-03	4.59E-02	2.57E-07	1.75E-03	1.62E-03	9.07E-09	6.17E-05
Road 51	51	0600-0700	6.88E-03	5.26E-08	3.51E-04	4.11E-02	3.14E-07	2.10E-03	4.92E-02	3.76E-07	2.51E-03	1.74E-03	1.33E-08	8.88E-05
Road 51	51	0700-0800	7.30E-03	1.76E-07	1.20E-03	4.17E-02	1.01E-06	8.07E-03	4.86E-02	1.17E-06	8.07E-03	1.84E-03	4.51E-08	3.07E-04
Road 51	51	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.70E-02	1.03E-06	7.04E-03	4.40E-02	1.23E-06	8.36E-03	1.82E-03	5.08E-08	3.45E-04
Road 51	51	0900-1000	6.58E-03	1.83E-07	1.24E-03	3.23E-02	9.00E-07	6.08E-03	3.94E-02	1.10E-06	7.43E-03	1.80E-03	5.01E-08	3.39E-04
Road 51	51	1000-1100	8.93E-03	1.74E-07	1.19E-03	4.27E-02	8.34E-07	5.67E-03	4.26E-02	8.32E-07	5.65E-03	2.44E-03	4.77E-08	3.24E-04
Road 51	51	1100-1200	8.46E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.37E-03	5.11E-02	9.47E-07	6.44E-03	2.28E-03	4.21E-08	2.87E-04
Road 51	51	1200-1300	7.50E-03	1.39E-07	9.47E-04	3.79E-02	7.01E-07	4.77E-03	4.53E-02	8.39E-07	5.70E-03	2.02E-03	3.74E-08	2.54E-04
Road 51	51	1300-1400	1.51E-02	2.80E-07	1.91E-03	7.63E-02	1.41E-06	9.64E-03	4.29E-02	7.96E-07	5.40E-03	4.09E-03	7.59E-08	5.15E-04
Road 51	51	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.38E-02	1.49E-06	1.01E-02	3.07E-03	6.18E-08	4.19E-04
Road 51	51	1500-1600	1.38E-02	2.96E-07	2.01E-03	5.71E-02	1.23E-06	8.34E-03	7.38E-02	1.58E-06	1.07E-02	2.80E-03	6.02E-08	4.08E-04
Road 51	51	1600-1700	1.41E-02	3.03E-07	2.06E-03	5.42E-02	1.16E-06	7.90E-03	6.83E-02	1.46E-06	9.96E-03	3.98E-03	8.53E-08	5.80E-04
Road 51	51	1700-1800	1.04E-02	2.41E-07	1.64E-03	4.70E-02	1.09E-06	7.40E-03	5.47E-02	1.33E-06	9.04E-03	3.02E-03	7.00E-08	4.76E-04
Road 51	51	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.61E-03	4.27E-02	1.00E-06	6.82E-03	2.14E-03	5.04E-08	3.42E-04
Road 51	51	1900-2000	6.49E-03	1.21E-07	8.21E-04	3.62E-02	6.75E-07	4.59E-03	3.47E-02	6.47E-07	4.40E-03	1.88E-03	3.51E-08	2.38E-04
Road 51	51	2000-2100	6.31E-03	9.22E-08	6.27E-04	3.54E-02	5.17E-07	3.52E-03	4.17E-02	6.09E-07	4.15E-03	1.77E-03	2.59E-08	1.76E-04
Road 51	51	2100-2200	6.08E-03	8.74E-08	5.95E-04	3.54E-02	5.17E-07	3.52E-03	3.40E-02	4.97E-07	3.38E-03	1.70E-03	2.49E-08	1.69E-04
Road 51	51	2200-2300	5.68E-03	8.16E-08	5.55E-04	3.40E-02	4.97E-07	3.38E-03	3.12E-02	4.48E-07	3.05E-03	1.59E-03	2.28E-08	1.55E-04
Road 51	51	2300-0000	6.64E-03	6.98E-08	4.75E-04	3.64E-02	4.30E-07	4.53E-03	3.08E-03	1.81E-03	1.90E-08	1.30E-04		
Road 52	52	0000-0100	4.73E-02	2.38E-08	4.45E-05	1.72E-01	8.65E-08	1.10E-02	2.06E-04	9.38E-03	4.72E-09	8.83E-06		
Road 52	52	0100-0200	5.18E-02	1.51E-08	2.84E-05	1.72E-01	5.02E-08	6.37E-03	1.84E-04	5.37E-03	1.01E-09	1.90E-06		
Road 52	52	0200-0300	4.63E-02	1.31E-08	2.45E-05	1.69E-01	4.77E-08	8.91E-05	2.15E-01	6.07E-08	1.14E-04	9.36E-03	2.65E-09	4.95E-06
Road 52	52	0300-0400	4.66E-02	1.12E-08	2.10E-05	1.70E-01	4.09E-08	7.64E-05	2.16E-01	5.21E-08	9.74E-05	9.39E-03	2.26E-09	4.23E-06
Road 52	52	0400-0500	4.59E-02	1.48E-08	2.77E-05	1.68E-01	5.41E-08	1.01E-04	2.13E-01	6.87E-08	1.28E-04	9.25E-03	2.98E-09	5.57E-06
Road 52	52	0500-0600	4.84E-02	2.55E-08	4.76E-05	1.76E-01	9.25E-08	1.73E-04	2.24E-01	1.18E-07	2.21E-04	9.55E-03	5.02E-09	9.40E-06
Road 52	52	0600-0700	5.03E-02	6.04E-08	1.13E-04	1.82E-01	2.19E-07	4.09E-04	2.32E-01	2.79E-07	5.22E-04	9.88E-03	1.19E-08	2.21E-05
Road 52	52	0700-0800	5.32E-02	1.65E-07	3.08E-04	1.99E-01	6.16E-07	1.15E-03	2.45E-01	7.60E-07	1.42E-03	1.04E-02	3.24E-08	6.05E-05
Road 52	52	0800-0900	5.48E-02	1.92E-07	3.60E-04	2.06E-01	7.25E-07	1.36E-03	2.61E-01	9.17E-07	1.72E-03	9.90E-03	3.48E-08	6.51E-05
Road 52	52	0900-1000	5.48E-02	1.92E-07	3.60E-04	2.06E-01	7.25E-07	1.36E-03	2.61E-01	9.17E-07	1.72E-03	9.90E-03	3.48E-08	6.51E-05
Road 52	52	1000-1100	5.82E-02	1.89E-07	3.54E-04	2.09E-01	6.79E-07	1.27E-03	2.67E-01	8.68E-07	1.62E-03	1.03E-02	3.35E-08	6.26E-05
Road 52	52	1100-1200	5.95E-02	2.01E-07	3.75E-04	2.09E-01	6.84E-07	1.28E-03	2.68E-01	9.06E-07	1.69E-03	1.04E-02	3.49E-08	6.53E-05
Road 52	52	1200-1300	5.95E-02	2.01E-07	3.75E-04	2.09E-01	6.84E-07	1.28E-03	2.68E-01	9.06E-07	1.69E-03	1.04E-02	3.49E-08	6.53E-05
Road 52	52	1300-1400	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1400-1500	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road 52	52	1500-1600	5.40E-02	2.12E-07	3.97E-04	2.09E-01	8.20E-07	1.53E-03	2.63E-01	1.03E-06	1.93E-03	9.62E-03	3.78E-08	7.07E-05
Road 52	52	1600-1700	5.61E-02	2.04E-07	3.81E-04	2.09E-01	7.60E-07	1.42E-03	2.68E-01	9.76E-07	1.82E-03	9.98E-03	3.63E-08	6.79E-05
Road 52	52	1700-1800	4.69E-02	1.55E-07	2.90E-04	1.91E-01	6.29E-07	1.18E-03	2.38E-01	7.84E-07	1.47E-03	8.85E-03	2.92E-08	5.46E-05
Road 52	52	1800-1900	4.16E-02	9.56E-08	1.79E-04	1.75E-01	4.02E-07	7.52E-04	2.16E-01	4.98E-07	9.31E-04	8.09E-03	1.86E-08	3.48E-05
Road 52	52	1900-2000	3.32E-02	4.64E-08	8.67E-05	1.61E-01	1.94E-07	3.63E-04	1.99E-01	2.40E-07	4.50E-04	7.77E-03	9.37E-09	1.75E-05
Road 52	52	2000-2100	3.91E-02	4.84E-08	9.06E-05	1.62E-01	2.00E-07	3.74E-04	2.01E-01	2.48E-07	4.64E-04	7.86E-03	9.73E-09	1.82E-05
Road 52	52	2100-2200	3.42E-02	4.23E-08	7.91E-05	1.62E-01	2.00E-07	3.74E-04	2.01E-01	2.48E-07	4.64E-04	7.86E-03	9.73E-09	1.82E-05
Road 52	52	2300-0000	4.26E-02	3.77E-08	7.06E-05	1.57E-01	1.39E-07	2.60E-04	2.00E-01	1.77E-07	3.31E-04	8.45E-03	7.49E-09	1.40E-05
Road 53	53	0000-0100	6.62E-02	3.05E-08	2.58E-04	2.33E-01	1.07E-07	9.11E-04	2.99E-01	1.38E-07	1.17E-03	1.04E-02	4.80E-09	4.07E-05
Road 53	53	0100-0200	6.46E-02	3.01E-08	2.55E-04	2.33E-01	1.08E-07	9.17E-04	2.99E-01	1.39E-07	1.18E-03	1.04E-02	4.86E-09	4.12E-05
Road 53	53	0200-0300	6.82E-02	1.61E-08	1.36E-04	2.41E-01	5.67E-08	4.81E-04	3.09E-01	7.27E-08	6.17E-04	1.06E-02	2.49E-09	2.11E-05
Road 53	53	0300-0400	7.04E-02	1.35E-08	1.15E-04	2.48E-01	4.78E-08	4.05E-04	3.19E-01	6.13E-08	5.20E-04	1.08E-02	2.07E-09	1.76E-05
Road 53	53	0400-0500	7.25E-02	1.66E-08	1.41E-04	2.56E-01	5.87E-08	4.98E-04	3.29E-01	7.52E-08	6.38E-04	1.09E-02	2.56E-09	2.17E-05
Road 53	53	0500-0600	7.74E-02	3.03E-08	2.57E-04	2.72E-01	1.07E-07	9.04E-04	3.50E-01	1.37E-07	1.16E-03	1.13E-02	4.43E-09	3.76E-05
Road 53	53	0600-0700	8.69E-02	7.53E-08	6.39E-04	3.04E-01	2.64E-07	2.24E-03	3.91E-01	3.39E-07	2.87E-03	1.20E-02	1.04E-08	8.80E-05
Road 53	53	0700-0800	9.54E-02	1.95E-07	1.65E-03	3.43E-01	7.01E-07	5.95E-03	4.39E-01	8.97E-07	7.60E-03	1.20E-02	2.46E-08	2.09E-04
Road 53	53	0800-0900	9.54E-02	1.95E-07	1.65E-03	3.43E-01	7.01E-07	5.95E-03	4.39E-01	8.97E-07	7.60E-03	1.20E-02	2.46E-08	2.09E-04
Road 53	53	0900-1000	1.03E-01	2.15E-07	1.83E-03	3.73E-01	7.81E-07	6.62E-03	4.76E-01	9.96E-07	8.45E-03	1.29E-02	2.69E-08	2.28E-04
Road 53	53	1000-1100	1.12E-01	2.21E-07	1.87E-03	3.98E-01	7.84E-07	6.64E-03	5.07E-01	1.00E-06	8.48E-03	1.39E-02	2.74E-08	2.32E-04
Road 53	53	1100-1200	1.11E-01	2.07E-07	1.75E-03	3.88E-01	7.21E-07	6.12E-03	4.96E-01	9.27E-07	7.87E-03	1.38E-02	2.57E-08	2.18E-04
Road 53	53	1200-1300	9.79E-02	2.30E-07	1.95E-03	3.35E-01	7.87E-07	6.68E-03	4.33E-01	1.02E-06	8.63E-03	1.06E-02	2.50E-08	2.12E-04
Road 53	53	1300-1400	9.72E-02	2.43E-07	2.06E-03	3.49E-01	8.73E-07	7.40E-03	4.46E-01	1.12E-06	9.47E-03	1.06E-02	2.65E-08	2.25E-04
Road 53	53	1400-1500	9.69E-02	2.12E-07	1.80E-03	3.48E-01	7.62E-07	6.46E-03	4.45E-01	9.74E-07	8.26E-03	1.06E-02	2.32E-08	1.97E-04
Road 53	53	1500-1600	8.87E-02	2.35E-07	2.00E-03	3.39E-01	9.01E-07	7.64E-03	4.28E-01	1.14E-06	9.64E-03	1.00E-02	2.66E-08	2.26E-04
Road 53	53	1600-1700	9.11E-02	2.41E-07	2.04E-03	3.23E-01	8.53E-07	7.23E-03	4.14E-01	1.09E-06	9.28E-03	1.01E-02	2.67E-08	2.27E-04
Road 53	53	1700-1800	7.72E-02	2.04E-07	1.73E-03	2.74E-01	7.23E-07	6.13E-03	3.51E-01	9.28E-07	7.87E-03	8.56E-03	2.26E-08	1.92E-04
Road 53	53	1800-1900	5.29E-02	1.36E-07	1.15E-03	2.13E-01	5.46E-07	4.63E-03	2.66E-01	6.82E-07	5.79E-03	6.73E-03	1.73E-08	1.46E-04
Road 53	53	1900-2000	4.64E-02	9.07E-08	7.69E-04	1.84E-01	3.59E-07	3.05E-03	2.30E-01	4.50E-07	3.82E-03	5.90E-03	1.15E-08	9.76E-05
Road 53	53	2000-2100	4.09E-02	6.29E-08	5.33E-04	1.62E-01	2.49E-07	2.11E-03	2.03E-01	3.12E-07	2.65E-03	5.20E-03	8.00E-09	6.78E-05
Road 53	53	2100-2200	4.50E-02	6.95E-08	5.89E-04	1.89E-01	2.92E-07	2.48E-03	2.34E-01	3.62E-07	3.07E-03	6.11E-03	9.42E-09	7.99E-05
Road 53	53	2200-2300	4.58E-02	6.63E-08	5.62E-04	1.80E-01	2.60E-07	2.20E-03	3.27E-01	4.73E-07	4.00E-03	5.95E-03	8.60E-09	7.29E-05
Road 53	53	2300-0000	4.70E-02	5.35E-08	3.85E-04	1.87E-01	2.13E-07	1.53E-03	3.00E-01	3.41E-07	2.46E-03	6.16E-03	6.82E-09	4.91E-05
Road 54	54	0000-0100	5.11E-02	4.56E-08	3.79E-04	1.92E-01	1.71E-07	1.42E-03	3.21E-01	2.86E-07	2.38E-03	6.66E-03	5.94E-09	4.94E-05
Road 54	54	0100-0200	5.01E-02	2.55E-08	2.12E-04	1.92E-01	9.55E-08	7.94E-04	3.21E-01	1.60E-07	1.33E-03	6.66E-03	3.32E-09	2.76E-05
Road 54	54	0200-0300	5.47E-02	2.05E-08	1.70E-04	1.92E-01	7.68E-08	6.38E-04	3.21E-01	1.28E-07	1.07E-03	6.66E-03	2.67E-09	2.22E-05
Road 54	54	0300-0400	5.92E-02	1.41E-08	1.17E-04	1.92E-01	5.29E-08	4.39E-04	3.21E-01	8.84E-08	7.34E-04	6.66E-03	1.84E-09	1.53E-05
Road 54	54	0400-0500	6.36E-02	2.07E-08	1.72E-04	1.92E-01	7.76E-08	6.45E-04	3.21E-01	1.30E-07	1.08E-03	6.66E-03	2.70E-09	2.24E-05
Road 54	54	0500-0600	6.81E-02	3.64E-08	3.03E-04	1.92E-01	1.37E-07	1.14E-03	3.21E-01	2.29E-07	1.91E-03	6.66E-03	4.76E-09	3.96E-05
Road 54	54	0600-0700	7.30E-02	7.63E-08	6.35E-04	1.92E-01	2.01E-07	1.67E-03	3.21E-01	3.36E-07	2.80E-03	6.66E-03	6.98E-09	5.81E-05
Road 54	54	0700-0800	7.78E-02	1.78E-07	1.48E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	0800-0900	8.24E-02	2.02E-07	1.68E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	0900-1000	8.70E-02	2.26E-07	1.88E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1000-1100	9.17E-02	2.50E-07	2.08E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1100-1200	9.63E-02	2.73E-07	2.27E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1200-1300	1.01E-01	2.97E-07	2.47E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1300-1400	1.06E-01	3.21E-07	2.67E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1400-1500	1.11E-01	3.45E-07	2.87E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1500-1600	1.16E-01	3.69E-07	3.07E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1600-1700	1.21E-01	3.93E-07	3.27E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1700-1800	1.26E-01	4.17E-07	3.47E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1800-1900	1.31E-01	4.41E-07	3.67E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	1900-2000	1.36E-01	4.65E-07	3.87E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	2000-2100	1.41E-01	4.89E-07	4.07E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	2100-2200	1.46E-01	5.13E-07	4.27E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	2200-2300	1.51E-01	5.37E-07	4.47E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 54	54	2300-0000	1.56E-01	5.61E-07	4.67E-03	1.92E-01	4.69E-07	3.90E-03	3.21E-01	7.84E-07	6.52E-03	6.66E-03	1.63E-08	1.35E-04
Road 103	103	0000-0100	1.98E-02	5.49E-08	4.95E-04	2.13E-02	5.91E-08	1.07E-03	2.39E-02	3.80E-03	1.42E-06	1.18E-02	9.58E-03	2.98E-04
Road 103	103	0100-0200	1.78E-02	4.42E-08	3.98E-04	1.91E-02	4.76E-08	8.58E-04	2.15E-02	2.23E-03	8.36E-07	1.06E-02	5.48E-03	1.71E-04
Road 103	103	0200-0300	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	0300-0400	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	0400-0500	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	0500-0600	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	0600-0700	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	0700-0800	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	0800-0900	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	0900-1000	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1000-1100	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1100-1200	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1200-1300	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1300-1400	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1400-1500	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1500-1600	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1600-1700	1.80E-02	3.67E-08	3.30E-04	1.93E-02	3.94E-08	7.10E-04	2.17E-02	1.85E-03	6.93E-07	1.07E-02	4.54E-03	1.42E-04
Road 103	103	1700-1800	8.50E-03	4.42E-07	3.88E-03	4.56E-02	2.37E-06	2.08E-02	5.41E-02	2.81E-06	2.47E-02	2.27E-03	1.18E-07	1.04E-03
Road 103	103	1800-1900	6.51E-03	3.67E-07	3.22E-03	3.60E-02	2.03E-06	1.78E-02	4.25E-02	2.40E-06	2.11E-02	1.63E-03	9.23E-08	8.10E-04
Road 103	103	1900-2000	5.17E-03	2.31E-07	2.02E-03	3.22E-02	1.43E-06	1.26E-02	3.73E-02	1.66E-06	1.46E-02	1.34E-03	5.98E-08	5.25E-04
Road 103	103	2000-2100	4.96E-03	1.72E-07	1.51E-03	3.50E-02	1.21E-06	1.06E-02	3.99E-02	1.38E-06	1.21E-02	1.28E-03	4.44E-08	3.90E-04
Road 103	103	2100-2200	4.36E-03	1.51E-07	1.33E-03	3.41E-02	1.18E-06	1.04E-02	3.84E-02	1.33E-06	1.17E-02	1.13E-03	3.93E-08	3.44E-04
Road 103	103	2200-2300	4.36E-03	1.51E-07	1.33E-03	3.41E-02	1.18E-06	1.04E-02	3.84E-02	1.33E-06	1.17E-02	1.13E-03	3.93E-08	3.44E-04
Road 103	103	2300-0000	4.80E-03	1.21E-07	1.06E-03	3.55E-02	8.93E-07	7.84E-03	4.03E-02	1.01E-06	8.90E-03	1.21E-03	3.05E-08	2.67E-04
Road 104	104	0000-0100	8.21E-03	9.19E-08	6.83E-04	4.47E-02	5.01E-07	3.72E-03	5.29E-02	5.93E-07	4.40E-03	2.22E-03	2.49E-08	1.85E-04
Road 104	104	0100-0200	8.15E-03	8.48E-08	6.30E-04	4.44E-02	4.62E-07	3.43E-03	5.25E-02	5.47E-07	4.06E-03	2.20E-03	2.29E-08	1.71E-04
Road 104	104	0200-0300	9.61E-03	5.26E-08	3.91E-04	4.88E-02	2.67E-07	1.98E-03	5.84E-02	3.20E-07	2.38E-03	2.61E-03	1.43E-08	1.06E-04
Road 104	104	0300-0400	1.03E-02	4.51E-08	3.35E-04	5.06E-02	2.22E-07	1.65E-03	6.08E-02	2.67E-07	1.98E-03	5.84E-03	2.56E-08	1.90E-04
Road 104	104	0

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 17	17	1600-1700	5.67E-02	1.53E-06	5.82E-03	1.12E-01	3.02E-06	1.44E-02	7.45E-02	7.41E-03	2.00E-07	2.13E-03		
Road 17	17	1700-1800	3.95E-02	1.11E-06	1.18E-02	1.61E-01	4.53E-06	4.83E-02	2.01E-01	5.64E-06	6.02E-02	5.65E-03	1.59E-07	1.69E-03
Road 17	17	1800-1900	2.03E-02	5.47E-07	5.84E-03	8.79E-02	2.37E-06	2.53E-02	1.08E-01	2.91E-06	3.11E-02	3.61E-03	9.72E-08	1.04E-03
Road 17	17	1900-2000	1.16E-02	2.53E-07	5.54E-03	1.15E-02	1.23E-02	6.80E-02	1.38E-06	1.48E-02	2.67E-03	5.43E-03	5.80E-04	
Road 17	17	2000-2100	9.54E-03	1.52E-07	1.62E-03	9.83E-03	1.05E-02	2.50E-03	1.98E-08	4.25E-04	2.09E-06	4.25E-04		
Road 17	17	2100-2200	9.28E-03	1.48E-07	1.58E-03	9.19E-03	1.04E-02	2.44E-03	3.89E-08	4.15E-04	2.68E-05			
Road 17	17	2200-2300	9.14E-03	1.46E-07	1.56E-03	7.31E-03	8.01E-03	5.85E-02	8.90E-08	3.98E-04	3.56E-05	3.84E-04		
Road 17	17	2300-0000	9.77E-03	1.13E-07	1.21E-03	5.09E-02	5.91E-07	6.07E-04	7.52E-03	2.59E-03	3.01E-08	3.21E-04		
Road 18	18	0000-0100	6.30E-03	4.93E-08	7.03E-04	3.99E-02	3.12E-07	4.46E-03	4.62E-02	3.62E-07	5.16E-03	1.58E-03	1.24E-08	1.77E-04
Road 18	18	0100-0200	7.08E-03	5.54E-08	1.18E-04	4.18E-02	3.27E-07	6.98E-04	2.89E-01	2.26E-06	4.83E-03	1.77E-03	1.38E-08	2.95E-04
Road 18	18	0200-0300	7.99E-03	4.27E-08	6.40E-02	1.67E-01	2.38E-03	5.19E-02	1.97E-01	7.80E-03	1.99E-03	7.55E-09	1.08E-04	
Road 18	18	0300-0400	8.71E-03	2.63E-08	3.75E-04	4.62E-02	1.39E-07	1.66E-03	2.36E-03	2.20E-03	6.63E-09	9.46E-05		
Road 18	18	0400-0500	8.14E-03	2.46E-08	3.50E-04	1.96E-01	2.26E-03	1.68E-02	2.67E-03	7.70E-03	1.85E-08	2.64E-04		
Road 18	18	0500-0600	9.25E-03	5.31E-08	7.57E-04	4.85E-02	2.78E-07	3.31E-03	4.72E-03	2.37E-03	1.36E-08	1.93E-04		
Road 18	18	0600-0700	9.53E-03	1.17E-07	1.67E-03	5.01E-02	6.14E-07	8.76E-03	5.96E-02	7.31E-07	1.04E-02	2.44E-03	3.00E-08	4.27E-04
Road 18	18	0700-0800	1.04E-02	1.28E-07	1.83E-03	5.46E-02	6.72E-07	9.58E-03	6.51E-02	8.00E-07	1.14E-02	2.67E-03	3.28E-08	4.67E-04
Road 18	18	0800-0900	1.02E-02	2.96E-07	4.22E-03	4.92E-02	1.43E-06	2.04E-02	5.94E-02	1.72E-06	2.46E-02	2.88E-03	8.38E-08	1.20E-03
Road 18	18	0900-1000	1.17E-02	2.88E-07	4.11E-03	5.50E-02	1.36E-06	1.94E-02	6.66E-02	1.65E-06	2.35E-02	3.14E-03	7.75E-08	1.11E-03
Road 18	18	1000-1100	1.33E-02	2.96E-07	4.13E-03	5.88E-02	1.30E-06	1.82E-02	7.26E-02	1.61E-06	2.26E-02	3.57E-03	7.93E-08	1.11E-03
Road 18	18	1100-1200	1.29E-02	2.65E-07	3.78E-03	5.82E-02	1.20E-06	1.71E-02	7.10E-02	1.46E-06	2.08E-02	3.42E-03	7.03E-08	1.00E-03
Road 18	18	1200-1300	1.60E-02	3.58E-07	5.11E-03	6.52E-02	1.46E-06	2.08E-02	8.13E-02	1.82E-06	2.59E-02	4.27E-03	9.54E-08	1.36E-03
Road 18	18	1300-1400	1.62E-02	3.77E-07	5.38E-03	6.82E-02	1.59E-06	2.27E-02	8.44E-02	1.96E-06	2.80E-02	4.43E-03	1.03E-07	1.47E-03
Road 18	18	1400-1500	1.61E-02	3.47E-07	5.62E-03	6.82E-02	1.47E-06	2.38E-02	8.44E-02	1.82E-06	2.95E-02	4.43E-03	9.54E-08	1.54E-03
Road 18	18	1500-1600	1.49E-02	3.75E-07	5.35E-03	6.69E-02	1.68E-06	2.40E-02	8.19E-02	2.05E-06	2.93E-02	4.11E-03	1.03E-07	1.47E-03
Road 18	18	1600-1700	1.57E-02	4.06E-07	5.79E-03	6.44E-02	1.67E-06	2.38E-02	8.01E-02	2.08E-06	2.96E-02	4.12E-03	1.07E-07	1.52E-03
Road 18	18	1700-1800	1.48E-02	3.45E-07	4.88E-03	6.48E-02	1.51E-06	2.14E-02	8.13E-02	1.89E-06	2.68E-02	4.14E-03	9.64E-08	1.36E-03
Road 18	18	1800-1900	8.32E-03	2.42E-07	3.45E-03	4.18E-02	1.22E-06	1.73E-02	5.02E-02	1.46E-06	2.08E-02	2.21E-03	6.41E-08	9.14E-04
Road 18	18	1900-2000	6.83E-03	1.54E-07	2.19E-03	3.82E-02	8.61E-07	1.23E-02	4.50E-02	1.01E-06	1.45E-02	1.80E-03	4.06E-08	5.79E-04
Road 18	18	2000-2100	6.26E-03	1.41E-07	2.01E-03	3.50E-02	7.89E-07	1.13E-02	4.12E-02	9.29E-07	1.33E-02	1.65E-03	3.72E-08	5.31E-04
Road 18	18	2100-2200	6.26E-03	1.10E-07	1.57E-03	4.07E-02	7.16E-07	1.02E-02	4.70E-02	8.26E-07	1.18E-02	1.66E-03	2.91E-08	4.15E-04
Road 18	18	2200-2300	6.24E-03	1.06E-07	1.51E-03	4.00E-02	6.78E-07	9.67E-03	4.63E-02	7.84E-07	1.12E-02	1.59E-03	2.69E-08	3.83E-04
Road 18	18	2300-0000	6.38E-03	7.38E-08	1.06E-03	4.62E-02	5.34E-07	7.68E-03	5.26E-02	6.09E-07	8.76E-03	1.81E-03	2.09E-08	3.01E-04
Road 19	19	0000-0100	8.36E-03	6.92E-08	7.27E-04	4.62E-02	4.52E-07	4.75E-03	2.17E-03	1.80E-08	1.89E-04			
Road 19	19	0100-0200	9.21E-03	5.04E-08	4.81E-02	2.63E-07	2.77E-03	5.13E-07	3.30E-03	2.41E-03	1.32E-08	1.39E-04		
Road 19	19	0200-0300	1.12E-02	3.58E-08	5.65E-02	1.62E-07	2.56E-03	3.42E-03	2.02E-03	1.80E-02	5.80E-09	9.15E-05		
Road 19	19	0300-0400	1.10E-02	3.59E-08	3.78E-04	1.30E-02	1.73E-07	1.82E-03	6.40E-02	2.09E-07	2.20E-03	2.87E-03	9.36E-09	9.84E-05
Road 19	19	0400-0500	1.15E-02	4.17E-08	4.39E-04	5.46E-02	1.98E-07	2.08E-03	6.61E-02	2.39E-07	2.52E-03	3.02E-03	1.09E-08	1.15E-04
Road 19	19	0500-0600	1.18E-02	4.72E-08	6.64E-04	5.46E-02	2.18E-07	3.07E-03	6.61E-02	2.64E-07	3.72E-03	3.02E-03	1.21E-08	1.70E-04
Road 19	19	0600-0700	1.22E-02	1.66E-07	1.75E-03	5.84E-02	7.94E-07	8.34E-03	7.07E-02	9.60E-07	1.01E-02	3.22E-03	4.37E-08	4.60E-04
Road 19	19	0700-0800	1.34E-02	3.74E-07	3.94E-03	6.20E-02	1.73E-06	1.82E-02	7.54E-02	2.11E-06	2.21E-02	3.47E-03	9.70E-08	1.02E-03
Road 19	19	0800-0900	1.32E-02	3.80E-07	5.44E-03	6.20E-02	1.78E-06	2.55E-02	7.54E-02	2.17E-06	3.11E-02	3.47E-03	9.97E-08	1.43E-03
Road 19	19	0900-1000	1.51E-02	4.38E-07	4.61E-03	6.70E-02	1.94E-06	2.04E-02	8.21E-02	2.38E-06	2.50E-02	4.07E-03	1.18E-07	1.24E-03
Road 19	19	1000-1100	1.72E-02	4.48E-07	4.71E-03	7.13E-02	1.86E-06	1.95E-02	8.85E-02	2.31E-06	2.42E-02	4.58E-03	1.19E-07	1.25E-03
Road 19	19	1100-1200	1.44E-02	4.07E-07	4.27E-03	5.97E-02	1.68E-06	1.76E-02	7.39E-02	2.09E-06	2.19E-02	3.82E-03	1.08E-07	1.13E-03
Road 19	19	1200-1300	2.06E-02	4.92E-07	5.17E-03	7.94E-02	1.89E-06	1.99E-02	1.00E-01	2.38E-06	2.51E-02	5.45E-03	1.30E-07	1.37E-03
Road 19	19	1300-1400	2.06E-02	4.92E-07	5.17E-03	7.94E-02	1.89E-06	1.99E-02	1.00E-01	2.38E-06	2.51E-02	5.45E-03	1.30E-07	1.37E-03
Road 19	19	1400-1500	2.06E-02	5.22E-07	5.49E-03	8.26E-02	2.10E-06	2.20E-02	1.03E-01	2.62E-06	2.75E-02	5.51E-03	1.40E-07	1.47E-03
Road 19	19	1500-1600	1.89E-02	5.10E-07	5.36E-03	8.09E-02	2.19E-06	2.30E-02	9.98E-02	2.70E-06	2.84E-02	5.17E-03	1.40E-07	1.47E-03
Road 19	19	1600-1700	1.94E-02	5.26E-07	5.53E-03	7.69E-02	2.09E-06	2.19E-02	9.62E-02	2.61E-06	2.75E-02	5.17E-03	1.40E-07	1.48E-03
Road 19	19	1700-1800	1.70E-02	4.62E-07	4.86E-03	7.37E-02	2.00E-06	2.10E-02	9.24E-02	2.51E-06	2.64E-02	4.97E-03	1.35E-07	1.42E-03
Road 19	19	1800-1900	1.07E-02	2.89E-07	3.04E-03	5.13E-02	1.39E-06	1.46E-02	6.19E-02	1.68E-06	1.77E-02	2.95E-03	8.02E-08	8.43E-04
Road 19	19	1900-2000	9.19E-03	1.89E-07	1.98E-03	4.68E-02	9.60E-07	1.01E-02	5.60E-02	1.15E-06	1.21E-02	2.50E-03	5.13E-08	5.39E-04
Road 19	19	2000-2100	8.60E-03	1.81E-07	1.90E-03	4.30E-02	9.04E-07	9.49E-03	5.24E-02	1.10E-06	1.16E-02	2.34E-03	4.92E-08	5.07E-04
Road 19	19	2100-2200	8.75E-03	1.41E-07	1.48E-03	4.93E-02	7.94E-07	8.35E-03	5.80E-02	9.35E-07	9.83E-03	2.40E-03	3.87E-08	4.06E-04
Road 19	19	2200-2300	8.86E-03	1.36E-07	1.43E-03	4.79E-02	7.33E-07	7.71E-03	5.61E-02	8.64E-07	9.08E-03	2.34E-03	3.59E-08	3.77E-04
Road 19	19	2300-0000	8.66E-03	1.03E-07	1.08E-03	4.51E-02	5.34E-07	5.61E-03	5.48E-02	6.50E-07	6.83E-03	2.29E-03	2.71E-08	2.85E-04
Road 20	20	0000-0100	3.44E-02	2.49E-08	2.35E-04	1.32E-01	1.34E-07	1.64E-03	6.78E-02	6.88E-09	4.63E-05	7.39E-03	3.34E-09	2.25E-05
Road 20	20	0100-0200	3.55E-02	2.49E-08	1.67E-04	1.36E-01	9.49E-08	6.39E-04	1.71E-01	1.20E-08	8.06E-04	7.01E-03	4.91E-09	3.30E-05
Road 20	20	0200-0300	3.66E-02	2.38E-08	1.33E-04	1.40E-01	9.09E-08	5.07E-04	1.76E-01	1.14E-08	6.40E-04	7.22E-03	4.69E-09	2.62E-05
Road 20	20	0300-0400	3.77E-02	1.70E-08	1.15E-04	1.44E-01	6.51E-08	4.40E-04	1.81E-01	8.14E-09	5.48E-04	7.39E-03	3.34E-09	2.25E-05
Road 20	20	0400-0500	3.85E-02	2.01E-08	1.35E-04	1.45E-01	7.58E-08	5.10E-04	1.83E-01	9.59E-08	6.45E-04	7.56E-03	3.95E-09	2.66E-05
Road 20	20	0500-0600	3.93E-02	3.74E-08	2.52E-04	1.47E-01	1.40E-07	9.44E-04	1.87E-01	1.78E-08	1.20E-03	7.71E-03	7.35E-09	4.94E-05
Road 20	20	0600-0700	4.28E-02	4.67E-08	6.41E-04	1.60E-01	2.36E-07	3.24E-03	1.87E-01	2.04E-08	2.80E-03	8.36E-03	9.12E-09	1.25E-04
Road 20	20	0700-0800	4.80E-02	2.18E-07	1.47E-03	1.77E-01	8.02E-07	5.40E-03	2.25E-01	1.02E-06	6.86E-03	8.47E-03	3.85E-08	2.59E-04
Road 20	20	0800-0900	4.79E-02	2.59E-07	1.74E-03	1.81E-01	9.81E-07	6.60E-03	2.29E-01	1.24E-06	8.34E-03	8.38E-03	4.53E-08	3.05E-04
Road 20	20	0900-1000	5.20E-02	2.02E-07	1.83E-03	1.96E-01	7.65E-07	6.92E-03	2.48E-01	9.66E-07	8.74E-03	9.08E-03	3.53E-08	3.19E-04
Road 20	20	1000-1100	5.44E-02	2.08E-07	1.96E-03	2.05E-01	7.86E-07	7.40E-03	2.59E-01	9.92E-07	9.34E-03	9.49E-03	3.63E-08	3.42E-04
Road 20	20	1100-1200	5.21E-02	2.01E-07	1.89E-03	1.96E-01	7.55E-07	7.11E-03	2.48E-01	9.55E-07	8.99E-03	9.08E-03	3.50E-08	3.30E-04
Road 20	20	1200-1300	5.44E-02	2.18E-07	2.05E-03	2.05E-01	8.22E-07	7.74E-03	2.59E-01	1.04E-06	9.76E-03	9.49E-03	3.80E-08	3.58E-04
Road 20	20	1300-1400	5.64E-02	3.18E-07	2.41E-03	2.04E-01	1.15E-06	8.75E-03	2.68E-01	1.51E-06	1.15E-02	9.84E-03	5.55E-08	4.22E-04
Road 20	20	1400-1500	5.74E-02	3.24E-07	2.18E-03	2.02E-01	1.14E-06	7.69E-03	2.68E-01	1.51E-06	1.02E-02	9.76E-03	5.51E-08	3.71E-04
Road 20	20	1500-1600	5.19E-02	3.02E-07	2.08E-03	1.92E-01	1.12E-06	7.69E-03	2.57E-01	1.49E-06	1.02E-02	9.08E-03	5.29E-08	3.63E-04
Road 20	20	1600-1700	5.27E-02	2.92E-07	1.97E-03	1.91E-01	1.06E-06	7.10E-03	2.43E-01	1.35E-06	9.07E-03	9.15E-03	5.07E-08	3.41E-04
Road 20	20	1700-1800	4.41E-02	2.30E-07	1.55E-03	1.81E-01	9.41E-07	6.33E-03	2.25E-01	1.17E-06	7.88E-03	7.94E-03	4.14E-08	2.78E-04
Road 20	20	1800-1900	3.47E-02	1.39E-07	9.34E-04	1.48E-01	5.97E-07	4.01E-03	1.82E-01	7.29E-07	4.91E-03	6.49E-03	2.64E-08	1.77E-04
Road 20	20	1900-2000	3.14E-02	8.70E-08	5.86E-04	1.31E-01	3.61E-07	2.43E-03	1.62E-01	4.48E-07	3.02E-03	6.13E-03	1.70E-08	1.14E-04
Road 20	20	2000-2100	3.07E-02	6.72E-08	4.52E-04	1.33E-01	2.91E-07	1.96E-03	1.64E-01	3.58E-07	2.41E-03	6.04E-03	1.32E-08	8.90E-05
Road 20	20	2100-2200	3.11E-02	5.83E-08	4.67E-04	1.38E-01	2.58E-07	2.06E-03	1.69E-01	3.17E-07	2.54E-03	6.23E-03	1.17E-08	9.34E-05
Road 20	20	2200-2300	3.23E-02	6.51E-08	4.38E-04	1.26E-01	2.54E-07	1.71E-03	1.58E-01	3.19E-07	2.14E-03	6.22E-03	1.25E-08	8.42E-05
Road 20	20	2300-0000	3.37E-02	5.40E-08	3.63E-04	1.30E-01	2.09E-07	1.40E-03	1.64E-01	2.63E-07	1.77E-03	6.51E-03	1.04E-08	7.02E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (July) Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 21	21	0000-0100	9.54E-03	6.26E-08	3.02E-04	4.98E-02	3.27E-07	1.58E-03	5.93E-02	3.90E-07	1.88E-03	2.51E-03	1.65E-08	7.97E-05
Road 21	21	0100-0200	1.04E-02	4.54E-08	2.19E-04	5.17E-02	2.25E-07	1.08E-03	6.21E-02	2.71E-07	1.31E-03	2.76E-03	1.20E-08	5.80E-05
Road 21	21	0200-0300	1.13E-02	3.69E-08	1.78E-04	5.41E-02	1.76E-07	8.49E-04	6.55E-02	2.13E-07	1.03E-03	3.00E-03	9.75E-09	4.71E-05
Road 21	21	0300-0400	1.22E-02	3.21E-08	1.55E-04	5.68E-02	1.49E-07	7.18E-04	6.90E-02	1.81E-07	8.73E-04	3.23E-03	8.47E-09	4.08E-05
Road 21	21	0400-0500	1.28E-02	3.74E-08	1.80E-04	5.86E-02	1.71E-07	8.24E-04	7.14E-02	2.08E-07	1.00E-03	3.40E-03	9.91E-09	4.78E-05
Road 21	21	0500-0600	1.31E-02	6.71E-08	3.24E-04	5.99E-02	3.06E-07	1.48E-03	7.31E-02	3.73E-07	1.80E-03	3.50E-03	1.79E-08	8.62E-05
Road 21	21	0600-0700	1.37E-02	1.51E-07	2.29E-04	6.29E-02	6.95E-07	1.06E-03	7.67E-02	8.46E-07	1.29E-03	3.68E-03	4.02E-08	1.94E-04
Road 21	21	0700-0800	1.53E-02	3.48E-07	1.68E-03	6.79E-02	1.55E-06	7.47E-03	8.31E-02	1.89E-06	1.04E-02	7.34E-03	1.66E-07	8.06E-04
Road 21	21	0800-0900	1.60E-02	4.26E-07	2.05E-03	6.93E-02	1.85E-06	8.91E-03	8.53E-02	2.27E-06	1.10E-02	3.93E-03	1.05E-07	5.06E-04
Road 21	21	0900-1000	1.68E-02	4.38E-07	2.11E-03	7.17E-02	1.87E-06	9.04E-03	8.92E-02	2.32E-06	1.12E-02	4.09E-03	1.07E-07	5.16E-04
Road 21	21	1000-1100	1.94E-02	4.27E-07	2.06E-03	7.84E-02	1.73E-06	8.35E-03	9.78E-02	2.16E-06	1.04E-02	4.58E-03	1.01E-07	4.88E-04
Road 21	21	1100-1200	1.94E-02	4.27E-07	2.06E-03	7.84E-02	1.73E-06	8.35E-03	9.78E-02	2.16E-06	1.04E-02	4.58E-03	1.01E-07	4.88E-04
Road 21	21	1200-1300	2.02E-02	4.38E-07	2.11E-03	8.28E-02	1.79E-06	8.64E-03	1.02E-01	2.21E-06	1.07E-02	4.83E-03	1.04E-07	5.03E-04
Road 21	21	1300-1400	2.24E-02	4.83E-07	2.33E-03	8.86E-02	1.92E-06	9.26E-03	1.13E-01	2.45E-06	1.18E-02	5.17E-03	1.12E-07	5.39E-04
Road 21	21	1400-1500	2.30E-02	5.08E-07	2.45E-03	9.14E-02	2.02E-06	9.73E-03	1.16E-01	2.57E-06	1.24E-02	5.32E-03	1.18E-07	5.67E-04
Road 21	21	1500-1600	2.30E-02	5.08E-07	2.45E-03	9.14E-02	2.02E-06	9.73E-03	1.16E-01	2.57E-06	1.24E-02	5.32E-03	1.18E-07	5.67E-04
Road 21	21	1600-1700	2.22E-02	5.08E-07	2.45E-03	8.85E-02	2.02E-06	9.73E-03	1.12E-01	2.57E-06	1.24E-02	5.09E-03	1.18E-07	5.67E-04
Road 21	21	1700-1800	1.96E-02	4.49E-07	2.16E-03	7.82E-02	1.79E-06	8.61E-03	9.91E-02	2.27E-06	1.09E-02	4.49E-03	1.03E-07	4.96E-04
Road 21	21	1800-1900	1.19E-02	2.96E-07	1.42E-03	4.75E-02	1.18E-06	5.68E-03	6.02E-02	1.49E-06	7.19E-03	2.73E-03	6.79E-08	3.26E-04
Road 21	21	1900-2000	1.02E-02	2.27E-07	1.68E-03	4.08E-02	9.07E-07	1.34E-02	5.15E-02	1.14E-06	1.69E-02	2.34E-03	5.21E-08	7.68E-04
Road 21	21	2000-2100	9.94E-03	1.28E-07	1.89E-03	3.97E-02	5.11E-07	7.56E-03	5.01E-02	6.42E-07	9.52E-03	2.28E-03	2.93E-08	4.34E-04
Road 21	21	2100-2200	9.75E-03	1.28E-07	1.89E-03	3.90E-02	5.11E-07	7.56E-03	4.92E-02	6.42E-07	9.52E-03	2.24E-03	2.93E-08	4.34E-04
Road 21	21	2200-2300	9.58E-03	1.21E-07	1.78E-03	3.83E-02	4.84E-07	7.12E-03	4.83E-02	6.08E-07	8.96E-03	2.20E-03	2.77E-08	4.08E-04
Road 21	21	2300-0000	1.08E-02	1.01E-07	4.88E-04	4.34E-02	4.04E-07	1.95E-03	5.45E-02	5.07E-07	2.45E-03	2.49E-03	2.31E-08	1.12E-04
Road 22	22	0000-0100	1.05E-02	1.03E-07	2.56E-04	4.20E-02	4.13E-07	1.02E-03	5.29E-02	5.20E-07	1.29E-03	2.41E-03	2.37E-08	5.87E-05
Road 22	22	0100-0200	1.13E-02	3.69E-08	1.78E-04	5.41E-02	1.76E-07	8.49E-04	6.55E-02	2.13E-07	1.03E-03	3.00E-03	9.75E-09	4.71E-05
Road 22	22	0200-0300	1.22E-02	3.21E-08	1.55E-04	5.68E-02	1.49E-07	7.18E-04	6.90E-02	1.81E-07	8.73E-04	3.23E-03	8.47E-09	4.08E-05
Road 22	22	0300-0400	1.28E-02	3.74E-08	1.80E-04	5.86E-02	1.71E-07	8.24E-04	7.14E-02	2.08E-07	1.00E-03	3.40E-03	9.91E-09	4.78E-05
Road 22	22	0400-0500	1.31E-02	6.71E-08	3.24E-04	5.99E-02	3.06E-07	1.48E-03	7.31E-02	3.73E-07	1.80E-03	3.50E-03	1.79E-08	8.62E-05
Road 22	22	0500-0600	1.37E-02	1.51E-07	2.29E-04	6.29E-02	6.95E-07	1.06E-03	7.67E-02	8.46E-07	1.29E-03	3.68E-03	4.02E-08	1.94E-04
Road 22	22	0600-0700	1.53E-02	3.48E-07	1.68E-03	6.79E-02	1.55E-06	7.47E-03	8.31E-02	1.89E-06	1.04E-02	7.34E-03	1.66E-07	8.06E-04
Road 22	22	0700-0800	1.60E-02	4.26E-07	2.05E-03	6.93E-02	1.85E-06	8.91E-03	8.53E-02	2.27E-06	1.10E-02	3.93E-03	1.05E-07	5.06E-04
Road 22	22	0800-0900	1.68E-02	4.38E-07	2.11E-03	7.17E-02	1.87E-06	9.04E-03	8.92E-02	2.32E-06	1.12E-02	4.09E-03	1.07E-07	5.16E-04
Road 22	22	0900-1000	1.94E-02	4.27E-07	2.06E-03	7.84E-02	1.73E-06	8.35E-03	9.78E-02	2.16E-06	1.04E-02	4.58E-03	1.01E-07	4.88E-04
Road 22	22	1000-1100	1.94E-02	4.27E-07	2.06E-03	7.84E-02	1.73E-06	8.35E-03	9.78E-02	2.16E-06	1.04E-02	4.58E-03	1.01E-07	4.88E-04
Road 22	22	1100-1200	2.02E-02	4.38E-07	2.11E-03	8.28E-02	1.79E-06	8.64E-03	1.02E-01	2.21E-06	1.07E-02	4.83E-03	1.04E-07	5.03E-04
Road 22	22	1200-1300	2.24E-02	4.83E-07	2.33E-03	8.86E-02	1.92E-06	9.26E-03	1.13E-01	2.45E-06	1.18E-02	5.17E-03	1.12E-07	5.39E-04
Road 22	22	1300-1400	2.30E-02	5.08E-07	2.45E-03	9.14E-02	2.02E-06	9.73E-03	1.16E-01	2.57E-06	1.24E-02	5.32E-03	1.18E-07	5.67E-04
Road 22	22	1400-1500	2.30E-02	5.08E-07	2.45E-03	9.14E-02	2.02E-06	9.73E-03	1.16E-01	2.57E-06	1.24E-02	5.32E-03	1.18E-07	5.67E-04
Road 22	22	1500-1600	2.22E-02	5.08E-07	2.45E-03	8.85E-02	2.02E-06	9.73E-03	1.12E-01	2.57E-06	1.24E-02	5.09E-03	1.18E-07	5.67E-04
Road 22	22	1600-1700	1.96E-02	4.49E-07	2.16E-03	7.82E-02	1.79E-06	8.61E-03	9.91E-02	2.27E-06	1.09E-02	4.49E-03	1.03E-07	4.96E-04
Road 22	22	1700-1800	1.32E-02

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (July) Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 44	44	0800-0900	6.55E-03	2.70E-07	3.68E-04	5.16E-03	2.14E-07	2.90E-04	3.76E-03	2.00E-03	6.32E-08	1.42E-04		
Road 44	44	0900-1000	8.63E-03	2.23E-07	5.02E-04	4.42E-02	1.14E-06	2.58E-03	5.28E-02	1.33E-04		
Road 44	44	1000-1100	9.72E-03	2.17E-07	4.89E-04	4.56E-02	1.02E-06	2.29E-03	5.53E-02	1.23E-06	2.78E-03	2.59E-03	5.78E-08	1.30E-04
Road 44	44	1100-1200	9.24E-03	1.92E-07	4.40E-04	4.53E-02	9.38E-07	2.15E-03	5.45E-02	1.13E-06	2.60E-03	2.45E-03	5.18E-08	1.17E-04
Road 44	44	1200-1300	1.11E-02	2.91E-07	6.56E-04	4.95E-02	1.29E-06	2.92E-03	6.09E-02	1.59E-06	3.57E-03	2.92E-03	7.63E-08	1.72E-04
Road 44	44	1300-1400	1.13E-02	3.01E-07	6.78E-04	5.18E-02	1.38E-06	3.12E-03	6.30E-02	1.68E-06	3.79E-03	3.01E-03	8.03E-08	1.81E-04
Road 44	44	1400-1500	1.29E-02	3.43E-07	7.73E-04	5.35E-02	1.42E-06	3.20E-03	6.63E-02	1.89E-06	4.26E-03	3.20E-03	8.68E-08	1.96E-04
Road 44	44	1500-1600	1.22E-02	3.56E-07	8.02E-04	5.81E-02	1.69E-06	3.82E-03	7.08E-02	2.05E-06	4.62E-03	2.98E-03	8.69E-08	1.96E-04
Road 44	44	1600-1700	1.73E-02	5.37E-07	1.21E-03	7.09E-02	2.20E-06	4.96E-03	8.81E-02	2.74E-06	6.17E-03	3.33E-03	1.03E-07	2.33E-04
Road 44	44	1700-1800	1.57E-02	5.01E-07	1.13E-03	8.61E-02	2.75E-06	6.19E-03	9.82E-02	3.13E-06	7.05E-03	3.33E-03	1.06E-07	2.39E-04
Road 44	44	1800-1900	2.50E-02	9.71E-07	2.19E-03	1.05E-01	4.09E-06	9.23E-03	1.30E-01	5.07E-06	1.14E-02	2.68E-03	1.04E-07	2.35E-04
Road 44	44	1900-2000	4.84E-03	1.49E-07	3.36E-04	3.11E-02	9.58E-07	2.16E-03	3.96E-02	1.22E-06	2.75E-03	1.23E-03	3.78E-08	8.52E-05
Road 44	44	2000-2100	3.52E-03	1.08E-07	2.44E-04	2.26E-02	6.97E-07	1.57E-03	2.88E-02	8.86E-07	2.00E-03	1.23E-03	3.78E-08	8.52E-05
Road 44	44	2100-2200	4.04E-03	9.65E-08	2.18E-04	2.60E-02	6.21E-07	1.40E-03	3.31E-02	7.91E-07	1.78E-03	1.42E-03	3.40E-08	7.66E-05
Road 44	44	2200-2300	3.95E-03	9.19E-08	2.07E-04	2.54E-02	5.91E-07	1.33E-03	3.23E-02	7.52E-07	1.69E-03	1.66E-03	3.86E-08	8.70E-05
Road 44	44	2300-2400	4.42E-03	2.70E-07	3.68E-04	2.84E-02	1.74E-06	2.37E-03	3.62E-02	2.22E-06	3.02E-03	1.66E-03	1.02E-07	1.39E-04
Road 45	45	0000-0100	4.33E-03	3.44E-08	1.55E-04	3.39E-02	2.70E-07	1.21E-03	3.06E-02	8.43E-08	3.79E-05	1.37E-03	1.06E-08	4.77E-05
Road 45	45	0100-0200	4.76E-03	2.47E-08	1.11E-04	3.50E-02	1.81E-07	8.14E-04	3.98E-02	2.06E-07	9.25E-05	1.18E-03	6.10E-09	2.74E-05
Road 45	45	0200-0300	5.25E-03	1.98E-08	8.91E-05	3.88E-02	1.46E-07	6.57E-04	4.39E-02	1.65E-07	7.43E-05	1.30E-03	4.90E-09	2.21E-05
Road 45	45	0300-0400	5.71E-03	1.70E-08	7.65E-05	3.80E-02	1.13E-07	5.09E-04	4.37E-02	1.30E-07	5.87E-05	1.44E-03	4.25E-09	1.91E-05
Road 45	45	0400-0500	6.17E-03	2.02E-08	9.07E-05	3.91E-02	1.28E-07	5.75E-04	4.53E-02	1.48E-07	6.66E-04	1.55E-03	5.07E-09	2.28E-05
Road 45	45	0500-0600	6.63E-03	3.76E-08	1.69E-04	4.03E-02	2.29E-07	1.03E-03	4.70E-02	2.66E-07	1.20E-03	1.66E-03	9.51E-09	4.27E-05
Road 45	45	0600-0700	7.13E-03	4.68E-08	3.89E-04	4.33E-02	2.84E-07	2.36E-03	5.06E-02	3.32E-07	2.75E-03	1.66E-03	1.09E-08	9.07E-05
Road 45	45	0700-0800	7.69E-03	1.89E-07	8.48E-04	4.39E-02	1.08E-06	4.84E-03	5.16E-02	1.27E-06	5.69E-03	1.94E-03	4.76E-08	2.14E-04
Road 45	45	0800-0900	7.48E-03	2.13E-07	9.55E-04	4.04E-02	1.15E-06	5.16E-03	4.79E-02	1.36E-06	6.12E-03	1.92E-03	5.45E-08	2.45E-04
Road 45	45	0900-1000	8.47E-03	2.47E-07	5.87E-04	4.57E-02	1.33E-06	3.16E-03	5.42E-02	1.58E-06	3.75E-03	2.17E-03	6.32E-08	1.50E-04
Road 45	45	1000-1100	9.58E-03	1.93E-07	8.66E-04	4.54E-02	9.14E-07	4.07E-03	2.58E-03	5.19E-08	2.33E-04	2.17E-03	4.36E-08	1.96E-04
Road 45	45	1100-1200	9.08E-03	1.73E-07	7.78E-04	4.51E-02	8.59E-07	3.86E-03	4.64E-03	2.08E-03	4.64E-04	2.08E-04
Road 45	45	1200-1300	1.07E-02	2.02E-07	4.54E-04	5.14E-02	9.74E-07	2.18E-03	5.76E-03	2.68E-03	6.02E-04	2.68E-04
Road 45	45	1300-1400	1.07E-02	2.42E-07	1.09E-03	4.96E-02	1.12E-06	5.13E-03	2.88E-03	6.50E-08	2.92E-04	
Road 45	45	1400-1500	1.08E-02	2.84E-07	1.28E-03	5.43E-02	1.42E-06	6.41E-03	2.88E-03	6.96E-08	3.13E-04	
Road 45	45	1500-1600	1.08E-02	2.84E-07	1.28E-03	5.73E-02	1.50E-06	6.75E-03	2.82E-03	6.96E-08	3.13E-04	
Road 45	45	1600-1700	1.08E-02	2.84E-07	1.28E-03	5.73E-02	1.50E-06	6.75E-03	2.82E-03	6.96E-08	3.13E-04	
Road 45	45	1700-1800	9.28E-03	2.79E-07	1.25E-03	4.91E-02	1.48E-06	6.65E-03	2.82E-03	6.96E-08	3.13E-04	
Road 45	45	1800-1900	4.66E-03	1.23E-07	5.52E-04	3.02E-02	7.95E-07	3.57E-03	2.82E-03	6.96E-08	3.13E-04	
Road 45	45	1900-2000	4.66E-03	1.23E-07	5.52E-04	3.02E-02	7.95E-07	3.57E-03	2.82E-03	6.96E-08	3.13E-04	
Road 45	45	2000-2100	4.44E-03	9.12E-08	4.09E-04	3.27E-02	6.71E-07	3.42E-03	1.12E-03	2.31E-08	1.04E-04	
Road 45	45	2100-2200	3.52E-03	8.27E-08	1.86E-04	2.59E-02	6.08E-07	1.37E-03	1.12E-03	2.63E-08	5.91E-05	
Road 45	45	2200-2300	3.78E-03	7.51E-08	3.38E-04	3.21E-02	6.39E-07	2.87E-03	3.59E-02	7.14E-07	3.21E-03	9.14E-04	1.82E-08	8.17E-05
Road 45	45	2300-0000	4.21E-03	6.26E-08	2.81E-04	3.31E-02	4.92E-07	2.21E-03	3.73E-02	5.54E-07	2.49E-03	1.04E-03	1.55E-08	6.96E-05
Road 45	45	0000-0100	4.58E-03	1.04E-08	7.07E-05	3.49E-02	7.93E-08	5.38E-04	3.94E-02	8.97E-08	6.08E-04	1.12E-03	2.55E-09	1.73E-05
Road 46	46	0100-0200	4.58E-03	1.04E-08	7.07E-05	3.49E-02	7.93E-08	5.38E-04	3.94E-02	8.97E-08	6.08E-04	1.12E-03	2.55E-09	1.73E-05
Road 46	46	0200-0300	5.06E-03	8.39E-09	3.66E-05	6.07E-02	4.12E-08	4.16E-04	6.91E-02	4.68E-08	2.04E-04	1.42E-03	9.64E-10	4.20E-06
Road 46	46	0300-0400	5.06E-03	8.39E-09	3.66E-05	6.07E-02	4.12E-08	4.16E-04	6.91E-02	4.68E-08	2.04E-04	1.42E-03	9.64E-10	4.20E-06
Road 46	46	0400-0500	5.96E-03	8.55E-09	5.79E-05	3.89E-02	5.58E-08	3.78E-04	4.48E-02	6.43E-08	4.36E-04	1.48E-03	2.13E-09	1.44E-05
Road 46	46	0500-0600	6.41E-03	1.59E-08	1.08E-04	4.00E-02	9.95E-08	6.74E-04	4.65E-02	1.15E-07	7.82E-04	1.61E-03	3.99E-09	2.70E-05
Road 46	46	0600-0700	6.92E-03	3.52E-08	2.39E-04	4.32E-02	2.20E-07	1.49E-03	5.00E-02	2.54E-07	1.73E-03	1.61E-03	8.19E-09	5.56E-05
Road 46	46	0700-0800	7.33E-03	7.87E-08	5.34E-04	4.23E-02	4.54E-07	3.08E-03	4.96E-02	5.33E-07	3.61E-03	1.86E-03	2.00E-08	1.35E-04
Road 46	46	0800-0900	7.02E-03	8.73E-08	5.92E-04	3.76E-02	4.68E-07	3.17E-03	4.66E-02	5.56E-07	3.77E-03	1.83E-03	2.28E-08	1.54E-04
Road 46	46	0900-1000	8.04E-03	4.44E-07	1.07E-03	4.44E-02	2.45E-06	5.91E-03	5.11E-02	2.82E-06	6.80E-03	2.74E-03	1.51E-07	3.64E-04
Road 46	46	1000-1100	9.09E-03	7.93E-08	5.37E-04	4.36E-02	3.80E-07	2.57E-03	5.02E-02	4.37E-07	2.96E-03	2.14E-03	1.87E-08	1.26E-04
Road 46	46	1100-1200	8.60E-03	7.11E-08	4.82E-04	4.35E-02	3.60E-07	2.44E-03	5.56E-02	4.60E-07	3.12E-03	2.46E-03	2.03E-08	1.37E-04
Road 46	46	1200-1300	1.18E-02	1.32E-07	8.97E-04	5.11E-02	5.75E-07	3.90E-03	6.43E-02	7.07E-07	4.79E-03	3.26E-03	3.67E-08	2.49E-04
Road 46	46	1300-1400	1.18E-02	1.32E-07	8.97E-04	5.11E-02	5.75E-07	3.90E-03	6.43E-02	7.07E-07	4.79E-03	3.26E-03	3.67E-08	2.49E-04
Road 46	46	1400-1500	1.18E-02	1.42E-07	9.61E-04	5.04E-02	6.03E-07	4.09E-03	6.22E-02	7.45E-07	5.05E-03	3.25E-03	3.89E-08	2.63E-04
Road 46	46	1500-1600	1.16E-02	1.50E-07	1.02E-03	4.86E-02	6.30E-07	4.27E-03	6.03E-02	7.80E-07	5.29E-03	3.14E-03	4.07E-08	2.76E-04
Road 46	46	1600-1700	1.16E-02	1.50E-07	1.02E-03	4.86E-02	6.30E-07	4.27E-03	6.01E-02	7.80E-07	5.29E-03	3.14E-03	4.07E-08	2.76E-04
Road 46	46	1700-1800	8.16E-03	1.19E-07	8.08E-04	4.19E-02	6.12E-07	4.15E-03	5.00E-02	7.31E-07	4.95E-03	2.26E-03	3.30E-08	2.24E-04
Road 46	46	1800-1900	9.00E-03	1.31E-07	8.91E-04	4.62E-02	6.74E-07	4.57E-03	5.51E-02	8.05E-07	5.46E-03	2.49E-03	3.63E-08	2.47E-04
Road 46	46	1900-2000	5.06E-03	6.35E-08	4.30E-04	3.06E-02	3.84E-07	2.60E-03	3.88E-02	4.87E-07	3.30E-03	1.33E-03	1.67E-08	1.13E-04
Road 46	46	2000-2100	4.90E-03	4.78E-08	3.24E-04	3.43E-02	3.34E-07	2.26E-03	3.92E-02	3.82E-07	2.59E-03	1.28E-03	1.24E-08	8.43E-05
Road 46	46	2100-2200	4.34E-03	4.22E-08	2.86E-04	3.35E-02	3.26E-07	2.21E-03	3.78E-02	3.68E-07	2.50E-03	1.13E-03	1.10E-08	7.48E-05
Road 46	46	2200-2300	4.28E-03	2.47E-07	3.34E-04	3.31E-02	1.91E-06	2.58E-03	3.74E-02	2.16E-06	2.92E-03	1.12E-03	6.48E-08	8.76E-05
Road 46	46	2300-0000	4.78E-03	3.38E-08	2.29E-04	3.49E-02	2.47E-07	1.67E-03	3.97E-02	2.81E-07	1.90E-03	1.21E-03	8.56E-09	5.80E-05
Road 47	47	0000-0100	7.36E-03	1.06E-08	1.21E-04	4.88E-02	7.06E-08	8.05E-04	5.61E-02	8.12E-08	9.26E-04	1.35E-03	1.95E-09	2.23E-05
Road 47	47	0100-0200	8.10E-03	5.46E-09	6.79E-05	5.46E-02	3.68E-08	4.58E-04	6.30E-02	4.24E-08	5.27E-04	1.51E-03	1.02E-09	1.27E-05
Road 47	47	0200-0300	8.65E-03	5.96E-09	6.79E-05	5.26E-02	3.62E-08	4.13E-04	6.13E-02	4.22E-08	4.81E-04	1.63E-03	1.12E-09	1.28E-05
Road 47	47	0300-0400	9.40E-03	5.51E-09	5.83E-05	5.48E-02	3.21E-08	3.39E-04	6.98E-02	4.09E-08	4.33E-04	1.78E-03	9.71E-10	1.11E-05
Road 47	47	0400-0500	1.02E-02	5.97E-09	6.56E-05	5.98E-02	3.50E-08	3.85E-04	7.62E-02	4.47E-08	4.91E-04	1.94E-03	1.14E-09	1.25E-05
Road 47	47	0500-0600	1.12E-02	1.17E-08	1.33E-04	6.02E-02	6.25E-08	7.12E-04	7.15E-02	7.47E-08	8.45E-04	2.11E-03	2.19E-09	2.50E-05
Road 47	47	0600-0700	1.24E-02	2.76E-08	3.15E-04	6.44E-02	1.43E-07	1.63E-03	7.68E-02	1.71E-07	1.95E-03	2.29E-03	5.10E-09	5.81E-05
Road 47	47	0700-0800	1.36E-02	1.70E-08	3.88E-04	7.06E-02	8.79E-08	2.00E-03	8.42E-02	1.05E-07	2.39E-03	2.50E-03	3.13E-09	7.14E-05
Road 47	47	0800-0900	1.36E-02	7.09E-08	8.09E-04	6.40E-02	3.35E-07	3.82E-03	7.75E-02	4.06E-07	4.63E-03	2.47E-03	1.29E-08	1.47E-04
Road 47	47	0900-1000	1.55E-02	6.71E-08	7.65E-04	7.23E-02	3.13E-07	3.56E-03	8.79E-02	3.80E-07	4.33E-03	2.92E-03	1.26E-08	1.44E-04
Road 47	47	1000-1100	1.79E-02	6.76E-08	7.71E-04	7.91E-02	2.98E-07	3.39E-03	9.56E-02	3.58E-07	4.08E-03	3.32E-03	1.25E-08	1.42E-04
Road 47	47	1100-1200	1.70E-02	6.05E-08	6.89E-04	7.71E-02	2.73E-07	3.12E-03	9.42E-02	3.34E-07	3.81E-03	3.15E-03	1.12E-08	1.27E-04
Road 47	47	1200-1300	1.97E-02	3.11E-07	3.55E-03	8.32E-02	1.31E-06	1.50E-02	1.03E-01	1.62E-06	1.85E-02	3.02E-03	4.76E-08	5.43E-04
Road 47	47	1300-1400	2.02E-02	2.97E-07	3.38E-03	8.52E-02	1.25E-06	1.43E-02	1.06E-01	1.55E-06	1.77E-02	3.09E-03	4.54E-08	5.18E-04
Road 47	47	1400-1500	2.02E-02	3.46E-07	3.95E-03	8.52E-02	1.46E-06	1.67E-02	1.05E-01	1.81E-06	2.06E-02	3.13E-03	5.37E-08	6.12E-04
Road 47	47	1500-1600	1.90E-02	3.33E-07	3.80E-03	8.61E-02	1.51E-06	1.72E-02	1.05E-01	1.84E-06	2.10E-02	3.02E-03	5.30E-08	6.04E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for AERMOD model (August) Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 47	47	1600-1700	2.08E-02	3.94E-07	4.50E-03	8.47E-02	1.60E-06	1.83E-02	1.06E-01	2.00E-06	2.28E-02	3.19E-03	6.04E-08	6.89E-04
Road 47	47	1700-1800	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	8.88E-02	1.91E-06	2.17E-02	2.30E-03	5.04E-08	5.74E-04
Road 47	47	1800-1900	1.07E-02	2.66E-07	3.03E-03	5.26E-02	1.30E-06	1.49E-02	6.33E-02	1.57E-06	1.79E-02	1.67E-03	4.14E-08	4.72E-04
Road 47	47	1900-2000	8.57E-03	1.70E-07	1.93E-03	4.82E-02	9.55E-07	1.09E-02	5.68E-02	1.12E-06	1.28E-02	1.35E-03	2.67E-08	3.05E-04
Road 47	47	2000-2100	7.93E-03	1.22E-07	1.39E-03	5.17E-02	7.94E-07	9.05E-03	5.96E-02	9.16E-07	1.04E-02	1.25E-03	1.92E-08	2.19E-04
Road 47	47	2100-2200	6.63E-03	1.02E-07	1.16E-03	4.95E-02	7.61E-07	8.67E-03	5.62E-02	8.63E-07	9.83E-03	1.04E-03	1.60E-08	1.82E-04
Road 47	47	2200-2300	6.22E-03	9.30E-08	1.06E-03	4.82E-02	7.22E-07	8.22E-03	5.46E-02	8.15E-07	9.29E-03	1.09E-03	2.19E-08	2.49E-04
Road 47	47	2300-0000	6.57E-03	7.33E-08	8.35E-04	4.82E-02	5.38E-07	6.13E-03	5.48E-02	6.11E-07	6.96E-03	1.09E-03	1.18E-08	1.34E-04
Road 48	48	0000-0100	4.52E-03	3.75E-08	2.07E-04	3.42E-02	2.84E-07	1.56E-03	3.88E-02	3.22E-07	1.77E-03	1.13E-03	9.35E-09	5.15E-05
Road 48	48	0100-0200	5.06E-03	2.67E-08	1.47E-04	3.53E-02	1.86E-07	1.03E-03	4.02E-02	2.12E-07	1.17E-03	1.13E-03	5.97E-09	3.29E-05
Road 48	48	0200-0300	5.43E-03	2.14E-08	1.18E-04	3.72E-02	1.47E-07	8.14E-04	4.25E-02	1.67E-07	9.22E-04	1.37E-03	5.39E-09	2.97E-05
Road 48	48	0300-0400	5.83E-03	1.83E-08	1.01E-04	3.83E-02	1.19E-07	6.55E-04	4.41E-02	1.37E-07	7.56E-04	1.49E-03	4.63E-09	2.55E-05
Road 48	48	0400-0500	6.23E-03	2.16E-08	1.19E-04	4.04E-02	1.40E-07	7.72E-04	4.58E-02	1.59E-07	8.76E-04	1.49E-03	5.17E-09	2.85E-05
Road 48	48	0500-0600	6.81E-03	4.02E-08	2.21E-04	4.06E-02	2.40E-07	1.32E-03	4.74E-02	2.80E-07	1.54E-03	1.74E-03	1.03E-08	5.66E-05
Road 48	48	0600-0700	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.34E-07	2.94E-03	4.95E-02	6.26E-07	3.45E-03	1.87E-03	2.36E-08	1.30E-04
Road 48	48	0700-0800	7.78E-03	1.98E-07	1.09E-03	4.29E-02	1.10E-06	6.04E-03	5.06E-02	1.29E-06	7.13E-03	2.26E-03	5.75E-08	3.16E-04
Road 48	48	0800-0900	7.38E-03	2.18E-07	1.20E-03	3.83E-02	1.13E-06	6.24E-03	4.57E-02	1.35E-06	7.44E-03	1.95E-03	5.76E-08	3.18E-04
Road 48	48	0900-1000	8.45E-03	2.05E-07	1.13E-03	4.23E-02	1.03E-06	5.65E-03	5.07E-02	1.23E-06	6.77E-03	2.32E-03	5.61E-08	3.09E-04
Road 48	48	1000-1100	9.61E-03	2.11E-07	1.11E-03	4.46E-02	9.81E-07	5.14E-03	5.04E-02	1.10E-06	5.76E-03	2.63E-03	5.77E-08	3.03E-04
Road 48	48	1100-1200	9.14E-03	1.81E-07	9.98E-04	4.45E-02	8.83E-07	4.86E-03	4.87E-03	9.37E-07	5.16E-04	2.50E-03	4.95E-08	2.72E-04
Road 48	48	1200-1300	1.50E-02	2.89E-07	1.59E-03	5.62E-02	1.08E-06	5.98E-03	7.12E-02	1.37E-06	7.57E-03	4.18E-03	8.07E-08	4.44E-04
Road 48	48	1300-1400	1.50E-02	3.03E-07	1.67E-03	5.62E-02	1.13E-06	6.27E-03	7.12E-02	1.44E-06	7.95E-03	4.18E-03	8.63E-08	4.75E-04
Road 48	48	1400-1500	1.50E-02	3.17E-07	1.74E-03	5.71E-02	1.20E-06	6.62E-03	7.12E-02	1.50E-06	8.37E-03	4.25E-03	8.98E-08	4.95E-04
Road 48	48	1500-1600	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	7.09E-02	1.53E-06	8.43E-03	4.03E-03	8.70E-08	4.79E-04
Road 48	48	1600-1700	1.41E-02	3.16E-07	1.74E-03	5.42E-02	1.21E-06	6.68E-03	6.83E-02	1.53E-06	8.42E-03	3.97E-03	8.89E-08	4.90E-04
Road 48	48	1700-1800	1.24E-02	3.12E-07	1.38E-03	4.76E-02	1.20E-06	5.31E-03	6.00E-02	1.51E-06	6.68E-03	3.48E-03	8.78E-08	4.84E-04
Road 48	48	1800-1900	7.38E-03	1.82E-07	1.00E-03	3.50E-02	8.62E-07	4.75E-03	4.24E-02	1.04E-06	5.75E-03	2.13E-03	5.25E-08	2.89E-04
Road 48	48	1900-2000	6.48E-03	1.26E-07	6.93E-04	3.30E-02	6.41E-07	3.53E-03	3.95E-02	7.67E-07	4.22E-03	1.82E-03	3.54E-08	1.95E-04
Road 48	48	2000-2100	6.07E-03	8.60E-08	3.54E-04	3.06E-02	4.33E-07	1.78E-03	3.70E-02	5.24E-07	2.16E-03	1.70E-03	2.41E-08	9.92E-05
Road 48	48	2100-2200	6.07E-03	9.11E-08	5.02E-04	3.56E-02	5.35E-07	2.95E-03	4.17E-02	6.26E-07	3.45E-03	1.72E-03	2.58E-08	1.42E-04
Road 48	48	2200-2300	6.03E-03	8.78E-08	4.84E-04	3.48E-02	5.08E-07	2.80E-03	4.09E-02	5.96E-07	3.28E-03	1.63E-03	2.38E-08	1.31E-04
Road 48	48	2300-0000	6.62E-03	7.28E-08	4.01E-04	3.62E-02	3.98E-07	2.19E-03	4.49E-02	4.93E-07	2.72E-03	1.79E-03	1.96E-08	1.08E-04
Road 49	49	0000-0100	6.13E-03	3.38E-08	3.12E-04	4.54E-02	2.50E-07	2.31E-03	5.15E-02	2.84E-07	2.62E-03	9.84E-04	5.43E-09	5.00E-05
Road 49	49	0100-0200	6.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	5.06E-02	1.81E-07	1.66E-03	1.09E-03	3.80E-09	3.50E-05
Road 49	49	0200-0300	6.66E-03	1.74E-08	1.60E-04	4.46E-02	1.17E-07	1.07E-03	5.45E-02	1.42E-07	1.30E-03	1.09E-03	2.85E-09	2.62E-05
Road 49	49	0300-0400	7.31E-03	1.50E-08	1.38E-04	4.76E-02	9.74E-08	8.97E-04	5.49E-02	1.12E-07	1.04E-03	1.28E-03	2.63E-09	2.42E-05
Road 49	49	0400-0500	7.94E-03	1.78E-08	1.64E-04	4.93E-02	1.10E-07	1.02E-03	5.72E-02	1.28E-07	1.18E-03	1.41E-03	3.14E-09	2.90E-05
Road 49	49	0500-0600	8.57E-03	3.11E-08	1.32E-04	5.31E-02	1.93E-07	8.17E-04	6.17E-02	2.24E-07	9.50E-04	1.55E-03	5.62E-09	2.38E-05
Road 49	49	0600-0700	1.16E-02	9.54E-08	8.79E-04	6.26E-02	5.16E-07	4.75E-03	7.41E-02	6.11E-07	5.63E-03	1.81E-03	1.50E-08	1.38E-04
Road 49	49	0700-0800	1.54E-02	2.56E-07	2.36E-03	7.57E-02	1.26E-06	1.16E-02	9.11E-02	1.51E-06	1.39E-02	2.52E-03	4.18E-08	3.85E-04
Road 49	49	0800-0900	1.52E-02	2.56E-07	2.36E-03	7.57E-02	1.26E-06	1.16E-02	9.11E-02	1.51E-06	1.39E-02	2.52E-03	4.18E-08	3.85E-04
Road 49	49	0900-1000	1.72E-02	2.65E-07	2.44E-03	8.00E-02	1.23E-06	1.13E-02	9.72E-02	1.49E-06	1.37E-02	2.42E-03	3.71E-08	3.41E-04
Road 49	49	1

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (August) Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 11	11	0000-0100	2.35E-02	1.83E-07	7.56E-04	1.16E-06	9.05E-12	3.73E-08	1.03E-03	4.54E-03	3.53E-08	4.95E-05		
Road 11	11	0100-0200	2.60E-02	1.35E-07	1.89E-04	1.31E-01	6.76E-07	9.47E-04	1.57E-01	1.14E-03	5.06E-03	2.62E-08	3.67E-05	
Road 11	11	0200-0300	2.89E-02	1.12E-07	1.57E-04	1.38E-01	5.34E-07	7.48E-04	1.67E-01	6.46E-07	9.04E-04	5.60E-03	2.16E-08	3.03E-05
Road 11	11	0300-0400	3.21E-02	1.04E-07	1.45E-04	1.45E-01	4.70E-07	6.58E-04	1.77E-01	5.74E-07	7.76E-04	6.14E-03	1.92E-08	2.69E-05
Road 11	11	0400-0500	3.33E-02	1.14E-07	1.59E-04	1.51E-01	5.14E-07	7.19E-04	1.84E-01	6.27E-07	8.79E-04	6.41E-03	2.19E-08	3.06E-05
Road 11	11	0500-0600	3.38E-02	1.94E-07	2.72E-04	1.58E-01	9.08E-07	1.27E-03	1.92E-01	1.10E-06	1.54E-03	6.51E-03	3.74E-08	5.24E-05
Road 11	11	0600-0700	3.63E-02	2.72E-07	3.81E-04	1.78E-01	2.08E-06	2.92E-03	2.09E-01	2.52E-06	3.53E-03	6.98E-03	8.18E-08	1.15E-04
Road 11	11	0700-0800	4.78E-02	1.19E-06	1.67E-03	2.04E-01	5.10E-06	7.14E-03	2.52E-01	6.29E-06	8.81E-03	8.23E-03	1.95E-07	2.73E-04
Road 11	11	0800-0900	4.81E-02	1.38E-06	1.94E-03	1.92E-01	5.52E-06	7.73E-03	2.40E-01	6.90E-06	9.66E-03	6.52E-03	1.87E-07	2.63E-04
Road 11	11	0900-1000	5.61E-02	1.39E-06	1.95E-03	1.71E-01	4.23E-06	5.92E-03	2.14E-01	5.29E-06	7.41E-03	5.68E-03	1.41E-07	1.97E-04
Road 11	11	1000-1100	6.03E-02	1.30E-06	1.82E-03	2.14E-01	4.61E-06	6.46E-03	2.74E-01	5.91E-06	8.28E-03	6.42E-03	1.39E-07	1.94E-04
Road 11	11	1100-1200	5.88E-02	1.20E-06	1.69E-03	2.11E-01	4.31E-06	6.04E-03	2.69E-01	5.51E-06	7.72E-03	6.12E-03	1.25E-07	1.76E-04
Road 11	11	1200-1300	7.74E-02	1.34E-06	1.88E-03	2.77E-01	4.80E-06	6.72E-03	3.54E-01	6.14E-06	8.60E-03	7.93E-03	1.38E-07	2.00E-04
Road 11	11	1300-1400	8.07E-02	2.01E-06	2.82E-03	2.73E-01	6.79E-06	9.52E-03	3.53E-01	8.80E-06	1.23E-02	7.61E-03	1.90E-07	2.66E-04
Road 11	11	1400-1500	8.02E-02	2.09E-06	2.93E-03	2.70E-01	7.05E-06	9.87E-03	3.58E-01	9.14E-06	1.28E-02	7.86E-03	2.05E-07	2.87E-04
Road 11	11	1500-1600	8.01E-02	2.15E-06	3.01E-03	2.70E-01	7.25E-06	1.01E-02	3.58E-01	9.40E-06	1.32E-02	7.93E-03	2.13E-07	2.98E-04
Road 11	11	1600-1700	7.65E-02	2.11E-06	2.96E-03	2.61E-01	7.22E-06	1.01E-02	3.38E-01	9.32E-06	1.30E-02	7.57E-03	2.09E-07	2.93E-04
Road 11	11	1700-1800	6.26E-02	1.87E-06	2.62E-03	2.42E-01	7.23E-06	1.01E-02	3.04E-01	9.11E-06	1.28E-02	7.93E-03	2.38E-07	3.33E-04
Road 11	11	1800-1900	4.37E-02	1.34E-06	1.88E-03	1.74E-01	5.36E-06	7.51E-03	2.57E-01	7.87E-06	1.10E-02	7.34E-03	2.25E-07	3.16E-04
Road 11	11	1900-2000	3.07E-02	7.20E-07	1.01E-03	1.39E-01	3.25E-06	4.55E-03	1.69E-01	3.97E-06	5.56E-03	4.49E-03	1.05E-07	1.47E-04
Road 11	11	2000-2100	3.00E-02	5.50E-07	7.71E-04	1.43E-01	2.63E-06	3.68E-03	1.74E-01	3.19E-06	4.45E-03	4.34E-03	7.95E-08	1.11E-04
Road 11	11	2100-2200	2.95E-02	5.42E-07	7.57E-04	1.44E-01	2.66E-06	3.72E-03	1.75E-01	3.23E-06	4.52E-03	4.47E-03	8.19E-08	1.15E-04
Road 11	11	2200-2300	2.69E-02	4.97E-07	6.63E-04	1.36E-01	2.51E-06	3.35E-03	1.66E-01	3.07E-06	4.09E-03	4.02E-03	7.42E-08	9.89E-05
Road 11	11	2300-0000	2.88E-02	3.86E-07	5.40E-04	1.40E-01	1.87E-06	2.62E-03	3.17E-03	4.51E-03	6.03E-08	8.45E-05		
Road 12	12	0000-0100	2.25E-01	1.41E-07	1.27E-03	4.72E-01	2.95E-07	2.67E-03	3.93E-03	2.08E-02	1.31E-08	1.17E-04		
Road 12	12	0100-0200	2.12E-01	1.41E-07	1.27E-03	4.68E-01	2.92E-07	2.64E-03	3.82E-03	2.08E-02	1.31E-08	1.17E-04		
Road 12	12	0200-0300	2.36E-01	1.41E-07	1.27E-03	4.88E-01	2.91E-07	2.62E-03	7.24E-01	4.32E-07	3.89E-03	2.16E-02	1.29E-08	1.16E-04
Road 12	12	0300-0400	2.38E-01	1.41E-07	1.26E-03	4.92E-01	2.91E-07	2.61E-03	7.30E-01	4.32E-07	3.88E-03	2.18E-02	1.29E-08	1.16E-04
Road 12	12	0400-0500	2.32E-01	1.42E-07	1.27E-03	4.84E-01	2.96E-07	2.66E-03	7.16E-01	4.38E-07	3.94E-03	2.14E-02	1.31E-08	1.18E-04
Road 12	12	0500-0600	2.32E-01	1.42E-07	1.28E-03	4.86E-01	2.98E-07	2.68E-03	7.18E-01	4.40E-07	3.96E-03	2.13E-02	1.31E-08	1.18E-04
Road 12	12	0600-0700	2.32E-01	1.54E-07	1.39E-03	4.96E-01	3.30E-07	2.97E-03	7.25E-01	4.82E-07	4.34E-03	2.15E-02	1.43E-08	1.29E-04
Road 12	12	0700-0800	2.69E-01	1.54E-07	1.39E-03	5.74E-01	3.30E-07	2.97E-03	8.44E-01	4.82E-07	4.34E-03	2.51E-02	1.43E-08	1.29E-04
Road 12	12	0800-0900	2.83E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.77E-01	2.12E-06	1.91E-02	2.61E-02	6.34E-08	5.70E-04
Road 12	12	0900-1000	2.86E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.77E-01	2.12E-06	1.91E-02	2.61E-02	6.34E-08	5.70E-04
Road 12	12	1000-1100	2.90E-01	6.88E-07	6.19E-03	6.06E-01	1.44E-06	1.29E-02	8.91E-01	2.12E-06	1.91E-02	2.65E-02	6.36E-08	5.72E-04
Road 12	12	1100-1200	2.90E-01	6.88E-07	6.19E-03	6.06E-01	1.44E-06	1.29E-02	8.91E-01	2.12E-06	1.91E-02	2.65E-02	6.36E-08	5.72E-04
Road 12	12	1200-1300	2.90E-01	6.89E-07	6.20E-03	6.04E-01	1.44E-06	1.29E-02	8.94E-01	2.13E-06	1.91E-02	2.65E-02	6.37E-08	5.73E-04
Road 12	12	1300-1400	2.91E-01	6.89E-07	6.20E-03	6.04E-01	1.44E-06	1.29E-02	8.94E-01	2.13E-06	1.91E-02	2.65E-02	6.37E-08	5.73E-04
Road 12	12	1400-1500	2.86E-01	6.87E-07	6.18E-03	6.00E-01	1.44E-06	1.29E-02	8.86E-01	2.13E-06	1.91E-02	2.63E-02	6.32E-08	5.69E-04
Road 12	12	1500-1600	2.86E-01	6.87E-07	6.18E-03	6.00E-01	1.44E-06	1.29E-02	8.86E-01	2.13E-06	1.91E-02	2.63E-02	6.32E-08	5.69E-04
Road 12	12	1600-1700	2.83E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.77E-01	2.12E-06	1.91E-02	2.61E-02	6.32E-08	5.69E-04
Road 12	12	1700-1800	2.83E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.77E-01	2.12E-06	1.91E-02	2.61E-02	6.32E-08	5.69E-04
Road 12	12	1800-1900	2.80E-01	6.79E-07	6.11E-03	5.84E-01	1.42E-06	1.28E-02	8.65E-01	2.10E-06	1.89E-02	2.59E-02	6.29E-08	5.66E-04
Road 12	12	1900-2000	2.80E-01	6.79E-07	6.11E-03	5.84E-01	1.42E-06	1.28E-02	8.65E-01	2.10E-06	1.89E-02	2.59E-02	6.29E-08	5.66E-04
Road 12	12	2000-2100	2.14E-01	1.52E-07	1.37E-03	4.61E-01	3.28E-07	2.95E-03	3.75E-03	2.66E-02	1.92E-08	1.73E-04		
Road 12	12	2100-2200	2.14E-01	1.52E-07	1.37E-03	4.61E-01	3.28E-07	2.95E-03	3.75E-03	2.66E-02	1.92E-08	1.73E-04		
Road 12	12	2200-2300	2.12E-01	1.52E-07	1.37E-03	4.57E-01	3.28E-07	2.95E-03	3.68E-03	2.66E-02	1.92E-08	1.73E-04		
Road 12	12	2300-0000	2.12E-01	1.43E-07	1.28E-03	4.51E-01	3.03E-07	2.73E-03	3.60E-03	2.44E-02	1.76E-08	1.58E-04		
Road 13	13	0000-0100	2.24E-01	1.40E-07	1.26E-03	4.65E-01	2.91E-07	2.62E-03	3.94E-03	2.46E-02	1.55E-08	1.39E-04		
Road 13	13	0100-0200	2.14E-01	1.40E-07	1.26E-03	4.65E-01	2.91E-07	2.62E-03	3.66E-03	2.39E-02	1.56E-08	1.40E-04		
Road 13	13	0200-0300	2.35E-01	1.40E-07	1.26E-03	4.84E-01	2.89E-07	2.60E-03	7.19E-01	4.29E-07	3.85E-03	2.15E-02	1.28E-08	1.15E-04
Road 13	13	0300-0400	2.37E-01	1.40E-07	1.26E-03	4.88E-01	2.89E-07	2.60E-03	7.25E-01	4.29E-07	3.85E-03	2.17E-02	1.28E-08	1.15E-04
Road 13	13	0400-0500	2.31E-01	1.41E-07	1.27E-03	4.80E-01	2.93E-07	2.64E-03	7.11E-01	4.35E-07	3.92E-03	2.13E-02	1.30E-08	1.17E-04
Road 13	13	0500-0600	2.31E-01	1.41E-07	1.29E-03	4.78E-01	2.93E-07	2.68E-03	7.09E-01	4.35E-07	3.97E-03	2.11E-02	1.30E-08	1.19E-04
Road 13	13	0600-0700	2.28E-01	1.52E-07	1.39E-03	4.72E-01	3.14E-07	2.87E-03	7.04E-01	4.68E-07	4.27E-03	2.09E-02	1.39E-08	1.27E-04
Road 13	13	0700-0800	2.69E-01	1.52E-07	1.39E-03	5.56E-01	3.14E-07	2.87E-03	8.29E-01	4.68E-07	4.27E-03	2.47E-02	1.39E-08	1.27E-04
Road 13	13	0800-0900	2.81E-01	6.82E-07	6.24E-03	5.96E-01	1.41E-06	1.29E-02	8.82E-01	2.08E-06	1.90E-02	2.60E-02	6.31E-08	5.77E-04
Road 13	13	0900-1000	2.84E-01	6.82E-07	6.24E-03	5.96E-01	1.41E-06	1.29E-02	8.82E-01	2.08E-06	1.90E-02	2.60E-02	6.31E-08	5.77E-04
Road 13	13	1000-1100	2.88E-01	6.81E-07	6.23E-03	6.02E-01	1.41E-06	1.29E-02	8.94E-01	2.08E-06	1.90E-02	2.64E-02	6.31E-08	5.77E-04
Road 13	13	1100-1200	2.88E-01	6.81E-07	6.23E-03	6.02E-01	1.41E-06	1.29E-02	8.94E-01	2.08E-06	1.90E-02	2.64E-02	6.31E-08	5.77E-04
Road 13	13	1200-1300	2.87E-01	6.83E-07	6.23E-03	5.96E-01	1.42E-06	1.29E-02	8.91E-01	2.09E-06	1.90E-02	2.63E-02	6.34E-08	5.77E-04
Road 13	13	1300-1400	2.86E-01	6.84E-07	6.24E-03	5.96E-01	1.42E-06	1.29E-02	8.91E-01	2.09E-06	1.90E-02	2.63E-02	6.34E-08	5.77E-04
Road 13	13	1400-1500	2.84E-01	6.81E-07	6.21E-03	5.94E-01	1.41E-06	1.29E-02	8.86E-01	2.08E-06	1.90E-02	2.62E-02	6.32E-08	5.75E-04
Road 13	13	1500-1600	2.82E-01	6.76E-07	6.20E-03	5.90E-01	1.41E-06	1.29E-02	8.82E-01	2.08E-06	1.90E-02	2.61E-02	6.31E-08	5.75E-04
Road 13	13	1600-1700	2.76E-01	6.61E-07	6.06E-03	5.77E-01	1.38E-06	1.26E-02	8.63E-01	2.03E-06	1.86E-02	2.55E-02	6.17E-08	5.65E-04
Road 13	13	1700-1800	2.78E-01	6.65E-07	6.09E-03	5.81E-01	1.39E-06	1.27E-02	8.68E-01	2.04E-06	1.87E-02	2.56E-02	6.21E-08	5.68E-04
Road 13	13	1800-1900	2.78E-01	6.75E-07	6.15E-03	5.77E-01	1.40E-06	1.28E-02	8.55E-01	2.07E-06	1.89E-02	2.56E-02	6.22E-08	5.67E-04
Road 13	13	1900-2000	2.78E-01	6.75E-07	6.15E-03	5.77E-01	1.40E-06	1.28E-02	8.55E-01	2.07E-06	1.89E-02	2.56E-02	6.22E-08	5.67E-04
Road 13	13	2000-2100	2.12E-01	1.38E-07	1.26E-03	4.73E-01	3.01E-07	2.73E-03	3.56E-03	2.31E-02	1.51E-08	1.37E-04		
Road 13	13	2100-2200	2.10E-01	1.50E-07	1.37E-03	4.66E-01	3.18E-07	2.90E-03	3.56E-03	2.48E-02	1.76E-08	1.60E-04		
Road 13	13	2200-2300	2.12E-01	1.50E-07	1.37E-03	4.47E-01	3.16E-07	2.88E-03	3.59E-03	2.50E-02	1.77E-08	1.61E-04		
Road 13	13	2300-0000	2.10E-01	1.42E-07	1.29E-03	4.47E-01	3.00E-07	2.73E-03	3.56E-03	2.42E-02	1.71E-08	1.56E-04		
Road 14	14	0000-0100	1.39E-02	1.08E-07	6.71E-04	2.79E-01	1.74E-07	1.08E-03	2.32E-03	1.80E-02	1.12E-08	6.96E-05		
Road 14	14	0100-0200	1.57E-02	8.06E-08	5.01E-04	6.71E-02	3.45E-07	2.15E-03	8.28E-02	4.25E-07	2.65E-03	2.62E-03	1.35E-08	8.39E-05
Road 14	14	0200-0300	1.78E-02	8.65E-08	5.38E-04	7.14E-02	3.47E-07	2.16E-03	3.25E-02	1.58E-07	9.82E-04	2.97E-03	1.44E-08	8.96E-05
Road 14	14	0300-0400	2.03E-02	6.29E-08	3.91E-04	7.66E-02	2.38E-07	1.48E-03	3.40E-03	1.06E-08	6.57E-05			
Road 14	14	0400-0500	2.04E-02	6.91E-08	4.30E-04	7.77E-02	2.64E-07	1.64E-03	9.81E-02	3.32E-07	2.06E-03	3.70E-02	1.25E-07	7.78E-04
Road 14	14	0500-0600	1.94E-02	1.12E-07	6.96E-04	7.32E-02	4.23E-07	2.63E-03	1.47E-01	8.51E-07	5.29E-03	5.53E-02	3.20E-07	1.99E-03
Road 14	14	0600-0700	2.06E-02	2.46E-07	1.53E-03	8.75E-02	1.05E-06	6.51E-03	1.08E-01	1.29E-06	8.04E-03	1.24E-02	1.48E-07	9.21E-04
Road 14	14	0700-0800	3.14E-02	7.76E-07	4.83E-03	1.18E-01	2.91E-06	1.81E-02	1.49E-01	3.69E-06	2.30E-02	4.13E-03	1.02E-07	6.37E-04

L:\Secure\Environment_Projects\60733229\1.01\Others\Air\Modelling\Appendix\Traffic\Appendix A\Appendix 3.5.4 Emission Factor in 2043-5.8.xlsx

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (August) Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 14	14	0800-0900	3.11E-02	8.89E-07	5.53E-03	1.37E-01	3.92E-06	2.43E-02	1.97E-01	5.64E-06	3.50E-02	4.89E-03	1.40E-07	8.69E-04
Road 14	14	0900-1000	3.55E-02	8.62E-07	5.37E-03	1.32E-01	3.20E-06	1.99E-02	1.67E-01	4.06E-06	2.53E-02	4.75E-03	1.15E-07	7.18E-04
Road 14	14	1000-1100	3.90E-02	8.35E-07	5.20E-03	1.38E-01	2.95E-06	1.83E-02	1.76E-01	3.78E-06	2.35E-02	5.28E-03	1.13E-07	7.04E-04
Road 14	14	1100-1200	3.66E-02	7.45E-07	4.63E-03	1.32E-01	2.68E-06	1.67E-02	1.69E-01	3.43E-06	2.13E-02	5.05E-03	1.03E-07	6.39E-04
Road 14	14	1200-1300	4.95E-02	1.17E-06	7.27E-03	1.67E-01	3.95E-06	2.46E-02	2.17E-01	5.12E-06	3.18E-02	6.50E-03	1.54E-07	9.55E-04
Road 14	14	1300-1400	5.19E-02	1.28E-06	7.95E-03	1.82E-01	4.48E-06	2.79E-02	2.34E-01	5.76E-06	3.58E-02	6.73E-03	1.66E-07	1.03E-03
Road 14	14	1400-1500	5.12E-02	1.32E-06	8.21E-03	1.76E-01	4.52E-06	2.81E-02	2.27E-01	5.84E-06	3.56E-02	6.58E-03	1.71E-07	1.06E-03
Road 14	14	1500-1600	4.97E-02	1.31E-06	8.18E-03	1.84E-01	4.86E-06	3.02E-02	2.33E-01	6.17E-06	3.84E-02	6.45E-03	1.71E-07	1.06E-03
Road 14	14	1600-1700	5.03E-02	1.37E-06	8.53E-03	1.73E-01	4.71E-06	2.93E-02	2.23E-01	6.08E-06	3.79E-02	6.42E-03	1.75E-07	1.09E-03
Road 14	14	1700-1800	3.80E-02	1.12E-06	6.98E-03	1.47E-01	4.33E-06	2.69E-02	1.89E-01	5.45E-06	3.39E-02	5.45E-03	1.60E-07	9.94E-04
Road 14	14	1800-1900	2.84E-02	8.59E-07	5.35E-03	1.08E-01	3.28E-06	2.04E-02	1.37E-01	4.14E-06	2.58E-02	3.70E-03	1.12E-07	6.96E-04
Road 14	14	1900-2000	1.92E-02	4.87E-07	3.04E-03	7.90E-02	2.00E-06	1.25E-02	9.31E-02	2.36E-06	1.47E-02	2.66E-03	6.75E-08	4.21E-04
Road 14	14	2000-2100	1.88E-02	3.51E-07	2.19E-03	7.69E-02	1.44E-06	8.97E-03	9.07E-02	1.70E-06	1.06E-02	2.59E-03	4.85E-08	3.02E-04
Road 14	14	2100-2200	1.91E-02	3.51E-07	2.19E-03	7.82E-02	1.44E-06	8.97E-03	9.23E-02	1.70E-06	1.06E-02	2.63E-03	4.85E-08	3.02E-04
Road 14	14	2200-2300	1.90E-02	3.51E-07	2.19E-03	7.78E-02	1.44E-06	8.97E-03	9.18E-02	1.70E-06	1.06E-02	2.62E-03	4.85E-08	3.02E-04
Road 14	14	2300-0000	1.89E-02	3.51E-07	2.19E-03	7.74E-02	1.44E-06	8.97E-03	9.13E-02	1.70E-06	1.06E-02	2.61E-03	4.85E-08	3.02E-04
Road 15	15	0000-0100	2.10E-02	4.62E-08	1.56E-04	2.29E-02	5.04E-08	1.70E-04	3.31E-02	7.27E-08	2.45E-04	3.61E-03	7.93E-09	2.67E-05
Road 15	15	0100-0200	2.64E-02	4.06E-08	1.37E-04	8.21E-02	1.26E-07	4.27E-04	1.09E-01	1.67E-07	5.64E-04	4.30E-03	6.61E-09	2.23E-05
Road 15	15	0200-0300	3.22E-02	3.87E-08	1.31E-04	1.54E-01	1.85E-07	6.25E-04	1.51E-01	1.81E-07	6.13E-04	5.24E-03	6.29E-09	2.11E-05
Road 15	15	0300-0400	3.59E-02	3.63E-08	1.23E-04	9.91E-02	1.00E-07	3.39E-04	1.35E-01	1.37E-07	4.62E-04	5.89E-03	5.96E-09	2.01E-05
Road 15	15	0400-0500	3.60E-02	3.89E-08	1.32E-04	1.01E-01	1.09E-07	3.69E-04	1.37E-01	1.48E-07	5.00E-04	5.81E-03	6.29E-09	2.12E-05
Road 15	15	0500-0600	2.78E-02	4.58E-08	1.57E-04	7.86E-02	1.29E-07	4.43E-04	1.06E-01	1.75E-07	6.01E-04	4.49E-03	7.40E-09	2.54E-05
Road 15	15	0600-0700	2.21E-02	2.54E-08	8.46E-05	6.24E-02	7.17E-08	2.39E-04	8.44E-02	9.70E-08	3.23E-04	3.57E-03	4.10E-09	1.37E-05
Road 15	15	0700-0800	3.54E-02	2.50E-07	8.46E-04	1.10E-01	7.77E-07	2.62E-03	1.45E-01	1.03E-06	3.47E-03	5.05E-03	3.57E-08	1.21E-04
Road 15	15	0800-0900	3.39E-02	2.72E-07	9.20E-04	1.04E-01	8.39E-07	2.83E-03	1.38E-01	1.11E-06	3.75E-03	4.78E-03	3.84E-08	1.30E-04
Road 15	15	0900-1000	3.82E-02	2.62E-07	8.77E-04	1.16E-01	7.94E-07	2.66E-03	1.54E-01	1.05E-06	3.53E-03	5.42E-03	3.71E-08	1.24E-04
Road 15	15	1000-1100	4.13E-02	2.51E-07	8.47E-04	1.22E-01	7.40E-07	2.50E-03	1.63E-01	9.90E-07	3.35E-03	6.08E-03	3.69E-08	1.25E-04
Road 15	15	1100-1200	4.15E-02	2.41E-07	8.13E-04	1.23E-01	7.11E-07	2.41E-03	1.64E-01	9.54E-07	3.22E-03	6.05E-03	3.51E-08	1.18E-04
Road 15	15	1200-1300	5.24E-02	2.44E-07	8.24E-04	1.48E-01	7.20E-07	2.43E-03	2.08E-01	9.66E-07	3.26E-03	7.66E-03	3.56E-08	1.20E-04
Road 15	15	1300-1400	5.20E-02	2.54E-07	8.57E-04	1.54E-01	7.65E-07	2.58E-03	2.06E-01	1.01E-06	3.41E-03	7.61E-03	3.72E-08	1.26E-04
Road 15	15	1400-1500	5.32E-02	2.43E-07	8.16E-04	1.53E-01	7.00E-07	2.35E-03	2.11E-01	9.61E-07	3.24E-03	7.86E-03	3.59E-08	1.21E-04
Road 15	15	1500-1600	5.33E-02	2.41E-07	8.13E-04	1.54E-01	6.97E-07	2.35E-03	2.11E-01	9.54E-07	3.22E-03	7.85E-03	3.55E-08	1.20E-04
Road 15	15	1600-1700	5.04E-02	2.48E-07	8.37E-04	1.46E-01	7.19E-07	2.42E-03	2.00E-01	9.86E-07	3.32E-03	7.43E-03	3.66E-08	1.23E-04
Road 15	15	1700-1800	3.74E-02	2.74E-07	9.26E-04	1.08E-01	7.94E-07	2.68E-03	1.48E-01	1.09E-06	3.67E-03	5.51E-03	4.05E-08	1.37E-04
Road 15	15	1800-1900	2.84E-02	1.39E-07	4.69E-04	7.61E-02	4.03E-07	1.36E-03	1.12E-01	5.52E-07	1.86E-03	4.18E-03	2.06E-08	6.96E-05
Road 15	15	1900-2000	2.07E-02	4.11E-08	3.65E-05	6.86E-02	1.36E-07	1.21E-04	8.93E-02	1.77E-07	1.58E-04	3.49E-03	6.94E-09	6.17E-06
Road 15	15	2000-2100	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04	3.88E-03	6.21E-09	5.51E-06
Road 15	15	2100-2200	2.32E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04	3.86E-03	6.21E-09	5.51E-06
Road 15	15	2200-2300	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.54E-07	1.37E-04	3.74E-03	5.83E-09	5.17E-06
Road 15	15	2300-0000	2.09E-02	3.29E-08	2.92E-05	8.24E-02	1.01E-07	9.01E-05	1.09E-01	1.34E-07	1.19E-04	4.05E-03	5.48E-09	4.86E-06
Road 16	16	0000-0100	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.86E-03	1.79E-03	9.31E-09	1.04E-04
Road 16	16	0100-0200	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.86E-03	1.79E-03	9.31E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for Year 2043
AERMOD model (August)

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAve			MonthlyHourMin			MonthlyHourAve		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 37	37	1600-1700	5.64E-02	9.49E-09	2.95E-04	2.81E-01	2.56E-01	4.30E-04	3.61E-05	6.54E-03	1.12E-09	9.23E-07		
Road 37	37	1700-1800	4.82E-02	8.68E-09	2.77E-04	1.93E-01	3.47E-02	2.01E-04	3.64E-05	6.83E-03	1.23E-09	1.03E-06		
Road 37	37	1800-1900	3.24E-02	5.83E-09	4.88E-06	1.38E-01	2.49E-08	2.09E-05	1.71E-01	3.07E-08	2.58E-05	5.04E-03	9.07E-10	7.60E-07
Road 37	37	1900-2000	2.70E-02	1.35E-09	1.25E-04	1.72E-01	7.51E-04	4.28E-02	1.27E-01	6.32E-08	1.76E-05	4.22E-03	5.85E-10	4.90E-07
Road 37	37	2000-2100	2.76E-02	2.98E-09	2.50E-06	1.34E-01	1.44E-08	1.21E-05	1.61E-01	1.74E-08	1.46E-05	4.14E-03	4.46E-10	3.74E-07
Road 37	37	2100-2200	2.73E-02	2.96E-09	2.48E-06	1.36E-01	1.47E-08	1.23E-05	1.63E-01	1.77E-08	1.48E-05	4.28E-03	4.64E-10	3.89E-07
Road 37	37	2200-2300	2.41E-02	2.62E-09	2.19E-06	1.30E-01	1.08E-08	1.50E-05	1.56E-01	1.30E-08	1.80E-05	4.07E-03	3.41E-10	3.41E-07
Road 37	37	2300-0000	2.66E-02	2.09E-09	1.75E-06	1.33E-01	1.05E-08	8.76E-06	1.60E-01	1.26E-08	1.05E-05	4.33E-03	3.40E-10	2.85E-07
Road 38	38	0000-0100	4.97E-02	7.34E-08	2.19E-04	1.63E-01	2.42E-07	7.22E-04	2.13E-01	3.15E-07	9.41E-04	7.87E-03	1.16E-08	3.48E-05
Road 38	38	0100-0200	5.61E-02	7.98E-08	2.38E-04	1.84E-01	2.62E-07	7.81E-04	2.23E-01	3.17E-07	9.46E-04	8.24E-03	1.17E-08	3.50E-05
Road 38	38	0200-0300	6.25E-02	5.74E-08	1.72E-04	1.80E-01	1.65E-07	4.94E-04	2.42E-01	2.22E-07	6.65E-04	9.17E-03	8.42E-09	2.52E-05
Road 38	38	0300-0400	6.74E-02	5.48E-08	1.64E-04	1.86E-01	1.51E-07	4.52E-04	2.53E-01	2.06E-07	6.16E-04	1.07E-02	8.72E-09	2.60E-05
Road 38	38	0400-0500	7.1E-02	4.87E-08	1.46E-04	1.97E-01	1.35E-07	4.04E-04	2.68E-01	1.84E-07	5.51E-04	1.13E-02	7.74E-09	2.32E-05
Road 38	38	0500-0600	6.22E-02	7.63E-08	2.28E-04	1.93E-01	2.37E-07	7.09E-04	2.56E-01	3.13E-07	9.37E-04	9.75E-03	1.20E-08	3.57E-05
Road 38	38	0600-0700	5.70E-02	1.26E-07	3.77E-04	1.99E-01	4.42E-07	1.32E-03	2.68E-01	5.94E-07	1.77E-03	1.05E-02	2.32E-08	6.94E-05
Road 38	38	0700-0800	7.24E-02	4.25E-07	1.27E-03	2.20E-01	1.29E-06	3.85E-03	2.92E-01	1.71E-06	5.12E-03	1.36E-02	7.99E-08	2.39E-04
Road 38	38	0800-0900	7.91E-02	4.31E-07	1.29E-03	2.33E-01	1.27E-06	3.79E-03	3.12E-01	1.70E-06	5.08E-03	9.44E-03	5.14E-08	1.54E-04
Road 38	38	0900-1000	8.36E-02	4.25E-07	1.27E-03	2.38E-01	1.21E-06	3.64E-03	3.21E-01	1.63E-06	4.87E-03	9.90E-03	5.03E-08	1.51E-04
Road 38	38	1000-1200	8.45E-02	4.11E-07	2.73E-03	2.40E-01	1.17E-06	7.78E-03	3.49E-01	1.70E-06	1.13E-02	1.03E-02	5.00E-08	3.32E-04
Road 38	38	1200-1300	1.05E-01	2.89E-07	9.64E-04	2.62E-01	7.22E-07	2.16E-03	3.67E-01	1.01E-06	3.02E-03	1.31E-02	3.60E-08	1.07E-04
Road 38	38	1300-1400	1.06E-01	3.11E-07	1.04E-03	2.70E-01	7.92E-07	2.65E-03	3.76E-01	1.10E-06	3.69E-03	1.34E-02	3.95E-08	1.32E-04
Road 38	38	1400-1500	1.04E-01	3.10E-07	9.27E-04	2.74E-01	8.07E-07	2.41E-03	3.79E-01	1.12E-06	3.34E-03	1.25E-02	3.69E-08	1.10E-04
Road 38	38	1500-1600	1.04E-01	2.99E-07	8.94E-04	2.64E-01	7.54E-07	2.26E-03	3.68E-01	1.06E-06	3.18E-03	1.29E-02	3.70E-08	1.11E-04
Road 38	38	1600-1700	1.04E-01	2.95E-07	8.58E-04	2.62E-01	7.42E-07	2.16E-03	3.68E-01	1.04E-06	3.03E-03	1.29E-02	3.64E-08	1.06E-04
Road 38	38	1800-1900	9.17E-02	2.41E-07	7.19E-04	2.32E-01	6.08E-07	1.82E-03	3.23E-01	8.48E-07	2.54E-03	1.22E-02	3.20E-08	9.57E-05
Road 38	38	1900-2000	7.17E-02	8.67E-08	2.59E-04	2.08E-01	2.51E-07	7.49E-04	2.91E-01	3.38E-07	1.01E-03	9.19E-03	1.11E-08	3.32E-05
Road 38	38	2000-2100	7.30E-02	7.62E-08	2.28E-04	2.11E-01	2.19E-07	6.56E-04	2.84E-01	2.96E-07	8.83E-04	9.64E-03	1.00E-08	3.00E-05
Road 38	38	2200-2300	7.07E-02	7.00E-08	2.09E-04	1.99E-01	1.97E-07	5.88E-04	2.76E-01	2.73E-07	8.15E-04	9.01E-03	8.92E-09	2.66E-05
Road 38	38	2300-0000	7.54E-02	4.80E-08	1.43E-04	2.12E-01	1.35E-07	4.03E-04	2.94E-01	1.87E-07	5.58E-04	9.61E-03	6.12E-09	1.83E-05
Road 39	39	0000-0100	9.12E-02	1.80E-08	5.59E-05	2.89E-01	5.69E-08	1.77E-04	3.80E-01	7.49E-08	2.33E-04	6.68E-03	1.71E-09	5.32E-06
Road 39	39	0100-0200	9.28E-02	1.98E-08	3.99E-05	2.93E-01	4.05E-08	5.33E-05	3.86E-01	5.33E-08	1.66E-04	8.82E-03	1.22E-09	3.79E-06
Road 39	39	0200-0300	9.46E-02	1.98E-08	3.99E-05	2.98E-01	4.05E-08	5.33E-05	3.93E-01	5.33E-08	1.66E-04	8.98E-03	1.22E-09	3.79E-06
Road 39	39	0300-0400	9.56E-02	8.77E-09	2.72E-05	3.00E-01	3.63E-08	1.13E-04	3.97E-01	8.05E-03	8.30E-10	2.58E-06		
Road 39	39	0400-0500	9.67E-02	1.04E-08	3.22E-05	3.03E-01	3.25E-08	1.01E-04	4.00E-01	9.15E-03	9.81E-10	3.05E-06		
Road 39	39	0500-0600	9.79E-02	1.30E-08	4.03E-05	3.06E-01	3.25E-08	1.01E-04	4.04E-01	9.15E-03	1.23E-09	3.81E-06		
Road 39	39	0600-0700	1.00E-01	4.49E-08	1.39E-04	3.13E-01	1.40E-07	4.37E-04	4.13E-01	1.85E-07	5.76E-04	9.41E-03	4.22E-09	1.31E-05
Road 39	39	0700-0800	1.01E-01	9.65E-08	3.00E-04	3.15E-01	3.02E-07	9.38E-04	4.15E-01	3.98E-07	1.24E-03	9.48E-03	9.09E-09	2.82E-05
Road 39	39	0800-0900	1.03E-01	1.38E-07	4.31E-04	3.23E-01	4.32E-07	1.34E-03	4.25E-01	5.70E-07	1.77E-03	9.18E-03	1.17E-08	3.63E-05
Road 39	39	0900-1000	1.06E-01	1.35E-07	4.20E-04	3.33E-01	4.23E-07	1.31E-03	4.39E-01	5.58E-07	1.73E-03	9.18E-03	1.17E-08	3.63E-05
Road 39	39	1000-1100	1.06E-01	1.32E-07	4.11E-04	3.26E-01	4.06E-07	1.26E-03	4.26E-01	5.31E-07	1.65E-03	9.18E-03	1.14E-08	3.54E-05
Road 39	39	1100-1200	1.07E-01	1.34E-07	4.18E-04	3.29E-01	4.06E-07	1.26E-03	4.30E-01	5.31E-07	1.65E-03	9.18E-03	1.14E-08	3.54E-05
Road 39	39	1200-1300	4.17E-02	1.34E-08	4.18E-05	1.59E-01	1.60E-08	2.01E-05	5.08E-03	1.64E-09	5.09E-06			
Road 39	39	1300-1400	4.49E-02	1.49E-08	4.64E-05	1.70E-01	1.55E-08	2.22E-05	5.16E-03	1.71E-09	5.33E-06			
Road 39	39	1400-1500	4.49E-02	1.49E-08	4.64E-05	1.70E-01	1.55E-08	2.22E-05	5.16E-03	1.71E-09	5.33E-06			
Road 39	39	1500-1600	4.47E-02	1.62E-08	5.02E-05	1.73E-01	1.66E-08	2.13E-05	1.86E-09	5.77E-06				
Road 39	39	1600-1700	4.19E-02	1.59E-08	4.95E-05	1.63E-01	1.63E-08	2.09E-05	2.15E-09	6.68E-06				
Road 39	39	1700-1800	3.87E-02	1.49E-08	4.62E-05	1.51E-01	1.52E-08	1.95E-05	2.00E-09	6.20E-06				
Road 39	39	1800-1900	2.16E-02	9.89E-09	3.07E-05	1.09E-01	1.01E-08	5.98E-08	1.86E-06	4.54E-03	2.08E-09	6.46E-06		
Road 39	39	1900-2000	1.79E-02	6.45E-09	2.01E-05	1.00E-01	3.61E-08	1.12E-04	1.18E-01	4.26E-08	1.32E-04	3.70E-03	1.33E-09	4.14E-06
Road 39	39	2000-2100	1.58E-02	5.69E-09	1.77E-05	1.00E-01	3.61E-08	1.12E-04	1.18E-01	4.26E-08	1.32E-04	3.70E-03	1.33E-09	4.14E-06
Road 39	39	2100-2200	1.76E-02	4.93E-09	1.53E-05	1.11E-01	3.11E-08	9.67E-05	1.29E-01	3.63E-08	1.05E-04	3.26E-03	9.87E-10	3.06E-06
Road 39	39	2200-2300	1.55E-02	4.20E-09	1.30E-05	1.05E-01	2.85E-08	8.85E-05	1.26E-01	3.42E-08	1.06E-04	3.07E-03	8.33E-10	2.58E-06
Road 39	39	2300-0000	1.55E-02	4.20E-09	1.30E-05	1.05E-01	2.85E-08	8.85E-05	1.26E-01	3.42E-08	1.06E-04	3.07E-03	8.33E-10	2.58E-06
Road 40	40	0000-0100	4.39E-02	1.27E-07	2.25E-04	1.54E-01	4.46E-07	7.93E-04	1.88E-01	5.43E-07	9.64E-04	6.95E-03	2.01E-08	3.57E-05
Road 40	40	0100-0200	5.20E-02	1.10E-07	1.95E-04	1.66E-01	3.52E-07	6.24E-04	2.18E-01	4.62E-07	8.19E-04	8.39E-03	1.77E-08	3.15E-05
Road 40	40	0200-0300	5.72E-02	1.10E-07	1.95E-04	1.76E-01	3.52E-07	6.24E-04	2.31E-01	4.62E-07	8.19E-04	9.24E-03	1.77E-08	3.15E-05
Road 40	40	0300-0400	6.26E-02	9.43E-08	1.67E-04	1.81E-01	3.02E-07	5.36E-04	2.42E-01	3.97E-07	7.04E-04	9.17E-03	1.52E-08	2.71E-05
Road 40	40	0400-0500	6.22E-02	9.96E-08	1.77E-04	1.84E-01	2.94E-07	5.22E-04	2.47E-01	3.95E-07	7.01E-04	9.24E-03	1.48E-08	2.63E-05
Road 40	40	0500-0600	6.22E-02	1.26E-07	2.24E-04	1.84E-01	3.73E-07	6.62E-04	2.47E-01	5.00E-07	8.88E-04	9.24E-03	1.87E-08	3.32E-05
Road 40	40	0600-0700	5.70E-02	1.26E-07	2.24E-04	1.99E-01	4.42E-07	7.84E-04	2.68E-01	5.94E-07	1.05E-03	1.05E-02	2.32E-08	4.12E-05
Road 40	40	0700-0800	7.24E-02	4.25E-07	7.54E-04	2.20E-01	1.29E-06	2.29E-03	2.92E-01	1.71E-06	3.04E-03	1.36E-02	7.99E-08	1.42E-04
Road 40	40	0800-0900	7.91E-02	4.31E-07	7.65E-04	2.33E-01	1.27E-06	2.25E-03	3.12E-01	1.70E-06	3.02E-03	9.44E-03	5.14E-08	9.12E-05
Road 40	40	0900-1000	8.36E-02	4.25E-07	7.54E-04	2.38E-01	1.21E-06	2.16E-03	3.21E-01	1.63E-06	2.89E-03	9.90E-03	5.03E-08	8.94E-05
Road 40	40	1000-1200	8.45E-02	4.11E-07	1.46E-03	2.40E-01	1.17E-06	4.14E-03	3.49E-01	1.70E-06	6.02E-03	1.03E-02	5.00E-08	1.77E-04
Road 40	40	1200-1300	1.05E-01	2.89E-07	5.13E-04	2.62E-01	7.22E-07	1.15E-03	3.67E-01	1.01E-06	1.61E-03	1.31E-02	3.60E-08	5.70E-05
Road 40	40	1300-1400	1.06E-01	3.11E-07	5.54E-04	2.70E-01	7.92E-07	1.41E-03	3.76E-01	1.10E-06	1.96E-03	1.34E-02	3.95E-08	7.04E-05
Road 40	40	1400-1500	1.04E-01	3.10E-07	4.93E-04	2.74E-01	8.07E-07	1.28E-03	3.79E-01	1.12E-06	1.78E-03	1.25E-02	3.69E-08	5.87E-05
Road 40	40	1500-1600	1.04E-01	2.99E-07	4.75E-04	2.64E-01	7.54E-07	1.20E-03	3.68E-01	1.06E-06	1.69E-03	1.29E-02	3.70E-08	5.90E-05
Road 40	40	1600-1700	1.04E-01	2.95E-07	4.56E-04	2.62E-01	7.42E-07	1.15E-03	3.68E-01	1.04E-06	1.61E-03	1.29E-02	3.64E-08	5.64E-05
Road 40	40	1700-1800	9.33E-02	6.34E-07	1.13E-03	2.65E-01	1.80E-06	3.20E-03	3.58E-01	2.44E-06	4.33E-03	1.14E-02	7.73E-08	1.37E-04
Road 40	40	1800-1900	7.93E-02	2.51E-07	9.95E-04	2.18E-01	1.43E-06	2.56E-03	2.98E-01	1.96E-06	3.47E-03	1.02E-02	6.70E-08	1.19E-04
Road 40	40	1900-2000	4.90E-02	1.84E-07	3.27E-04	1.65E-01	6.20E-07	1.10E-03	4.67E-01	1.75E-06	3.12E-03	1.57E-02	5.90E-08	1.05E-04
Road 40	40	2000-2100	5.24E-02	1.61E-07	2.86E-04	1.75E-01	5.39E-07	9.57E-04	2.28E-01	7.00E-07	1.24E-03	7.13E-03	2.19E-08	3.89E-05
Road 40	40	2100-2200	5.22E-02	1.61E-07	2.87E-04	1.77E-01	5.45E-07	9.71E-04	2.26E-01	6.97E-07	1.24E-03	7.13E-03	2.20E-08	3.91E-05
Road 40	40	2200-2300	4.98E-02	1.47E-07	2.62E-04	1.67E-01	4.95E-07	8.78E-04	2.21E-01	6.42E-07	1.14E-03	7.00E-03	2.02E-08	3.58E-05
Road 40	40	2300-0000	5.44E-02	1.31E-07	2.33E-04	1.74E-01	4.19E-07	7.43E-04	2.28E-01	5.50E-07	9.76E-04	7.91E-03	1.91E-08	3.39E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry
Open Road 24 hour Emission Factors for Year 2043
AERMOD model (August)

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAve			MonthlyHourMin			MonthlyHourAve		
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 41	41	0000-0100	1.62E-02	9.28E-03	3.80E-01	1.42E-01	1.18E-02	9.58E-03	3.58E-02	2.98E-04				
Road 41	41	0100-0200	2.10E-02	3.35E-08	1.55E-04	6.21E-02	9.91E-08	3.39E-04	8.31E-02	1.32E-07	4.54E-04	5.02E-03	8.01E-09	2.74E-05
Road 41	41	0200-0300	2.52E-02	3.25E-08	1.11E-04	6.94E-02	8.91E-08	3.07E-04	9.45E-02	1.22E-07	4.19E-04	5.99E-03	7.74E-09	2.65E-05
Road 41	41	0300-0400	2.85E-02	3.19E-08	1.09E-04	7.49E-02	8.39E-08	2.87E-04	1.03E-01	1.16E-07	3.97E-04	6.78E-03	7.58E-09	2.60E-05
Road 41	41	0400-0500	2.76E-02	3.26E-08	1.12E-04	7.38E-02	8.71E-08	2.98E-04	1.01E-01	1.20E-07	4.10E-04	6.57E-03	7.76E-09	2.66E-05
Road 41	41	0500-0600	2.15E-02	3.64E-08	1.25E-04	6.47E-02	1.10E-07	3.76E-04	8.62E-02	1.46E-07	5.01E-04	5.14E-03	8.72E-09	2.99E-05
Road 41	41	0600-0700	1.53E-02	4.73E-08	1.62E-04	5.94E-02	7.13E-02	2.21E-07	7.56E-04	6.66E-03	1.14E-08	3.91E-05		
Road 41	41	0700-0800	2.09E-02	1.49E-07	5.10E-04	6.46E-02	4.59E-07	1.57E-03	8.56E-02	6.08E-07	2.08E-03	5.05E-03	3.59E-08	1.23E-04
Road 41	41	0800-0900	1.92E-02	1.53E-07	5.23E-04	5.87E-02	4.66E-07	1.60E-03	7.79E-02	6.19E-07	2.12E-03	4.67E-03	3.71E-08	1.27E-04
Road 41	41	0900-1000	1.72E-02	1.49E-07	5.11E-04	5.42E-02	4.68E-07	1.60E-03	6.97E-02	6.03E-07	2.07E-03	4.31E-03	3.72E-08	1.27E-04
Road 41	41	1000-1100	2.43E-02	1.48E-07	5.06E-04	6.98E-02	4.20E-07	1.44E-03	9.32E-02	5.68E-07	1.94E-03	5.95E-03	3.63E-08	1.24E-04
Road 41	41	1100-1200	2.43E-02	1.48E-07	5.06E-04	7.09E-02	4.20E-07	1.44E-03	9.32E-02	5.68E-07	1.94E-03	6.05E-03	3.63E-08	1.24E-04
Road 41	41	1200-1300	2.50E-02	1.48E-07	5.06E-04	7.21E-02	4.20E-07	1.44E-03	9.59E-02	5.68E-07	1.94E-03	6.16E-03	3.63E-08	1.24E-04
Road 41	41	1300-1400	2.50E-02	1.48E-07	5.06E-04	7.21E-02	4.20E-07	1.44E-03	9.59E-02	5.68E-07	1.94E-03	6.16E-03	3.63E-08	1.24E-04
Road 41	41	1400-1500	2.52E-02	1.48E-07	5.06E-04	7.27E-02	4.20E-07	1.44E-03	9.67E-02	5.68E-07	1.94E-03	6.21E-03	3.63E-08	1.24E-04
Road 41	41	1500-1600	2.52E-02	1.48E-07	5.06E-04	7.27E-02	4.20E-07	1.44E-03	9.67E-02	5.68E-07	1.94E-03	6.21E-03	3.63E-08	1.24E-04
Road 41	41	1600-1700	2.55E-02	1.48E-07	5.06E-04	7.36E-02	4.20E-07	1.44E-03	9.79E-02	5.68E-07	1.94E-03	6.29E-03	3.63E-08	1.24E-04
Road 41	41	1700-1800	2.58E-02	1.48E-07	5.06E-04	7.45E-02	4.20E-07	1.44E-03	9.91E-02	5.68E-07	1.94E-03	6.37E-03	3.63E-08	1.24E-04
Road 41	41	1800-1900	2.61E-02	1.48E-07	5.06E-04	7.54E-02	4.20E-07	1.44E-03	1.00E-01	5.68E-07	1.94E-03	6.45E-03	3.63E-08	1.24E-04
Road 41	41	1900-2000	1.10E-02	5.80E-08	1.99E-04	4.41E-02	2.32E-07	7.94E-04	5.51E-02	2.90E-07	9.93E-04	2.77E-03	1.46E-08	4.99E-05
Road 41	41	2000-2100	1.21E-02	5.07E-08	1.74E-04	4.91E-02	2.06E-07	7.06E-04	6.12E-02	2.57E-07	8.80E-04	3.00E-03	1.26E-08	4.32E-05
Road 41	41	2100-2200	1.16E-02	4.89E-08	1.67E-04	4.64E-02	2.00E-07	6.86E-04	6.02E-02	2.53E-07	8.68E-04	2.88E-03	1.22E-08	4.18E-05
Road 41	41	2200-2300	1.18E-02	4.89E-08	1.67E-04	4.64E-02	2.00E-07	6.86E-04	6.02E-02	2.53E-07	8.68E-04	2.88E-03	1.22E-08	4.18E-05
Road 41	41	2300-0000	1.07E-02	5.74E-08	1.97E-04	4.27E-02	2.37E-07	8.12E-04	5.34E-02	2.96E-07	1.01E-03	2.68E-03	1.49E-08	5.10E-05
Road 42	42	0000-0100	1.62E-02	2.50E-08	8.58E-05	6.47E-02	1.03E-07	3.52E-04	8.62E-02	1.33E-07	4.57E-04	5.39E-03	8.32E-09	2.85E-05
Road 42	42	0100-0200	2.10E-02	3.35E-08	1.15E-04	6.21E-02	9.91E-08	3.39E-04	8.31E-02	1.32E-07	4.54E-04	5.02E-03	8.01E-09	2.74E-05
Road 42	42	0200-0300	2.52E-02	3.25E-08	1.11E-04	6.94E-02	8.91E-08	3.07E-04	9.45E-02	1.22E-07	4.19E-04	5.99E-03	7.74E-09	2.65E-05
Road 42	42	0300-0400	2.85E-02	3.19E-08	1.09E-04	7.49E-02	8.39E-08	2.87E-04	1.03E-01	1.16E-07	3.97E-04	6.78E-03	7.58E-09	2.60E-05
Road 42	42	0400-0500	2.76E-02	3.26E-08	1.12E-04	7.38E-02	8.71E-08	2.98E-04	1.01E-01	1.20E-07	4.10E-04	6.57E-03	7.76E-09	2.66E-05
Road 42	42	0500-0600	2.15E-02	3.64E-08	1.25E-04	6.47E-02	1.10E-07	3.76E-04	8.62E-02	1.46E-07	5.01E-04	5.14E-03	8.72E-09	2.99E-05
Road 42	42	0600-0700	1.53E-02	4.73E-08	1.62E-04	5.94E-02	7.13E-02	2.21E-07	7.56E-04	6.66E-03	1.14E-08	3.91E-05		
Road 42	42	0700-0800	2.09E-02	1.49E-07	5.10E-04	6.46E-02	4.59E-07	1.57E-03	8.56E-02	6.08E-07	2.08E-03	5.05E-03	3.59E-08	1.23E-04
Road 42	42	0800-0900	1.92E-02	1.53E-07	5.23E-04	5.87E-02	4.66E-07	1.60E-03	7.79E-02	6.19E-07	2.12E-03	4.67E-03	3.71E-08	1.27E-04
Road 42	42	0900-1000	1.72E-02	1.49E-07	5.11E-04	5.42E-02	4.68E-07	1.60E-03	6.97E-02	6.03E-07	2.07E-03	4.31E-03	3.72E-08	1.27E-04
Road 42	42	1000-1100	2.43E-02	1.48E-07	5.06E-04	6.98E-02	4.20E-07	1.44E-03	9.32E-02	5.68E-07	1.94E-03	5.95E-03	3.63E-08	1.24E-04
Road 42	42	1100-1200	2.43E-02	1.48E-07	5.06E-04	7.09E-02	4.20E-07	1.44E-03	9.32E-02	5.68E-07	1.94E-03	6.05E-03	3.63E-08	1.24E-04
Road 42	42	1200-1300	2.50E-02	1.48E-07	5.06E-04	7.21E-02	4.20E-07	1.44E-03	9.59E-02	5.68E-07	1.94E-03	6.16E-03	3.63E-08	1.24E-04
Road 42	42	1300-1400	2.50E-02	1.48E-07	5.06E-04	7.21E-02	4.20E-07	1.44E-03	9.59E-02	5.68E-07	1.94E-03	6.16E-03	3.63E-08	1.24E-04
Road 42	42	1400-1500	2.52E-02	1.48E-07	5.06E-04	7.27E-02	4.20E-07	1.44E-03	9.67E-02	5.68E-07	1.94E-03	6.21E-03	3.63E-08	1.24E-04
Road 42	42	1500-1600	2.52E-02	1.48E-07	5.06E-04	7.27E-02	4.20E-07	1.44E-03	9.67E-02	5.68E-07	1.94E-03	6.21E-03	3.63E-08	1.24E-04
Road 42	42	1600-1700	2.55E-02	1.48E-07	5.06E-04	7.36E-02	4.20E-07	1.44E-03	9.79E-02	5.68E-07	1.94E-03	6.29E-03	3.63E-08	1.24E-04
Road 42	42	1700-1800	2.58E-02	1.48E-07	5.06E-04	7.45E-02	4.20E-07	1.44E-03	9.91E-02	5.68E-07	1.94E-03	6.37E-03	3.63E-08	1.24E-04
Road 42	42	1800-1900	2.61E-02	1.48E-07	5.06E-04	7.54E-02	4.20E-07	1.44E-03	1.00E-01	5.68E-07	1.94E-03	6.45E-03	3.63E-08	1.24E-04
Road 42	42	1900-2000	1.10E-02	5.80E-08	1.99E-04	4.41E-02	2.32E-07	7.94E-04	5.51E-02	2.90E-07	9.93E-04	2.77E-03	1.46E-08	4.99E-05
Road 42	42	2000-2100	1.21E-02	5.07E-08	1.74E-04	4.91E-02	2.06E-07	7.06E-04	6.12E-02	2.57E-07	8.80E-04	3.00E-03	1.26E-08	4.32E-05
Road 42	42	2100-2200	1.16E-02	4.89E-08	1.67E-04	4.64E-02	2.00E-07	6.86E-04	6.02E-02	2.53E-07	8.68E-04	2.88E-03	1.22E-08

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAve		MonthlyHourMax		MonthlyHourMin		MonthlyHourAve		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 4	4	0800-0900	7.22E-03	2.60E-07	1.02E-03	4.45E-02	1.60E-06	1.26E-02	1.88E-03	6.77E-08	4.95E-04	1.16E-02	4.19E-07	3.29E-03
Road 4	4	0900-1000	8.21E-03	2.42E-07	1.77E-03	4.19E-02	1.23E-06	9.03E-03	5.01E-02	1.48E-06	1.08E-02	2.23E-03	6.58E-08	4.81E-04
Road 4	4	1000-1100	9.37E-03	2.38E-07	1.74E-03	4.42E-02	1.12E-06	8.22E-03	5.36E-02	1.36E-06	9.97E-03	2.54E-03	6.47E-08	4.73E-04
Road 4	4	1100-1200	8.89E-03	2.47E-07	1.57E-03	4.41E-02	1.06E-06	7.78E-03	5.30E-02	1.28E-06	9.34E-03	2.39E-03	5.76E-08	4.22E-04
Road 4	4	1200-1300	1.09E-02	3.17E-07	2.32E-03	4.70E-02	1.37E-06	1.00E-02	5.79E-02	1.69E-06	1.24E-02	2.92E-03	8.55E-08	6.25E-04
Road 4	4	1300-1400	1.01E-02	3.27E-07	2.39E-03	4.88E-02	1.66E-06	1.31E-02	5.98E-02	1.78E-06	1.31E-02	3.01E-03	8.98E-08	6.57E-04
Road 4	4	1400-1500	1.11E-02	3.43E-07	2.98E-03	4.96E-02	1.90E-06	1.39E-02	6.13E-02	1.96E-06	1.39E-02	3.26E-03	9.55E-08	6.98E-04
Road 4	4	1500-1600	1.04E-02	3.37E-07	2.47E-03	4.86E-02	1.58E-06	1.16E-02	5.89E-02	1.92E-06	1.41E-02	2.87E-03	9.35E-08	6.84E-04
Road 4	4	1600-1700	1.09E-02	3.79E-07	2.77E-03	4.70E-02	1.63E-06	1.19E-02	5.79E-02	2.01E-06	1.47E-02	2.92E-03	1.01E-07	7.41E-04
Road 4	4	1700-1800	1.71E-02	3.93E-07	3.27E-03	5.23E-02	1.20E-06	1.00E-02	6.44E-02	1.48E-06	1.23E-02	3.23E-03	8.20E-08	6.00E-04
Road 4	4	1800-1900	5.51E-03	2.38E-07	1.74E-03	3.07E-02	1.32E-06	9.69E-03	3.62E-02	1.56E-06	1.14E-02	1.47E-03	6.36E-08	4.65E-04
Road 4	4	1900-2000	4.74E-03	1.63E-07	1.19E-03	2.98E-02	1.03E-06	7.53E-03	3.49E-02	1.19E-06	8.68E-03	1.23E-03	4.23E-08	3.09E-04
Road 4	4	2000-2100	4.00E-03	1.06E-07	7.78E-04	2.63E-02	6.97E-07	5.09E-03	3.12E-02	8.26E-07	6.03E-03	1.03E-03	2.73E-08	1.99E-04
Road 4	4	2100-2200	3.93E-03	1.02E-07	7.44E-04	2.52E-02	6.57E-07	4.80E-03	2.98E-02	7.77E-07	5.67E-03	9.66E-04	2.51E-08	1.83E-04
Road 4	4	2200-2300	3.78E-03	9.84E-08	7.17E-04	2.42E-02	6.30E-07	4.60E-03	2.86E-02	7.45E-07	5.43E-03	9.27E-04	2.41E-08	1.76E-04
Road 4	4	2300-2400	3.64E-03	9.47E-08	6.91E-04	2.33E-02	6.06E-07	4.42E-03	2.75E-02	7.17E-07	5.22E-03	8.92E-04	2.32E-08	1.69E-04
Road 5	5	0000-0100	6.14E-03	4.36E-08	1.33E-04	4.48E-02	3.18E-07	9.69E-04	5.09E-02	3.61E-07	1.10E-03	1.05E-02	7.44E-08	2.27E-04
Road 5	5	0100-0200	6.61E-03	3.04E-08	9.27E-05	4.56E-02	2.10E-07	6.40E-04	5.22E-02	2.40E-07	7.33E-04	1.16E-02	5.34E-08	1.63E-04
Road 5	5	0200-0300	7.09E-03	2.38E-08	7.25E-05	4.63E-02	1.55E-07	4.72E-04	5.30E-02	1.77E-07	5.40E-04	1.22E-02	4.09E-08	1.25E-04
Road 5	5	0300-0400	7.74E-03	2.05E-08	6.24E-05	4.90E-02	1.30E-07	3.95E-04	5.43E-02	1.44E-07	4.39E-04	1.29E-02	3.42E-08	1.04E-04
Road 5	5	0400-0500	8.40E-03	2.43E-08	7.40E-05	5.28E-02	1.52E-07	4.63E-04	5.57E-02	1.61E-07	4.91E-04	1.36E-02	3.93E-08	1.20E-04
Road 5	5	0500-0600	9.34E-03	2.42E-08	7.37E-05	5.68E-02	1.47E-07	4.48E-04	5.68E-02	1.47E-07	4.48E-04	1.36E-02	3.52E-08	1.07E-04
Road 5	5	0600-0700	1.44E-02	3.11E-07	9.47E-04	1.77E-02	3.82E-07	1.16E-03	1.54E-02	3.33E-07	1.01E-03	3.47E-03	7.50E-08	2.28E-04
Road 5	5	0700-0800	1.45E-02	3.61E-07	1.10E-03	1.80E-02	4.48E-07	1.36E-03	1.56E-02	3.88E-07	1.18E-03	3.52E-03	8.74E-08	2.66E-04
Road 5	5	0800-0900	1.98E-02	3.61E-07	1.10E-03	2.46E-02	4.48E-07	1.36E-03	2.13E-02	3.88E-07	1.18E-03	4.82E-03	8.74E-08	2.66E-04
Road 5	5	0900-1000	1.80E-02	3.10E-07	9.44E-04	7.93E-02	1.36E-06	4.15E-03	9.73E-02	1.67E-06	5.10E-03	2.80E-03	4.80E-08	1.47E-04
Road 5	5	1000-1100	1.63E-02	2.65E-07	8.10E-04	7.59E-02	1.24E-06	4.58E-03	2.57E-03	4.18E-08	1.28E-04			
Road 5	5	1100-1200	1.29E-02	2.65E-07	7.78E-04	6.24E-02	1.28E-06	3.76E-03	2.03E-03	4.18E-08	1.23E-04			
Road 5	5	1200-1300	1.60E-02	3.58E-07	5.11E-03	6.52E-02	1.46E-06	2.08E-02	8.13E-02	1.82E-06	2.59E-02	4.27E-03	9.54E-08	1.36E-03
Road 5	5	1300-1400	1.62E-02	3.71E-07	5.30E-03	6.82E-02	1.56E-06	2.21E-02	8.44E-02	1.94E-06	2.76E-02	4.43E-03	1.02E-07	1.45E-03
Road 5	5	1400-1500	1.61E-02	3.47E-07	5.52E-03	6.82E-02	1.47E-06	2.34E-02	8.44E-02	1.82E-06	2.90E-02	4.43E-03	9.54E-08	1.52E-03
Road 5	5	1500-1600	1.49E-02	3.75E-07	5.35E-03	6.69E-02	1.68E-06	2.40E-02	8.19E-02	2.05E-06	2.93E-02	4.11E-03	1.03E-07	1.47E-03
Road 5	5	1600-1700	1.57E-02	4.06E-07	5.79E-03	6.44E-02	1.67E-06	2.38E-02	8.01E-02	2.08E-06	2.96E-02	4.12E-03	1.07E-07	1.52E-03
Road 5	5	1700-1800	1.58E-02	4.68E-07	6.68E-03	6.44E-02	1.91E-06	2.73E-02	8.01E-02	2.37E-06	3.38E-02	4.68E-03	1.39E-07	1.98E-03
Road 5	5	1800-1900	8.32E-03	2.42E-07	3.45E-03	4.18E-02	1.22E-06	1.73E-02	5.02E-02	1.46E-06	2.08E-02	2.21E-03	6.41E-08	9.14E-04
Road 5	5	1900-2000	6.83E-03	1.54E-07	2.19E-03	3.82E-02	8.61E-07	1.23E-02	4.50E-02	1.01E-06	1.45E-02	1.80E-03	4.06E-08	5.79E-04
Road 5	5	2000-2100	6.26E-03	1.46E-07	2.08E-03	3.50E-02	8.17E-07	1.17E-02	4.12E-02	9.62E-07	1.37E-02	1.65E-03	3.85E-08	5.49E-04
Road 5	5	2100-2200	6.26E-03	1.10E-07	1.57E-03	3.50E-02	6.17E-07	8.82E-03	4.12E-02	7.26E-07	1.04E-02	1.65E-03	2.91E-08	4.15E-04
Road 5	5	2200-2300	6.59E-03	1.75E-07	5.34E-04	5.04E-02	1.34E-06	4.09E-03	5.70E-02	1.52E-06	4.62E-03	9.31E-04	2.48E-08	7.55E-05
Road 5	5	2300-0000	6.95E-03	1.38E-07	4.20E-04	5.02E-02	9.94E-07	3.03E-03	5.67E-02	1.12E-06	3.42E-03	9.26E-04	1.83E-08	5.60E-05
Road 6	6	0000-0100	1.60E-02	9.80E-08	1.01E-03	7.45E-02	4.56E-07	4.69E-03	9.05E-02	5.54E-07	5.70E-03	2.88E-03	1.76E-08	1.81E-04
Road 6	6	0200-0300	1.69E-02	7.68E-08	7.89E-04	7.69E-02	3.50E-07	3.60E-03	9.38E-02	4.27E-07	4.39E-03	3.09E-03	1.40E-08	1.44E-04
Road 6	6	0300-0400	1.62E-02	6.53E-08	6.71E-04	7.37E-02	2.97E-07	3.06E-03	8.99E-02	3.63E-07	3.73E-03	2.96E-03	1.19E-08	1.23E-04
Road 6	6	0400-0500	1.92E-02	7.78E-08	8.00E-04	8.37E-02	3.39E-07	3.49E-03	1.03E-01	4.17E-07	4.29E-03	3.52E-03	1.43E-08	1.47E-04
Road 6	6	0500-0600	2.13E-02	1.52E-07	1.56E-03	9.14E-02	6.49E-07	6.67E-03	1.13E-01	8.00E-07	8.22E-03	3.78E-03	2.68E-08	2.76E-04
Road 6	6	0600-0700	2.79E-02	1.52E-07	2.06E-03	1.19E-01	6.49E-07	8.80E-03	1.47E-01	8.00E-07	1.08E-02	4.96E-03	2.68E-08	3.64E-04
Road 6	6	0700-0800	3.72E-02	1.18E-06	1.21E-02	1.46E-01	4.63E-06	4.73E-02	1.83E-01	5.78E-06	5.94E-02	5.00E-03	1.58E-07	1.62E-03
Road 6	6	0800-0900	3.96E-02	1.46E-06	1.50E-02	1.55E-01	5.69E-06	5.85E-02	1.94E-01	7.15E-06	7.35E-02	5.13E-03	1.89E-07	1.94E-03
Road 6	6	0900-1000	4.46E-02	1.46E-06	1.50E-02	1.74E-01	5.69E-06	5.85E-02	2.18E-01	7.15E-06	7.35E-02	5.77E-03	1.89E-07	1.94E-03
Road 6	6	1000-1100	4.91E-02	1.46E-06	1.50E-02	1.81E-01	5.40E-06	5.55E-02	2.30E-01	6.86E-06	7.06E-02	6.58E-03	1.96E-07	2.02E-03
Road 6	6	1100-1200	4.59E-02	1.29E-06	1.33E-02	1.73E-01	4.87E-06	5.00E-02	2.19E-01	6.16E-06	6.33E-02	6.30E-03	1.77E-07	1.82E-03
Road 6	6	1200-1300	5.53E-02	1.61E-06	1.65E-02	2.03E-01	5.90E-06	6.06E-02	2.58E-01	7.51E-06	7.72E-02	7.39E-03	2.15E-07	2.21E-03
Road 6	6	1300-1400	5.53E-02	1.61E-06	1.65E-02	2.03E-01	5.90E-06	6.06E-02	2.58E-01	7.51E-06	7.72E-02	7.39E-03	2.15E-07	2.21E-03
Road 6	6	1400-1500	5.75E-02	1.73E-06	1.78E-02	2.04E-01	6.16E-06	6.34E-02	2.62E-01	7.90E-06	8.12E-02	7.47E-03	2.25E-07	2.32E-03
Road 6	6	1500-1600	5.60E-02	1.68E-06	1.73E-02	2.01E-01	6.01E-06	6.21E-02	2.58E-01	7.71E-06	7.96E-02	7.35E-03	2.20E-07	2.26E-03
Road 6	6	1600-1700	5.37E-02	1.69E-06	1.73E-02	1.94E-01	6.08E-06	6.25E-02	2.42E-01	7.76E-06	7.98E-02	7.05E-03	2.21E-07	2.27E-03
Road 6	6	1700-1800	6.02E-02	1.33E-06	1.37E-02	2.16E-01	4.80E-06	4.95E-02	2.61E-01	6.81E-06	7.00E-02	5.50E-03	1.82E-07	1.87E-03
Road 6	6	1800-1900	2.79E-02	1.18E-06	1.21E-02	1.46E-01	4.63E-06	4.73E-02	1.83E-01	5.94E-06	6.10E-02	5.00E-03	1.62E-07	1.66E-03
Road 6	6	1900-2000	2.11E-02	1.52E-07	1.56E-03	1.10E-01	6.49E-07	6.67E-03	1.38E-01	9.98E-07	1.02E-02	3.78E-03	2.68E-08	2.76E-04
Road 6	6	2000-2100	1.91E-02	1.52E-07	1.56E-03	9.98E-02	6.49E-07	6.67E-03	1.25E-01	9.98E-07	1.02E-02	3.42E-03	2.68E-08	2.76E-04
Road 6	6	2100-2200	1.82E-02	1.52E-07	1.56E-03	9.52E-02	6.49E-07	6.67E-03	1.19E-01	9.98E-07	1.02E-02	3.26E-03	2.68E-08	2.76E-04
Road 6	6	2200-2300	1.85E-02	2.58E-07	2.65E-03	9.68E-02	1.18E-06	1.21E-02	1.03E-01	1.43E-06	1.47E-02	3.31E-03	4.85E-08	4.98E-04
Road 6	6	2300-0000	1.85E-02	2.58E-07	2.65E-03	9.68E-02	1.18E-06	1.21E-02	1.03E-01	1.43E-06	1.47E-02	3.31E-03	4.85E-08	4.98E-04
Road 7	7	0000-0100	4.86E-03	3.32E-08	1.42E-04	3.58E-02	2.44E-07	1.04E-03	4.07E-02	2.77E-07	1.18E-03	1.17E-03	8.02E-09	3.43E-05
Road 7	7	0100-0200	5.46E-03	2.42E-08	7.44E-05	4.02E-02	1.78E-07	5.47E-04	4.57E-02	2.03E-07	6.23E-04	1.32E-03	5.85E-09	1.80E-05
Road 7	7	0200-0300	6.11E-03	2.00E-08	8.55E-05	3.93E-02	1.28E-07	5.49E-04	4.54E-02	1.48E-07	6.35E-04	1.49E-03	4.88E-09	2.09E-05
Road 7	7	0300-0400	6.74E-03	1.74E-08	7.46E-05	4.09E-02	1.06E-07	4.52E-04	4.76E-02	1.23E-07	5.27E-04	1.65E-03	4.28E-09	1.83E-05
Road 7	7	0400-0500	7.37E-03	2.08E-08	8.07E-05	4.47E-02	1.26E-07	4.91E-04	5.15E-02	1.45E-07	5.64E-04	1.79E-03	5.06E-09	1.96E-05
Road 7	7	0500-0600	7.36E-03	3.60E-08	1.54E-04	4.29E-02	2.10E-07	8.98E-04	5.02E-02	2.46E-07	1.05E-03	1.83E-03	8.96E-09	3.83E-05
Road 7	7	0600-0700	7.67E-03	8.02E-08	3.43E-04	4.43E-02	4.63E-07	1.98E-03	5.20E-02	5.43E-07	2.33E-03	1.92E-03	2.00E-08	8.57E-05
Road 7	7	0700-0800	8.34E-03	1.70E-07	7.56E-04	4.81E-02	9.45E-07	4.20E-03	5.43E-02	1.11E-06	4.94E-03	2.08E-03	4.43E-08	1.96E-04
Road 7	7	0800-0900	8.24E-03	2.02E-07	8.65E-04	4.30E-02	1.06E-06	4.52E-03	5.13E-02	1.26E-06	5.38E-03	2.07E-03	5.09E-08	2.18E-04
Road 7	7	0900-1000	9.27E-03	1.87E-07	8.02E-04	4.70E-02	9.51E-07	4.07E-03	5.63E-02	1.14E-06	4.87E-03	2.45E-03	4.95E-08	2.12E-04
Road 7	7	1000-1100	1.05E-02	1.84E-07	7.88E-04	4.90E-02	8.59E-07	3.68E-03	5.72E-02	1.00E-06	4.30E-03	2.77E-03	4.81E-08	2.06E-04
Road 7	7	1100-1200	1.00E-02	1.67E-07	7.13E-04	4.86E-02	8.08E-07	3.46E-03	5.86E-02	9.74E-07	4.17E-03	2.64E-03	4.38E-08	1.87E-04
Road 7	7	1200-1300	1.66E-02	4.27E-07	1.83E-03	6.80E-02	1.74E-06	7.47E-03	8.46E-02	2.17E-06	9.29E-03	4.01E-03	1.03E-07	4.41E-04
Road 7	7	1300-1400	2.12E-02	4.27E-07	2.41E-03	8.77E-02	1.77E-06	9.97E-03	1.08E-01	2.17E-06	1.23E-02	5.12E-03	1.03E-07	5.84E-04
Road 7	7	1400-1500	2.64E-02	7.41E-07	3.17E-03	1.02E-01	2.86E-06	1.22E-02	1.28E-01	3.60E-06	1.54E-02	4.70E-03	1.32E-07	5.64E-04
Road 7	7	1500-1600	2.72E-02	7.82E-07	3.35E-03	1.13E-01	3.25E-06	1.39E-02	1.32E-01	3.79E-06	1.62E-02	4.65E-03	1.34E-07	5.72E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAve		MonthlyHourMax		MonthlyHourMin		MonthlyHourAve		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 7	7	1600-1700	3.62E-02	1.09E-06	4.65E-03	1.35E-01	4.04E-06	1.73E-02	1.71E-01	5.13E-06	5.93E-02	3.90E-03	1.17E-07	5.13E-04
Road 7	7	1700-1800	3.50E-02	1.16E-06	4.95E-03	1.50E-01	4.95E-06	2.12E-02	1.85E-01	6.11E-06	2.61E-02	4.30E-03	1.42E-07	6.07E-04
Road 7	7	1800-1900	2.34E-02	8.08E-07	3.46E-03	1.02E-01	3.55E-06	1.51E-02	1.25E-01	4.34E-06	1.86E-02	2.97E-03	1.03E-07	4.39E-04
Road 7	7	1900-2000	6.69E-03	1.81E-07	7.75E-04	3.82E-02	1.03E-06	4.42E-03	4.49E-02	1.21E-06	5.20E-03	1.66E-03	4.50E-08	1.92E-04
Road 7	7	2000-2100	6.06E-03	1.28E-07	5.48E-04	3.93E-02	8.30E-07	3.56E-03	4.54E-02	9.58E-07	4.10E-03	1.58E-03	3.33E-08	1.43E-04
Road 7	7	2100-2200	5.60E-03	1.18E-07	5.05E-04	3.88E-02	8.18E-07	3.50E-03	4.44E-02	9.36E-07	4.01E-03	1.46E-03	3.08E-08	1.32E-04
Road 7	7	2200-2300	5.52E-03	1.12E-07	4.81E-04	3.82E-02	7.74E-07	3.31E-03	4.36E-02	8.86E-07	3.79E-03	2.83E-03	4.02E-08	1.94E-04
Road 7	7	2300-0000	6.11E-03	9.36E-08	4.00E-04	3.92E-02	6.01E-07	2.57E-03	4.53E-02	6.95E-07	2.97E-03	1.56E-03	2.39E-08	1.02E-04
Road 8	8	0000-0100	4.77E-03	2.65E-09	1.95E-05	3.11E-02	1.72E-08	1.27E-04	3.58E-02	1.99E-08	1.47E-04	1.21E-03	6.71E-10	4.96E-06
Road 8	8	0100-0200	5.25E-03	4.38E-09	1.21E-05	3.79E-02	1.76E-08	5.04E-05	3.92E-02	3.26E-08	1.20E-04	1.33E-03	4.83E-10	3.57E-06
Road 8	8	0200-0300	5.72E-03	1.52E-09	1.12E-05	4.07E-02	1.07E-08	7.84E-05	4.29E-02	1.13E-08	8.33E-05	1.45E-03	3.81E-10	2.81E-06
Road 8	8	0300-0400	6.18E-03	1.30E-09	9.60E-06	3.55E-02	7.47E-09	5.51E-05	4.17E-02	8.77E-09	6.47E-05	1.59E-03	3.34E-10	2.46E-06
Road 8	8	0400-0500	6.54E-03	1.54E-09	1.14E-05	3.76E-02	8.85E-09	6.54E-05	4.42E-02	1.04E-08	7.70E-05	1.68E-03	3.96E-10	2.92E-06
Road 8	8	0500-0600	7.12E-03	2.87E-09	2.12E-05	3.82E-02	1.54E-08	1.13E-04	4.53E-02	1.82E-08	1.35E-04	1.84E-03	7.41E-10	5.47E-06
Road 8	8	0600-0700	7.61E-03	6.59E-09	4.86E-05	3.98E-02	3.45E-08	2.54E-04	4.74E-02	4.11E-08	3.03E-04	1.97E-03	1.71E-09	1.26E-05
Road 8	8	0700-0800	8.05E-03	1.41E-08	1.04E-04	4.08E-02	7.38E-08	5.43E-04	4.88E-02	8.53E-08	6.33E-04	2.03E-03	3.68E-09	2.72E-05
Road 8	8	0800-0900	7.98E-03	1.59E-08	1.17E-04	3.87E-02	7.71E-08	5.68E-04	4.67E-02	9.30E-08	6.87E-04	2.13E-03	4.23E-09	3.13E-05
Road 8	8	0900-1000	9.37E-03	1.59E-08	1.18E-04	4.41E-02	7.50E-08	5.54E-04	5.35E-02	9.09E-08	6.71E-04	2.56E-03	4.36E-09	3.22E-05
Road 8	8	1000-1100	1.08E-02	1.61E-08	1.19E-04	4.98E-02	7.52E-08	5.56E-04	6.02E-02	9.33E-08	6.89E-04	2.87E-03	4.46E-09	3.29E-05
Road 8	8	1100-1200	1.03E-02	1.47E-08	1.08E-04	4.67E-02	6.63E-08	4.89E-04	5.70E-02	8.10E-08	5.98E-04	2.80E-03	3.97E-09	2.93E-05
Road 8	8	1200-1300	1.56E-02	6.35E-08	4.69E-04	6.10E-02	2.49E-07	1.84E-03	7.66E-02	3.13E-07	2.31E-03	4.23E-03	1.73E-08	1.27E-04
Road 8	8	1300-1400	1.57E-02	6.35E-08	4.69E-04	6.10E-02	2.49E-07	1.84E-03	7.66E-02	3.13E-07	2.31E-03	4.23E-03	1.73E-08	1.27E-04
Road 8	8	1400-1500	1.56E-02	6.71E-08	5.15E-04	6.21E-02	2.77E-07	2.04E-03	7.96E-02	3.42E-07	2.56E-03	4.30E-03	1.85E-08	1.37E-04
Road 8	8	1500-1600	1.44E-02	6.62E-08	4.89E-04	6.27E-02	2.87E-07	2.12E-03	7.72E-02	3.53E-07	2.61E-03	4.07E-03	1.86E-08	1.38E-04
Road 8	8	1600-1700	1.47E-02	6.94E-08	5.12E-04	5.88E-02	2.78E-07	2.05E-03	7.35E-02	3.48E-07	2.57E-03	4.01E-03	1.90E-08	1.40E-04
Road 8	8	1700-1800	1.08E-02	6.14E-08	4.68E-04	4.86E-02	2.76E-07	2.10E-03	6.23E-02	3.54E-07	2.69E-03	3.23E-03	1.84E-08	1.40E-04
Road 8	8	1800-1900	7.58E-03	3.90E-08	2.88E-04	3.78E-02	1.94E-07	1.43E-03	4.54E-02	2.33E-07	1.72E-03	2.12E-03	1.09E-08	8.03E-05
Road 8	8	1900-2000	6.56E-03	2.65E-08	1.96E-04	3.49E-02	1.41E-07	1.04E-03	4.14E-02	1.68E-07	1.24E-03	1.78E-03	7.21E-09	5.32E-05
Road 8	8	2000-2100	6.26E-03	2.03E-08	1.50E-04	3.50E-02	1.13E-07	8.34E-04	4.12E-02	1.34E-07	9.87E-04	1.65E-03	5.34E-09	3.94E-05
Road 8	8	2100-2200	6.17E-03	1.93E-08	1.43E-04	3.78E-02	1.18E-07	8.72E-04	4.39E-02	1.37E-07	1.01E-03	1.68E-03	5.25E-09	3.88E-05
Road 8	8	2200-2300	6.12E-03	1.86E-08	1.37E-04	3.85E-02	1.11E-07	8.25E-04	4.49E-02	1.29E-07	9.58E-04	1.68E-03	4.86E-09	3.59E-05
Road 8	8	2300-0000	6.75E-03	1.58E-08	1.16E-04	4.14E-02	9.45E-08	6.96E-04	4.82E-02	1.10E-07	8.09E-04	1.84E-03	4.20E-09	3.09E-05
Road 9	9	0000-0100	1.12E-02	7.92E-08	2.15E-04	6.26E-02	4.41E-07	1.20E-03	7.39E-02	5.20E-07	1.41E-03	1.73E-03	1.22E-08	3.31E-05
Road 9	9	0100-0200	9.21E-03	5.04E-08	4.81E-04	2.63E-02	2.77E-07	5.73E-03	3.30E-02	2.41E-07	1.32E-03	1.39E-03	7.68E-09	1.58E-05
Road 9	9	0200-0300	9.21E-03	5.04E-08	4.81E-04	2.63E-02	2.77E-07	5.73E-03	3.30E-02	2.41E-07	1.32E-03	1.39E-03	7.68E-09	1.58E-05
Road 9	9	0300-0400	1.10E-02	3.59E-08	3.78E-04	3.30E-02	1.73E-07	1.82E-03	4.07E-02	2.09E-07	2.20E-03	2.87E-03	9.36E-09	9.84E-05
Road 9	9	0400-0500	1.15E-02	4.17E-08	4.39E-04	5.46E-02	1.98E-07	2.08E-03	5.25E-02	1.90E-07	2.00E-03	3.02E-03	1.09E-08	1.15E-04
Road 9	9	0500-0600	1.28E-02	4.17E-08	4.39E-04	6.08E-02	1.98E-07	2.08E-03	5.84E-02	1.90E-07	2.00E-03	3.36E-03	1.09E-08	1.15E-04
Road 9	9	0600-0700	1.22E-02	1.66E-07	1.75E-03	5.84E-02	7.94E-07	8.34E-03	7.07E-02	9.60E-07	1.01E-02	2.22E-03	4.37E-08	4.60E-04
Road 9	9	0700-0800	1.34E-02	3.74E-07	3.94E-03	6.20E-02	1.73E-06	1.82E-02	7.54E-02	2.11E-06	2.21E-02	2.47E-03	6.90E-08	7.25E-04
Road 9	9	0800-0900	1.37E-02	3.98E-07	4.20E-03	6.32E-02	1.84E-06	1.94E-02	7.69E-02	2.24E-06	2.36E-

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September)

Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 31	31	0000-0100	1.38E-02	3.01E-08	0.05	3.76E-02	8.58E-02	1.67E-01	1.44E-01	3.69E-04	3.56E-03	7.85E-09	2.58E-05	2.56E-05
Road 31	31	0100-0200	1.65E-02	2.50E-08	8.16E-05	5.68E-02	8.62E-08	2.81E-04	7.33E-02	1.23E-03	4.25E-03	6.45E-09	2.10E-05	2.10E-05
Road 31	31	0200-0300	1.91E-02	2.26E-08	7.35E-05	6.18E-02	7.30E-08	2.38E-04	8.09E-02	9.56E-08	3.12E-04	4.86E-03	5.74E-09	1.87E-05
Road 31	31	0300-0400	2.13E-02	2.02E-08	6.58E-05	6.52E-02	2.13E-04	8.72E-02	8.63E-02	2.81E-04	5.33E-03	5.34E-09	1.74E-05	
Road 31	31	0400-0500	2.10E-02	2.27E-08	7.40E-05	6.59E-02	7.12E-08	2.32E-04	8.69E-02	9.39E-08	3.06E-04	5.34E-03	5.78E-09	1.88E-05
Road 31	31	0500-0600	1.80E-02	3.14E-08	1.03E-04	6.21E-02	1.08E-07	3.54E-04	8.02E-02	1.40E-07	4.56E-04	4.71E-03	8.21E-09	2.68E-05
Road 31	31	0600-0700	1.57E-02	4.08E-08	1.33E-04	5.38E-02	1.40E-07	4.56E-04	7.55E-02	2.69E-07	8.76E-04	4.26E-03	1.11E-08	3.61E-05
Road 31	31	0700-0800	1.84E-02	1.41E-07	4.60E-04	6.39E-02	4.91E-07	1.60E-03	8.23E-02	6.32E-07	2.06E-03	4.86E-03	3.73E-08	1.22E-04
Road 31	31	0800-0900	1.74E-02	1.53E-07	4.99E-04	6.08E-02	5.34E-07	1.74E-03	7.82E-02	6.87E-07	2.24E-03	4.69E-03	4.13E-08	1.35E-04
Road 31	31	0900-1000	1.96E-02	1.29E-07	4.21E-04	6.79E-02	4.48E-07	1.46E-03	8.57E-02	5.65E-07	1.84E-03	5.07E-03	3.35E-08	1.09E-04
Road 31	31	1000-1100	2.17E-02	1.62E-07	5.30E-04	7.51E-02	5.62E-07	1.83E-03	9.47E-02	7.08E-07	2.31E-03	5.60E-03	4.20E-08	1.37E-04
Road 31	31	1100-1200	2.17E-02	1.54E-07	5.02E-04	7.14E-02	5.07E-07	1.65E-03	9.31E-02	6.61E-07	2.16E-03	5.86E-03	4.16E-08	1.36E-04
Road 31	31	1200-1300	2.22E-02	1.38E-07	4.52E-04	7.32E-02	4.55E-07	1.49E-03	9.54E-02	5.91E-07	1.93E-03	6.01E-03	3.72E-08	1.22E-04
Road 31	31	1300-1400	1.99E-02	1.06E-07	3.46E-04	6.36E-02	3.39E-07	1.11E-03	8.35E-02	4.45E-07	1.45E-03	5.39E-03	2.87E-08	9.41E-05
Road 31	31	1400-1500	1.95E-02	1.09E-07	3.56E-04	6.22E-02	3.47E-07	1.13E-03	8.17E-02	4.56E-07	1.49E-03	5.09E-03	2.84E-08	9.26E-05
Road 31	31	1500-1600	1.86E-02	1.05E-07	3.44E-04	5.94E-02	3.34E-07	1.09E-03	7.80E-02	4.39E-07	1.43E-03	4.86E-03	2.73E-08	8.93E-05
Road 31	31	1600-1700	1.87E-02	1.11E-07	3.62E-04	5.95E-02	3.54E-07	1.15E-03	7.82E-02	4.65E-07	1.52E-03	4.84E-03	2.88E-08	9.38E-05
Road 31	31	1700-1800	1.50E-02	9.79E-08	3.19E-04	5.27E-02	3.43E-07	1.12E-03	6.78E-02	4.41E-07	1.44E-03	3.92E-03	2.55E-08	8.31E-05
Road 31	31	1800-1900	1.24E-02	8.15E-08	2.78E-04	4.25E-02	2.79E-07	9.48E-04	5.49E-02	3.61E-07	1.23E-03	3.16E-03	2.08E-08	7.10E-05
Road 31	31	1900-2000	7.62E-03	3.81E-08	1.24E-04	3.45E-02	1.72E-07	5.62E-04	4.22E-02	2.11E-07	6.87E-04	1.98E-03	9.87E-09	3.22E-05
Road 31	31	2000-2100	8.05E-03	1.08E-08	1.04E-04	3.82E-02	1.51E-07	4.93E-04	4.63E-02	1.83E-07	5.96E-04	2.06E-03	8.15E-09	2.66E-05
Road 31	31	2100-2200	7.69E-03	3.01E-08	9.81E-05	3.80E-02	1.49E-07	4.87E-04	4.57E-02	1.79E-07	5.83E-04	1.97E-03	7.71E-09	2.52E-05
Road 31	31	2200-2300	7.73E-03	2.68E-08	8.68E-05	3.82E-02	1.32E-07	4.31E-04	4.59E-02	1.59E-07	5.16E-04	1.98E-03	6.87E-09	2.23E-05
Road 31	31	2300-0000	9.13E-03	2.66E-08	8.67E-05	4.07E-02	1.19E-07	3.87E-04	4.98E-02	1.45E-07	4.73E-04	2.28E-03	6.65E-09	2.17E-05
Road 32	32	0000-0100	6.86E-03	6.90E-08	1.67E-04	3.03E-02	3.04E-07	7.36E-04	4.63E-02	4.63E-07	1.12E-03	1.84E-03	1.85E-08	4.49E-05
Road 32	32	0100-0200	7.48E-03	6.80E-08	1.65E-04	3.27E-02	2.97E-07	7.19E-04	4.98E-02	4.52E-07	1.09E-03	1.98E-03	1.80E-08	4.36E-05
Road 32	32	0200-0300	8.08E-03	3.93E-08	9.54E-05	4.28E-02	2.08E-07	5.05E-04	5.09E-02	2.48E-07	6.00E-04	2.18E-03	1.06E-08	2.57E-05
Road 32	32	0300-0400	8.68E-03	3.27E-08	8.16E-05	4.44E-02	1.72E-07	4.17E-04	5.31E-02	2.06E-07	4.99E-04	2.34E-03	9.08E-09	2.20E-05
Road 32	32	0400-0500	9.26E-03	3.14E-08	7.84E-05	4.60E-02	1.56E-07	3.89E-04	5.45E-02	1.85E-07	4.61E-04	2.49E-03	8.44E-09	2.04E-05
Road 32	32	0500-0600	9.83E-03	7.39E-08	1.79E-04	4.74E-02	3.56E-07	8.63E-04	5.72E-02	4.30E-07	1.04E-03	2.67E-03	2.01E-08	4.86E-05
Road 32	32	0600-0700	1.04E-02	1.70E-07	4.11E-04	4.92E-02	8.01E-07	1.94E-03	5.97E-02	9.71E-07	2.35E-03	2.83E-03	4.60E-08	1.12E-04
Road 32	32	0700-0800	1.04E-02	4.08E-07	9.88E-04	4.71E-02	1.81E-06	4.39E-03	5.78E-02	2.22E-06	5.37E-03	2.66E-03	1.02E-07	2.47E-04
Road 32	32	0800-0900	1.06E-02	4.08E-07	9.88E-04	4.71E-02	1.81E-06	4.39E-03	5.78E-02	2.22E-06	5.37E-03	2.66E-03	1.02E-07	2.47E-04
Road 32	32	0900-1000	1.24E-02	4.18E-07	1.01E-03	5.33E-02	1.79E-06	4.33E-03	6.80E-02	2.29E-06	5.54E-03	3.13E-03	1.05E-07	2.54E-04
Road 32	32	1000-1100	1.42E-02	3.98E-07	9.65E-04	5.94E-02	1.66E-06	4.03E-03	7.56E-02	2.12E-06	5.14E-03	3.58E-03	1.00E-07	2.43E-04
Road 32	32	1100-1200	1.38E-02	3.91E-07	9.48E-04	5.65E-02	1.60E-06	3.89E-03	7.02E-02	1.99E-06	4.83E-03	3.89E-03	1.10E-07	2.67E-04
Road 32	32	1200-1300	1.34E-02	3.77E-07	8.18E-04	5.37E-02	1.35E-06	3.27E-03	6.71E-02	1.69E-06	4.09E-03	3.69E-03	9.29E-08	2.25E-04
Road 32	32	1300-1400	1.32E-02	3.80E-07	9.20E-04	5.55E-02	1.60E-06	3.87E-03	6.62E-02	1.91E-06	4.62E-03	3.64E-03	1.05E-07	2.54E-04
Road 32	32	1400-1500	1.35E-02	3.71E-07	9.00E-04	5.46E-02	1.50E-06	3.63E-03	6.81E-02	1.87E-06	4.53E-03	3.76E-03	1.03E-07	2.50E-04
Road 32	32	1500-1600	1.25E-02	3.52E-07	8.53E-04	5.45E-02	1.53E-06	3.72E-03	6.70E-02	1.89E-06	4.57E-03	3.58E-03	1.01E-07	2.44E-04
Road 32	32	1600-1700	1.30E-02	3.57E-07	8.65E-04	5.66E-02	1.55E-06	3.76E-03	6.96E-02	1.91E-06	4.63E-03	3.72E-03	1.02E-07	2.47E-04
Road 32	32	1700-1800	9.35E-03	3.05E-07	7.40E-04	5.53E-02	1.48E-06	3.58E-03	5.46E-02	1.78E-06	4.32E-03	2.65E-03	8.65E-08	2.10E-04
Road 32	32	1800-1900	6.66E-03	2.30E-07	5.57E-04	3.98E-02	1.37E-06	3.32E-03	4.83E-02	1.67E-06	4.06E-03	1.89E-03	6.46E-08	1.56E-04
Road 32	32	1900-2000	4.32E-03	1.00E-07	2.43E-04	2.58E-02	5.97E-07	1.44E-03	3.13E-02	7.24E-07	1.75E-03	1.23E-03	2.84E-08	6.87E-05
Road 32	32	2000-2100	5.74E-03	1.22E-07	2.94E-04	3.62E-02	7.67E-07	1.86E-03	4.20E-02	8.89E-07	2.15E-03	1.55E-03	3.29E-08	7.96E-05
Road 32	32	2100-2200	5.24E-03	1.11E-07	2.68E-04	3.56E-02	7.53E-07	1.82E-03	4.09E-02	8.64E-07	2.09E-03	1.43E-03	3.01E-08	7.30E-05
Road 32	32	2200-2300	5.24E-03	1.11E-07	2.68E-04	3.56E-02	7.53E-07	1.82E-03	4.09E-02	8.64E-07	2.09E-03	1.43E-03	3.01E-08	7.30E-05
Road 32	32	2300-0000	5.75E-03	8.82E-08	2.14E-04	3.69E-02	5.67E-07	1.37E-03	4.27E-02	6.55E-07	1.59E-03	1.51E-03	2.32E-08	5.62E-05
Road 33	33	0000-0100	9.91E-03	9.61E-08	5.28E-04	4.75E-02	4.61E-07	2.53E-03	5.73E-02	5.56E-07	3.06E-03	2.53E-03	2.46E-08	1.35E-04
Road 33	33	0100-0200	1.07E-02	9.45E-08	5.19E-04	5.14E-02	4.54E-07	2.49E-03	6.20E-02	5.47E-07	3.01E-03	2.74E-03	2.42E-08	1.33E-04
Road 33	33	0200-0300	1.34E-02	6.59E-08	3.62E-04	5.47E-02	2.70E-07	1.48E-03	6.80E-02	3.36E-07	1.84E-03	3.38E-03	1.67E-08	9.15E-05
Road 33	33	0300-0400	1.49E-02	6.02E-08	3.30E-04	5.78E-02	2.33E-07	1.28E-03	7.27E-02	2.93E-07	1.61E-03	3.76E-03	1.52E-08	8.33E-05
Road 33	33	0400-0500	1.64E-02	6.02E-08	3.30E-04	6.08E-02	2.23E-07	1.22E-03	7.67E-02	2.82E-07	1.55E-03	4.14E-03	1.52E-08	8.33E-05
Road 33	33	0500-0600	1.37E-02	1.02E-07	5.59E-04	5.75E-02	4.28E-07	2.35E-03	7.12E-02	5.30E-07	2.91E-03	3.53E-03	2.62E-08	1.44E-04
Road 33	33	0600-0700	1.29E-02	2.01E-07	1.10E-03	5.75E-02	8.98E-07	4.93E-03	6.34E-02	9.90E-07	5.43E-03	3.32E-03	5.25E-08	2.88E-04
Road 33	33	0700-0800	1.38E-02	5.23E-07	2.87E-03	5.67E-02	2.14E-06	1.18E-02	7.05E-02	2.67E-06	1.46E-02	3.66E-03	1.39E-07	7.61E-04
Road 33	33	0800-0900	1.60E-02	5.38E-07	2.95E-03	6.42E-02	2.16E-06	1.19E-02	8.01E-02	2.70E-06	1.48E-02	4.32E-03	1.45E-07	7.99E-04
Road 33	33	0900-1000	1.80E-02	4.60E-07	3.00E-03	6.76E-02	2.68E-06	1.75E-02	8.44E-02	3.34E-06	2.18E-02	4.44E-03	1.47E-07	8.06E-04
Road 33	33	1000-1100	1.77E-02	5.11E-07	2.80E-03	6.58E-02	2.47E-06	1.35E-02	8.47E-02	3.36E-06	2.09E-02	4.74E-03	1.36E-07	7.61E-04
Road 33	33	1100-1200	1.77E-02	5.11E-07	2.80E-03	6.58E-02	2.47E-06	1.35E-02	8.47E-02	3.36E-06	2.09E-02	4.74E-03	1.36E-07	7.61E-04
Road 33	33	1200-1300	2.04E-02	5.82E-07	3.19E-03	7.27E-02	2.08E-06	1.14E-02	9.38E-02	2.68E-06	1.47E-02	5.31E-03	1.52E-07	8.33E-04
Road 33	33	1300-1400	2.02E-02	6.10E-07	3.35E-03	7.51E-02	2.26E-06	1.24E-02	9.57E-02	2.87E-06	1.58E-02	5.47E-03	1.65E-07	9.06E-04
Road 33	33	1400-1500	2.01E-02	6.45E-07	3.54E-03	7.48E-02	2.39E-06	1.31E-02	9.49E-02	3.04E-06	1.67E-02	5.43E-03	1.74E-07	9.56E-04
Road 33	33	1500-1600	1.87E-02	6.00E-07	3.30E-03	7.36E-02	2.36E-06	1.30E-02	9.23E-02	2.96E-06	1.63E-02	5.14E-03	1.65E-07	9.08E-04
Road 33	33	1600-1700	1.91E-02	6.22E-07	3.42E-03	7.03E-02	2.29E-06	1.26E-02	8.94E-02	2.91E-06	1.60E-02	5.14E-03	1.67E-07	9.19E-04
Road 33	33	1700-1800	1.45E-02	4.72E-07	2.60E-03	5.46E-02	1.78E-06	9.81E-03	6.91E-02	2.25E-06	1.24E-02	3.90E-03	1.27E-07	7.00E-04
Road 33	33	1800-1900	1.15E-02	3.89E-07	2.14E-03	4.84E-02	1.64E-06	8.99E-03	6.00E-02	2.03E-06	1.11E-02	3.11E-03	1.05E-07	5.77E-04
Road 33	33	1900-2000	8.90E-03	2.24E-07	1.23E-03	4.33E-02	1.09E-06	5.97E-03	5.22E-02	1.31E-06	7.20E-03	2.40E-03	6.05E-08	3.32E-04
Road 33	33	2000-2100	8.67E-03	1.71E-07	9.40E-04	4.65E-02	9.17E-07	5.04E-03	5.51E-02	1.09E-06	5.98E-03	2.33E-03	4.60E-08	2.52E-04
Road 33	33	2100-2200	8.67E-03	1.71E-07	9.40E-04	4.65E-02	9.17E-07	5.04E-03	5.51E-02	1.09E-06	5.98E-03	2.33E-03	4.60E-08	2.52E-04
Road 33	33	2200-2300	8.76E-03	1.66E-07	9.09E-04	4.54E-02	8.58E-07	4.71E-03	5.42E-02	1.02E-06	5.62E-03	2.28E-03	4.30E-08	2.36E-04
Road 33	33	2300-0000	9.83E-03	1.24E-07	6.78E-04	5.09E-02	6.43E-07	3.51E-03	5.98E-02	7.56E-07	4.12E-03	2.56E-03	3.23E-08	1.76E-04
Road 34	34	0000-0100	5.30E-03	3.80E-08	3.63E-04	3.54E-02	2.54E-07	2.42E-03	4.07E-02	2.92E-07	2.79E-03	1.30E-03	9.36E-09	8.94E-05
Road 34	34	0100-0200	6.20E-03	2.91E-08	2.78E-04	3.72E-02	1.75E-07	1.67E-03	4.34E-02	2.04E-07	1.95E-03	1.53E-03	7.20E-09	6.88E-05
Road 34	34	0200-0300	7.15E-03	2.48E-08	2.37E-04	4.29E-02	1.49E-07	1.42E-03	5.01E-02	1.74E-07	1.67E-03	1.76E-03	6.10E-09	5.83E-05
Road 34	34	0300-0400	8.07E-03	2.22E-08	2.12E-04	4.16E-02	1.15E-07	1.09E-03	4.96E-02	1.37E-07	1.31E-03	1.99E-03	5.48E-09	5.24E-05
Road 34	34	0400-0500	8.30E-03	2.39E-08	4.23E-02	1.27E-07	1.22E-03	5.06E-02	1.52E-07	1.46E-03	2.06E-03	6.20E-09	5.92E-05	
Road 34	34	0500-0600	7.86E-03	4.02E-08	3.85E-04	4.21E-02	2.06E-07	1.99E-03	5.04E-02	2.56E-07	2.47E-03	1.97E-03	1.01E-08	9.67E-05
Road 34	34	0600-0700	7.69E-03	8.34E-08	7.96E-04	4.26E-02	4.62E-07	4.41E-03	5.03E-02	5.45E-07	5.21E-03	1.95E-03	2.11E-08	2.01E-04
Road 34	34	0700-0800	8.62E-03	1.90E-07	1.82E-03	4.41E-02	9.74E-07	9.30E-03	5.27E-02	1.16E-06	1.11E-02	2.19E-03	4.84E-08	4.62E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September)

Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 34	34	0800-0900	8.13E-03	2.07E-07	1.98E-03	3.92E-02	1.00E-06	9.56E-03	4.74E-02	1.21E-06	1.15E-02	2.11E-03	5.37E-08	5.13E-04
Road 34	34	0900-1000	9.32E-03	1.95E-07	1.86E-03	4.33E-02	9.05E-07	8.65E-03	5.27E-02	1.10E-06	1.05E-02	2.50E-03	5.22E-08	4.98E-04
Road 34	34	1000-1100	1.06E-02	1.91E-07	1.82E-03	4.58E-02	8.27E-07	7.90E-03	5.64E-02	1.02E-06	9.72E-03	2.83E-03	5.11E-08	4.88E-04
Road 34	34	1100-1200	1.02E-02	1.75E-07	1.67E-03	4.59E-02	7.86E-07	7.51E-03	5.60E-02	9.61E-07	9.18E-03	2.70E-03	4.63E-08	4.42E-04
Road 34	34	1200-1300	1.61E-02	2.67E-07	2.55E-03	5.79E-02	9.61E-07	9.18E-03	7.41E-02	1.23E-06	1.17E-02	4.43E-03	7.35E-08	7.02E-04
Road 34	34	1300-1400	1.61E-02	2.79E-07	2.66E-03	5.99E-02	1.04E-06	9.89E-03	7.61E-02	1.31E-06	1.26E-02	4.52E-03	7.81E-08	7.46E-04
Road 34	34	1400-1500	1.61E-02	2.90E-07	2.77E-03	5.87E-02	1.06E-06	1.01E-02	7.47E-02	1.35E-06	1.29E-02	4.52E-03	8.07E-08	7.71E-04
Road 34	34	1500-1600	1.49E-02	2.75E-07	2.63E-03	5.85E-02	1.08E-06	1.04E-02	7.34E-02	1.36E-06	1.30E-02	4.25E-03	7.87E-08	7.52E-04
Road 34	34	1600-1700	1.51E-02	2.90E-07	2.77E-03	5.57E-02	1.07E-06	1.02E-02	7.08E-02	1.36E-06	1.30E-02	4.19E-03	8.04E-08	7.68E-04
Road 34	34	1700-1800	1.14E-02	2.27E-07	2.26E-03	4.33E-02	8.61E-07	8.56E-03	5.39E-02	1.07E-06	1.06E-02	3.20E-03	6.37E-08	6.41E-04
Road 34	34	1800-1900	8.47E-03	1.79E-07	1.71E-03	3.69E-02	7.78E-07	7.43E-03	4.53E-02	9.57E-07	9.14E-03	2.38E-03	5.01E-08	4.79E-04
Road 34	34	1900-2000	6.82E-03	1.12E-07	1.07E-03	3.36E-02	5.52E-07	5.27E-03	4.04E-02	6.64E-07	6.34E-03	1.89E-03	3.11E-08	2.97E-04
Road 34	34	2000-2100	7.57E-03	1.38E-07	1.32E-03	3.74E-02	6.83E-07	6.52E-03	4.50E-02	8.21E-07	7.84E-03	2.10E-03	3.85E-08	3.68E-04
Road 34	34	2100-2200	6.51E-03	8.29E-08	7.91E-04	3.64E-02	4.63E-07	4.43E-03	4.29E-02	5.46E-07	5.22E-03	1.81E-03	2.31E-08	2.20E-04
Road 34	34	2200-2300	6.49E-03	8.01E-08	7.65E-04	3.57E-02	4.41E-07	4.21E-03	4.22E-02	5.21E-07	4.97E-03	1.73E-03	2.14E-08	2.04E-04
Road 34	34	2300-0000	7.24E-03	6.76E-08	6.46E-04	3.76E-02	3.50E-07	3.35E-03	4.46E-02	4.15E-07	3.98E-03	1.92E-03	1.79E-08	1.71E-04
Road 35	35	0000-0100	2.90E-02	3.50E-08	3.11E-05	8.86E-02	1.07E-07	9.52E-05	1.18E-01	1.42E-07	1.26E-04	4.91E-02	5.94E-08	5.27E-05
Road 35	35	0100-0200	3.66E-02	3.21E-08	2.85E-05	1.02E-01	8.95E-08	7.95E-05	1.39E-01	1.22E-07	1.08E-04	6.12E-03	5.38E-09	4.78E-06
Road 35	35	0200-0300	3.50E-02	4.32E-08	3.83E-05	1.02E-01	1.26E-07	1.12E-04	1.41E-01	1.74E-07	1.54E-04	5.51E-03	6.80E-09	6.03E-06
Road 35	35	0300-0400	4.86E-02	3.00E-08	2.66E-05	1.23E-01	7.63E-08	6.77E-05	1.72E-01	1.06E-07	9.43E-05	7.99E-03	4.93E-09	4.38E-06
Road 35	35	0400-0500	4.71E-02	3.09E-08	2.74E-05	1.22E-01	8.00E-08	7.10E-05	1.69E-01	1.11E-07	9.84E-05	7.79E-03	5.11E-09	4.54E-06
Road 35	35	0500-0600	3.74E-02	5.83E-08	5.19E-05	1.07E-01	1.66E-07	1.48E-04	1.54E-01	2.40E-07	2.13E-04	6.19E-03	9.61E-09	8.54E-06
Road 35	35	0600-0700	2.99E-02	5.19E-08	4.61E-05	8.65E-02	1.50E-07	1.33E-04	1.25E-01	2.17E-07	1.92E-04	5.01E-03	8.69E-09	7.72E-06
Road 35	35	0700-0800	4.22E-02	1.72E-07	1.53E-04	1.22E-01	4.98E-07	4.43E-04	1.64E-01	6.71E-07	5.96E-04	6.61E-03	2.71E-08	2.40E-05
Road 35	35	0800-0900	4.05E-02	1.87E-07	1.66E-04	1.18E-01	5.44E-07	4.83E-04	1.59E-01	7.31E-07	6.49E-04	6.28E-03	2.90E-08	2.57E-05
Road 35	35	0900-1000	4.28E-02	1.62E-07	1.44E-04	1.24E-01	4.68E-07	4.16E-04	1.67E-01	6.31E-07	5.61E-04	6.61E-03	2.50E-08	2.22E-05
Road 35	35	1000-1100	4.87E-02	1.83E-07	1.62E-04	1.37E-01	5.15E-07	4.58E-04	1.86E-01	6.98E-07	6.20E-04	7.76E-03	2.91E-08	2.58E-05
Road 35	35	1100-1200	4.93E-02	1.76E-07	1.57E-04	1.39E-01	4.99E-07	4.43E-04	1.88E-01	6.76E-07	6.01E-04	7.77E-03	2.79E-08	2.48E-05
Road 35	35	1200-1300	5.05E-02	2.42E-07	2.15E-04	1.42E-01	6.85E-07	6.09E-04	1.91E-01	9.26E-07	8.23E-04	7.96E-03	3.83E-08	3.40E-05
Road 35	35	1300-1400	5.60E-02	1.44E-07	1.28E-04	1.45E-01	3.73E-07	3.31E-04	2.01E-01	5.17E-07	4.59E-04	8.78E-03	2.26E-08	2.00E-05
Road 35	35	1400-1500	5.45E-02	1.46E-07	1.29E-04	1.41E-01	3.76E-07	3.33E-04	1.95E-01	5.21E-07	4.63E-04	8.55E-03	2.29E-08	2.04E-05
Road 35	35	1500-1600	5.25E-02	1.47E-07	1.31E-04	1.36E-01	3.80E-07	3.37E-04	1.88E-01	5.27E-07	4.68E-04	8.24E-03	2.32E-08	2.06E-05
Road 35	35	1600-1700	5.25E-02	1.47E-07	1.31E-04	1.36E-01	3.80E-07	3.37E-04	1.88E-01	5.27E-07	4.68E-04	8.28E-03	2.32E-08	2.06E-05
Road 35	35	1700-1800	4.60E-02	1.39E-07	1.23E-04	1.23E-01	3.71E-07	3.30E-04	1.69E-01	5.10E-07	4.53E-04	7.23E-03	2.18E-08	1.94E-05
Road 35	35	1800-1900	4.13E-02	1.31E-07	1.16E-04	1.10E-01	3.50E-07	3.12E-04	1.52E-01	4.82E-07	4.28E-04	6.48E-03	2.06E-08	1.83E-05
Road 35	35	1900-2000	2.07E-02	4.11E-08	3.65E-05	6.86E-02	1.36E-07	1.21E-04	8.93E-02	1.77E-07	1.58E-04	5.49E-03	6.94E-09	6.17E-06
Road 35	35	2000-2100	2.33E-02	3.74E-08	3.32E-05	7.71E-02	1.23E-07	1.10E-04	1.00E-01	1.61E-07	1.43E-04	3.88E-03	6.21E-09	5.51E-06
Road 35	35	2100-2200	2.36E-02	3.53E-08	3.13E-05	7.80E-02	1.16E-07	1.04E-04	1.01E-01	1.52E-07	1.35E-04	3.92E-03	5.86E-09	5.20E-06
Road 35	35	2200-2300	2.30E-02	3.58E-08	3.18E-05	7.60E-02	1.18E-07	1.05E-04	9.90E-02	1.54E-07	1.37E-04	3.74E-03	5.83E-09	5.17E-06
Road 35	35	2300-0000	2.68E-02	3.29E-08	2.92E-05	8.24E-02	1.01E-07	9.01E-05	1.09E-01	1.34E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (September) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 103	103	1600-1700	1.19E-02	5.48E-07	2.01E-03	2.54E-02	1.16E-06	4.26E-03	2.58E-02	3.15E-03	4.45E-03	3.53E-06	4.95E-05	
Road 103	103	1700-1800	8.50E-03	4.42E-07	3.88E-03	4.56E-02	2.37E-06	2.08E-02	5.41E-02	2.81E-06	2.47E-02	2.27E-03	1.18E-07	1.04E-03
Road 103	103	1800-1900	6.51E-03	3.67E-07	3.22E-03	3.60E-02	2.03E-06	1.78E-02	4.25E-02	2.40E-06	2.11E-02	1.63E-03	9.23E-08	8.10E-04
Road 103	103	1900-2000	5.17E-03	3.12E-07	2.02E-03	3.22E-02	1.43E-06	1.26E-02	3.73E-02	1.66E-06	1.46E-02	1.34E-03	5.98E-08	5.26E-04
Road 103	103	2000-2100	4.96E-03	1.72E-07	1.51E-03	3.50E-02	1.21E-06	1.06E-02	3.99E-02	1.38E-06	1.21E-02	1.28E-03	4.44E-08	3.90E-04
Road 103	103	2100-2200	4.36E-03	1.51E-07	1.33E-03	3.41E-02	1.18E-06	1.04E-02	3.84E-02	1.33E-06	1.17E-02	1.13E-03	3.93E-08	3.44E-04
Road 103	103	2200-2300	4.30E-03	1.49E-07	1.27E-03	3.41E-02	1.18E-06	1.01E-02	3.86E-02	1.33E-06	1.14E-02	1.09E-03	3.77E-08	3.21E-04
Road 103	103	2300-0000	4.80E-03	1.21E-07	1.06E-03	3.55E-02	8.93E-07	7.81E-03	4.01E-02	1.01E-06	8.90E-03	1.21E-03	3.05E-08	2.67E-04
Road 104	104	0000-0100	8.21E-03	9.19E-08	6.83E-04	4.47E-02	5.01E-07	3.72E-03	5.01E-02	5.61E-07	4.17E-03	2.22E-03	2.49E-08	1.85E-04
Road 104	104	0100-0200	8.89E-03	6.51E-08	4.84E-04	4.47E-02	3.27E-07	2.43E-03	5.01E-02	3.67E-07	2.72E-03	2.40E-03	1.76E-08	1.30E-04
Road 104	104	0200-0300	9.61E-03	5.26E-08	3.91E-04	4.88E-02	2.67E-07	1.98E-03	5.42E-02	2.96E-07	2.20E-03	2.61E-03	1.43E-08	1.06E-04
Road 104	104	0300-0400	1.03E-02	4.51E-08	3.35E-04	5.06E-02	2.22E-07	1.65E-03	6.08E-02	2.67E-07	1.98E-03	2.80E-03	1.23E-08	9.11E-05
Road 104	104	0400-0500	1.14E-02	5.04E-08	4.18E-04	5.52E-02	2.43E-07	2.01E-03	6.66E-02	2.93E-07	2.43E-03	3.06E-03	1.35E-08	1.12E-04
Road 104	104	0500-0600	1.16E-02	9.94E-08	7.38E-04	5.60E-02	4.80E-07	3.56E-03	6.51E-02	5.58E-07	4.14E-03	3.00E-03	2.57E-08	1.91E-04
Road 104	104	0600-0700	1.22E-02	2.28E-07	1.70E-03	5.59E-02	1.04E-06	7.74E-03	7.42E-02	1.38E-06	1.03E-02	3.42E-03	6.37E-08	4.74E-04
Road 104	104	0700-0800	1.26E-02	3.66E-07	2.72E-03	5.74E-02	1.67E-06	1.24E-02	7.86E-02	2.28E-06	1.70E-02	3.63E-03	1.05E-07	7.81E-04
Road 104	104	0800-0900	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	8.82E-02	3.95E-06	2.93E-02	4.07E-03	1.82E-07	1.35E-03
Road 104	104	0900-1000	1.46E-02	5.85E-07	4.35E-03	6.25E-02	2.51E-06	1.86E-02	7.00E-02	2.81E-06	2.09E-02	3.06E-03	1.23E-07	9.13E-04
Road 104	104	1000-1100	1.65E-02	5.96E-07	4.43E-03	6.51E-02	2.35E-06	1.74E-02	6.66E-02	2.40E-06	1.78E-02	2.61E-03	9.42E-08	7.00E-04
Road 104	104	1100-1200	1.60E-02	5.48E-07	4.07E-03	6.46E-02	2.21E-06	1.64E-02	6.25E-02	2.75E-06	2.05E-02	4.50E-03	1.54E-07	1.14E-03
Road 104	104	1200-1300	1.03E-02	2.52E-07	1.87E-03	4.60E-02	1.13E-06	8.40E-03	4.34E-02	1.06E-06	7.90E-03	3.44E-03	8.44E-08	6.27E-04
Road 104	104	1300-1400	1.03E-02	2.52E-07	1.87E-03	4.60E-02	1.13E-06	8.40E-03	4.34E-02	1.06E-06	7.90E-03	3.44E-03	8.44E-08	6.27E-04
Road 104	104	1400-1500	1.05E-02	2.56E-07	1.90E-03	4.68E-02	1.14E-06	8.48E-03	4.41E-02	1.07E-06	8.04E-03	3.50E-03	8.57E-08	6.37E-04
Road 104	104	1500-1600	9.80E-03	2.68E-07	1.99E-03	4.70E-02	1.29E-06	9.56E-03	5.68E-02	1.55E-06	1.16E-02	2.71E-03	7.42E-08	5.51E-04
Road 104	104	1600-1700	1.04E-02	3.05E-07	2.27E-03	4.56E-02	1.33E-06	9.92E-03	5.60E-02	1.64E-06	1.22E-02	2.78E-03	8.14E-08	6.05E-04
Road 104	104	1700-1800	1.26E-02	5.63E-07	4.18E-03	5.56E-02	2.49E-06	1.85E-02	8.82E-02	3.95E-06	2.93E-02	4.07E-03	1.82E-07	1.35E-03
Road 104	104	1800-1900	5.24E-03	1.95E-07	1.45E-03	2.95E-02	1.10E-06	8.15E-03	3.48E-02	1.29E-06	9.60E-03	1.40E-03	5.21E-08	3.87E-04
Road 104	104	1900-2000	4.58E-03	1.35E-07	1.01E-03	2.98E-02	8.79E-07	6.53E-03	3.43E-02	1.01E-06	7.53E-03	1.18E-03	3.47E-08	2.58E-04
Road 104	104	2000-2100	4.01E-03	1.14E-07	8.48E-04	2.61E-02	7.38E-07	5.48E-03	3.01E-02	8.51E-07	6.32E-03	1.03E-03	2.92E-08	2.17E-04
Road 104	104	2100-2200	3.78E-03	8.67E-08	6.44E-04	3.23E-02	7.40E-07	5.50E-03	3.03E-02	8.27E-07	6.14E-03	9.53E-04	2.19E-08	1.62E-04
Road 104	104	2200-2300	3.71E-03	8.26E-08	6.14E-04	3.27E-02	7.29E-07	5.42E-03	3.06E-02	8.27E-07	6.14E-03	9.53E-04	2.12E-08	1.58E-04
Road 104	104	2300-0000	4.14E-03	1.04E-07	7.73E-04	3.27E-02	8.24E-07	6.12E-03	3.06E-02	7.71E-07	5.72E-03	1.03E-03	2.59E-08	1.92E-04
Road 105	105	0000-0100	1.22E-02	2.37E-08	3.60E-04	6.41E-02	1.24E-07	1.89E-03	7.63E-02	1.48E-07	2.25E-03	2.28E-03	4.41E-09	6.71E-05
Road 105	105	0100-0200	1.29E-02	1.64E-08	2.49E-04	6.56E-02	8.35E-08	1.27E-03	7.85E-02	9.99E-08	1.52E-03	2.46E-03	3.13E-09	4.77E-05
Road 105	105	0200-0300	1.32E-02	1.60E-08	2.44E-04	6.60E-02	8.00E-08	1.22E-03	7.96E-02	9.66E-08	1.47E-03	2.51E-03	3.04E-09	4.63E-05
Road 105	105	0300-0400	1.50E-02	1.13E-08	1.72E-04	7.24E-02	5.44E-08	8.27E-04	8.74E-02	6.57E-08	9.99E-04	2.87E-03	2.16E-09	3.28E-05
Road 105	105	0400-0500	1.60E-02	1.33E-08	2.03E-04	7.53E-02	6.27E-08	9.54E-04	9.14E-02	7.61E-08	1.16E-03	3.07E-03	2.56E-09	3.89E-05
Road 105	105	0500-0600	1.72E-02	5.56E-08	8.47E-04	8.02E-02	2.59E-07	3.94E-03	9.47E-02	3.06E-07	4.66E-03	3.27E-03	1.06E-08	1.61E-04
Road 105	105	0600-0700	1.99E-02	6.29E-08	9.56E-04	8.82E-02	2.79E-07	4.24E-03	1.08E-01	3.42E-07	5.20E-03	3.59E-03	1.14E-08	1.73E-04
Road 105	105	0700-0800	2.39E-02	1.55E-07	2.35E-03	1.02E-01	6.57E-07	9.99E-03	1.26E-01	8.11E-07	1.23E-02	3.99E-03	2.58E-08	3.93E-04
Road 105	105	0800-0900	2.39E-02	1.55E-07	2.35E-03	1.02E-01	6.57E-07	9.99E-03	1.26E-01	8.11E-07	1.23E-02	3.99E-03	2.58E-08	3.93E-04
Road 105	105	0900-1000	2.87E-02	1.91E-07	2.90E-03	1.18E-01	7.88E-07	1.20E-02	1.47E-01	9.79E-07	1.49E-02	4.78E-03	3.18E-08	4.84E-04
Road 105	105	1000-1100	3.16E-02	1.88E-07	2.87E-03	1.23E-01	7.33E-07	1.12E-02	1.56E-01	9.22E-07	1.40E-02	5.23E-03	3.11E-08	4.75E-04
Road 105	105	1100-1200	3.17E-02	1.24E-07	1.90E-03	1.23E-01	4.82E-07	7.37E-03	1.56E-01	6.07E-07	9.27E-03	5.23E-03	2.04E-08	3.12E-04
Road 105	105	1200-1300	5.15E-02	1.17E-07	1.77E-03	1.79E-01	4.05E-07	6.16E-03	2.30E-01	5.23E-07	7.95E-03	7.61E-03	1.73E-08	2.63E-04
Road 105	105	1300-1400	4.95E-02	1.25E-07	1.90E-03	1.81E-01	4.56E-07	6.93E-03	2.30E-01	5.81E-07	8.83E-03	9.17E-03	2.31E-08	3.52E-04
Road 105	105	1400-1500	4.56E-02	1.15E-07	1.75E-03	1.67E-01	4.20E-07	6.38E-03	2.12E-01	5.35E-07	8.13E-03	8.44E-03	2.13E-08	3.24E-04
Road 105	105	1500-1600	4.54E-02	1.19E-07	1.81E-03	1.78E-01	4.68E-07	7.11E-03	2.24E-01	5.87E-07	8.93E-03	8.65E-03	2.27E-08	3.45E-04
Road 105	105	1600-1700	4.84E-02	1.19E-07	1.81E-03	1.76E-01	4.33E-07	6.59E-03	2.24E-01	5.51E-07	8.37E-03	8.65E-03	2.12E-08	3.22E-04
Road 105	105	1700-1800	3.38E-02	5.86E-08	8.91E-04	1.44E-01	2.50E-07	3.80E-03	1.78E-01	3.08E-07	4.69E-03	6.69E-03	1.16E-08	1.77E-04
Road 105	105	1800-1900	3.37E-02	5.86E-08	8.91E-04	1.44E-01	2.50E-07	3.80E-03	1.78E-01	3.08E-07	4.69E-03	6.69E-03	1.16E-08	1.77E-04
Road 105	105	1900-2000	3.19E-02	3.80E-08	5.79E-04	1.32E-01	1.57E-07	2.40E-03	1.64E-01	1.96E-07	2.98E-03	6.36E-03	7.59E-09	1.15E-04
Road 105	105	2000-2100	3.06E-02	2.95E-08	4.48E-04	1.31E-01	1.26E-07	1.92E-03	1.64E-01	1.58E-07	2.40E-03	6.09E-03	5.87E-09	8.93E-05
Road 105	105	2100-2200	3.06E-02	2.95E-08	4.48E-04	1.31E-01	1.26E-07	1.92E-03	1.64E-01	1.58E-07	2.40E-03	6.09E-03	5.87E-09	8.93E-05
Road 105	105	2200-2300	3.30E-02	2.85E-08	4.34E-04	1.28E-01	1.10E-07	1.68E-03	1.60E-01	1.38E-07	2.10E-03	5.91E-03	5.10E-09	7.76E-05
Road 105	105	2300-0000	3.57E-02	2.47E-08	3.76E-04	1.28E-01	8.82E-08	1.34E-03	1.60E-01	1.10E-07	1.68E-03	5.91E-03	4.09E-09	6.22E-05
Road 106	106	0000-0100	1.17E-02	6.32E-08	7.29E-04	6.39E-02	3.46E-07	3.99E-03	7.24E-02	3.92E-07	4.52E-03	3.46E-03	1.87E-08	2.16E-04
Road 106	106	0100-0200	1.20E-02	4.24E-08	4.88E-04	6.38E-02	2.26E-07	2.60E-03	7.57E-02	2.57E-07	2.96E-03	3.61E-03	1.23E-08	1.41E-04
Road 106	106	0200-0300	1.26E-02	3.80E-08	4.36E-04	6.66E-02	1.72E-07	1.98E-03	7.86E-02	1.96E-07	2.25E-03	3.75E-03	1.13E-08	1.30E-04
Road 106	106	0300-0400	1.32E-02	2.74E-08	3.16E-04	6.96E-02	1.52E-07	1.75E-03	8.20E-02	1.73E-07	1.99E-03	3.91E-03	1.00E-08	1.15E-04
Road 106	106	0400-0500	1.42E-02	3.25E-08	3.74E-04	6.99E-02	1.60E-07	1.84E-03	8.27E-02	1.84E-07	2.12E-03	3.91E-03	1.06E-08	1.22E-04
Road 106	106	0500-0600	1.61E-02	6.44E-08	7.42E-04	7.64E-02	3.05E-07	3.52E-03	9.25E-02	3.70E-07	4.26E-03	2.90E-03	1.16E-08	1.34E-04
Road 106	106	0600-0700	2.11E-02	6.49E-08	9.42E-04	8.43E-02	2.59E-07	3.76E-03	1.01E-01	3.11E-07	4.51E-03	3.32E-03	1.02E-08	1.48E-04
Road 106	106	0700-0800	2.70E-02	4.74E-07	5.46E-03	1.14E-01	2.00E-06	2.31E-02	1.41E-01	2.47E-06	2.84E-02	6.73E-03	7.76E-08	8.94E-04
Road 106	106	0800-0900	2.85E-02	5.83E-07	6.72E-03	1.17E-01	2.40E-06	2.76E-02	1.44E-01	2.96E-06	3.41E-02	6.73E-03	9.31E-08	1.07E-03
Road 106	106	0900-1000	3.56E-02	6.66E-07	7.68E-03	1.47E-01	2.74E-06	3.16E-02	1.82E-01	3.39E-06	3.91E-02	8.44E-03	1.06E-07	1.22E-03
Road 106	106	1000-1100	3.63E-02	5.65E-07	6.51E-03	1.41E-01	2.19E-06	2.52E-02	1.77E-01	2.75E-06	3.17E-02	5.15E-03	8.00E-08	9.22E-04
Road 106	106	1100-1200	3.37E-02	4.95E-07	5.71E-03	1.34E-01	1.97E-06	2.27E-02	1.68E-01	2.47E-06	2.85E-02	4.89E-03	7.18E-08	8.27E-04
Road 106	106	1200-1300	3.21E-02	4.46E-07	5.14E-03	1.27E-01	1.77E-06	2.04E-02	1.60E-01	2.22E-06	2.56E-02	4.65E-03	6.46E-08	7.45E-04
Road 106	106	1300-1400	5.61E-02	1.23E-06	1.42E-02	2.14E-01	4.69E-06	5.41E-02	2.70E-01	5.92E-06	6.82E-02	5.73E-03	1.47E-07	1.70E-03
Road 106	106	1400-1500	5.83E-02	1.34E-06	1.54E-02	2.15E-01	4.93E-06	5.69E-02	2.74E-01	6.27E-06	6.80E-02	5.56E-03	1.28E-07	1.48E-03
Road 106	106	1500-1600	5.37E-02	1.22E-06	1.40E-02	2.17E-01	4.96E-06	5.73E-02	2.74E-01	6.23E-06	6.80E-02	5.56E-03	1.27E-07	1.47E-03
Road 106	106	1600-1700	5.46E-02	1.32E-06	1.53E-02	2.03E-01	4.92E-06	5.67E-02	2.58E-01	6.24E-06	7.20E-02	5.46E-03	1.32E-07	1.53E-03
Road 106	106	1700-1800	3.97E-02	1.04E-06	1.20E-02	1.70E-01	4.47E-06	5.15E-02	2.01E-01	5.31E-06	6.11E-02	3.97E-03	1.04E-07	1.20E-03
Road 106	106	1800-1900	2.76E-02	7.39E-07	8.51E-03	1.21E-01	3.24E-06	3.73E-02	1.43E-01	3.98E-06	4.59E-02	3.44E-03	9.20E-08	1.06E-03
Road 106	106	1900-2000	1.96E-02	4.05E-07	4.66E-03	8.94E-02	1.85E-06	2.13E-02	1.09E-01	2.25E-06	2.60E-02	2.73E-03	5.64E-08	6.50E-04
Road 106	106	2000-2100	1.68E-02	2.71E-07	3.13E-03	8.55E-02	1.38E-06	1.59E-02	1.02E-01	1.65E-06	1.90E-02	2.53E-03	4.07E-08	4.69E-04
Road 106	106	2100-2200	1.94E-02	2.97E-07	3.42E-03	8.94E-02	1.52E-06	1.75E-02	1.02E-01	1.62E-06	1.87E-02	2.53E-03	4.00E-08	4.60E-04
Road 106	106	2200-2300	1.53E-02	2.38E-07	2.74E-03	7.86E-02	1.22E-06	1.40E-02	9.40E-02	1.46E-06	1.68E-02	2.22E-03	3.44E-08	4.01E-04
Road 106	106	2300-0000	1.57E-02	1.84E-07	2.12E-03	7.84E-02	9.19E-07	1.06E-02	9.41E-02	1.10E-06	1.27E-02	2.42E-03	2.84E-08	3.27E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (October) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 1	1	0000-0100	4.44E-03	4.06E-08	9.39E-04	3.11E-02	8.89E-07	3.82E-02	3.56E-02	1.47E-01	4.19E-02	2.61E-02	4.06E-03	1.15E-02
Road 1	1	0100-0200	4.94E-03	4.68E-08	9.39E-04	3.51E-02	3.33E-07	6.68E-03	4.01E-02	3.79E-07	7.62E-03	1.23E-03	1.16E-08	2.33E-04
Road 1	1	0200-0300	5.47E-03	3.79E-08	7.61E-04	3.68E-02	2.55E-07	5.12E-03	4.22E-02	2.93E-07	5.88E-03	1.36E-03	9.43E-09	1.90E-04
Road 1	1	0300-0400	5.98E-03	3.27E-08	6.58E-04	3.81E-02	2.08E-07	4.19E-03	4.41E-02	2.41E-07	4.85E-03	1.50E-03	8.20E-09	1.65E-04
Road 1	1	0400-0500	6.43E-03	3.86E-08	7.75E-04	3.94E-02	2.36E-07	4.75E-03	4.58E-02	2.75E-07	5.52E-03	1.62E-03	9.71E-09	1.95E-04
Road 1	1	0500-0600	6.79E-03	7.05E-08	1.42E-03	4.04E-02	4.19E-07	8.43E-03	4.72E-02	4.90E-07	9.84E-03	1.72E-03	1.79E-08	3.59E-04
Road 1	1	0600-0700	7.21E-03	1.60E-07	3.22E-03	4.18E-02	9.28E-07	1.86E-02	4.90E-02	1.09E-06	2.19E-02	1.83E-03	4.08E-08	8.19E-04
Road 1	1	0700-0800	7.73E-03	3.47E-07	6.98E-03	4.28E-02	1.92E-06	3.87E-02	5.05E-02	2.27E-06	4.56E-02	1.98E-03	8.89E-08	1.79E-03
Road 1	1	0800-0900	7.45E-03	3.88E-07	7.79E-03	3.88E-02	2.02E-06	4.05E-02	4.62E-02	2.40E-06	4.83E-02	1.95E-03	1.01E-07	2.03E-03
Road 1	1	0900-1000	6.50E-03	3.63E-07	7.30E-03	3.39E-02	1.89E-06	3.80E-02	4.03E-02	2.25E-06	4.53E-02	1.70E-03	9.47E-08	1.90E-03
Road 1	1	1000-1100	9.68E-03	3.58E-07	7.19E-03	4.47E-02	1.65E-06	3.32E-02	5.43E-02	2.01E-06	4.03E-02	2.64E-03	9.76E-08	1.96E-03
Road 1	1	1100-1200	9.21E-03	3.22E-07	6.48E-03	4.45E-02	1.56E-06	3.13E-02	5.37E-02	1.88E-06	3.78E-02	2.49E-03	8.73E-08	1.75E-03
Road 1	1	1200-1300	8.25E-03	2.96E-07	5.96E-03	4.23E-02	1.52E-06	3.06E-02	5.08E-02	1.82E-06	3.67E-02	2.34E-03	8.40E-08	1.69E-03
Road 1	1	1300-1400	1.26E-02	6.31E-07	1.27E-02	5.45E-02	2.72E-06	5.47E-02	6.72E-02	3.35E-06	6.74E-02	3.48E-03	1.74E-07	3.49E-03
Road 1	1	1400-1500	1.27E-02	6.72E-07	1.35E-02	5.39E-02	2.85E-06	5.73E-02	6.66E-02	3.52E-06	7.08E-02	3.45E-03	1.83E-07	3.67E-03
Road 1	1	1500-1600	1.31E-02	6.44E-07	1.29E-02	5.66E-02	2.78E-06	5.59E-02	6.98E-02	3.43E-06	6.89E-02	3.58E-03	1.76E-07	3.54E-03
Road 1	1	1600-1700	1.23E-02	7.05E-07	1.42E-02	5.24E-02	2.99E-06	6.01E-02	6.47E-02	3.70E-06	7.43E-02	3.32E-03	1.89E-07	3.80E-03
Road 1	1	1700-1800	8.86E-03	5.65E-07	1.14E-02	4.55E-02	2.91E-06	5.84E-02	5.44E-02	3.47E-06	6.97E-02	2.41E-03	1.54E-07	3.09E-03
Road 1	1	1800-1900	9.29E-03	5.26E-07	1.06E-02	4.56E-02	2.58E-06	5.19E-02	5.49E-02	3.11E-06	6.26E-02	2.75E-03	1.56E-07	3.14E-03
Road 1	1	1900-2000	5.33E-03	2.88E-07	5.79E-03	3.17E-02	1.71E-06	3.45E-02	3.71E-02	2.00E-06	4.02E-02	1.41E-03	7.61E-08	1.53E-03
Road 1	1	2000-2100	5.13E-03	2.16E-07	4.34E-03	3.44E-02	1.45E-06	2.91E-02	3.95E-02	1.66E-06	3.34E-02	1.36E-03	5.71E-08	1.15E-03
Road 1	1	2100-2200	4.61E-03	1.94E-07	3.89E-03	3.38E-02	1.42E-06	2.85E-02	3.88E-02	1.63E-06	3.28E-02	1.31E-03	5.51E-08	1.11E-03
Road 1	1	2200-2300	4.57E-03	1.86E-07	3.73E-03	3.37E-02	1.37E-06	2.76E-02	3.83E-02	1.56E-06	3.13E-02	1.30E-03	5.31E-08	1.07E-03
Road 1	1	2300-0000	5.10E-03	1.56E-07	3.13E-03	3.52E-02	1.07E-06	2.16E-02	4.03E-02	1.23E-06	2.47E-02	1.31E-03	4.00E-08	8.04E-04
Road 2	2	0000-0100	6.21E-03	6.24E-08	1.26E-03	3.81E-02	5.17E-07	9.55E-03	4.43E-02	6.01E-07	1.11E-02	1.63E-03	2.21E-08	4.09E-04
Road 2	2	0100-0200	6.83E-03	6.12E-08	1.24E-03	4.18E-02	5.08E-07	9.38E-03	4.87E-02	5.91E-07	1.09E-02	1.79E-03	2.17E-08	4.02E-04
Road 2	2	0200-0300	7.48E-03	4.89E-08	9.05E-04	4.17E-02	2.73E-07	5.05E-03	4.92E-02	3.22E-07	5.95E-03	1.97E-03	1.29E-08	2.39E-04
Road 2	2	0300-0400	8.10E-03	4.22E-08	7.81E-04	4.33E-02	2.26E-07	4.17E-03	5.14E-02	2.68E-07	4.95E-03	2.14E-03	1.12E-08	2.06E-04
Road 2	2	0400-0500	8.68E-03	4.08E-08	7.55E-04	4.48E-02	2.11E-07	3.91E-03	5.28E-02	2.48E-07	4.59E-03	2.28E-03	1.07E-08	1.98E-04
Road 2	2	0500-0600	9.12E-03	9.13E-08	1.69E-03	4.63E-02	4.63E-07	8.57E-03	5.54E-02	5.55E-07	1.03E-02	2.43E-03	2.43E-08	4.50E-04
Road 2	2	0600-0700	9.62E-03	2.08E-07	3.84E-03	4.78E-02	1.03E-06	1.91E-02	5.74E-02	1.24E-06	2.29E-02	2.57E-03	5.55E-08	1.03E-03
Road 2	2	0700-0800	1.22E-02	4.50E-07	8.31E-03	6.24E-02	2.22E-06	4.11E-02	7.32E-02	2.70E-06	4.99E-02	3.26E-03	1.20E-07	2.22E-03
Road 2	2	0800-0900	9.94E-03	5.08E-07	9.38E-03	4.62E-02	2.36E-06	4.36E-02	5.61E-02	2.87E-06	5.30E-02	2.71E-03	1.38E-07	2.56E-03
Road 2	2	0900-1000	1.16E-02	5.09E-07	9.42E-03	5.16E-02	2.27E-06	4.20E-02	6.32E-02	2.78E-06	5.14E-02	3.26E-03	1.43E-07	2.65E-03
Road 2	2	1000-1100	1.32E-02	5.13E-07	9.48E-03	5.62E-02	2.18E-06	4.03E-02	6.88E-02	2.66E-06	4.92E-02	3.57E-03	1.38E-07	2.56E-03
Road 2	2	1100-1200	1.27E-02	4.69E-07	8.67E-03	5.40E-02	2.00E-06	3.69E-02	6.68E-02	2.46E-06	4.55E-02	3.57E-03	1.31E-07	2.43E-03
Road 2	2	1200-1300	1.32E-02	6.04E-07	1.12E-02	5.38E-02	2.45E-06	4.54E-02	6.70E-02	3.06E-06	5.66E-02	3.62E-03	1.65E-07	3.06E-03
Road 2	2	1300-1400	1.34E-02	6.31E-07	1.17E-02	5.53E-02	2.60E-06	4.82E-02	6.91E-02	3.25E-06	6.02E-02	3.74E-03	1.76E-07	3.26E-03
Road 2	2	1400-1500	1.34E-02	6.76E-07	1.24E-02	5.55E-02	2.77E-06	5.11E-02	6.89E-02	3.44E-06	6.35E-02	3.68E-03	1.84E-07	3.39E-03
Road 2	2	1500-1600	1.25E-02	6.39E-07	1.18E-02	5.61E-02	2.87E-06	5.30E-02	6.86E-02	3.51E-06	6.48E-02	3.52E-03	1.80E-07	3.32E-03
Road 2	2	1600-1700	1.

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) Year 2043

Road Name	Road ID	Hour	NO_x Emission									
			Monthly Hour Mix			Monthly Average			No Emission Monthly Hour Mix			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	
Road 24	24	0800-0900	1.26E-01	2.44E-07	7.22E-04	1.53E-01	2.96E-07	8.75E-04	1.05E-03	1.32E-02	2.56E-08	2.35E-05
Road 24	24	0900-1000	1.26E-01	2.75E-07	2.51E-04	4.72E-01	1.03E-06	9.38E-04	5.98E-01	1.30E-06	1.19E-03	1.34E-02
Road 24	24	1000-1100	1.35E-01	2.89E-07	2.65E-04	4.78E-01	1.02E-06	9.36E-04	6.13E-01	1.31E-06	1.20E-03	1.40E-02
Road 24	24	1100-1200	1.35E-01	2.47E-07	4.79E-04	9.60E-01	8.78E-07	1.84E-03	1.23E-01	1.13E-06	1.39E-02	2.79E-08
Road 24	24	1200-1300	1.41E-01	2.86E-07	2.62E-04	4.80E-01	9.70E-07	8.88E-04	6.21E-01	1.26E-06	1.15E-03	1.44E-02
Road 24	24	1300-1400	1.42E-01	3.24E-07	2.96E-04	5.05E-01	1.15E-06	1.05E-03	1.47E-06	1.35E-03	1.42E-02	3.25E-08
Road 24	24	1400-1500	1.46E-01	3.16E-07	3.01E-04	5.16E-01	1.12E-06	1.06E-03	1.46E-06	1.34E-03	1.42E-02	3.20E-08
Road 24	24	1500-1600	1.30E-01	3.07E-07	2.81E-04	4.96E-01	1.17E-06	1.07E-03	6.26E-01	1.48E-06	1.35E-03	1.35E-02
Road 24	24	1600-1700	1.33E-01	2.90E-07	2.65E-04	4.73E-01	1.03E-06	9.43E-04	6.06E-01	1.32E-06	1.21E-03	1.29E-02
Road 24	24	1700-1800	1.16E-01	2.38E-07	2.18E-04	4.65E-01	9.51E-07	8.34E-04	5.42E-01	1.11E-06	1.00E-03	1.08E-02
Road 24	24	1800-1900	1.02E-01	1.38E-07	1.26E-04	4.21E-01	5.73E-07	5.24E-04	5.22E-01	7.10E-07	6.49E-04	6.98E-03
Road 24	24	1900-2000	9.89E-02	8.82E-08	8.07E-05	3.92E-01	3.50E-07	3.20E-04	4.91E-01	4.38E-07	4.00E-04	4.31E-03
Road 24	24	2000-2100	9.54E-02	6.97E-08	6.38E-05	3.74E-01	2.73E-07	2.50E-04	4.65E-01	3.40E-07	3.11E-04	3.35E-03
Road 24	24	2100-2200	9.31E-02	6.79E-08	6.22E-05	3.77E-01	2.75E-07	2.52E-04	4.68E-01	3.41E-07	3.13E-04	3.37E-03
Road 24	24	2200-2300	1.04E-01	6.60E-08	6.04E-05	3.74E-01	2.38E-07	2.18E-04	4.78E-01	3.04E-07	2.78E-04	2.99E-03
Road 24	24	2300-0000	1.05E-01	4.56E-08	4.18E-05	3.78E-01	1.64E-07	1.50E-04	4.83E-01	2.09E-07	1.92E-04	2.07E-03
Road 25	25	0000-0100	1.03E-01	4.50E-08	4.18E-05	3.71E-01	1.62E-07	1.51E-04	4.74E-01	2.07E-07	1.92E-04	2.07E-03
Road 25	25	0100-0200	1.04E-01	3.20E-08	2.98E-05	3.75E-01	1.16E-07	1.08E-04	4.79E-01	1.47E-07	1.37E-04	1.48E-03
Road 25	25	0200-0300	1.05E-01	2.38E-08	2.18E-05	3.78E-01	8.57E-08	7.85E-05	4.83E-01	1.09E-07	1.00E-04	1.08E-03
Road 25	25	0300-0400	1.06E-01	2.19E-08	2.04E-05	3.83E-01	7.91E-08	7.36E-05	4.89E-01	1.01E-07	9.40E-05	1.01E-03
Road 25	25	0400-0500	1.07E-01	2.59E-08	2.41E-05	3.85E-01	9.34E-08	8.69E-05	4.92E-01	1.19E-07	1.11E-04	1.19E-03
Road 25	25	0500-0600	1.13E-01	5.05E-08	4.70E-05	4.05E-01	1.80E-07	1.68E-04	5.18E-01	2.32E-07	2.16E-04	2.32E-03
Road 25	25	0600-0700	1.30E-01	1.42E-07	1.33E-04	4.67E-01	5.12E-07	4.78E-04	5.97E-01	6.54E-07	6.11E-04	6.57E-03
Road 25	25	0700-0800	1.32E-01	2.89E-07	2.69E-04	4.69E-01	1.03E-06	9.57E-04	1.37E-02	2.99E-08	2.78E-05	2.99E-04
Road 25	25	0800-0900	1.33E-01	3.49E-07	3.25E-04	4.90E-01	1.29E-06	1.20E-03	1.52E-03	1.36E-02	3.56E-08	3.32E-05
Road 25	25	0900-1000	1.33E-01	2.66E-07	2.48E-04	4.72E-01	9.43E-07	8.78E-04	1.23E-02	2.44E-08	2.27E-05	2.44E-04
Road 25	25	1000-1100	1.43E-01	4.15E-07	3.86E-04	5.03E-01	1.46E-06	1.36E-03	1.64E-02	1.87E-06	1.74E-03	1.87E-02
Road 25	25	1100-1200	1.42E-01	3.87E-07	3.60E-04	5.04E-01	1.37E-06	1.27E-03	1.64E-02	1.76E-06	1.63E-03	1.43E-02
Road 25	25	1200-1300	1.41E-01	4.16E-07	3.87E-04	5.06E-01	1.49E-06	1.38E-03	1.64E-02	1.89E-06	1.75E-03	1.89E-02
Road 25	25	1300-1400	1.43E-01	4.40E-07	4.10E-04	5.09E-01	1.56E-06	1.45E-03	1.62E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	1400-1500	1.47E-01	4.47E-07	4.16E-04	5.07E-01	1.54E-06	1.43E-03	1.47E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	1500-1600	1.31E-01	4.08E-07	3.80E-04	5.02E-01	1.56E-06	1.45E-03	1.47E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	1600-1700	1.42E-01	4.15E-07	3.86E-04	5.02E-01	1.47E-06	1.36E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	1700-1800	1.24E-01	3.62E-07	3.37E-04	4.96E-01	1.45E-06	1.34E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	1800-1900	1.09E-01	2.96E-07	2.75E-04	4.67E-01	1.27E-06	1.18E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	1900-2000	1.06E-01	2.96E-07	2.75E-04	4.67E-01	1.30E-06	1.21E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	2000-2100	1.02E-01	2.96E-07	2.75E-04	4.67E-01	1.35E-06	1.25E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	2100-2200	9.96E-02	2.96E-07	2.75E-04	4.67E-01	1.39E-06	1.29E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	2200-2300	1.11E-01	2.96E-07	2.75E-04	4.67E-01	1.24E-06	1.15E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 25	25	2300-0000	1.09E-01	2.96E-07	2.75E-04	4.67E-01	1.27E-06	1.18E-03	1.43E-02	1.99E-06	1.85E-03	1.99E-02
Road 26	26	0100-0200	1.05E-01	2.95E-08	4.05E-05	3.79E-01	1.06E-07	1.45E-04	4.84E-01	1.36E-07	1.86E-04	1.36E-03
Road 26	26	0200-0300	1.06E-01	2.36E-08	3.23E-05	3.81E-01	8.51E-08	1.17E-04	4.89E-01	1.09E-07	1.50E-04	1.09E-03
Road 26	26	0300-0400	1.06E-01	2.36E-08	3.23E-05	3.83E-01	8.51E-08	1.17E-04	4.89E-01	1.09E-07	1.50E-04	1.09E-03
Road 26	26	0400-0500	1.08E-01	2.39E-08	3.27E-05	3.88E-01	8.61E-08	1.18E-04	4.96E-01	1.10E-07	1.51E-04	1.10E-03
Road 26	26	0500-0600	1.08E-01	4.44E-08	6.09E-05	3.90E-01	1.60E-07	2.19E-04	4.99E-01	2.05E-07	2.81E-04	2.05E-03
Road 26	26	0600-0700	1.13E-01	2.66E-07	3.65E-04	4.07E-01	9.58E-07	1.31E-03	5.21E-01	1.23E-06	1.68E-03	1.23E-02
Road 26	26	0700-0800	1.13E-01	2.66E-07	3.65E-04	4.73E-01	1.11E-06	1.52E-03	1.38E-02	2.76E-08	3.78E-05	2.76E-04
Road 26	26	0800-0900	1.34E-01	3.22E-07	4.41E-04	4.93E-01	1.18E-06	1.62E-03	6.27E-01	1.50E-06	2.06E-03	1.50E-02
Road 26	26	0900-1000	1.34E-01	2.45E-07	3.36E-04	4.84E-01	8.84E-07	1.21E-03	6.14E-01	1.12E-06	1.54E-03	1.12E-02
Road 26	26	1000-1100	1.43E-01	3.83E-07	5.24E-04	5.05E-01	1.35E-06	1.85E-03	6.48E-01	1.73E-06	2.37E-03	1.73E-02
Road 26	26	1100-1200	1.43E-01	3.57E-07	4.89E-04	5.06E-01	1.26E-06	1.73E-03	6.49E-01	1.62E-06	2.22E-03	1.44E-02
Road 26	26	1200-1300	1.41E-01	3.84E-07	5.26E-04	5.08E-01	1.38E-06	1.89E-03	6.46E-01	1.76E-06	2.41E-03	1.76E-02
Road 26	26	1300-1400	1.43E-01	4.07E-07	5.58E-04	5.08E-01	1.45E-06	1.98E-03	6.46E-01	1.84E-06	2.52E-03	1.84E-02
Road 26	26	1400-1500	1.40E-01	4.14E-07	5.67E-04	4.82E-01	1.43E-06	1.95E-03	6.02E-01	1.78E-06	2.44E-03	1.78E-02
Road 26	26	1500-1600	1.34E-01	3.86E-07	5.29E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	1600-1700	1.34E-01	3.86E-07	5.29E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	1700-1800	1.14E-01	3.29E-07	4.50E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	1800-1900	1.03E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	1900-2000	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	2000-2100	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	2100-2200	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	2200-2300	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 26	26	2300-0000	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0000-0100	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0100-0200	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0200-0300	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0300-0400	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0400-0500	1.02E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0500-0600	1.05E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0600-0700	1.17E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0700-0800	1.17E-01	2.97E-07	4.06E-04	4.75E-01	1.37E-06	1.88E-03	6.02E-01	1.74E-06	2.38E-03	1.74E-02
Road 27	27	0800-0900	1.31E-01	3.03E-07	4.14E-04	4.82E-01	1.12E-06	1.53E-03	1.34E-02	3.10E-08	4.24E-05	3.10E-04
Road 27	27	0900-1000	1.32E-01	3.24E-07	4.91E-04	1.27E-06	1.43E-03	6.23E-01	1.61E-06	1.81E-03	1.36E-02	3.51E-08
Road 27	27	1000-1100	1.42E-01	3.60E-07	4.04E-04	4.79E-01	1.20E-06	1.34E-03	6.44E-01	1.62E-06	1.81E-03	1.62E-02
Road 27	27	1100-1200	1.41E-01	3.96E-07	3.77E-04	5.00E-01	1.19E-06	1.53E-03	6.71E-01	1.42E-06	1.82E-03	1.42E-02
Road 27	27	1200-1300	1.55E-01	3.55E-07	3.99E-04	5.07E-01	1.20E-06	1.35E-03	6.56E-01	1.56E-06	1.75E-03	1.56E-02
Road 27	27	1300-1400	1.42E-01	3.96E-07	4.28E-04	5.06E-01	1.41E-06	1.74E-03	6.56E-01	1.74E-06	2.26E-03	1.74E-02
Road 27	27	1400-1500	1.46E-01	3.87E-07	4.35E-04	5.03E-01	1.33E-06	1.50E-03	6.49E-01	1.72E-06	1.94E-03	1.72E-02
Road 27	27	1500-1600	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	1600-1700	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	1700-1800	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	1800-1900	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	1900-2000	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	2000-2100	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	2100-2200	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	2200-2300	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02
Road 27	27	2300-0000	1.30E-01	3.61E-07	4.05E-04	4.98E-01	1.38E-06	1.55E-03	6.28E-01	1.74E-06	1.95E-03	1.74E-02

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) Year 2043

Road Name	Road ID	Hour	NO_x Emission									
			Monthly Hour Mix			Monthly Average			No Emission Monthly Hour Mix			
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	
Road 27	27	1600-1700	1.41E-01	3.60E-07	4.04E-04	5.00E-01	1.27E-06	1.43E-03	6.41E-01	1.63E-06	1.84E-03	1.43E-02
Road 27	27	1700-1800	1.23E-01	2.82E-07	3.17E-04	4.88E-01	1.12E-06	1.26E-03	6.11E-01	1.40E-06	1.58E-03	1.29E-02
Road 27	27	1800-1900	1.08E-01	1.71E-07	1.92E-04	4.47E-01	7.05E-07	7.92E-04	5.55E-01	8.76E-07	9.84E-04	1.29E-02
Road 27	27	1900-2000	1.01E-01	1.04E-07	1.17E-04	3.99E-01	4.11E-07	4.62E-04	5.00E-01	5.15E-07	5.78E-04	1.15E-02
Road 27	27	2000-2100	9.78E-02	8.03E-08	9.03E-05	4.00E-01	3.29E-07	3.69E-04	4.98E-01	4.09E-07	4.59E-04	1.13E-02
Road 27	27	2100-2200	9.94E-02	8.40E-08	9.43E-05	4.01E-01	3.39E-07	3.80E-04	5.00E-01	4.22E-07	4.75E-04	1.14E-02
Road 27	27	2200-2300	1.06E-01	7.77E-08	8.73E-05	3.98E-01	2.91E-07	3.27E-04	4.97E-01	3.64E-07	4.08E-04	1.14E-02
Road 27	27	2300-0000	1.07E-01	6.45E-08	7.24E-05	3.85E-01	2.32E-07	2.61E-04	4.91E-01	2.97E-07	3.33E-04	1.21E-02
Road 28	28	0000-0100	7.82E-03	8.56E-08	1.77E-03	4.09E-02	4.48E-07	9.28E-03	4.88E-02	5.34E-07	1.11E-02	2.09E-03
Road 28	28	0100-0200	7.96E-03	6.34E-08	1.31E-03	4.30E-02	3.42E-07	7.08E-03	5.14E-02	4.09E-07	8.47E-03	1.54E-03
Road 28	28	0200-0300	9.75E-03	5.25E-08	1.09E-03	4.57E-02	2.46E-07	5.11E-03	5.54E-02	2.98E-07	6.18E-03	2.58E-03
Road 28	28	0300-0400	1.07E-02	4.62E-08	9.57E-04	4.78E-02	2.07E-07	4.28E-03	5.85E-02	2.53E-07	5.24E-03	2.82E-03
Road 28	28	0400-0500	1.11E-02	5.30E-08	1.10E-03	4.96E-02	2.37E-07	4.90E-03	6.07E-02	2.90E-07	6.00E-03	2.92E-03
Road 28	28	0500-0600	1.11E-02	9.13E-08	1.89E-03	4.96E-02	4.08E-07	8.45E-03	6.07E-02	4.99E-07	1.03E-02	2.92E-03
Road 28	28	0600-0700	1.12E-02	1.98E-07	4.10E-03	5.07E-02	8.98E-07	1.86E-02	6.19E-02	1.10E-06	2.27E-02	3.02E-03
Road 28	28	0700-0800	1.12E-02	2.44E-07	5.05E-03	5.07E-02	1.11E-06	2.29E-02	6.19E-02	1.35E-06	2.80E-02	3.02E-03
Road 28	28	0800-0900	1.17E-02	4.90E-07	1.02E-02	5.26E-02	2.20E-06	4.58E-02	6.43E-02	2.69E-06	5.60E-02	3.14E-03
Road 28	28	0900-1000	1.35E-02	5.04E-07	1.04E-02	5.58E-02	2.08E-06	4.30E-02	6.94E-02	2.58E-06	5.35E-02	3.82E-03
Road 28	28	1000-1100	1.38E-02	5.25E-07	1.09E-02	5.62E-02	2.14E-06	4.43E-02	7.00E-02	2.67E-06	5.52E-02	3.91E-03
Road 28	28	1100-1200	1.50E-02	4.72E-07	9.81E-03	5.88E-02	1.85E-06	3.84E-02	7.38E-02	2.33E-06	4.82E-02	4.19E-03
Road 28	28	1200-1300	1.43E-02	3.89E-07	8.05E-03	5.50E-02	1.49E-06	3.09E-02	6.93E-02	1.88E-06	3.90E-02	3.89E-03
Road 28	28	1300-1400	1.43E-02	4.02E-07	8.34E-03	5.67E-02	1.59E-06	3.30E-02	7.10E-02	1.99E-06	4.13E-02	3.97E-03
Road 28	28	1400-1500	1.43E-02	4.24E-07	8.79E-03	5.57E-02	1.65E-06	3.42E-02	6.99E-02	2.07E-06	4.30E-02	3.97E-03
Road 28	28	1500-1600	1.33E-02	4.03E-07	8.35E-03	5.54E-02	1.68E-06	3.48E-02	6.87E-02	2.08E-06	4.32E-02	3.75E-03
Road 28	28	1600-1700	1.37E-02	4.36E-07	9.03E-03	5.34E-02	1.70E-06	3.52E-02	6.69E-02	2.13E-06	4.41E-02	3.75E-03
Road 28	28	1700-1800	1.28E-02	3.68E-07	7.62E-03	5.08E-02	1.46E-06	3.02E-02	6.38E-02	1.83E-06	3.79E-02	3.58E-03
Road 28	28	1800-1900	7.40E-03	2.74E-07	5.69E-03	3.49E-02	1.29E-06	2.68E-02	4.39E-02	1.62E-06	3.37E-02	2.07E-03
Road 28	28	1900-2000	6.10E-03	2.76E-07	5.71E-03	2.88E-02	1.30E-06	2.70E-02	3.62E-02	1.64E-06	3.39E-02	1.71E-03
Road 28	28	2000-2100	5.53E-03	1.24E-07	2.58E-03	3.59E-02	8.08E-07	1.67E-02	4.14E-02	9.32E-07	1.93E-02	1.56E-03
Road 28	28	2100-2200	5.50E-03	1.20E-07	2.50E-03	3.59E-02	7.81E-07	1.62E-02	4.14E-02	9.01E-07	1.87E-02	1.42E-03
Road 28	28	2200-2300	5.50E-03	1.20E-07	2.49E-03	3.59E-02	7.81E-07	1.62E-02	4.14E-02	9.01E-07	1.87E-02	1.42E-03
Road 28	28	2300-0000	5.28E-03	4.62E-08	9.57E-04	3.72E-02	3.30E-07	6.84E-03	4.09E-02	3.63E-07	7.52E-03	1.36E-03
Road 29	29	0000-0100	5.28E-03	4.62E-08	1.16E-03	3.52E-02	3.08E-07	7.75E-03	4.04E-02	3.54E-07	8.91E-03	1.30E-03
Road 29	29	0100-0200	6.15E-03	3.52E-08	8.88E-04	3.69E-02	2.12E-07	5.34E-03	4.31E-02	2.47E-07	6.22E-03	1.52E-03
Road 29	29	0200-0300	7.08E-03	2.98E-08	7.52E-04	3.93E-02	1.65E-07	4.17E-03	4.62E-02	1.94E-07	4.90E-03	1.75E-03
Road 29	29	0300-0400	7.98E-03	2.68E-08	6.75E-04	4.12E-02	1.39E-07	3.49E-03	4.92E-02	1.65E-07	4.17E-03	1.97E-03
Road 29	29	0400-0500	8.22E-03	3.02E-08	7.60E-04	4.20E-02	1.54E-07	3.89E-03	5.02E-02	1.84E-07	4.65E-03	2.04E-03
Road 29	29	0500-0600	8.68E-03	5.61E-08	1.41E-03	4.32E-02	2.79E-07	7.03E-03	5.18E-02	3.34E-07	8.41E-03	2.14E-03
Road 29	29	0600-0700	7.68E-03	1.02E-07	2.56E-03	4.24E-02	5.61E-07	1.41E-02	5.01E-02	6.63E-07	1.67E-02	2.01E-03
Road 29	29	0700-0800	8.59E-03	2.02E-07	5.08E-03	4.24E-02	1.00E-06	2.51E-02	5.09E-02	1.20E-06	3.01E-02	2.03E-03
Road 29	29	0800-0900	9.29E-03	2.37E-07	5.98E-03	4.30E-02	1.10E-06	2.76E-02	5.23E-02	1.33E-06	3.36E-02	2.50E-03
Road 29	29	0900-1000	9.29E-03	2.37E-07	5.98E-03	4.30E-02	1.10E-06	2.76E-02	5.23E-02	1.33E-06	3.36E-02	2.50E-03
Road 29	29	1000-1100	1.06E-02	2.34E-07	5.89E-03	4.58E-02	1.01E-06	2.55E-02	5.64E-02	1.25E-06	3.14E-02	2.83E-03
Road 29	29	1100-1200	1.12E-02	2.14E-07	5.39E-03	4.58E-02	8.77E-07	2.21E-02	5.70E-02	1.09E-06	2.75E-02	2.84E-03
Road 29	29	1200-1300	1.60E-02	3.56E-07	8.97E-03	5.79E-02	1.29E-06	3.24E-02	7.39E-02	1.64E-06	4.14E-02	4.40E-03
Road 29	29	1300-1400	1.60E-02	3.72E-07	9.36E-03	5.99E-02	1.39E-06	3.50E-02	7.59E-02	1.76E-06	4.43E-02	4.55E-03
Road 29	29	1400-1500	1.60E-02	3.50E-07	8.87E-03	5.75E-02	1.26E-06	3.19E-02	7.35E-02	1.61E-06	4.07E-02	4.55E-03
Road 29	29	1500-1600	1.47E-02	3.66E-07	9.22E-03	5.83E-02	1.45E-06	3.65E-02	7.31E-02	1.81E-06	4.57E-02	4.23E-03
Road 29	29	1600-1700	1.50E-02	3.86E-07	9.73E-03	5.56E-02	1.43E-06	3.60E-02	7.06E-02	1.81E-06	4.57E-02	4.17E-03
Road 29	29	1700-1800	1.31E-02	3.19E-07	8.04E-03	5.26E-02	1.28E-06	3.22E-02	6.57E-02	1.60E-06	4.03E-02	3.79E-03
Road 29	29	1800-1900	8.32E-03	2.35E-07	5.92E-03	3.66E-02	1.03E-06	2.61E-02	4.50E-02	1.27E-06	3.20E-02	2.34E-03
Road 29	29	1900-2000	6.76E-03	1.49E-07	3.75E-03	3.35E-02	7.37E-07	1.86E-02	4.03E-02	8.86E-07	2.23E-02	1.88E-03
Road 29	29	2000-2100	6.47E-03	1.10E-07	2.76E-03	3.62E-02	6.18E-07	1.56E-02	4.27E-02	7.27E-07	1.83E-02	1.79E-03
Road 29	29

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for ABRMOD model (October) Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax		MonthlyHourMin		MonthlyHourAverage		MonthlyHourMax	
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road S1	S1	0000-0100	4.23E-03	3.76E-08	2.08E-04	1.01E-02	8.97E-08	1.64E-06	1.20E-02	1.88E-03	6.77E-08	4.95E-04		
Road S1	S1	0100-0200	4.64E-03	2.38E-08	1.62E-04	3.45E-02	1.77E-07	1.21E-03	3.91E-02	1.08E-02	2.23E-03	6.58E-08	4.81E-04	
Road S1	S1	0200-0300	5.09E-03	1.91E-08	1.30E-04	3.62E-02	1.36E-07	9.23E-04	4.13E-02	1.55E-02	1.05E-03	1.27E-03	4.75E-09	3.23E-05
Road S1	S1	0300-0400	5.53E-03	1.31E-08	9.78E-05	3.93E-02	9.34E-08	6.95E-04	4.48E-02	1.27E-02	8.62E-04	1.38E-03	4.08E-09	2.78E-05
Road S1	S1	0400-0500	5.96E-03	1.93E-08	1.31E-04	3.84E-02	1.24E-07	9.77E-04	1.56E-03	4.85E-09	3.30E-05			
Road S1	S1	0500-0600	6.40E-03	3.59E-08	2.44E-04	3.95E-02	2.21E-07	1.78E-03	1.31E-02	1.62E-03	9.07E-09	6.17E-05		
Road S1	S1	0600-0700	6.88E-03	2.56E-08	1.74E-04	4.11E-02	4.92E-07	3.35E-03	1.98E-02	1.39E-02	2.68E-03	1.42E-04		
Road S1	S1	0700-0800	7.30E-03	1.76E-07	1.20E-03	4.17E-02	1.01E-06	8.07E-03	1.86E-03	4.51E-08	3.07E-04			
Road S1	S1	0800-0900	6.94E-03	1.94E-07	1.32E-03	3.70E-02	1.03E-06	7.04E-03	4.40E-02	1.23E-06	8.36E-03	1.82E-03	5.08E-08	3.45E-04
Road S1	S1	0900-1000	7.88E-03	2.32E-07	1.58E-03	4.20E-02	1.24E-06	8.43E-03	4.98E-02	1.47E-06	9.98E-03	2.06E-03	6.08E-08	4.13E-04
Road S1	S1	1000-1100	8.93E-03	1.74E-07	1.19E-03	4.27E-02	8.34E-07	5.67E-03	2.12E-02	4.13E-08	2.81E-04			
Road S1	S1	1100-1200	8.48E-03	1.57E-07	1.07E-03	4.27E-02	7.90E-07	5.37E-03	5.41E-02	1.00E-06	6.81E-03	2.12E-02	3.93E-08	2.67E-04
Road S1	S1	1200-1300	8.02E-03	1.49E-07	1.01E-03	4.27E-02	7.90E-07	5.37E-03	5.41E-02	1.00E-06	6.81E-03	2.12E-02	3.93E-08	2.67E-04
Road S1	S1	1300-1400	1.51E-02	2.91E-07	1.98E-03	5.84E-02	1.13E-06	7.66E-03	7.35E-02	1.42E-06	9.64E-03	4.29E-02	8.28E-08	5.64E-04
Road S1	S1	1400-1500	1.51E-02	3.04E-07	2.07E-03	5.72E-02	1.15E-06	7.84E-03	7.23E-02	1.46E-06	9.91E-03	4.26E-02	8.58E-08	5.84E-04
Road S1	S1	1500-1600	1.38E-02	2.96E-07	2.01E-03	5.71E-02	1.23E-06	8.37E-03	7.21E-02	1.55E-06	1.05E-02	4.26E-02	9.17E-08	6.24E-04
Road S1	S1	1600-1700	1.41E-02	3.03E-07	2.06E-03	5.42E-02	1.16E-06	7.90E-03	6.83E-02	1.46E-06	9.96E-03	3.98E-02	8.53E-08	5.80E-04
Road S1	S1	1700-1800	1.04E-02	2.41E-07	1.64E-03	4.70E-02	1.09E-06	7.40E-03	5.47E-02	1.33E-06	9.04E-03	3.02E-02	7.00E-08	4.76E-04
Road S1	S1	1800-1900	7.39E-03	1.74E-07	1.18E-03	3.51E-02	8.25E-07	5.61E-03	4.27E-02	1.01E-06	6.86E-03	2.47E-02	5.81E-08	3.95E-04
Road S1	S1	1900-2000	6.49E-03	1.21E-07	8.21E-04	3.30E-02	6.13E-07	4.17E-03	3.95E-02	7.34E-07	4.99E-03	1.82E-03	3.39E-08	2.31E-04
Road S1	S1	2000-2100	6.31E-03	9.22E-08	6.27E-04	3.54E-02	5.17E-07	3.52E-03	4.17E-02	6.09E-07	4.15E-03	1.77E-03	2.59E-08	1.76E-04
Road S1	S1	2100-2200	6.08E-03	8.74E-08	5.95E-04	3.46E-02	4.97E-07	3.38E-03	4.17E-02	5.99E-07	4.08E-03	1.72E-03	2.47E-08	1.68E-04
Road S1	S1	2200-2300	5.68E-03	6.05E-08	4.12E-04	3.40E-02	3.62E-07	2.46E-03	4.17E-02	4.44E-07	3.02E-03	1.68E-03	1.79E-08	1.22E-04
Road S1	S1	2300-0000	6.64E-03	6.98E-08	4.75E-04	3.64E-02	3.83E-07	2.60E-03	4.30E-02	4.53E-07	3.08E-03	1.81E-03	1.90E-08	1.30E-04
Road S2	S2	0000-0100	4.73E-02	2.38E-08	4.45E-05	1.72E-01	8.65E-08	1.62E-04	1.98E-01	9.98E-08	3.73E-04	7.89E-02	3.97E-08	7.42E-05
Road S2	S2	0100-0200	5.18E-02	1.31E-08	2.45E-05	1.69E-01	4.27E-08	7.98E-05	1.94E-01	4.91E-08	1.84E-04	7.74E-02	1.96E-08	3.66E-05
Road S2	S2	0200-0300	4.63E-02	1.31E-08	2.45E-05	1.69E-01	4.77E-08	8.91E-05	2.15E-01	6.07E-08	1.14E-04	9.36E-03	2.65E-09	4.95E-06
Road S2	S2	0300-0400	4.66E-02	1.12E-08	2.10E-05	1.70E-01	4.09E-08	7.64E-05	2.16E-01	5.21E-08	9.74E-05	9.39E-03	2.26E-09	4.22E-06
Road S2	S2	0400-0500	5.24E-02	2.48E-08	4.63E-05	1.91E-01	9.04E-08	1.69E-04	2.43E-01	1.15E-07	4.30E-04	1.18E-02	5.58E-09	1.04E-05
Road S2	S2	0500-0600	4.84E-02	2.55E-08	4.76E-05	1.76E-01	9.25E-08	1.73E-04	2.24E-01	1.18E-07	4.21E-04	9.55E-03	5.02E-09	9.40E-06
Road S2	S2	0600-0700	5.03E-02	6.04E-08	1.13E-04	1.82E-01	2.19E-07	4.09E-04	2.32E-01	2.79E-07	5.21E-04	9.88E-03	1.16E-08	2.17E-05
Road S2	S2	0700-0800	5.37E-02	1.65E-07	3.08E-04	1.99E-01	6.16E-07	1.15E-03	2.56E-01	7.87E-07	1.47E-03	1.09E-02	3.32E-08	6.21E-05
Road S2	S2	0800-0900	5.32E-02	1.65E-07	3.08E-04	1.99E-01	6.16E-07	1.15E-03	2.56E-01	7.87E-07	1.47E-03	1.09E-02	3.32E-08	6.21E-05
Road S2	S2	0900-1000	5.48E-02	1.92E-07	3.60E-04	2.06E-01	7.25E-07	1.36E-03	2.61E-01	9.17E-07	1.72E-03	9.90E-03	3.48E-08	6.51E-05
Road S2	S2	1000-1100	5.63E-02	1.89E-07	3.54E-04	2.09E-01	7.01E-07	1.31E-03	2.61E-01	8.75E-07	1.64E-03	1.01E-02	3.39E-08	6.34E-05
Road S2	S2	1100-1200	5.82E-02	1.89E-07	3.54E-04	2.09E-01	6.79E-07	1.27E-03	2.67E-01	8.68E-07	1.62E-03	1.03E-02	3.35E-08	6.26E-05
Road S2	S2	1200-1300	5.95E-02	2.01E-07	3.75E-04	2.04E-01	6.89E-07	1.29E-03	2.64E-01	8.89E-07	1.66E-03	1.04E-02	3.49E-08	6.53E-05
Road S2	S2	1300-1400	1.32E-02	2.34E-07	4.38E-04	5.12E-02	9.08E-07	1.70E-03	7.21E-02	1.27E-06	2.37E-03	1.01E-02	1.79E-07	3.35E-04
Road S2	S2	1400-1500	6.04E-02	2.27E-07	4.25E-04	2.11E-01	7.94E-07	1.48E-03	2.71E-01	1.02E-06	1.91E-03	1.04E-02	3.90E-08	7.29E-05
Road S2	S2	1500-1600	5.40E-02	2.12E-07	3.97E-04	2.09E-01	8.20E-07	1.53E-03	2.63E-01	1.03E-06	1.93E-03	9.62E-03	3.78E-08	7.07E-05
Road S2	S2	1600-1700	5.61E-02	2.04E-07	3.81E-04	2.07E-01	7.52E-07	1.41E-03	2.67E-01	9.72E-07	1.82E-03	1.03E-02	3.75E-08	7.01E-05
Road S2	S2	1700-1800	4.69E-02	1.55E-07	2.90E-04	1.91E-01	6.29E-07	1.18E-03	2.38E-01	7.84E-07	1.47E-03	8.85E-03	2.92E-08	5.46E-05
Road S2	S2	1800-1900	4.16E-02	9.56E-08	1.79E-04	1.75E-01	4.02E-07	7.52E-04	2.16E-01	4.98E-07	9.31E-04	8.09E-03	1.86E-08	3.48E-05
Road S2	S2	1900-2000	3.85E-02	4.64E-08	8.67E-05	1.61E-01	1.94E-07	3.63E-04	1.99E-01	2.40E-07	4.50E-04	7.77E-03	9.37E-09	1.75E-05
Road S2	S2	2100-2200	3.91E-02	4.84E-08	9.06E-05	1.62E-01	2.00E-07	3.74E-04	2.01E-02	2.48E-07	4.64E-04	7.86E-03	9.73E-09	1.82E-05
Road S2	S2	2200-2300	3.94E-02	4.87E-08	9.12E-05	1.63E-01	2.01E-07	3.77E-04	2.03E-01	2.51E-07	4.69E-04	7.92E-03	9.80E-09	1.83E-05
Road S2	S2	2300-0000	4.26E-02	3.77E-08	7.06E-05	1.57E-01	1.39E-07	2.60E-04	2.00E-01	1.77E-07	3.31E-04	8.45E-03	7.49E-09	1.40E-05
Road S3	S3	0000-0100	6.62E-02	3.05E-08	2.58E-04	2.33E-01	1.07E-07	9.11E-04	2.99E-01	1.38E-07	1.17E-03	1.04E-02	4.80E-09	4.07E-05
Road S3	S3	0100-0200	6.46E-02	1.91E-08	1.62E-04	2.27E-01	6.70E-08	5.68E-04	2.92E-01	8.62E-08	7.30E-04	1.01E-02	2.98E-09	2.53E-05
Road S3	S3	0200-0300	6.82E-02	1.61E-08	1.36E-04	2.41E-01	5.67E-08	4.81E-04	3.09E-01	7.27E-08	6.17E-04	1.06E-02	2.49E-09	2.11E-05
Road S3	S3	0300-0400	7.04E-02	1.35E-08	1.15E-04	2.48E-01	4.78E-08	4.06E-04	3.19E-01	6.13E-08	5.20E-04	1.08E-02	2.07E-09	1.76E-05
Road S3	S3	0400-0500	7.46E-02	3.03E-08	2.57E-04	2.72E-01	1.07E-07	9.04E-04	3.50E-01	1.37E-07	1.16E-03	1.13E-02	4.43E-09	3.76E-05
Road S3	S3	0500-0600	7.74E-02	3.03E-08	2.57E-04	2.72E-01	1.07E-07	9.04E-04	3.50E-01	1.37E-07	1.16E-03	1.13E-02	4.43E-09	3.76E-05
Road S3	S3	0600-0700	8.69E-02	7.53E-08	6.39E-04	3.04E-01	2.64E-07	2.24E-03	3.91E-01	3.39E-07	2.87E-03	1.20E-02	1.04E-08	8.80E-05
Road S3	S3	0700-0800	9.54E-02	1.95E-07	1.65E-03	3.43E-01	8.97E-07	7.60E-03	1.20E-02	2.46E-08	2.09E-04			
Road S3	S3	0800-0900	9.54E-02	1.95E-07	1.65E-03	3.43E-01	9.31E-07	7.89E-03	1.20E-02	2.46E-08	2.09E-04			
Road S3	S3	0900-1000	1.03E-01	2.15E-07	1.83E-03	3.73E-01	8.81E-07	7.46E-03	1.29E-02	2.69E-08	2.28E-04			
Road S3	S3	1000-1100	1.12E-01	2.21E-07	1.87E-03	3.98E-01	7.84E-07	6.64E-03	1.40E-02	2.76E-08	2.34E-04			
Road S3	S3	1100-1200	1.11E-01	2.07E-07	1.75E-03	3.88E-01	7.24E-07	6.12E-03	1.39E-02	2.59E-08	2.19E-04			
Road S3	S3	1200-1300	1.79E-01	3.35E-07	2.83E-03	7.87E-01	6.68E-03	4.33E-01	1.02E-06	1.91E-06	1.62E-05			
Road S3	S3	1300-1400	9.72E-02	2.43E-07	2.06E-03	3.49E-01	8.73E-07	7.40E-03	1.46E-02	3.65E-08	3.09E-04			
Road S3	S3	1400-1500	9.69E-02	2.42E-07	2.05E-03	3.48E-01	8.71E-07	7.38E-03	1.46E-02	3.64E-08	3.08E-04			
Road S3	S3	1500-1600	8.87E-02	2.35E-07	2.00E-03	3.39E-01	9.01E-07	7.64E-03	4.28E-01	1.14E-06	9.68E-03			
Road S3	S3	1600-1700	9.11E-02	2.41E-07	2.04E-03	3.23E-01	8.53E-07	7.23E-03	1.09E-02	9.28E-03	1.01E-02	2.67E-08	2.27E-04	
Road S3	S3	1700-1800	7.27E-02	1.92E-07	1.63E-03	2.58E-01	6.80E-07	5.76E-03	8.68E-03	2.29E-08	1.94E-04			
Road S3	S3	1800-1900	5.29E-02	1.36E-07	1.15E-03	2.13E-01	5.46E-07	4.63E-03	2.66E-02	6.82E-08	5.79E-04	6.73E-03	1.73E-08	1.46E-04
Road S3	S3	1900-2000	4.64E-02	9.07E-08	7.69E-04	1.84E-01	3.05E-07	2.30E-03	4.09E-02	7.99E-08	6.77E-04	6.23E-03	1.22E-08	1.04E-04
Road S3	S3	2000-2100	4.50E-02	6.95E-08	5.89E-04	1.89E-01	2.92E-07	2.48E-03	2.34E-01	3.62E-07	3.07E-03	6.11E-03	9.42E-09	7.99E-05
Road S3	S3	2100-2200	4.58E-02	6.63E-08	5.62E-04	1.80E-01	2.60E-07	2.20E-03	3.27E-02	5.43E-08	2.33E-03	1.92E-03	2.00E-08	8.57E-05
Road S3	S3	2200-2300	4.70E-02	6.25E-08	5.30E-04	1.85E-01	2.46E-07	2.08E-03	2.55E-02	3.39E-08	2.87E-03	6.16E-03	8.20E-09	6.95E-05
Road S3	S3	2300-0000	4.71E-02	5.25E-08	4.45E-04	1.85E-01	2.07E-07	1.75E-03	2.55E-02	2.84E-08	2.41E-03	6.18E-03	6.88E-09	5.84E-05
Road S4	S4	0000-0100	5.11E-02	4.56E-08	3.79E-04	1.92E-01	1.71E-07	1.42E-03	2.91E-01	2.60E-07	2.16E-03	1.93E-02	1.72E-08	1.43E-04
Road S4	S4	0100-0200	5.11E-02	3.05E-08	2.54E-04	1.92E-01	1.14E-07	9.51E-04	2.91E-01	1.74E-07	1.45E-03	1.93E-02	1.15E-08	9.58E-05
Road S4	S4	0200-0300	5.11E-02	2.29E-08	1.91E-04	1.92E-01	8.57E-08	7.13E-04	2.91E-01	1.31E-07	1.09E-03	1.93E-02	8.62E-09	7.18E-05
Road S4	S4	0300-0400	5.11E-02	1.72E-08	1.43E-04	1.92E-01	6.43E-08	5.35E-04	2.91E-01	9.82E-08	8.17E-04	1.93E-02	6.47E-09	5.39E-05
Road S4	S4	0400-0500	5.92E-02	2.40E-08	2.08E-04	2.18E-01	8.85E-08	7.37E-04	2.78E-01	1.13E-07	9.37E-04	8.29E-03	3.36E-09	2.80E-05
Road S4	S4	0500-0600	6.44E-02	4.63E-08	3.86E-04	2.37E-01	1.70E-07	1.41E-03	3.02E-01	2.17E-07	1.80E-03	9.02E-03	6.48E-09	5.40E-05
Road S4	S4	0600-0700	7.34E-02	1.16E-07	9.65E-04	2.66E-01	4.19E-07	3.49E-03	3.39E-01	5.35E-07	4.46E-03	1.36E-02	2.13E-08	1.78E-04
Road S4	S4	0700-0800	8.35E-02	2.73E-07	2.27E-03	2.98E-01	9.73E-07	8.10E-03	3.81E-01	1.25E-06	1.04E-02	1.01E-02	3.30E-08	2.74E-04
Road S4	S4	0800-0900	8.24E-02	2.02E-07	8.65E-04	4.30E-02	1.06E-06	4.52E-03	5.13E-02	1.26E-06	5.38E-03	2.07E-03	5.09E-08	2.18E-04
Road S4	S4	0900-1000	9.27E-03	1.87E-07	8.02E-04	4.70E-02	9.51E-07	4.07E-03	5.63E-02	1.14E-06	4.87E-03	2.45E-03	4.95E-08	2.12E-04
Road S4	S4	1000-1100	1.05E-02	1.94E-07	7.88E-04	4.90E-02	9.06E-07	3.68E-03	5.91E-02	1.09E-06	4.43E-03	2.79E-03	4.88E-08	1.98E-04
Road S4	S4	1100-1200	1.12E-02	1.67E-07	7.13E-04	4.86E-02	8.08E-07	3.46E-03	5.86E-02	9.76E-07	4.17E-03	2.64E-03	4.38E-08	1.87E-04
Road S4	S4	1200-1300	1.66E-02	4.27E-07	1.83E-03	6.80E-02	1.74E-06	7.47E-03	8.46E-02	2.17E-06	9.29E-03	4.01E-03	1.03E-07	4.41E-04
Road S4	S4	1300-1400	1.44E-02	4.63E-08	3.86E-04	2.22E-01	1.41E-07	3.00E-03	2.16E-01	6.94E-07	5.78E-03	1.22E-02	3.92E-08	3.26E-04
Road S4	S4	1400-1500	2.64E-02	7.41E-07	3.17E-03	1.02E-01	2.86E-06	1.22E-02	1.28E-01	3.60E-06	1.54E-02	1.01E-02	2.84E-07	1.21E-03
Road S4	S4	1500-1600	2.72E-02	7.82E-07	3.35E-03	1.13E-01	3.25E-06	1.39E-02	1.39E-02	4.03E-06	1.72E-02	4.65E-03	1.34E-07	5.72E-04
Road S4	S4	1600-1700	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S4	S4	1700-1800	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S4	S4	1800-1900	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S4	S4	1900-2000	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S4	S4	2000-2100	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S4	S4	2100-2200	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S4	S4	2200-2300	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S4	S4	2300-0000	2.76E-02	7.93E-07	3.39E-03	1.14E-01	3.29E-06	1.41E-02	1.41E-02	4.05E-06	1.74E-02	4.74E-03	1.36E-07	5.81E-04
Road S5	S5	0000-0100	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0100-0200	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0200-0300	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0300-0400	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0400-0500	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0500-0600	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0600-0700	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0700-0800	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0800-0900	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	0900-1000	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1000-1100	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1100-1200	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1200-1300	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1300-1400	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1400-1500	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1500-1600	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1600-1700	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1700-1800	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1800-1900	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	1900-2000	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	2000-2100	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	2100-2200	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	2200-2300	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S5	S5	2300-0000	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S6	S6	0000-0100	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S6	S6	0100-0200	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S6	S6	0200-0300	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S6	S6	0300-0400	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S6	S6	0400-0500	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S6	S6	0500-0600	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04	2.31E-02	1.92E-07	8.26E-04
Road S6	S6	0600-0700	1.27E-02	1.06E-07	4.56E-04	2.31E-02	1.92E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) Year 2043

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 17	17	1600-1700	5.67E-02	1.53E-06	5.82E-03	1.40E-01	3.78E-06	1.44E-02	7.45E-02	2.01E-06	7.65E-03	1.84E-01	4.97E-06	1.89E-02
Road 17	17	1700-1800	3.95E-02	1.11E-06	1.18E-02	1.61E-01	4.53E-06	4.83E-02	5.20E-02	1.46E-06	1.55E-02	2.11E-01	5.96E-06	6.35E-02
Road 17	17	1800-1900	2.03E-02	5.47E-07	5.84E-03	8.79E-02	2.37E-06	2.53E-02	1.08E-01	2.91E-06	3.11E-02	3.61E-01	9.72E-06	1.04E-01
Road 17	17	1900-2000	1.16E-02	3.12E-07	2.53E-03	5.54E-02	1.49E-06	1.21E-02	6.80E-02	1.83E-06	1.48E-02	2.67E-01	7.20E-06	5.80E-02
Road 17	17	2000-2100	9.54E-03	1.62E-07	5.21E-02	8.31E-07	8.87E-03	6.16E-02	9.83E-07	1.05E-02	2.50E-03	3.98E-08	4.25E-04	1.20E-02
Road 17	17	2100-2200	9.28E-03	1.48E-07	1.58E-03	5.19E-02	8.30E-07	8.86E-03	6.12E-02	9.79E-07	1.04E-02	2.44E-03	3.89E-08	4.15E-04
Road 17	17	2200-2300	9.14E-03	1.38E-07	1.48E-03	5.11E-02	7.71E-07	8.01E-03	5.85E-02	8.90E-07	9.34E-03	2.36E-03	3.56E-08	3.84E-04
Road 17	17	2300-0000	9.77E-03	1.13E-07	1.21E-03	5.09E-02	5.91E-07	6.31E-03	6.07E-02	7.04E-07	7.52E-03	2.59E-03	3.01E-08	3.21E-04
Road 18	18	0000-0100	6.30E-03	4.93E-08	7.03E-04	3.99E-02	3.12E-07	4.46E-03	4.62E-02	3.62E-07	5.16E-03	1.58E-03	1.24E-08	1.77E-04
Road 18	18	0100-0200	7.08E-03	5.54E-08	1.18E-04	4.18E-02	3.27E-07	7.00E-04	4.89E-02	3.83E-07	8.20E-04	1.77E-03	1.39E-08	2.95E-05
Road 18	18	0200-0300	7.99E-03	2.99E-08	4.27E-04	4.40E-02	1.67E-07	2.38E-03	5.19E-02	1.95E-07	2.78E-03	1.99E-03	7.55E-09	1.08E-04
Road 18	18	0300-0400	8.71E-03	2.63E-08	3.75E-04	4.62E-02	1.39E-07	1.99E-03	5.49E-02	1.66E-07	2.36E-03	2.20E-03	6.63E-09	9.46E-05
Road 18	18	0400-0500	8.14E-03	2.47E-08	3.52E-04	4.50E-02	1.36E-07	1.94E-03	5.32E-02	1.61E-07	2.29E-03	2.05E-03	6.24E-09	8.87E-05
Road 18	18	0500-0600	9.25E-03	5.31E-08	7.57E-04	4.85E-02	2.78E-07	3.97E-03	5.77E-02	3.31E-07	4.72E-03	2.33E-03	1.34E-08	1.91E-04
Road 18	18	0600-0700	9.53E-03	1.17E-07	1.67E-03	5.01E-02	6.14E-07	8.76E-03	5.96E-02	7.31E-07	1.04E-02	2.44E-03	3.00E-08	4.27E-04
Road 18	18	0700-0800	1.03E-02	2.58E-07	3.24E-03	5.41E-02	1.36E-06	1.71E-02	6.47E-02	1.62E-06	2.04E-02	2.64E-03	6.63E-08	8.34E-04
Road 18	18	0800-0900	1.02E-02	2.96E-07	4.22E-03	4.92E-02	1.43E-06	2.04E-02	5.94E-02	1.72E-06	2.46E-02	2.63E-03	7.63E-08	1.09E-03
Road 18	18	0900-1000	1.17E-02	2.88E-07	4.11E-03	5.50E-02	1.36E-06	1.94E-02	6.66E-02	1.65E-06	2.35E-02	3.14E-03	7.75E-08	1.11E-03
Road 18	18	1000-1100	1.33E-02	2.96E-07	4.13E-03	5.88E-02	1.32E-06	1.84E-02	7.21E-02	1.61E-06	2.24E-02	3.57E-03	7.97E-08	1.11E-03
Road 18	18	1100-1200	1.29E-02	2.65E-07	3.78E-03	5.82E-02	1.20E-06	1.71E-02	7.10E-02	1.46E-06	2.08E-02	3.42E-03	7.03E-08	1.00E-03
Road 18	18	1200-1300	1.60E-02	3.58E-07	5.11E-03	6.52E-02	1.46E-06	2.08E-02	8.13E-02	1.82E-06	2.59E-02	4.27E-03	9.54E-08	1.36E-03
Road 18	18	1300-1400	1.62E-02	3.61E-07	5.16E-03	6.62E-02	1.48E-06	2.11E-02	8.44E-02	1.88E-06	2.69E-02	4.32E-03	9.63E-08	1.37E-03
Road 18	18	1400-1500	1.61E-02	3.47E-07	5.62E-03	6.62E-02	1.43E-06	2.32E-02	8.44E-02	1.82E-06	2.95E-02	4.31E-03	9.27E-08	1.50E-03
Road 18	18	1500-1600	1.49E-02	3.75E-07	5.35E-03	6.69E-02	1.68E-06	2.40E-02	8.19E-02	2.05E-06	2.93E-02	4.11E-03	1.03E-07	1.47E-03
Road 18	18	1600-1700	1.57E-02	4.06E-07	5.79E-03	6.44E-02	1.67E-06	2.38E-02	8.01E-02	2.08E-06	2.96E-02	4.12E-03	1.07E-07	1.52E-03
Road 18	18	1700-1800	1.58E-02	4.09E-07	5.84E-03	6.48E-02	1.68E-06	2.39E-02	8.01E-02	2.07E-06	2.95E-02	4.13E-03	1.07E-07	1.52E-03
Road 18	18	1800-1900	8.32E-03	2.42E-07	3.45E-03	4.18E-02	1.22E-06	1.73E-02	5.02E-02	1.46E-06	2.08E-02	2.21E-03	6.41E-08	9.14E-04
Road 18	18	1900-2000	6.83E-03	1.54E-07	2.19E-03	3.82E-02	8.61E-07	1.23E-02	4.50E-02	1.01E-06	1.45E-02	1.80E-03	4.06E-08	5.79E-04
Road 18	18	2000-2100	6.26E-03	1.41E-07	1.80E-03	3.50E-02	7.89E-07	1.01E-02	4.12E-02	9.29E-07	1.19E-02	1.65E-03	3.72E-08	4.76E-04
Road 18	18	2100-2200	6.26E-03	1.16E-07	1.07E-03	3.50E-02	6.47E-07	5.97E-03	4.12E-02	7.62E-07	7.03E-03	1.65E-03	3.05E-08	2.82E-04
Road 18	18	2200-2300	6.24E-03	1.06E-07	1.51E-03	3.49E-02	5.91E-07	8.44E-03	4.09E-02	6.95E-07	9.93E-03	1.64E-03	2.78E-08	3.98E-04
Road 18	18	2300-0000	6.22E-03	9.77E-08	1.38E-03	3.48E-02	5.46E-07	7.72E-03	4.07E-02	6.40E-07	9.07E-03	1.63E-03	2.56E-08	3.63E-04
Road 19	19	0000-0100	8.36E-03	6.92E-08	7.27E-04	4.62E-02	4.52E-07	4.75E-03	2.17E-03	1.80E-08	1.89E-04			
Road 19	19	0100-0200	9.21E-03	5.04E-08	4.81E-02	2.63E-07	2.77E-03	5.13E-07	2.39E-03	1.31E-08	1.25E-04			
Road 19	19	0200-0300	1.12E-02	5.88E-08	5.61E-02	3.07E-07	3.23E-03	5.98E-07	2.79E-03	1.53E-08	1.46E-04			
Road 19	19	0300-0400	1.10E-02	3.59E-08	3.78E-04	5.30E-02	1.73E-07	1.82E-03	6.40E-02	2.09E-07	2.20E-03	2.87E-03	9.36E-09	9.84E-05
Road 19	19	0400-0500	1.15E-02	4.17E-08	4.39E-04	5.46E-02	1.98E-07	2.08E-03	6.61E-02	2.39E-07	2.52E-03	3.02E-03	1.09E-08	1.15E-04
Road 19	19	0500-0600	1.18E-02	4.72E-08	6.80E-04	5.55E-02	2.22E-07	3.20E-03	6.77E-02	2.71E-07	3.90E-03	3.09E-03	1.24E-08	1.78E-04
Road 19	19	0600-0700	1.22E-02	1.66E-07	1.75E-03	5.84E-02	7.94E-07	8.34E-03	7.07E-02	9.60E-07	1.01E-02	3.22E-03	4.37E-08	4.60E-04
Road 19	19	0700-0800	1.34E-02	3.74E-07	3.94E-03	6.20E-02	1.73E-06	1.82E-02	7.54E-02	2.11E-06	2.21E-02	3.47E-03	9.70E-08	1.02E-03
Road 19	19	0800-0900	1.32E-02	3.86E-07	4.61E-03	6.70E-02	1.94E-06	2.04E-02	8.21E-02	2.38E-06	2.50E-02	4.07E-03	1.18E-07	1.24E-03
Road 19	19	0900-1000	1.51E-02	4.38E-07	4.61E-03	6.70E-02	1.94E-06	2.04E-02	8.21E-02	2.38E-06	2.50E-02	4.07E-03	1.18E-07	1.24E-03
Road 19	19	1000-1100	1.72E-02	4.48E-07	4.71E-03	7.13E-02	1.86E-06	1.95E-02	8.85E-02	2.31E-06	2.42E-02	4.58E-03	1.19E-07	1.25E-03
Road 19	19	1100-1200	1.64E-02	4.48E-07	4.71E-03	6.79E-02	1.86E-06	1.95E-02	8.42E-02	2.31E-06	2.42E-02	4.36E-03	1.19E-07	1.25E-03
Road 19	19	1200-1300	2.06E-02	4.92E-07	5.17E-03	7.94E-02	1.89E-06	1.99E-02	1.06E-01	2.53E-06	2.66E-02	5.47E-03	1.31E-07	1.37E-03
Road 19	19	1300-1400	2.06E-02	4.92E-07	5.17E-03	7.94E-02	1.89E-06	1.99E-02	1.06E-01	2.53E-06	2.66E-02	5.47E-03	1.31E-07	1.37E-03
Road 19	19	1400-1500	2.06E-02	5.22E-07	5.49E-03	8.26E-02	2.10E-06	2.20E-02	1.03E-01	2.62E-06	2.75E-02	5.51E-03	1.40E-07	1.47E-03
Road 19	19	1500-1600	1.89E-02	5.10E-07	5.36E-03	8.09E-02	2.19E-06	2.30E-02	9.98E-02	2.70E-06	2.84E-02	5.17E-03	1.40E-07	1.47E-03
Road 19	19	1600-1700	1.94E-02	5.26E-07	5.53E-03	7.69E-02	2.09E-06	2.19E-02	9.62E-02	2.61E-06	2.75E-02	5.17E-03	1.40E-07	1.48E-03
Road 19	19	1700-1800	1.97E-02	5.34E-07	5.61E-03	7.82E-02	2.12E-06	2.23E-02	9.78E-02	2.65E-06	2.79E-02	5.25E-03	1.42E-07	1.49E-03
Road 19	19	1800-1900	1.07E-02	2.89E-07	3.04E-03	5.13E-02	1.39E-06	1.46E-02	6.19E-02	1.68E-06	1.77E-02	2.95E-03	8.02E-08	8.43E-04
Road 19	19	1900-2000	9.19E-03	1.89E-07	1.98E-03	4.68E-02	9.60E-07	1.01E-02	5.56E-02	1.15E-06	1.21E-02	2.50E-03	5.13E-08	5.39E-04
Road 19	19	2000-2100	8.75E-03	1.41E-07	1.48E-03	4.93E-02	7.94E-07	8.35E-03	5.80E-02	9.35E-07	9.83E-03	2.40E-03	3.87E-08	4.06E-04
Road 19	19	2100-2200	8.86E-03	1.36E-07	1.43E-03	4.79E-02	7.33E-07	7.71E-03	5.64E-02	8.63E-07	9.08E-03	2.34E-03	3.59E-08	3.77E-04
Road 19	19	2200-2300	8.81E-03	1.30E-07	1.37E-03	4.77E-02	7.04E-07	7.40E-03	5.61E-02	8.29E-07	8.72E-03	2.33E-03	3.45E-08	3.62E-04
Road 19	19	2300-0000	8.77E-03	1.24E-07	1.31E-03	4.75E-02	6.72E-07	7.06E-03	5.58E-02	7.91E-07	8.32E-03	2.32E-03	3.29E-08	3.46E-04
Road 20	20	0000-0100	3.44E-02	2.49E-08	2.35E-04	1.32E-01	9.56E-08	9.04E-04	1.66E-01	1.20E-07	1.13E-03	6.78E-03	4.89E-09	4.63E-05
Road 20	20	0100-0200	3.55E-02	2.49E-08	1.67E-04	1.36E-01	9.49E-08	6.39E-04	1.71E-01	1.20E-07	8.06E-04	7.01E-03	4.91E-09	3.30E-05
Road 20	20	0200-0300	3.66E-02	2.38E-08	1.33E-04	1.40E-01	9.09E-08	5.07E-04	1.76E-01	1.14E-07	6.40E-04	7.23E-03	4.69E-09	2.62E-05
Road 20	20	0300-0400	3.77E-02	2.35E-08	1.32E-04	1.44E-01	8.97E-08	5.04E-04	1.81E-01	1.13E-07	6.36E-04	7.45E-03	4.64E-09	2.61E-05
Road 20	20	0400-0500	3.85E-02	2.01E-08	1.35E-04	1.47E-01	7.68E-08	5.16E-04	1.85E-01	9.68E-08	6.50E-04	7.61E-03	3.98E-09	2.67E-05
Road 20	20	0500-0600	3.93E-02	3.74E-08	2.52E-04	1.47E-01	1.43E-07	9.63E-04	1.89E-01	1.80E-07	1.21E-03	7.77E-03	7.39E-09	4.96E-05
Road 20	20	0600-0700	4.28E-02	1.67E-07	1.61E-03	1.63E-01	6.37E-07	6.14E-03	2.06E-01	8.04E-07	7.74E-03	9.63E-03	3.76E-08	3.62E-04
Road 20	20	0700-0800	4.80E-02	2.18E-07	1.47E-03	1.77E-01	8.02E-07	5.40E-03	2.25E-01	1.02E-06	6.87E-03	8.47E-03	3.85E-08	2.59E-04
Road 20	20	0800-0900	4.79E-02	2.59E-07	1.74E-03	1.81E-01	9.81E-07	6.60E-03	2.29E-01	1.24E-06	8.34E-03	8.38E-03	4.53E-08	3.05E-04
Road 20	20	0900-1000	5.20E-02	2.02E-07	1.83E-03	1.96E-01	7.65E-07	6.92E-03	2.48E-01	9.66E-07	8.74E-03	9.14E-03	3.55E-08	3.21E-04
Road 20	20	1000-1100	5.44E-02	2.04E-07	2.05E-03	1.96E-01	7.35E-07	7.38E-03	2.58E-01	9.66E-07	9.70E-03	9.66E-03	3.62E-08	3.64E-04
Road 20	20	1100-1200	5.15E-02	2.08E-07	2.07E-03	1.85E-01	7.47E-07	7.43E-03	2.44E-01	9.85E-07	9.80E-03	9.14E-03	3.69E-08	3.67E-04
Road 20	20	1200-1300	5.27E-02	2.92E-07	1.97E-03	1.91E-01	1.06E-06	7.10E-03	2.43E-01	1.35E-06	9.07E-03	9.35E-03	5.17E-08	3.48E-04
Road 20	20	1300-1400	5.44E-02	3.18E-07	2.14E-03	2.04E-01	1.15E-06	7.75E-03	2.61E-01	1.47E-06	9.89E-03	9.68E-03	5.63E-08	3.80E-04
Road 20	20	1400-1500	5.74E-02	3.24E-07	2.18E-03	2.02E-01	1.14E-06	7.67E-03	2.59E-01	1.46E-06	9.85E-03	9.59E-03	5.41E-08	3.64E-04
Road 20	20	1500-1600	5.15E-02	3.02E-07	2.08E-03	1.82E-01	1.07E-06	7.37E-03	2.47E-01	1.45E-06	9.99E-03	8.94E-03	5.25E-08	3.61E-04
Road 20	20	1600-1700	5.27E-02	2.92E-07	1.97E-03	1.91E-01	1.06E-06	7.10E-03	2.43E-01	1.35E-06	9.07E-03	9.15E-03	5.07E-08	3.41E-04
Road 20	20	1700-1800	4.41E-02	2.30E-07	1.55E-03	1.81E-01	9.41E-07	6.33E-03	2.25E-01	1.17E-06	7.88E-03	7.94E-03	4.14E-08	2.78E-04
Road 20	20	1800-1900	3.47E-02	1.39E-07	9.34E-04	1.48E-01	5.92E-07	3.97E-03	1.82E-01	7.29E-07	4.91E-03	6.25E-03	2.64E-08	1.77E-04
Road 20	20	1900-2000	3.14E-02	8.70E-08	5.86E-04	1.31E-01	3.61E-07	2.43E-03	1.62E-01	4.48E-07	3.02E-03	5.13E-03	1.42E-08	9.56E-05
Road 20	20	2000-2100	3.07E-02	6.72E-08	4.52E-04	1.33E-01	2.91E-07	1.96E-03	1.64E-01	3.58E-07	2.41E-03	6.04E-03	1.32E-08	8.90E-05
Road 20	20	2100-2200	3.11E-02	6.35E-08	4.67E-04	1.34E-01	2.74E-07	2.06E-03	1.66E-01	3.67E-07	2.75E-03	6.12E-03	1.34E-08	1.01E-04
Road 20	20	2200-2300	3.23E-02	6.51E-08	4.38E-04	1.26E-01	2.54E-07	1.71E-03	1.58E-01	3.19E-07	2.14E-03	6.22E-03	1.25E-08	8.42E-05
Road 20	20	2300-0000	3.37E-02	5.40E-08	3.63E-04	1.30E-01	2.09E-07	1.40E-03	1.64E-01	2.63E-07	1.77E-03	6.51E-03	1.04E-08	7.02E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) Year 2043

Road Name	Road ID	Hour	NO_x Emission						NO Emission					
			MonthlyHourMin		MonthlyHourAverage				MonthlyHourMin		MonthlyHourAverage			
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 21	21	0000-0100	9.54E-03	6.26E-08	3.02E-04	4.98E-02	3.27E-07	1.58E-03	5.93E-02	3.90E-07	1.88E-03	2.51E-03	1.65E-08	7.97E-05
Road 21	21	0100-0200	1.04E-02	4.54E-08	2.19E-04	5.17E-02	2.25E-07	1.09E-03	6.21E-02	2.71E-07	1.31E-03	2.76E-03	1.20E-08	5.80E-05
Road 21	21	0200-0300	1.13E-02	3.69E-08	1.78E-04	5.41E-02	1.76E-07	8.49E-04	6.55E-02	2.13E-07	1.03E-03	3.00E-03	9.75E-09	4.71E-05
Road 21	21	0300-0400	1.22E-02	3.21E-08	1.55E-04	5.66E-02	1.49E-07	7.18E-04	6.90E-02	1.81E-07	8.73E-04	3.23E-03	8.47E-09	4.08E-05
Road 21	21	0400-0500	1.28E-02	3.74E-08	1.80E-04	5.86E-02	1.71E-07	8.24E-04	7.14E-02	2.08E-07	1.00E-03	3.40E-03	9.91E-09	4.78E-05
Road 21	21	0500-0600	1.31E-02	6.71E-08	3.24E-04	5.99E-02	3.06E-07	1.48E-03	7.31E-02	3.73E-07	1.80E-03	3.50E-03	1.79E-08	8.62E-05
Road 21	21	0600-0700	1.27E-02	1.51E-07	7.29E-04	5.81E-02	6.95E-07	3.35E-03	7.65E-02	8.46E-07	4.08E-03	4.02E-03	4.79E-08	2.31E-04
Road 21	21	0700-0800	1.53E-02	3.48E-07	1.68E-03	6.79E-02	1.55E-06	7.47E-03	8.31E-02	1.90E-06	9.15E-03	3.91E-03	8.93E-08	4.31E-04
Road 21	21	0800-0900	1.60E-02	4.26E-07	2.05E-03	6.93E-02	1.85E-06	8.91E-03	8.53E-02	2.27E-06	1.09E-02	3.93E-03	1.05E-07	5.06E-04
Road 21	21	0900-1000	1.68E-02	4.38E-07	2.11E-03	7.19E-02	1.87E-06	9.04E-03	8.92E-02	2.32E-06	1.12E-02	4.09E-03	1.06E-07	5.14E-04
Road 21	21	1000-1100	1.94E-02	4.27E-07	2.06E-03	8.31E-02	1.83E-06	8.85E-03	9.78E-02	2.16E-06	1.04E-02	5.08E-03	1.12E-07	5.39E-04
Road 21	21	1100-1200	1.94E-02	4.27E-07	2.06E-03	8.31E-02	1.83E-06	8.85E-03	9.78E-02	2.16E-06	1.04E-02	5.08E-03	1.12E-07	5.39E-04
Road 21	21	1200-1300	2.00E-02	4.56E-07	2.20E-03	8.57E-02	1.96E-06	9.46E-03	1.01E-01	2.31E-06	1.11E-02	5.24E-03	1.19E-07	5.75E-04
Road 21	21	1300-1400	2.24E-02	4.83E-07	2.33E-03	9.60E-02	2.07E-06	1.00E-02	1.13E-01	2.44E-06	1.18E-02	5.87E-03	1.26E-07	6.10E-04
Road 21	21	1400-1500	2.30E-02	5.11E-07	2.47E-03	8.85E-02	1.97E-06	9.48E-03	1.11E-01	2.48E-06	1.19E-02	5.89E-03	1.31E-07	6.31E-04
Road 21	21	1500-1600	2.16E-02	4.96E-07	2.39E-03	8.31E-02	1.91E-06	9.20E-03	1.04E-01	2.39E-06	1.15E-02	5.52E-03	1.27E-07	6.12E-04
Road 21	21	1600-1700	2.22E-02	5.08E-07	2.45E-03	8.54E-02	1.96E-06	9.45E-03	1.07E-01	2.45E-06	1.18E-02	5.67E-03	1.30E-07	6.27E-04
Road 21	21	1700-1800	2.26E-02	5.18E-07	2.50E-03	8.69E-02	1.99E-06	9.61E-03	1.09E-01	2.50E-06	1.21E-02	5.77E-03	1.32E-07	6.38E-04
Road 21	21	1800-1900	1.96E-02	5.08E-07	2.45E-03	7.54E-02	1.96E-06	9.43E-03	9.46E-02	2.45E-06	1.14E-02	5.01E-03	1.30E-07	6.27E-04
Road 21	21	1900-2000	1.92E-02	4.98E-07	2.40E-03	7.38E-02	1.91E-06	9.23E-03	9.26E-02	2.40E-06	1.11E-02	4.91E-03	1.27E-07	6.14E-04
Road 21	21	2000-2100	1.90E-02	4.93E-07	2.38E-03	7.31E-02	1.89E-06	9.14E-03	9.17E-02	2.38E-06	1.10E-02	4.86E-03	1.26E-07	6.08E-04
Road 21	21	2100-2200	1.87E-02	4.85E-07	2.34E-03	7.19E-02	1.86E-06	8.99E-03	9.02E-02	2.34E-06	1.08E-02	4.78E-03	1.24E-07	5.98E-04
Road 21	21	2200-2300	1.84E-02	4.77E-07	2.30E-03	7.08E-02	1.83E-06	8.85E-03	8.88E-02	2.30E-06	1.07E-02	4.70E-03	1.22E-07	5.88E-04
Road 21	21	2300-0000	1.81E-02	4.69E-07	2.26E-03	6.96E-02	1.80E-06	8.70E-03	8.74E-02	2.26E-06	1.05E-02	4.62E-03	1.20E-07	5.78E-04
Road 22	22	0000-0100	9.92E-02	6.59E-08	4.29E-04	3.60E-01	2.39E-07	1.56E-03	4.95E-01	3.05E-07	1.99E-03	1.12E-02	7.43E-09	4.84E-05
Road 22	22	0100-0200	1.03E-01	4.78E-08	2.31E-04	3.74E-01	1.73E-07	8.36E-04	5.14E-01	2.38E-07	1.15E-03	1.16E-02	5.39E-09	2.60E-05
Road 22	22	0200-0300	9.92E-02	6.59E-08	4.29E-04	3.60E-01	2.39E-07	1.56E-03	4.95E-01	3.05E-07	1.99E-03	1.12E-02	7.43E-09	4.84E-05
Road 22	22	0300-0400	1.01E-01	5.66E-08	3.68E-04	3.67E-01	2.05E-07	1.34E-03	4.68E-01	2.62E-07	1.70E-03	1.14E-02	6.35E-09	4.14E-05
Road 22	22	0400-0500	1.04E-01	5.66E-08	3.68E-04	3.77E-01	2.05E-07	1.34E-03	4.68E-01	2.62E-07	1.70E-03	1.14E-02	6.35E-09	4.14E-05
Road 22	22	0500-0600	1.15E-01	1.37E-07	8.93E-04	4.12E-01	4.93E-07	3.21E-03	5.27E-01	6.31E-07	4.11E-03	1.22E-02	1.46E-08	9.50E-05
Road 22	22	0600-0700	1.29E-01	3.49E-07	2.27E-03	4.59E-01	1.24E-06	8.10E-03	5.87E-01	1.59E-06	1.04E-02	1.29E-02	3.50E-08	2.28E-04
Road 22	22	0700-0800	1.44E-01	3.84E-07	4.03E-03	5.12E-01	1.37E-06	1.44E-02	6.55E-01	1.75E-06	1.84E-02	1.44E-02	3.85E-08	4.04E-04
Road 22	22	0800-0900	1.46E-01	1.01E-06	6.58E-03	5.32E-01	3.67E-06	2.39E-02	6.78E-01	4.68E-06	3.05E-02	1.37E-02	9.46E-08	6.16E-04
Road 22	22	0900-1000	1.50E-01	1.14E-06	7.39E-03	5.49E-01	4.16E-06	2.71E-02	6.99E-01	5.30E-06	3.45E-02	1.41E-02	1.07E-07	6.97E-04
Road 22	22	1000-1100	1.63E-01	1.30E-06	8.44E-03	5.94E-01	4.75E-06	3.08E-02	7.57E-01	6.05E-06	3.92E-02	1.53E-02	1.22E-07	7.92E-04
Road 22	22	1100-1200	1.61E-01	1.12E-06	7.27E-03	5.62E-01	3.90E-06	2.54E-02	7.23E-01	5.02E-06	3.27E-02	1.48E-02	1.03E-07	6.68E-04
Road 22	22	1200-1300	1.66E-01	1.19E-06	7.72E-03	5.55E-01	3.99E-06	2.58E-02	7.21E-01	5.14E-06	3.35E-02	1.50E-02	1.07E-07	6.97E-04
Road 22	22	1300-1400	1.63E-01	1.21E-06	7.89E-03	5.47E-01	4.07E-06	2.65E-02	7.10E-01	5.28E-06	3.44E-02	1.48E-02	1.10E-07	7.16E-04
Road 22	22	1400-1500	1.63E-01	1.30E-06	8.44E-03	5.54E-01	4.41E-06	2.87E-02	7.17E-01	5.70E-06	3.71E-02	1.49E-02	1.18E-07	7.69E-04
Road 22	22	1500-1600	1.45E-01	1.21E-06	7.85E-03	5.46E-01	4.53E-06	2.95E-02	6.92E-01	5.73E-06	3.72E-02	1.38E-02	1.15E-07

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 44	44	0800-0900	8.55E-03	2.70E-07	5.18E-04	1.67E-02	5.26E-07	3.76E-03	2.00E-03	6.32E-08	1.42E-04			
Road 44	44	0900-1000	8.63E-03	2.23E-07	5.02E-04	4.42E-02	1.14E-06	2.58E-03	5.28E-02	1.23E-03	5.90E-08	1.33E-04		
Road 44	44	1000-1100	9.72E-03	2.17E-07	4.89E-04	4.56E-02	1.02E-06	2.29E-03	5.53E-02	1.23E-06	2.78E-03	2.59E-03	5.78E-08	1.30E-04
Road 44	44	1100-1200	9.24E-03	1.92E-07	4.40E-04	4.53E-02	9.58E-07	2.18E-03	5.43E-02	1.15E-06	2.60E-03	2.45E-03	5.18E-08	1.17E-04
Road 44	44	1200-1300	1.11E-02	2.91E-07	6.56E-04	4.95E-02	1.29E-06	3.57E-03	2.92E-03	7.65E-08	1.72E-04			
Road 44	44	1300-1400	1.13E-02	3.01E-07	6.78E-04	5.18E-02	1.38E-06	3.12E-03	6.03E-02	1.68E-06	3.79E-03	3.01E-03	8.03E-08	1.81E-04
Road 44	44	1400-1500	1.29E-02	3.43E-07	7.73E-04	5.35E-02	1.42E-06	3.20E-03	6.23E-02	1.89E-06	4.26E-03	3.25E-03	8.68E-08	1.96E-04
Road 44	44	1500-1600	1.22E-02	3.56E-07	8.02E-04	5.81E-02	1.69E-06	3.82E-03	2.08E-03	6.62E-03	2.98E-03	8.69E-08	1.96E-04	
Road 44	44	1600-1700	1.73E-02	5.37E-07	1.21E-03	7.09E-02	2.20E-06	4.96E-03	8.81E-02	2.74E-06	6.17E-03	3.33E-03	1.03E-07	2.33E-04
Road 44	44	1700-1800	1.97E-02	6.11E-07	1.37E-03	8.44E-02	2.62E-06	5.90E-03	1.04E-01	3.24E-06	7.30E-03	3.70E-03	1.15E-07	2.58E-04
Road 44	44	1800-1900	2.50E-02	9.71E-07	2.19E-03	1.05E-01	4.09E-06	9.23E-03	1.30E-01	5.07E-06	1.14E-02	4.68E-03	1.82E-07	4.09E-04
Road 44	44	1900-2000	4.84E-02	1.49E-07	3.36E-04	9.58E-02	2.95E-07	2.16E-03	1.49E-01	4.59E-07	1.03E-03	9.04E-03	2.78E-08	6.26E-05
Road 44	44	2000-2100	4.04E-02	1.25E-07	2.81E-04	8.00E-02	2.47E-07	1.80E-03	1.24E-01	3.84E-07	8.64E-04	7.55E-03	2.33E-08	5.24E-05
Road 44	44	2100-2200	3.95E-02	9.19E-08	2.07E-04	7.82E-02	1.82E-07	1.32E-03	1.21E-01	2.83E-07	6.37E-04	7.38E-03	1.72E-08	3.86E-05
Road 44	44	2200-2300	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 44	44	2300-2400	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0000-0100	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0100-0200	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0200-0300	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0300-0400	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0400-0500	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0500-0600	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0600-0700	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0700-0800	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0800-0900	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	0900-1000	3.78E-02	7.51E-08	1.69E-04	7.48E-02	1.49E-07	1.08E-03	1.16E-01	2.31E-07	5.21E-04	7.06E-03	1.40E-08	3.16E-05
Road 45	45	1000-1100	9.58E-03	1.93E-07	8.66E-04	4.54E-02	9.14E-07	4.97E-03	2.58E-03	5.19E-08	2.33E-04			
Road 45	45	1100-1200	9.08E-03	1.73E-07	7.78E-04	4.51E-02	8.59E-07	3.86E-03	2.43E-03	4.64E-08	2.08E-04			
Road 45	45	1200-1300	1.07E-02	2.42E-07	1.09E-03	4.96E-02	1.12E-06	5.03E-03	2.88E-03	6.50E-08	2.92E-04			
Road 45	45	1300-1400	1.07E-02	2.42E-07	1.09E-03	4.96E-02	1.12E-06	5.03E-03	2.88E-03	6.50E-08	2.92E-04			
Road 45	45	1400-1500	1.08E-02	2.84E-07	1.28E-03	4.84E-02	1.28E-06	5.73E-03	5.91E-02	1.56E-06	7.01E-03	2.82E-03	7.44E-08	3.34E-04
Road 45	45	1500-1600	1.08E-02	2.84E-07	1.28E-03	4.84E-02	1.28E-06	5.73E-03	5.91E-02	1.56E-06	7.01E-03	2.82E-03	7.44E-08	3.34E-04
Road 45	45	1600-1700	1.08E-02	2.84E-07	1.28E-03	4.84E-02	1.28E-06	5.73E-03	5.91E-02	1.56E-06	7.01E-03	2.82E-03	7.44E-08	3.34E-04
Road 45	45	1700-1800	9.28E-03	2.79E-07	1.25E-03	4.91E-02	1.48E-06	6.63E-03	8.46E-02	2.54E-06	1.14E-02	3.12E-03	9.39E-08	4.22E-04
Road 45	45	1800-1900	9.58E-03	3.48E-07	1.56E-03	5.07E-02	1.84E-06	8.25E-03	8.73E-02	3.17E-06	1.42E-02	3.22E-03	1.17E-07	5.25E-04
Road 45	45	1900-2000	4.66E-03	1.23E-07	5.52E-04	2.02E-02	5.34E-07	3.91E-03	9.14E-04	2.41E-08	1.77E-04	1.56E-03	4.13E-08	3.02E-04
Road 45	45	2000-2100	4.44E-03	9.12E-08	4.09E-04	3.27E-02	6.71E-07	4.92E-03	8.71E-04	1.79E-08	1.31E-04	1.49E-03	3.06E-08	2.24E-04
Road 45	45	2100-2200	4.24E-03	7.51E-08	3.38E-04	3.12E-02	5.53E-07	4.06E-03	8.32E-04	1.47E-08	1.08E-04	1.42E-03	2.52E-08	1.85E-04
Road 45	45	2200-2300	3.78E-03	7.51E-08	3.38E-04	3.21E-02	6.39E-07	2.87E-03	3.59E-02	7.14E-07	3.21E-03	9.14E-04	1.82E-08	8.17E-05
Road 45	45	2300-0000	4.21E-03	6.26E-08	2.81E-04	3.31E-02	4.92E-07	2.21E-03	3.73E-02	5.54E-07	2.49E-03	1.04E-03	1.55E-08	6.96E-05
Road 46	46	0000-0100	4.21E-03	6.26E-08	2.81E-04	3.31E-02	4.92E-07	2.21E-03	3.73E-02	5.54E-07	2.49E-03	1.04E-03	1.55E-08	6.96E-05
Road 46	46	0100-0200	4.58E-03	1.04E-08	7.07E-05	3.49E-02	7.93E-08	5.38E-04	3.94E-02	8.97E-08	6.08E-04	1.22E-03	2.55E-09	1.73E-05
Road 46	46	0200-0300	5.06E-03	8.39E-09	5.69E-05	3.66E-02	6.07E-08	4.12E-04	4.16E-02	6.91E-08	4.69E-04	1.24E-03	2.06E-09	1.40E-05
Road 46	46	0300-0400	5.32E-03	1.32E-09	9.04E-06	3.75E-02	9.34E-09	6.38E-05	4.25E-02	1.06E-08	7.24E-05	1.27E-03	3.17E-10	2.16E-06
Road 46	46	0400-0500	5.96E-03	8.55E-09	5.79E-05	3.89E-02	5.58E-08	3.78E-04	4.48E-02	6.43E-08	4.36E-04	1.48E-03	2.13E-09	1.44E-05
Road 46	46	0500-0600	6.41E-03	1.59E-08	1.08E-04	4.00E-02	9.95E-08	6.74E-04	4.65E-02	1.15E-07	7.82E-04	1.61E-03	3.99E-09	2.70E-05
Road 46	46	0600-0700	6.92E-03	1.92E-08	1.31E-04	4.12E-02	1.14E-07	7.79E-04	4.83E-02	1.34E-07	9.12E-04	1.74E-03	4.83E-09	3.28E-05
Road 46	46	0700-0800	7.33E-03	7.87E-08	5.34E-04	4.23E-02	4.54E-07	3.08E-03	4.96E-02	5.33E-07	3.61E-03	1.86E-03	2.00E-08	1.35E-04
Road 46	46	0800-0900	7.02E-03	8.73E-08	5.92E-04	3.76E-02	4.68E-07	3.17E-03	4.66E-02	5.56E-07	3.77E-03	1.83E-03	2.28E-08	1.54E-04
Road 46	46	0900-1000	6.48E-03	1.44E-07	4.44E-04	3.46E-02	7.68E-07	2.37E-03	4.46E-02	9.91E-07	3.04E-03	1.69E-03	3.75E-08	1.16E-04
Road 46	46	1000-1100	9.09E-03	7.93E-08	5.37E-04	4.36E-02	3.80E-07	2.58E-03	5.27E-02	4.60E-07	3.12E-03	2.46E-03	2.14E-08	1.45E-04
Road 46	46	1100-1200	8.60E-03	7.11E-08	4.82E-04	4.35E-02	3.60E-07	2.44E-03	4.32E-02	3.57E-07	2.42E-03	2.33E-03	1.93E-08	1.30E-04
Road 46	46	1200-1300	1.17E-02	2.88E-07	6.49E-04	5.32E-02	1.31E-06	2.95E-03	6.03E-02	1.48E-06	3.35E-03	3.17E-03	7.80E-08	1.76E-04
Road 46	46	1300-1400	1.18E-02	1.32E-07	8.97E-04	5.11E-02	5.72E-07	3.89E-03	5.75E-02	6.44E-07	4.37E-03	3.26E-03	3.66E-08	2.48E-04
Road 46	46	1400-1500	1.18E-02	1.32E-07	8.97E-04	5.75E-02	3.90E-03	2.63E-04	6.47E-02	4.34E-03	2.94E-04	3.26E-03	2.19E-07	1.48E-02
Road 46	46	1500-1600	1.18E-02	1.32E-07	8.97E-04	5.75E-02	3.90E-03	2.63E-04	6.47E-02	4.34E-03	2.94E-04	3.26E-03	2.19E-07	1.48E-02
Road 46	46	1600-1700	1.16E-02	1.50E-07	1.02E-03	4.86E-02	6.27E-07	4.26E-03	6.03E-02	7.78E-07	5.29E-03	3.14E-03	4.07E-08	2.76E-04
Road 46	46	1700-1800	8.16E-03	1.19E-07	8.08E-04	4.19E-02	6.12E-07	4.15E-03	4.95E-02	7.23E-07	4.91E-03	2.64E-03	3.85E-08	2.61E-04
Road 46	46	1800-1900	9.00E-03	1.91E-07	1.30E-03	4.61E-02	9.79E-07	6.64E-03	5.45E-02	1.16E-06	7.85E-03	2.91E-03	6.17E-08	4.19E-04
Road 46	46	1900-2000	5.06E-03	6.35E-08	4.30E-04	3.06E-02	3.83E-07	2.60E-03	3.88E-02	4.87E-07	3.30E-03	1.64E-03	2.06E-08	1.40E-04
Road 46	46	2000-2100	4.90E-03	4.78E-08	3.24E-04	3.43E-02	3.34E-07	2.26E-03	3.92E-02	3.82E-07	2.59E-03	1.28E-03	1.24E-08	8.43E-05
Road 46	46	2100-2200	4.34E-03	4.22E-08	2.86E-04	3.35E-02	3.26E-07	2.21E-03	3.78E-02	3.68E-07	2.50E-03	1.13E-03	1.10E-08	7.48E-05
Road 46	46	2200-2300	4.28E-03	2.74E-08	2.16E-04	3.31E-02	2.12E-07	1.67E-03	3.73E-02	2.39E-07	1.88E-03	1.12E-03	7.18E-09	5.65E-05
Road 46	46	2300-0000	4.78E-03	3.38E-08	2.29E-04	3.49E-02	2.47E-07	1.67E-03	3.97E-02	2.81E-07	1.90E-03	1.21E-03	8.56E-09	5.80E-05
Road 47	47	0000-0100	7.36E-03	1.06E-08	1.21E-04	4.88E-02	7.06E-08	8.05E-04	5.61E-02	8.12E-08	9.26E-04	1.35E-03	1.95E-09	2.23E-05
Road 47	47	0100-0200	8.10E-03	5.46E-09	6.79E-05	5.46E-02	3.68E-08	4.58E-04	6.13E-02	4.13E-08	5.14E-04	1.48E-03	9.98E-10	1.24E-05
Road 47	47	0200-0300	8.65E-03	5.96E-09	6.79E-05	5.26E-02	3.62E-08	4.13E-04	6.13E-02	4.22E-08	4.81E-04	1.63E-03	1.12E-09	1.28E-05
Road 47	47	0300-0400	9.40E-03	5.12E-09	5.83E-05	5.48E-02	2.98E-08	3.40E-04	6.42E-02	3.49E-08	3.98E-04	1.78E-03	9.71E-10	1.11E-05
Road 47	47	0400-0500	1.01E-02	2.07E-09	2.37E-05	5.90E-02	1.21E-08	1.38E-04	6.91E-02	1.42E-08	1.62E-04	1.92E-03	3.93E-10	4.49E-06
Road 47	47	0500-0600	1.12E-02	1.17E-08	1.33E-04	6.02E-02	6.25E-08	7.12E-04	7.15E-02	7.41E-08	8.45E-04	2.11E-03	2.19E-09	2.50E-05
Road 47	47	0600-0700	1.24E-02	2.76E-08	3.15E-04	6.44E-02	1.43E-07	1.63E-03	7.68E-02	1.71E-07	1.95E-03	2.29E-03	5.10E-09	5.81E-05
Road 47	47	0700-0800	1.36E-02	1.70E-08	9.68E-04	6.87E-02	8.57E-08	4.88E-03	8.16E-02	1.02E-07	5.81E-03	2.52E-03	3.15E-09	1.79E-04
Road 47	47	0800-0900	1.36E-02	7.09E-08	8.09E-04	6.40E-02	3.35E-07	3.82E-03	7.75E-02	4.06E-07	4.63E-03	2.47E-03	1.29E-08	1.47E-04
Road 47	47	0900-1000	1.55E-02	6.71E-08	7.65E-04	7.23E-02	3.13E-07	3.56E-03	8.79E-02	3.80E-07	4.33E-03	2.92E-03	1.26E-08	1.44E-04
Road 47	47	1000-1100	1.79E-02	6.76E-08	7.91E-04	8.35E-02	3.15E-07	3.68E-03	9.56E-02	3.58E-07	4.19E-03	3.38E-03	1.27E-08	1.48E-04
Road 47	47	1100-1200	1.70E-02	6.05E-08	6.89E-04	7.71E-02	2.73E-07	3.12E-03	9.42E-02	3.34E-07	3.81E-03	3.15E-03	1.12E-08	1.27E-04
Road 47	47	1200-1300	1.97E-02	3.11E-07	3.55E-03	8.32E-02	1.31E-06	1.50E-02	1.03E-01	1.62E-06	1.85E-02	3.02E-03	4.76E-08	5.43E-04
Road 47	47	1300-1400	1.98E-02	2.97E-07	3.39E-03	8.52E-02	1.28E-06	1.46E-02	1.05E-01	1.58E-06	1.80E-02	3.08E-03	4.63E-08	5.28E-04
Road 47	47	1400-1500	2.02E-02	3.46E-07	3.95E-03	8.52E-02	1.46E-06	1.67E-02	1.05E-01	1.81E-06	2.06E-02	3.13E-03	5.37E-08	6.12E-04
Road 47	47	1500-1600	1.90E-02	3.33E-07	3.80E-03	8.61E-02	1.51E-06	1.72E-02	1.05E-01	1.84E-06	2.10E-02	3.02E-03	5.30E-08	6.04E-04

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (November) — Year 2043

Road Name	Road ID	Hour	NO2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMax					
			g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour	g/km/veh	g/s/m²	tonne/hour
Road 47	47	1600-1700	2.08E-02	3.94E-07	4.50E-03	8.47E-02	1.60E-06	1.83E-02	1.06E-01	2.00E-06	2.28E-02	3.19E-03	6.04E-08	6.89E-04
Road 47	47	1700-1800	1.48E-02	3.24E-07	3.69E-03	7.21E-02	1.58E-06	1.80E-02	8.88E-02	1.91E-06	2.17E-02	2.30E-03	5.04E-08	5.74E-04
Road 47	47	1800-1900	1.07E-02	2.66E-07	3.03E-03	5.26E-02	1.30E-06	1.49E-02	6.33E-02	1.57E-06	1.79E-02	1.67E-03	4.14E-08	4.72E-04
Road 47	47	1900-2000	8.57E-03	1.70E-07	1.93E-03	4.82E-02	9.55E-07	1.09E-02	5.68E-02	1.12E-06	1.28E-02	1.35E-03	2.67E-08	3.05E-04
Road 47	47	2000-2100	7.93E-03	1.22E-07	1.39E-03	5.17E-02	7.94E-07	9.05E-03	5.96E-02	9.16E-07	1.04E-02	1.25E-03	1.92E-08	2.19E-04
Road 47	47	2100-2200	6.63E-03	1.02E-07	1.16E-03	4.95E-02	7.61E-07	8.67E-03	5.62E-02	8.63E-07	9.83E-03	1.04E-03	1.60E-08	1.82E-04
Road 47	47	2200-2300	6.22E-03	9.30E-08	1.06E-03	4.82E-02	7.22E-07	8.22E-03	5.46E-02	8.15E-07	9.29E-03	1.04E-03	1.42E-08	1.62E-04
Road 47	47	2300-0000	6.57E-03	7.33E-08	8.35E-04	4.82E-02	5.38E-07	6.13E-03	5.48E-02	6.11E-07	6.96E-03	1.09E-03	1.18E-08	1.34E-04
Road 48	48	0000-0100	4.52E-03	3.75E-08	2.07E-04	3.42E-02	2.84E-07	1.56E-03	3.88E-02	3.22E-07	1.77E-03	1.13E-03	9.35E-09	5.15E-05
Road 48	48	0100-0200	4.56E-03	2.67E-08	2.07E-04	3.45E-02	2.02E-07	1.56E-03	3.92E-02	2.29E-07	1.77E-03	1.14E-03	6.65E-09	5.18E-05
Road 48	48	0200-0300	5.43E-03	2.14E-08	1.18E-04	3.71E-02	1.46E-07	8.04E-04	4.25E-02	1.67E-07	9.22E-04	1.37E-03	5.39E-09	2.97E-05
Road 48	48	0300-0400	5.89E-03	1.83E-08	1.01E-04	3.83E-02	1.19E-07	6.55E-04	4.41E-02	1.37E-07	7.56E-04	1.49E-03	4.63E-09	2.55E-05
Road 48	48	0400-0500	6.41E-03	1.99E-08	1.10E-04	3.96E-02	1.23E-07	6.78E-04	4.56E-02	1.42E-07	7.82E-04	1.62E-03	5.03E-09	2.77E-05
Road 48	48	0500-0600	6.81E-03	4.02E-08	2.21E-04	4.06E-02	2.40E-07	1.32E-03	4.74E-02	2.80E-07	1.54E-03	1.74E-03	1.03E-08	5.66E-05
Road 48	48	0600-0700	7.30E-03	9.24E-08	5.09E-04	4.22E-02	5.34E-07	2.94E-03	4.95E-02	6.26E-07	3.45E-03	1.87E-03	2.36E-08	1.30E-04
Road 48	48	0700-0800	7.73E-03	1.98E-07	1.09E-03	4.29E-02	1.10E-06	6.07E-03	5.03E-02	1.29E-06	7.13E-03	2.26E-03	5.79E-08	3.19E-04
Road 48	48	0800-0900	7.38E-03	2.18E-07	1.20E-03	5.83E-02	1.72E-06	9.45E-03	6.24E-02	1.84E-06	1.01E-02	3.06E-03	9.04E-08	4.98E-04
Road 48	48	0900-1000	8.45E-03	2.05E-07	1.13E-03	4.23E-02	1.03E-06	5.65E-03	5.07E-02	1.23E-06	6.77E-03	2.32E-03	5.61E-08	3.09E-04
Road 48	48	1000-1100	7.96E-03	2.70E-07	1.49E-03	4.26E-02	1.44E-06	7.97E-03	5.04E-02	1.71E-06	9.42E-03	2.72E-03	9.22E-08	5.08E-04
Road 48	48	1100-1200	9.14E-03	1.81E-07	9.98E-04	4.45E-02	8.85E-07	4.87E-03	5.37E-02	1.06E-06	5.82E-03	2.88E-03	5.70E-08	3.14E-04
Road 48	48	1200-1300	1.50E-02	2.89E-07	1.59E-03	5.07E-02	9.77E-07	5.37E-03	6.14E-02	1.18E-06	6.47E-03	3.58E-03	6.91E-08	3.80E-04
Road 48	48	1300-1400	1.50E-02	2.89E-07	1.59E-03	5.07E-02	9.77E-07	5.37E-03	6.14E-02	1.18E-06	6.47E-03	3.58E-03	6.91E-08	3.80E-04
Road 48	48	1400-1500	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	7.09E-02	1.53E-06	8.43E-03	4.03E-03	8.70E-08	4.79E-04
Road 48	48	1500-1600	1.38E-02	2.99E-07	1.65E-03	5.71E-02	1.23E-06	6.79E-03	7.09E-02	1.53E-06	8.43E-03	4.03E-03	8.70E-08	4.79E-04
Road 48	48	1600-1700	1.41E-02	3.16E-07	1.74E-03	5.42E-02	1.21E-06	6.68E-03	6.83E-02	1.53E-06	8.42E-03	3.97E-03	8.89E-08	4.90E-04
Road 48	48	1700-1800	1.24E-02	3.01E-07	1.66E-03	5.74E-02	1.39E-06	7.67E-03	7.24E-02	1.75E-06	9.68E-03	3.56E-03	8.62E-08	4.75E-04
Road 48	48	1800-1900	7.38E-03	1.82E-07	1.00E-03	3.50E-02	8.62E-07	4.75E-03	4.24E-02	1.04E-06	5.75E-03	2.13E-03	5.25E-08	2.89E-04
Road 48	48	1900-2000	6.48E-03	1.26E-07	6.93E-04	3.30E-02	6.41E-07	3.53E-03	3.95E-02	7.67E-07	4.22E-03	1.82E-03	3.54E-08	1.95E-04
Road 48	48	2000-2100	6.08E-03	8.78E-08	4.84E-04	3.48E-02	5.08E-07	2.80E-03	4.03E-02	5.82E-07	3.21E-03	1.61E-03	2.33E-08	1.28E-04
Road 48	48	2100-2200	6.07E-03	9.11E-08	5.02E-04	3.56E-02	5.35E-07	2.95E-03	4.17E-02	6.26E-07	3.45E-03	1.72E-03	2.58E-08	1.42E-04
Road 48	48	2200-2300	6.03E-03	8.78E-08	4.84E-04	3.48E-02	5.08E-07	2.80E-03	4.03E-02	5.82E-07	3.21E-03	1.61E-03	2.33E-08	1.31E-04
Road 48	48	2300-0000	6.03E-03	8.78E-08	4.84E-04	3.48E-02	5.08E-07	2.80E-03	4.03E-02	5.82E-07	3.21E-03	1.61E-03	2.33E-08	1.31E-04
Road 49	49	0000-0100	6.13E-03	3.38E-08	3.12E-04	4.54E-02	2.50E-07	2.31E-03	5.15E-02	2.84E-07	2.62E-03	9.84E-04	5.43E-09	5.00E-05
Road 49	49	0100-0200	6.20E-03	2.22E-08	2.04E-04	4.44E-02	1.59E-07	1.46E-03	5.06E-02	1.81E-07	1.66E-03	1.06E-03	3.80E-09	3.50E-05
Road 49	49	0200-0300	6.68E-03	1.74E-08	1.72E-04	4.66E-02	1.21E-07	1.20E-03	5.32E-02	1.38E-07	1.37E-03	1.14E-03	2.97E-09	2.94E-05
Road 49	49	0300-0400	7.31E-03	1.50E-08	1.38E-04	4.76E-02	9.74E-08	8.97E-04	5.49E-02	1.12E-07	1.04E-03	1.28E-03	2.63E-09	2.42E-05
Road 49	49	0400-0500	7.94E-03	1.78E-08	1.64E-04	4.93E-02	1.10E-07	1.02E-03	5.72E-02	1.28E-07	1.18E-03	1.41E-03	3.14E-09	2.90E-05
Road 49	49	0500-0600	8.26E-03	2.09E-08	2.01E-04	5.13E-02	1.30E-07	1.25E-03	5.95E-02	1.51E-07	1.45E-03	1.56E-03	3.94E-09	3.57E-05
Road 49	49	0600-0700	1.16E-02	9.54E-08	8.79E-04	6.26E-02	5.16E-07	4.75E-03	7.41E-02	6.11E-07	5.63E-03	1.81E-03	1.50E-08	1.38E-04
Road 49	49	0700-0800	1.54E-02	2.56E-07	2.36E-03	7.57E-02	1.26E-06	1.16E-02	9.11E-02	1.51E-06	3.99E-02	2.55E-03	4.25E-08	3.91E-04
Road 49	49	0800-0900	1.72E-02	2.65E-07	2.44E-03	8.00E-02	1.23E-06	1.13E-02	9.72E-02	1.49E-06	1.37E-02	2.42E-03

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 11	11	0000-0100	2.35E-02	1.83E-07	7.56E-04	1.16E-06	9.03E-12	1.53E-03	4.54E-03	3.53E-08	4.95E-05			
Road 11	11	0100-0200	2.60E-02	1.35E-07	1.89E-04	1.31E-01	6.76E-07	9.47E-04	1.50E-03	7.76E-09	1.09E-05	6.62E-06	3.67E-11	9.25E-09
Road 11	11	0200-0300	2.89E-02	1.12E-07	1.57E-04	1.38E-01	5.34E-07	7.48E-04	1.67E-01	6.46E-07	9.04E-04	5.60E-03	2.16E-08	3.03E-05
Road 11	11	0300-0400	3.21E-02	1.24E-07	1.74E-04	1.45E-01	6.36E-07	8.90E-04	1.77E-01	6.84E-07	9.57E-04	7.76E-03	2.99E-08	4.19E-05
Road 11	11	0400-0500	3.33E-02	1.14E-07	1.59E-04	1.51E-01	5.14E-07	7.19E-04	1.84E-01	6.27E-07	8.79E-04	6.41E-03	2.19E-08	3.06E-05
Road 11	11	0500-0600	3.38E-02	1.94E-07	2.72E-04	1.58E-01	9.08E-07	1.27E-03	1.92E-01	1.10E-06	1.54E-03	6.51E-03	3.74E-08	5.24E-05
Road 11	11	0600-0700	3.63E-02	2.72E-07	3.81E-04	1.78E-01	2.08E-06	2.92E-03	2.09E-01	2.52E-06	3.53E-03	6.98E-03	8.18E-08	1.15E-04
Road 11	11	0700-0800	4.78E-02	1.19E-06	1.67E-03	2.04E-01	5.10E-06	7.14E-03	2.52E-01	6.29E-06	8.81E-03	8.83E-03	1.95E-07	2.73E-04
Road 11	11	0800-0900	4.81E-02	1.38E-06	1.94E-03	1.92E-01	5.52E-06	7.73E-03	2.40E-01	6.90E-06	9.66E-03	6.52E-03	1.87E-07	2.63E-04
Road 11	11	0900-1000	5.61E-02	1.56E-06	2.19E-03	1.71E-01	4.75E-06	6.65E-03	2.14E-01	5.94E-06	8.31E-03	5.47E-03	1.52E-07	2.13E-04
Road 11	11	1000-1100	6.03E-02	1.30E-06	1.82E-03	2.14E-01	4.61E-06	6.46E-03	2.74E-01	5.91E-06	8.28E-03	6.42E-03	1.39E-07	1.94E-04
Road 11	11	1100-1200	5.88E-02	1.20E-06	1.69E-03	2.11E-01	4.31E-06	6.04E-03	2.69E-01	5.51E-06	7.72E-03	6.12E-03	1.25E-07	1.76E-04
Road 11	11	1200-1300	7.74E-02	1.84E-06	2.58E-03	2.67E-01	6.34E-06	8.88E-03	3.34E-01	7.95E-06	1.11E-02	7.91E-03	1.88E-07	2.63E-04
Road 11	11	1300-1400	8.07E-02	2.01E-06	2.82E-03	2.73E-01	6.79E-06	9.52E-03	3.53E-01	8.80E-06	1.23E-02	7.61E-03	1.90E-07	2.66E-04
Road 11	11	1400-1500	8.02E-02	2.09E-06	2.93E-03	2.70E-01	7.05E-06	9.87E-03	3.58E-01	9.14E-06	1.28E-02	7.86E-03	2.05E-07	2.87E-04
Road 11	11	1500-1600	8.01E-02	2.09E-06	2.93E-03	2.70E-01	7.06E-06	9.88E-03	3.58E-01	9.15E-06	1.28E-02	7.85E-03	2.05E-07	2.87E-04
Road 11	11	1600-1700	7.65E-02	2.11E-06	2.96E-03	2.61E-01	7.22E-06	1.01E-02	3.38E-01	9.33E-06	1.31E-02	7.87E-03	2.17E-07	3.05E-04
Road 11	11	1700-1800	6.26E-02	1.87E-06	2.62E-03	2.42E-01	7.23E-06	1.01E-02	3.04E-01	9.11E-06	1.28E-02	7.93E-03	2.38E-07	3.33E-04
Road 11	11	1800-1900	4.37E-02	1.34E-06	1.88E-03	2.13E-01	6.54E-06	9.16E-03	2.77E-01	8.50E-06	1.19E-02	7.87E-03	2.42E-07	3.39E-04
Road 11	11	1900-2000	3.07E-02	7.20E-07	1.01E-03	1.39E-01	3.25E-06	4.55E-03	1.69E-01	3.97E-06	5.56E-03	4.49E-03	1.05E-07	1.47E-04
Road 11	11	2000-2100	3.00E-02	5.50E-07	7.71E-04	1.43E-01	2.63E-06	3.68E-03	1.74E-01	3.18E-06	4.45E-03	4.34E-03	7.95E-08	1.11E-04
Road 11	11	2100-2200	2.95E-02	5.42E-07	7.57E-04	1.44E-01	2.66E-06	3.72E-03	1.75E-01	3.22E-06	4.50E-03	4.27E-03	7.85E-08	1.10E-04
Road 11	11	2200-2300	2.69E-02	4.93E-07	6.63E-04	1.36E-01	2.49E-06	3.36E-03	1.63E-01	2.99E-06	4.03E-03	4.10E-03	7.52E-08	1.01E-04
Road 11	11	2300-0000	2.88E-02	3.86E-07	5.40E-04	1.40E-01	1.87E-06	2.62E-03	3.17E-03	4.51E-03	6.03E-08	8.45E-05		
Road 12	12	0000-0100	2.25E-01	1.41E-07	1.27E-03	4.72E-01	2.96E-07	4.27E-03	3.93E-03	2.08E-02	1.31E-08	1.17E-04		
Road 12	12	0100-0200	2.12E-01	1.04E-07	1.50E-03	4.88E-01	2.40E-07	3.46E-03	3.82E-03	1.88E-02	2.71E-08	3.91E-04		
Road 12	12	0200-0300	2.36E-01	1.41E-07	1.27E-03	4.88E-01	2.91E-07	2.62E-03	7.24E-01	4.32E-07	3.89E-03	2.16E-02	1.29E-08	1.16E-04
Road 12	12	0300-0400	2.38E-01	1.41E-07	1.26E-03	4.92E-01	2.91E-07	2.61E-03	7.30E-01	4.32E-07	3.89E-03	2.16E-02	1.29E-08	1.16E-04
Road 12	12	0400-0500	2.32E-01	1.42E-07	1.28E-03	4.86E-01	2.98E-07	2.68E-03	7.18E-01	4.40E-07	3.96E-03	2.13E-02	1.31E-08	1.18E-04
Road 12	12	0500-0600	2.32E-01	1.42E-07	1.28E-03	4.86E-01	2.98E-07	2.68E-03	7.18E-01	4.40E-07	3.96E-03	2.13E-02	1.31E-08	1.18E-04
Road 12	12	0600-0700	2.32E-01	1.54E-07	1.39E-03	4.96E-01	3.30E-07	2.97E-03	7.57E-01	4.84E-07	4.37E-03	2.16E-02	1.43E-08	1.29E-04
Road 12	12	0700-0800	2.83E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.77E-01	2.12E-06	1.91E-02	8.24E-03	1.99E-07	1.79E-04
Road 12	12	0800-0900	2.83E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.77E-01	2.12E-06	1.91E-02	8.24E-03	1.99E-07	1.79E-04
Road 12	12	0900-1000	2.86E-01	6.86E-07	6.17E-03	5.94E-01	1.42E-06	1.28E-02	8.85E-01	2.12E-06	1.91E-02	8.23E-03	1.97E-07	1.78E-04
Road 12	12	1000-1100	2.90E-01	6.88E-07	6.19E-03	6.06E-01	1.44E-06	1.29E-02	8.97E-01	2.12E-06	1.91E-02	8.35E-03	1.98E-07	1.78E-04
Road 12	12	1100-1200	2.90E-01	6.88E-07	6.19E-03	6.06E-01	1.44E-06	1.29E-02	8.97E-01	2.12E-06	1.91E-02	8.35E-03	1.98E-07	1.78E-04
Road 12	12	1200-1300	2.90E-01	6.89E-07	6.20E-03	6.04E-01	1.44E-06	1.29E-02	8.94E-01	2.12E-06	1.91E-02	8.32E-03	1.98E-07	1.78E-04
Road 12	12	1300-1400	2.89E-01	6.89E-07	6.20E-03	6.04E-01	1.44E-06	1.29E-02	8.94E-01	2.12E-06	1.91E-02	8.32E-03	1.98E-07	1.78E-04
Road 12	12	1400-1500	2.86E-01	6.87E-07	6.18E-03	6.00E-01	1.44E-06	1.29E-02	8.86E-01	2.13E-06	1.91E-02	8.33E-03	1.99E-07	1.79E-04
Road 12	12	1500-1600	2.86E-01	6.87E-07	6.18E-03	6.00E-01	1.44E-06	1.29E-02	8.86E-01	2.13E-06	1.91E-02	8.33E-03	1.99E-07	1.79E-04
Road 12	12	1600-1700	2.83E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.29E-02	8.77E-01	2.13E-06	1.91E-02	8.24E-03	1.99E-07	1.79E-04
Road 12	12	1700-1800	2.83E-01	6.86E-07	6.17E-03	5.94E-01	1.44E-06	1.30E-02	8.77E-01	2.13E-06	1.91E-02	8.22E-03	1.99E-07	1.79E-04
Road 12	12	1800-1900	2.80E-01	6.79E-07	6.11E-03	5.84E-01	1.42E-06	1.28E-02	8.65E-01	2.10E-06	1.89E-02	8.22E-03	1.99E-07	1.79E-04
Road 12	12	1900-2000	2.80E-01	6.80E-07	6.11E-03	5.84E-01	1.42E-06	1.28E-02	8.65E-01	2.10E-06	1.89E-02	8.22E-03	1.99E-07	1.79E-04
Road 12	12	2000-2100	2.14E-01	1.52E-07	1.37E-03	4.61E-01	3.28E-07	2.95E-03	6.75E-01	4.80E-07	4.32E-03	1.93E-02	1.37E-08	1.24E-04
Road 12	12	2100-2200	2.14E-01	1.52E-07	1.37E-03	4.61E-01	3.28E-07	2.95E-03	6.75E-01	4.80E-07	4.32E-03	1.93E-02	1.37E-08	1.24E-04
Road 12	12	2200-2300	2.12E-01	1.43E-07	1.28E-03	4.51E-01	3.03E-07	2.73E-03	6.63E-01	4.46E-07	4.01E-03	1.97E-02	1.33E-08	1.19E-04
Road 12	12	2300-0000	2.12E-01	1.43E-07	1.28E-03	4.51E-01	3.03E-07	2.73E-03	6.63E-01	4.46E-07	4.01E-03	1.97E-02	1.33E-08	1.19E-04
Road 13	13	0000-0100	2.24E-01	1.40E-07	1.26E-03	4.65E-01	2.91E-07	4.31E-03	9.94E-03	2.06E-02	1.29E-08	1.18E-04		
Road 13	13	0100-0200	2.11E-01	1.03E-07	1.49E-03	4.84E-01	2.37E-07	3.44E-03	9.48E-03	1.86E-02	2.69E-08	3.89E-04		
Road 13	13	0200-0300	2.35E-01	1.40E-07	1.26E-03	4.84E-01	2.89E-07	2.64E-03	7.19E-01	4.29E-07	3.91E-03	2.15E-02	1.28E-08	1.17E-04
Road 13	13	0300-0400	2.37E-01	1.40E-07	1.28E-03	4.88E-01	2.89E-07	2.63E-03	7.25E-01	4.29E-07	3.91E-03	2.15E-02	1.28E-08	1.17E-04
Road 13	13	0400-0500	2.31E-01	1.41E-07	1.27E-03	4.82E-01	2.96E-07	2.67E-03	7.13E-01	4.37E-07	3.94E-03	2.12E-02	1.30E-08	1.18E-04
Road 13	13	0500-0600	2.31E-01	1.41E-07	1.29E-03	4.78E-01	2.93E-07	2.68E-03	7.09E-01	4.35E-07	3.97E-03	2.11E-02	1.30E-08	1.18E-04
Road 13	13	0600-0700	2.28E-01	1.52E-07	1.39E-03	4.72E-01	3.14E-07	2.87E-03	7.02E-01	4.67E-07	4.26E-03	2.09E-02	1.39E-08	1.27E-04
Road 13	13	0700-0800	2.81E-01	6.80E-07	6.12E-03	5.89E-01	1.42E-06	1.28E-02	8.69E-01	2.10E-06	1.89E-02	8.16E-03	1.97E-07	1.77E-04
Road 13	13	0800-0900	2.81E-01	6.80E-07	6.12E-03	5.89E-01	1.42E-06	1.28E-02	8.69E-01	2.10E-06	1.89E-02	8.16E-03	1.97E-07	1.77E-04
Road 13	13	0900-1000	2.83E-01	6.79E-07	6.10E-03	5.94E-01	1.42E-06	1.28E-02	8.73E-01	2.10E-06	1.89E-02	8.20E-03	1.97E-07	1.77E-04
Road 13	13	1000-1100	2.88E-01	6.81E-07	6.22E-03	5.98E-01	1.41E-06	1.27E-02	8.85E-01	2.09E-06	1.88E-02	8.20E-03	1.96E-07	1.76E-04
Road 13	13	1100-1200	2.88E-01	6.81E-07	6.22E-03	5.98E-01	1.41E-06	1.27E-02	8.85E-01	2.09E-06	1.88E-02	8.20E-03	1.96E-07	1.76E-04
Road 13	13	1200-1300	2.87E-01	6.83E-07	6.23E-03	5.96E-01	1.42E-06	1.28E-02	8.83E-01	2.10E-06	1.89E-02	8.22E-03	1.97E-07	1.77E-04
Road 13	13	1300-1400	2.86E-01	6.84E-07	6.24E-03	5.95E-01	1.42E-06	1.28E-02	8.82E-01	2.11E-06	1.90E-02	8.22E-03	1.97E-07	1.77E-04
Road 13	13	1400-1500	2.84E-01	6.81E-07	6.21E-03	5.91E-01	1.42E-06	1.28E-02	8.78E-01	2.11E-06	1.90E-02	8.22E-03	1.97E-07	1.77E-04
Road 13	13	1500-1600	2.82E-01	6.76E-07	6.20E-03	5.90E-01	1.41E-06	1.28E-02	8.76E-01	2.09E-06	1.89E-02	8.21E-03	1.96E-07	1.77E-04
Road 13	13	1600-1700	2.82E-01	6.76E-07	6.20E-03	5.90E-01	1.41E-06	1.28E-02	8.76E-01	2.09E-06	1.89E-02	8.21E-03	1.96E-07	1.77E-04
Road 13	13	1700-1800	2.78E-01	6.67E-07	6.11E-03	5.84E-01	1.40E-06	1.28E-02	8.71E-01	2.08E-06	1.89E-02	8.21E-03	1.96E-07	1.77E-04
Road 13	13	1800-1900	2.78E-01	6.67E-07	6.11E-03	5.84E-01	1.40E-06	1.28E-02	8.71E-01	2.08E-06	1.89E-02	8.21E-03	1.96E-07	1.77E-04
Road 13	13	1900-2000	2.78E-01	6.67E-07	6.11E-03	5.84E-01	1.40E-06	1.28E-02	8.71E-01	2.08E-06	1.89E-02	8.21E-03	1.96E-07	1.77E-04
Road 13	13	2000-2100	2.11E-01	1.49E-07	1.35E-03	4.58E-01	3.22E-07	2.91E-03	6.71E-01	4.72E-07	4.28E-03	1.92E-02	1.35E-08	1.23E-04
Road 13	13	2100-2200	2.11E-01	1.49E-07	1.35E-03	4.58E-01	3.22E-07	2.91E-03	6.71E-01	4.72E-07	4.28E-03	1.92E-02	1.35E-08	1.23E-04
Road 13	13	2200-2300	2.12E-01	1.50E-07	1.37E-03	4.47E-01	3.16E-07	2.86E-03	6.59E-01	4.65E-07	4.25E-03	1.90E-02	1.34E-08	1.22E-04
Road 13	13	2300-0000	2.12E-01	1.50E-07	1.37E-03	4.47E-01	3.16E-07	2.86E-03	6.59E-01	4.65E-07	4.25E-03	1.90E-02	1.34E-08	1.22E-04
Road 14	14	0000-0100	1.39E-02	1.08E-07	6.71E-04	6.48E-02	5.01E-07	3.12E-03	7.87E-02	6.09E-07	3.79E-03	2.25E-02	1.74E-07	1.08E-03
Road 14	14	0100-0200	1.57E-02	8.06E-08	5.01E-04	6.71E-02	3.45E-07	2.15E-03	8.28E-02	4.25E-07	2.65E-03	2.62E-02	1.35E-07	8.39E-04
Road 14	14	0200-0300	1.78E-02	8.65E-08	1.14E-04	7.37E-02	3.58E-07	4.72E-04	3.25E-02	1.58E-07	2.08E-04	1.35E-02	6.56E-08	7.19E-05
Road 14	14	0300-0400	2.03E-02	6.29E-08	3.91E-04	7.66E-02	2.38E-07	1.48E-03	3.40E-03	1.06E-08	6.57E-05			
Road 14	14	0400-0500	2.04E-02	6.91E-08	4.30E-04	7.77E-02	2.64E-07	1.64E-03	9.81E-02	3.33E-07	2.07E-03	3.46E-03	1.17E-08	7.29E-05
Road 14	14	0500-0600	1.94E-02	1.12E-07	6.90E-04	7.34E-02	4.24E-07	2.61E-03	9.34E-02	5.63E-07	3.47E-03	3.29E-03	1.90E-08	1.17E-04
Road 14	14	0600-0700	2.06E-02	2.46E-07	1.53E-03	8.75E-02	1.05E-06	6.51E-03	1.08E-01	1.29E-06	8.04E-03	3.24E-02	3.87E-07	2.41E-03
Road 14	14	0700-0800	3.14E-02	7.76E-07	4.83E-03	1.18E-01	2.91E-06	1.81E-02	1.49E-01	3.69E-06	2.30E-02	4.13E-03	1.02E-07	6.37E-04

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Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 14	14	0800-0900	3.11E-02	8.89E-07	5.53E-03	1.16E-01	3.31E-06	2.06E-02	1.47E-01	4.19E-06	2.61E-02	4.06E-03	1.16E-07	7.22E-04
Road 14	14	0900-1000	3.55E-02	8.62E-07	5.37E-03	1.32E-01	3.20E-06	1.99E-02	1.67E-01	4.06E-06	2.53E-02	4.75E-03	1.15E-07	7.18E-04
Road 14	14	1000-1100	3.90E-02	8.35E-07	5.20E-03	1.38E-01	2.95E-06	1.83E-02	1.76E-01	3.78E-06	2.35E-02	5.28E-03	1.13E-07	7.04E-04
Road 14	14	1100-1200	3.66E-02	7.45E-07	4.63E-03	1.32E-01	2.68E-06	1.67E-02	1.69E-01	3.43E-06	2.13E-02	5.05E-03	1.03E-07	6.39E-04
Road 14	14	1200-1300	4.95E-02	1.17E-06	7.27E-03	1.67E-01	3.95E-06	2.46E-02	2.17E-01	5.12E-06	3.18E-02	6.50E-03	1.54E-07	9.55E-04
Road 14	14	1300-1400	5.19E-02	1.28E-06	7.95E-03	1.82E-01	4.48E-06	2.79E-02	2.34E-01	5.76E-06	3.58E-02	6.73E-03	1.66E-07	1.03E-03
Road 14	14	1400-1500	5.12E-02	1.32E-06	8.21E-03	1.76E-01	4.52E-06	2.81E-02	2.27E-01	5.84E-06	3.64E-02	6.71E-03	1.73E-07	1.06E-03
Road 14	14	1500-1600	4.97E-02	1.31E-06	8.18E-03	1.84E-01	4.86E-06	3.02E-02	2.33E-01	6.17E-06	3.84E-02	6.45E-03	1.71E-07	1.06E-03
Road 14	14	1600-1700	5.03E-02	1.37E-06	8.53E-03	1.73E-01	4.71E-06	2.93E-02	2.23E-01	6.08E-06	3.79E-02	6.42E-03	1.75E-07	1.09E-03
Road 14	14	1700-1800	3.82E-02	1.12E-06	6.98E-03	1.47E-01	4.30E-06	2.68E-02	1.89E-01	5.45E-06	3.39E-02	5.47E-03	1.60E-07	9.95E-04
Road 14	14	1800-1900	2.84E-02	8.59E-07	5.35E-03	1.08E-01	3.28E-06	2.04E-02	1.37E-01	4.14E-06	2.58E-02	3.70E-03	1.12E-07	6.96E-04
Road 14	14	1900-2000	1.82E-02	4.19E-07	2.61E-03	7.90E-02	1.82E-06	1.14E-02	9.80E-02	2.26E-06	1.40E-02	2.66E-03	6.12E-08	3.81E-04
Road 14	14	2000-2100	1.61E-02	2.80E-07	1.74E-03	7.05E-02	1.22E-06	7.60E-03	8.66E-02	1.51E-06	9.34E-03	2.35E-03	4.09E-08	2.54E-04
Road 14	14	2100-2200	1.61E-02	2.80E-07	1.80E-03	7.05E-02	1.22E-06	7.84E-03	8.66E-02	1.51E-06	9.64E-03	2.35E-03	4.09E-08	2.63E-04
Road 14	14	2200-2300	1.61E-02	2.80E-07	1.74E-03	7.65E-02	1.33E-06	8.25E-03	9.26E-02	1.61E-06	9.99E-03	2.34E-03	4.05E-08	2.52E-04
Road 14	14	2300-0000	1.66E-02	2.23E-07	1.38E-03	7.87E-02	1.06E-06	6.55E-03	9.52E-02	1.28E-06	7.92E-03	2.33E-03	3.13E-08	2.11E-04
Road 15	15	0000-0100	2.10E-02	4.62E-08	1.56E-04	7.29E-02	1.61E-07	5.43E-04	9.39E-02	2.07E-07	7.00E-04	3.36E-03	7.40E-09	2.50E-05
Road 15	15	0100-0200	2.64E-02	4.06E-08	1.37E-04	8.21E-02	1.26E-07	4.27E-04	1.09E-01	1.67E-07	5.64E-04	4.30E-03	6.61E-09	2.23E-05
Road 15	15	0200-0300	3.22E-02	3.87E-08	1.31E-04	1.00E-01	1.54E-07	5.21E-04	1.51E-01	1.82E-07	6.15E-04	5.24E-03	6.29E-09	2.11E-05
Road 15	15	0300-0400	3.59E-02	3.63E-08	1.23E-04	1.12E-01	1.40E-07	4.73E-04	1.68E-01	1.70E-07	5.74E-04	5.84E-03	5.90E-09	2.01E-05
Road 15	15	0400-0500	3.60E-02	3.89E-08	1.32E-04	1.01E-01	1.09E-07	3.69E-04	1.37E-01	1.48E-07	5.00E-04	5.81E-03	6.29E-09	2.12E-05
Road 15	15	0500-0600	2.78E-02	4.54E-08	1.37E-04	7.86E-02	1.28E-07	3.87E-04	1.06E-01	1.73E-07	5.22E-04	4.49E-03	7.33E-09	2.21E-05
Road 15	15	0600-0700	3.54E-02	2.50E-07	8.46E-04	1.10E-01	7.77E-07	2.62E-03	1.45E-01	1.03E-06	3.47E-03	5.05E-03	3.57E-08	1.21E-04
Road 15	15	0800-0900	3.39E-02	2.72E-07	9.20E-04	1.04E-01	8.39E-07	2.83E-03	1.38E-01	1.11E-06	3.75E-03	4.77E-03	3.84E-08	1.30E-04
Road 15	15	0900-1000	3.82E-02	2.62E-07	8.77E-04	1.16E-01	8.02E-07	2.68E-03	1.54E-01	1.06E-06	3.54E-03	5.63E-03	3.85E-08	1.29E-04
Road 15	15	1000-1100	4.13E-02	2.51E-07	8.47E-04	1.22E-01	7.40E-07	2.50E-03	1.63E-01	9.90E-07	3.35E-03	6.08E-03	3.69E-08	1.25E-04
Road 15	15	1100-1200	4.15E-02	2.41E-07	8.13E-04	1.23E-01	7.16E-07	2.41E-03	1.64E-01	9.54E-07	3.22E-03	6.05E-03	3.51E-08	1.18E-04
Road 15	15	1200-1300	5.24E-02	2.44E-07	8.24E-04	1.48E-01	6.91E-07	2.33E-03	2.08E-01	9.66E-07	3.26E-03	7.49E-03	3.48E-08	1.17E-04
Road 15	15	1300-1400	5.20E-02	2.54E-07	8.57E-04	1.54E-01	7.65E-07	2.58E-03	2.06E-01	1.01E-06	3.41E-03	7.49E-03	3.66E-08	1.24E-04
Road 15	15	1400-1500	5.32E-02	2.43E-07	8.13E-04	1.57E-01	7.18E-07	2.40E-03	2.11E-01	9.54E-07	3.22E-03	6.05E-03	3.51E-08	1.18E-04
Road 15	15	1500-1600	5.04E-02	2.45E-07	8.27E-04	1.49E-01	7.23E-07	2.44E-03	2.00E-01	9.61E-07	3.24E-03	6.01E-03	3.51E-08	1.18E-04
Road 15	15	1600-1700	5.04E-02	2.48E-07	8.37E-04	1.49E-01	7.32E-07	2.47E-03	2.00E-01	9.73E-07	3.28E-03	6.01E-03	3.55E-08	1.19E-04
Road 15	15	1700-1800	4.46E-02	2.48E-07	8.37E-04	1.32E-01	7.32E-07	2.47E-03	1.77E-01	9.73E-07	3.28E-03	5.32E-03	3.55E-08	1.19E-04
Road 15	15	1800-1900	3.63E-02	2.47E-07	8.34E-04	1.07E-01	7.29E-07	2.46E-03	1.44E-01	9.68E-07	3.27E-03	4.32E-03	3.53E-08	1.19E-04
Road 15	15	1900-2000	3.07E-02	1.24E-07	4.18E-04	9.04E-02	3.66E-07	1.23E-03	1.22E-01	4.93E-07	1.66E-03	3.65E-03	1.47E-08	4.96E-05
Road 15	15	2000-2100	2.97E-02	1.21E-07	4.08E-04	8.74E-02	3.58E-07	1.20E-03	1.18E-01	4.82E-07	1.62E-03	3.53E-03	1.44E-08	4.85E-05
Road 15	15	2100-2200	2.97E-02	1.21E-07	4.08E-04	8.74E-02	3.58E-07	1.20E-03	1.18E-01	4.82E-07	1.62E-03	3.53E-03	1.44E-08	4.85E-05
Road 15	15	2200-2300	2.96E-02	1.21E-07	4.06E-04	8.77E-02	3.59E-07	1.21E-03	1.17E-01	4.82E-07	1.62E-03	3.54E-03	1.45E-08	4.87E-05
Road 15	15	2300-0000	2.96E-02	1.21E-07	4.06E-04	8.77E-02	3.59E-07	1.21E-03	1.17E-01	4.82E-07	1.62E-03	3.54E-03	1.45E-08	4.87E-05
Road 16	16	0000-0100	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.86E-03	1.79E-03	9.31E-09	1.04E-04
Road 16	16	0100-0200	7.09E-03	3.69E-08	4.13E-04	4.20E-02	2.18E-07	2.44E-03	4.90E-02	2.55E-07	2.86E-03	1.79

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 37	37	1600-1700	5.64E-02	9.40E-09	0.96E-03	1.80E-03	2.81E-04	2.56E-01	4.30E-08	3.61E-05	6.54E-03	1.12E-09	9.23E-07	9.23E-07
Road 37	37	1700-1800	4.82E-02	8.68E-09	2.27E-06	1.93E-01	3.47E-08	3.64E-05	6.83E-03	1.23E-09	1.03E-06			
Road 37	37	1800-1900	3.24E-02	5.83E-09	4.88E-06	1.38E-01	2.49E-08	2.09E-05	1.71E-01	3.07E-08	2.58E-05	5.04E-03	9.07E-10	7.60E-07
Road 37	37	1900-2000	2.70E-02	1.35E-09	1.95E-06	1.25E-01	1.72E-08	1.48E-05	1.50E-01	1.76E-05	4.22E-03	5.85E-10	4.90E-07	
Road 37	37	2000-2100	2.76E-02	2.98E-09	2.50E-06	1.34E-01	1.44E-08	1.21E-05	1.61E-01	1.74E-05	1.46E-02	4.46E-10	3.74E-07	
Road 37	37	2100-2200	2.73E-02	2.96E-09	2.48E-06	1.36E-01	1.47E-08	1.23E-05	1.63E-01	1.77E-05	1.48E-05	4.28E-03	4.64E-10	3.89E-07
Road 37	37	2200-2300	2.41E-02	2.60E-09	2.18E-06	1.30E-01	1.40E-08	1.17E-05	1.56E-01	1.68E-05	1.41E-02	4.07E-03	4.41E-10	3.41E-07
Road 37	37	2300-0000	2.66E-02	2.06E-09	1.75E-06	1.33E-01	1.05E-08	8.76E-06	1.60E-01	1.26E-05	1.05E-02	4.13E-03	3.40E-10	2.85E-07
Road 38	38	0000-0100	4.97E-02	7.34E-08	2.19E-04	1.63E-01	2.42E-07	7.22E-04	2.31E-01	3.41E-07	9.41E-04	7.87E-03	1.16E-08	3.48E-05
Road 38	38	0100-0200	5.61E-02	6.28E-08	1.88E-04	1.86E-01	2.08E-07	6.22E-04	2.58E-01	2.89E-07	8.64E-04	8.93E-03	9.99E-09	2.99E-05
Road 38	38	0200-0300	6.25E-02	5.74E-08	1.72E-04	1.80E-01	1.65E-07	4.94E-04	2.42E-01	2.22E-07	6.65E-04	9.32E-03	8.56E-09	2.57E-05
Road 38	38	0300-0400	6.74E-02	5.48E-08	1.64E-04	1.86E-01	1.51E-07	4.52E-04	2.53E-01	2.06E-07	6.16E-04	1.07E-02	8.72E-09	2.60E-05
Road 38	38	0400-0500	7.19E-02	5.81E-08	1.74E-04	1.93E-01	1.56E-07	4.67E-04	2.62E-01	2.12E-07	6.34E-04	1.16E-02	9.35E-09	2.79E-05
Road 38	38	0500-0600	6.22E-02	7.63E-08	2.28E-04	1.93E-01	2.37E-07	7.09E-04	2.56E-01	3.13E-07	9.37E-04	7.95E-03	9.75E-09	2.92E-05
Road 38	38	0600-0700	5.70E-02	1.26E-07	3.77E-04	1.77E-01	3.91E-07	1.17E-03	2.35E-01	5.19E-07	1.55E-03	7.30E-03	1.61E-08	4.82E-05
Road 38	38	0700-0800	7.24E-02	4.25E-07	1.27E-03	2.20E-01	1.29E-06	3.85E-03	2.92E-01	1.71E-06	5.12E-03	9.36E-03	5.49E-08	1.64E-04
Road 38	38	0800-0900	7.24E-02	4.25E-07	1.27E-03	2.30E-01	1.35E-06	4.04E-03	2.98E-01	1.75E-06	5.24E-03	9.64E-03	5.66E-08	1.69E-04
Road 38	38	0900-1000	7.91E-02	4.31E-07	1.29E-03	2.33E-01	1.27E-06	3.79E-03	3.12E-01	1.70E-06	5.08E-03	9.44E-03	5.14E-08	1.54E-04
Road 38	38	1000-1100	8.36E-02	4.25E-07	1.27E-03	2.38E-01	1.21E-06	3.61E-03	3.29E-01	1.67E-06	4.98E-03	9.38E-03	4.77E-08	1.42E-04
Road 38	38	1100-1200	8.45E-02	4.11E-07	1.23E-03	2.40E-01	1.17E-06	3.49E-03	3.25E-01	1.58E-06	4.71E-03	9.85E-03	4.79E-08	1.43E-04
Road 38	38	1200-1300	1.05E-01	2.89E-07	8.64E-04	2.62E-01	7.22E-07	2.16E-03	3.63E-01	1.01E-06	3.02E-03	1.31E-02	3.60E-08	1.07E-04
Road 38	38	1300-1400	1.06E-01	3.09E-07	9.11E-04	2.70E-01	7.87E-07	2.32E-03	3.76E-01	1.09E-06	3.22E-03	1.34E-02	3.91E-08	1.15E-04
Road 38	38	1400-1500	1.04E-01	3.02E-07	9.02E-04	2.67E-01	7.74E-07	2.31E-03	3.72E-01	1.08E-06	3.21E-03	1.32E-02	3.84E-08	1.14E-04
Road 38	38	1500-1600	1.06E-01	3.10E-07	9.27E-04	2.74E-01	8.07E-07	2.41E-03	3.79E-01	1.12E-06	3.34E-03	1.29E-02	3.69E-08	1.10E-04
Road 38	38	1600-1700	1.04E-01	2.99E-07	8.94E-04	2.64E-01	7.64E-07	2.28E-03	3.68E-01	1.06E-06	3.18E-03	1.28E-02	3.72E-08	1.11E-04
Road 38	38	1700-1800	1.01E-01	2.91E-07	8.68E-04	2.56E-01	7.41E-07	2.21E-03	3.57E-01	1.03E-06	3.08E-03	1.24E-02	3.58E-08	1.07E-04
Road 38	38	1800-1900	9.17E-02	2.41E-07	7.19E-04	2.32E-01	6.08E-07	1.82E-03	3.24E-01	8.54E-07	2.54E-03	1.22E-02	3.20E-08	9.57E-05
Road 38	38	1900-2000	7.17E-02	8.67E-08	2.59E-04	2.08E-01	2.51E-07	7.49E-04	2.91E-01	3.51E-07	1.04E-03	1.11E-02	1.34E-08	3.99E-05
Road 38	38	2000-2100	7.30E-02	7.62E-08	2.28E-04	2.11E-01	2.19E-07	6.56E-04	2.84E-01	2.96E-07	8.83E-04	9.64E-03	1.00E-08	3.00E-05
Road 38	38	2200-2300	7.07E-02	2.09E-08	1.99E-05	1.97E-01	5.84E-08	1.66E-04	2.75E-01	8.13E-08	2.31E-04	9.32E-03	2.76E-09	7.84E-06
Road 38	38	2300-0000	5.54E-02	1.31E-07	3.91E-04	1.54E-01	3.64E-07	1.09E-03	2.15E-01	5.08E-07	1.52E-03	7.30E-03	1.72E-08	5.14E-05
Road 39	39	0000-0100	9.12E-02	1.80E-08	5.59E-05	2.89E-01	7.49E-08	2.33E-04	3.63E-01	6.68E-08	1.71E-04	9.52E-03	1.88E-08	5.32E-05
Road 39	39	0100-0200	9.28E-02	1.29E-08	3.99E-05	2.93E-01	5.33E-08	1.66E-04	8.82E-03	1.22E-09	3.79E-06	9.68E-03	1.34E-08	3.80E-05
Road 39	39	0200-0300	9.49E-02	1.32E-08	4.08E-05	2.99E-01	5.45E-08	1.69E-04	9.03E-03	1.25E-09	3.88E-06	9.90E-03	1.37E-08	3.89E-05
Road 39	39	0300-0400	9.56E-02	8.77E-09	2.72E-05	3.00E-01	3.63E-08	1.13E-04	9.05E-03	8.30E-10	2.58E-06	9.97E-03	9.13E-09	2.58E-05
Road 39	39	0400-0500	9.67E-02	1.04E-08	3.22E-05	3.03E-01	3.25E-08	1.01E-04	9.00E-03	9.31E-10	3.05E-06	9.91E-03	1.02E-08	2.89E-05
Road 39	39	0500-0600	9.67E-02	1.30E-08	4.03E-05	3.03E-01	4.07E-08	1.26E-04	9.00E-03	1.21E-09	3.74E-06	9.91E-03	1.33E-08	3.76E-05
Road 39	39	0600-0700	1.00E-01	4.49E-08	1.39E-04	3.13E-01	1.40E-07	4.37E-04	4.13E-01	1.85E-07	5.76E-04	9.41E-03	4.22E-09	1.31E-05
Road 39	39	0700-0800	1.01E-01	9.65E-08	3.00E-04	3.15E-01	3.02E-07	9.39E-04	4.16E-01	3.98E-07	1.24E-03	9.48E-03	9.09E-09	2.82E-05
Road 39	39	0800-0900	1.01E-01	1.38E-07	4.31E-04	3.15E-01	4.32E-07	1.34E-03	4.16E-01	5.69E-07	1.77E-03	9.48E-03	1.30E-08	4.04E-05
Road 39	39	0900-1000	1.06E-01	1.35E-07	4.20E-04	3.33E-01	4.23E-07	1.31E-03	4.39E-01	5.58E-07	1.73E-03	9.18E-03	1.17E-08	3.63E-05
Road 39	39	1000-1100	1.06E-01	1.32E-07	4.11E-04	3.26E-01	4.06E-07	1.26E-03	4.30E-01	5.36E-07	1.67E-03	9.60E-03	1.20E-08	3.72E-05
Road 39	39	1100-1200	1.06E-01	1.34E-07	4.18E-04	3.29E-01	4.14E-07	1.29E-03	4.34E-01	5.46E-07	1.70E-03	9.49E-03	1.19E-08	3.71E-05
Road 39	39	1200-1300	4.17E-02	1.34E-08	4.18E-05	1.59E-01	5.14E-08	1.60E-04	2.01E-01	6.48E-08	2.01E-04	5.08E-03	1.64E-09	5.09E-06
Road 39	39	1300-1400	4.49E-02	1.49E-08	4.64E-05	1.70E-01	5.65E-08	1.76E-04	2.15E-01	7.15E-08	2.22E-04	5.46E-03	1.81E-09	5.63E-06
Road 39	39	1400-1500	4.49E-02	1.49E-08	4.64E-05	1.70E-01	5.65E-08	1.76E-04	2.15E-01	7.15E-08	2.22E-04	5.46E-03	1.81E-09	5.63E-06
Road 39	39	1500-1600	4.47E-02	1.62E-08	5.02E-05	1.73E-01	6.26E-08	1.94E-04	2.18E-01	7.87E-08	2.45E-04	5.13E-03	1.86E-09	5.77E-06
Road 39	39	1600-1700	4.19E-02	1.56E-08	4.95E-05	1.63E-01	6.20E-08	1.93E-04	2.05E-01	7.79E-08	2.42E-04	5.66E-03	2.15E-09	6.68E-06
Road 39	39	1700-1800	4.22E-02	1.57E-08	5.02E-05	1.64E-01	6.24E-08	1.94E-04	2.06E-01	7.84E-08	2.43E-04	5.70E-03	2.16E-09	6.73E-06
Road 39	39	1800-1900	2.16E-02	9.89E-09	3.07E-05	1.09E-01	5.98E-08	1.86E-04	4.54E-03	2.08E-09	6.46E-06			
Road 39	39	1900-2000	1.79E-02	6.45E-09	2.01E-05	1.00E-01	3.61E-08	1.12E-04	1.18E-02	4.26E-09	1.32E-05	3.70E-03	1.33E-09	4.14E-06
Road 39	39	2000-2100	1.58E-02	5.68E-09	1.76E-05	9.27E-02	3.34E-08	1.03E-04	1.32E-02	4.75E-09	1.47E-05	3.26E-03	1.17E-09	3.65E-06
Road 39	39	2100-2200	1.76E-02	4.93E-09	1.53E-05	1.11E-01	3.61E-08	1.12E-04	3.73E-03	1.05E-09	3.26E-06			
Road 39	39	2200-2300	1.55E-02	4.20E-09	1.30E-05	1.05E-01	2.85E-08	8.85E-05	1.20E-02	3.27E-09	1.02E-05	3.64E-03	9.84E-10	2.81E-06
Road 39	39	2300-0000	1.58E-02	3.64E-09	1.13E-05	1.08E-01	2.49E-08	7.74E-05	1.22E-02	2.81E-09	8.74E-06	3.72E-03	8.56E-10	2.44E-06
Road 40	40	0000-0100	4.39E-02	1.27E-07	2.25E-04	1.54E-01	4.46E-07	1.29E-03	2.08E-01	6.02E-07	1.73E-03	7.19E-03	2.08E-08	3.69E-05
Road 40	40	0100-0200	5.20E-02	1.10E-07	1.95E-04	1.66E-01	3.52E-07	6.24E-04	2.18E-01	4.62E-07	8.19E-04	8.39E-03	1.78E-08	3.15E-05
Road 40	40	0200-0300	5.72E-02	1.06E-07	1.87E-04	1.76E-01	3.25E-07	5.76E-04	2.29E-01	4.26E-07	7.56E-04	8.93E-03	1.65E-08	2.92E-05
Road 40	40	0300-0400	6.26E-02	9.43E-08	1.67E-04	1.81E-01	2.72E-07	4.82E-04	2.37E-01	3.57E-07	6.32E-04	9.17E-03	1.38E-08	2.45E-05
Road 40	40	0400-0500	6.22E-02	9.95E-08	1.77E-04	1.84E-01	2.94E-07	5.22E-04	2.41E-01	3.86E-07	6.84E-04	9.20E-03	1.47E-08	2.61E-05
Road 40	40	0500-0600	5.68E-02	1.32E-07	2.35E-04	1.86E-01	4.33E-07	1.29E-03	2.44E-01	5.68E-07	1.69E-03	9.20E-03	2.14E-08	3.80E-05
Road 40	40	0600-0700	5.23E-02	2.29E-07	4.06E-04	1.83E-01	8.01E-07	2.38E-03	2.38E-01	1.04E-06	3.09E-03	9.06E-03	3.96E-08	7.03E-05
Road 40	40	0700-0800	7.26E-02	7.22E-07	1.28E-03	2.32E-01	2.30E-06	6.82E-03	2.94E-01	2.92E-06	8.65E-03	9.38E-03	9.32E-08	2.76E-04
Road 40	40	0800-0900	7.26E-02	7.22E-07	1.28E-03	2.32E-01	2.30E-06	6.82E-03	2.94E-01	2.92E-06	8.65E-03	9.38E-03	9.32E-08	2.76E-04
Road 40	40	0900-1000	8.58E-02	3.96E-07	1.17E-03	2.53E-01	1.17E-06	3.47E-03	3.18E-01	1.47E-06	4.35E-03	1.02E-02	4.71E-08	1.39E-04
Road 40	40	1000-1100	8.53E-02	7.93E-07	1.41E-03	2.46E-01	2.29E-06	4.07E-03	3.31E-01	3.08E-06	5.47E-03	9.60E-03	8.93E-08	1.58E-04
Road 40	40	1100-1200	8.63E-02	7.70E-07	1.37E-03	2.49E-01	2.29E-06	5.30E-03	9.56E-03	8.52E-08	1.51E-04			
Road 40	40	1200-1300	1.21E-01	2.98E-07	8.91E-04	3.62E-01	8.85E-07	2.64E-03	3.62E-01	8.85E-07	2.64E-03	1.27E-02	3.12E-08	9.31E-05
Road 40	40	1300-1400	1.05E-01	6.74E-07	1.20E-03	2.83E-01	1.81E-06	3.21E-03	3.89E-01	2.48E-06	4.41E-03	1.16E-02	7.42E-08	1.32E-04
Road 40	40	1400-1500	1.03E-01	6.71E-07	1.19E-03	2.76E-01	1.80E-06	3.20E-03	3.79E-01	2.47E-06	4.39E-03	1.16E-02	7.58E-08	1.35E-04
Road 40	40	1500-1600	1.03E-01	6.67E-07	1.22E-03	2.76E-01	1.80E-06	3.29E-03	3.79E-01	2.47E-06	4.51E-03	1.16E-02	7.58E-08	1.39E-04
Road 40	40	1600-1700	1.01E-01	6.69E-07	1.19E-03	2.73E-01	1.81E-06	3.22E-03	3.73E-01	2.48E-06	4.40E-03	1.15E-02	7.65E-08	1.36E-04
Road 40	40	1700-1800	9.33E-02	6.34E-07	1.13E-03	2.65E-01	1.80E-06	3.20E-03	3.58E-01	2.44E-06	4.33E-03	1.14E-02	7.73E-08	1.37E-04
Road 40	40	1800-1900	7.93E-02	5.21E-07	9.25E-04	2.18E-01	1.43E-06	2.54E-03	3.07E-01	2.02E-06	3.58E-03	7.74E-03	5.27E-08	2.89E-05
Road 40	40	1900-2000	4.90E-02	1.84E-07	3.27E-04	1.65E-01	6.20E-07	1.10E-03	1.90E-01	7.14E-07	1.27E-03	4.78E-03	1.80E-08	3.19E-05
Road 40	40	2000-2100	5.24E-02	1.61E-07	2.86E-04	1.75E-01	5.39E-07	9.57E-04	2.28E-01	7.00E-07	1.24E-03	7.13E-03	2.19E-08	3.89E-05
Road 40	40	2100-2200	5.22E-02	1.61E-07	2.87E-04	1.75E-01	5.39E-07	9.61E-04	2.28E-01	7.00E-07	1.24E-03	7.13E-03	2.19E-08	3.89E-05
Road 40	40	2200-2300	4.98E-02	1.47E-07	2.62E-04	1.67E-01	4.95E-07	8.78E-04	2.17E-01	6.42E-07	1.14E-03	6.80E-03	2.01E-08	3.56E-05
Road 40	40	2300-0000	5.44E-02	1.31E-07	2.33E-04	1.74E-01	4.19E-07	7.43E-04	2.28E-01	5.50E-07	9.76E-04	7.91E-03	1.91E-08	3.39E-05

Appendix 4.5 Calculation of Vehicular Emission (Scenario B)

Tsing Yi North Underground Quarry

Open Road 24 hour Emission Factors for AERMOD model (December) — Year 2043

Road Name	Road ID	Hour	NO_2 Emission						NO Emission					
			MonthlyHourMin			MonthlyHourAverage			MonthlyHourMin			MonthlyHourAverage		
			g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour	g/km/veh	g/s/m	tonne/hour
Road 41	41	0000-0100	1.62E-02	3.58E-09	1.03E-05	4.25E-02	1.20E-07	4.09E-04	7.05E-02	1.55E-07	5.32E-04	3.88E-03	8.59E-09	2.93E-05
Road 41	41	0100-0200	2.10E-02	3.35E-08	1.15E-04	6.21E-02	9.91E-08	3.39E-04	8.31E-02	1.33E-07	4.54E-04	5.02E-03	8.01E-09	2.74E-05
Road 41	41	0200-0300	2.52E-02	3.25E-08	1.11E-04	6.94E-02	8.97E-08	3.07E-04	9.45E-02	1.22E-07	4.19E-04	5.99E-03	7.74E-09	2.65E-05
Road 41	41	0300-0400	2.85E-02	3.19E-08	1.09E-04	7.49E-02	8.39E-08	2.87E-04	1.03E-01	1.16E-07	3.97E-04	6.78E-03	7.58E-09	2.60E-05
Road 41	41	0400-0500	2.76E-02	3.26E-08	1.12E-04	7.38E-02	8.71E-08	2.98E-04	1.01E-01	1.20E-07	4.10E-04	6.57E-03	7.76E-09	2.66E-05
Road 41	41	0500-0600	2.15E-02	3.64E-08	1.25E-04	6.47E-02	1.10E-07	3.76E-04	8.62E-02	1.46E-07	5.01E-04	5.14E-03	8.72E-09	2.99E-05
Road 41	41	0600-0700	1.53E-02	4.73E-08	1.62E-04	5.94E-02	7.13E-07	2.21E-07	7.56E-02	6.56E-03	1.14E-08	3.91E-05		
Road 41	41	0700-0800	2.09E-02	1.49E-07	5.10E-04	6.46E-02	4.59E-07	1.57E-03	8.56E-02	6.08E-07	2.08E-03	5.05E-03	3.59E-08	1.23E-04
Road 41	41	0800-0900	1.92E-02	1.53E-07	5.23E-04	5.87E-02	4.66E-07	1.60E-03	7.79E-02	6.19E-07	2.12E-03	4.67E-03	3.71E-08	1.27E-04
Road 41	41	0900-1000	1.72E-02	1.49E-07	5.11E-04	5.42E-02	4.68E-07	1.60E-03	6.97E-02	6.03E-07	2.07E-03	4.35E-03	3.76E-08	1.29E-04
Road 41	41	1000-1100	2.43E-02	1.48E-07	5.06E-04	6.89E-02	4.20E-07	1.44E-03	9.32E-02	5.68E-07	1.94E-03	5.95E-03	3.63E-08	1.24E-04
Road 41	41	1100-1200	2.46E-02	1.44E-07	4.94E-04	7.00E-02	4.11E-07	1.41E-03	9.46E-02	5.55E-07	1.90E-03	5.98E-03	3.51E-08	1.20E-04
Road 41	41	1200-1300	2.72E-02	1.74E-07	5.95E-04	7.58E-02	4.84E-07	1.65E-03	1.04E-01	6.67E-07	2.28E-03	6.62E-03	4.23E-08	1.44E-04
Road 41	41	1300-1400	2.70E-02	1.77E-07	6.06E-04	7.92E-02	5.18E-07	1.78E-03	1.06E-01	6.95E-07	2.38E-03	6.78E-03	4.44E-08	1.52E-04
Road 41	41	1400-1500	2.65E-02	1.80E-07	6.16E-04	7.73E-02	5.26E-07	1.80E-03	1.04E-01	7.05E-07	2.42E-03	6.65E-03	4.52E-08	1.55E-04
Road 41	41	1500-1600	2.55E-02	1.71E-07	5.85E-04	7.46E-02	5.00E-07	1.71E-03	1.00E-01	6.72E-07	2.30E-03	6.41E-03	4.30E-08	1.47E-04
Road 41	41	1600-1700	2.55E-02	1.82E-07	6.23E-04	7.47E-02	5.33E-07	1.83E-03	1.00E-01	7.15E-07	2.45E-03	6.39E-03	4.56E-08	1.56E-04
Road 41	41	1700-1800	2.18E-02	1.67E-07	5.72E-04	6.78E-02	5.20E-07	1.78E-03	8.96E-02	6.87E-07	2.35E-03	5.45E-03	4.18E-08	1.43E-04
Road 41	41	1800-1900	1.90E-02	1.51E-07	5.16E-04	5.70E-02	4.52E-07	1.55E-03	8.21E-02	6.52E-07	2.23E-03	4.91E-03	3.90E-08	1.34E-04
Road 41	41	1900-2000	1.10E-02	5.80E-08	1.99E-04	4.41E-02	2.32E-07	7.94E-04	5.51E-02	2.90E-07	9.93E-04	2.77E-03	1.46E-08	4.99E-05
Road 41	41	2000-2100	1.21E-02	5.07E-08	1.74E-04	4.91E-02	2.06E-07	7.06E-04	6.12E-02	2.57E-07	8.80E-04	3.00E-03	1.26E-08	4.32E-05
Road 41	41	2100-2200	1.16E-02	4.89E-08	1.67E-04	4.68E-02	2.00E-07	6.86E-04	5.82E-02	2.49E-07	8.54E-04	2.84E-03	1.22E-08	4.18E-05
Road 41	41	2200-2300	1.17E-02	1.48E-08	5.07E-05	4.72E-02	5.12E-08	1.76E-04	5.87E-02	7.39E-08	2.53E-04	2.86E-03	3.10E-09	1.06E-05
Road 41	41	2300-0000	1.00E-02	1.26E-08	4.31E-05	4.04E-02	4.38E-08	1.50E-04	5.03E-02	6.32E-08	2.16E-04	2.45E-03	2.65E-09	9.07E-06
Road 42	42	0000-0100	8.43E-02	6.57E-08	2.00E-04	1.51E-01	2.63E-07	8.01E-04	2.14E-01	1.67E-07	5.09E-04	7.32E-03	5.71E-09	1.74E-05
Road 42	42	0100-0200	8.83E-02	6.57E-08	2.00E-04	1.58E-01	2.63E-07	8.01E-04	2.24E-01	1.67E-07	5.09E-04	7.67E-03	5.71E-09	1.74E-05
Road 42	42	0200-0300	4.83E-02	6.57E-08	2.00E-04	1.25E-01	2.63E-07	8.01E-04	1.47E-01	1.67E-07	5.09E-04	4.70E-03	5.71E-09	1.74E-05
Road 42	42	0300-0400	5.43E-02	6.47E-08	1.97E-04	1.31E-01	2.58E-07	7.87E-04	1.61E-01	1.64E-07	5.00E-04	5.04E-03	5.62E-09	1.71E-05
Road 42	42	0400-0500	6.25E-02	6.58E-08	2.00E-04	1.38E-01	2.63E-07	8.01E-04	1.74E-01	1.67E-07	5.09E-04	5.31E-03	5.71E-09	1.74E-05
Road 42	42	0500-0600	4.10E-02	7.22E-08	6.68E-04	1.09E-01	1.93E-07	1.78E-03	1.50E-01	2.65E-07	2.45E-03	6.65E-03	1.17E-08	1.08E-04
Road 42	42	0600-0700	3.08E-02	9.65E-08	8.93E-04	8.93E-02	3.05E-07	2.77E-03	1.26E-01	3.96E-07	3.67E-03	4.93E-03	1.55E-08	1.43E-04
Road 42	42	0700-0800	3.08E-02	9.65E-08	8.93E-04	8.93E-02	3.05E-07	2.77E-03	1.26E-01	3.96E-07	3.67E-03	4.93E-03	1.55E-08	1.43E-04
Road 42	42	0800-0900	4.91E-02	4.02E-07	3.72E-03	1.30E-01	1.06E-06	9.85E-03	1.79E-01	1.47E-06	1.36E-02	6.68E-03	5.47E-08	5.06E-04
Road 42	42	0900-1000	5.60E-02	3.98E-07	3.69E-03	1.47E-01	1.04E-06	9.67E-03	2.03E-01	1.44E-06	1.34E-02	7.64E-03	5.43E-08	5.03E-04
Road 42	42	1000-1100	6.30E-02	3.92E-07	3.63E-03	1.65E-01	1.03E-06	9.53E-03	2.28E-01	1.42E-06	1.31E-02	8.60E-03	5.35E-08	4.96E-04
Road 42	42	1100-1200	6.03E-02	3.74E-07	3.47E-03	1.54E-01	9.57E-07	8.86E-03	2.14E-01	1.33E-06	1.23E-02	8.33E-03	5.17E-08	4.79E-04
Road 42	42	1200-1300	7.75E-02	3.71E-07	3.44E-03	1.90E-01	9.11E-07	8.44E-03	2.68E-01	1.28E-06	1.19E-02	1.09E-02	5.24E-08	4.85E-04
Road 42	42	1300-1400	7.49E-02	3.78E-07	3.50E-03	1.87E-01	9.45E-07	8.75E-03	2.62E-01	1.32E-06	1.23E-02	1.07E-02	5.40E-08	5.00E-04
Road 42	42	1400-1500	7.49E-02	3.78E-07	3.50E-03	1.87E-01	9.45E-07	8.75E-03	2.62E-01	1.32E-06	1.23E-02	1.07E-02	5.40E-08	5.00E-04
Road 42	42	1500-1600	7.27E-02	3.74E-07	3.46E-03	1.87E-01	9.60E-07	8.88E-03	2.59E-01	1.33E-06	1.23E-02	1.04E-02	5.36E-08	4.96E-04
Road 42	42	1600-1700	7.29E-02	3.78E-07	3.50E-03	1.87E-01	9.70E-07	8.98E-03	2.60E-01	1.35E-06	1.25E-02	1.04E-02	5.41E-08	5.01E-04
Road 42	42	1700-1800	6.58E-02	3.58E-07	3.31E-03	1.69E-01	9.17E-07	8.49E-03	2

Appendix 4.6

Appendix 4.6 Calculation of Start Emissions

Calculation of Iding Emission Factor

PC (Diesel)

NO/NO_2 Ratio [1] = 7.94 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [4]	PM (g/hr) [5]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	46.75%	4.47E-04	5.00E-02	1.61E+00	5.00E-02										
Euro V	52.41%	9.58E-04	2.00E-02	3.45E+00	2.00E-02										
Euro IV	0.56%	1.66E-03	1.60E-01	5.96E+00	1.60E-01	-	1.3	5.657E-02	5.024E-02	6.325E-03	7.908E-04	5.657E-02	5.024E-02	6.325E-03	7.908E-04
Euro I	0.13%	1.36E-03	5.80E-01	4.88E+00	5.80E-01										
Pre-Euro	0.16%	1.83E-03	6.30E-01	6.57E+00	6.30E-01										

PC (Petrol)

NO/NO_2 Ratio [1] = 19.59 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [8]	PM (g/hr) [9]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	80.49%	1.67E-05	0.00E+00	6.00E-02	0.00E+00										
Euro V	14.56%	2.22E-05	1.00E-02	8.00E-02	1.00E-02										
Euro IV	4.41%	6.39E-05	0.00E+00	2.30E-01	0.00E+00										
Euro III	0.44%	8.33E-05	0.00E+00	3.00E-01	0.00E+00	-	1.3	1.567E-03	1.491E-03	7.611E-05	3.174E-05	1.567E-03	1.491E-03	7.611E-05	3.174E-05
Euro II	0.07%	2.67E-04	1.00E-02	9.60E-01	1.00E-02										
Euro I	0.01%	2.11E-04	1.00E-02	7.60E-01	1.00E-02										
Pre-Euro	0.01%	3.28E-04	1.00E-02	1.18E+00	1.00E-02										

Taxi (Petrol)

NO/NO_2 Ratio [1] = 18.93 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [11]	PM (g/hr) [11]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro V	100.00%	2.22E-05	1.00E-02	8.00E-02	1.00E-02	-	1.3	1.733E-03	1.646E-03	8.699E-05	2.167E-04	1.733E-03	1.646E-03	8.699E-05	2.167E-04

Taxi (LPG)

NO/NO_2 Ratio [1] = 35.96 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [10]	NOx (g/hr) [12]	PM (g/hr) [10]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	73.40%	2.80E-03	0.00E+00	1.01E+01	0.00E+00										
Euro V	26.04%	2.80E-03	0.00E+00	1.01E+01	0.00E+00										
Euro IV	0.37%	3.50E-03	0.00E+00	1.26E+01	0.00E+00	-	1.3	1.685E-01	1.639E-01	4.559E-03	0.000E+00	2.190E-01	2.131E-01	5.927E-03	0.000E+00
Euro II/III	0.19%	5.70E-03	0.00E+00	2.05E+01	0.00E+00										

LGV3 (Diesel)

NO/NO_2 Ratio [1] = 11.15 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [13]	PM (g/hr) [14]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	62.97%	3.56E-04	2.00E-02	1.28E+00	2.00E-02										
Euro V	37.03%	1.00E-03	2.00E-02	3.60E+00	2.00E-02	-	1.3	4.635E-02	4.253E-02	3.816E-03	4.333E-04	4.635E-02	4.253E-02	3.816E-03	4.333E-04

LGV3 (Petrol)

NO/NO_2 Ratio [1] = 19.02 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [15]	PM (g/hr) [16]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	54.60%	1.94E-05	0.00E+00	7.00E-02	0.00E+00										
Euro V	19.40%	1.67E-05	0.00E+00	6.00E-02	0.00E+00										
Euro IV	4.89%	4.72E-05	0.00E+00	1.70E-01	0.00E+00										
Euro III	6.77%	9.44E-05	0.00E+00	3.40E-01	0.00E+00	-	1.3	4.395E-03	4.176E-03	2.196E-04	3.106E-05	4.395E-03	4.176E-03	2.196E-04	3.106E-05
Euro II	2.51%	1.67E-04	1.00E-02	6.00E-01	1.00E-02										
Euro I	2.77%	4.69E-04	1.00E-02	1.69E+00	1.00E-02										
Pre-Euro	9.06%	1.83E-04	1.00E-02	6.60E-01	1.00E-02										

Appendix 4.6 Calculation of Start Emissions

Calculation of Iding Emission Factor

LGV6 (Diesel)

NO/NO_2 Ratio [1] = 2.57 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [13]	PM (g/hr) [14]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	58.17%	1.00E-03	2.00E-02	1.28E+00	2.00E-02										
Euro V	41.83%	2.80E-03	2.00E-02	3.60E+00	2.00E-02										
Euro IV	0.01%	2.80E-03	1.60E-01	3.62E+00	1.60E-01										
Euro III	0.00%	2.80E-03	1.00E-01	4.12E+00	1.00E-01	-	1.3	1.052E-01	7.573E-02	2.945E-02	4.336E-04	4.876E-02	3.511E-02	1.365E-02	4.336E-04
Euro II	0.00%	2.80E-03	5.40E-01	5.53E+00	5.40E-01										
Euro I	0.00%	2.80E-03	6.30E-01	5.88E+00	6.30E-01										
Pre-Euro	0.00%	2.80E-03	1.59E+00	6.52E+00	1.59E+00										

HGV7 (Diesel)

NO/NO_2 Ratio [1] = 2.28 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [17]	PM (g/hr) [18]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	53.78%	5.90E-03	1.00E-02	1.75E+00	1.00E-02										
Euro V	46.21%	5.90E-03	1.00E-01	1.17E+01	1.00E-01	0.9	1.3	3.540E-01	2.461E-01	1.079E-01	1.006E-03	1.239E-01	8.614E-02	3.775E-02	1.006E-03
Euro IV	0.01%	5.90E-03	2.00E-01	7.51E+00	2.00E-01										

HGV8 (Diesel)

NO/NO_2 Ratio [1] = 3.92 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [17]	PM (g/hr) [18]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	61.37%	3.70E-03	1.00E-02	1.75E+00	1.00E-02										
Euro V	38.62%	2.30E-02	1.00E-01	1.17E+01	1.00E-01										
Euro IV	0.01%	1.44E-02	2.00E-01	7.51E+00	2.00E-01										
Euro III	0.00%	1.44E-02	1.29E+00	4.21E+01	1.29E+00	1.0	1.3	6.693E-01	5.332E-01	1.362E-01	9.704E-04	1.213E-01	9.661E-02	2.467E-02	9.704E-04
Euro II	0.00%	1.44E-02	1.43E+00	4.06E+01	1.43E+00										
Euro I	0.00%	1.44E-02	5.53E+00	3.26E+01	5.53E+00										
Pre-Euro	0.00%	1.44E-02	6.62E+00	4.06E+01	6.62E+00										

PLB (Diesel)

NO/NO_2 Ratio [1] = 2.57 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [13]	PM (g/hr) [14]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	79.43%	1.00E-03	2.00E-02	1.28E+00	2.00E-02										
Euro V	20.57%	1.00E-03	2.00E-02	3.60E+00	2.00E-02										
Euro IV	0.00%	1.00E-03	1.60E-01	3.62E+00	1.60E-01										
Euro III	0.00%	1.00E-03	1.00E-01	4.12E+00	1.00E-01	-	1.3	6.000E-02	4.320E-02	1.680E-02	4.334E-04	3.807E-02	2.741E-02	1.066E-02	4.334E-04
Euro II	0.00%	1.00E-03	5.40E-01	5.53E+00	5.40E-01										
Euro I	0.00%	1.00E-03	6.30E-01	5.88E+00	6.30E-01										
Pre-Euro	0.00%	1.00E-03	1.59E+00	6.52E+00	1.59E+00										

PLB (LPG)

NO/NO_2 Ratio [1] = 188.56 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [13]	PM (g/hr) [14]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro V	89.29%	3.90E-03	2.00E-02	3.60E+00	2.00E-02										
Euro IV	4.85%	3.90E-03	1.60E-01	3.62E+00	1.60E-01	-	1.3	2.526E-01	2.513E-01	1.333E-03	6.820E-04	7.868E-02	7.827E-02	4.151E-04	6.820E-04
Euro III	5.86%	9.20E-03	1.00E-01	4.12E+00	1.00E-01										

PV4 (Diesel)

NO/NO_2 Ratio [1] = 4.00 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [13]	PM (g/hr) [14]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	91.04%	3.56E-04	2.00E-02	1.28E+00	2.00E-02										
Euro V	8.95%	1.00E-03	2.00E-02	3.60E+00	2.00E-02	-	1.3	3.224E-02	2.579E-02	6.447E-03	4.335E-04	3.224E-02	2.579E-02	6.447E-03	4.335E-04
Euro IV	0.01%	1.01E-03	1.60E-01	3.62E+00	1.60E-01										

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Appendix 4.6 Calculation of Start Emissions

Calculation of Iding Emission Factor

PV4 (Petrol)

NO/NO_2 Ratio [1] = 18.97 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [15]	PM (g/hr) [16]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro V	40.50%	1.67E-05	0.00E+00	6.00E-02	0.00E+00	-	1.3	3.367E-03	3.199E-03	1.686E-04	7.880E-07	3.367E-03	3.199E-03	1.686E-04	7.880E-07
Euro IV	42.43%	4.72E-05	0.00E+00	1.70E-01	0.00E+00										
Euro III	16.71%	9.44E-05	0.00E+00	3.40E-01	0.00E+00										
Euro II	0.36%	1.67E-04	1.00E-02	6.00E-01	1.00E-02										

PV5 (Diesel)

NO/NO_2 Ratio [1] = 2.57 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [13]	PM (g/hr) [14]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	70.26%	1.00E-03	2.00E-02	1.28E+00	2.00E-02	-	1.3	6.000E-02	4.320E-02	1.680E-02	4.336E-04	4.268E-02	3.073E-02	1.195E-02	4.336E-04
Euro V	29.73%	1.00E-03	2.00E-02	3.60E+00	2.00E-02										
Euro IV	0.01%	1.00E-03	1.60E-01	3.62E+00	1.60E-01										
Euro III	0.00%	1.00E-03	1.00E-01	4.12E+00	1.00E-01										
Euro II	0.00%	1.00E-03	5.40E-01	5.53E+00	5.40E-01										
Euro I	0.00%	1.00E-03	6.30E-01	5.88E+00	6.30E-01										
Pre-Euro	0.00%	1.00E-03	1.59E+00	6.52E+00	1.59E+00										

PV5 (LPG)

NO/NO_2 Ratio [1] = 193.14 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [13]	PM (g/hr) [14]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro V	74.12%	1.00E-03	2.00E-02	3.60E+00	2.00E-02	-	1.3	7.888E-02	7.848E-02	4.063E-04	1.126E-03	7.888E-02	7.848E-02	4.063E-04	1.126E-03
Euro IV	18.76%	1.01E-03	1.60E-01	3.62E+00	1.60E-01										
Euro III	7.12%	1.14E-03	1.00E-01	4.12E+00	1.00E-01										

PV5 (Petrol)

NO/NO_2 Ratio [1] = 19.00 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [15]	PM (g/hr) [16]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro V	61.78%	1.67E-05	0.00E+00	6.00E-02	0.00E+00	-	1.3	9.506E-03	9.031E-03	4.754E-04	4.799E-05	9.506E-03	9.031E-03	4.754E-04	4.799E-05
Euro IV	16.07%	4.72E-05	0.00E+00	1.70E-01	0.00E+00										
Euro I	22.15%	4.69E-04	1.00E-02	1.69E+00	1.00E-02										

NFB8 (Diesel)

NO/NO_2 Ratio [1] = 5.11 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [17]	PM (g/hr) [18]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	70.94%	7.70E-03	1.00E-02	1.75E+00	1.00E-02	1.0	1.3	1.154E+00	9.652E-01	1.890E-01	7.850E-04	1.007E-01	8.417E-02	1.648E-02	7.850E-04
Euro V	29.05%	4.74E-02	1.00E-01	1.17E+01	1.00E-01										
Euro IV	0.00%	5.73E-02	2.00E-01	7.51E+00	2.00E-01										
Euro II	0.01%	5.73E-02	1.43E+00	4.06E+01	1.43E+00										

FBSD (Diesel)

NO/NO_2 Ratio [1] = 16.02 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [17]	PM (g/hr) [18]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	43.27%	7.70E-03	1.00E-02	1.75E+00	1.00E-02	1.0	1.3	1.813E+00	1.707E+00	1.066E-01	1.323E-03	1.603E-01	1.509E-01	9.423E-03	1.323E-03
Euro V	56.73%	4.74E-02	1.00E-01	1.17E+01	1.00E-01										
Euro IV	0.00%	5.73E-02	2.00E-01	7.51E+00	2.00E-01										

Appendix 4.6 Calculation of Start Emissions

Calculation of Iding Emission Factor

FBDD (Diesel)

NO/NO_2 Ratio [1] = 19.75 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [17]	PM (g/hr) [18]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	27.01%	2.25E-02	1.00E-02	1.75E+00	1.00E-02	1.2	1.3	7.087E+00	6.746E+00	3.415E-01	1.973E-03	2.343E-01	2.230E-01	1.129E-02	1.973E-03
Euro V	72.81%	1.54E-01	1.00E-01	1.17E+01	1.00E-01										
Euro IV	0.19%	1.54E-01	2.00E-01	7.51E+00	2.00E-01										
Euro III	0.00%	7.37E-02	1.29E+00	4.21E+01	1.29E+00										
Euro II	0.00%	7.37E-02	1.43E+00	4.06E+01	1.43E+00										
Euro I	0.00%	7.37E-02	5.53E+00	3.26E+01	5.53E+00										
Pre-Euro	0.00%	7.37E-02	6.62E+00	4.06E+01	6.62E+00										

MC (Petrol)

NO/NO_2 Ratio [1] = 19.01 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [2]	PM (g/hr) [3]	NOx (g/hr) [8]	PM (g/hr) [9]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro IV	62.01%	6.39E-05	0.00E+00	2.30E-01	0.00E+00	-	1.3	6.204E-03	5.894E-03	3.101E-04	1.240E-05	6.204E-03	5.894E-03	3.101E-04	1.240E-05
Euro III	32.27%	8.33E-05	0.00E+00	3.00E-01	0.00E+00										
Euro I	4.91%	2.11E-04	1.00E-02	7.60E-01	1.00E-02										
Pre-Euro	0.81%	3.28E-04	1.00E-02	1.18E+00	1.00E-02										

HGV9 (Diesel)

NO/NO_2 Ratio [1] = 4.45 From EMFAC

	Population	Idling Emission Factor				Mass Factor [19]	AC Factor [6]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [12]	PM (g/hr) [3]	NOx (g/hr) [17]	PM (g/hr) [18]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	51.79%	3.70E-03	1.00E-02	1.75E+00	1.00E-02	1.2	1.3	7.802E-01	6.370E-01	1.432E-01	1.389E-03	1.703E-01	1.391E-01	3.127E-02	1.389E-03
Euro V	48.19%	2.30E-02	1.00E-01	1.17E+01	1.00E-01										
Euro IV	0.02%	1.44E-02	2.00E-01	7.51E+00	2.00E-01										
Euro III	0.00%	1.44E-02	1.29E+00	4.21E+01	1.29E+00										
Euro II	0.00%	1.44E-02	1.43E+00	4.06E+01	1.43E+00										
Euro I	0.00%	1.44E-02	5.53E+00	3.26E+01	5.53E+00										
Pre-Euro	0.00%	1.44E-02	6.62E+00	4.06E+01	6.62E+00										

NFB9 (Diesel)

NO/NO_2 Ratio = 2.03 From EMFAC

	Population	Idling Emission Factor				Mass Factor	AC Factor [5]	Average Idling Emission Factor (g/min)							
		Cold Idling		Hot Idling				Cold Idling				Hot Idling			
	%	NOx (g/s) [20]	PM (g/hr) [3]	NOx (g/hr) [16]	PM (g/hr) [17]			NOx	NO	NO_2	PM [7]	NOx	NO	NO_2	PM [7]
Euro VI	100.00%	7.70E-03	1.00E-02	1.75E+00	1.00E-02	1.2	1.3	4.620E-01	3.095E-01	1.525E-01	2.600E-04	4.550E-02	3.049E-02	1.501E-02	2.600E-04
Euro V	0.00%	4.74E-02	1.00E-01	1.17E+01	1.00E-01										
Euro IV	0.00%	5.73E-02	2.00E-01	7.51E+00	2.00E-01										
Euro III	0.00%	1.17E-02	1.29E+00	4.21E+01	1.29E+00										
Euro II	0.00%	1.13E-02	1.43E+00	4.06E+01	1.43E+00										
Euro I	0.00%	9.06E-03	5.53E+00	3.26E+01	5.53E+00										
Pre-Euro	0.00%	1.13E-02	6.62E+00	4.06E+01	6.62E+00										

Remarks

[1] NO/NO2 ratio, at the respective running speed, was calculated based on emisison factors extracted from EMFAC-HK.
[2] Due to the lack of information, NOx cold idling emission factor was referenced to the corresponding hot idling emission factor.
[3] Due to the lack of information, PM cold idling emission factor was referenced to the corresponding hot idling emission factor.
[4] Reference made to Table 36 of VEADV.
[5] Reference made to Table 37 of VEADV.
[6] Reference made to the approved Liantang / Heung Yuen Wai Boundary Control Point and Associated Works EIA Report.
[7] All TSP (PM) emissions were assumed for RSP and FSP as a conservative approach.
[8] Reference made to Table 33 of VEADV.
[9] Reference made to Table 34 of VEADV.
[10] PM cold and hot idling emission factors are assumed to be 0 as the running and starting emission factors from EMFAC-HK are also 0.
[11] Due to the lack of information and similarity in taxi and PC, hot idling emission factors were referenced to corresponding hot idling emission factor of PC (petrol).
[12] NOx idling emission factor was referenced to Calculation of Start Emissions in Air Quality Impact Assessment published by EPD whenever available; otherwise the highest emission factor in the same vehicle class was adopted as a conservative approach.
[13] Reference made to Table 42 of VEADV.
[14] Reference made to Table 43 of VEADV.
[15] Reference made to Table 39 of VEADV.
[16] Reference made to Table 40 of VEADV.
[17] Reference made to Table 45 of VEADV.
[18] Reference made to Table 46 of VEADV.
[19] Reference made to Table 27 of VEADV.
[20] NOx cold idling emission factor was referenced to Calculation of Start Emissions in Air Quality Impact Assessment published by EPD whenever possible; otherwise it was referenced to the corresponding hot idling emission factor.

Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Petrol)

Running Exhaust Emission Factor (gram/mile/vehicle) - NO

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.05379	0.08224	0.92725	0.15130	0.00000	0.00000	0.00000	0.00000	0.54653	0.89270	0.00000	0.00000	0.00000	0.00000	0.00000	0.48326	0.00000	0.00000

Starting Emission Factor (gram/trip) - NO

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.05786	0.07310	0.15999	0.04300	0.00000	0.00000	0.00000	0.00000	0.12770	0.87060	0.00000	0.00000	0.00000	0.00000	0.00000	0.07073	0.00000	0.00000
10	0.05897	0.07440	0.18887	0.04604	0.00000	0.00000	0.00000	0.00000	0.15540	1.04580	0.00000	0.00000	0.00000	0.00000	0.00000	0.08181	0.00000	0.00000
20	0.06118	0.07680	0.24024	0.05162	0.00000	0.00000	0.00000	0.00000	0.20440	1.35510	0.00000	0.00000	0.00000	0.00000	0.00000	0.10152	0.00000	0.00000
30	0.06319	0.07900	0.28288	0.05639	0.00000	0.00000	0.00000	0.00000	0.24470	1.60990	0.00000	0.00000	0.00000	0.00000	0.00000	0.11810	0.00000	0.00000
40	0.06520	0.08120	0.31704	0.06025	0.00000	0.00000	0.00000	0.00000	0.27630	1.80990	0.00000	0.00000	0.00000	0.00000	0.00000	0.13151	0.00000	0.00000
50	0.06700	0.08340	0.34263	0.06330	0.00000	0.00000	0.00000	0.00000	0.29920	1.95560	0.00000	0.00000	0.00000	0.00000	0.00000	0.14173	0.00000	0.00000
60	0.06871	0.08550	0.35947	0.06554	0.00000	0.00000	0.00000	0.00000	0.31330	2.04650	0.00000	0.00000	0.00000	0.00000	0.00000	0.14876	0.00000	0.00000
120	0.07631	0.09510	0.37650	0.07057	0.00000	0.00000	0.00000	0.00000	0.32400	2.15220	0.00000	0.00000	0.00000	0.00000	0.00000	0.15176	0.00000	0.00000
180	0.08291	0.10360	0.38368	0.07675	0.00000	0.00000	0.00000	0.00000	0.35240	2.15960	0.00000	0.00000	0.00000	0.00000	0.00000	0.15013	0.00000	0.00000
240	0.08230	0.10270	0.37715	0.07612	0.00000	0.00000	0.00000	0.00000	0.35020	2.14560	0.00000	0.00000	0.00000	0.00000	0.00000	0.14666	0.00000	0.00000
300	0.08110	0.10130	0.36878	0.07518	0.00000	0.00000	0.00000	0.00000	0.34670	2.12470	0.00000	0.00000	0.00000	0.00000	0.00000	0.14233	0.00000	0.00000
360	0.07949	0.09920	0.35847	0.07394	0.00000	0.00000	0.00000	0.00000	0.34240	2.09690	0.00000	0.00000	0.00000	0.00000	0.00000	0.13705	0.00000	0.00000
420	0.07739	0.09660	0.34643	0.07219	0.00000	0.00000	0.00000	0.00000	0.33690	2.06230	0.00000	0.00000	0.00000	0.00000	0.00000	0.13095	0.00000	0.00000
480	0.07498	0.09340	0.33244	0.07014	0.00000	0.00000	0.00000	0.00000	0.33030	2.02070	0.00000	0.00000	0.00000	0.00000	0.00000	0.12392	0.00000	0.00000
540	0.07187	0.08960	0.31671	0.06788	0.00000	0.00000	0.00000	0.00000	0.32260	1.97240	0.00000	0.00000	0.00000	0.00000	0.00000	0.11595	0.00000	0.00000
600	0.06846	0.08520	0.29905	0.06521	0.00000	0.00000	0.00000	0.00000	0.31390	1.91710	0.00000	0.00000	0.00000	0.00000	0.00000	0.10718	0.00000	0.00000
660	0.06455	0.08030	0.27964	0.06213	0.00000	0.00000	0.00000	0.00000	0.30400	1.85500	0.00000	0.00000	0.00000	0.00000	0.00000	0.09755	0.00000	0.00000
720	0.06014	0.07480	0.25831	0.05865	0.00000	0.00000	0.00000	0.00000	0.29310	1.78600	0.00000	0.00000	0.00000	0.00000	0.00000	0.08697	0.00000	0.00000

Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Petrol)

Running Exhaust Emission Factor (gram/mile/vehicle) - NO2

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.00275	0.00435	0.04875	0.00797	0.00000	0.00000	0.00000	0.00000	0.02881	0.04699	0.00000	0.00000	0.00000	0.00000	0.00000	0.02550	0.00000	0.00000

Starting Emission Factor (gram/trip) - NO2

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00300	0.00390	0.00838	0.00223	0.00000	0.00000	0.00000	0.00000	0.00670	0.04580	0.00000	0.00000	0.00000	0.00000	0.00000	0.00374	0.00000	0.00000
10	0.00310	0.00390	0.00994	0.00243	0.00000	0.00000	0.00000	0.00000	0.00820	0.05500	0.00000	0.00000	0.00000	0.00000	0.00000	0.00431	0.00000	0.00000
20	0.00320	0.00400	0.01261	0.00273	0.00000	0.00000	0.00000	0.00000	0.01080	0.07130	0.00000	0.00000	0.00000	0.00000	0.00000	0.00536	0.00000	0.00000
30	0.00330	0.00420	0.01488	0.00294	0.00000	0.00000	0.00000	0.00000	0.01290	0.08470	0.00000	0.00000	0.00000	0.00000	0.00000	0.00622	0.00000	0.00000
40	0.00341	0.00430	0.01668	0.00314	0.00000	0.00000	0.00000	0.00000	0.01450	0.09530	0.00000	0.00000	0.00000	0.00000	0.00000	0.00691	0.00000	0.00000
50	0.00351	0.00440	0.01800	0.00334	0.00000	0.00000	0.00000	0.00000	0.01570	0.10290	0.00000	0.00000	0.00000	0.00000	0.00000	0.00742	0.00000	0.00000
60	0.00361	0.00450	0.01893	0.00344	0.00000	0.00000	0.00000	0.00000	0.01650	0.10770	0.00000	0.00000	0.00000	0.00000	0.00000	0.00783	0.00000	0.00000
120	0.00401	0.00500	0.01983	0.00375	0.00000	0.00000	0.00000	0.00000	0.01710	0.11330	0.00000	0.00000	0.00000	0.00000	0.00000	0.00799	0.00000	0.00000
180	0.00441	0.00540	0.02019	0.00404	0.00000	0.00000	0.00000	0.00000	0.01850	0.11370	0.00000	0.00000	0.00000	0.00000	0.00000	0.00793	0.00000	0.00000
240	0.00431	0.00540	0.01982	0.00404	0.00000	0.00000	0.00000	0.00000	0.01840	0.11290	0.00000	0.00000	0.00000	0.00000	0.00000	0.00772	0.00000	0.00000
300	0.00431	0.00530	0.01938	0.00394	0.00000	0.00000	0.00000	0.00000	0.01830	0.11180	0.00000	0.00000	0.00000	0.00000	0.00000	0.00749	0.00000	0.00000
360	0.00420	0.00520	0.01888	0.00384	0.00000	0.00000	0.00000	0.00000	0.01800	0.11040	0.00000	0.00000	0.00000	0.00000	0.00000	0.00723	0.00000	0.00000
420	0.00410	0.00510	0.01821	0.00384	0.00000	0.00000	0.00000	0.00000	0.01770	0.10850	0.00000	0.00000	0.00000	0.00000	0.00000	0.00690	0.00000	0.00000
480	0.00390	0.00490	0.01748	0.00373	0.00000	0.00000	0.00000	0.00000	0.01740	0.10640	0.00000	0.00000	0.00000	0.00000	0.00000	0.00649	0.00000	0.00000
540	0.00380	0.00470	0.01668	0.00353	0.00000	0.00000	0.00000	0.00000	0.01700	0.10380	0.00000	0.00000	0.00000	0.00000	0.00000	0.00611	0.00000	0.00000
600	0.00360	0.00450	0.01572	0.00343	0.00000	0.00000	0.00000	0.00000	0.01650	0.10090	0.00000	0.00000	0.00000	0.00000	0.00000	0.00563	0.00000	0.00000
660	0.00340	0.00420	0.01470	0.00322	0.00000	0.00000	0.00000	0.00000	0.01600	0.09760	0.00000	0.00000	0.00000	0.00000	0.00000	0.00512	0.00000	0.00000
720	0.00320	0.00390	0.01360	0.00312	0.00000	0.00000	0.00000	0.00000	0.01540	0.09400	0.00000	0.00000	0.00000	0.00000	0.00000	0.00456	0.00000	0.00000

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Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Petrol)

Running Exhaust Emission Factor (gram/mile/vehicle) - RSP

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.01240	0.01239	0.02974	0.02320	0.00000	0.00000	0.00000	0.00000	0.07017	0.01239	0.00000	0.00000	0.00000	0.00000	0.00000	0.01578	0.00000	0.00000

Starting Emission Factor (gram/trip) - RSP

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00040	0.00040	0.00381	0.00022	0.00000	0.00000	0.00000	0.00000	0.00080	0.00100	0.00000	0.00000	0.00000	0.00000	0.00000	0.00287	0.00000	0.00000
10	0.00080	0.00080	0.00390	0.00042	0.00000	0.00000	0.00000	0.00000	0.00150	0.00190	0.00000	0.00000	0.00000	0.00000	0.00000	0.00297	0.00000	0.00000
20	0.00150	0.00150	0.00407	0.00091	0.00000	0.00000	0.00000	0.00000	0.00300	0.00370	0.00000	0.00000	0.00000	0.00000	0.00000	0.00322	0.00000	0.00000
30	0.00230	0.00230	0.00426	0.00131	0.00000	0.00000	0.00000	0.00000	0.00440	0.00540	0.00000	0.00000	0.00000	0.00000	0.00000	0.00349	0.00000	0.00000
40	0.00300	0.00300	0.00448	0.00171	0.00000	0.00000	0.00000	0.00000	0.00560	0.00690	0.00000	0.00000	0.00000	0.00000	0.00000	0.00374	0.00000	0.00000
50	0.00360	0.00360	0.00482	0.00200	0.00000	0.00000	0.00000	0.00000	0.00680	0.00830	0.00000	0.00000	0.00000	0.00000	0.00000	0.00407	0.00000	0.00000
60	0.00430	0.00420	0.00519	0.00240	0.00000	0.00000	0.00000	0.00000	0.00800	0.00960	0.00000	0.00000	0.00000	0.00000	0.00000	0.00441	0.00000	0.00000
120	0.00710	0.00700	0.00831	0.00381	0.00000	0.00000	0.00000	0.00000	0.01240	0.01410	0.00000	0.00000	0.00000	0.00000	0.00000	0.00677	0.00000	0.00000
180	0.00790	0.00790	0.00982	0.00422	0.00000	0.00000	0.00000	0.00000	0.01350	0.01500	0.00000	0.00000	0.00000	0.00000	0.00000	0.00786	0.00000	0.00000
240	0.00870	0.00870	0.01120	0.00462	0.00000	0.00000	0.00000	0.00000	0.01450	0.01590	0.00000	0.00000	0.00000	0.00000	0.00000	0.00879	0.00000	0.00000
300	0.00940	0.00930	0.01236	0.00493	0.00000	0.00000	0.00000	0.00000	0.01550	0.01670	0.00000	0.00000	0.00000	0.00000	0.00000	0.00969	0.00000	0.00000
360	0.00990	0.00990	0.01348	0.00523	0.00000	0.00000	0.00000	0.00000	0.01630	0.01740	0.00000	0.00000	0.00000	0.00000	0.00000	0.01049	0.00000	0.00000
420	0.01040	0.01040	0.01438	0.00554	0.00000	0.00000	0.00000	0.00000	0.01700	0.01800	0.00000	0.00000	0.00000	0.00000	0.00000	0.01121	0.00000	0.00000
480	0.01080	0.01070	0.01524	0.00574	0.00000	0.00000	0.00000	0.00000	0.01750	0.01860	0.00000	0.00000	0.00000	0.00000	0.00000	0.01175	0.00000	0.00000
540	0.01111	0.01100	0.01588	0.00584	0.00000	0.00000	0.00000	0.00000	0.01800	0.01910	0.00000	0.00000	0.00000	0.00000	0.00000	0.01224	0.00000	0.00000
600	0.01121	0.01120	0.01639	0.00594	0.00000	0.00000	0.00000	0.00000	0.01840	0.01960	0.00000	0.00000	0.00000	0.00000	0.00000	0.01269	0.00000	0.00000
660	0.01131	0.01130	0.01686	0.00604	0.00000	0.00000	0.00000	0.00000	0.01860	0.02000	0.00000	0.00000	0.00000	0.00000	0.00000	0.01305	0.00000	0.00000
720	0.01131	0.01130	0.01710	0.00604	0.00000	0.00000	0.00000	0.00000	0.01880	0.02030	0.00000	0.00000	0.00000	0.00000	0.00000	0.01328	0.00000	0.00000

Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Petrol)

Running Exhaust Emission Factor (gram/mile/vehicle) - FSP

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.01143	0.01143	0.02627	0.02142	0.00000	0.00000	0.00000	0.00000	0.06502	0.01143	0.00000	0.00000	0.00000	0.00000	0.00000	0.01342	0.00000	0.00000

Starting Emission Factor (gram/trip) - FSP

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00040	0.00040	0.00299	0.00021	0.00000	0.00000	0.00000	0.00000	0.00070	0.00090	0.00000	0.00000	0.00000	0.00000	0.00000	0.00223	0.00000	0.00000
10	0.00070	0.00070	0.00308	0.00041	0.00000	0.00000	0.00000	0.00000	0.00140	0.00180	0.00000	0.00000	0.00000	0.00000	0.00000	0.00238	0.00000	0.00000
20	0.00140	0.00140	0.00332	0.00081	0.00000	0.00000	0.00000	0.00000	0.00280	0.00350	0.00000	0.00000	0.00000	0.00000	0.00000	0.00268	0.00000	0.00000
30	0.00210	0.00210	0.00365	0.00121	0.00000	0.00000	0.00000	0.00000	0.00410	0.00500	0.00000	0.00000	0.00000	0.00000	0.00000	0.00300	0.00000	0.00000
40	0.00280	0.00270	0.00398	0.00150	0.00000	0.00000	0.00000	0.00000	0.00520	0.00640	0.00000	0.00000	0.00000	0.00000	0.00000	0.00333	0.00000	0.00000
50	0.00340	0.00340	0.00430	0.00190	0.00000	0.00000	0.00000	0.00000	0.00640	0.00770	0.00000	0.00000	0.00000	0.00000	0.00000	0.00363	0.00000	0.00000
60	0.00400	0.00390	0.00462	0.00220	0.00000	0.00000	0.00000	0.00000	0.00740	0.00890	0.00000	0.00000	0.00000	0.00000	0.00000	0.00395	0.00000	0.00000
120	0.00660	0.00650	0.00732	0.00351	0.00000	0.00000	0.00000	0.00000	0.01150	0.01310	0.00000	0.00000	0.00000	0.00000	0.00000	0.00601	0.00000	0.00000
180	0.00740	0.00730	0.00853	0.00391	0.00000	0.00000	0.00000	0.00000	0.01250	0.01390	0.00000	0.00000	0.00000	0.00000	0.00000	0.00688	0.00000	0.00000
240	0.00810	0.00800	0.00955	0.00432	0.00000	0.00000	0.00000	0.00000	0.01350	0.01470	0.00000	0.00000	0.00000	0.00000	0.00000	0.00762	0.00000	0.00000
300	0.00870	0.00870	0.01057	0.00462	0.00000	0.00000	0.00000	0.00000	0.01430	0.01550	0.00000	0.00000	0.00000	0.00000	0.00000	0.00827	0.00000	0.00000
360	0.00920	0.00920	0.01139	0.00482	0.00000	0.00000	0.00000	0.00000	0.01510	0.01610	0.00000	0.00000	0.00000	0.00000	0.00000	0.00891	0.00000	0.00000
420	0.00970	0.00960	0.01221	0.00513	0.00000	0.00000	0.00000	0.00000	0.01570	0.01670	0.00000	0.00000	0.00000	0.00000	0.00000	0.00952	0.00000	0.00000
480	0.01000	0.01000	0.01283	0.00523	0.00000	0.00000	0.00000	0.00000	0.01630	0.01730	0.00000	0.00000	0.00000	0.00000	0.00000	0.00995	0.00000	0.00000
540	0.01030	0.01020	0.01336	0.00543	0.00000	0.00000	0.00000	0.00000	0.01670	0.01780	0.00000	0.00000	0.00000	0.00000	0.00000	0.01040	0.00000	0.00000
600	0.01040	0.01040	0.01379	0.00553	0.00000	0.00000	0.00000	0.00000	0.01700	0.01820	0.00000	0.00000	0.00000	0.00000	0.00000	0.01074	0.00000	0.00000
660	0.01050	0.01050	0.01412	0.00553	0.00000	0.00000	0.00000	0.00000	0.01730	0.01850	0.00000	0.00000	0.00000	0.00000	0.00000	0.01104	0.00000	0.00000
720	0.01050	0.01050	0.01435	0.00563	0.00000	0.00000	0.00000	0.00000	0.01740	0.01880	0.00000	0.00000	0.00000	0.00000	0.00000	0.01126	0.00000	0.00000

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Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Diesel)

Running Exhaust Emission Factor (gram/mile/vehicle) - NO

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.134219	0	2.479033	2.421097	2.152176	3.357092	5.608725	1.099504	1.70848	1.268646	2.13399	2.963124	7.48184	6.812192	13.27113	0	6.852909	2.971493

Starting Emission Factor (gram/trip) - NO

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.00000	0.00000	0.00000	0.03540	0.05870	0.16160	0.03920	0.00000	0.03460	0.03600	0.06610	0.19060	0.32670	0.72490	0.00000	0.18100	0.08340
10	0.00000	0.00000	0.00000	0.00000	0.06380	0.10580	0.29100	0.07050	0.00000	0.06230	0.06470	0.11890	0.34310	0.58800	1.30490	0.00000	0.32580	0.15000
20	0.00000	0.00000	0.00000	0.00000	0.08510	0.14090	0.38800	0.09400	0.00000	0.08320	0.08630	0.15860	0.45740	0.78410	1.73970	0.00000	0.43450	0.20000
30	0.00000	0.00000	0.00000	0.00000	0.12050	0.19980	0.54960	0.13320	0.00000	0.11780	0.12230	0.22470	0.64800	1.11070	2.46470	0.00000	0.61550	0.28340
40	0.00000	0.00000	0.00000	0.00000	0.14890	0.24670	0.67890	0.16450	0.00000	0.14560	0.15100	0.27760	0.80050	1.37210	3.04460	0.00000	0.76030	0.35000
50	0.00000	0.00000	0.00000	0.00000	0.19860	0.32890	0.90520	0.21940	0.00000	0.19400	0.20150	0.37010	1.06740	1.82940	4.05950	0.00000	1.01380	0.46670
60	0.00000	0.00000	0.00000	0.00000	0.29070	0.48160	1.32550	0.32130	0.00000	0.28420	0.29500	0.54190	1.56290	2.67880	5.94420	0.00000	1.48450	0.68330
120	0.00000	0.00000	0.00000	0.00000	0.36160	0.59920	1.64880	0.39960	0.00000	0.35340	0.36690	0.67420	1.94410	3.33210	7.39400	0.00000	1.84660	0.85000
180	0.00000	0.00000	0.00000	0.00000	0.53190	0.88100	2.42460	0.58760	0.00000	0.51980	0.53960	0.99140	2.85910	4.90020	10.87360	0.00000	2.71550	1.24990
240	0.00000	0.00000	0.00000	0.00000	0.69500	1.15130	3.16820	0.76780	0.00000	0.67930	0.70500	1.29530	3.73570	6.40290	14.20810	0.00000	3.54830	1.63320
300	0.00000	0.00000	0.00000	0.00000	0.78000	1.29220	3.55620	0.86180	0.00000	0.76240	0.79130	1.45400	4.19320	7.18690	15.94790	0.00000	3.98280	1.83320
360	0.00000	0.00000	0.00000	0.00000	0.92190	1.52710	4.20270	1.01850	0.00000	0.90100	0.93530	1.71830	4.95560	8.49370	18.84750	0.00000	4.70690	2.16660
420	0.00000	0.00000	0.00000	0.00000	1.01410	1.67980	4.62300	1.12040	0.00000	0.99120	1.02880	1.89020	5.45120	9.34300	20.73230	0.00000	5.17760	2.38320
480	0.00000	0.00000	0.00000	0.00000	1.06370	1.76210	4.84930	1.17530	0.00000	1.03960	1.07910	1.98270	5.71800	9.80040	21.74720	0.00000	5.43110	2.49990
540	0.00000	0.00000	0.00000	0.00000	1.09210	1.80910	4.97860	1.20660	0.00000	1.06730	1.10790	2.03560	5.87050	10.06170	22.32710	0.00000	5.57590	2.56660
600	0.00000	0.00000	0.00000	0.00000	1.12050	1.85610	5.10790	1.23790	0.00000	1.09510	1.13670	2.08840	6.02300	10.32310	22.90700	0.00000	5.72080	2.63320
660	0.00000	0.00000	0.00000	0.00000	1.13460	1.87960	5.17250	1.25360	0.00000	1.10890	1.15110	2.11490	6.09920	10.45370	23.19700	0.00000	5.79320	2.66660
720	0.00000	0.00000	0.00000	0.00000	1.13460	1.87960	5.17250	1.25360	0.00000	1.10890	1.15110	2.11490	6.09920	10.45370	23.19700	0.00000	5.79320	2.66660

Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Diesel)

Running Exhaust Emission Factor (gram/mile/vehicle) - NO2

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.016898	0	0.222411	0.200041	0.83702	1.471262	1.432316	0.427603	0.42712	0.493264	0.829939	1.459192	1.464825	0.42535	0.671901	0	1.540786	1.463537

Starting Emission Factor (gram/trip) - NO2

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.00000	0.00000	0.00000	0.01380	0.02570	0.02840	0.01520	0.00000	0.01350	0.01400	0.03250	0.03310	0.02300	0.04520	0.00000	0.02530	0.04100
10	0.00000	0.00000	0.00000	0.00000	0.02480	0.04620	0.05110	0.02740	0.00000	0.02430	0.02520	0.05860	0.05960	0.04140	0.08140	0.00000	0.04550	0.07390
20	0.00000	0.00000	0.00000	0.00000	0.03310	0.06170	0.06810	0.03660	0.00000	0.03230	0.03360	0.07810	0.07950	0.05510	0.10860	0.00000	0.06060	0.09850
30	0.00000	0.00000	0.00000	0.00000	0.04690	0.08730	0.09650	0.05180	0.00000	0.04580	0.04760	0.11060	0.11260	0.07810	0.15380	0.00000	0.08590	0.13950
40	0.00000	0.00000	0.00000	0.00000	0.05790	0.10790	0.11930	0.06400	0.00000	0.05660	0.05880	0.13660	0.13910	0.09650	0.19000	0.00000	0.10610	0.17240
50	0.00000	0.00000	0.00000	0.00000	0.07720	0.14390	0.15900	0.08530	0.00000	0.07550	0.07830	0.18220	0.18540	0.12870	0.25330	0.00000	0.14140	0.22980
60	0.00000	0.00000	0.00000	0.00000	0.11310	0.21070	0.23280	0.12490	0.00000	0.11050	0.11470	0.26680	0.27150	0.18840	0.37090	0.00000	0.20710	0.33660
120	0.00000	0.00000	0.00000	0.00000	0.14070	0.26200	0.28960	0.15540	0.00000	0.13750	0.14270	0.33180	0.33770	0.23440	0.46140	0.00000	0.25760	0.41860
180	0.00000	0.00000	0.00000	0.00000	0.20680	0.38540	0.42590	0.22850	0.00000	0.20220	0.20980	0.48800	0.49660	0.34470	0.67850	0.00000	0.37880	0.61570
240	0.00000	0.00000	0.00000	0.00000	0.27030	0.50350	0.55650	0.29860	0.00000	0.26410	0.27420	0.63770	0.64900	0.45040	0.88660	0.00000	0.49500	0.80450
300	0.00000	0.00000	0.00000	0.00000	0.30340	0.56520	0.62460	0.33520	0.00000	0.29650	0.30780	0.71570	0.72840	0.50550	0.99520	0.00000	0.55560	0.90300
360	0.00000	0.00000	0.00000	0.00000	0.35850	0.66800	0.73820	0.39610	0.00000	0.35040	0.36370	0.84590	0.86090	0.59740	1.17610	0.00000	0.65660	1.06710
420	0.00000	0.00000	0.00000	0.00000	0.39440	0.73480	0.81200	0.43570	0.00000	0.38540	0.40010	0.93050	0.94690	0.65720	1.29370	0.00000	0.72230	1.17390
480	0.00000	0.00000	0.00000	0.00000	0.41370	0.77070	0.85180	0.45700	0.00000	0.40430	0.41970	0.97600	0.99330	0.68930	1.35700	0.00000	0.75760	1.23130
540	0.00000	0.00000	0.00000	0.00000	0.42470	0.79130	0.87450	0.46920	0.00000	0.41510	0.43090	1.00200	1.01980	0.70770	1.39320	0.00000	0.77780	1.26410
600	0.00000	0.00000	0.00000	0.00000	0.43570	0.81180	0.89720	0.48140	0.00000	0.42590	0.44210	1.02810	1.04630	0.72610	1.42940	0.00000	0.79800	1.29700
660	0.00000	0.00000	0.00000	0.00000	0.44130	0.82210	0.90860	0.48750	0.00000	0.43130	0.44760	1.04110	1.05950	0.73530	1.44750	0.00000	0.80810	1.31340
720	0.00000	0.00000	0.00000	0.00000	0.44130	0.82210	0.90860	0.48750	0.00000	0.43130	0.44760	1.04110	1.05950	0.73530	1.44750	0.00000	0.80810	1.31340

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Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Diesel)

Running Exhaust Emission Factor (gram/mile/vehicle) - RSP

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.009012	0	0.033957	0.031704	0.082881	0.127138	0.291452	0.089158	0.013518	0.081272	0.114907	0.085456	0.325087	0.265542	0.524002	0	0.345365	0.102354

Starting Emission Factor (gram/trip) - RSP

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
120	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
180	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
240	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
300	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
360	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
480	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
540	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
600	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
660	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
720	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, Diesel)

Running Exhaust Emission Factor (gram/mile/vehicle) - FSP

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0.008369	0	0.031221	0.029129	0.076283	0.116838	0.268117	0.082077	0.012392	0.074674	0.105734	0.078697	0.299016	0.244298	0.481999	0	0.317685	0.094147

Starting Emission Factor (gram/trip) - FSP

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
120	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
180	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
240	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
300	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
360	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
480	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
540	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
600	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
660	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
720	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, LPG)

Running Exhaust Emission Factor (gram/mile/vehicle) - NO

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0	1.232597	0	0	0	0	0	2.731057	0	1.98931	0	0	0	0	0	0	0	0

Starting Emission Factor (gram/trip) - NO

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.98750	0.00000	0.00000	0.00000	0.00000	0.00000	1.68900	0.00000	1.14620	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	0.00000	1.00390	0.00000	0.00000	0.00000	0.00000	0.00000	2.54490	0.00000	1.72700	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.00000	1.03580	0.00000	0.00000	0.00000	0.00000	0.00000	4.04800	0.00000	2.74700	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	0.00000	1.06670	0.00000	0.00000	0.00000	0.00000	0.00000	5.27280	0.00000	3.57810	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	0.00000	1.09660	0.00000	0.00000	0.00000	0.00000	0.00000	6.21940	0.00000	4.22040	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	0.00000	1.12540	0.00000	0.00000	0.00000	0.00000	0.00000	6.88750	0.00000	4.67390	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	0.00000	1.15320	0.00000	0.00000	0.00000	0.00000	0.00000	7.27740	0.00000	4.93840	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
120	0.00000	1.28340	0.00000	0.00000	0.00000	0.00000	0.00000	7.45300	0.00000	5.05760	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
180	0.00000	1.39690	0.00000	0.00000	0.00000	0.00000	0.00000	7.42560	0.00000	5.03900	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
240	0.00000	1.38540	0.00000	0.00000	0.00000	0.00000	0.00000	7.38380	0.00000	5.01060	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
300	0.00000	1.36590	0.00000	0.00000	0.00000	0.00000	0.00000	7.32750	0.00000	4.97240	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
360	0.00000	1.33870	0.00000	0.00000	0.00000	0.00000	0.00000	7.25670	0.00000	4.92440	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
420	0.00000	1.30350	0.00000	0.00000	0.00000	0.00000	0.00000	7.17150	0.00000	4.86660	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
480	0.00000	1.26040	0.00000	0.00000	0.00000	0.00000	0.00000	7.07180	0.00000	4.79890	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
540	0.00000	1.20930	0.00000	0.00000	0.00000	0.00000	0.00000	6.95770	0.00000	4.72140	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
600	0.00000	1.15040	0.00000	0.00000	0.00000	0.00000	0.00000	6.82910	0.00000	4.63420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
660	0.00000	1.08350	0.00000	0.00000	0.00000	0.00000	0.00000	6.68610	0.00000	4.53710	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
720	0.00000	1.00870	0.00000	0.00000	0.00000	0.00000	0.00000	6.52850	0.00000	4.43020	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, LPG)

Running Exhaust Emission Factor (gram/mile/vehicle) - NO2

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0	0.034279	0	0	0	0	0	0.014484	0	0.0103	0	0	0	0	0	0	0	0

Starting Emission Factor (gram/trip) - NO2

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.02770	0.00000	0.00000	0.00000	0.00000	0.00000	0.00900	0.00000	0.00590	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.02810	0.00000	0.00000	0.00000	0.00000	0.00000	0.01360	0.00000	0.00890	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.00000	0.02900	0.00000	0.00000	0.00000	0.00000	0.00000	0.02160	0.00000	0.01410	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	0.00000	0.02990	0.00000	0.00000	0.00000	0.00000	0.00000	0.02810	0.00000	0.01840	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	0.00000	0.03070	0.00000	0.00000	0.00000	0.00000	0.00000	0.03310	0.00000	0.02170	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	0.00000	0.03150	0.00000	0.00000	0.00000	0.00000	0.00000	0.03670	0.00000	0.02400	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	0.00000	0.03230	0.00000	0.00000	0.00000	0.00000	0.00000	0.03880	0.00000	0.02540	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
120	0.00000	0.03600	0.00000	0.00000	0.00000	0.00000	0.00000	0.03970	0.00000	0.02600	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
180	0.00000	0.03910	0.00000	0.00000	0.00000	0.00000	0.00000	0.03960	0.00000	0.02590	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
240	0.00000	0.03880	0.00000	0.00000	0.00000	0.00000	0.00000	0.03930	0.00000	0.02580	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
300	0.00000	0.03830	0.00000	0.00000	0.00000	0.00000	0.00000	0.03900	0.00000	0.02560	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
360	0.00000	0.03750	0.00000	0.00000	0.00000	0.00000	0.00000	0.03870	0.00000	0.02530	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
420	0.00000	0.03650	0.00000	0.00000	0.00000	0.00000	0.00000	0.03820	0.00000	0.02500	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
480	0.00000	0.03530	0.00000	0.00000	0.00000	0.00000	0.00000	0.03770	0.00000	0.02470	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
540	0.00000	0.03390	0.00000	0.00000	0.00000	0.00000	0.00000	0.03710	0.00000	0.02430	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
600	0.00000	0.03220	0.00000	0.00000	0.00000	0.00000	0.00000	0.03640	0.00000	0.02380	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
660	0.00000	0.03040	0.00000	0.00000	0.00000	0.00000	0.00000	0.03560	0.00000	0.02330	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
720	0.00000	0.02830	0.00000	0.00000	0.00000	0.00000	0.00000	0.03480	0.00000	0.02280	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, LPG)

Running Exhaust Emission Factor (gram/mile/vehicle) - RSP

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Starting Emission Factor (gram/trip) - RSP

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
120	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
180	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
240	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
300	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
360	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
480	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
540	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
600	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
660	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
720	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Appendix 4.6 Calculation of Start Emissions

Year 2028 - Worst Temp & RH (9°C and 16% RH, LPG)

Running Exhaust Emission Factor (gram/mile/vehicle) - FSP

Speed (km/hr)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Starting Emission Factor (gram/trip) - FSP

Time (min)	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
5	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
10	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
20	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
30	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
40	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
50	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
60	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
120	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
180	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
240	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
300	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
360	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
420	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
480	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
540	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
600	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
660	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
720	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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Appendix 4.6 Calculation of Start Emissions

Car Park 1

Site Parameters

Average Distance from Starting Place to PT/Parking Site Egress (m)	40
Average Travelling Distance within PT/Parking Site (m)	80
Average Travelling Speed (km/h)	15

Frequency

Hour	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
0000 - 0100	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0100 - 0200	1	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0200 - 0300	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0300 - 0400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0400 - 0500	2	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0500 - 0600	1	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0600 - 0700	0	0	0		0	0	0	0	0	0			1	0	0	0	0	0
0700 - 0800	11	3	0		2	0	0	0	0	0			4	0	0	0	0	0
0800 - 0900	7	3	0		3	0	0	0	0	0			3	0	0	0	0	0
0900 - 1000	21	1	0		5	0	0	0	0	0			3	0	0	1	0	0
1000 - 1100	17	4	0		11	0	0	0	0	0			5	0	0	1	1	0
1100 - 1200	23	0	0		13	0	0	0	0	0			4	0	0	0	0	0
1200 - 1300	12	1	0		7	0	0	0	0	0			3	0	0	0	0	0
1300 - 1400	15	1	0		1	0	0	0	0	0			2	0	0	0	0	0
1400 - 1500	34	1	0		5	0	1	0	0	0			3	0	1	0	0	0
1500 - 1600	22	0	0		5	0	0	0	0	0			3	0	0	0	1	0
1600 - 1700	12	1	0		4	0	0	0	0	0			1	0	0	0	1	0
1700 - 1800	29	1	0		2	0	0	0	0	0			5	0	0	0	2	0
1800 - 1900	29	1	0		3	0	0	0	0	0			2	0	0	0	0	0
1900 - 2000	13	1	0		1	0	0	0	0	0			1	0	0	1	0	0
2000 - 2100	3	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2100 - 2200	1	0	0		0	0	0	0	0	0			0	0	0	0	1	0
2200 - 2300	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2300 - 2400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0

Vehicle Parameters

	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
Spread Distance of Adjusted Start Emission (m)	700	0	150	0	700	0		700	700	700	700	700	700	0	700	150	0			700	700	700	0	700	700
Max. Idling Time for Adjusting Starting Emission (min)	1	0	0.5	0	1	0		1	1	1	1	1	1	0	1	1	0			1	1	1	0	1	1
Soak Time (duration of engine off prior to engine ignition) (min)	60	240	240	240	60	240		60	60	60	60	240	60	240	60	240	240			60	60	60	240	60	60
Average Spread Distance outside PT/Parking Site (m)	660	0	110	0	660	0		660	660	660	660	110	660	0	660	110	0			660	660	660	0	660	660
Idling Time for Terminating Vehicle (min)	1.71	1.71	1.14	1.14	2.00	2.00		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00			3.00	2.00	2.00	2.63	0.50	2.00
Idling Time for Non-terminating Vehicle (min)	3.00	3.00	3.00	3.00	1.50	1.50		3.00	1.50	3.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50			3.00	1.50	3.00	0.67	3.00	1.50
Vehicle Percentage (%)	1.66%	98.34%	99.99%	0.01%	96.72%	3.28%		100.00%	100.00%	100.00%	69.27%	30.73%	81.13%	18.87%	85.83%	14.05%	0.12%			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NO Cold Idling Emission Factor (g/min)	5.024E-02	1.491E-03	1.639E-01	1.646E-03	4.253E-02	4.176E-03		7.573E-02	2.461E-01	5.332E-01	4.320E-02	2.513E-01	2.579E-02	3.199E-03	4.320E-02	7.848E-02	9.031E-03			9.652E-01	1.707E+00	6.746E+00	5.894E-03	6.370E-01	3.095E-01
NO Hot Idling Emission Factor (g/min)	5.024E-02	1.491E-03	2.131E-01	1.646E-03	4.253E-02	4.176E-03		3.511E-02	8.614E-02	9.661E-02	2.741E-02	7.827E-02	2.579E-02	3.199E-03	3.073E-02	7.848E-02	9.031E-03			8.417E-02	1.509E-01	2.230E-01	5.894E-03	1.391E-01	3.049E-02
NO_2 Cold Idling Emission Factor (g/min)	6.325E-03	7.611E-05	4.559E-03	8.699E-05	3.816E-03	2.196E-04		2.945E-02	1.079E-01	1.362E-01	1.680E-02	1.333E-03	6.447E-03	1.686E-04	1.680E-02	4.063E-04	4.754E-04			1.890E-01	1.066E-01	3.415E-01	3.101E-04	1.432E-01	1.525E-01
NO_2 Hot Idling Emission Factor (g/min)	6.325E-03	7.611E-05	5.927E-03	8.699E-05	3.816E-03	2.196E-04		1.365E-02	3.775E-02	2.467E-02	1.066E-02	4.151E-04	6.447E-03	1.686E-04	1.195E-02	4.063E-04	4.754E-04			1.648E-02	9.423E-03	1.129E-02	3.101E-04	3.127E-02	1.501E-02
TSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
TSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
NO Running Emission Factor (g/mile/vehicle)	1.342E-01	5.379E-02	1.233E+00	8.224E-02	2.479E+00	9.273E-01		2.152E+00	3.357E+00	5.609E+00	1.100E+00	2.731E+00	1.708E+00	5.465E-01	1.269E+00	1.989E+00	8.927E-01			7.482E+00	6.812E+00	1.327E+01	4.833E-01	6.853E+00	2.971E+00
NO_2 Running Emission Factor (g/mile/vehicle)	1.690E-02	2.746E-03	3.428E-02	4.345E-03	2.224E-01	4.875E-02		8.370E-01	1.471E+00	1.432E+00	4.276E-01	1.448E-02	4.271E-01	2.881E-02	4.933E-01	1.030E-02	4.699E-02			1.465E+00	4.253E-01	6.719E-01	2.550E-02	1.541E+00	1.464E+00
TSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.272E-02	0.000E+00	1.271E-02	3.396E-02	3.117E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.226E-02	8.127E-02	0.000E+00	1.271E-02			3.251E-01	2.655E-01	5.240E-01	1.675E-02	3.454E-01	1.024E-01
RSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.240E-02	0.000E+00	1.239E-02	3.396E-02	2.974E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.017E-02	8.127E-02	0.000E+00	1.239E-02			3.251E-01	2.655E-01	5.240E-01	1.578E-02	3.454E-01	1.024E-01
FSP Running Emission Factor (g/mile/vehicle)	8.369E-03	1.143E-02	0.000E+00	1.143E-02	3.122E-02	2.627E-02		7.628E-02	1.168E-01	2.681E-01	8.208E-02	0.000E+00	1.239E-02	6.502E-02	7.467E-02	0.000E+00	1.143E-02			2.990E-01	2.443E-01	4.820E-01	1.342E-02	3.177E-01	9.415E-02

Survey Data on Start Emission [1]

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	2	1	4	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	11
0800 - 0900	0	1	1	0	1	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	7
0900 - 1000	0	1	2	0	1	3	2	2	2	3	5	0	0	0	0	0	0	0	0	0	0	21
1000 - 1100	0	2	1	3	2	1	1	2	0	4	1	0	0	0	0	0	0	0	0	0	0	17
1100 - 1200	6	0	3	1	1	3	1	1	0	1	3	0	1	0	0	0	0	0	0	0	0	23
1200 - 1300	6	0	0	1	0	0	0	0	0	4	0	0	1	0	0	0	0	0	0	0	0	12
1300 - 1400	11	1	0	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15
1400 - 1500	27	0	0	0	0	0	0	1	1	3	2	0	0	0	0	0	0	0	0	0	0	34
1500 - 1600	20	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	22
1600 - 1700	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
1700 - 1800	26	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	29
1800 - 1900	19	0	0	0	0	0	1	0	2	4	1	0	1	1	0	0	0	0	0	0	0	29
1900 - 2000	5	0	0	0	0	0	0	1	1	6	0	0	0	0	0	0	0	0	0	0	0	13
2000 - 2100	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	3
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	134	5	9	5	10	12	6	9	7	32	15	1	4	1	0	1	0	1	1	0	1	254

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	2	5	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	11
0800 - 0900	0	1	1	1	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	7
0900 - 1000	0	1	2	1	3	2	2	2	3	5	0	0	0	0	0	0	0	0	0	21
1000 - 1100	0	2	1	5	1	1	2	0	4	1	0	0	0	0	0	0	0	0	0	17
1100 - 1200	8	0	3	2	3	1	1	0	1	3	0	1	0	0	0	0	0	0	0	23
1200 - 1300	6	0	0	1	0	0	0	0	4	0	0	1	0	0	0	0	0	0	0	12
1300 - 1400	11	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	15
1400 - 1500	27	0	0	0	0	0	1	1	3	2	0	0	0	0	0	0	0	0	0	34
1500 - 1600	20	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	22
1600 - 1700	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
1700 - 1800	26	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	29
1800 - 1900	19	0	0	0	0	1	0	2	4	1	0	1	1	0	0	0	0	0	0	29
1900 - 2000	5	0	0	0	0	0	1	1	6	0	0	0	0	0	0	0	0	0	0	13
2000 - 2100	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	3
2100 - 2200	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	134	5	9	15	12	6	9	7	32	15	1	4	1	0	1	0	1	1	1	254

L:\Secure\Environment_Projects\60733229\L01\Others\Air\Modelling\Appendix\Calculation of Start Emissions\Calculation of Start Emissions.xlsx

Appendix 4.6 Calculation of Start Emissions

Car Park 1

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0800 - 0900	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0900 - 1000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	2	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1300 - 1400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1700 - 1800	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1800 - 1900	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1900 - 2000	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	11	0	1	3	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	18

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
0800 - 0900

Appendix 4.6 Calculation of Start Emissions

Car Park 1

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 1

08 - Public Light Buses (Code: 8)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 1

14 - Franchised Bus (SD) (Code: 12)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

15 - Franchised Bus (DD) (Code: 13)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

17 - Heavy Goods Vehicles>24t (Code: 14)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1600 - 1700	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1700 - 1800	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

16 - Motorcycles (Code: 15)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3

Remark

[1] Number of starts were derived based on on-site observations at the PTIs and operators' published schedules, while sitting time was obtained based on on-site observations at PTIs.

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Appendix 4.6 Calculation of Start Emissions

Car Park 1

NO

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.108E-04	2.630E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	2.216E-04	5.259E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.108E-04	2.630E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.719E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.219E-03	2.892E-02	1.838E-01	1.481E-06	0.000E+00	0.000E+00		2.140E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.488E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	7.756E-04	1.841E-02	1.838E-01	1.481E-06	0.000E+00	0.000E+00		3.210E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.116E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	2.327E-03	5.522E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		5.349E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.116E+00	0.000E+00	0.000E+00	2.402E-02	0.000E+00	0.000E+00
1000 - 1100	1.884E-03	4.470E-02	2.451E-01	1.975E-06	0.000E+00	0.000E+00		1.177E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.860E+00	0.000E+00	0.000E+00	2.402E-02	3.407E-01	0.000E+00
1100 - 1200	2.548E-03	6.048E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.391E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.488E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.330E-03	3.155E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		7.489E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.116E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.662E-03	3.944E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		1.070E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.438E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	3.767E-03	8.940E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		5.349E-01	0.000E+00	2.788E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.116E+00	0.000E+00	6.597E-01	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	2.438E-03	5.785E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.349E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.116E+00	0.000E+00	0.000E+00	0.000E+00	3.407E-01	0.000E+00
1600 - 1700	1.330E-03	3.155E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		4.279E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.719E-01	0.000E+00	0.000E+00	0.000E+00	3.407E-01	0.000E+00
1700 - 1800	3.213E-03	7.626E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		2.140E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.860E+00	0.000E+00	0.000E+00	0.000E+00	6.813E-01	0.000E+00
1800 - 1900	3.213E-03	7.626E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		3.210E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.438E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.440E-03	3.418E-02	6.126E-02	4.937E-07	0.000E+00	0.000E+00		1.070E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.719E-01	0.000E+00	0.000E+00	2.402E-02	0.000E+00	0.000E+00
2000 - 2100	3.324E-04	7.889E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	1.108E-04	2.630E-03	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 1

NO Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.652E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	9.177E-03	0.000E+00	1.065E-01	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.525E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	5.840E-03	0.000E+00	1.065E-01	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.049E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	1.752E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.404E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.525E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	1.418E-02	0.000E+00	4.262E-01	0.000E+00	0.000E+00	0.000E+00		3.917E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.064E+00	0.000E+00	0.000E+00	0.000E+00	6.953E-02	0.000E+00
1100 - 1200	1.251E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.621E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.896E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	5.006E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.272E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.930E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	3.337E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	5.840E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.652E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.022E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	2.503E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	8.343E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	6.674E-03	0.000E+00	1.065E-01	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.652E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	2.503E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = I_i * T_{ij} / T_i$

where

I_{ij}: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_{ij}: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	7.374E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	1.308E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	5.915E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	6.745E-01	2.478E-01	9.275E-06	0.000E+00	0.000E+00		2.857E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.220E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	4.532E-01	2.393E-01	8.985E-06	0.000E+00	0.000E+00		6.502E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.726E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	1.447E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.102E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.706E-02	0.000E+00	0.000E+00	1.488E-01	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	1.112E+00	1.039E+00	3.868E-05	0.000E+00	0.000E+00		3.919E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.976E-01	0.000E+00	0.000E+00	0.000E+00	3.947E-02	0.000E+00
1100 - 1200	0.000E+00	1.010E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.764E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.678E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	4.401E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.711E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.642E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	2.627E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	5.216E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.280E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	1.502E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.519E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	2.142E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	7.389E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.607E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	5.851E-01	3.441E-01	1.251E-05	0.000E+00	0.000E+00		1.634E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.594E-02	0.000E+00	0.000E+00	1.501E-01	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	2.316E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	8.094E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	7.975E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ijt}
= 0, if $S_{total} - I_{ij} < 0$
or
= $(S_{total} - I_{ij}) * d_i / (d_i + d_o)$, otherwise

where

S_{ijt}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Emission (g)* table above,

I_{ij}: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.427E-03	2.507E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	2.853E-03	5.013E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	1.427E-03	2.507E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.569E-02	2.757E-02	1.521E+00	1.420E-06	0.000E+00	0.000E+00		1.755E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.010E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	9.987E-03	1.755E-02	1.521E+00	1.420E-06	0.000E+00	0.000E+00		2.809E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.401E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	2.996E-02	5.264E-02	6.392E-01	5.965E-07	0.000E+00	0.000E+00		3.862E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.576E-01	0.000E+00	0.000E+00	1.550E-02	0.000E+00	0.000E+00
0900 - 1000	2.425E-02	4.261E-02	9.730E-01	9.066E-07	0.000E+00	0.000E+00		6.467E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.192E+00	0.000E+00	0.000E+00	3.949E-03	6.953E-02	0.000E+00
1000 - 1100	4.142E-02	7.278E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.116E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			8.940E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.358E-02	4.142E-02	6.392E-01	5.965E-07	0.000E+00	0.000E+00		8.757E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.044E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	3.324E-02	5.840E-02	6.392E-01	5.965E-07	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.050E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	7.757E-02	1.363E-01	6.392E-01	5.965E-07	0.000E+00	0.000E+00		5.266E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.401E+00	0.000E+00	0.000E+00	6.691E-01	0.000E+00	0.000E+00
1500 - 1600	5.291E-02	9.296E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.266E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.576E-01	0.000E+00	0.000E+00	0.000E+00	4.172E-01	0.000E+00
1600 - 1700	3.003E-02	5.277E-02	6.392E-01	5.965E-07	0.000E+00	0.000E+00		3.511E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.525E-01	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 1

NO_x

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.395E-05	1.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	2.790E-05	2.685E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.395E-05	1.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.282E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.976E-03	1.408E-03	6.755E-03	1.198E-08	0.000E+00	0.000E+00		2.731E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.483E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	1.257E-03	8.959E-04	6.755E-03	1.198E-08	0.000E+00	0.000E+00		2.731E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.164E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	3.772E-03	2.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.092E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.483E-01	0.000E+00	0.000E+00	8.156E-04	0.000E+00	0.000E+00
1000 - 1100	3.053E-03	2.176E-03	2.702E-02	4.793E-08	0.000E+00	0.000E+00		3.047E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.783E-02	0.000E+00	0.000E+00	0.000E+00	5.170E-03	0.000E+00
1100 - 1200	2.684E-03	1.920E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.817E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.701E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.078E-03	7.679E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.767E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.134E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	7.185E-04	5.119E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.257E-03	8.959E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.669E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	3.592E-04	2.560E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.462E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	5.388E-04	3.839E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.796E-03	1.280E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.890E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.437E-03	1.024E-03	6.755E-03	1.198E-08	0.000E+00	0.000E+00		5.890E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.669E-01	0.000E+00	0.000E+00	8.156E-04	0.000E+00	0.000E+00
2000 - 2100	5.388E-04	3.839E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	1.796E-04	1.280E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	1.796E-04	1.280E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	3.839E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	6.890E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	3.149E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.060E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	3.535E-02	2.900E-02	4.831E-07	0.000E+00	0.000E+00	0.000E+00		3.310E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.722E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	2.373E-02	2.810E-02	4.710E-07	0.000E+00	0.000E+00	0.000E+00		5.790E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.172E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.612E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.296E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.782E-01	0.000E+00	0.000E+00	7.833E-03	0.000E+00	0.000E+00
1000 - 1100	5.830E-02	1.210E-01	2.029E-06	0.000E+00	0.000E+00	0.000E+00		4.193E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.437E+00	0.000E+00	0.000E+00	0.000E+00	1.061E-01	0.000E+00
1100 - 1200	5.317E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.012E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.013E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.314E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.813E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			8.343E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.379E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	2.748E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			8.609E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	8.272E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.170E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	1.123E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	3.890E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.068E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	3.063E-02	3.910E-02	6.521E-07	0.000E+00	0.000E+00	0.000E+00		1.407E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.377E-01	0.000E+00	0.000E+00	7.933E-03	0.000E+00	0.000E+00
2000 - 2100	1.221E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	4.234E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	4.234E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{total} = \sum_i (E_{ei} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

E_{ei}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.050E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.050E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.890E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.155E-03	0.000E+00	2.963E-03	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	7.353E-04	0.000E+00	2.963E-03	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.055E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	2.206E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.462E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	1.786E-03	0.000E+00	1.185E-02	0.000E+00	0.000E+00	0.000E+00		1.523E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.999E-01	0.000E+00	0.000E+00	0.000E+00	1.563E-02	0.000E+00
1100 - 1200	1.576E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.408E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.669E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	6.302E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.836E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.780E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	4.202E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	7.353E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.890E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	

Appendix 4.6 Calculation of Start Emissions

Car Park 1

NO_2 Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	3.556E-02	6.303E-08	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	3.556E-02	6.303E-08	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	1.778E-02	3.152E-08	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.078E-04	0.000E+00	0.000E+00
1100 - 1200	2.521E-03	1.796E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.891E-03	1.347E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		1.638E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	3.466E-03	2.470E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	8.508E-03	6.062E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		2.048E-01	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.888E-02	0.000E+00	3.387E-02	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	6.302E-03	4.490E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.483E-01	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
1600 - 1700	3.781E-03	2.694E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
1700 - 1800	8.193E-03	5.838E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.472E-01	0.000E+00	0.000E+00	0.000E+00	1.876E-01	0.000E+00
1800 - 1900	5.987E-03	4.266E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.576E-03	1.123E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = E_{ij} * T_{ij} * f_{ij} * p$

where

I_{ij}: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_{ij}: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_{ij}: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_{ij}: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

NO_2 Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.796E-04	1.280E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	3.592E-04	2.560E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.796E-04	1.280E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.569E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.976E-03	1.408E-03	4.231E-02	7.501E-08	0.000E+00	0.000E+00		6.827E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.978E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	1.257E-03	8.959E-04	4.231E-02	7.501E-08	0.000E+00	0.000E+00		1.092E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.658E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	3.772E-03	2.688E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		1.502E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.483E-01	0.000E+00	0.000E+00	8.156E-04	0.000E+00	0.000E+00
1000 - 1100	3.053E-03	2.176E-03	2.702E-02	4.790E-08	0.000E+00	0.000E+00		3.456E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.800E+00	0.000E+00	0.000E+00	2.078E-04	1.563E-02	0.000E+00
1100 - 1200	5.215E-03	3.716E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.865E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.750E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.968E-03	2.115E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		3.406E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.183E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	4.185E-03	2.982E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	9.765E-03	6.958E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		2.048E-01	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.658E-01	0.000E+00	3.387E-02	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	6.662E-03	4.746E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.483E-01	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
1600 - 1700	3.781E-03	2.694E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		1.365E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
1700 - 1800	8.732E-03	6.222E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.472E-01	0.000E+00	0.000E+00	0.000E+00	1.876E-01	0.000E+00
1800 - 1900	7.783E-03	5.546E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		1.408E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	3.012E-03	2.146E-03	6.755E-03	1.198E-08	0.000E+00	0.000E+00		5.890E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.669E-01	0.000E+00	0.000E+00	8.156E-04	0.000E+00	0.000E+00
2000 - 2100	5.388E-04	3.839E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	1.796E-04	1.280E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
2200 - 2300	1.796E-04	1.280E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_0 + I_{ij}$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_0: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_{ij}: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

NO_2 Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.936E-04	4.102E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	3.871E-04	7.440E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.936E-04	3.411E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.895E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	2.129E-03	3.824E-02	5.436E-02	6.363E-07	0.000E+00	0.000E+00		1.526E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.960E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	1.355E-03	2.557E-02	5.412E-02	6.243E-07	0.000E+00	0.000E+00		2.366E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			8.964E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	4.065E-03	8.163E-02	1.948E-02	5.760E-08	0.000E+00	0.000E+00		3.625E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.798E-01	0.000E+00	0.000E+00	9.916E-03	0.000E+00	0.000E+00
1000 - 1100	3.291E-03	6.275E-02	6.294E-02	2.181E-06	0.000E+00	0.000E+00		8.186E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.212E+00	0.000E+00	0.000E+00	1.476E-03	9.739E-02	0.000E+00
1100 - 1200	2.521E-03	1.796E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	4.394E-03	1.878E-02	1.948E-02	5.760E-08	0.000E+00	0.000E+00		8.257E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.445E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.024E-02	3.900E-02	1.948E-02	5.760E-08	0.000E+00	0.000E+00		4.128E-01	0.000E+00	1.452E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.227E-01	0.000E+00	6.727E-02	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	6.968E-03	1.597E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.128E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.688E-01	0.000E+00	0.000E+00	0.000E+00	1.704E-01	0.000E+00
1600 - 1700	3.949E-03	4.305E-03	1.948E-02	5.760E-08	0.000E+00	0.000E+00		3.055E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		

Appendix 4.6 Calculation of Start Emissions

Car Park 1

RSP Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.445E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.570E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	2.758E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	2.233E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.925E-03	0.000E+00	0.000E+00	0.000E+00	6.943E-04	0.000E+00
1100 - 1200	1.970E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.469E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.880E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.570E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	5.253E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.850E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	3.940E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.313E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.051E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.850E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	3.940E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_s = I_i * T_s / T_i$

where

I_s: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_s: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	1.063E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	2.214E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	1.112E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	2.126E-02	0.000E+00	1.811E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	2.243E-02	0.000E+00	9.661E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	9.148E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	4.414E-03	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	5.696E-02	0.000E+00	1.232E-06	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	5.814E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	3.866E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	1.269E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	4.426E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	1.473E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	1.692E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	6.610E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	4.953E-02	0.000E+00	9.540E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	2.174E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	8.558E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	9.247E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ad}

= 0, if $S_{total} - I_s < 0$

or

= $(S_{total} - I_s) * d_i / (d_i + d_o)$, otherwise

where

S_{ad}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_s: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	5.979E-05	2.344E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	2.990E-05	1.178E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.851E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	3.289E-04	2.851E-02	0.000E+00	5.911E-07	0.000E+00	0.000E+00		1.041E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.406E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	2.093E-04	2.705E-02	0.000E+00	5.066E-07	0.000E+00	0.000E+00		1.583E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.554E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	6.278E-04	1.053E-01	0.000E+00	1.529E-07	0.000E+00	0.000E+00		2.537E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.554E-02	0.000E+00	0.000E+00	5.231E-03	0.000E+00	0.000E+00
1000 - 1100	5.082E-04	6.817E-02	0.000E+00	1.649E-06	0.000E+00	0.000E+00		5.529E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.257E-02	0.000E+00	0.000E+00	7.925E-04	1.786E-02	0.000E+00
1100 - 1200	8.232E-04	7.363E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.700E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.406E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	4.604E-04	4.681E-02	0.000E+00	1.529E-07	0.000E+00	0.000E+00		3.664E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.554E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	6.348E-04	2.302E-02	0.000E+00	1.529E-07	0.000E+00	0.000E+00		5.421E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.703E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.474E-03	6.777E-02	0.000E+00	1.529E-07	0.000E+00	0.000E+00		2.710E-02	0.000E+00	1.740E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.554E-02	0.000E+00	3.197E-02	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	9.966E-04	3.006E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.710E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.554E-02	0.000E+00	0.000E+00	0.000E+00	2

Appendix 4.6 Calculation of Start Emissions

Car Park 1

FSP

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	6.908E-06	5.587E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	1.382E-05	1.117E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	6.908E-06	5.587E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.486E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	7.599E-05	6.146E-03	0.000E+00	2.058E-07	0.000E+00	0.000E+00		7.584E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.946E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	4.836E-05	3.911E-03	0.000E+00	2.058E-07	0.000E+00	0.000E+00		1.138E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.459E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	1.451E-04	1.173E-02	0.000E+00	6.859E-08	0.000E+00	0.000E+00		1.896E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.459E-02	0.000E+00	0.000E+00	6.672E-04	0.000E+00	0.000E+00
1000 - 1100	1.174E-04	9.498E-03	0.000E+00	2.744E-07	0.000E+00	0.000E+00		4.171E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.432E-02	0.000E+00	0.000E+00	6.672E-04	1.579E-02	0.000E+00
1100 - 1200	1.589E-04	1.285E-02	0.000E+00	6.859E-08	0.000E+00	0.000E+00		4.938E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.946E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	8.290E-05	6.704E-03	0.000E+00	6.859E-08	0.000E+00	0.000E+00		2.654E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.459E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.036E-04	8.380E-03	0.000E+00	6.859E-08	0.000E+00	0.000E+00		3.792E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.973E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	2.349E-04	1.900E-02	0.000E+00	6.859E-08	0.000E+00	0.000E+00		1.896E-02	0.000E+00	1.333E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.459E-02	0.000E+00	2.394E-02	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.520E-04	1.229E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.896E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.459E-02	0.000E+00	0.000E+00	0.000E+00	1.579E-02	0.000E+00
1600 - 1700	8.290E-05	6.704E-03	0.000E+00	6.859E-08	0.000E+00	0.000E+00		1.517E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.486E-02	0.000E+00	0.000E+00	0.000E+00	1.579E-02	0.000E+00
1700 - 1800	2.003E-04	1.620E-02	0.000E+00	6.859E-08	0.000E+00	0.000E+00		7.584E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.432E-02	0.000E+00	0.000E+00	0.000E+00	3.158E-02	0.000E+00
1800 - 1900	2.003E-04	1.620E-02	0.000E+00	6.859E-08	0.000E+00	0.000E+00		1.138E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.973E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	8.981E-05	7.263E-03	0.000E+00	6.859E-08	0.000E+00	0.000E+00		3.792E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.486E-02	0.000E+00	0.000E+00	6.672E-04	0.000E+00	0.000E+00
2000 - 2100	2.072E-05	1.676E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	6.908E-06	5.587E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.579E-02	0.000E+00
2200 - 2300	6.908E-06	5.587E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	9.837E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	2.056E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.033E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.968E-02	0.000E+00	1.691E-07	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	2.086E-02	0.000E+00	8.454E-08	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	8.528E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.952E-03	0.000E+00	0.000E+00
1000 - 1100	5.312E-02	0.000E+00	1.135E-06	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	5.401E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	3.590E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.181E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	4.131E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.377E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	6.737E-05	1.601E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	2.246E-04	5.338E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.797E-04	4.270E-04	0.000E+00	2.983E-08	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	3.262E-05	0.000E+00	0.000E+00
2000 - 2100	6.737E-05	1.601E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{total} = \sum_i (E_{e,i} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

$E_{e,i}$: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.445E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.570E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	2.758E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	2.233E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.925E-03	0.000E+00	0.000E+00	6.943E-04	0.000E+00	0.000E+00
1100 - 1200	1.970E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.469E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.880E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.570E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	5.253E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.850E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04

Appendix 4.6 Calculation of Start Emissions

Car Park 1

FSP Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	1.570E-07	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	1.570E-07	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	8.310E-06	0.000E+00	0.000E+00
1100 - 1200	3.152E-04	7.492E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.364E-04	5.619E-04	0.000E+00	7.850E-08	0.000E+00	0.000E+00		5.203E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	4.334E-04	1.030E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.710E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.064E-03	2.529E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		6.504E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.710E-03	0.000E+00	5.919E-03	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	7.880E-04	1.873E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.065E-03	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1600 - 1700	4.728E-04	1.124E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1700 - 1800	1.024E-03	2.435E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.177E-02	0.000E+00	0.000E+00	0.000E+00	8.332E-03	0.000E+00
1800 - 1900	7.486E-04	1.779E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.710E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.970E-04	4.683E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_t = E_t * T_o * f_t * p$

where

I_t: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_t: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_o: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_t: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

FSP Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	4.491E-05	1.068E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	2.470E-04	5.872E-04	0.000E+00	1.868E-07	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.420E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	1.572E-04	3.737E-04	0.000E+00	1.868E-07	0.000E+00	0.000E+00		3.469E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.065E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	4.716E-04	1.121E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		4.769E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.065E-03	0.000E+00	0.000E+00	3.262E-05	0.000E+00	0.000E+00
1000 - 1100	3.818E-04	9.075E-04	0.000E+00	1.193E-07	0.000E+00	0.000E+00		9.972E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.177E-02	0.000E+00	0.000E+00	8.310E-06	6.943E-04	0.000E+00
1100 - 1200	6.521E-04	1.550E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.344E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.420E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	3.711E-04	8.822E-04	0.000E+00	7.850E-08	0.000E+00	0.000E+00		7.804E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.065E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	5.232E-04	1.244E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.710E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.221E-03	2.902E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		6.504E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.065E-03	0.000E+00	5.919E-03	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	8.329E-04	1.980E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.065E-03	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1600 - 1700	4.728E-04	1.124E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		4.336E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1700 - 1800	1.092E-03	2.595E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.177E-02	0.000E+00	0.000E+00	0.000E+00	8.332E-03	0.000E+00
1800 - 1900	9.732E-04	2.313E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		3.469E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.710E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	3.767E-04	8.953E-04	0.000E+00	2.983E-08	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	3.262E-05	0.000E+00	0.000E+00
2000 - 2100	6.737E-05	1.601E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
2200 - 2300	2.246E-05	5.338E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_{nt}$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_{nt}: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

FSP Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	2.937E-05	1.045E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	5.873E-05	2.136E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	2.937E-05	1.094E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.722E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	3.250E-04	2.641E-02	0.000E+00	5.617E-07	0.000E+00	0.000E+00		9.752E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	2.056E-04	2.514E-02	0.000E+00	4.771E-07	0.000E+00	0.000E+00		1.484E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.166E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	6.167E-04	9.813E-02	0.000E+00	1.471E-07	0.000E+00	0.000E+00		2.373E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.166E-02	0.000E+00	0.000E+00	4.652E-03	0.000E+00	0.000E+00
1000 - 1100	4.992E-04	6.353E-02	0.000E+00	1.529E-06	0.000E+00	0.000E+00		5.168E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			8.609E-02	0.000E+00	0.000E+00	6.755E-04	1.649E-02	0.000E+00
1100 - 1200	8.109E-04	6.861E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.274E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	4.540E-04	4.349E-02	0.000E+00	1.471E-07	0.000E+00	0.000E+00		3.435E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.166E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	6.268E-04	2.143E-02	0.000E+00	1.471E-07	0.000E+00	0.000E+00		5.093E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.444E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.456E-03	6.321E-02	0.000E+00	1.471E-07	0.000E+00	0.000E+00		2.546E-02	0.000E+00	1.624E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.166E-02	0.000E+00	2.980E-02	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	9.849E-04	2.804E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.546E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.166E-02	0.000E+00	0.000E+00	0.000E+00	1

Appendix 4.6 Calculation of Start Emissions

Car Park 2

Site Parameters

Average Distance from Starting Place to PT/Parking Site Egress (m)	67
Average Travelling Distance within PT/Parking Site (m)	134
Average Travelling Speed (km/h)	15

Frequency

Hour	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
0000 - 0100	1	0	0		1	1	1	0	0	0			0	0	0	0	1	0
0100 - 0200	1	0	0		1	0	0	0	0	0			0	0	0	0	0	0
0200 - 0300	0	0	0		2	0	0	0	0	0			0	0	0	0	0	0
0300 - 0400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0400 - 0500	0	0	0		0	0	1	0	0	0			0	0	0	0	0	0
0500 - 0600	0	0	0		2	0	1	0	0	0			0	0	0	0	0	0
0600 - 0700	0	0	0		3	0	0	0	0	0			0	0	0	0	0	0
0700 - 0800	0	0	0		1	0	0	0	0	0			0	0	0	0	2	0
0800 - 0900	0	0	0		1	1	2	0	0	0			0	0	0	0	1	0
0900 - 1000	0	0	0		2	1	4	0	0	0			0	0	0	0	1	0
1000 - 1100	0	0	0		3	0	1	0	0	0			0	0	0	0	0	0
1100 - 1200	0	0	0		2	0	0	0	0	0			0	0	0	0	1	0
1200 - 1300	0	0	0		3	0	0	0	0	0			0	0	0	0	0	0
1300 - 1400	0	0	0		1	0	0	0	0	0			0	0	0	0	0	0
1400 - 1500	0	0	0		5	0	0	0	0	0			0	0	0	0	1	0
1500 - 1600	2	0	0		0	1	0	0	0	0			0	0	0	0	5	0
1600 - 1700	3	0	0		6	0	0	0	0	0			1	0	0	0	0	0
1700 - 1800	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1800 - 1900	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1900 - 2000	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2000 - 2100	0	0	0		0	0	0	0	0	0			0	0	0	0	1	0
2100 - 2200	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2200 - 2300	0	0	0		0	0	1	0	0	0			0	0	0	0	0	0
2300 - 2400	0	0	0		1	0	0	0	0	0			0	0	0	0	0	0

Vehicle Parameters

	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
Spread Distance of Adjusted Start Emission (m)	700	0	150	0	700	0		700	700	700	700	150	700	0	700	150	0			700	700	700	0	700	700
Max. Idling Time for Adjusting Starting Emission (min)	1	0	0.5	0	1	0		1	1	1	1	1	1	0	1	1	0			1	1	1	0	1	1
Soak Time (duration of engine off prior to engine ignition) (min)	60	240	240	240	60	240		60	60	60	60	240	60	240	60	240	240			60	60	60	240	60	60
Average Spread Distance outside PT/Parking Site (m)	633	0	83	0	633	0		633	633	633	633	83	633	0	633	83	0			633	633	633	0	633	633
Idling Time for Terminating Vehicle (min)	0.83	0.83	2.00	2.00	2.00	2.00		1.48	1.04	1.04	2.00	2.00	2.00	2.00	2.00	2.00	2.00			2.00	2.00	2.00	2.00	3.00	2.00
Idling Time for Non-terminating Vehicle (min)	3.00	3.00	1.50	1.50	1.50	1.50		3.00	3.00	3.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50			3.00	1.50	1.50	1.50	1.50	1.50
Vehicle Percentage (%)	1.66%	98.34%	99.99%	0.01%	96.72%	3.28%		100.00%	100.00%	100.00%	69.27%	30.73%	81.13%	18.87%	85.83%	14.05%	0.12%			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NO Cold Idling Emission Factor (g/min)	5.024E-02	1.491E-03	1.639E-01	1.646E-03	4.253E-02	4.176E-03		7.573E-02	2.461E-01	5.332E-01	4.320E-02	2.513E-01	2.579E-02	3.199E-03	4.320E-02	7.848E-02	9.031E-03			9.652E-01	1.707E+00	6.746E+00	5.894E-03	6.370E-01	3.095E-01
NO Hot Idling Emission Factor (g/min)	5.024E-02	1.491E-03	2.131E-01	1.646E-03	4.253E-02	4.176E-03		3.511E-02	8.614E-02	9.661E-02	2.741E-02	7.827E-02	2.579E-02	3.199E-03	3.073E-02	7.848E-02	9.031E-03			8.417E-02	1.509E-01	2.230E-01	5.894E-03	1.391E-01	3.049E-02
NO_2 Cold Idling Emission Factor (g/min)	6.325E-03	7.611E-05	4.559E-03	8.699E-05	3.816E-03	2.196E-04		2.945E-02	1.079E-01	1.362E-01	1.680E-02	1.333E-03	6.447E-03	1.686E-04	1.680E-02	4.063E-04	4.754E-04			1.890E-01	1.066E-01	3.415E-01	3.101E-04	1.432E-01	1.525E-01
NO_2 Hot Idling Emission Factor (g/min)	6.325E-03	7.611E-05	5.927E-03	8.699E-05	3.816E-03	2.196E-04		1.365E-02	3.775E-02	2.467E-02	1.066E-02	4.151E-04	6.447E-03	1.686E-04	1.195E-02	4.063E-04	4.754E-04			1.648E-02	9.423E-03	1.129E-02	3.101E-04	3.127E-02	1.501E-02
TSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
TSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
NO Running Emission Factor (g/mile/vehicle)	1.342E-01	5.379E-02	1.233E+00	8.224E-02	2.479E+00	9.273E-01		2.152E+00	3.357E+00	5.609E+00	1.100E+00	2.731E+00	1.708E+00	5.465E-01	1.269E+00	1.989E+00	8.927E-01			7.482E+00	6.812E+00	1.327E+01	4.833E-01	6.853E+00	2.971E+00
NO_2 Running Emission Factor (g/mile/vehicle)	1.690E-02	2.746E-03	3.428E-02	4.345E-03	2.224E-01	4.875E-02		8.370E-01	1.471E+00	1.432E+00	4.276E-01	1.448E-02	4.271E-01	2.881E-02	4.933E-01	1.030E-02	4.699E-02			1.465E+00	4.253E-01	6.719E-01	2.550E-02	1.541E+00	1.464E+00
TSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.272E-02	0.000E+00	1.271E-02	3.396E-02	3.117E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.226E-02	8.127E-02	0.000E+00	1.271E-02			3.251E-01	2.655E-01	5.240E-01	1.675E-02	3.454E-01	1.024E-01
RSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.240E-02	0.000E+00	1.239E-02	3.396E-02	2.974E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.017E-02	8.127E-02	0.000E+00	1.239E-02			3.251E-01	2.655E-01	5.240E-01	1.578E-02	3.454E-01	1.024E-01
FSP Running Emission Factor (g/mile/vehicle)	8.369E-03	1.143E-02	0.000E+00	1.143E-02	3.122E-02	2.627E-02		7.628E-02	1.168E-01	2.681E-01	8.208E-02	0.000E+00	1.239E-02	6.502E-02	7.467E-02	0.000E+00	1.143E-02			2.990E-01	2.443E-01	4.820E-01	1.342E-02	3.177E-01	9.415E-02

Survey Data on Start Emission [1]

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0100 - 0200	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	7

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0100 - 0200	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	7

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Appendix 4.6 Calculation of Start Emissions

Car Park 2

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0

Appendix 4.6 Calculation of Start Emissions

Car Park 2

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0900 - 1000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0500 - 0600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
0900 - 1000	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4
1000 - 1100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	8	0	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	0	12

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 2

08 - Public Light Buses (Code: 8)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

10 - Private Light Bus >3.5t (Code: 9)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

13 - Non-franchised Bus 15-24t (Code: 10)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 2

14 - Franchised Bus (SD) (Code: 12)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

15 - Franchised Bus (DD) (Code: 13)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

17 - Heavy Goods Vehicles>24t (Code: 14)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
0800 - 0900	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
0900 - 1000	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
1500 - 1600	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	1	2	0	0	0	3	0	0	4	1	0	0	0	0	13

16 - Motorcycles (Code: 15)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Remark

[1] Number of starts were derived based on on-site observations at the PTIs and operators' published schedules, while sitting time was obtained based on on-site observations at PTIs.

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Appendix 4.6 Calculation of Start Emissions

Car Park 2

NO

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.856E-04	4.404E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.792E-01	2.795E-01	4.670E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.706E-01	0.000E+00
0100 - 0200	1.856E-04	4.404E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.792E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	4.670E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	0.000E+00	4.670E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.376E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.792E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.141E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.792E-01	2.795E-01	9.340E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.706E-01	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	2.795E-01	1.868E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.706E-01	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.376E-01	0.000E+00	4.670E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.706E-01	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.376E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.792E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.960E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.706E-01	0.000E+00
1500 - 1600	3.712E-04	8.809E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	0.000E+00	4.670E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.853E+00	0.000E+00
1600 - 1700	5.568E-04	1.321E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.075E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.230E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 2

NO Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.370E-01	0.000E+00
0100 - 0200	6.925E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	5.332E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.521E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.557E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.585E-01	3.193E-01	1.009E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.664E-01	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.125E-01	0.000E+00	2.719E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.308E-01	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.185E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.577E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.026E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.162E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.050E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.335E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.372E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.646E+01	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.733E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = I_i * T_a / T_i$

where

I_{ij}: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.727E-01	0.000E+00
0100 - 0200	8.153E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.523E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.785E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.648E-01	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.736E-02	3.379E-02	1.068E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.112E-02	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.366E-02	0.000E+00	2.878E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.560E-02	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.664E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.845E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.202E-01	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.581E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.111E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.589E-01	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.745E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.742E+00	0.000E+00
1600 - 1700	0.000E+00	1.383E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.030E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.202E-01	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ijt}

= 0, if $S_{total} - I_{ij} < 0$

or

= $(S_{total} - I_{ij}) * d_i / (d_i + d_o)$, otherwise

where

S_{ijt}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_{ij}: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	2.503E-03	4.398E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	2.584E-01	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	6.925E-04	1.217E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.160E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	2.584E-01	5.797E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E

Appendix 4.6 Calculation of Start Emissions

Car Park 2

NO_x

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	2.336E-05	2.249E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.969E-02	1.225E-01	1.193E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.283E-01	0.000E+00
0100 - 0200	2.336E-05	2.249E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.969E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	1.193E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	0.000E+00	1.193E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.091E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.969E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.566E-01	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.969E-02	1.225E-01	2.385E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.283E-01	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	1.225E-01	4.770E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.283E-01	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.091E-01	0.000E+00	1.193E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.283E-01	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.091E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.969E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.485E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.283E-01	0.000E+00
1500 - 1600	4.673E-05	4.498E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	0.000E+00	1.193E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.415E-01	0.000E+00
1600 - 1700	7.009E-05	6.746E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.182E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.220E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.283E-01	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.969E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.778E-01	0.000E+00
0100 - 0200	4.333E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	5.565E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.310E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.485E-01	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.407E-01	2.620E-01	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.071E-01	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.068E-01	0.000E+00	7.153E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.590E-02	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.110E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.399E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.556E-01	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.806E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.240E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.576E-01	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.172E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.914E+00	0.000E+00
1600 - 1700	0.000E+00	7.286E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.185E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{total} = \sum_i (E_{e,i} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

$E_{e,i}$: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.296E-01	0.000E+00
0100 - 0200	4.333E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	1.362E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.745E-01	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.945E-02	1.079E-01	1.362E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.432E-01	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.945E-02	0.000E+00	2.723E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.127E-02	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.899E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.311E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.432E-01	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.256E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.256E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.432E-01	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.311E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.041E-01	0.000E+00
1600 - 1700	1.744E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 2

NO_2 Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	1.133E-01	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	1.133E-01	1.480E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = E_{ij} * T_{ij} * f_{ij} * p$

where

I_{ij}: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_{ij}: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_{ij}: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_{ij}: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

NO_2 Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	1.133E-01	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.296E-01	0.000E+00
0100 - 0200	8.718E-05	6.212E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	1.416E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.021E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.234E-01	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.359E-02	1.122E-01	2.156E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.296E-01	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.455E-02	1.133E-01	4.312E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.281E-01	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.380E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.296E-01	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.074E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.893E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.296E-01	0.000E+00
1500 - 1600	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.380E-02	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.812E+00	0.000E+00
1600 - 1700	4.895E-04	3.488E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.888E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.296E-01	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_{it}$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_{it}: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

NO_2 Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.385E-04	4.494E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.107E-01	2.358E-01	1.933E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.187E-01	0.000E+00
0100 - 0200	1.105E-04	4.619E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.107E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.213E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	3.013E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.213E-01	0.000E+00	1.933E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.320E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.176E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.967E-01	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.239E-01	2.494E-01	4.688E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.640E-01	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.409E-01	2.358E-01	9.507E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.273E-01	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.709E-01	0.000E+00	1.933E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.239E-01	2.494E-01	4.688E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.974E-01	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.459E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.107E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.810E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.167E-01	0.000E+00
1500 - 1600	6.770E-04	8.988E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.294E-01	0.000E+00	1.933E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000

Appendix 4.6 Calculation of Start Emissions

Car Park 2

RSP Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
0100 - 0200	1.090E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.777E-03	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	1.006E-03	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	1.941E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.943E-03	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	2.180E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = I_i * T_a / T_i$

where

I_{ij}: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	7.771E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	1.122E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ijt}

= 0, if $S_{total} - I_{ij} < 0$

or

= $(S_{total} - I_{ij}) * d_i / (d_i + d_o)$, otherwise

where

S_{ijt}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_{ij}: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	3.019E-03	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.417E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.332E-03	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.417E-04	1.047E-03	3.920E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.942E-03	3.019E-03	7.841E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.584E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.283E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.925E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.526E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1500 - 1600	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.283E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0

Appendix 4.6 Calculation of Start Emissions

Car Park 2
FSP
Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.157E-05	9.358E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.352E-03	9.728E-03	2.232E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.645E-02	0.000E+00
0100 - 0200	1.157E-05	9.358E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.352E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.232E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	0.000E+00	2.232E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.905E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.352E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.290E-02	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.352E-03	9.728E-03	4.465E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.645E-02	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	9.728E-03	8.930E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.645E-02	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.905E-02	0.000E+00	2.232E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.645E-02	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.905E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.352E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.176E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.645E-02	0.000E+00
1500 - 1600	2.314E-05	1.872E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	0.000E+00	2.232E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.323E-01	0.000E+00
1600 - 1700	3.471E-05	2.807E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.811E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.490E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.645E-02	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.232E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.352E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $R = E_i * f * d_i * p$
where
R: running emission at a specific speed for a vehicle type with a fuel type in an hour,
E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,
f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,
d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	7.279E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	1.009E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	1.043E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $S_{total} = \sum_i (E_{e,i} * f_i) * p$
where
$S_{total,i}$: total start emission for a vehicle type with a fuel type in an hour,
$E_{e,i}$: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,
f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	7.279E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.777E-03	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	1.086E-03	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	1.941E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.389E-03	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.943E-03	0.000E+00
1600 - 1700	2.180E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03

Appendix 4.6 Calculation of Start Emissions

Car Park 2

FSP Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	3.019E-03	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	3.019E-03	5.822E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_t = E_t * T_o * f_t * p$

where

I_t: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_t: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_o: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_t: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

FSP Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	3.019E-03	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
0100 - 0200	1.090E-05	2.591E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	1.009E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.417E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.332E-03	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.417E-04	1.047E-03	3.920E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.942E-03	3.019E-03	7.841E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.584E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.283E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.925E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.526E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1500 - 1600	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.283E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.083E-02	0.000E+00
1600 - 1700	6.120E-05	1.455E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.509E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_o$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_o: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

FSP Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	5.097E-05	1.029E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.452E-03	1.275E-02	2.524E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.062E-02	0.000E+00
0100 - 0200	2.247E-05	8.240E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.652E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.530E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	2.333E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.530E-02	0.000E+00	2.524E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.296E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.993E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.134E-02	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.993E-03	1.078E-02	4.857E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.062E-02	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.465E-02	1.275E-02	9.714E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.062E-02	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.164E-02	0.000E+00	2.524E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.399E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.062E-02	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.098E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.652E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.628E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.062E-02	0.000E+00
1500 - 1600	1.019E-04	2.059E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.399E-02	0.000E+00	2.524E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.531E-01

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

Site Parameters

Average Distance from Starting Place to PT/Parking Site Egress (m)	12
Average Travelling Distance within PT/Parking Site (m)	24
Average Travelling Speed (km/h)	15

Frequency

Hour	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
0000 - 0100	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0100 - 0200	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0200 - 0300	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0300 - 0400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0400 - 0500	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0500 - 0600	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0600 - 0700	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0700 - 0800	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0800 - 0900	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0900 - 1000	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1000 - 1100	1	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1100 - 1200	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1200 - 1300	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1300 - 1400	2	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1400 - 1500	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1500 - 1600	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1600 - 1700	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1700 - 1800	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1800 - 1900	4	0	0		0	0	0	0	0	0			0	0	0	1	0	0
1900 - 2000	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2000 - 2100	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2100 - 2200	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2200 - 2300	0	0	0		0	0	0	0	0	0			0	0	0	1	0	0
2300 - 2400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0

Vehicle Parameters

	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
Spread Distance of Adjusted Start Emission (m)	700	0	150	0	700	0		700	700	700	150	150	700	0	700	150	0			700	700	700	0	700	700
Max. Idling Time for Adjusting Starting Emission (min)	1	0	0.5	0	1	0		1	1	1	1	1	1	0	1	1	0			1	1	1	0	1	1
Soak Time (duration of engine off prior to engine ignition) (min)	60	240	240	240	60	240		60	60	60	60	240	60	240	60	240	240			60	60	60	240	60	60
Average Spread Distance outside PT/Parking Site (m)	688	0	138	0	688	0		688	688	688	688	138	688	0	688	138	0			688	688	688	0	688	688
Idling Time for Terminating Vehicle (min)	0.57	0.57	2.00	2.00	2.00	2.00		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00			2.00	2.00	2.00	0.98	2.00	2.00
Idling Time for Non-terminating Vehicle (min)	1.50	1.50	1.50	1.50	1.50	1.50		1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50			1.50	1.50	1.50	1.50	1.50	1.50
Vehicle Percentage (%)	1.66%	98.34%	99.99%	0.01%	96.72%	3.28%		100.00%	100.00%	100.00%	69.27%	30.73%	81.13%	18.87%	85.83%	14.05%	0.12%			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NO Cold Idling Emission Factor (g/min)	5.024E-02	1.491E-03	1.639E-01	1.646E-03	4.253E-02	4.176E-03		7.573E-02	2.461E-01	5.332E-01	4.320E-02	2.513E-01	2.579E-02	3.199E-03	4.320E-02	7.848E-02	9.031E-03			9.652E-01	1.707E+00	6.746E+00	5.894E-03	6.370E-01	3.095E-01
NO Hot Idling Emission Factor (g/min)	5.024E-02	1.491E-03	2.131E-01	1.646E-03	4.253E-02	4.176E-03		3.511E-02	8.614E-02	9.661E-02	2.741E-02	7.827E-02	2.579E-02	3.199E-03	3.073E-02	7.848E-02	9.031E-03			8.417E-02	1.509E-01	2.230E-01	5.894E-03	1.391E-01	3.049E-02
NO_2 Cold Idling Emission Factor (g/min)	6.325E-03	7.611E-05	4.559E-03	8.699E-05	3.816E-03	2.196E-04		2.945E-02	1.079E-01	1.362E-01	1.680E-02	1.333E-03	6.447E-03	1.686E-04	1.680E-02	4.063E-04	4.754E-04			1.890E-01	1.066E-01	3.415E-01	3.101E-04	1.432E-01	1.525E-01
NO_2 Hot Idling Emission Factor (g/min)	6.325E-03	7.611E-05	5.927E-03	8.699E-05	3.816E-03	2.196E-04		1.365E-02	3.775E-02	2.467E-02	1.066E-02	4.151E-04	6.447E-03	1.686E-04	1.195E-02	4.063E-04	4.754E-04			1.648E-02	9.423E-03	1.129E-02	3.101E-04	3.127E-02	1.501E-02
TSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
TSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
NO Running Emission Factor (g/mile/vehicle)	1.342E-01	5.379E-02	1.233E+00	8.224E-02	2.479E+00	9.273E-01		2.152E+00	3.357E+00	5.609E+00	1.100E+00	2.731E+00	1.708E+00	5.465E-01	1.269E+00	1.989E+00	8.927E-01			7.482E+00	6.812E+00	1.327E+01	4.833E-01	6.853E+00	2.971E+00
NO_2 Running Emission Factor (g/mile/vehicle)	1.690E-02	2.746E-03	3.428E-02	4.345E-03	2.224E-01	4.875E-02		8.370E-01	1.471E+00	1.432E+00	4.276E-01	1.448E-02	4.271E-01	2.881E-02	4.933E-01	1.030E-02	4.699E-02			1.465E+00	4.253E-01	6.719E-01	2.550E-02	1.541E+00	1.464E+00
TSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.272E-02	0.000E+00	1.271E-02	3.396E-02	3.117E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.226E-02	8.127E-02	0.000E+00	1.271E-02			3.251E-01	2.655E-01	5.240E-01	1.675E-02	3.454E-01	1.024E-01
RSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.240E-02	0.000E+00	1.239E-02	3.396E-02	2.974E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.017E-02	8.127E-02	0.000E+00	1.239E-02			3.251E-01	2.655E-01	5.240E-01	1.578E-02	3.454E-01	1.024E-01
FSP Running Emission Factor (g/mile/vehicle)	8.369E-03	1.143E-02	0.000E+00	1.143E-02	3.122E-02	2.627E-02		7.628E-02	1.168E-01	2.681E-01	8.208E-02	0.000E+00	1.239E-02	6.502E-02	7.467E-02	0.000E+00	1.143E-02			2.990E-01	2.443E-01	4.820E-01	1.342E-02	3.177E-01	9.415E-02

Survey Data on Start Emission [1]

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	4
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	1	2	1	0	0	0	1	4	2	0	0	13

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

08 - Public Light Buses (Code: 8)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

10 - Private Light Bus >3.5t (Code: 9)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

13 - Non-franchised Bus 15-24t (Code: 10)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

14 - Franchised Bus (SD) (Code: 12)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

15 - Franchised Bus (DD) (Code: 13)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

17 - Heavy Goods Vehicles>24t (Code: 14)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

16 - Motorcycles (Code: 15)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Remark

[1] Number of starts were derived based on on-site observations at the PTIs and operators' published schedules, while sitting time was obtained based on on-site observations at PTIs.

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Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

NO

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	3.32E-05	7.889E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.32E-05	7.889E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	6.648E-05	1.578E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	1.66ZE-04	3.944E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.207E-03	0.000E+00	0.000E+00
1800 - 1900	1.330E-04	3.155E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

NO Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	4.756E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	4.756E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	9.511E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	2.378E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_h = I_i * T_a / T_i$

where

I_h: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	8.153E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	7.504E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	1.619E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	3.529E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.072E-01	0.000E+00
1800 - 1900	0.000E+00	2.688E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ae}

= 0, if $S_{total} - I_h < 0$

or

= $(S_{total} - I_h) * d_i / (d_i + d_o)$, otherwise

where

S_{ae}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_h: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	5.088E-04	8.316E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	5.088E-04	7.667E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.018E-03	1.651E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

NO_x

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	4.185E-06	4.028E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	4.185E-06	4.028E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	8.370E-06	8.055E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	2.092E-05	2.014E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.803E-04	0.000E+00	0.000E+00
1800 - 1900	1.674E-05	1.611E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.803E-04	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.039E-04	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_x Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	4.333E-03	3.939E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.939E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	8.468E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	1.861E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	5.634E-03	0.000E+00	0.000E+00
1800 - 1900	1.417E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	4.560E-03	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{total} = \sum_i (E_{ei} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

E_{ei}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_x Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	5.987E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	5.987E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.197E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

NO_2 Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_s = E_s * T_s * f_s * p$

where

I_s: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_s: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_s: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_s: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

NO_2 Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	5.987E-05	4.266E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	5.987E-05	4.266E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.197E-04	8.532E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	2.994E-04	2.133E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.039E-04	0.000E+00
1800 - 1900	2.395E-04	1.706E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.039E-04	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_s + I_o$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_s: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_o: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

NO_2 Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	6.406E-05	4.415E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	6.406E-05	4.022E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.281E-04	8.634E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

RSP Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.486E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	7.486E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.497E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	3.743E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	2.994E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = I_i * T_a / T_i$

where

I_{ij}: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	7.771E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	6.983E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	1.712E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	4.939E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.269E-02	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	4.408E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ijt}
= 0, if $S_{total} - I_{ij} < 0$
or
= $(S_{total} - I_{ij}) * d_i / (d_i + d_o)$, otherwise
where

S_{ijt}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_{ij}: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	9.718E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	9.718E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	1.954E-05	1.752E-02	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

FSP

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	2.072E-06	1.676E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	2.072E-06	1.676E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	4.145E-06	3.352E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	1.036E-05	8.380E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.002E-04	0.000E+00	0.000E+00
1800 - 1900	8.290E-06	6.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.002E-04	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.479E-03	6.491E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	7.486E-06	1.779E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.497E-05	3.559E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	4.584E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.074E-02	0.000E+00	0.000E+00
1800 - 1900	4.092E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.126E-02	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{tot} = \sum_i (E_{ti} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

E_{ti}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.486E-06	1.779E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	7.486E-06	1.779E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.497E-05	3.559E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-1

FSP Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	4.779E-05	4.677E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.095E-02	0.000E+00	0.000E+00
1800 - 1900	3.823E-05	4.167E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_i = E_i * T_o * f_t * p$

where

I_i: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_i: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_o: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_t: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

FSP Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.466E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	9.558E-06	6.677E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.912E-05	1.631E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	4.779E-05	4.677E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.095E-02	0.000E+00	0.000E+00
1800 - 1900	3.823E-05	4.167E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.147E-02	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_o$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_o: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

FSP Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	9.558E-06	7.464E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	9.558E-06	6.677E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.912E-05	1.631E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

Site Parameters

Average Distance from Starting Place to PT/Parking Site Egress (m)	60
Average Travelling Distance within PT/Parking Site (m)	120
Average Travelling Speed (km/h)	15

Frequency

Hour	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
0000 - 0100	11	0	0		8	0	2	0	0	0			0	0	0	0	0	0
0100 - 0200	5	0	0		1	0	0	0	0	0			0	0	0	1	0	0
0200 - 0300	1	1	0		0	0	0	0	0	0			0	0	0	0	0	0
0300 - 0400	1	1	0		1	0	0	0	0	0			0	0	0	1	0	0
0400 - 0500	2	0	0		1	0	0	0	0	0			0	0	0	0	0	0
0500 - 0600	6	1	0		0	0	0	0	0	1			0	0	0	0	0	0
0600 - 0700	6	0	0		0	0	0	0	0	0			2	0	0	0	0	0
0700 - 0800	17	0	0		4	0	0	0	0	0			0	0	0	2	0	0
0800 - 0900	6	0	0		6	0	0	0	0	0			0	0	0	2	0	0
0900 - 1000	7	0	0		7	0	0	0	0	0			0	0	0	1	0	0
1000 - 1100	4	0	0		3	0	0	0	0	0			0	0	0	1	0	0
1100 - 1200	8	0	0		4	0	0	0	0	0			0	0	0	0	0	0
1200 - 1300	10	0	0		7	0	0	0	0	0			0	0	0	0	0	0
1300 - 1400	5	0	0		1	0	0	0	0	0			0	0	0	0	0	0
1400 - 1500	9	0	0		11	0	0	0	0	0			0	0	0	0	0	0
1500 - 1600	4	0	0		6	0	1	0	0	0			0	0	0	2	0	0
1600 - 1700	4	0	0		2	0	0	0	0	0			0	0	0	2	0	0
1700 - 1800	6	0	0		9	0	0	0	0	0			0	0	0	2	0	0
1800 - 1900	11	0	0		5	0	0	0	0	0			0	0	0	0	0	0
1900 - 2000	16	1	0		2	0	0	0	0	0			0	0	0	0	0	0
2000 - 2100	24	0	0		0	0	0	0	0	0			1	0	0	1	2	0
2100 - 2200	14	1	0		2	0	0	0	0	0			1	0	0	1	1	0
2200 - 2300	28	0	0		7	0	1	0	0	0			0	0	0	1	0	0
2300 - 2400	22	1	0		8	0	0	0	0	0			0	0	0	0	0	0

Vehicle Parameters

	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
Spread Distance of Adjusted Start Emission (m)	700	0	150	0	700	0		700	700	700	700	150	700	0	700	150	0			700	700	700	0	700	700
Max. Idling Time for Adjusting Starting Emission (min)	1	0	0.5	0	1	0		1	1	1	1	1	1	0	1	1	0			1	1	1	0	1	1
Soak Time (duration of engine off prior to engine ignition) (min)	60	240	240	240	60	240		60	60	60	60	240	60	240	60	240	240			60	60	60	240	60	60
Average Spread Distance outside PT/Parking Site (m)	640	0	90	0	640	0		640	640	640	640	90	640	0	640	90	0			640	640	640	0	640	640
Idling Time for Terminating Vehicle (min)	2.50	2.50	3.00	3.00	2.00	2.00		1.93	2.00	1.95	2.00	2.00	2.00	2.00	2.00	2.00	2.00			2.57	2.00	2.00	3.00	2.00	2.00
Idling Time for Non-terminating Vehicle (min)	3.00	3.00	3.00	3.00	3.00	1.50		3.00	1.50	3.00	1.50	1.50	1.50	1.50	3.00	3.00	3.00			3.00	1.50	1.50	3.00	3.00	1.50
Vehicle Percentage (%)	1.66%	98.34%	99.99%	0.01%	96.72%	3.28%		100.00%	100.00%	100.00%	69.27%	30.73%	81.13%	18.87%	85.83%	14.05%	0.12%			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NO Cold Idling Emission Factor (g/min)	5.024E-02	1.491E-03	1.639E-01	1.646E-03	4.253E-02	4.176E-03		7.573E-02	2.461E-01	5.332E-01	4.320E-02	2.513E-01	2.579E-02	3.199E-03	4.320E-02	7.848E-02	9.031E-03			9.652E-01	1.707E+00	6.746E+00	5.894E-03	6.370E-01	3.095E-01
NO Hot Idling Emission Factor (g/min)	5.024E-02	1.491E-03	2.131E-01	1.646E-03	4.253E-02	4.176E-03		3.511E-02	8.614E-02	9.661E-02	2.741E-02	7.827E-02	2.579E-02	3.199E-03	3.073E-02	7.848E-02	9.031E-03			8.417E-02	1.509E-01	2.230E-01	5.894E-03	1.391E-01	3.049E-02
NO_2 Cold Idling Emission Factor (g/min)	6.325E-03	7.611E-05	4.559E-03	8.699E-05	3.816E-03	2.196E-04		2.945E-02	1.079E-01	1.362E-01	1.680E-02	1.333E-03	6.447E-03	1.686E-04	1.680E-02	4.063E-04	4.754E-04			1.890E-01	1.066E-01	3.415E-01	3.101E-04	1.432E-01	1.525E-01
NO_2 Hot Idling Emission Factor (g/min)	6.325E-03	7.611E-05	5.927E-03	8.699E-05	3.816E-03	2.196E-04		1.365E-02	3.775E-02	2.467E-02	1.066E-02	4.151E-04	6.447E-03	1.686E-04	1.195E-02	4.063E-04	4.754E-04			1.648E-02	9.423E-03	1.129E-02	3.101E-04	3.127E-02	1.501E-02
TSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
TSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
NO Running Emission Factor (g/mile/vehicle)	1.342E-01	5.379E-02	1.233E+00	8.224E-02	2.479E+00	9.273E-01		2.152E+00	3.357E+00	5.609E+00	1.100E+00	2.731E+00	1.708E+00	5.465E-01	1.269E+00	1.989E+00	8.927E-01			7.482E+00	6.812E+00	1.327E+01	4.833E-01	6.853E+00	2.971E+00
NO_2 Running Emission Factor (g/mile/vehicle)	1.690E-02	2.746E-03	3.428E-02	4.345E-03	2.224E-01	4.875E-02		8.370E-01	1.471E+00	1.432E+00	4.276E-01	1.448E-02	4.271E-01	2.881E-02	4.933E-01	1.030E-02	4.699E-02			1.465E+00	4.253E-01	6.719E-01	2.550E-02	1.541E+00	1.464E+00
TSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.272E-02	0.000E+00	1.271E-02	3.396E-02	3.117E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.226E-02	8.127E-02	0.000E+00	1.271E-02			3.251E-01	2.655E-01	5.240E-01	1.675E-02	3.454E-01	1.024E-01
RSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.240E-02	0.000E+00	1.239E-02	3.396E-02	2.974E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.017E-02	8.127E-02	0.000E+00	1.239E-02			3.251E-01	2.655E-01	5.240E-01	1.578E-02	3.454E-01	1.024E-01
FSP Running Emission Factor (g/mile/vehicle)	8.369E-03	1.143E-02	0.000E+00	1.143E-02	3.122E-02	2.627E-02		7.628E-02	1.168E-01	2.681E-01	8.208E-02	0.000E+00	1.239E-02	6.502E-02	7.467E-02	0.000E+00	1.143E-02			2.990E-01	2.443E-01	4.820E-01	1.342E-02	3.177E-01	9.415E-02

Survey Data on Start Emission [1]

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	5	0	0	0	2	1	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	11
0100 - 0200	1	0	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	5
0200 - 0300	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0300 - 0400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0500 - 0600	1	0	0	0	0	0	1	0	0	2	1	0	0	1	0	0	0	0	0	0	0	6
0600 - 0700	4	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	6
0700 - 0800	0	2	1	0	2	2	5	2	3	0	0	0	0	0	0	0	0	0	0	0	0	17
0800 - 0900	2	1	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	6
0900 - 1000	0	0	1	1	0	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	7
1000 - 1100	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
1100 - 1200	3	0	0	1	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	8
1200 - 1300	3	0	0	2	0	1	0	0	0	2	0	0	1	1	0	0	0	0	0	0	0	10
1300 - 1400	4	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
1400 - 1500	2	1	2	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	9
1500 - 1600	0	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
1600 - 1700	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1700 - 1800	1	0	0	1	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	6
1800 - 1900	1	0	1	2	0	0	0	0	0	1	1	0	0	1	0	1	0	1	2	0	0	11
1900 - 2000	14	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
2000 - 2100	11	0	0	1	0	6	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	24
2100 - 2200	6	0	0	0	0	3	2	2	0	1	0	0	0	0	0	0	0	0	0	0	0	14
2200 - 2300	14	0	0	1	1	2	3	0	2	5	0	0	0	0	1	0	0	0	0	0	0	28
2300 - 2400	7	1	1	1	3	2	1	0	1	2	0	1	0	0	0	0	0	0	0	0	0	22
Total	85	7	7	11	10	22	21	9	11	22	5	3	2	3	3	1	0	3	2	0	0	227

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	5	0	0	2	1	0	0	0	2	0	1	0	0	0	0	0	0	0	0	11
0100 - 0200	1	0	0	0	1	0	0	1	1	0	0	0	0	1	0	0	0	0	0	5
0200 - 0300	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0300 - 0400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0500 - 0600	1	0	0	0	0	1	0	0	2	1	0	0	1	0	0	0	0	0	0	6
0600 - 0700	4	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	6
0700 - 0800	0	2	1	2	2	5	2	3	0	0	0	0	0	0	0	0	0	0	0	17
0800 - 0900	2	1	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	6
0900 - 1000	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	7
1000 - 1100	1	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
1100 - 1200	3	0	0	1	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	8
1200 - 1300	3	0	0	2	1	0	0	2	0	0	0	1	1	0	0	0	0	0	0	10
1300 - 1400	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
1400 - 1500	2	1	2	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	9
1500 - 1600	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
1600 - 1700	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1700 - 1800	1	0	0	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	6
1800 - 1900	1	0	1	2	0	0	0	0	1	1	0	0	1	0	1	0	1	0	0	11
1900 - 2000	14	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16
2000 - 2100	11	0	0	1	6	3	2	1	0	0	0	0	0	0	0	0	0	0	0	24
2100 - 2200	6	0	0	0	3	2	2	0	1	0	0	0	0	0	0	0	0	0	0	14
2200 - 2300	14	0	0	1	2	3	0	2	5	0	0	0	0	1	0	0	0	0	0	28
2300 - 2400	7	1	1	4	2	1	0	1	2	0	1	0	0	0	0	0	2	0	0	22
Total	85	7	7	21	22	21	9	11	22	5	3	2	3	3	1	0	3	2	0	227

L:\Secure\Environment_Projects\60733229\L.01\Others\Air\Modelling\Appendix\Calculation of Start Emissions\Calculation of Start Emissions.xlsx

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0300 - 0400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	3	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0300 - 0400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

08 - Public Light Buses (Code: 8)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

14 - Franchised Bus (SD) (Code: 12)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0800 - 0900	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0900 - 1000	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2100 - 2200	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2200 - 2300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	1	2	0	0	0	2	0	0	2	1	0	0	0	0	0	1	3	0	0	0	16

15 - Franchised Bus (DD) (Code: 13)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

17 - Heavy Goods Vehicles>24t (Code: 14)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2100 - 2200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3

16 - Motorcycles (Code: 15)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
0800 - 0900	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0900 - 1000	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2100 - 2200	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2200 - 2300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	1	2	0	0	0	2	0	0	2	1	0	0	0	0	0	1	3	0	0	0	16

Remark

[1] Number of starts were derived based on on-site observations at the PTIs and operators' published schedules, while sitting time was obtained based on on-site observations at PTIs.

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

NO

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.828E-03	4.339E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.284E+00	0.000E+00	8.364E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	8.310E-04	1.972E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.605E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.603E-02	0.000E+00	0.000E+00
0200 - 0300	1.662E-04	3.944E-03	9.190E-02	7.405E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	1.662E-04	3.944E-03	9.190E-02	7.405E-07	0.000E+00	0.000E+00		1.605E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.603E-02	0.000E+00	0.000E+00
0400 - 0500	3.324E-04	7.889E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.605E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	9.972E-04	2.367E-02	9.190E-02	7.405E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.119E-02	2.085E-02	7.734E-05			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	9.972E-04	2.367E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.116E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	2.825E-03	6.705E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.419E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.207E-02	0.000E+00	0.000E+00
0800 - 0900	9.972E-04	2.367E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.629E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.207E-02	0.000E+00	0.000E+00
0900 - 1000	1.163E-03	2.761E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.123E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.603E-02	0.000E+00	0.000E+00
1000 - 1100	6.648E-04	1.578E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.814E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	1.330E-03	3.155E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.419E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.662E-03	3.944E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.123E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	8.310E-04	1.972E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.605E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.496E-03	3.550E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.765E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	6.648E-04	1.578E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.629E-01	0.000E+00	4.182E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.207E-02	0.000E+00	0.000E+00
1600 - 1700	6.648E-04	1.578E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.210E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.207E-02	0.000E+00	0.000E+00
1700 - 1800	9.972E-04	2.367E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.444E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.207E-02	0.000E+00	0.000E+00
1800 - 1900	1.828E-03	4.339E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.024E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	2.659E-03	6.311E-02	9.190E-02	7.405E-07	0.000E+00	0.000E+00		3.210E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	3.989E-03	9.466E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.579E-01	0.000E+00	0.000E+00	3.603E-02	1.022E+00	0.000E+00
2100 - 2200	2.327E-03

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

NO Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	5.006E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.811E-03	0.000E+00	9.661E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	3.337E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	4.172E-03	0.000E+00	8.195E-02	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.418E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.404E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	3.337E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.974E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	5.840E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.676E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	2.503E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.108E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	4.172E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.108E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	5.840E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.568E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	5.840E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.108E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	3.337E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.811E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.515E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	4.172E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.513E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	8.343E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.866E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.108E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	1.085E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	6.674E-03	0.000E+00	1.065E-01	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			8.417E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	1.168E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.974E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	1.251E-02	0.000E+00	1.065E-01	0.000E+00	0.000E+00	0.000E+00		3.270E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_h = I_t * T_a / T_t$

where

I_h: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_t: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	4.135E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.682E-02	0.000E+00	3.883E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	2.809E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.507E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	6.411E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	2.503E-03	4.398E-03	6.392E-01	5.965E-07	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.768E-02	0.000E+00	0.000E+00
0400 - 0500	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.450E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	2.503E-03	4.398E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.001E-02	1.759E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.111E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.133E-01	0.000E+00	0.000E+00
0800 - 0900	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.728E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.035E-01	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	4.594E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.501E-01	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	2.103E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.182E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	3.385E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.426E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	4.755E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.281E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	6.016E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.459E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	4.401E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.311E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	2.566E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.593E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.133E-01	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	1.171E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.901E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.231E-01	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	3.774E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.714E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.144E-01	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	6.811E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.025E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	1.234E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.244E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	8.247E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	5.215E-01	3.717E-01	9.275E-06	0.000E+00	0.000E+00		2.450E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.199E-02	0.000E+00	0.000E+00	7.073E-02	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	9.632E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.927E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	9.772E-01	3.717E-01	9.275E-06	0.000E+00	0.000E+00		8.137E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ad}
= 0, if $S_{total} - I_h < 0$
or
= $(S_{total} - I_h) * d_t / (d_t + d_s)$, otherwise
where
S_{ad}: adjusted start emission within PTI,
S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,
I_h: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,
d_t: average travelling distance within PTI, obtained from the *Site Parameters* table,
d_s: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	1.251E-02	2.199E-02	0.000E+00	0.000E+00	0.000E+00		4.213E-01	0.000E+00	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	2.503E-03	4.398E-03	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.768E-02	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	6.392E-01	5.965E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	2.503E-03	4.398E-03	6.392E-01	5.965E-07	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.768E-02	0.000E+00	0.000E+00
0400 - 0500	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.450E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	2.503E-03	4.398E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.001E-02	1.759E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.050E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	2.503E-03	4.398E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	7.509E-03	1.319E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.509E-03	1.319E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.001E-02	1.759E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.479E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

NO_x

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	2.302E-04	2.215E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.993E-01	0.000E+00	2.136E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.046E-04	1.007E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.241E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.592E-03	0.000E+00	0.000E+00
0200 - 0300	2.092E-05	2.014E-04	2.556E-03	3.913E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	2.092E-05	2.014E-04	2.556E-03	3.913E-08	0.000E+00	0.000E+00		6.241E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.902E-03	0.000E+00	0.000E+00
0400 - 0500	4.185E-05	4.028E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.241E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.255E-04	1.208E-03	2.556E-03	3.913E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.255E-04	1.208E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.184E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	3.557E-04	3.424E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.496E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.803E-03	0.000E+00	0.000E+00
0800 - 0900	1.255E-04	1.208E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.745E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.803E-03	0.000E+00	0.000E+00
0900 - 1000	1.465E-04	1.410E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.369E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.902E-03	0.000E+00	0.000E+00
1000 - 1100	8.370E-05	8.055E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.872E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	1.674E-04	1.611E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.496E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.092E-04	2.014E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.369E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.046E-04	1.007E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.241E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.883E-04	1.812E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.865E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	8.370E-05	8.055E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.745E-01	0.000E+00	1.068E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.803E-03	0.000E+00	0.000E+00
1600 - 1700	8.370E-05	8.055E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.248E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.803E-03	0.000E+00	0.000E+00
1700 - 1800	1.255E-04	1.208E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.617E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.803E-03	0.000E+00	0.000E+00
1800 - 1900	2.302E-04	2.215E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.121E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	3.348E-04	3.222E-03	2.556E-03	3.913E-08	0.000E+00	0.000E+00		1.248E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	5.022E-04	4.833E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.092E-01	0.000E+00	0.000E+00	1.902E-03	2.298E-01	0.000E+00
2100 - 2200	2.929E-04	2.819E-03	2.556E-03	3.913E-08	0.000E+00	0.000E+00		1.248E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.092E-01	0.000E+00	0.000E+00	1.902E-03	1.149E-01	0.000E+00
2200 - 2300	5.859E-04	5.639E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.369E-01	0.000E+00	1.068E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.902E-03	0.000E+00	0.000E+00
2300 - 2400	4.603E-04	4.430E-03	2.556E-03	3.913E-08	0.000E+00	0.000E+00		4.993E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_x Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	2.166E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.282E-01	0.000E+00	9.650E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	1.477E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.380E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	3.348E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.684E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.313E-03	9.355E-04	1.368E-02	3.152E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	5.252E-04	3.742E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	4.464E-03	3.181E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.054E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
0800 - 0900	1.050E-03	7.484E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.232E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
0900 - 1000	1.838E-03	1.310E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.759E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
1000 - 1100	7.878E-04	5.613E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.319E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	1.313E-03	9.355E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.319E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.838E-03	1.310E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.927E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	2.626E-04	1.871E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.635E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.838E-03	1.310E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.319E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.050E-03	7.484E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.359E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
1600 - 1700	5.252E-04	3.742E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.137E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
1700 - 1800	1.313E-03	9.355E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.886E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
1800 - 1900	2.626E-03	1.871E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.400E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	5.252E-04	3.742E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.319E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	3.414E-03	2.432E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	2.101E-03	1.497E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		5.684E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.235E-02	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
2200 - 2300	3.676E-03	2.619E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.232E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	3.939E-03	2.807E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		2.454E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{total} = \sum_i (E_{ei} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

E_{ei}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_x Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.576E-03	1.123E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.359E-01	0.000E+00	4.811E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.050E-03	7.484E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.635E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	2.626E-04	1.871E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.684E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	5.252E-04	2.279E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.786E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.462E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	4.202E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.157E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.353E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.430E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.151E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.311E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	5.252E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.311E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.353E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.987E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.050E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	7.353E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.311E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	4.202E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.041E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

NO_2 Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.576E-03	1.123E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.638E-03	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
0200 - 0300	3.151E-04	2.245E-04	1.778E-02	3.152E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	3.151E-04	2.245E-04	1.778E-02	3.152E-08	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
0400 - 0500	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.260E-03	8.981E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	9.453E-04	6.736E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	9.453E-04	6.736E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.260E-03	8.981E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.687E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	4.412E-03	3.143E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	3.466E-03	2.470E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	9.303E-04	1.876E-01	0.000E+00
2100 - 2200	1.891E-03	1.347E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
2200 - 2300	4.412E-03	3.143E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
2300 - 2400	2.206E-03	1.572E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_i = E_{Ii} * T_{Ii} * f_{ti} * p$

where

I_i: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_{Ii}: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_{Ii}: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_t: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

NO_2 Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.151E-03	2.245E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.997E-01	0.000E+00	1.221E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.365E-03	9.729E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.635E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
0200 - 0300	2.626E-04	1.871E-04	1.778E-02	3.152E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	3.151E-04	2.245E-04	1.778E-02	3.152E-08	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
0400 - 0500	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.684E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.628E-03	1.160E-03	1.368E-02	3.152E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.786E-03	1.273E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			9.888E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	4.464E-03	3.181E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.054E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
0800 - 0900	1.681E-03	1.197E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.642E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
0900 - 1000	1.838E-03	1.310E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.759E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
1000 - 1100	1.103E-03	7.858E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.242E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	2.258E-03	1.609E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.651E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.784E-03	1.983E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.747E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.523E-03	1.085E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.635E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	2.468E-03	1.759E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.519E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.050E-03	7.484E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.178E-01	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
1600 - 1700	1.155E-03	8.233E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.137E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
1700 - 1800	1.628E-03	1.160E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.115E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.861E-03	0.000E+00	0.000E+00
1800 - 1900	2.941E-03	2.096E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.220E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	4.937E-03	3.518E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		8.319E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	6.880E-03	4.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.944E-02	0.000E+00	0.000E+00	9.303E-04	1.876E-01	0.000E+00
2100 - 2200	3.991E-03	2.844E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		7.788E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.235E-02	0.000E+00	0.000E+00	9.303E-04	9.380E-02	0.000E+00
2200 - 2300	8.088E-03	5.763E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.052E-01	0.000E+00	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	9.303E-04	0.000E+00	0.000E+00
2300 - 2400	6.145E-03	4.378E-03	1.778E-02	3.152E-08	0.000E+00	0.000E+00		2.864E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_{Ii}$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_{Ii}: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

NO_2 Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.381E-03	2.612E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.211E-01	0.000E+00	3.419E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.470E-03	1.675E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.878E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.832E-03	0.000E+00	0.000E+00
0200 - 0300	2.835E-04	3.737E-03	2.033E-02	7.064E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	3.360E-04	4.259E-04	2.033E-02	7.064E-08	0.000E+00	0.000E+00		1.034E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.832E-03	0.000E+00	0.000E+00
0400 - 0500	6.721E-04	8.518E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.288E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	1.754E-03	2.206E-02	3.084E-02	7.228E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.234E-02	2.793E-04	5.729E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.911E-03	9.964E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.173E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	4.820E-03	6.264E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.672E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.688E-02	0.000E+00	0.000E+00
0800 - 0900	1.806E-03	1.659E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.765E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.163E-02	0.000E+00	0.000E+00
0900 - 1000	1.985E-03	2.685E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.582E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.077E-02	0.000E+00	0.000E+00
1000 - 1100	1.187E-03	1.262E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.281E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	2.426E-03	2.060E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.993E-03	2.901E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.399E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.628E-03	5.243E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.972E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	2.657E-03	2.661E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.159E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.134E-03	1.504E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.179E-01	0.000E+00	1.808E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

RSP Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	7.880E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	5.253E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	6.566E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	2.233E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	5.253E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.035E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.940E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	6.566E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	5.253E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	6.566E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.313E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	1.707E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	1.051E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.850E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	1.839E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	1.970E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.035E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_e = I_i * T_e / T_i$

where

I_e: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_e: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	2.774E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	2.371E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	2.951E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	3.443E-02	0.000E+00	1.051E-06	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	3.443E-02	0.000E+00	1.051E-06	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	1.377E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	4.358E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	6.712E-03	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	1.731E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.353E-02	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	2.302E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.864E-03	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	1.544E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	2.134E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	3.266E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	1.477E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	1.771E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	1.043E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	6.712E-03	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	1.872E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.493E-02	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	3.404E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.538E-02	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	7.212E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	4.120E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	3.522E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	2.676E-02	0.000E+00	1.811E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.865E-03	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	6.864E-02	0.000E+00	1.901E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	6.336E-02	0.000E+00	1.811E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ae}
= 0, if $S_{total} - I_d < 0$
or
= $(S_{total} - I_d) * d_s / (d_s + d_d)$, otherwise
where
S_{ae}: adjusted start emission within PTI,
S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,
I_d: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,
d_s: average travelling distance within PTI, obtained from the *Site Parameters* table,
d_d: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.970E-04	4.683E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.203E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	7.850E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	3.940E-05	9.365E-05	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
0400 - 0500	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	1.576E-04	3.746E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.710E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	1.182E-04	2.810E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.182E-04	2.810E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.576E-04	3.746E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.171E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2
FSP
Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.140E-04	9.218E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.550E-02	0.000E+00	3.998E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	5.181E-05	4.190E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.001E-03	0.000E+00	0.000E+00
0200 - 0300	1.036E-05	8.380E-04	0.000E+00	1.029E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	1.036E-05	8.380E-04	0.000E+00	1.029E-07	0.000E+00	0.000E+00		5.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.001E-03	0.000E+00	0.000E+00
0400 - 0500	2.072E-05	1.676E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	6.217E-05	5.028E-03	0.000E+00	1.029E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.779E-03	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	6.217E-05	5.028E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.459E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	1.762E-04	1.425E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.275E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.002E-03	0.000E+00	0.000E+00
0800 - 0900	6.217E-05	5.028E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.413E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.002E-03	0.000E+00	0.000E+00
0900 - 1000	7.254E-05	5.866E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.982E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.001E-03	0.000E+00	0.000E+00
1000 - 1100	4.145E-05	3.352E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.706E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	8.290E-05	6.704E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.275E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.036E-04	8.380E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.982E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	5.181E-05	4.190E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	9.326E-05	7.542E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.257E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	4.145E-05	3.352E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.413E-02	0.000E+00	1.999E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.002E-03	0.000E+00	0.000E+00
1600 - 1700	4.145E-05	3.352E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.138E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.002E-03	0.000E+00	0.000E+00
1700 - 1800	6.217E-05	5.028E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.119E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.002E-03	0.000E+00	0.000E+00
1800 - 1900	1.140E-04	9.218E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.844E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	1.658E-04	1.341E-02	0.000E+00	1.029E-07	0.000E+00	0.000E+00		1.138E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	2.487E-04	2.011E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.230E-02	0.000E+00	0.000E+00	1.001E-03	4.738E-02	0.000E+00
2100 - 2200	1.451E-04	1.173E-02	0.000E+00	1.029E-07	0.000E+00	0.000E+00		1.138E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.230E-02	0.000E+00	0.000E+00	1.001E-03	2.369E-02	0.000E+00
2200 - 2300	2.901E-04	2.347E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.982E-02	0.000E+00	1.999E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.001E-03	0.000E+00	0.000E+00
2300 - 2400	2.280E-04	1.844E-02	0.000E+00	1.029E-07	0.000E+00	0.000E+00		4.550E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $R = E_i * f * d_i * p$
where
R: running emission at a specific speed for a vehicle type with a fuel type in an hour,
E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,
f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,
d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	2.577E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	2.203E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	2.754E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	3.207E-02	0.000E+00	9.661E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	1.289E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	4.063E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	5.704E-03	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	1.613E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.203E-02	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	2.144E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	6.884E-03	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	1.436E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	1.987E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	3.030E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	1.378E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	1.643E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	9.741E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	5.704E-03	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	1.773E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.113E-02	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	3.167E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	2.147E-02	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	6.699E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	4.132E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	3.266E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	2.488E-02	0.000E+00	1.691E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	6.364E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	5.883E-02	0.000E+00	1.691E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $S_{total} = \sum_i (E_{ei} * f_i) * p$
where
S_{total}: total start emission for a vehicle type with a fuel type in an hour,
E_{ei}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,
f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	2.577E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	2.203E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	2.754E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	6.566E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	2.233E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	5.253E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.035E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.940E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	6.566E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	9.193E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	5.253E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04

Appendix 4.6 Calculation of Start Emissions

Car Park 3-2

FSP Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.970E-04	4.683E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.203E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	7.850E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	3.940E-05	9.365E-05	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
0400 - 0500	7.880E-05	1.873E-04	0.000E+00	7.850E-08	0.000E+00	0.000E+00		3.907E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.442E-05	0.000E+00	0.000E+00
0500 - 0600	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
0600 - 0700	1.576E-04	3.746E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	1.182E-04	2.810E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.182E-04	2.810E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.576E-04	3.746E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.171E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	5.516E-04	1.311E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	4.334E-04	1.030E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	3.721E-05	8.332E-03	0.000E+00
2100 - 2200	2.364E-04	5.620E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
2200 - 2300	5.516E-04	1.311E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
2300 - 2400	2.758E-04	6.556E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_i = E_i * T_o * f_t * p$

where

I_i: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_i: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_o: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_t: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

FSP Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.940E-04	9.365E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.550E-03	0.000E+00	4.803E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	1.707E-04	4.058E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.368E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
0200 - 0300	3.283E-05	7.804E-05	0.000E+00	7.850E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	3.940E-05	9.365E-05	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
0400 - 0500	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.368E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	2.036E-04	4.839E-04	0.000E+00	7.850E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	2.233E-04	5.308E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.730E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	5.581E-04	1.327E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.347E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.442E-05	0.000E+00	0.000E+00
0800 - 0900	2.101E-04	4.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.485E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.442E-05	0.000E+00	0.000E+00
0900 - 1000	2.298E-04	5.463E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.858E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
1000 - 1100	1.379E-04	3.278E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.674E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	2.824E-04	6.712E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.275E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	3.480E-04	8.273E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.785E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.904E-04	4.528E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.368E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	3.086E-04	7.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.338E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.313E-04	3.122E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.949E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.442E-05	0.000E+00	0.000E+00
1600 - 1700	1.445E-04	3.434E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.674E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.442E-05	0.000E+00	0.000E+00
1700 - 1800	2.036E-04	4.839E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.923E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.442E-05	0.000E+00	0.000E+00
1800 - 1900	3.677E-04	8.741E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.112E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	6.172E-04	1.467E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		1.674E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	8.602E-04	2.045E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.355E-03	0.000E+00	0.000E+00	3.721E-05	8.332E-03	0.000E+00
2100 - 2200	4.991E-04	1.186E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		2.138E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.017E-03	0.000E+00	0.000E+00	3.721E-05	4.166E-03	0.000E+00
2200 - 2300	1.011E-03	2.404E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.785E-03	0.000E+00	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	3.721E-05	0.000E+00	0.000E+00
2300 - 2400	7.683E-04	1.826E-03	0.000E+00	7.850E-08	0.000E+00	0.000E+00		7.158E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_{ot}$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_{ot}: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

FSP Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	5.080E-04	3.593E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.405E-02	0.000E+00	4.479E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	2.225E-04	2.663E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.525E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.038E-03	0.000E+00	0.000E+00
0200 - 0300	4.319E-05	3.670E-03	0.000E+00	1.814E-07	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	4.976E-05	9.317E-04	0.000E+00	1.814E-07	0.000E+00	0.000E+00		6.989E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.038E-03	0.000E+00	0.000E+00
0400 - 0500	9.952E-05	1.861E-03	0.000E+00	1.148E-06	0.000E+00	0.000E+00		5.525E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	2.657E-04	3.758E-02	0.000E+00	1.148E-06	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.895E-03	4.747E-04	1.157E-06			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	2.854E-04	1.844E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.930E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	7.343E-04	5.620E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.610E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.780E-03	0.000E+00	0.000E+00
0800 - 0900	2.723E-04	2.166E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.961E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	1.410E-02	0.000E+00	0.000E+00
0900 - 1000	3.024E-04	2.786E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.567E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.922E-03	0.000E+00	0.000E+00
1000 - 1100	1.793E-04	1.804E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.004E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	3.653E-04	2.724E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.703E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	4.516E-04	3.950E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.660E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	2.422E-04	6.021E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.525E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	4.019E-04	2.471E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.595E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.728E-04	1.341E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.008E-02	0.000E+00	2.290E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	7.780E-03

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

Site Parameters

Average Distance from Starting Place to PT/Parking Site Egress (m)	6
Average Travelling Distance within PT/Parking Site (m)	12
Average Travelling Speed (km/h)	15

Frequency

Hour	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
0000 - 0100	0	0	0		5	0	0	0	0	0			0	0	0	0	0	0
0100 - 0200	0	0	0		3	0	0	0	0	0			0	0	0	0	0	0
0200 - 0300	0	0	0		3	0	0	0	0	0			0	0	0	0	0	0
0300 - 0400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0400 - 0500	0	0	0		2	0	0	0	0	0			0	0	0	0	0	0
0500 - 0600	0	0	0		3	0	0	0	0	0			0	0	0	0	0	0
0600 - 0700	0	0	0		5	0	0	0	0	0			0	0	0	0	0	0
0700 - 0800	0	0	0		8	0	1	0	0	0			4	0	0	0	0	0
0800 - 0900	0	1	0		3	0	0	0	0	0			1	0	0	0	0	0
0900 - 1000	1	0	0		2	0	1	0	0	0			0	0	0	0	0	0
1000 - 1100	1	0	0		9	0	1	0	0	0			0	0	0	0	0	0
1100 - 1200	0	0	0		5	0	0	0	0	0			0	0	0	0	0	0
1200 - 1300	0	0	0		3	0	0	0	0	0			0	0	0	0	0	0
1300 - 1400	0	0	0		4	0	0	0	0	0			0	0	0	0	0	0
1400 - 1500	0	0	0		5	0	0	0	0	1			1	0	0	0	0	0
1500 - 1600	0	0	0		11	0	0	0	0	1			2	0	0	0	0	0
1600 - 1700	0	0	0		5	0	0	0	0	1			0	0	0	0	0	0
1700 - 1800	0	0	0		8	0	1	0	0	0			1	0	0	0	0	0
1800 - 1900	0	0	0		5	0	0	0	0	0			0	0	0	0	0	0
1900 - 2000	0	0	0		4	0	0	0	0	0			0	0	0	0	0	0
2000 - 2100	0	0	0		6	0	0	0	0	0			0	0	0	0	0	0
2100 - 2200	0	0	0		6	0	0	0	0	0			0	0	0	0	0	0
2200 - 2300	0	0	0		8	0	0	0	0	1			0	0	0	0	0	0
2300 - 2400	0	0	0		9	0	0	0	0	1			0	0	0	0	0	0

Vehicle Parameters

	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
Spread Distance of Adjusted Start Emission (m)	700	0	150	0	700	0		700	700	700	700	150	700	0	700	150	0			700	700	700	0	700	700
Max. Idling Time for Adjusting Starting Emission (min)	1	0	0.5	0	1	0		1	1	1	1	1	1	0	1	1	0			1	1	1	0	1	1
Soak Time (duration of engine off prior to engine ignition) (min)	60	240	240	240	60	240		60	60	60	60	240	60	240	60	240	240			60	60	60	240	60	60
Average Spread Distance outside PT/Parking Site (m)	694	0	144	0	694	0		694	694	694	694	144	694	0	694	144	0			694	694	694	0	694	694
Idling Time for Terminating Vehicle (min)	0.56	2.00	2.00	2.00	2.00	2.00		3.00	2.00	2.08	2.00	2.00	2.00	2.00	3.00	3.00	3.00			2.00	2.00	2.00	2.00	2.00	2.00
Idling Time for Non-terminating Vehicle (min)	1.50	1.50	0.07	0.07	1.50	1.50		3.00	1.50	2.65	1.50	1.50	1.50	1.50	3.00	3.00	3.00			2.13	1.50	1.50	1.50	1.50	1.50
Vehicle Percentage (%)	1.66%	98.34%	99.99%	0.01%	96.72%	3.28%		100.00%	100.00%	100.00%	69.27%	30.73%	81.13%	18.87%	85.83%	14.05%	0.12%			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NO Cold Idling Emission Factor (g/min)	5.024E-02	1.491E-03	1.639E-01	1.646E-03	4.253E-02	4.176E-03		7.573E-02	2.461E-01	5.332E-01	4.320E-02	2.513E-01	2.579E-02	3.199E-03	4.320E-02	7.848E-02	9.031E-03			9.652E-01	1.707E+00	6.746E+00	5.894E-03	6.370E-01	3.095E-01
NO Hot Idling Emission Factor (g/min)	5.024E-02	1.491E-03	2.131E-01	1.646E-03	4.253E-02	4.176E-03		3.511E-02	8.614E-02	9.661E-02	2.741E-02	7.827E-02	2.579E-02	3.199E-03	3.073E-02	7.848E-02	9.031E-03			8.417E-02	1.509E-01	2.230E-01	5.894E-03	1.391E-01	3.049E-02
NO_2 Cold Idling Emission Factor (g/min)	6.325E-03	7.611E-05	4.559E-03	8.699E-05	3.816E-03	2.196E-04		2.945E-02	1.079E-01	1.362E-01	1.680E-02	1.333E-03	6.447E-03	1.686E-04	1.680E-02	4.063E-04	4.754E-04			1.890E-01	1.066E-01	3.415E-01	3.101E-04	1.432E-01	1.525E-01
NO_2 Hot Idling Emission Factor (g/min)	6.325E-03	7.611E-05	5.927E-03	8.699E-05	3.816E-03	2.196E-04		1.365E-02	3.775E-02	2.467E-02	1.066E-02	4.151E-04	6.447E-03	1.686E-04	1.195E-02	4.063E-04	4.754E-04			1.648E-02	9.423E-03	1.129E-02	3.101E-04	3.127E-02	1.501E-02
TSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
TSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
NO Running Emission Factor (g/mile/vehicle)	1.342E-01	5.379E-02	1.233E+00	8.224E-02	2.479E+00	9.273E-01		2.152E+00	3.357E+00	5.609E+00	1.100E+00	2.731E+01	1.708E+00	5.465E-01	1.269E+00	1.989E+00	8.927E-01			7.482E+00	6.812E+00	1.327E+01	4.833E-01	6.853E+00	2.971E+00
NO_2 Running Emission Factor (g/mile/vehicle)	1.690E-02	2.746E-03	3.428E-02	4.345E-03	2.224E-01	4.875E-02		8.370E-01	1.471E+00	1.432E+00	4.276E-01	1.448E-02	4.271E-01	2.881E-02	4.933E-01	1.030E-02	4.699E-02			1.465E+00	4.253E-01	6.719E-01	2.550E-02	1.541E+00	1.464E+00
TSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.272E-02	0.000E+00	1.271E-02	3.396E-02	3.117E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.226E-02	8.127E-02	0.000E+00	1.271E-02			3.251E-01	2.655E-01	5.240E-01	1.675E-02	3.454E-01	1.024E-01
RSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.240E-02	0.000E+00	1.239E-02	3.396E-02	2.974E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.017E-02	8.127E-02	0.000E+00	1.239E-02			3.251E-01	2.655E-01	5.240E-01	1.578E-02	3.454E-01	1.024E-01
FSP Running Emission Factor (g/mile/vehicle)	8.369E-03	1.143E-02	0.000E+00	1.143E-02	3.122E-02	2.627E-02		7.628E-02	1.168E-01	2.681E-01	8.208E-02	0.000E+00	1.239E-02	6.502E-02	7.467E-02	0.000E+00	1.143E-02			2.990E-01	2.443E-01	4.820E-01	1.342E-02	3.177E-01	9.415E-02

Survey Data on Start Emission [1]

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1000 - 1100	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	4

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

L:\Secure\Environment_Projects\60733229\L.01\Others\Air\Modelling\Appendix\Calculation of Start Emissions\Calculation of Start Emissions.xlsx

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

08 - Public Light Buses (Code: 8)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

10 - Private Light Bus >3.5t (Code: 9)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1600 - 1700	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2300 - 2400	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	4	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6

13 - Non-franchised Bus 15-24t (Code: 10)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
0800 - 0900	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0900 - 1000	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

14 - Franchised Bus (SD) (Code: 12)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

15 - Franchised Bus (DD) (Code: 13)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

17 - Heavy Goods Vehicles>24t (Code: 14)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

16 - Motorcycles (Code: 15)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Remark

[1] Number of starts were derived based on on-site observations at the PTIs and operators' published schedules, while sitting time was obtained based on on-site observations at PTIs.

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Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

NO

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.024E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.814E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.814E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.210E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	9.190E-03	7.405E-08	0.000E+00	0.000E+00		4.814E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.579E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.024E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.284E-01	0.000E+00	4.182E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.119E-03	2.085E-03	7.734E-06			2.232E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	9.190E-03	7.405E-08	0.000E+00	0.000E+00		4.814E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.579E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	1.662E-05	3.944E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.210E-02	0.000E+00	4.182E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.579E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	1.662E-05	3.944E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.444E-01	0.000E+00	4.182E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.024E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.814E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.419E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.024E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.119E-03	2.085E-03	7.734E-06			5.579E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.765E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.119E-03	2.085E-03	7.734E-06			1.116E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.024E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.119E-03	2.085E-03	7.734E-06			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.284E-01	0.000E+00	4.182E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			5.579E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.024E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.419E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.629E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

NO Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.8t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.022E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.022E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	9.661E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.638E-02	1.103E-02	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	4.672E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	5.332E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	4.672E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.513E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.755E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.022E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.404E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.217E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.027E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.404E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.809E-01	0.000E+00	5.332E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.162E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.513E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.404E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.513E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.162E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.638E-02	1.103E-02	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = I_i * T_a / T_i$

where

I_{ij}: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.8t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.406E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.570E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.507E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.919E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.335E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.326E-03	0.000E+00	3.883E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.451E-04	2.329E-02	2.103E-03		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.379E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	5.698E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.450E-03	0.000E+00	9.562E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	5.698E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.355E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.540E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.310E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.403E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.338E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.357E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.896E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.608E-03	0.000E+00	1.621E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.799E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.196E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.747E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.226E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.538E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.616E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.845E-05	6.003E-03	1.012E-03		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ini}

= 0, if $S_{total} - I_{ij} < 0$

or

= $(S_{total} - I_{ij}) * d_i / (d_i + d_o)$, otherwise

where

S_{ini}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_{ij}: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.8t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.627E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.913E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.900E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			7.172E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	1.492E-02	1.392E-08	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.793E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.793E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.160E-01	0.000E+00	2.560E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.913E-02	3.309E-02	3.148E-05			1.793E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

NO_x

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.872E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.872E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.248E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.872E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.993E-02	0.000E+00	1.068E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.157E-03	1.079E-05	4.071E-07			4.369E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	2.556E-04	3.913E-09	0.000E+00	0.000E+00		1.872E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.092E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	2.092E-06	2.014E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.248E-02	0.000E+00	1.068E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.092E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	2.092E-06	2.014E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.617E-02	0.000E+00	1.068E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.872E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.496E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.092E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.865E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.157E-03	1.079E-05	4.071E-07			2.184E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.157E-03	1.079E-05	4.071E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.993E-02	0.000E+00	1.068E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.092E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.496E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.745E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.745E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.993E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.157E-03	1.079E-05	4.071E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.617E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.157E-03	1.079E-05	4.071E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.048E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.620E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.380E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.360E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.070E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.876E-01	0.000E+00	9.650E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.858E-02	3.050E-03	1.107E-04			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.489E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	5.882E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.407E-01	0.000E+00	2.896E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	2.953E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.860E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.289E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.690E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.823E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.192E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.722E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.406E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.730E-01	0.000E+00	4.259E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.565E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.407E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.585E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.103E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.034E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.483E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.159E-02	8.292E-04	5.322E-05			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{total} = \sum_i (E_{ei} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

E_{ei}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.731E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.731E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	2.467E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.026E-02	5.711E-05	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.945E-02	0.000E+00	1.362E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	5.882E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.772E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	5.882E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.827E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.731E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.462E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.621E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.593E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.566E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

NO_2 Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.404E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	4.148E-04	7.354E-10	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	6.538E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		7.020E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.638E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_L = E_L * T_x * f_L * p$

where

I_L: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_L: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_x: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_L: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

NO_2 Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.277E-03	0.000E+00	5.132E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		1.404E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	4.148E-04	7.354E-10	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	5.882E-05	4.191E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.293E-01	0.000E+00	2.832E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	5.882E-05	4.191E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.161E-01	0.000E+00	6.538E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.229E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.854E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.996E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.928E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		7.020E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.048E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.277E-01	0.000E+00	2.832E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.510E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.522E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.638E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.932E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.458E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.751E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.161E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.077E-02	1.713E-04	1.657E-06		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_L + I_N$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_L: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_N: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

NO_2 Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.366E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.419E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.416E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.441E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.418E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.362E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.785E-01	0.000E+00	6.261E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.425E-02	3.018E-04	1.128E-04		1.841E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	6.704E-04	4.648E-09	0.000E+00	0.000E+00		1.425E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.602E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	6.091E-05	3.016E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.428E-01	0.000E+00	2.95.2E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			4.602E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	6.091E-05	3.016E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.747E-01	0.000E+00	7.606E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.374E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.418E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.891E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.337E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.392E-02	1.821E-04	2.064E-06		4.602E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.667E-01	0.000E+00	0.000E+

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

RSP Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.722E-04	1.582E-04	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.354E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	7.354E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.671E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.469E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.469E-03	0.000E+00	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.734E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.168E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.722E-04	1.582E-04	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = I_i * T_{ij} / T_i$

where

I_{ij}: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_{ij}: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	3.956E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	3.956E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.902E-03	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ijt}

= 0, if $S_{total} - I_{ij} < 0$

or

= $(S_{total} - I_{ij}) * d_i / (d_i + d_o)$, otherwise

where

S_{ijt}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_{ij}: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	1.832E-09	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	3.956E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.902E-03	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	3.956E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.572E-03	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			3.344E-03	0.

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3
FSP
Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.844E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.706E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.706E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.138E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.706E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.844E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.550E-03	0.000E+00	1.999E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			8.918E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	1.029E-08	0.000E+00	0.000E+00		1.706E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.230E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	1.036E-06	8.380E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.138E-03	0.000E+00	1.999E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.230E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	1.036E-06	8.380E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.119E-03	0.000E+00	1.999E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.844E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.706E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.275E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.844E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.779E-04	0.000E+00	9.900E-08			2.230E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.257E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.779E-04	0.000E+00	9.900E-08			4.459E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.844E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.779E-04	0.000E+00	9.900E-08			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.550E-03	0.000E+00	1.999E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			2.230E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.844E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.275E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.779E-04	0.000E+00	9.900E-08			2.230E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.413E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.413E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.550E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.779E-04	0.000E+00	9.900E-08			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.119E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.779E-04	0.000E+00	9.900E-08			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $R = E_i * f * d_i * p$
where
R: running emission at a specific speed for a vehicle type with a fuel type in an hour,
E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,
f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,
d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.436E-06			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	3.951E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	3.951E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $S_{total} = \sum_i (E_{e,i} * f_i) * p$
where
S_{total}: total start emission for a vehicle type with a fuel type in an hour,
$E_{e,i}$: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,
f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 3-3

FSP Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			6.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	1.832E-09	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	2.572E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			3.344E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.203E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_i = E_i * T_o * f_t * p$

where

I_i: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_i: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_o: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_t: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

FSP Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.041E-02	0.000E+00	2.018E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			6.688E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	1.832E-09	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.354E-06	1.748E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	2.018E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	7.354E-06	1.748E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.171E-02	0.000E+00	2.572E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.203E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.431E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			3.344E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.041E-02	0.000E+00	2.018E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			1.672E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		6.504E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.203E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.804E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.804E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.041E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.171E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.117E-03	4.747E-04	1.673E-07			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_o$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_o: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

FSP Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.348E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.609E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.609E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.739E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.609E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.348E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.496E-02	0.000E+00	4.018E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.594E-03	4.747E-04	7.703E-06			1.561E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	1.212E-08	0.000E+00	0.000E+00		5.609E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	8.391E-06	4.963E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.739E-03	0.000E+00	4.018E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	8.391E-06	4.963E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.683E-02	0.000E+00	4.571E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.348E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.609E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.478E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		9.348E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.594E-03	4.747E-04	2.663E-07			3.902E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.056E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.594E-03	4.747E-04	2.663E-07			7.803E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+

Appendix 4.6 Calculation of Start Emissions

Car Park 4

Site Parameters

Average Distance from Starting Place to PT/Parking Site Egress (m)	134
Average Travelling Distance within PT/Parking Site (m)	268
Average Travelling Speed (km/h)	15

Frequency

Hour	01 - Private Cars	02 - Taxi	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
0000 - 0100	1	0	0		2	0	0	0	0	0			0	0	0	0	0	0
0100 - 0200	0	0	0		1	1	1	0	0	0			0	0	0	0	0	0
0200 - 0300	1	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0300 - 0400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0400 - 0500	2	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0500 - 0600	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0600 - 0700	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0700 - 0800	0	0	0		2	0	0	0	0	0			0	0	0	0	0	0
0800 - 0900	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
0900 - 1000	2	0	0		2	1	2	0	0	0			0	0	0	0	0	0
1000 - 1100	2	0	0		2	0	2	0	0	0			0	0	0	0	1	0
1100 - 1200	1	0	0		1	0	0	0	0	0			0	0	0	0	0	0
1200 - 1300	2	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1300 - 1400	2	0	0		2	0	0	0	0	0			0	0	0	0	0	0
1400 - 1500	2	0	0		3	0	0	0	0	0			0	0	0	0	0	0
1500 - 1600	5	0	0		3	0	1	0	0	0			0	0	0	0	0	0
1600 - 1700	4	0	0		1	0	0	0	0	0			0	0	0	0	0	0
1700 - 1800	2	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1800 - 1900	3	0	0		0	0	0	0	0	0			0	0	0	0	0	0
1900 - 2000	1	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2000 - 2100	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2100 - 2200	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2200 - 2300	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0
2300 - 2400	0	0	0		0	0	0	0	0	0			0	0	0	0	0	0

Vehicle Parameters

	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<=2.5t	03 - Light Goods Vehicles<=2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<=15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
Spread Distance of Adjusted Start Emission (m)	700	0	150	0	700	0		700	700	700	700	700	700	0	700	150	0			700	700	700	0	700	700
Max. Idling Time for Adjusting Starting Emission (min)	1	0	0.5	0	1	0		1	1	1	1	1	1	0	1	1	0			1	1	1	0	1	1
Soak Time (duration of engine off prior to engine ignition) (min)	60	240	240	240	60	240		60	60	60	60	240	60	240	60	240	240			60	60	60	240	60	60
Average Spread Distance outside PT/Parking Site (m)	566	0	16	0	566	0		566	566	566	566	16	566	0	566	16	0			566	566	566	0	566	566
Idling Time for Terminating Vehicle (min)	3.00	3.00	2.00	2.00	2.00	2.00		2.60	1.71	1.71	2.00	2.00	2.00	2.00	2.00	2.00	2.00			2.00	2.00	2.00	2.00	2.00	2.00
Idling Time for Non-terminating Vehicle (min)	3.00	3.00	1.50	1.50	1.50	1.50		3.00	3.00	3.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50			1.50	1.50	1.50	1.50	3.00	1.50
Vehicle Percentage (%)	1.66%	98.34%	99.99%	0.01%	96.72%	3.28%		100.00%	100.00%	100.00%	69.27%	30.73%	81.13%	18.87%	85.83%	14.05%	0.12%			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
NO Cold Idling Emission Factor (g/min)	5.024E-02	1.491E-03	1.639E-01	1.646E-03	4.253E-02	4.176E-03		7.573E-02	2.461E-01	5.332E-01	4.320E-02	2.513E-01	2.579E-02	3.199E-03	4.320E-02	7.848E-02	9.031E-03			9.652E-01	1.707E+00	6.746E+00	5.894E-03	6.370E-01	3.095E-01
NO Hot Idling Emission Factor (g/min)	5.024E-02	1.491E-03	2.131E-01	1.646E-03	4.253E-02	4.176E-03		3.511E-02	8.614E-02	9.661E-02	2.741E-02	7.827E-02	2.579E-02	3.199E-03	3.073E-02	7.848E-02	9.031E-03			8.417E-02	1.509E-01	2.230E-01	5.894E-03	1.391E-01	3.049E-02
NO_2 Cold Idling Emission Factor (g/min)	6.325E-03	7.611E-05	4.559E-03	8.699E-05	3.816E-03	2.196E-04		2.945E-02	1.079E-01	1.362E-01	1.680E-02	1.333E-03	6.447E-03	1.686E-04	1.680E-02	4.063E-04	4.754E-04			1.890E-01	1.066E-01	3.415E-01	3.101E-04	1.432E-01	1.525E-01
NO_2 Hot Idling Emission Factor (g/min)	6.325E-03	7.611E-05	5.927E-03	8.699E-05	3.816E-03	2.196E-04		1.365E-02	3.775E-02	2.467E-02	1.066E-02	4.151E-04	6.447E-03	1.686E-04	1.195E-02	4.063E-04	4.754E-04			1.648E-02	9.423E-03	1.129E-02	3.101E-04	3.127E-02	1.501E-02
TSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
TSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
RSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Cold Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
FSP Hot Idling Emission Factor (g/min)	7.908E-04	3.174E-05	0.000E+00	2.167E-04	4.333E-04	3.106E-05		4.336E-04	1.006E-03	9.704E-04	4.334E-04	6.820E-04	4.335E-04	7.880E-07	4.336E-04	1.126E-03	4.799E-05			7.850E-04	1.323E-03	1.973E-03	1.240E-05	1.389E-03	2.600E-04
NO Running Emission Factor (g/mile/vehicle)	1.342E-01	5.379E-02	1.233E+00	8.224E-02	2.479E+00	9.273E-01		2.152E+00	3.357E+00	5.609E+00	1.100E+00	2.731E+00	1.708E+00	5.465E-01	1.269E+00	1.989E+00	8.927E-01			7.482E+00	6.812E+00	1.327E+01	4.833E-01	6.853E+00	2.971E+00
NO_2 Running Emission Factor (g/mile/vehicle)	1.690E-02	2.746E-03	3.428E-02	4.345E-03	2.224E-01	4.875E-02		8.370E-01	1.471E+00	1.432E+00	4.276E-01	1.448E-02	4.271E-01	2.881E-02	4.933E-01	1.030E-02	4.699E-02			1.465E+00	4.253E-01	6.719E-01	2.550E-02	1.541E+00	1.464E+00
TSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.272E-02	0.000E+00	1.271E-02	3.396E-02	3.117E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.226E-02	8.127E-02	0.000E+00	1.271E-02			3.251E-01	2.655E-01	5.240E-01	1.675E-02	3.454E-01	1.024E-01
RSP Running Emission Factor (g/mile/vehicle)	9.012E-03	1.240E-02	0.000E+00	1.239E-02	3.396E-02	2.974E-02		8.288E-02	1.271E-01	2.915E-01	8.916E-02	0.000E+00	1.352E-02	7.017E-02	8.127E-02	0.000E+00	1.239E-02			3.251E-01	2.655E-01	5.240E-01	1.578E-02	3.454E-01	1.024E-01
FSP Running Emission Factor (g/mile/vehicle)	8.369E-03	1.143E-02	0.000E+00	1.143E-02	3.122E-02	2.627E-02		7.628E-02	1.168E-01	2.681E-01	8.208E-02	0.000E+00	1.239E-02	6.502E-02	7.467E-02	0.000E+00	1.143E-02			2.990E-01	2.443E-01	4.820E-01	1.342E-02	3.177E-01	9.415E-02

Survey Data on Start Emission [1]

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
1100 - 1200	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
1200 - 1300	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
1300 - 1400	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	2	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	5
1600 - 1700	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	4
1700 - 1800	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	2
1800 - 1900	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	3
1900 - 2000	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	0	0	0	1	2	0	2	1	5	2	2	2	1	1	1	0	2	2	0	1	30

01 - Private Cars (Code: 1)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
1100 - 1200	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
1200 - 1300	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
1300 - 1400	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
1400 - 1500	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1500 - 1600	2	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	5
1600 - 1700	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4
1700 - 1800	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2
1800 - 1900	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	3
1900 - 2000	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	0	0	1	2	0	2	1	5	2	2	2	1	1	1	0	2	2	1	30

Appendix 4.6 Calculation of Start Emissions

Car Park 4

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

02 - Taxi (Code: 2)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 4

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2

06 - Medium Goods Vehicles<=15t (Code: 5)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
1000 - 1100	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	1	1	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	7

07 - Medium Goods Vehicles15-24t (Code: 6)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2
1000 - 1100	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	0	1	0	0	0	0	1	1	0	0	0	0	1	0	0	0	7

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

09 - Private Light Bus <=3.5t (Code: 7)

Sitting Time (min)	Bypass	5	10	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 4

08 - Public Light Buses (Code: 8)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix 4.6 Calculation of Start Emissions

Car Park 4

14 - Franchised Bus (SD) (Code: 12)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

15 - Franchised Bus (DD) (Code: 13)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

17 - Heavy Goods Vehicles>24t (Code: 14)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

16 - Motorcycles (Code: 15)

Sitting Time (min)	Bypass	5	10	15	20	30	40	50	60	120	180	240	300	360	420	480	540	600	660	720	>720	Total
0000 - 0100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0100 - 0200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0200 - 0300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0300 - 0400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0400 - 0500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0500 - 0600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0600 - 0700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0700 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0900 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 - 1100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1100 - 1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1200 - 1300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1300 - 1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1400 - 1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1500 - 1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1600 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1800 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1900 - 2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000 - 2100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2100 - 2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2200 - 2300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2300 - 2400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Remark

[1] Number of starts were derived based on on-site observations at the PTIs and operators' published schedules, while sitting time was obtained based on on-site observations at PTIs.

Appendix 4.6 Calculation of Start Emissions

Car Park 4

NO

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.712E-04	8.809E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.168E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	5.590E-01	9.340E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	3.712E-04	8.809E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	7.423E-04	1.762E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.168E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.423E-04	1.762E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.168E-01	5.590E-01	1.868E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	7.423E-04	1.762E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.168E-01	0.000E+00	1.868E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.141E+00	0.000E+00
1100 - 1200	3.712E-04	8.809E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.423E-04	1.762E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	7.423E-04	1.762E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.168E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	7.423E-04	1.762E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.075E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.856E-03	4.404E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.075E+00	0.000E+00	9.340E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	1.485E-03	3.524E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.584E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	7.423E-04	1.762E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.114E-03	2.643E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	3.712E-04	8.809E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.

Appendix 4.6 Calculation of Start Emissions

Car Park 4

NO Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.515E-01	2.461E-01	6.298E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	5.332E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.108E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	2.503E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.511E-02	0.000E+00	9.661E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	1.669E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.573E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	2.503E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	8.343E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	5.332E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_h = I_t * T_a / T_t$

where

I_h: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_t: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	5.915E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.027E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	7.975E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	1.543E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.599E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	1.501E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.746E-03	1.215E-03	4.179E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	1.417E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.185E-01	0.000E+00	5.044E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	7.504E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.599E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	1.456E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	1.372E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.037E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	8.153E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.472E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	2.238E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.493E-03	8.671E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	1.411E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.115E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	1.424E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	1.945E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	6.234E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	8.262E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ae}
= 0, if $S_{total} - I_h < 0$
or
= $(S_{total} - I_h) * d_t / (d_t + d_s)$, otherwise

where

S_{ae}: adjusted start emission within PTI,

S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,

I_h: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,

d_t: average travelling distance within PTI, obtained from the *Site Parameters* table,

d_s: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

NO Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	5.915E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	2.584E-01	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	7.975E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	1.543E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	2.898E-01	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.053E-01	0.000E+00	2.898E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.172E-01	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	2.503E-03	4.398E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.106E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	5.006E-03	8.795E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000

Appendix 4.6 Calculation of Start Emissions

Car Park 4

NO_x

Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	4.673E-05	4.498E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.788E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	2.450E-01	2.385E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	4.673E-05	4.498E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	9.346E-05	8.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.788E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	9.346E-05	8.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.788E-01	2.450E-01	4.770E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	9.346E-05	8.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.788E-01	0.000E+00	4.770E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.566E-01	0.000E+00
1100 - 1200	4.673E-05	4.498E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	9.346E-05	8.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	9.346E-05	8.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.788E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	9.346E-05	8.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.182E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	2.336E-04	2.249E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.182E-01	0.000E+00	2.385E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	1.869E-04	1.799E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.394E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	9.346E-05	8.995E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.402E-04	1.349E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	4.673E-05	4.498E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.788E-01	0.000E+00	2.385E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $R = E_i * f * d_i * p$

where

R: running emission at a specific speed for a vehicle type with a fuel type in an hour,

E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,

f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,

d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	3.149E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.413E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	4.234E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	8.172E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.380E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	7.879E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.136E-01	3.854E-01	4.940E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	7.483E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.703E-01	0.000E+00	5.565E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	3.939E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.380E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	7.681E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	7.189E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.537E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	4.333E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.407E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	1.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.480E-02	0.000E+00	9.650E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	7.383E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.131E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	7.483E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	1.024E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	3.250E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $S_{total} = \sum_i (E_{ei} * f_i) * p$

where

S_{total}: total start emission for a vehicle type with a fuel type in an hour,

E_{ei}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,

f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

NO_2 Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.657E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.890E-02	1.079E-01	1.608E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.945E-02	0.000E+00	1.362E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	1.050E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.311E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.050E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.945E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	3.151E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.365E-02	0.000E+00	2.467E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	2.101E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	

Appendix 4.6 Calculation of Start Emissions

Car Park 4

NO_2 Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	1.133E-01	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_{ij} = E_{ij} * T_{ij} * f_{ij} * p$

where

I_{ij}: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_{ij}: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_{ij}: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_{ij}: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

NO_2 Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.175E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.096E-02	1.133E-01	7.402E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.646E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.531E-01	1.845E-01	2.750E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.175E-01	0.000E+00	3.068E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.380E-02	0.000E+00
1100 - 1200	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.550E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.121E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.585E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.576E-03	1.123E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.174E-01	0.000E+00	4.219E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	1.260E-03	8.981E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		7.657E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	6.302E-04	4.490E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	9.453E-04	6.736E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	3.151E-04	2.245E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		8.192E-02	0.000E+00	2.328E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_{ij}$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_{ij}: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

NO_2 Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.618E-04	3.822E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.751E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.751E-01	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.803E-01	3.583E-01	3.125E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	3.618E-04	4.908E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	7.237E-04	9.122E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.553E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.237E-04	9.227E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.998E-01	4.826E-01	8.158E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.504E-01	0.000E+00
1000 - 1100	7.237E-04	8.832E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.424E-01	0.000E+00	8.644E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.504E-01	0.000E+00
1100 - 1200	3.618E-04	4.653E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.746E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.237E-04	9.029E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	7.237E-04	8.538E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.312E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	7.237E-04	5.681E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.980E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.809E-03	1.529E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		5.377E-01	0.000E+00	2.945E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0

Appendix 4.6 Calculation of Start Emissions

Car Park 4

RSP Idling Emission for the Purpose of Start Emission Adjustment (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	1.313E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	2.627E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.336E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	9.704E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_h = I_i * T_a / T_i$

where

I_h: idling emission for the purpose of start emission adjustment of a vehicle type with a fuel type in an hour,

I_i: idling emission within PTI of the vehicle type with the fuel type in an hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

T_a: max. idling time for adjusting start emission of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_i: iliding time for the terminating vehicle, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	1.112E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	9.247E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	1.997E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	1.397E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	9.247E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	6.983E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	1.279E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	9.246E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	7.771E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	2.064E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	2.164E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	1.800E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	2.646E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	2.230E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. S_{ae}
= 0, if $S_{total} - I_h < 0$
or
= $(S_{total} - I_h) * d_i / (d_i + d_o)$, otherwise
where
S_{ae}: adjusted start emission within PTI,
S_{total}: total start emission, obtained from the *Total Start Emission (g)* table above,
I_h: idling emission for the purpose of start emission adjustment, obtained from the *Idling emission for the purpose of start emission adjustment (g)* table above,
d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,
d_o: average spread distance outside PTI, obtained from the *Vehicle Parameters* table.

RSP Adjusted Start Emission outside PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00

Appendix 4.6 Calculation of Start Emissions

Car Park 4
FSP
Running Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	2.314E-05	1.872E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.541E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	1.946E-02	4.465E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	2.314E-05	1.872E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	4.628E-05	3.743E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.541E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	4.628E-05	3.743E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.541E-02	0.000E+00	8.930E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.290E-02	0.000E+00
1000 - 1100	2.314E-05	1.872E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	4.628E-05	3.743E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	4.628E-05	3.743E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	4.628E-05	3.743E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.541E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	4.628E-05	3.743E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.811E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.157E-04	9.358E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.811E-02	0.000E+00	4.465E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	9.257E-05	7.486E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.270E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	4.628E-05	3.743E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	6.943E-05	5.615E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	2.314E-05	1.872E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $R = E_i * f * d_i * p$
where
R: running emission at a specific speed for a vehicle type with a fuel type in an hour,
E_i: running emission factor for the vehicle type at the specific speed, obtained from the *EMFACEmf* tab,
f: total traffic frequency of the vehicle type in the hour, obtained from the *Frequency* table,
d_i: average travelling distance within PTI, obtained from the *Site Parameters* table,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Total Start Emission (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	1.033E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	8.558E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	1.859E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	1.298E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	8.656E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	0.000E+00	6.491E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	0.000E+00	1.190E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	0.000E+00	8.557E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	0.000E+00	7.279E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	0.000E+00	1.928E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	0.000E+00	2.007E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	0.000E+00	1.672E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	0.000E+00	2.459E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	0.000E+00	2.066E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark
1. $S_{total} = \sum_i (E_{ki} * f_i) * p$
where
S_{total}: total start emission for a vehicle type with a fuel type in an hour,
E_{ki}: start emission factor of the vehicle type with sitting time i min, obtained from the *EMFACEmf* tab,
f_i: traffic frequency of the vehicle type with sitting time i min in the hour, obtained from the *Traffic Flow* table of the vehicle type,
p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table.

FSP Idling Emission within PTI/Parking Site (Terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.127E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.127E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.255E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.127E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.182E-04	2.810E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.127E-03	0.000E+00	1.659E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.127E-03	0.

Appendix 4.6 Calculation of Start Emissions

Car Park 4

FSP Idling Emission within PTI/Parking Site (Non-terminating Vehicle) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	3.019E-03	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	1.251E-04	1.691E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.766E-02	2.118E-02	9.262E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1100 - 1200	1.251E-04	1.259E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.783E-02	0.000E+00	9.387E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.707E-02	0.000E+00
1200 - 1300	1.251E-04	1.583E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.251E-04	1.249E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.766E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.251E-04	1.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.184E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	3.127E-04	2.911E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.184E-02	0.000E+00	4.631E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	2.502E-04	2.793E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.383E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	1.251E-04	2.065E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.876E-04	3.049E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	6.254E-05	4.031E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I_v = E_v * T_v * f_v * p$

where

I_v: idling emission within PTI of a vehicle type with a fuel type in an hour (non-terminating vehicle),

E_v: hot idling emission factor of the vehicle type with the fuel type, obtained from the *Vehicle Parameters* table,

T_v: idling time of the non-terminating vehicle, obtained from the *Vehicle Parameters* table,

p: vehicle percentage of the fuel type, obtained from the *Vehicle Parameters* table,

f_v: traffic frequency of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Bypass* column of the *Traffic Flow* table of the vehicle type.

FSP Idling Emission within PTI/Parking Site (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.428E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.301E-03	3.019E-03	2.911E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.428E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.255E-03	1.721E-03	3.319E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.428E-03	0.000E+00	4.571E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.166E-03	0.000E+00
1100 - 1200	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.127E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.255E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.510E-03	0.000E+00
1400 - 1500	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.729E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	1.970E-04	4.683E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		3.729E-03	0.000E+00	1.659E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1600 - 1700	1.576E-04	3.746E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.127E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1700 - 1800	7.880E-05	1.873E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1800 - 1900	1.182E-04	2.810E-04	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1900 - 2000	3.940E-05	9.365E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2000 - 2100	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2100 - 2200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2200 - 2300	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.601E-03	0.000E+00	1.659E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2300 - 2400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Remark

1. $I = I_t + I_{ot}$

where

I: idling emission within PTI of a vehicle type with a fuel type in an hour,

I_t: idling emission within PTI of the vehicle type with the fuel type in the hour (terminating vehicle), obtained from the *Idling Emission within PTI (Terminating Vehicle) (g)* table above,

I_{ot}: idling emission within PTI of the vehicle type with the fuel type in the hour (non-terminating vehicle), obtained from the *Idling Emission within PTI (Non-terminating Vehicle) (g)* table above.

FSP Total Emission within PTI/Parking Site (Running + Adjusted Start + Idling) (g)

Hour	01 - Private Cars	01 - Private Cars	02 - Taxi	02 - Taxi	03 - Light Goods Vehicles<= 2.5t	03 - Light Goods Vehicles<= 2.5t	04 - Lt Goods Vehicles 2.5-3.5t	05 - Light Goods Vehicles>3.5t	06 - Medium Goods Vehicles<= 15t	07 - Medium Goods Vehicles15-24t	08 - Public Light Buses	08 - Public Light Buses	09 - Private Light Bus <=3.5t	09 - Private Light Bus <=3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	10 - Private Light Bus >3.5t	11 - Non-franchised Bus<=6.4t	12 - Non-franchised Bus 6.4-15t	13 - Non-franchised Bus 15-24t	14 - Franchised Bus (SD)	15 - Franchised Bus (DD)	16 - Motorcycles	17 - Heavy Goods Vehicles>24t	18 - Non-franchised Bus >24t
	Diesel	Petrol	LPG	Petrol	Diesel	Petrol		Diesel	Diesel	Diesel	Diesel	LPG	Diesel	Petrol	Diesel	LPG	Petrol			Diesel	Diesel	Diesel	Petrol	Diesel	Diesel
0000 - 0100	6.254E-05	1.229E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.783E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0100 - 0200	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.400E-02	2.248E-02	4.756E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0200 - 0300	6.254E-05	1.052E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0300 - 0400	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0400 - 0500	1.251E-04	2.230E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0500 - 0600	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0600 - 0700	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0700 - 0800	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.783E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0800 - 0900	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
0900 - 1000	1.251E-04	1.691E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.766E-02	2.118E-02	9.262E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1000 - 1100	1.251E-04	1.259E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.783E-02	0.000E+00	9.387E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.707E-02	0.000E+00
1100 - 1200	6.254E-05	8.455E-03	0.000E+00	0.000E+00	0.000E+00	0.000E+00		1.383E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1200 - 1300	1.251E-04	1.583E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1300 - 1400	1.251E-04	1.249E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		2.766E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1400 - 1500	1.251E-04	1.121E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.184E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1500 - 1600	3.127E-04	2.911E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00		4.184E-02	0.000E+00	4.631E-02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00			0.000E+00	0.000E+00	0.000E+00	0.000E+00	0

Appendix 4.6 Calculation of Start Emissions

Emission Source Listing in AERMOD
Cold Start (Operation Phase)

Carparks	Source ID	Type	X Start	Y Start	X End	Y End	Road Width (m)	Release Height (mAG)	No. of Vertices	Syinit	Szinit	Operation Period (hr)	Area (m^2)	Travel Distance outside Bus Terminus (m)	Flow Percentage (%)	NO Emission Rate (g/s or g/m^2/s)	NO_2 Emission Rate (g/s or g/m^2/s)	RSP Emission Rate (g/s or g/m^2/s)	FSP Emission Rate (g/s or g/m^2/s)
Start Emission inside Parking Area																			
Car_Park_1	CP1_1V01	AREAPOLY	826486.86	824349.05	-	-	-	0.50	9	-	-	24	3900.32	-	-	1.2401E-06	2.3203E-07	1.6751E-08	1.5595E-08
Car_Park_2	CP2_1V01	AREAPOLY	826596.13	824146.66	-	-	-	0.50	8	-	-	24	4773.27	-	-	8.1622E-07	1.8036E-07	1.2174E-08	1.1317E-08
Car_Park_3_1	CP3_1V01	AREAPOLY	826657.46	824032.17	-	-	-	0.50	4	-	-	24	394.39	-	-	3.4072E-07	1.8072E-08	4.4633E-08	4.0684E-08
Car_Park_3_2	CP3_2V01	AREAPOLY	826676.53	824019.01	-	-	-	0.50	4	-	-	24	1699.66	-	-	7.2017E-07	1.9490E-07	2.8362E-08	2.6370E-08
Car_Park_3_3	CP3_3V01	AREAPOLY	826708.76	823986.00	-	-	-	0.50	4	-	-	24	152.83	-	-	4.3198E-06	1.4410E-06	6.9149E-08	6.6626E-08
Car_Park_4	CP4_1V01	AREAPOLY	826484.95	823781.50	-	-	-	0.50	20	-	-	24	19435.01	-	-	9.2099E-08	2.5844E-08	2.9582E-09	2.7368E-09
Start Emission outside Parking Area (Spread Distance = 700m)																			
Car_Park_1	CP1_1L06	LINE	826553.64	824277.11	826570.05	824250.68	3.50	2.80	-	-	2.60	24	109	31	100%	7.4657E-07	1.3542E-07	-	-
Car_Park_1	CP1_1L07	LINE	826570.05	824250.68	826575.29	824241.80	3.50	2.80	-	-	2.60	24	36	10	100%	7.4657E-07	1.3542E-07	-	-
Car_Park_1	CP1_1L08	LINE	826575.29	824241.80	826573.01	824227.67	3.50	2.80	-	-	2.60	24	50	14	100%	7.4657E-07	1.3542E-07	-	-
Car_Park_1	CP1_1L09	LINE	826573.01	824227.67	826559.57	824222.88	3.50	2.80	-	-	2.60	24	50	14	100%	7.4657E-07	1.3542E-07	-	-
Car_Park_1	CP1_1L10	LINE	826559.57	824222.88	826544.30	824221.52	3.50	2.80	-	-	2.60	24	54	15	100%	7.4657E-07	1.3542E-07	-	-
Car_Park_1	CP1_1L11	LINE	826544.30	824221.52	826517.87	824226.99	3.50	2.80	-	-	2.60	24	94	27	100%	7.4657E-07	1.3542E-07	-	-
Car_Park_1	CP1_1L12	LINE	826517.87	824226.99	826490.53	824262.53	12.00	2.80	-	-	2.60	24	538	45	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L13	LINE	826490.53	824262.53	826473.22	824295.11	12.00	2.80	-	-	2.60	24	443	37	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L14	LINE	826473.22	824295.11	826464.79	824326.32	12.00	2.80	-	-	2.60	24	388	32	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L15	LINE	826464.79	824326.32	826463.25	824359.69	12.00	2.80	-	-	2.60	24	401	33	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L16	LINE	826463.25	824359.69	826470.43	824392.33	12.00	2.80	-	-	2.60	24	401	33	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L17	LINE	826470.43	824392.33	826487.12	824429.04	12.00	2.80	-	-	2.60	24	484	40	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L18	LINE	826487.12	824429.04	826507.41	824455.92	12.00	2.80	-	-	2.60	24	404	34	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L19	LINE	826507.41	824455.92	826527.60	824465.74	12.00	2.80	-	-	2.60	24	269	22	100%	2.1775E-07	3.9499E-08	-	-
Car_Park_1	CP1_1L20	LINE	826525.75	824470.39	826554.38	824487.84	8.00	2.80	-	-	2.60	24	268	34	70%	2.2864E-07	4.1473E-08	-	-
Car_Park_1	CP1_1L21	LINE	826554.38	824487.84	826582.86	824498.17	8.00	2.80	-	-	2.60	24	242	30	70%	2.2864E-07	4.1473E-08	-	-
Car_Park_1	CP1_1L22	LINE	826582.86	824498.17	826617.04	824507.78	8.00	2.80	-	-	2.60	24	284	36	70%	2.2864E-07	4.1473E-08	-	-
Car_Park_1	CP1_1L23	LINE	826617.04	824507.78	826784.31	824543.37	8.00	2.80	-	-	2.60	24	1368	171	70%	2.2864E-07	4.1473E-08	-	-
Car_Park_1	CP1_1L24	LINE	826529.50	824462.33	826546.99	824467.65	8.00	2.80	-	-	2.60	24	146	18	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L25	LINE	826546.99	824467.65	826560.70	824467.81	8.00	2.80	-	-	2.60	24	110	14	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L26	LINE	826560.70	824467.81	826577.79	824462.57	8.00	2.80	-	-	2.60	24	143	18	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L27	LINE	826577.79	824462.57	826592.15	824452.54	8.00	2.80	-	-	2.60	24	140	18	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L28	LINE	826592.15	824452.54	826604.68	824437.51	8.00	2.80	-	-	2.60	24	157	20	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L29	LINE	826604.68	824437.51	826615.97	824413.80	8.00	2.80	-	-	2.60	24	210	26	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L30	LINE	826615.97	824413.80	826627.85	824368.96	8.00	2.80	-	-	2.60	24	371	46	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L31	LINE	826627.85	824368.96	826632.02	824337.71	8.00	2.80	-	-	2.60	24	252	32	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L32	LINE	826632.02	824337.71	826647.23	824283.83	8.00	2.80	-	-	2.60	24	448	56	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_1	CP1_1L33	LINE	826647.23	824283.83	826653.28	824261.48	8.00	2.80	-	-	2.60	24	185	23	30%	9.7987E-08	1.7774E-08	-	-
Car_Park_2	CP2_1L01	LINE	826631.30	824080.14	826714.22	823892.62	3.50	2.86	-	-	2.66	24	718	205	100%	2.1439E-06	2.9300E-07	-	-
Car_Park_2	CP2_1L02	LINE	826714.22	823892.62	826722.05	823889.78	3.50	2.86	-	-	2.66	24	29	8	100%	2.1439E-06	2.9300E-07	-	-
Car_Park_2	CP2_1L03	LINE	826722.05	823889.78	826725.61	823878.03	3.50	2.86	-	-	2.66	24	43	12	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L04	LINE	826725.61	823878.03	826720.63	823867.35	3.50	2.86	-	-	2.66	24	41	12	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L05	LINE	826720.63	823867.35	826709.95	823866.28	3.50	2.86	-	-	2.66	24	38	11	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L06	LINE	826709.95	823866.28	826703.19	823874.11	3.50	2.86	-	-	2.66	24	36	10	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L07	LINE	826703.19	823874.11	826699.98	823881.94	3.50	2.86	-	-	2.66	24	30	8	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L08	LINE	826699.98	823881.94	826703.90	823891.20	3.50	2.86	-	-	2.66	24	35	10	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L09	LINE	826703.90	823891.20	826698.56	823909.71	3.50	2.86	-	-	2.66	24	67	19	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L10	LINE	826698.56	823909.71	826623.09	824079.16	3.50	2.86	-	-	2.66	24	649	185	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L11	LINE	826623.09	824079.16	826609.44	824104.35	3.50	2.86	-	-	2.66	24	100	29	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L12	LINE	826609.44	824104.35	826601.28	824118.64	3.50	2.86	-	-	2.66	24	58	16	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L13	LINE	826601.28	824118.64	826586.55	824141.82	3.50	2.86	-	-	2.66	24	96	27	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L14	LINE	826586.55	824141.82	826561.08	824176.85	3.50	2.86	-	-	2.66	24	152	43	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L15	LINE	826561.08	824176.85	826537.59	824204.55	3.50	2.86	-	-	2.66	24	127	36	75%	1.6079E-06	2.1975E-07	-	-
Car_Park_2	CP2_1L16	LINE	826722.05	823889.78	826734.54	823892.30	3.50	2.86	-	-	2.66	24	45	13	25%	5.3598E-07	7.3251E-08	-	-
Car_Park_2	CP2_1L17	LINE	826734.54	823892.30	826745.25	823899.59	3.50	2.86	-	-	2.66	24	45	13	25%	5.3598E-07	7.3251E-08	-	-
Car_Park_2	CP2_1L18	LINE	826745.25	823899.59	826754.59	823913.03	3.50	2.86	-	-	2.66	24	57	16	25%	5.3598E-07	7.3251E-08	-	-
Car_Park_2	CP2_1L19	LINE	826754.59	823913.03	826760.29	823926.24	3.50	2.86	-	-	2.66	24	50	14	25%	5.3598E-07	7.3251E-08	-	-
Car_Park_2	CP2_1L20	LINE	826760.29	823926.24	826760.74	823938.77	3.50	2.86	-	-	2.66	24	44	13	25%	5.3598E-07	7.3251E-08	-	-
Car_Park_2	CP2_1L21	LINE	826760.74	823938.77	826755.05	823957.46	3.50	2.86	-	-	2.66	24	68	20	25%	5.3598E-07	7.3251E-08	-	-
Car_Park_2	CP2_1L22	LINE	826755.05	823957.46	826658.44	824170.94	12.00	2.86	-	-	2.66	24	1172	98	25%	1.5633E-07	2.1365E-08	-	-
Car_Park_2	CP2_1L23	LINE	826658.44	824170.94	826618.14	824259.88	12.00	2.86	-	-	2.66	24	1172	98	25%	1.5633E-07	2.1365E-08	-	-

Appendix 4.6 Calculation of Start Emissions

Emission Source Listing in AERMOD
Cold Start (Operation Phase)

Carparks	Source ID	Type	X Start	Y Start	X End	Y End	Road Width (m)	Release Height (mAG)	No. of Vertices	Syinit	Szinit	Operation Period (hr)	Area (m^2)	Travel Distance outside Bus Terminus (m)	Flow Percentage (%)	NO Emission Rate (g/s or g/m^2/s)	NO_2 Emission Rate (g/s or g/m^2/s)	RSP Emission Rate (g/s or g/m^2/s)	FSP Emission Rate (g/s or g/m^2/s)
Car_Park_3_2	CP3_2L12	LINE	826702.48	823919.18	826714.22	823892.62	3.50	2.58	-	-	2.40	24	102	29	100%	2.5493E-07	9.9142E-08	-	-
Car_Park_3_2	CP3_2L13	LINE	826714.22	823892.62	826722.05	823889.78	3.50	2.58	-	-	2.40	24	29	8	100%	2.5493E-07	9.9142E-08	-	-
Car_Park_3_2	CP3_2L14	LINE	826722.05	823889.78	826725.61	823878.03	3.50	2.58	-	-	2.40	24	43	12	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L15	LINE	826725.61	823878.03	826720.63	823867.35	3.50	2.58	-	-	2.40	24	41	12	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L16	LINE	826720.63	823867.35	826709.95	823866.28	3.50	2.58	-	-	2.40	24	38	11	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L17	LINE	826709.95	823866.28	826703.19	823874.11	3.50	2.58	-	-	2.40	24	36	10	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L18	LINE	826703.19	823874.11	826699.98	823881.94	3.50	2.58	-	-	2.40	24	30	8	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L19	LINE	826699.98	823881.94	826703.90	823891.20	3.50	2.58	-	-	2.40	24	35	10	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L20	LINE	826703.90	823891.20	826698.56	823909.71	3.50	2.58	-	-	2.40	24	67	19	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L21	LINE	826698.56	823909.71	826623.09	824079.16	3.50	2.58	-	-	2.40	24	649	185	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L22	LINE	826623.09	824079.16	826609.44	824104.35	3.50	2.58	-	-	2.40	24	100	29	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L23	LINE	826609.44	824104.35	826601.28	824118.64	3.50	2.58	-	-	2.40	24	58	16	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L24	LINE	826601.28	824118.64	826586.55	824141.82	3.50	2.58	-	-	2.40	24	96	27	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L25	LINE	826586.55	824141.82	826561.08	824176.85	3.50	2.58	-	-	2.40	24	152	43	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L26	LINE	826561.08	824176.85	826517.87	824226.99	3.50	2.58	-	-	2.40	24	232	66	75%	1.9120E-07	7.4357E-08	-	-
Car_Park_3_2	CP3_2L27	LINE	826517.87	824226.99	826490.53	824262.53	12.00	2.58	-	-	2.40	24	538	45	75%	5.7366E-08	2.1687E-08	-	-
Car_Park_3_2	CP3_2L28	LINE	826490.53	824262.53	826473.22	824295.11	12.00	2.58	-	-	2.40	24	443	37	75%	5.7366E-08	2.1687E-08	-	-
Car_Park_3_2	CP3_2L29	LINE	826473.22	824295.11	826464.79	824326.32	12.00	2.58	-	-	2.40	24	388	32	75%	5.7366E-08	2.1687E-08	-	-
Car_Park_3_2	CP3_2L30	LINE	826464.79	824326.32	826463.25	824359.69	12.00	2.58	-	-	2.40	24	401	33	75%	5.7366E-08	2.1687E-08	-	-
Car_Park_3_2	CP3_2L31	LINE	826463.25	824359.69	826464.42	824365.01	12.00	2.58	-	-	2.40	24	65	5	75%	5.7366E-08	2.1687E-08	-	-
Car_Park_3_2	CP3_2L32	LINE	826722.05	823889.78	826734.54	823892.30	3.50	2.58	-	-	2.40	24	45	13	25%	6.3733E-08	2.4786E-08	-	-
Car_Park_3_2	CP3_2L33	LINE	826734.54	823892.30	826745.25	823899.59	3.50	2.58	-	-	2.40	24	45	13	25%	6.3733E-08	2.4786E-08	-	-
Car_Park_3_2	CP3_2L34	LINE	826745.25	823899.59	826754.59	823913.03	3.50	2.58	-	-	2.40	24	57	16	25%	6.3733E-08	2.4786E-08	-	-
Car_Park_3_2	CP3_2L35	LINE	826754.59	823913.03	826760.29	823926.24	3.50	2.58	-	-	2.40	24	50	14	25%	6.3733E-08	2.4786E-08	-	-
Car_Park_3_2	CP3_2L36	LINE	826760.29	823926.24	826760.74	823938.77	3.50	2.58	-	-	2.40	24	44	13	25%	6.3733E-08	2.4786E-08	-	-
Car_Park_3_2	CP3_2L37	LINE	826760.74	823938.77	826755.05	823957.46	3.50	2.58	-	-	2.40	24	57	16	25%	6.3733E-08	2.4786E-08	-	-
Car_Park_3_2	CP3_2L38	LINE	826755.05	823957.46	826658.44	824170.94	12.00	2.58	-	-	2.40	24	2812	234	25%	1.8589E-08	7.2291E-09	-	-
Car_Park_3_2	CP3_2L39	LINE	826658.44	824170.94	826618.14	824259.88	12.00	2.58	-	-	2.40	24	1172	98	25%	1.8589E-08	7.2291E-09	-	-
Car_Park_3_2	CP3_2L40	LINE	826702.48	823919.18	826714.22	823892.62	3.50	2.58	-	-	2.40	24	855	71	25%	1.8589E-08	7.2291E-09	-	-
Car_Park_3_2	CP3_2L41	LINE	826586.76	824323.83	826536.72	824422.77	12.00	2.58	-	-	2.40	24	1331	111	25%	1.8589E-08	7.2291E-09	-	-
Car_Park_3_3	CP3_3L08	LINE	826716.04	823989.22	826716.14	824003.97	3.50	2.62	-	-	2.43	24	52	15	100%	2.6217E-07	6.9793E-08	-	-
Car_Park_3_3	CP3_3L09	LINE	826716.14	824003.97	826699.03	824044.59	3.50	2.62	-	-	2.43	24	154	44	100%	2.6217E-07	6.9793E-08	-	-
Car_Park_3_3	CP3_3L10	LINE	826699.03	824044.59	826692.10	824052.24	3.50	2.62	-	-	2.43	24	36	10	100%	2.6217E-07	6.9793E-08	-	-
Car_Park_3_3	CP3_3L11	LINE	826692.10	824052.24	826680.45	824052.24	3.50	2.62	-	-	2.43	24	41	12	100%	2.6217E-07	6.9793E-08	-	-
Car_Park_3_3	CP3_3L12	LINE	826680.45	824052.24	826648.85	824040.44	3.50	2.62	-	-	2.43	24	118	34	100%	2.6217E-07	6.9793E-08	-	-
Car_Park_3_3	CP3_3L13	LINE	826648.85	824040.44	826623.09	824079.16	3.50	2.62	-	-	2.43	24	163	47	75%	1.9663E-07	5.2345E-08	-	-
Car_Park_3_3	CP3_3L14	LINE	826623.09	824079.16	826609.44	824104.35	3.50	2.62	-	-	2.43	24	100	29	75%	1.9663E-07	5.2345E-08	-	-
Car_Park_3_3	CP3_3L15	LINE	826609.44	824104.35	826601.28	824118.64	3.50	2.62	-	-	2.43	24	58	16	75%	1.9663E-07	5.2345E-08	-	-
Car_Park_3_3	CP3_3L16	LINE	826601.28	824118.64	826586.55	824141.82	3.50	2.62	-	-	2.43	24	96	27	75%	1.9663E-07	5.2345E-08	-	-
Car_Park_3_3	CP3_3L17	LINE	826586.55	824141.82	826561.08	824176.85	3.50	2.62	-	-	2.43	24	152	43	75%	1.9663E-07	5.2345E-08	-	-
Car_Park_3_3	CP3_3L18	LINE	826561.08	824176.85	826517.87	824226.99	3.50	2.62	-	-	2.43	24	232	66	75%	1.9663E-07	5.2345E-08	-	-
Car_Park_3_3	CP3_3L19	LINE	826517.87	824226.99	826490.53	824262.53	12.00	2.62	-	-	2.43	24	538	45	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L20	LINE	826490.53	824262.53	826473.22	824295.11	12.00	2.62	-	-	2.43	24	443	37	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L21	LINE	826473.22	824295.11	826464.79	824326.32	12.00	2.62	-	-	2.43	24	388	32	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L22	LINE	826464.79	824326.32	826463.25	824359.69	12.00	2.62	-	-	2.43	24	401	33	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L23	LINE	826463.25	824359.69	826470.43	824392.33	12.00	2.62	-	-	2.43	24	401	33	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L24	LINE	826470.43	824392.33	826487.12	824429.04	12.00	2.62	-	-	2.43	24	484	40	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L25	LINE	826487.12	824429.04	826507.41	824455.92	12.00	2.62	-	-	2.43	24	404	34	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L26	LINE	826507.41	824455.92	826527.80	824465.72	12.00	2.62	-	-	2.43	24	271	23	75%	5.7350E-08	1.5267E-08	-	-
Car_Park_3_3	CP3_3L27	LINE	826525.75	824470.39	826554.38	824487.84	8.00	2.62	-	-	2.43	24	268	34	70%	8.0290E-08	2.1374E-08	-	-
Car_Park_3_3	CP3_3L28	LINE	826554.38	824487.84	826582.86	824498.17	8.00	2.62	-	-	2.43	24	242	30	70%	8.0290E-08	2.1374E-08	-	-
Car_Park_3_3	CP3_3L29	LINE	826582.86	824498.17	826592.14	824500.78	8.00	2.62	-	-	2.43	24	77	10	70%	8.0290E-08	2.1374E-08	-	-
Car_Park_3_3	CP3_3L30	LINE	826529.50	824462.33	826546.99	824467.65	8.00	2.62	-	-	2.43	24	146	18	5%	5.7350E-09	1.5267E-09	-	-
Car_Park_3_3	CP3_3L31	LINE	826546.99	824467.65	826560.70	824467.81	8.00	2.62	-	-	2.43	24	110	14	5%	5.7350E-09	1.5267E-09	-	-
Car_Park_3_3	CP3_3L32	LINE	826560.70	824467.81	826577.79	824462.57	8.00	2.62	-	-	2.43	24	143	18	5%	5.7350E-09	1.5267E-09	-	-
Car_Park_3_3	CP3_3L33	LINE	826577.79	824462.57	826592.15	824452.54	8.00	2.62	-	-	2.43	24	140	18	5%	5.7350E-09	1.5267E-09	-	-
Car_Park_3_3	CP3_3L34	LINE	826592.15	824452.54	826595.97	824447.96	8.00	2.62	-	-	2.43	24	48	6	5%	5.7350E-09	1.5267E-09	-	-
Car_Park_3_3	CP3_3L35	LINE	826648.85	824040.44	826714.22	823892.62	3.50	2.62	-	-	2.43	25	566	162	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L36	LINE	826714.22	823892.62	826722.05	823889.78	3.50	2.62	-	-	2.43	26	29	8	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L37	LINE	826722.05	823889.78	826735.20	823892.74	3.50	2.62	-	-	2.43	27	47	13	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L38	LINE	826735.20	823892.74	826745.25	823899.59	3.50	2.62	-	-	2.43	28	43	12	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L39	LINE	826745.25	823899.59	826754.59	823913.03	3.50	2.62	-	-	2.43	29	57	16	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L40	LINE	826754.59	823913.03	826760.29	823926.24	3.50	2.62	-	-	2.43	30	50	14	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L41	LINE	826760.29	823926.24	826760.74	823938.77	3.50	2.62	-	-	2.43	31	44	13	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L42	LINE	826760.74	823938.77	826755.05	823957.46	3.50	2.62	-	-	2.43	32	68	20	25%	6.5543E-08	1.7448E-08	-	-
Car_Park_3_3	CP3_3L43	LINE	826755.05	823957.46	826638.44	824170.94	12.00	2.62	-	-	2.43	33	2812	234	25%	1.9117E-08	5.0891E-09	-	-
Car_Park_3_3	CP3_3L44	LINE	826658.44	824170.94	826621.76	824251.89	12.00	2.62	-	-	2.43	34	1066	89	25%	1.9117E-08	5.0891E-09	-	-
Car_Park_4	CP4_1L01	LINE	826705.74	823840.01	826654.57	823838.77	12.00	2.74	-	-	2.55	24	614	51	100%	1.4273E-07	3.1924E-08	-	-
Car_Park_4	CP4_1L02	LINE	826654.57	823838.77	826601.98	823826.79	12.00	2.74	-	-	2.55	24	647	54	100%	1.4273E-07	3.1924E-08	-	-
Car_Park_4	CP4_1L03	LINE	826601.98	823826.79	826542.21	823810.96	12.00	2.74	-	-	2.55	24	742	62	100%	1.4273E-07	3.1924E-08	-	-
Car_Park_4	CP4_1L04	LINE	826542.21	823810.96	826160.00	823695.66	12.00	2.74	-	-	2.55	24	4791	399	100%	1.4273E-07	3.1924E-08	-	-
Start Emission outside Parking Area (Spread Distance = 150m)																			
Car_Park_1	CP1_1L01	LINE	826553.64	824277.11	826575.29	824241.80	3.50	1.19	-	-	1.11	24	145	41	100%	2.0607E-06	5.7743E-08	-	-
Car_Park_1	CP1_1L02	LINE	826575.29	824241.80	826573.01	824227.67	3.50	1.19	-	-	1.11	24	50	14	100%	2.0607E-06	5.7743E-08	-	-
Car_Park_1	CP1_1L03	LINE	826573.01	824227.67	826559.57	824222.88	3.50	1.19	-	-	1.11	24	50	14	100%	2.0607E-06	5.7743E-08	-	-
Car_Park_1	CP1_1L04	LIN

Appendix 4.6 Calculation of Start Emissions

Hourly Profile for CP1_1V01

Hour	NO	NO2	RSP	FSP
Hour 1	0.0000	0.0000	0.0000	0.0000
Hour 2	0.0046	0.0013	0.0481	0.0479
Hour 3	0.0000	0.0000	0.0000	0.0000
Hour 4	0.0000	0.0000	0.0000	0.0000
Hour 5	0.0083	0.0024	0.1000	0.0998
Hour 6	0.0038	0.0011	0.0502	0.0501
Hour 7	0.2045	0.2116	0.0787	0.0786
Hour 8	0.3235	0.2282	0.4817	0.4812
Hour 9	0.4391	0.3726	0.4193	0.4195
Hour 10	0.3078	0.2632	0.8168	0.8165
Hour 11	1.0000	1.0000	1.0000	1.0000
Hour 12	0.8322	0.9780	0.9163	0.9172
Hour 13	0.5900	0.6578	0.5929	0.5935
Hour 14	0.1469	0.1135	0.2811	0.2813
Hour 15	0.5302	0.4962	0.8557	0.8581
Hour 16	0.2329	0.2986	0.5742	0.5759
Hour 17	0.1714	0.1921	0.2960	0.2971
Hour 18	0.3588	0.3582	0.7843	0.7856
Hour 19	0.2095	0.1830	0.5954	0.5957
Hour 20	0.2941	0.2520	0.3873	0.3850
Hour 21	0.0145	0.0042	0.1012	0.1013
Hour 22	0.0486	0.0537	0.1300	0.1305
Hour 23	0.0050	0.0014	0.0422	0.0420
Hour 24	0.0000	0.0000	0.0000	0.0000

Hourly Profile for CP1_1L06-CP1_1L33

Hour	NO	NO2	RSP	FSP
Hour 1	0.0000	0.0000	-	-
Hour 2	0.0000	0.0000	-	-
Hour 3	0.0000	0.0000	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.0000	0.0000	-	-
Hour 6	0.0000	0.0000	-	-
Hour 7	0.7797	0.7288	-	-
Hour 8	0.1198	0.1191	-	-
Hour 9	0.2226	0.2143	-	-
Hour 10	0.2341	0.2543	-	-
Hour 11	1.0000	1.0000	-	-
Hour 12	0.6257	0.7590	-	-
Hour 13	0.6678	0.8785	-	-
Hour 14	0.0000	0.0000	-	-
Hour 15	0.6060	0.5625	-	-
Hour 16	0.0000	0.0000	-	-
Hour 17	0.0173	0.0372	-	-
Hour 18	0.0000	0.0000	-	-
Hour 19	0.0693	0.1485	-	-
Hour 20	0.1921	0.2177	-	-
Hour 21	0.0000	0.0000	-	-
Hour 22	0.0000	0.0000	-	-
Hour 23	0.0000	0.0000	-	-
Hour 24	0.0000	0.0000	-	-

Hourly Profile for CP1_1L01-CP1_1L05

Hour	NO	NO2	RSP	FSP
Hour 1	0.0000	0.0000	-	-
Hour 2	0.0000	0.0000	-	-
Hour 3	0.0000	0.0000	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.0000	0.0000	-	-
Hour 6	0.0000	0.0000	-	-
Hour 7	0.0000	0.0000	-	-
Hour 8	0.2386	0.2385	-	-
Hour 9	0.2304	0.2303	-	-
Hour 10	0.0000	0.0000	-	-
Hour 11	1.0000	1.0000	-	-
Hour 12	0.0000	0.0000	-	-
Hour 13	0.0000	0.0000	-	-
Hour 14	0.0000	0.0000	-	-
Hour 15	0.0000	0.0000	-	-
Hour 16	0.0000	0.0000	-	-
Hour 17	0.0000	0.0000	-	-
Hour 18	0.0000	0.0000	-	-
Hour 19	0.0000	0.0000	-	-
Hour 20	0.3313	0.3311	-	-
Hour 21	0.0000	0.0000	-	-
Hour 22	0.0000	0.0000	-	-
Hour 23	0.0000	0.0000	-	-
Hour 24	0.0000	0.0000	-	-

Hourly Profile for CP2_1V01

Hour	NO	NO2	RSP	FSP
Hour 1	0.3240	0.3740	0.3971	0.3977
Hour 2	0.0266	0.0372	0.0814	0.0818
Hour 3	0.0406	0.0714	0.0784	0.0787
Hour 4	0.0000	0.0000	0.0000	0.0000
Hour 5	0.0908	0.0972	0.1208	0.1200
Hour 6	0.0945	0.1338	0.2083	0.2085
Hour 7	0.0609	0.1071	0.1176	0.1180
Hour 8	0.2759	0.2867	0.3508	0.3508
Hour 9	0.3804	0.4537	0.4998	0.4986
Hour 10	0.4303	0.5339	0.7992	0.7978
Hour 11	0.1220	0.1820	0.2412	0.2410
Hour 12	0.2405	0.2644	0.2295	0.2294
Hour 13	0.0634	0.1116	0.1082	0.1079
Hour 14	0.0203	0.0357	0.0392	0.0393
Hour 15	0.3161	0.3865	0.3440	0.3440
Hour 16	1.0000	1.0000	1.0000	1.0000
Hour 17	0.1926	0.2669	0.4295	0.4286
Hour 18	0.0000	0.0000	0.0000	0.0000
Hour 19	0.0000	0.0000	0.0000	0.0000
Hour 20	0.0000	0.0000	0.0000	0.0000
Hour 21	0.1998	0.1928	0.1574	0.1574
Hour 22	0.0540	0.0624	0.1299	0.1298
Hour 23	0.0000	0.0000	0.0000	0.0000
Hour 24	0.0203	0.0357	0.0392	0.0393

Hourly Profile for CP2_1L01-CP2_1L23

Hour	NO	NO2	RSP	FSP
Hour 1	0.2612	0.2456	-	-
Hour 2	0.0000	0.0000	-	-
Hour 3	0.0000	0.0000	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.1394	0.1627	-	-
Hour 6	0.0000	0.0000	-	-
Hour 7	0.0000	0.0000	-	-
Hour 8	0.0937	0.0749	-	-
Hour 9	0.1376	0.1868	-	-
Hour 10	0.2083	0.2613	-	-
Hour 11	0.0479	0.1362	-	-
Hour 12	0.2037	0.2357	-	-
Hour 13	0.0419	0.1192	-	-
Hour 14	0.0000	0.0000	-	-
Hour 15	0.3149	0.4124	-	-
Hour 16	1.0000	1.0000	-	-
Hour 17	0.0569	0.1620	-	-
Hour 18	0.0000	0.0000	-	-
Hour 19	0.0000	0.0000	-	-
Hour 20	0.0000	0.0000	-	-
Hour 21	0.1769	0.1596	-	-
Hour 22	0.0000	0.0000	-	-
Hour 23	0.0000	0.0000	-	-
Hour 24	0.0000	0.0000	-	-

Appendix 4.6 Calculation of Start Emissions

Hourly Profile for CP3_1V01

Hour	NO	NO2	RSP	FSP
Hour 1	0.0000	0.0000	0.0000	0.0000
Hour 2	0.0000	0.0000	0.0000	0.0000
Hour 3	0.0000	0.0000	0.0000	0.0000
Hour 4	0.0000	0.0000	0.0000	0.0000
Hour 5	0.0000	0.0000	0.0000	0.0000
Hour 6	0.0000	0.0000	0.0000	0.0000
Hour 7	0.0000	0.0000	0.0000	0.0000
Hour 8	0.0000	0.0000	0.0000	0.0000
Hour 9	0.0000	0.0000	0.0000	0.0000
Hour 10	0.1729	0.1746	0.1259	0.1294
Hour 11	0.1595	0.1593	0.1135	0.1158
Hour 12	0.0000	0.0000	0.0000	0.0000
Hour 13	0.3434	0.3415	0.2767	0.2826
Hour 14	0.0000	0.0000	0.0000	0.0000
Hour 15	0.0000	0.0000	0.0000	0.0000
Hour 16	0.0000	0.0000	0.0000	0.0000
Hour 17	0.0000	0.0000	0.0000	0.0000
Hour 18	1.0000	1.0000	1.0000	1.0000
Hour 19	0.5733	0.5753	0.7088	0.7220
Hour 20	0.0000	0.0000	0.0000	0.0000
Hour 21	0.0000	0.0000	0.0000	0.0000
Hour 22	0.2066	0.2044	0.2134	0.1986
Hour 23	0.0000	0.0000	0.0000	0.0000
Hour 24	0.0000	0.0000	0.0000	0.0000

Hourly Profile for CP3_1L01-CP3_1L38

Hour	NO	NO2	RSP	FSP
Hour 1	-	-	-	-
Hour 2	-	-	-	-
Hour 3	-	-	-	-
Hour 4	-	-	-	-
Hour 5	-	-	-	-
Hour 6	-	-	-	-
Hour 7	-	-	-	-
Hour 8	-	-	-	-
Hour 9	-	-	-	-
Hour 10	-	-	-	-
Hour 11	-	-	-	-
Hour 12	-	-	-	-
Hour 13	-	-	-	-
Hour 14	-	-	-	-
Hour 15	-	-	-	-
Hour 16	-	-	-	-
Hour 17	-	-	-	-
Hour 18	-	-	-	-
Hour 19	-	-	-	-
Hour 20	-	-	-	-
Hour 21	-	-	-	-
Hour 22	-	-	-	-
Hour 23	-	-	-	-
Hour 24	-	-	-	-

Hourly Profile for CP3_2V01

Hour	NO	NO2	RSP	FSP
Hour 1	0.9060	1.0000	0.8381	0.8384
Hour 2	0.1392	0.0921	0.2139	0.2133
Hour 3	0.1827	0.0204	0.0229	0.0230
Hour 4	0.2409	0.1067	0.0562	0.0558
Hour 5	0.0801	0.1093	0.0526	0.0526
Hour 6	0.3979	0.0983	0.2733	0.2740
Hour 7	0.4145	0.2761	0.4220	0.4216
Hour 8	0.5682	0.3786	0.5665	0.5628
Hour 9	0.5635	0.6009	0.4729	0.4688
Hour 10	0.6086	0.6690	0.5096	0.5067
Hour 11	0.2458	0.2831	0.2369	0.2371
Hour 12	0.3453	0.3786	0.3380	0.3386
Hour 13	0.5628	0.6473	0.5364	0.5365
Hour 14	0.0782	0.0810	0.0792	0.0793
Hour 15	0.7968	0.9965	0.6246	0.6263
Hour 16	0.6612	0.6975	0.5265	0.5227
Hour 17	0.2613	0.2381	0.2733	0.2598
Hour 18	0.6926	0.7819	0.7640	0.7506
Hour 19	0.5024	0.5005	0.6885	0.6887
Hour 20	0.3623	0.2176	0.2038	0.2035
Hour 21	0.8611	0.5359	0.8520	0.8511
Hour 22	0.9588	0.5638	0.6689	0.6656
Hour 23	0.9345	0.8983	1.0000	1.0000
Hour 24	1.0000	0.7670	0.8228	0.8227

Hourly Profile for CP3_2L12-CP3_2L41

Hour	NO	NO2	RSP	FSP
Hour 1	0.4963	0.3769	-	-
Hour 2	0.0001	0.0002	-	-
Hour 3	0.0000	0.0000	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.1271	0.1272	-	-
Hour 6	0.0000	0.0000	-	-
Hour 7	0.0000	0.0000	-	-
Hour 8	0.1614	0.1615	-	-
Hour 9	0.5047	0.5049	-	-
Hour 10	0.6060	0.6060	-	-
Hour 11	0.1651	0.1652	-	-
Hour 12	0.1777	0.1778	-	-
Hour 13	0.3778	0.3778	-	-
Hour 14	0.0128	0.0127	-	-
Hour 15	0.2756	0.2755	-	-
Hour 16	0.3421	0.3420	-	-
Hour 17	0.2543	0.2544	-	-
Hour 18	0.2446	0.2447	-	-
Hour 19	0.2607	0.2609	-	-
Hour 20	0.1683	0.1683	-	-
Hour 21	0.0000	0.0000	-	-
Hour 22	0.2931	0.1993	-	-
Hour 23	1.0000	1.0000	-	-
Hour 24	0.4222	0.4224	-	-

Hourly Profile for CP3_2L01-CP3_2L11

Hour	NO	NO2	RSP	FSP
Hour 1	0.0000	0.0000	-	-
Hour 2	0.0000	0.0000	-	-
Hour 3	0.0000	0.0000	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.0000	0.0000	-	-
Hour 6	1.0000	1.0000	-	-
Hour 7	0.0000	0.0000	-	-
Hour 8	0.0000	0.0000	-	-
Hour 9	0.0000	0.0000	-	-
Hour 10	0.0000	0.0000	-	-
Hour 11	0.0000	0.0000	-	-
Hour 12	0.0000	0.0000	-	-
Hour 13	0.0000	0.0000	-	-
Hour 14	0.0000	0.0000	-	-
Hour 15	0.0000	0.0000	-	-
Hour 16	0.0000	0.0000	-	-
Hour 17	0.0000	0.0000	-	-
Hour 18	0.0000	0.0000	-	-
Hour 19	0.0000	0.0000	-	-
Hour 20	0.0000	0.0000	-	-
Hour 21	0.0000	0.0000	-	-
Hour 22	0.7129	0.7129	-	-
Hour 23	0.0000	0.0000	-	-
Hour 24	0.7129	0.7129	-	-

Appendix 4.6 Calculation of Start Emissions

Hourly Profile for CP3_3V01

Hour	NO	NO2	RSP	FSP
Hour 1	0.2559	0.2984	0.2522	0.2550
Hour 2	0.1536	0.1790	0.1513	0.1530
Hour 3	0.1532	0.1786	0.1513	0.1530
Hour 4	0.0000	0.0000	0.0000	0.0000
Hour 5	0.1021	0.1191	0.1009	0.1020
Hour 6	0.1534	0.1788	0.1513	0.1530
Hour 7	0.2555	0.2979	0.2522	0.2550
Hour 8	0.9715	0.8323	1.0000	1.0000
Hour 9	0.2633	0.2387	0.2590	0.2594
Hour 10	0.7662	0.6143	0.3322	0.3318
Hour 11	0.6635	0.6985	0.5921	0.5975
Hour 12	0.2568	0.2994	0.2522	0.2550
Hour 13	0.1534	0.1788	0.1513	0.1530
Hour 14	0.2046	0.2385	0.2017	0.2040
Hour 15	0.5114	0.5219	0.4153	0.4179
Hour 16	0.9706	1.0000	0.8256	0.8303
Hour 17	0.3077	0.3416	0.3077	0.3115
Hour 18	1.0000	0.9099	0.6213	0.6240
Hour 19	0.3082	0.3593	0.2522	0.2550
Hour 20	0.2052	0.2392	0.2017	0.2040
Hour 21	0.3601	0.4198	0.3026	0.3060
Hour 22	0.3069	0.3578	0.3026	0.3060
Hour 23	0.5132	0.5813	0.4590	0.4645
Hour 24	0.5669	0.6405	0.5094	0.5155

Hourly Profile for CP3_3L08-CP3_3L44

Hour	NO	NO2	RSP	FSP
Hour 1	0.0710	0.1037	-	-
Hour 2	0.0432	0.0632	-	-
Hour 3	0.0001	0.0002	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.0000	0.0000	-	-
Hour 6	0.0248	0.0362	-	-
Hour 7	0.0219	0.0321	-	-
Hour 8	0.3559	0.3506	-	-
Hour 9	0.1200	0.1753	-	-
Hour 10	0.6061	0.4300	-	-
Hour 11	0.3206	0.4683	-	-
Hour 12	0.1786	0.2609	-	-
Hour 13	0.0217	0.0318	-	-
Hour 14	0.0374	0.0546	-	-
Hour 15	0.3702	0.5409	-	-
Hour 16	0.6845	1.0000	-	-
Hour 17	0.0956	0.1397	-	-
Hour 18	1.0000	0.7367	-	-
Hour 19	0.1917	0.2801	-	-
Hour 20	0.1108	0.1620	-	-
Hour 21	0.2900	0.4236	-	-
Hour 22	0.0619	0.0905	-	-
Hour 23	0.2286	0.3341	-	-
Hour 24	0.1839	0.2690	-	-

Hourly Profile for CP3_3L01-CP3_3L07

Hour	NO	NO2	RSP	FSP
Hour 1	0.0000	0.0000	-	-
Hour 2	0.0000	0.0000	-	-
Hour 3	0.0000	0.0000	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.0000	0.0000	-	-
Hour 6	0.0000	0.0000	-	-
Hour 7	0.0000	0.0000	-	-
Hour 8	1.0000	1.0000	-	-
Hour 9	0.0000	0.0000	-	-
Hour 10	0.0000	0.0000	-	-
Hour 11	0.0000	0.0000	-	-
Hour 12	0.0000	0.0000	-	-
Hour 13	0.0000	0.0000	-	-
Hour 14	0.0000	0.0000	-	-
Hour 15	0.0000	0.0000	-	-
Hour 16	0.0000	0.0000	-	-
Hour 17	0.0000	0.0000	-	-
Hour 18	0.0000	0.0000	-	-
Hour 19	0.0000	0.0000	-	-
Hour 20	0.0000	0.0000	-	-
Hour 21	0.0000	0.0000	-	-
Hour 22	0.0000	0.0000	-	-
Hour 23	0.0000	0.0000	-	-
Hour 24	0.2578	0.2580	-	-

Hourly Profile for CP4_1V01

Hour	NO	NO2	RSP	FSP
Hour 1	0.2013	0.2651	0.2094	0.2099
Hour 2	0.3888	0.4707	0.4384	0.4389
Hour 3	0.0149	0.0029	0.0552	0.0553
Hour 4	0.0000	0.0000	0.0000	0.0000
Hour 5	0.0289	0.0057	0.1176	0.1183
Hour 6	0.0000	0.0000	0.0000	0.0000
Hour 7	0.0000	0.0000	0.0000	0.0000
Hour 8	0.1418	0.1965	0.1451	0.1454
Hour 9	0.0000	0.0000	0.0000	0.0000
Hour 10	0.9205	1.0000	0.8285	0.8277
Hour 11	1.0000	0.9217	1.0000	1.0000
Hour 12	0.0839	0.0995	0.1164	0.1167
Hour 13	0.0276	0.0054	0.0829	0.0833
Hour 14	0.1983	0.2436	0.2101	0.2103
Hour 15	0.2562	0.3342	0.2768	0.2777
Hour 16	0.4464	0.4697	0.6132	0.6140
Hour 17	0.1244	0.1347	0.2190	0.2194
Hour 18	0.0271	0.0053	0.1081	0.1085
Hour 19	0.0377	0.0074	0.1596	0.1602
Hour 20	0.0121	0.0024	0.0215	0.0214
Hour 21	0.0000	0.0000	0.0000	0.0000
Hour 22	0.0000	0.0000	0.0000	0.0000
Hour 23	0.5586	0.5359	0.3885	0.3881
Hour 24	0.0000	0.0000	0.0000	0.0000

Hourly Profile for CP4_1L01-CP4_1L04

Hour	NO	NO2	RSP	FSP
Hour 1	0.2453	0.4266	-	-
Hour 2	0.0000	0.0000	-	-
Hour 3	0.0000	0.0000	-	-
Hour 4	0.0000	0.0000	-	-
Hour 5	0.0000	0.0000	-	-
Hour 6	0.0000	0.0000	-	-
Hour 7	0.0000	0.0000	-	-
Hour 8	0.0001	0.0002	-	-
Hour 9	0.0000	0.0000	-	-
Hour 10	0.8642	1.0000	-	-
Hour 11	0.7540	0.6849	-	-
Hour 12	0.0001	0.0002	-	-
Hour 13	0.0000	0.0000	-	-
Hour 14	0.1255	0.2181	-	-
Hour 15	0.0662	0.1152	-	-
Hour 16	0.1116	0.0859	-	-
Hour 17	0.0498	0.0866	-	-
Hour 18	0.0000	0.0000	-	-
Hour 19	0.0000	0.0000	-	-
Hour 20	0.0000	0.0000	-	-
Hour 21	0.0000	0.0000	-	-
Hour 22	0.0000	0.0000	-	-
Hour 23	1.0000	0.7413	-	-
Hour 24	0.0000	0.0000	-	-

Appendix 4.6 Calculation of Start Emissions

Vertices of Area Source

	Vertex 1		Vertex 2		Vertex 3		Vertex 4		Vertex 5		Vertex 6		Vertex 7		Vertex 8		Vertex 9		Vertex 10	
Source ID	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
CP1_1V01	826486.86	824349.05	826509.04	824348.98	826520.54	824343.54	826558.16	824279.32	826535.49	824267.29	826518.82	824257.78	826489.22	824308.84	826481.81	824324.91	826478.91	824337.13	-	-
CP2_1V01	826596.13	824146.66	826568.09	824187.52	826587.01	824197.13	826616.95	824210.99	826639.94	824144.31	826651.01	824076.76	826637.02	824073.89	826631.71	824085.05	-	-	-	-
CP3_1V01	826657.46	824032.17	826678.86	824041.64	826685.68	824026.23	826664.28	824016.76	-	-	-	-	-	-	-	-	-	-	-	-
CP3_2V01	826676.53	824019.01	826724.78	823909.86	826711.75	823904.10	826663.50	824013.25	-	-	-	-	-	-	-	-	-	-	-	-
CP3_3V01	826708.76	823986.00	826718.99	823990.53	826724.51	823978.04	826714.28	823973.51	-	-	-	-	-	-	-	-	-	-	-	-
CP4_1V01	826484.95	823781.50	826534.34	823793.57	826607.49	823801.82	826667.22	823807.47	826731.46	823821.48	826779.11	823797.62	826800.48	823777.90	826781.33	823735.19	826761.70	823728.40	826716.41	823731.79

Appendix 4.6 Calculation of Start Emissions

Vertices of Area Source

	Vertex 11		Vertex 12		Vertex 13		Vertex 14		Vertex 15		Vertex 16		Vertex 17		Vertex 18		Vertex 19		Vertex 20	
Source ID	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
CP1_1V01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CP2_1V01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CP3_1V01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CP3_2V01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CP3_3V01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CP4_1V01	826694.77	823748.30	826653.67	823758.58	826631.09	823749.47	826608.73	823767.00	826584.11	823767.59	826569.43	823749.73	826560.18	823724.18	826552.75	823713.31	826498.72	823697.20	826498.73	823734.03

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

CHEUNG ON ESTATE

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

Lantau Link Viewing Platform Public Car park

Tsing Yi Administration Building (Workshop/ Garage)

Parking around the Tsing Yi Administration Building

Parking area on unknown site (Properly belongs to Tsing Yi Administration Building)

1

2

3-1

3-3

3-2

4

No.	Description	within 500m boundary (Y/N)	Parking Spaces (Approximate)
1	Lantau Link Viewing Platform Public Car park	Yes	110
2	Tsing Yi Administration Building (Workshop/ Garage)	Yes	20
3	Parking around the Tsing Yi Administration Building	Yes	30
4	Parking area on unknown site (Properly belongs to Tsing Yi Administration Building)	Yes	30

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltt
20/8/5/26
Plot File by: WANGJP
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK7035.dgn

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
CEDD Civil Engineering and Development Department

CONSULTANT
土程顧問公司

AECOM Asia Company Ltd.
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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

Location of Cold Start Survey

SHEET NUMBER
圖紙編號

60733229/SK7035

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

CHEUNG ON ESTATE

70% U KOK WAN PORTALS

1

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

30%

CHEUNG WANG ESTATE

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pfc file\new\CSWP-75(color).pltPlot Date: 2026/5/26
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK7035.dgn

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
CEDD Civil Engineering and Development Department

CONSULTANT
土程顧問公司

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

700m Egress for L1

SHEET NUMBER
圖紙編號

60733229/SK7035

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

CHEUNG ON ESTATE

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

25%

75%

2

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COAST ROAD

CHEUNG TSING HIGHWAY

V:\BAKUS95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltPlot Date: 2026/5/26
Plot File by: WANGDF
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK7035.dgn

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階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

700m Egress for L2

SHEET NUMBER
圖紙編號

60733229/SK7035

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

CHEUNG ON ESTATE

70%

NGAU KOK WAN PORTALS

5%

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

25%

3-1

FUNG SHUE WO

CHEUNG WANG ESTATE

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).plt
Plot File by: WANGDP
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK7035.dgn
2026/5/26

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狀況

SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

700m Egress for L3-1

SHEET NUMBER
圖紙編號

60733229/SK7035

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

CHEUNG ON ESTATE

YAU KOM TAU

ACCESS ROAD

75%

NORTHWEST TSING YI INTERCHANGE

25%

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

3-2

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).plt
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狀況

SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
合約編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

700m Egress for L3-2

SHEET NUMBER
圖紙編號

60733229/SK7035

826100 E
827100 E
828100 E
825200 N
824200 N

LEGEND:
- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

N

NGAU KOK WAN SURFACE LAND
TAM KON SHAN SURFACE LAND
TAM KON SHAN PORTAL
TAM KON SHAN ROAD
NGAU KOK WAN PORTALS
70%
5%
25%
ACCESS ROAD
NORTHWEST TSING YI INTERCHANGE
WOK TAI WAN WORKS AREA
WOK TAI WAN SURFACE LAND
3-3
CHEUNG ON ESTATE
YAU KOM TAU
FUNG SHUE WO
CHEUNG WANG ESTATE
LIU TO SHAN
SHEK WAN
KAM CHUK KOK
TSING MA BRIDGE
CHEUNG TSING HIGHWAY

Project Management Initials:
Designer:
Checked:
Approved:
ISO A1 594mm x 841mm

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pit
20/8/5/26
Plot File by: WANGJP
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK7035.dgn

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階段

SCALE 比例: A3 1 : 10000
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
700m Egress for L3-3

SHEET NUMBER
圖紙編號
60733229/SK7035

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

N

NGAU KOK WAN SURFACE LAND

TAM KON SHAN SURFACE LAND

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTALS

CHEUNG ON ESTATE

YAU KOM TAU

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

100%

4

TSING MA BRIDGE

KAM CHUK KOK

CHEUNG TSING HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltz
2026/5/26
Plot File by: WANGJP
PATH: P:\PROJECTS\60733229\DRAWING\SKETCH\SK7035.dgn

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STATUS
狀況

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

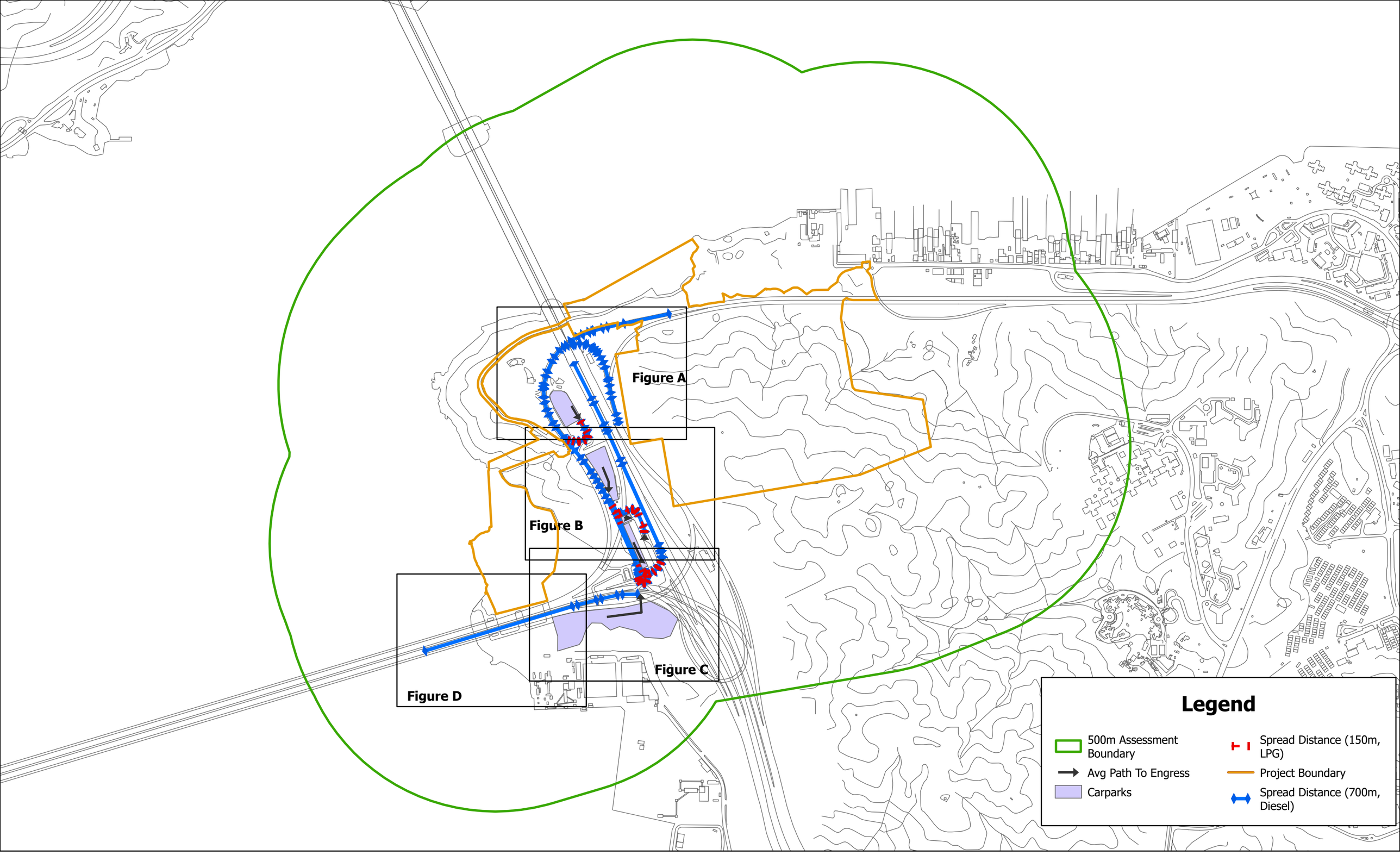
AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

700m Egress for L4

SHEET NUMBER
圖紙編號

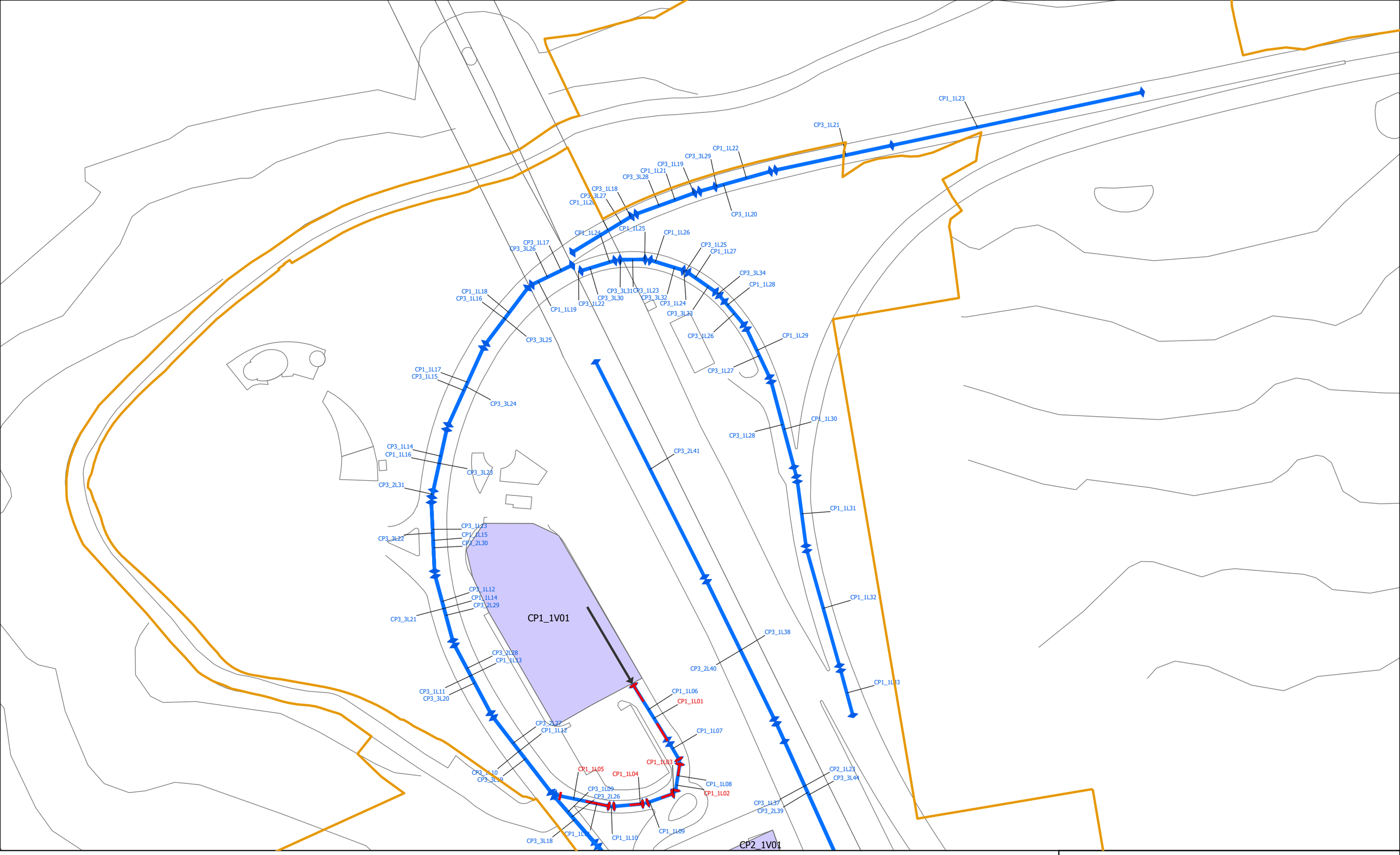
60733229/SK7035



N

Locations of Start Emission Sources (Key Plan)

0 0.15 0.3 0.6 Kilometers



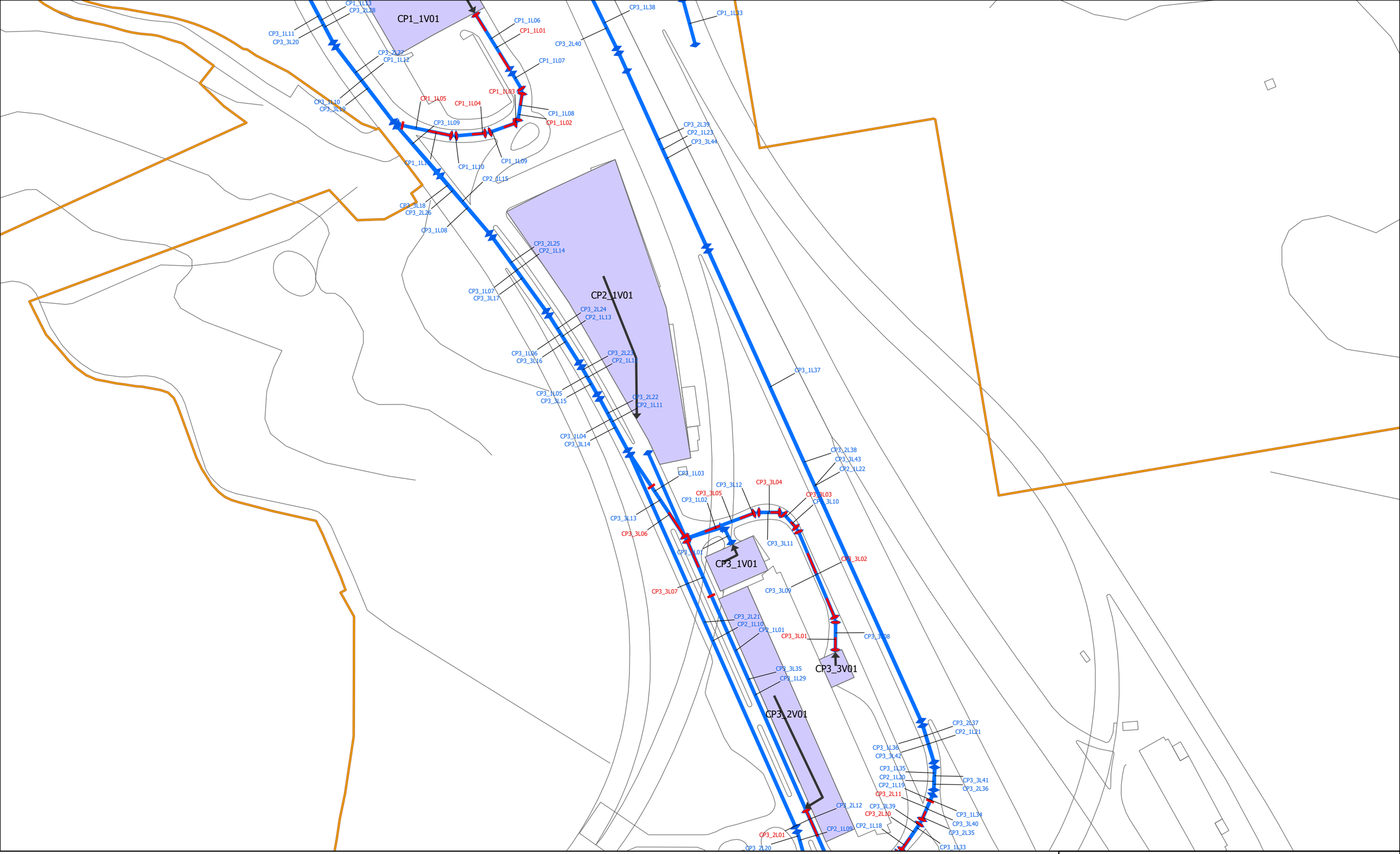
N

0 0.03 0.05 0.1 Kilometers

Locations of Start Emission Sources
Figure A

Legend

- 500m Assessment Boundary
- Avg Path To Engress
- Carparks
- Spread Distance (150m, LPG)
- Project Boundary
- Spread Distance (700m, Diesel)



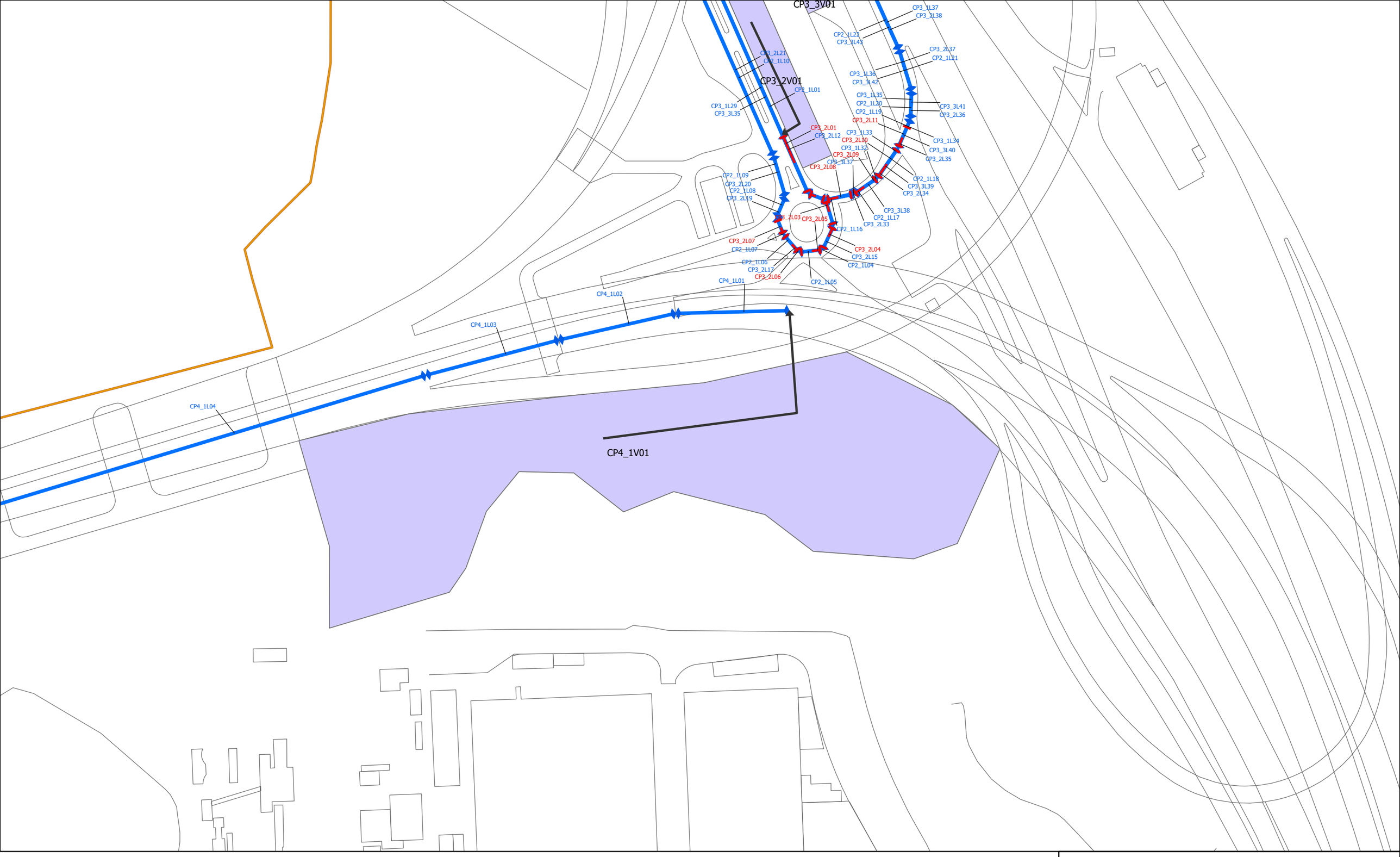
N

0 0.03 0.05 0.1 Kilometers

Locations of Start Emission Sources
Figure B

Legend

- 500m Assessment Boundary
- Avg Path To Engress
- Carparks
- Spread Distance (150m, LPG)
- Project Boundary
- Spread Distance (700m, Diesel)



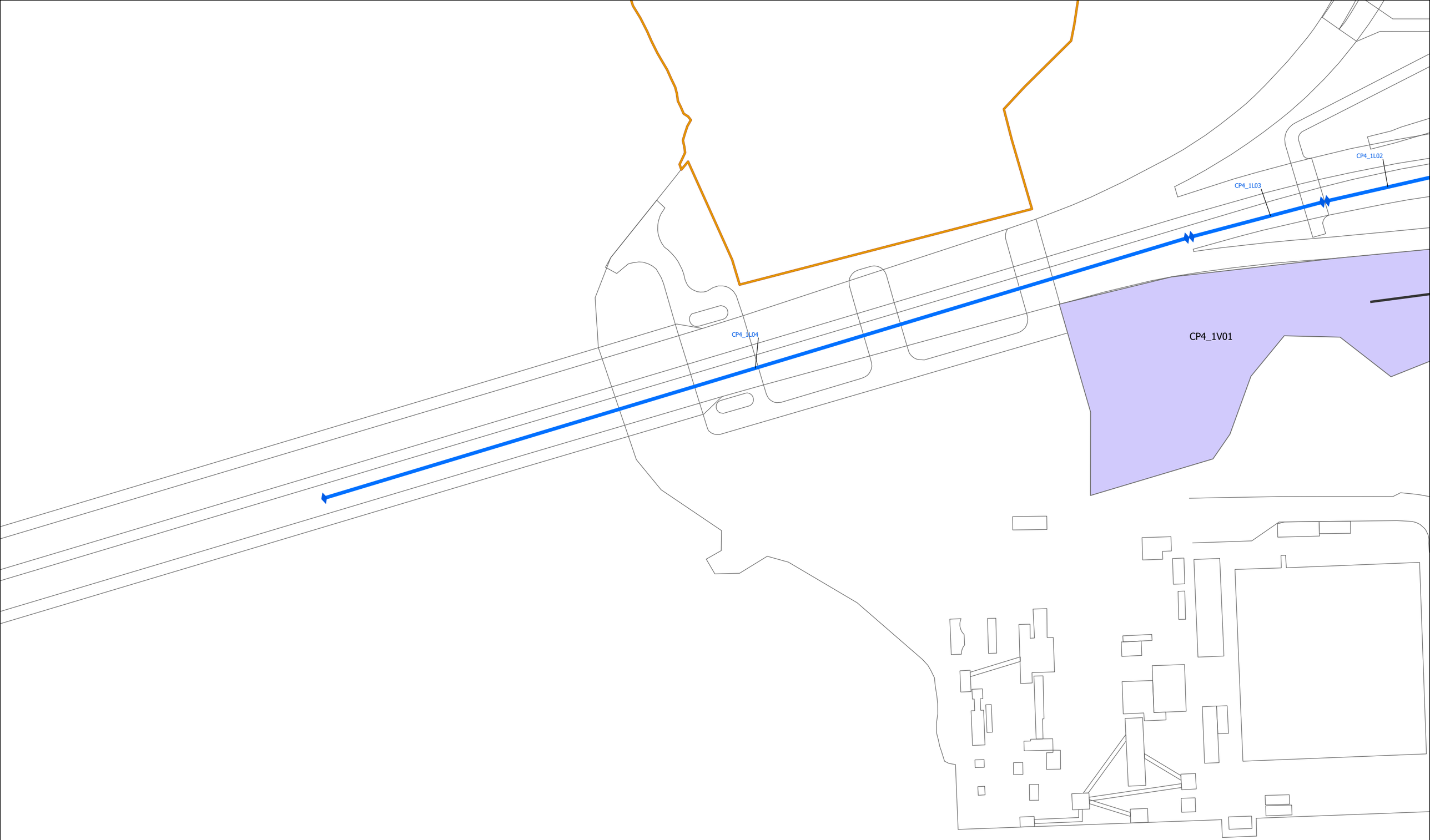
N

0 0.03 0.05 0.1 Kilometers

Locations of Start Emission Sources
Figure C

Legend

- 500m Assessment Boundary
- Avg Path To Engress
- Carparks
- Spread Distance (150m, LPG)
- Project Boundary
- Spread Distance (700m, Diesel)



N

0 0.03 0.05 0.1 Kilometers

Locations of Start Emission Sources
Figure D

Legend

- 500m Assessment Boundary
- Avg Path To Engress
- Carparks
- Spread Distance (150m, LPG)
- Project Boundary
- Spread Distance (700m, Diesel)

Appendix 4.7

Appendix 4.7 Determination of Surface Characteristics

Surface Characteristics for the Assessment Area of Grid 30_36

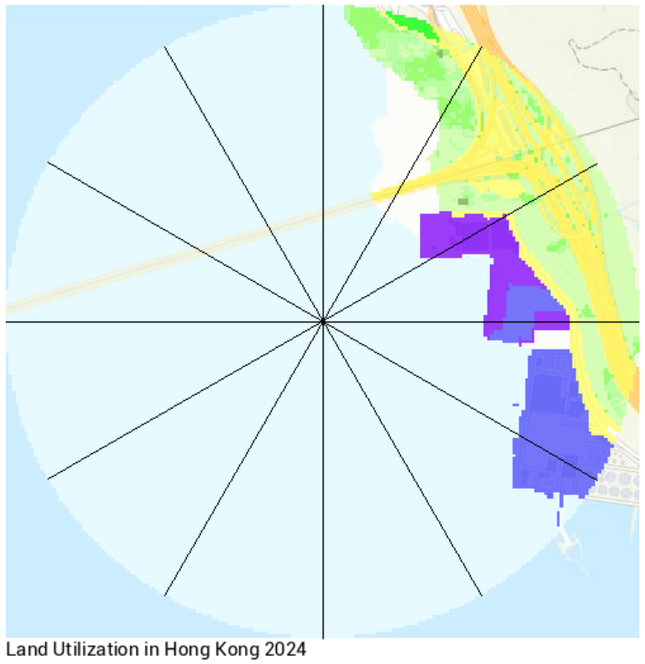
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.006	0.142	0.365
30	30 - 60	5.318	0.033		
60	60 - 90	5.176	0.016		
90	90 - 120	5.176	0.009		
120	120 - 150	5.318	0.002		
150	150 - 180	5.176	0.001		
180	180 - 210	5.176	0.001		
210	210 - 240	5.318	0.001		
240	240 - 270	5.176	0.001		
270	270 - 300	5.176	0.001		
300	300 - 330	5.318	0.001		
330	330 - 360	5.176	0.001		

Notes of Surface Characteristics of Grid 30_36:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 30_36

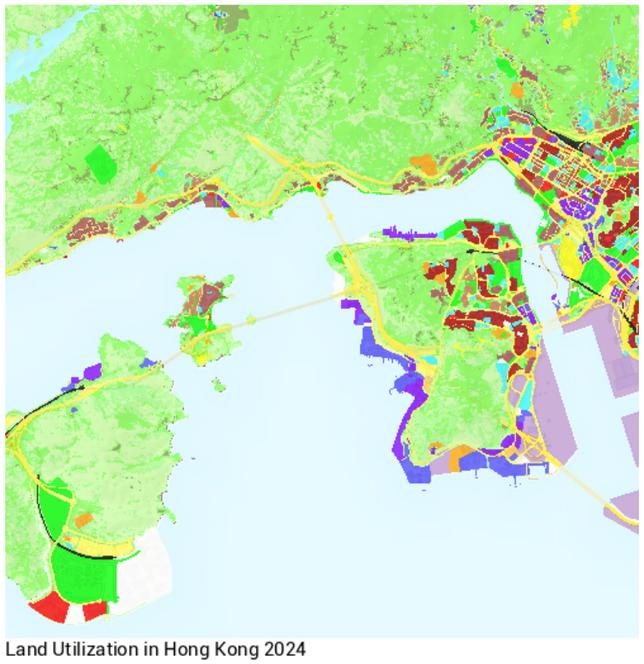
Center: X=826125, Y=823355, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 30_36

Center: X=826125, Y=823355, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Appendix 4.7 Determination of Surface Characteristics

Surface Characteristics for the Assessment Area of Grid 30_37

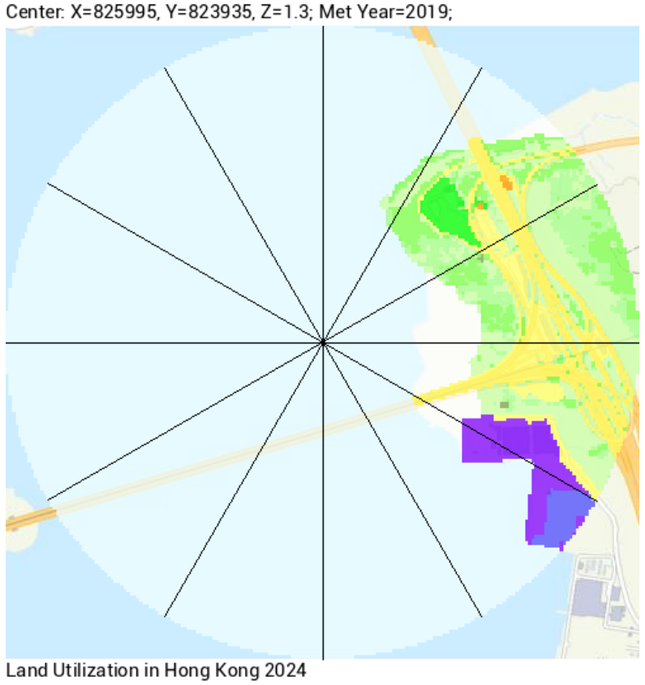
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.001	0.145	0.404
30	30 - 60	5.318	0.016		
60	60 - 90	5.176	0.046		
90	90 - 120	5.176	0.050		
120	120 - 150	5.318	0.003		
150	150 - 180	5.176	0.001		
180	180 - 210	5.176	0.001		
210	210 - 240	5.318	0.001		
240	240 - 270	5.176	0.001		
270	270 - 300	5.176	0.001		
300	300 - 330	5.318	0.001		
330	330 - 360	5.176	0.001		

Notes of Surface Characteristics of Grid 30_37:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 30_37

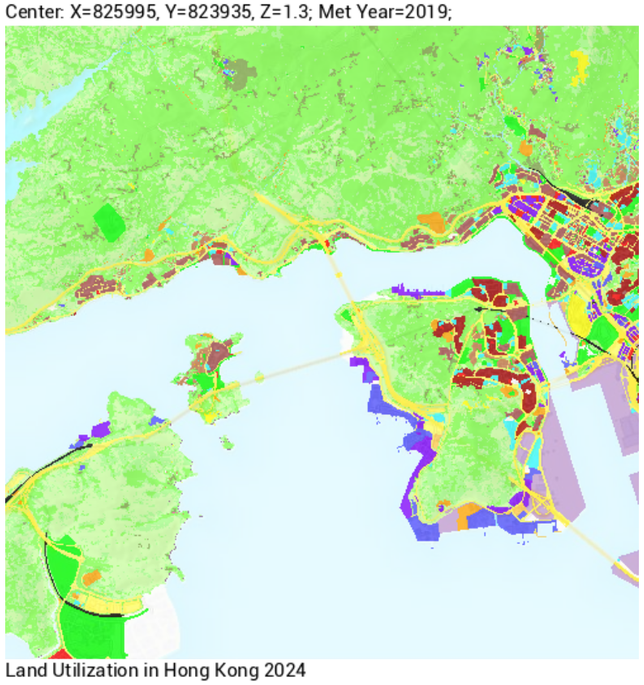
Center: X=825995, Y=823935, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 30_37

Center: X=825995, Y=823935, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Appendix 4.7 Determination of Surface Characteristics

Surface Characteristics for the Assessment Area of Grid 30_38

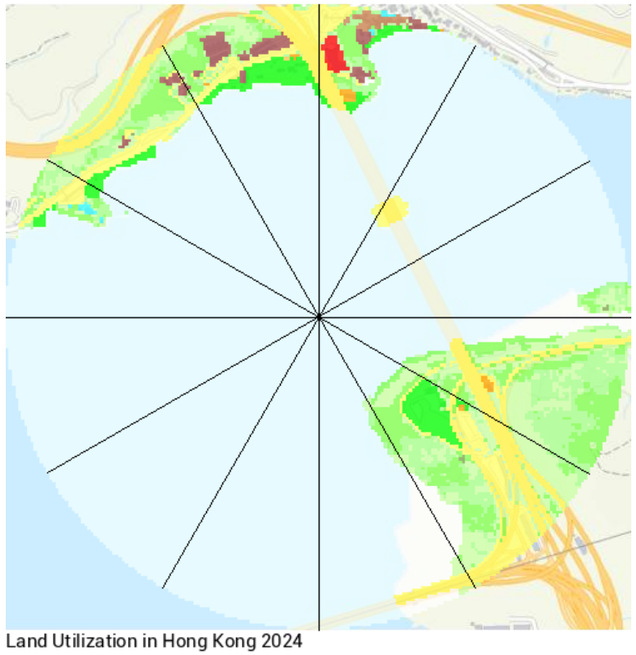
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.003	0.149	0.453
30	30 - 60	5.318	0.001		
60	60 - 90	5.176	0.001		
90	90 - 120	5.176	0.027		
120	120 - 150	5.318	0.044		
150	150 - 180	5.176	0.002		
180	180 - 210	5.176	0.001		
210	210 - 240	5.318	0.001		
240	240 - 270	5.176	0.001		
270	270 - 300	5.176	0.002		
300	300 - 330	5.318	0.004		
330	330 - 360	5.176	0.004		

Notes of Surface Characteristics of Grid 30_38:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 30_38

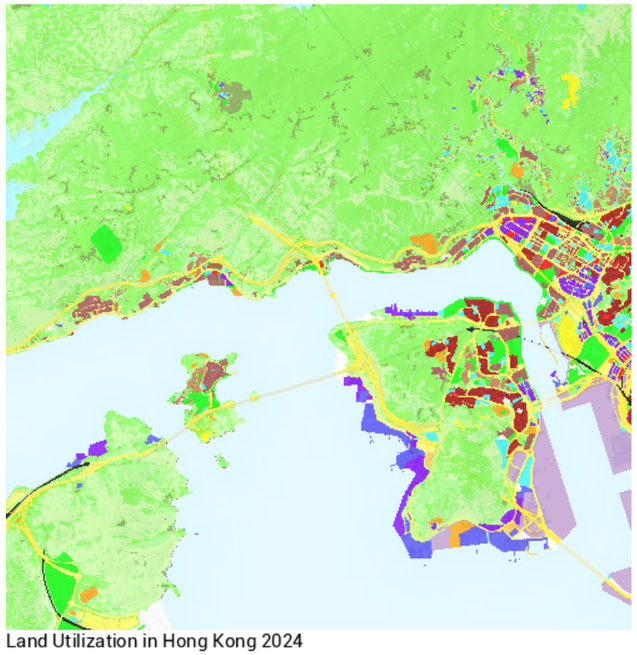
Center: X=826035, Y=824655, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 30_38

Center: X=826035, Y=824655, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Appendix 4.7 Determination of Surface Characteristics

Surface Characteristics for the Assessment Area of Grid 31_36

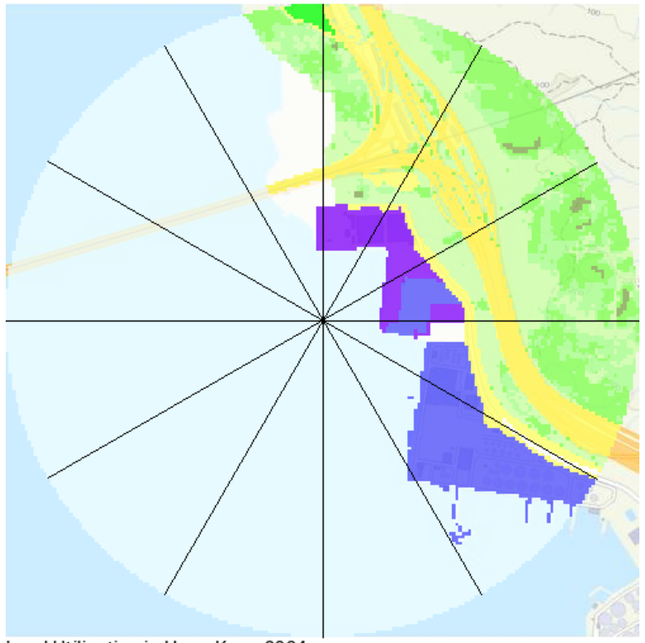
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.092	0.142	0.370
30	30 - 60	5.318	0.063		
60	60 - 90	5.176	0.116		
90	90 - 120	5.176	0.078		
120	120 - 150	5.318	0.012		
150	150 - 180	5.176	0.001		
180	180 - 210	5.176	0.001		
210	210 - 240	5.318	0.001		
240	240 - 270	5.176	0.001		
270	270 - 300	5.176	0.001		
300	300 - 330	5.318	0.001		
330	330 - 360	5.176	0.007		

Notes of Surface Characteristics of Grid 31_36:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 31_36

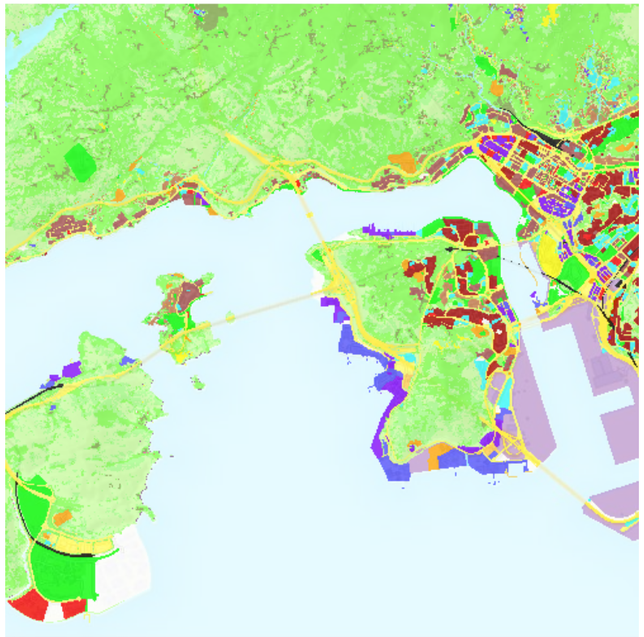
Center: X=826455, Y=823335, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 31_36

Center: X=826455, Y=823335, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Appendix 4.7 Determination of Surface Characteristics

Surface Characteristics for the Assessment Area of Grid 31_37

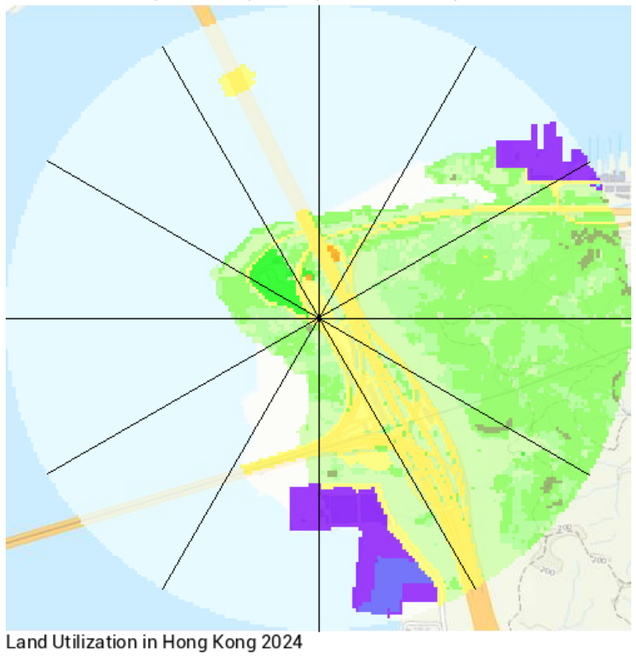
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.011	0.147	0.437
30	30 - 60	5.318	0.083		
60	60 - 90	5.176	0.422		
90	90 - 120	5.176	0.457		
120	120 - 150	5.318	0.329		
150	150 - 180	5.176	0.189		
180	180 - 210	5.176	0.028		
210	210 - 240	5.318	0.007		
240	240 - 270	5.176	0.003		
270	270 - 300	5.176	0.006		
300	300 - 330	5.318	0.005		
330	330 - 360	5.176	0.009		

Notes of Surface Characteristics of Grid 31_37:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 31_37

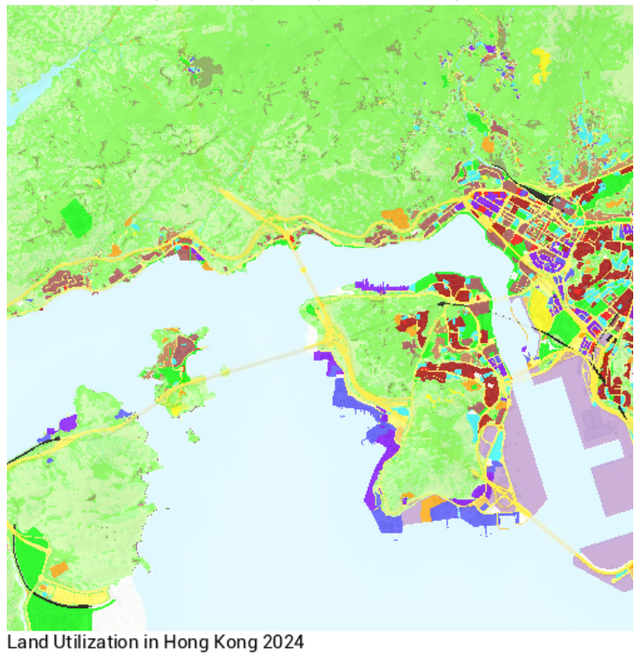
Center: X=826525, Y=824235, Z=54.0; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 31_37

Center: X=826525, Y=824235, Z=54.0; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Appendix 4.7 Determination of Surface Characteristics

Surface Characteristics for the Assessment Area of Grid 31_38

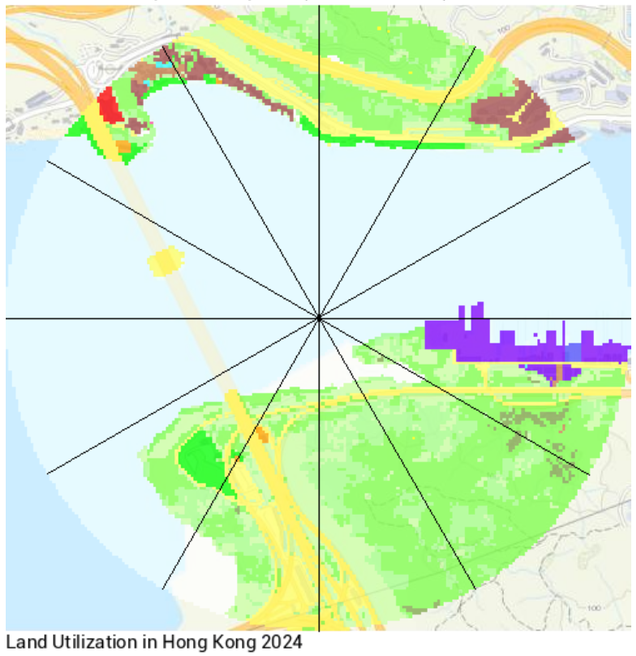
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.014	0.151	0.487
30	30 - 60	5.318	0.004		
60	60 - 90	5.176	0.001		
90	90 - 120	5.176	0.067		
120	120 - 150	5.318	0.194		
150	150 - 180	5.176	0.191		
180	180 - 210	5.176	0.117		
210	210 - 240	5.318	0.007		
240	240 - 270	5.176	0.001		
270	270 - 300	5.176	0.001		
300	300 - 330	5.318	0.002		
330	330 - 360	5.176	0.005		

Notes of Surface Characteristics of Grid 31_38:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 31_38

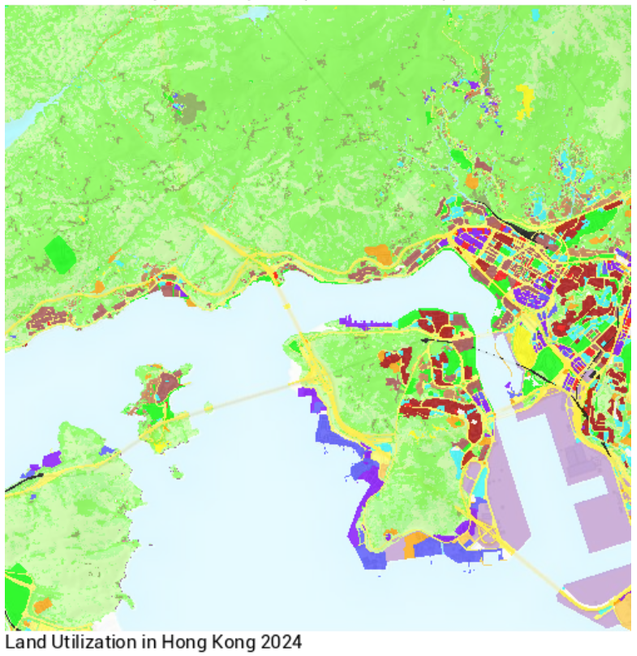
Center: X=826755, Y=824815, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 31_38

Center: X=826755, Y=824815, Z=1.3; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Appendix 4.7 Determination of Surface Characteristics

Surface Characteristics for the Assessment Area of Grid 32_37

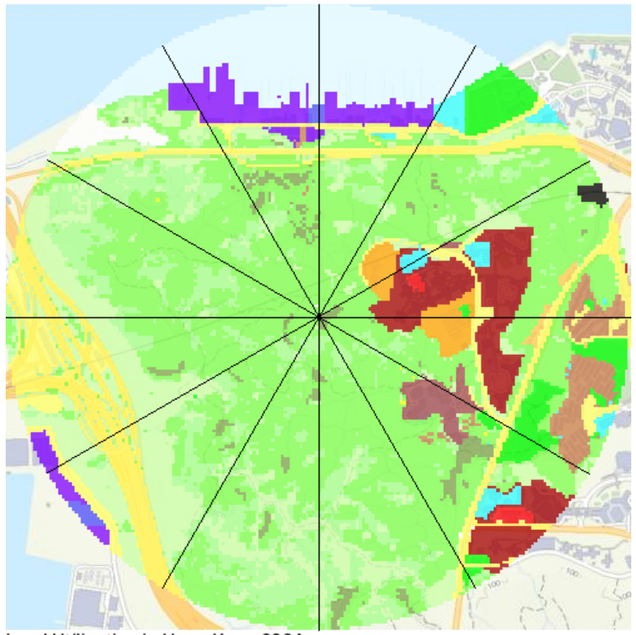
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.106	0.147	0.445
30	30 - 60	5.318	0.466		
60	60 - 90	5.176	0.736		
90	90 - 120	5.176	0.556		
120	120 - 150	5.318	0.632		
150	150 - 180	5.176	0.516		
180	180 - 210	5.176	0.487		
210	210 - 240	5.318	0.396		
240	240 - 270	5.176	0.471		
270	270 - 300	5.176	0.551		
300	300 - 330	5.318	0.409		
330	330 - 360	5.176	0.129		

Notes of Surface Characteristics of Grid 32_37:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 32_37

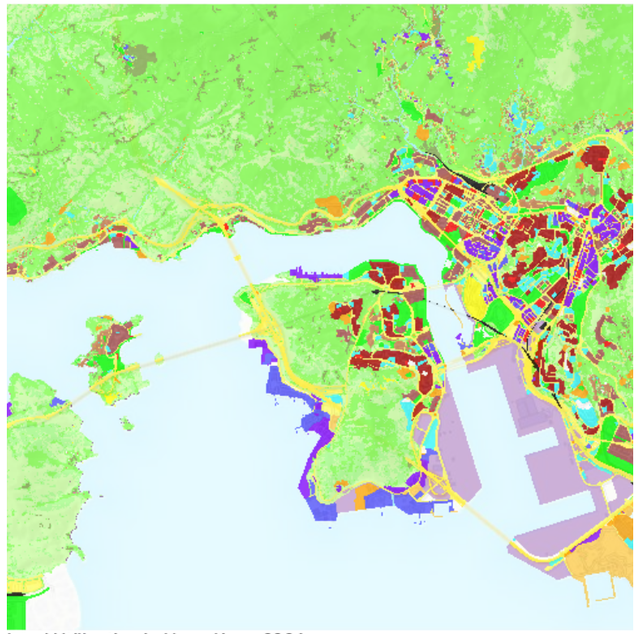
Center: X=827575, Y=824055, Z=157.0; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 32_37

Center: X=827575, Y=824055, Z=157.0; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Surface Characteristics for the Assessment Area of Grid 32_38

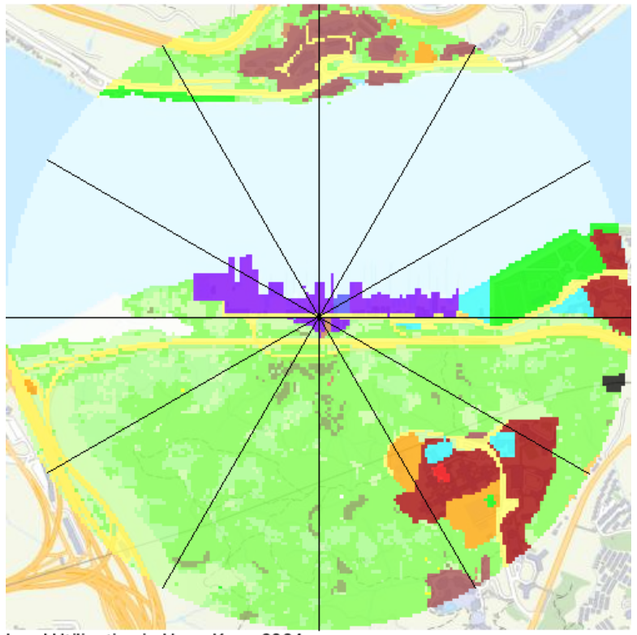
Angle	Sector(degrees in clockwise)	Inverse-Distance[4]	Surface Roughness (m)[3,4]	Albedo[1,4]	Bowen Ratio[2,4]
0	0 - 30	5.176	0.007	0.151	0.496
30	30 - 60	5.318	0.003		
60	60 - 90	5.176	0.028		
90	90 - 120	5.176	0.571		
120	120 - 150	5.318	0.639		
150	150 - 180	5.176	0.734		
180	180 - 210	5.176	0.591		
210	210 - 240	5.318	0.514		
240	240 - 270	5.176	0.270		
270	270 - 300	5.176	0.019		
300	300 - 330	5.318	0.004		
330	330 - 360	5.176	0.010		

Notes of Surface Characteristics of Grid 32_38:

1. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered at the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an upwind distance of 1km relative to the grid.
4. The parameters such as Inverse-Distance, Albedo, Bowen Ratio, and Surface Roughness are extracted from the Smart Air Modelling Platform (SAMP) version 2.1 developed by the Hong Kong Environmental Protection Department (HKEPD).

1km Boundary from Grid 32_38

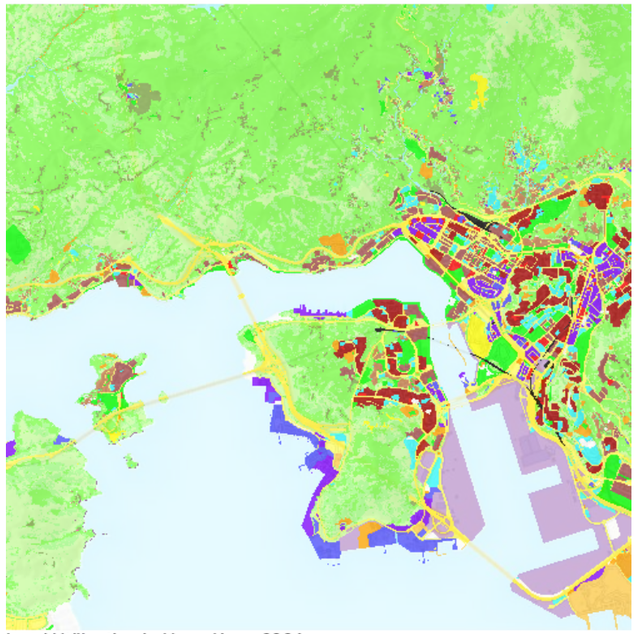
Center: X=827495, Y=824665, Z=7.0; Met Year=2019;



Land Utilization in Hong Kong 2024

10km by 10km Region Centered at Grid 32_38

Center: X=827495, Y=824665, Z=7.0; Met Year=2019;



Land Utilization in Hong Kong 2024

Note:

[1] The land utilization area is determined based on the Hong Kong Planning Department Classification.

[2] The spatial center of each grid is determined by the location of the air-sensitive receivers within that grid. AERMET files are generated by inputting the locations of air-sensitive receivers (ASRs) and the site boundary using the SAMP version 2.1.

Appendix 4.8

Jenkin Method for Long-term Cumulative NO_2 Assessment

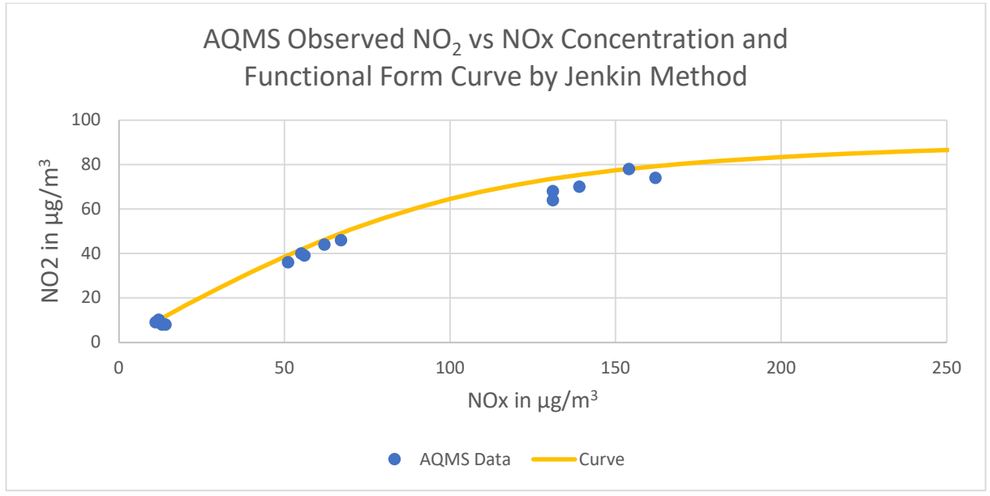
With reference to the *Review of Methods for NO to NO_2 Conversion in plumes at short ranges*[1], Jenkin method was adopted for the conversion of cumulative annual average NO_x to NO_2 by using the functional form of annual mean of NO_2-to-NOx. The mentioned functional form is referenced from Jenkin, 2004a[2] and is presented below:

$$[NO2] = \frac{\left([\mathrm{NOx}] + [\mathrm{OX}] + \frac{\mathrm{J}}{\mathrm{k}}\right) - \sqrt{([NOx] + [OX] + \frac{J}{k})^2 - 4[NOx][OX]}}{2}$$

where

$[NO_2]$	is the NO_2 concentration
$[NO_x]$	is the NOx concentration
[OX]	is the sum of NO_2 concentration and O_3 concentration (i.e. [OX] = $[NO_2]$ + $[O_3]$)
J	is the photolysis rate of NO_2
k	is the rate coefficient for reaction between NO and O_3

The above functional form was used to analyze the annual mean data obtained from the nearest EPD's air quality monitoring stations (AQMS) including Tsuen Wan general station, Tap Mun general station and Roadside AQMS (i.e. Mong Kok roadside station). The recent five years annual mean data are extracted and presented in below table. Scattered plot for recent 5 years annual means NO_2 versus NO_x concentrations obtained from relevant AQMS was created. The functional form curve would fit the annual mean data when [OX] = 95.57 µg/m^3 and J/k = 17.114 µg/m^3. The value of [OX] and J/k are considered reasonable as they are within typical value range for Hong Kong. The resulting functional form curve was adopted for the cumulative annual average NO_x to NO_2 conversion. The curve is slightly higher than all the annual mean data obtained from AQMS, the calculated annual average NO_2 concentration using the obtained functional form curve based on the observed annual average NO_x obtained from AQMS are presented in below table, the calculated annual average NO_2 concentration are higher than the observed annual average NO_2 concentration, no underestimation of the annual average NO_2 concentration is expected.



For the long-term cumulative NO_2 assessment (i.e. predictions of annual average NO_2 concentration), cumulative annual average NO_x to NO_2 conversion equation for this assessment was calculated as follows:

$$[NO2]_c = \frac{([NOx]_c + 95.57 + 17.11) - \sqrt{([NOx]_c + 95.57 + 17.11)^2 - 4[NOx]_c \times 95.57}}{2}$$

where

$[NO_2]_c$	is the predicted cumulative NO_2 concentration
$[NO_x]_c$	is the predicted cumulative NO_x concentration

[1] Environment Agency. 2007. *Review of methods for NO to NO_2 conversion in plumes at short range*. Prepared by Environmental Agency.

[2] Jenkin. 2004a. *Analysis of sources and partitioning of oxidant in the UK – Part 1: The NOx-dependence of annual mean concentrations of nitrogen dioxide and ozone.* Atmospheric Environment, 38, 5117-5129.

Annual Average NO_X, NO_2 and OX concentration in Recent Five Years (Year 2019-2023) at Selected EPD AQMS

AQMS Data of the Past 5 Years				
Year	**Station**	**NO2 (ug/m3)**	**NOx (ug/m3)**	**Conversion**
2019	TSUEN WAN	46	67	49.0
2020	TSUEN WAN	36	51	39.1
2021	TSUEN WAN	44	62	46.1
2022	TSUEN WAN	39	56	42.4
2023	TSUEN WAN	40	55	41.7
2019	TAP MUN	10	12	10.0
2020	TAP MUN	9	11	9.2
2021	TAP MUN	10	12	10.0
2022	TAP MUN	8	13	10.8
2023	TAP MUN	8	14	11.6
2019	MONG KOK	78	154	78.0
2020	MONG KOK	74	162	79.2
2021	MONG KOK	70	139	75.3
2022	MONG KOK	64	131	73.6
2023	MONG KOK	68	131	73.6

Appendix 4.9

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

10th Highest Daily RSP Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Concrete Batching Facility	Stone Crushing Facility	Stockpile	Start Emissions	Fugitive Emission from Paved Haul Road (Ngau Kuk Wan) (Short term)	Vehicular Emission on Paved Haul Road (Short term)	Portal emission	Asphalt Facility	Adjacent SP-short term	Quarry	Channel across Ting Kau Bridge	OpenRoad2028S	Background	Total	Compliance with corresponding concentration limit (75 μg/m3)
A02	1.5	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.08	0.01	1.68	55.64	58.40	✓
A02	5	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	0.07	0.01	1.47	55.64	58.13	✓
A02	10	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.07	0.01	1.02	55.64	57.63	✓
A02	15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.06	0.01	0.66	55.64	57.22	✓
A03	1.5	0.01	0.03	0.00	0.19	0.01	0.06	0.00	0.00	0.01	2.10	0.12	0.03	1.77	55.64	59.98	✓
A03	5	0.01	0.02	0.00	0.19	0.00	0.06	0.00	0.00	0.01	1.98	0.11	0.02	1.64	55.64	59.71	✓
A03	10	0.01	0.02	0.00	0.19	0.00	0.05	0.00	0.00	0.01	1.84	0.10	0.02	1.21	55.64	59.11	✓
A04	1.5	0.02	0.02	0.00	1.41	0.00	1.76	0.03	0.00	0.14	1.07	0.07	0.05	0.39	58.97	63.95	✓
A04	5	0.02	0.02	0.00	1.19	0.00	1.57	0.03	0.00	0.16	1.03	0.07	0.05	0.37	58.97	63.49	✓
A04	10	0.02	0.02	0.00	0.68	0.00	1.08	0.02	0.00	0.21	0.95	0.06	0.04	0.31	58.97	62.39	✓
A05	1.5	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.01	0.01	1.30	0.46	0.12	0.31	53.88	56.20	✓
A05	5	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.01	0.01	1.10	0.46	0.11	0.23	53.88	55.88	✓
A05	10	0.01	0.11	0.01	0.19	0.00	0.32	0.01	0.01	0.03	1.95	0.34	0.14	0.07	49.29	56.48	✓
A05	15	0.00	0.03	0.01	0.02	0.00	0.03	0.00	0.00	0.01	0.92	0.10	0.04	0.08	56.50	57.74	✓
A05	20	0.00	0.03	0.00	0.02	0.00	0.03	0.00	0.00	0.01	0.90	0.08	0.03	0.07	56.50	57.68	✓
A06	1.5	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.33	0.16	0.05	0.22	53.88	54.68	✓
A06	5	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.28	0.16	0.04	0.14	53.88	54.54	✓
A06	10	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.15	0.03	0.07	53.88	54.41	✓
A07	1.5	0.02	0.13	0.01	0.59	0.00	1.59	0.03	0.01	0.16	0.16	0.12	0.09	0.24	58.27	61.43	✓
A07	5	0.02	0.12	0.01	0.50	0.00	1.43	0.03	0.01	0.19	0.16	0.11	0.08	0.25	58.27	61.17	✓
A07	10	0.02	0.12	0.01	0.29	0.00	1.01	0.02	0.00	0.25	0.14	0.10	0.08	0.25	58.27	60.54	✓
A08	1.5	0.02	0.11	0.01	0.38	0.00	1.22	0.02	0.01	0.14	0.16	0.11	0.09	0.24	58.27	60.77	✓
A08	5	0.02	0.10	0.01	0.32	0.00	1.10	0.02	0.00	0.15	0.15	0.10	0.08	0.24	58.27	60.57	✓
A08	10	0.02	0.09	0.00	0.20	0.00	0.80	0.02	0.00	0.19	0.14	0.08	0.08	0.23	58.27	60.13	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual RSP Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Concrete Batching Facility (Long term)	Stone Crushing Facility	Stockpile (Long term)	Start Emissions	Fugitive Emission from Paved Haul Road (Ngau Kuk Wan) (Long term)	Vehicular Emission on Paved Haul Road (Long term)	Portal emission	Asphalt Facility(annual)	Adjacent SP-long term	Quarry	Channel across Ting Kau Bridge	OpenRoad2028L	Background	Total	Compliance with corresponding concentration limit (30 μg/m3)
A02	1.5	0.00	0.02	0.00	0.10	0.01	0.06	0.00	0.00	0.00	0.95	0.08	0.01	1.09	20.95	23.27	✓
A02	5	0.00	0.02	0.00	0.09	0.00	0.06	0.00	0.00	0.00	0.91	0.07	0.01	0.95	20.95	23.07	✓
A02	10	0.00	0.02	0.00	0.08	0.00	0.05	0.00	0.00	0.00	0.83	0.07	0.01	0.71	20.95	22.73	✓
A02	15	0.00	0.02	0.00	0.06	0.00	0.04	0.00	0.00	0.00	0.75	0.06	0.01	0.50	20.95	22.41	✓
A04	1.5	0.01	0.06	0.00	0.49	0.00	0.31	0.01	0.00	0.02	0.91	0.19	0.02	0.67	20.95	23.65	✓
A04	5	0.01	0.05	0.00	0.45	0.00	0.28	0.01	0.00	0.02	0.88	0.18	0.02	0.61	20.95	23.48	✓
A04	10	0.01	0.05	0.00	0.36	0.00	0.21	0.00	0.00	0.03	0.83	0.17	0.02	0.50	20.95	23.15	✓
A05	1.5	0.00	0.04	0.01	0.05	0.00	0.06	0.00	0.00	0.01	1.53	0.16	0.06	0.23	20.32	22.48	✓
A05	5	0.00	0.04	0.01	0.05	0.00	0.06	0.00	0.00	0.01	1.40	0.15	0.05	0.17	20.32	22.26	✓
A05	10	0.00	0.04	0.01	0.05	0.00	0.06	0.00	0.00	0.01	1.40	0.13	0.04	0.11	20.32	22.17	✓
A05	15	0.00	0.04	0.01	0.04	0.00	0.05	0.00	0.00	0.00	1.54	0.12	0.04	0.10	20.32	22.27	✓
A05	20	0.00	0.03	0.01	0.04	0.00	0.05	0.00	0.00	0.00	1.64	0.11	0.03	0.09	20.32	22.34	✓
A06	1.5	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.44	0.05	0.03	0.17	20.32	20.97	✓
A06	5	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.41	0.04	0.03	0.11	20.32	20.97	✓
A06	10	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.37	0.04	0.02	0.06	20.32	20.88	✓
A07	1.5	0.01	0.07	0.01	0.49	0.00	0.36	0.01	0.00	0.03	0.88	0.23	0.02	0.51	20.95	23.58	✓
A07	5	0.01	0.06	0.01	0.45	0.00	0.33	0.01	0.00	0.03	0.85	0.22	0.02	0.50	20.95	23.45	✓
A07	10	0.01	0.06	0.00	0.35	0.00	0.25	0.01	0.00	0.04	0.80	0.20	0.02	0.45	20.95	23.16	✓
A08	1.5	0.01	0.06	0.00	0.49	0.00	0.34	0.01	0.00	0.03	0.89	0.22	0.02	0.46	20.95	23.49	✓
A08	5	0.01	0.06	0.00	0.45	0.00	0.31	0.01	0.00	0.03	0.85	0.21	0.02	0.45	20.95	23.37	✓
A08	10	0.01	0.06	0.00	0.36	0.00	0.24	0.00	0.00	0.03	0.80	0.19	0.02	0.42	20.95	23.11	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

19th Highest Daily FSP Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Concrete Batching Facility	Stone Crushing Facility	Stockpile	Start Emissions	Fugitive Emission from Paved Haul Road (Ngau Kuk Wan) (Short term)	Vehicular Emission on Paved Haul Road (Short term)	Portal emission	Asphalt Facility	Adjacent SP-short term	Quarry	Channel across Ting Kau Bridge	OpenRoad2028S	Background	Total	Compliance with corresponding concentration limit (37.5 μg/m3)
A02	1.5	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.44	0.00	0.01	1.01	32.48	33.98	✓
A02	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.00	0.01	0.87	32.48	33.82	✓
A02	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.01	0.61	32.48	33.54	✓
A02	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.01	0.41	32.48	33.32	✓
A03	1.5	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.01	0.01	1.03	32.48	34.25	✓
A03	5	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.01	0.01	0.97	32.48	34.16	✓
A03	10	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.01	0.01	0.75	32.48	33.92	✓
A04	1.5	0.02	0.03	0.00	0.38	0.00	0.69	0.05	0.00	0.05	0.37	0.02	0.02	0.67	32.48	34.77	✓
A04	5	0.02	0.02	0.00	0.32	0.00	0.62	0.05	0.00	0.06	0.35	0.02	0.01	0.59	32.48	34.56	✓
A04	10	0.02	0.02	0.00	0.18	0.00	0.44	0.03	0.00	0.08	0.33	0.02	0.01	0.48	32.48	34.11	✓
A05	1.5	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.92	0.02	0.04	0.30	30.22	31.58	✓
A05	5	0.02	0.13	0.01	0.06	0.00	0.20	0.01	0.01	0.03	2.65	0.07	0.14	0.11	28.07	31.53	✓
A05	10	0.02	0.12	0.01	0.05	0.00	0.17	0.01	0.01	0.02	2.95	0.07	0.14	0.09	28.07	31.75	✓
A05	15	0.02	0.12	0.01	0.05	0.00	0.15	0.01	0.01	0.02	3.49	0.06	0.13	0.08	28.07	32.22	✓
A05	20	0.02	0.11	0.01	0.04	0.00	0.13	0.01	0.01	0.02	3.92	0.06	0.11	0.08	28.07	32.60	✓
A06	1.5	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.30	0.01	0.03	0.20	30.22	30.79	✓
A06	5	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00	0.01	0.19	0.00	0.01	0.10	30.32	30.68	✓
A06	10	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.01	0.18	0.00	0.01	0.06	30.32	30.63	✓
A07	1.5	0.02	0.03	0.00	0.36	0.00	0.74	0.05	0.00	0.09	0.35	0.03	0.02	0.45	32.48	34.63	✓
A07	5	0.02	0.03	0.00	0.30	0.00	0.66	0.05	0.00	0.11	0.33	0.03	0.02	0.44	32.48	34.47	✓
A07	10	0.02	0.03	0.00	0.16	0.00	0.45	0.03	0.00	0.16	0.32	0.02	0.01	0.40	32.48	34.10	✓
A08	1.5	0.02	0.03	0.00	0.21	0.00	0.63	0.04	0.00	0.09	0.34	0.03	0.02	0.40	32.48	34.31	✓
A08	5	0.02	0.03	0.00	0.18	0.00	0.56	0.04	0.00	0.10	0.33	0.03	0.02	0.40	32.48	34.19	✓
A08	10	0.02	0.03	0.00	0.11	0.00	0.38	0.03	0.00	0.15	0.31	0.02	0.01	0.37	32.48	33.93	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual FSP Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Concrete Batching Facility (Long term)	Stone Crushing Facility	Stockpile (Long term)	Start Emissions	Fugitive Emission from Paved Haul Road (Ngau Kuk Wan) (Long term)	Vehicular Emission on Paved Haul Road (Long term)	Portal emission	Asphalt Facility(annual)	Adjacent SP-long term	Quarry	Channel across Ting Kau Bridge	OpenRoad2028L	Background	Total	Compliance with corresponding concentration limit (15 μg/m3)
A02	1.5	0.00	0.01	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.67	0.01	0.01	1.00	13.21	14.95	✓
A02	5	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.65	0.01	0.01	0.87	13.21	14.80	✓
A02	10	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.62	0.01	0.01	0.66	13.21	14.55	✓
A02	15	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.59	0.01	0.01	0.46	13.21	14.32	✓
A04	1.5	0.01	0.02	0.00	0.08	0.00	0.07	0.01	0.00	0.00	0.67	0.02	0.02	0.62	13.21	14.75	✓
A04	5	0.01	0.02	0.00	0.07	0.00	0.07	0.01	0.00	0.01	0.64	0.02	0.02	0.56	13.21	14.65	✓
A04	10	0.01	0.02	0.00	0.06	0.00	0.05	0.00	0.00	0.01	0.61	0.02	0.02	0.46	13.21	14.49	✓
A05	1.5	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.75	0.02	0.05	0.21	12.68	13.77	✓
A05	5	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.68	0.01	0.05	0.16	12.68	13.64	✓
A05	10	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.68	0.01	0.04	0.10	12.68	13.57	✓
A05	15	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.74	0.01	0.03	0.09	12.68	13.61	✓
A05	20	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.80	0.01	0.03	0.08	12.68	13.65	✓
A06	1.5	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.28	0.00	0.03	0.16	12.68	13.17	✓
A06	5	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.26	0.00	0.02	0.10	12.68	13.09	✓
A06	10	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.23	0.00	0.02	0.06	12.68	13.02	✓
A07	1.5	0.01	0.03	0.00	0.08	0.00	0.09	0.01	0.00	0.00	0.63	0.02	0.02	0.47	13.21	14.60	✓
A07	5	0.01	0.02	0.00	0.07	0.00	0.08	0.01	0.00	0.01	0.61	0.02	0.02	0.46	13.21	14.55	✓
A07	10	0.01	0.02	0.00	0.06	0.00	0.06	0.00	0.00	0.02	0.58	0.02	0.02	0.42	13.21	14.43	✓
A08	1.5	0.01	0.02	0.00	0.08	0.00	0.08	0.01	0.00	0.00	0.64	0.02	0.02	0.42	13.21	14.55	✓
A08	5	0.01	0.02	0.00	0.07	0.00	0.08	0.01	0.00	0.01	0.62	0.02	0.02	0.42	13.21	14.50	✓
A08	10	0.01	0.02	0.00	0.06	0.00	0.06	0.00	0.00	0.02	0.59	0.02	0.02	0.38	13.21	14.40	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

4th Highest 10-Min SO2 Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Asphalt Facility	Adjacent SP-short term	Ma Wan Fairway	Channel arcoss Ting Kau Bridge	Background	Total	Compliance with corresponding concentration limit (500 μg/m3)
A02	1.5	0.00	0.00	26.11	0.09	0.00	2.35	38.53	✓
A02	5	0.00	0.00	26.30	0.09	0.00	2.35	38.80	✓
A02	10	0.00	0.00	23.18	0.16	0.00	4.15	37.11	✓
A02	15	0.00	0.00	24.23	0.15	0.00	4.15	38.52	✓
A03	1.5	1.08	0.00	0.07	0.26	0.00	12.27	33.53	✓
A03	5	1.06	0.00	0.07	0.26	0.00	12.27	33.47	✓
A03	10	1.03	0.00	0.07	0.26	0.00	12.27	33.39	✓
A04	1.5	0.53	0.04	0.35	0.14	0.03	12.20	32.56	✓
A04	5	0.53	0.04	0.35	0.14	0.03	12.20	32.56	✓
A04	10	0.53	0.04	0.35	0.14	0.03	12.20	32.55	✓
A05	1.5	0.32	0.02	0.14	0.13	0.00	9.61	25.05	✓
A05	5	0.32	0.02	0.14	0.13	0.00	9.61	25.02	✓
A05	10	0.31	0.01	0.14	0.13	0.00	9.61	25.00	✓
A05	15	0.31	0.01	0.13	0.13	0.00	9.61	24.97	✓
A05	20	0.30	0.01	0.13	0.13	0.00	9.61	24.95	✓
A06	1.5	0.01	0.00	0.48	0.09	0.00	9.62	25.03	✓
A06	5	0.01	0.00	0.48	0.09	0.00	9.62	25.03	✓
A06	10	0.01	0.00	0.48	0.09	0.00	9.62	25.02	✓
A07	1.5	0.50	0.05	0.32	0.14	0.04	12.20	32.45	✓
A07	5	0.50	0.05	0.32	0.14	0.04	12.20	32.44	✓
A07	10	0.50	0.05	0.32	0.14	0.04	12.20	32.44	✓
A08	1.5	0.49	0.05	0.32	0.14	0.04	12.20	32.43	✓
A08	5	0.49	0.05	0.32	0.14	0.04	12.20	32.43	✓
A08	10	0.49	0.05	0.32	0.14	0.04	12.20	32.42	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

4th Highest Daily SO2 Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Asphalt Facility (Long term)	Adjacent SP-long term	Ma Wan Fairway	Channel arcoss Ting Kau Bridge	Background	Total	Compliance with corresponding concentration limit (40 μg/m3)
A02	1.5	0.02	0.00	1.08	0.08	0.01	7.06	8.24	✓
A02	5	0.02	0.00	1.08	0.08	0.01	7.06	8.25	✓
A02	10	0.02	0.00	1.10	0.08	0.01	7.06	8.27	✓
A02	15	0.02	0.00	1.12	0.08	0.01	7.06	8.29	✓
A03	1.5	0.21	0.00	0.18	0.08	0.01	8.06	8.55	✓
A03	5	0.21	0.00	0.18	0.08	0.01	8.06	8.55	✓
A03	10	0.40	0.01	0.08	0.01	0.06	7.95	8.51	✓
A04	1.5	0.26	0.01	0.04	0.02	0.10	7.95	8.38	✓
A04	5	0.25	0.01	0.04	0.02	0.10	7.95	8.37	✓
A04	10	0.24	0.03	0.04	0.02	0.09	7.95	8.36	✓
A05	1.5	0.03	0.00	0.06	0.02	0.08	7.29	7.48	✓
A05	5	0.03	0.00	0.06	0.02	0.07	7.29	7.46	✓
A05	10	0.03	0.00	0.05	0.01	0.06	7.29	7.45	✓
A05	15	0.03	0.00	0.05	0.01	0.05	7.29	7.44	✓
A05	20	0.03	0.00	0.05	0.01	0.04	7.29	7.42	✓
A06	1.5	0.01	0.00	0.08	0.01	0.03	7.29	7.43	✓
A06	5	0.01	0.00	0.08	0.01	0.02	7.29	7.42	✓
A06	10	0.01	0.00	0.08	0.01	0.02	7.29	7.42	✓
A07	1.5	0.30	0.01	0.04	0.02	0.11	7.95	8.42	✓
A07	5	0.29	0.01	0.03	0.02	0.10	7.95	8.41	✓
A07	10	0.28	0.02	0.03	0.02	0.09	7.95	8.40	✓
A08	1.5	0.30	0.01	0.04	0.02	0.11	7.95	8.42	✓
A08	5	0.30	0.01	0.03	0.02	0.10	7.95	8.41	✓
A08	10	0.29	0.02	0.03	0.02	0.09	7.95	8.40	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

19th Highest Hourly NO2 Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Asphalt Facility	Adjacent SP-short term	Ma Wan Fairway	Channel arcoss Ting Kau Bridge	Start Emissions	Vehicular Emission on Paved Haul Road (Long term)	Portal emission	OpenRoad2028S	Background	Total	Compliance with corresponding concentration limit (200 μg/m3)
A02	1.5	0.06	3.01	0.03	0.59	13.09	3.40	0.58	0.00	61.67	84.76	167.18	✓
A02	5	0.01	0.06	0.03	0.49	33.58	0.21	0.02	0.22	102.86	25.23	162.71	✓
A02	10	4.97	1.24	0.05	0.24	30.86	0.32	3.81	8.55	63.70	39.77	153.50	✓
A02	15	0.06	0.16	0.13	0.92	6.56	0.03	0.01	0.00	11.53	118.91	138.32	✓
A03	1.5	0.01	0.15	0.05	21.73	33.13	0.22	0.00	0.24	63.75	59.55	178.83	✓
A03	5	0.02	0.22	0.07	1.45	39.65	0.02	0.06	0.62	84.27	46.49	172.88	✓
A03	10	0.06	0.16	0.06	1.01	51.66	0.15	0.30	1.52	81.07	25.99	161.98	✓
A04	1.5	0.01	0.00	0.02	12.08	28.96	0.00	0.00	0.07	7.43	107.45	156.02	✓
A04	5	0.01	0.04	0.07	0.42	1.74	0.89	0.00	0.19	90.10	60.12	153.58	✓
A04	10	0.01	0.23	0.05	1.06	4.07	1.00	0.00	0.30	88.63	51.05	146.41	✓
A05	1.5	0.02	0.48	0.11	1.86	116.63	0.00	0.00	2.64	0.99	29.53	152.25	✓
A05	5	0.01	0.18	0.05	0.79	95.62	0.00	0.00	0.90	0.00	50.26	147.80	✓
A05	10	0.03	0.08	0.02	0.57	59.30	0.00	0.18	0.93	0.26	79.24	140.60	✓
A05	15	0.05	0.06	0.01	0.42	57.57	0.00	0.07	0.49	0.32	79.24	138.23	✓
A05	20	0.94	4.88	0.03	9.02	44.62	0.00	4.96	9.95	7.50	51.25	133.17	✓
A06	1.5	0.48	0.93	0.13	2.39	13.20	0.00	0.41	0.00	9.06	116.20	142.79	✓
A06	5	0.03	2.07	0.70	16.52	24.17	0.05	1.51	1.22	40.59	45.61	132.47	✓
A06	10	0.02	0.18	0.07	0.88	62.41	0.00	0.00	0.47	0.00	66.85	130.89	✓
A07	1.5	0.01	0.12	0.05	13.57	62.21	0.00	0.00	0.41	13.68	59.55	149.59	✓
A07	5	0.02	0.29	3.66	2.20	5.76	0.50	0.00	0.51	57.53	77.35	147.81	✓
A07	10	0.76	8.35	0.02	0.40	45.77	0.04	11.07	12.48	37.87	25.62	142.38	✓
A08	1.5	0.01	0.18	0.25	1.15	1.34	1.10	0.00	0.45	102.40	38.24	145.12	✓
A08	5	0.01	0.16	0.05	13.21	58.58	0.00	0.00	0.36	11.13	59.55	143.04	✓
A08	10	0.01	0.24	0.07	1.08	4.38	0.69	0.00	0.29	79.80	51.05	137.62	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Daily 10th NO2 Concentration (μg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Asphalt Facility	Adjacent SP-short term	Ma Wan Fairway	Channel arcoss Ting Kau Bridge	Start Emissions	Vehicular Emission on Paved Haul Road (Short term)	Portal emission	OpenRoad2028S	Background	Total	Compliance with corresponding concentration limit (120 μg/m3)
A02	1.5	0.45	0.28	0.94	0.45	1.55	0.31	0.33	0.05	33.91	39.68	77.95	✓
A02	5	0.47	0.26	0.94	0.44	1.51	0.19	0.32	0.05	30.41	39.68	74.26	✓
A02	10	0.78	0.63	0.74	1.46	4.92	0.36	0.27	0.24	20.59	38.67	68.65	✓
A02	15	0.81	0.70	0.74	1.42	4.59	0.16	0.22	0.22	16.16	38.67	63.68	✓
A03	1.5	0.56	0.15	1.97	1.58	0.92	0.60	0.00	0.04	23.39	49.51	78.73	✓
A03	5	0.58	0.10	0.44	1.39	1.37	0.45	0.01	0.06	24.27	46.14	74.81	✓
A03	10	1.34	0.76	1.28	1.37	5.31	0.23	0.48	0.44	19.26	38.67	69.14	✓
A04	1.5	0.66	1.03	0.59	0.71	3.16	0.16	1.73	0.48	16.23	41.59	66.34	✓
A04	5	0.68	1.11	0.59	0.71	3.12	0.14	1.61	0.46	15.53	41.59	65.55	✓
A04	10	0.71	1.73	0.59	0.70	3.07	0.09	1.27	0.42	14.23	41.59	64.40	✓
A05	1.5	1.03	0.68	0.58	1.44	7.92	0.01	0.40	0.40	7.34	35.68	55.47	✓
A05	5	1.03	0.66	0.58	1.39	7.76	0.01	0.40	0.39	5.46	35.68	53.36	✓
A05	10	0.44	0.19	0.29	0.56	2.36	0.00	0.05	0.14	1.95	44.93	50.91	✓
A05	15	0.44	0.17	0.28	0.54	2.18	0.00	0.05	0.13	1.59	44.93	50.32	✓
A05	20	0.14	0.14	0.16	0.47	2.64	0.00	0.01	0.14	4.49	41.13	49.34	✓
A06	1.5	0.05	0.23	0.26	0.85	3.52	0.00	0.10	0.08	10.85	36.46	52.40	✓
A06	10	0.44	0.57	0.15	1.42	3.68	0.00	0.26	0.03	3.60	37.62	47.77	✓
A07	1.5	1.04	0.28	0.26	0.93	4.10	0.02	0.15	0.06	6.64	50.95	64.43	✓
A07	5	1.08	0.30	0.26	0.93	4.11	0.02	0.13	0.06	6.11	50.95	63.96	✓
A07	10	1.14	0.42	0.26	0.94	4.08	0.01	0.10	0.06	5.11	50.95	63.08	✓
A08	1.5	1.03	0.26	0.26	0.98	4.11	0.01	0.11	0.06	6.80	50.95	64.58	✓
A08	5	1.07	0.27	0.26	0.98	4.12	0.01	0.10	0.06	6.04	50.95	63.87	✓
A08	10	1.13	0.36	0.26	1.00	4.09	0.01	0.08	0.05	4.84	50.95	62.78	✓

Remark

[1] Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)
Annual NO2 Concentration (µg/m3)

ASR	Height (mAG)	Project-induced Marine emissions	Asphalt Facility (Long term)	Adjacent SP-long term	Ma Wan Fairway	Channel arcoss Ting Kau Bridge	Start Emissions	Vehicular Emission on Paved Haul Road (Long term)	Portal emission	OpenRoad2028L	Background	Total	Converted NO_2 [2]	Compliance with corresponding concentration limit (40 µg/m3)
A02	1.5	0.21	0.05	0.83	0.50	0.62	0.34	0.03	0.05	21.41	32.08	56.12	38.2 [3]	✓
A02	5	0.21	0.05	0.83	0.49	0.60	0.17	0.03	0.05	18.52	32.08	53.03	36.42 [3]	✓
A02	10	0.21	0.05	0.83	0.48	0.56	0.06	0.03	0.04	13.81	32.08	48.16	37.23	✓
A02	15	0.21	0.05	0.83	0.46	0.51	0.03	0.02	0.04	9.76	32.08	44.00	34.38	✓
A04	1.5	0.67	0.13	0.99	0.78	1.24	0.14	0.17	0.11	12.93	32.08	49.23	37.95	✓
A04	5	0.67	0.14	0.99	0.77	1.19	0.12	0.15	0.11	11.66	32.08	47.89	37.05	✓
A04	10	0.68	0.20	1.00	0.75	1.12	0.09	0.12	0.10	9.49	32.08	45.62	35.51	✓
A05	1.5	0.16	0.08	0.21	0.42	3.84	0.00	0.03	0.11	5.70	28.54	39.10	30.92	✓
A05	5	0.16	0.08	0.21	0.40	3.47	0.00	0.03	0.10	4.04	28.54	37.03	29.42	✓
A05	10	0.16	0.07	0.20	0.37	3.00	0.00	0.03	0.09	2.48	28.54	34.94	27.89	✓
A05	15	0.16	0.06	0.20	0.35	2.53	0.00	0.03	0.08	1.94	28.54	33.89	27.11	✓
A05	20	0.16	0.06	0.19	0.33	2.06	0.00	0.02	0.08	1.71	28.54	33.15	26.56	✓
A06	1.5	0.08	0.04	0.14	0.30	1.98	0.00	0.01	0.03	4.11	28.54	35.24	28.11	✓
A06	5	0.08	0.04	0.14	0.28	1.78	0.00	0.01	0.03	2.59	28.54	33.49	26.81	✓
A06	10	0.08	0.04	0.14	0.26	1.53	0.00	0.01	0.03	1.32	28.54	31.94	25.66	✓
A07	1.5	0.75	0.14	0.92	0.79	1.35	0.07	0.20	0.13	9.78	32.08	46.21	35.91	✓
A07	5	0.75	0.15	0.92	0.78	1.30	0.07	0.18	0.12	9.51	32.08	45.88	35.68	✓
A07	10	0.76	0.24	0.93	0.76	1.23	0.06	0.14	0.12	8.55	32.08	44.86	34.98	✓
A08	1.5	0.79	0.14	0.93	0.82	1.35	0.06	0.18	0.12	8.84	32.08	45.32	35.30	✓
A08	5	0.79	0.15	0.93	0.81	1.31	0.06	0.17	0.12	8.62	32.08	45.05	35.11	✓
A08	10	0.80	0.24	0.94	0.79	1.23	0.05	0.13	0.11	7.87	32.08	44.24	34.55	✓

Remark
[1] Worst affected level of each ASR is highlighted.
[2] The annual NO2 concentrations are calculated by Jenkin Method, the detailed equations and steps are presented in Appendix 3.8
[3] Air purification system with at least 10% NO2 removal efficiency will be provided such that no adverse impact is expected. The predicted values before application of air purification system are 42.44µg/m^3 and 40.46µg/m^3 at 1.5mAG and 5mAG at A02 respectively.

Tsing Yi North Underground Quarry (Year 2028)
Highest Hourly Arsenic Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.2 µg/m3)
A02	1.5	6.083E-04	2.419E-07	1.100E-02	1.161E-02	✓
A02	5	5.797E-04	2.613E-07	1.100E-02	1.158E-02	✓
A02	10	5.473E-04	2.931E-07	1.100E-02	1.155E-02	✓
A02	15	5.230E-04	3.302E-07	1.100E-02	1.152E-02	✓
A03	1.5	8.350E-04	4.521E-07	1.100E-02	1.184E-02	✓
A03	5	7.945E-04	4.626E-07	1.100E-02	1.179E-02	✓
A03	10	7.445E-04	4.812E-07	1.100E-02	1.174E-02	✓
A04	1.5	9.407E-04	5.650E-07	1.100E-02	1.194E-02	✓
A04	5	9.268E-04	5.659E-07	1.100E-02	1.193E-02	✓
A04	10	1.074E-03	3.653E-07	1.100E-02	1.207E-02	✓
A05	1.5	5.535E-04	1.443E-07	1.100E-02	1.155E-02	✓
A05	5	5.674E-04	1.729E-07	1.100E-02	1.157E-02	✓
A05	10	6.064E-04	1.590E-07	1.100E-02	1.161E-02	✓
A05	15	6.207E-04	1.489E-07	1.100E-02	1.162E-02	✓
A05	20	6.177E-04	1.420E-07	1.100E-02	1.162E-02	✓
A06	1.5	3.752E-04	1.486E-07	1.100E-02	1.138E-02	✓
A06	5	3.848E-04	1.395E-07	1.100E-02	1.138E-02	✓
A06	10	3.871E-04	1.299E-07	1.100E-02	1.139E-02	✓
A07	1.5	1.800E-03	9.763E-09	1.100E-02	1.280E-02	✓
A07	5	1.877E-03	1.030E-08	1.100E-02	1.288E-02	✓
A07	10	1.871E-03	1.101E-08	1.100E-02	1.287E-02	✓
A08	1.5	1.398E-03	9.763E-09	1.100E-02	1.240E-02	✓
A08	5	1.462E-03	1.030E-08	1.100E-02	1.246E-02	✓
A08	10	1.476E-03	1.101E-08	1.100E-02	1.248E-02	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)
Highest 8-Hour Arsenic Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.015 µg/m3)
A02	1.5	4.349E-05	4.389E-06	1.100E-02	1.129E-02	✓
A02	5	4.300E-05	4.370E-06	1.100E-02	1.128E-02	✓
A02	10	4.231E-05	4.340E-06	1.100E-02	1.126E-02	✓
A02	15	4.165E-05	4.307E-06	1.100E-02	1.125E-02	✓
A03	1.5	8.508E-05	3.080E-06	1.100E-02	1.139E-02	✓
A03	5	8.368E-05	3.062E-06	1.100E-02	1.137E-02	✓
A03	10	8.172E-05	3.036E-06	1.100E-02	1.135E-02	✓
A04	1.5	8.404E-04	3.909E-07	1.100E-02	1.134E-02	✓
A04	5	8.360E-04	3.921E-07	1.100E-02	1.134E-02	✓
A04	10	6.114E-04	2.304E-07	1.100E-02	1.157E-02	✓
A05	1.5	5.846E-05	2.087E-07	1.100E-02	1.126E-02	✓
A05	5	1.969E-05	9.088E-08	1.100E-02	1.127E-02	✓
A05	10	1.289E-05	8.609E-08	1.100E-02	1.128E-02	✓
A05	15	9.353E-06	8.449E-08	1.100E-02	1.128E-02	✓
A05	20	7.324E-06	8.556E-08	1.100E-02	1.127E-02	✓
A06	1.5	3.862E-05	2.070E-07	1.100E-02	1.115E-02	✓
A06	5	3.005E-05	1.958E-07	1.100E-02	1.115E-02	✓
A06	10	1.052E-05	9.479E-08	1.100E-02	1.116E-02	✓
A07	1.5	1.430E-04	9.159E-07	1.100E-02	1.140E-02	✓
A07	5	1.397E-04	9.068E-07	1.100E-02	1.144E-02	✓
A07	10	1.610E-04	1.921E-07	1.100E-02	1.161E-02	✓
A08	1.5	1.533E-04	9.180E-07	1.100E-02	1.135E-02	✓
A08	5	1.499E-04	9.090E-07	1.100E-02	1.138E-02	✓
A08	10	6.694E-04	2.494E-07	1.100E-02	1.152E-02	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)
Annual Arsenic Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.015 µg/m3)
A02	1.5	3.664E-06	4.641E-06	1.943E-03	1.951E-03	✓
A02	5	3.579E-06	4.674E-06	1.943E-03	1.951E-03	✓
A02	10	3.646E-06	4.687E-06	1.943E-03	1.951E-03	✓
A02	15	3.813E-06	4.671E-06	1.943E-03	1.951E-03	✓
A04	10	1.540E-05	5.729E-06	1.943E-03	1.964E-03	✓
A05	1.5	6.434E-06	1.152E-06	1.943E-03	1.950E-03	✓
A05	5	5.875E-06	1.129E-06	1.943E-03	1.950E-03	✓
A05	10	5.306E-06	1.105E-06	1.943E-03	1.949E-03	✓
A05	15	4.863E-06	1.089E-06	1.943E-03	1.949E-03	✓
A05	20	4.479E-06	1.080E-06	1.943E-03	1.948E-03	✓
A06	1.5	3.169E-06	7.855E-07	1.943E-03	1.947E-03	✓
A06	5	2.923E-06	7.659E-07	1.943E-03	1.947E-03	✓
A06	10	2.665E-06	7.451E-07	1.943E-03	1.946E-03	✓
A07	1.5	1.040E-05	5.218E-06	1.943E-03	1.958E-03	✓
A07	5	1.167E-05	5.266E-06	1.943E-03	1.960E-03	✓
A07	10	1.813E-05	5.322E-06	1.943E-03	1.966E-03	✓
A08	1.5	1.047E-05	5.276E-06	1.943E-03	1.959E-03	✓
A08	5	1.171E-05	5.326E-06	1.943E-03	1.960E-03	✓
A08	10	1.790E-05	5.386E-06	1.943E-03	1.966E-03	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Barium Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (500 μg/m3)
A02	1.5	9.189E-05	9.273E-06	3.100E-01	3.106E-01	✓
A02	5	9.084E-05	9.233E-06	3.100E-01	3.106E-01	✓
A02	10	8.938E-05	9.170E-06	3.100E-01	3.106E-01	✓
A02	15	8.799E-05	9.100E-06	3.100E-01	3.105E-01	✓
A03	1.5	1.797E-04	6.507E-06	3.100E-01	3.108E-01	✓
A03	5	1.768E-04	6.470E-06	3.100E-01	3.108E-01	✓
A03	10	1.726E-04	6.414E-06	3.100E-01	3.107E-01	✓
A04	1.5	1.775E-03	8.258E-07	3.100E-01	3.107E-01	✓
A04	5	1.766E-03	8.284E-07	3.100E-01	3.107E-01	✓
A04	10	1.292E-03	4.868E-07	3.100E-01	3.112E-01	✓
A05	1.5	1.235E-04	4.410E-07	3.100E-01	3.105E-01	✓
A05	5	4.160E-05	1.920E-07	3.100E-01	3.106E-01	✓
A05	10	2.722E-05	1.819E-07	3.100E-01	3.106E-01	✓
A05	15	1.976E-05	1.785E-07	3.100E-01	3.106E-01	✓
A05	20	1.547E-05	1.808E-07	3.100E-01	3.106E-01	✓
A06	1.5	8.159E-05	4.373E-07	3.100E-01	3.103E-01	✓
A06	5	6.349E-05	4.136E-07	3.100E-01	3.103E-01	✓
A06	10	2.222E-05	2.003E-07	3.100E-01	3.103E-01	✓
A07	1.5	3.022E-04	1.935E-06	3.100E-01	3.108E-01	✓
A07	5	2.952E-04	1.916E-06	3.100E-01	3.109E-01	✓
A07	10	3.401E-04	4.058E-07	3.100E-01	3.113E-01	✓
A08	1.5	3.239E-04	1.940E-06	3.100E-01	3.107E-01	✓
A08	5	3.167E-04	1.920E-06	3.100E-01	3.108E-01	✓
A08	10	1.414E-03	5.269E-07	3.100E-01	3.111E-01	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Beryllium Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.03 μg/m3)
A02	1.5	1.330E-04	5.291E-08	4.000E-05	1.731E-04	✓
A02	5	1.268E-04	5.714E-08	4.000E-05	1.668E-04	✓
A02	10	1.197E-04	6.409E-08	4.000E-05	1.597E-04	✓
A02	15	1.144E-04	7.221E-08	4.000E-05	1.544E-04	✓
A03	1.5	1.826E-04	9.887E-08	4.000E-05	2.227E-04	✓
A03	5	1.737E-04	1.012E-07	4.000E-05	2.138E-04	✓
A03	10	1.628E-04	1.052E-07	4.000E-05	2.029E-04	✓
A04	1.5	2.057E-04	1.236E-07	4.000E-05	2.458E-04	✓
A04	5	2.027E-04	1.238E-07	4.000E-05	2.428E-04	✓
A04	10	2.348E-04	7.989E-08	4.000E-05	2.749E-04	✓
A05	1.5	1.210E-04	3.156E-08	4.000E-05	1.611E-04	✓
A05	5	1.241E-04	3.781E-08	4.000E-05	1.641E-04	✓
A05	10	1.326E-04	3.478E-08	4.000E-05	1.726E-04	✓
A05	15	1.357E-04	3.257E-08	4.000E-05	1.758E-04	✓
A05	20	1.351E-04	3.106E-08	4.000E-05	1.751E-04	✓
A06	1.5	8.204E-05	3.249E-08	4.000E-05	1.221E-04	✓
A06	5	8.414E-05	3.051E-08	4.000E-05	1.242E-04	✓
A06	10	8.464E-05	2.842E-08	4.000E-05	1.247E-04	✓
A07	1.5	3.937E-04	2.135E-09	4.000E-05	4.337E-04	✓
A07	5	4.105E-04	2.252E-09	4.000E-05	4.505E-04	✓
A07	10	4.092E-04	2.407E-09	4.000E-05	4.492E-04	✓
A08	1.5	3.057E-04	2.135E-09	4.000E-05	3.457E-04	✓
A08	5	3.198E-04	2.252E-09	4.000E-05	3.598E-04	✓
A08	10	3.228E-04	2.407E-09	4.000E-05	3.628E-04	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Beryllium Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.2 μg/m3)
A02	1.5	9.511E-06	9.600E-07	4.000E-05	1.038E-04	✓
A02	5	9.402E-06	9.558E-07	4.000E-05	1.012E-04	✓
A02	10	9.252E-06	9.492E-07	4.000E-05	9.764E-05	✓
A02	15	9.108E-06	9.420E-07	4.000E-05	9.421E-05	✓
A03	1.5	1.860E-05	6.736E-07	4.000E-05	1.256E-04	✓
A03	5	1.830E-05	6.697E-07	4.000E-05	1.215E-04	✓
A03	10	1.787E-05	6.640E-07	4.000E-05	1.171E-04	✓
A04	1.5	1.838E-04	8.548E-08	4.000E-05	1.143E-04	✓
A04	5	1.828E-04	8.575E-08	4.000E-05	1.142E-04	✓
A04	10	1.337E-04	5.039E-08	4.000E-05	1.657E-04	✓
A05	1.5	1.278E-05	4.565E-08	4.000E-05	9.644E-05	✓
A05	5	4.306E-06	1.988E-08	4.000E-05	9.856E-05	✓
A05	10	2.818E-06	1.883E-08	4.000E-05	1.001E-04	✓
A05	15	2.045E-06	1.848E-08	4.000E-05	1.005E-04	✓
A05	20	1.602E-06	1.871E-08	4.000E-05	9.990E-05	✓
A06	1.5	8.446E-06	4.526E-08	4.000E-05	7.183E-05	✓
A06	5	6.572E-06	4.282E-08	4.000E-05	7.342E-05	✓
A06	10	2.300E-06	2.073E-08	4.000E-05	7.464E-05	✓
A07	1.5	3.128E-05	2.003E-07	4.000E-05	1.275E-04	✓
A07	5	3.055E-05	1.983E-07	4.000E-05	1.360E-04	✓
A07	10	3.521E-05	4.200E-08	4.000E-05	1.731E-04	✓
A08	1.5	3.353E-05	2.008E-07	4.000E-05	1.166E-04	✓
A08	5	3.278E-05	1.988E-07	4.000E-05	1.231E-04	✓
A08	10	1.464E-04	5.454E-08	4.000E-05	1.534E-04	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Cadmium Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (5 μg/m3)
A02	1.5	4.199E-05	4.236E-06	2.500E-03	2.782E-03	✓
A02	5	4.151E-05	4.218E-06	2.500E-03	2.770E-03	✓
A02	10	4.085E-05	4.189E-06	2.500E-03	2.754E-03	✓
A02	15	4.021E-05	4.157E-06	2.500E-03	2.739E-03	✓
A03	1.5	8.213E-05	2.972E-06	2.500E-03	2.878E-03	✓
A03	5	8.078E-05	2.955E-06	2.500E-03	2.860E-03	✓
A03	10	7.889E-05	2.930E-06	2.500E-03	2.840E-03	✓
A04	1.5	8.113E-04	3.772E-07	2.500E-03	2.828E-03	✓
A04	5	8.071E-04	3.784E-07	2.500E-03	2.828E-03	✓
A04	10	5.902E-04	2.223E-07	2.500E-03	3.055E-03	✓
A05	1.5	5.644E-05	2.014E-07	2.500E-03	2.749E-03	✓
A05	5	1.901E-05	8.771E-08	2.500E-03	2.759E-03	✓
A05	10	1.244E-05	8.308E-08	2.500E-03	2.766E-03	✓
A05	15	9.029E-06	8.154E-08	2.500E-03	2.767E-03	✓
A05	20	7.070E-06	8.257E-08	2.500E-03	2.764E-03	✓
A06	1.5	3.728E-05	1.997E-07	2.500E-03	2.641E-03	✓
A06	5	2.901E-05	1.889E-07	2.500E-03	2.648E-03	✓
A06	10	1.015E-05	9.147E-08	2.500E-03	2.653E-03	✓
A07	1.5	1.381E-04	8.839E-07	2.500E-03	2.886E-03	✓
A07	5	1.349E-04	8.752E-07	2.500E-03	2.924E-03	✓
A07	10	1.554E-04	1.853E-07	2.500E-03	3.087E-03	✓
A08	1.5	1.480E-04	8.860E-07	2.500E-03	2.838E-03	✓
A08	5	1.447E-04	8.772E-07	2.500E-03	2.867E-03	✓
A08	10	6.462E-04	2.407E-07	2.500E-03	3.001E-03	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Cadmium Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.005 μg/m3)
A02	1.5	3.537E-06	4.478E-06	4.738E-04	4.818E-04	✓
A02	5	3.456E-06	4.510E-06	4.738E-04	4.817E-04	✓
A02	10	3.519E-06	4.523E-06	4.738E-04	4.818E-04	✓
A02	15	3.681E-06	4.508E-06	4.738E-04	4.820E-04	✓
A04	10	1.486E-05	5.529E-06	4.738E-04	4.942E-04	✓
A05	1.5	6.211E-06	1.112E-06	4.738E-04	4.811E-04	✓
A05	5	5.672E-06	1.089E-06	4.738E-04	4.805E-04	✓
A05	10	5.123E-06	1.066E-06	4.738E-04	4.800E-04	✓
A05	15	4.694E-06	1.051E-06	4.738E-04	4.795E-04	✓
A05	20	4.324E-06	1.042E-06	4.738E-04	4.791E-04	✓
A06	1.5	3.059E-06	7.581E-07	4.738E-04	4.776E-04	✓
A06	5	2.822E-06	7.391E-07	4.738E-04	4.773E-04	✓
A06	10	2.573E-06	7.191E-07	4.738E-04	4.771E-04	✓
A07	1.5	1.004E-05	5.035E-06	4.738E-04	4.888E-04	✓
A07	5	1.127E-05	5.082E-06	4.738E-04	4.901E-04	✓
A07	10	1.750E-05	5.136E-06	4.738E-04	4.964E-04	✓
A08	1.5	1.011E-05	5.091E-06	4.738E-04	4.890E-04	✓
A08	5	1.130E-05	5.140E-06	4.738E-04	4.902E-04	✓
A08	10	1.728E-05	5.198E-06	4.738E-04	4.963E-04	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Copper Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (100 μg/m3)
A02	1.5	2.685E-03	1.068E-06	1.400E-01	1.427E-01	✓
A02	5	2.558E-03	1.153E-06	1.400E-01	1.426E-01	✓
A02	10	2.415E-03	1.293E-06	1.400E-01	1.424E-01	✓
A02	15	2.308E-03	1.457E-06	1.400E-01	1.423E-01	✓
A03	1.5	3.685E-03	1.995E-06	1.400E-01	1.437E-01	✓
A03	5	3.507E-03	2.041E-06	1.400E-01	1.435E-01	✓
A03	10	3.286E-03	2.124E-06	1.400E-01	1.433E-01	✓
A04	1.5	4.152E-03	2.493E-06	1.400E-01	1.442E-01	✓
A04	5	4.090E-03	2.497E-06	1.400E-01	1.441E-01	✓
A04	10	4.739E-03	1.612E-06	1.400E-01	1.447E-01	✓
A05	1.5	2.443E-03	6.368E-07	1.400E-01	1.424E-01	✓
A05	5	2.504E-03	7.629E-07	1.400E-01	1.425E-01	✓
A05	10	2.676E-03	7.018E-07	1.400E-01	1.427E-01	✓
A05	15	2.739E-03	6.572E-07	1.400E-01	1.427E-01	✓
A05	20	2.726E-03	6.266E-07	1.400E-01	1.427E-01	✓
A06	1.5	1.656E-03	6.556E-07	1.400E-01	1.417E-01	✓
A06	5	1.698E-03	6.157E-07	1.400E-01	1.417E-01	✓
A06	10	1.708E-03	5.734E-07	1.400E-01	1.417E-01	✓
A07	1.5	7.946E-03	4.308E-08	1.400E-01	1.479E-01	✓
A07	5	8.285E-03	4.543E-08	1.400E-01	1.483E-01	✓
A07	10	8.258E-03	4.856E-08	1.400E-01	1.483E-01	✓
A08	1.5	6.170E-03	4.308E-08	1.400E-01	1.462E-01	✓
A08	5	6.454E-03	4.543E-08	1.400E-01	1.465E-01	✓
A08	10	6.514E-03	4.856E-08	1.400E-01	1.465E-01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Chromium Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (500 μg/m3)
A02	1.5	4.472E-05	4.513E-06	1.400E-02	1.430E-02	✓
A02	5	4.421E-05	4.494E-06	1.400E-02	1.429E-02	✓
A02	10	4.351E-05	4.462E-06	1.400E-02	1.427E-02	✓
A02	15	4.283E-05	4.429E-06	1.400E-02	1.425E-02	✓
A03	1.5	8.749E-05	3.167E-06	1.400E-02	1.440E-02	✓
A03	5	8.605E-05	3.148E-06	1.400E-02	1.438E-02	✓
A03	10	8.403E-05	3.122E-06	1.400E-02	1.436E-02	✓
A04	1.5	8.641E-04	4.019E-07	1.400E-02	1.435E-02	✓
A04	5	8.597E-04	4.031E-07	1.400E-02	1.435E-02	✓
A04	10	6.287E-04	2.369E-07	1.400E-02	1.459E-02	✓
A05	1.5	6.012E-05	2.146E-07	1.400E-02	1.427E-02	✓
A05	5	2.025E-05	9.344E-08	1.400E-02	1.428E-02	✓
A05	10	1.325E-05	8.851E-08	1.400E-02	1.428E-02	✓
A05	15	9.617E-06	8.687E-08	1.400E-02	1.428E-02	✓
A05	20	7.531E-06	8.797E-08	1.400E-02	1.428E-02	✓
A06	1.5	3.971E-05	2.128E-07	1.400E-02	1.415E-02	✓
A06	5	3.090E-05	2.013E-07	1.400E-02	1.416E-02	✓
A06	10	1.082E-05	9.746E-08	1.400E-02	1.416E-02	✓
A07	1.5	1.471E-04	9.417E-07	1.400E-02	1.441E-02	✓
A07	5	1.437E-04	9.324E-07	1.400E-02	1.445E-02	✓
A07	10	1.656E-04	1.975E-07	1.400E-02	1.463E-02	✓
A08	1.5	1.576E-04	9.439E-07	1.400E-02	1.436E-02	✓
A08	5	1.541E-04	9.346E-07	1.400E-02	1.439E-02	✓
A08	10	6.883E-04	2.564E-07	1.400E-02	1.453E-02	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Copper Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (100 μg/m3)
A02	1.5	1.920E-04	1.937E-05	1.400E-01	1.413E-01	✓
A02	5	1.898E-04	1.929E-05	1.400E-01	1.412E-01	✓
A02	10	1.867E-04	1.915E-05	1.400E-01	1.412E-01	✓
A02	15	1.838E-04	1.901E-05	1.400E-01	1.411E-01	✓
A03	1.5	3.755E-04	1.359E-05	1.400E-01	1.417E-01	✓
A03	5	3.693E-04	1.351E-05	1.400E-01	1.416E-01	✓
A03	10	3.607E-04	1.340E-05	1.400E-01	1.416E-01	✓
A04	1.5	3.709E-03	1.725E-06	1.400E-01	1.415E-01	✓
A04	5	3.690E-03	1.730E-06	1.400E-01	1.415E-01	✓
A04	10	2.698E-03	1.017E-06	1.400E-01	1.425E-01	✓
A05	1.5	2.580E-04	9.212E-07	1.400E-01	1.411E-01	✓
A05	5	8.691E-05	4.010E-07	1.400E-01	1.412E-01	✓
A05	10	5.687E-05	3.799E-07	1.400E-01	1.412E-01	✓
A05	15	4.128E-05	3.729E-07	1.400E-01	1.412E-01	✓
A05	20	3.232E-05	3.776E-07	1.400E-01	1.412E-01	✓
A06	1.5	1.705E-04	9.133E-07	1.400E-01	1.406E-01	✓
A06	5	1.326E-04	8.640E-07	1.400E-01	1.407E-01	✓
A06	10	4.642E-05	4.183E-07	1.400E-01	1.407E-01	✓
A07	1.5	6.313E-04	4.042E-06	1.400E-01	1.418E-01	✓
A07	5	6.166E-04	4.002E-06	1.400E-01	1.419E-01	✓
A07	10	7.106E-04	8.475E-07	1.400E-01	1.427E-01	✓
A08	1.5	6.766E-04	4.051E-06	1.400E-01	1.415E-01	✓
A08	5	6.616E-04	4.011E-06	1.400E-01	1.417E-01	✓
A08	10	2.954E-03	1.101E-06	1.400E-01	1.423E-01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Hexavalent chromium Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.0085 µg/m3)
A02	1.5	4.113E-05	1.636E-08	1.100E-04	1.512E-04	✓
A02	5	3.920E-05	1.766E-08	1.100E-04	1.492E-04	✓
A02	10	3.701E-05	1.981E-08	1.100E-04	1.470E-04	✓
A02	15	3.537E-05	2.232E-08	1.100E-04	1.454E-04	✓
A03	1.5	5.647E-05	3.056E-08	1.100E-04	1.665E-04	✓
A03	5	5.373E-05	3.127E-08	1.100E-04	1.638E-04	✓
A03	10	5.035E-05	3.253E-08	1.100E-04	1.604E-04	✓
A04	1.5	6.361E-05	3.820E-08	1.100E-04	1.737E-04	✓
A04	5	6.267E-05	3.826E-08	1.100E-04	1.727E-04	✓
A04	10	7.262E-05	2.470E-08	1.100E-04	1.826E-04	✓
A05	1.5	3.743E-05	9.756E-09	1.100E-04	1.474E-04	✓
A05	5	3.837E-05	1.169E-08	1.100E-04	1.484E-04	✓
A05	10	4.101E-05	1.075E-08	1.100E-04	1.510E-04	✓
A05	15	4.198E-05	1.007E-08	1.100E-04	1.520E-04	✓
A05	20	4.177E-05	9.600E-09	1.100E-04	1.518E-04	✓
A06	1.5	2.537E-05	1.004E-08	1.100E-04	1.354E-04	✓
A06	5	2.602E-05	9.432E-09	1.100E-04	1.360E-04	✓
A06	10	2.618E-05	8.784E-09	1.100E-04	1.362E-04	✓
A07	1.5	1.218E-04	6.600E-10	1.100E-04	2.318E-04	✓
A07	5	1.270E-04	6.960E-10	1.100E-04	2.370E-04	✓
A07	10	1.265E-04	7.440E-10	1.100E-04	2.365E-04	✓
A08	1.5	9.454E-05	6.600E-10	1.100E-04	2.045E-04	✓
A08	5	9.889E-05	6.960E-10	1.100E-04	2.089E-04	✓
A08	10	9.982E-05	7.440E-10	1.100E-04	2.098E-04	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Hexavalent chromium Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.1 µg/m3)
A02	1.5	2.478E-07	3.137E-07	1.100E-04	1.106E-04	✓
A02	5	2.421E-07	3.160E-07	1.100E-04	1.106E-04	✓
A02	10	2.465E-07	3.169E-07	1.100E-04	1.106E-04	✓
A02	15	2.578E-07	3.158E-07	1.100E-04	1.106E-04	✓
A04	10	1.041E-06	3.873E-07	1.100E-04	1.114E-04	✓
A05	1.5	4.351E-07	7.787E-08	1.100E-04	1.105E-04	✓
A05	5	3.973E-07	7.631E-08	1.100E-04	1.105E-04	✓
A05	10	3.589E-07	7.471E-08	1.100E-04	1.104E-04	✓
A05	15	3.288E-07	7.363E-08	1.100E-04	1.104E-04	✓
A05	20	3.029E-07	7.302E-08	1.100E-04	1.104E-04	✓
A06	1.5	2.143E-07	5.311E-08	1.100E-04	1.103E-04	✓
A06	5	1.977E-07	5.178E-08	1.100E-04	1.102E-04	✓
A06	10	1.802E-07	5.037E-08	1.100E-04	1.102E-04	✓
A07	1.5	7.032E-07	3.527E-07	1.100E-04	1.111E-04	✓
A07	5	7.895E-07	3.560E-07	1.100E-04	1.111E-04	✓
A07	10	1.226E-06	3.598E-07	1.100E-04	1.116E-04	✓
A08	1.5	7.081E-07	3.567E-07	1.100E-04	1.111E-04	✓
A08	5	7.916E-07	3.601E-07	1.100E-04	1.112E-04	✓
A08	10	1.211E-06	3.642E-07	1.100E-04	1.116E-04	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Hexavalent chromium Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (5 µg/m3)
A02	1.5	2.941E-06	2.967E-07	1.100E-04	1.297E-04	✓
A02	5	2.908E-06	2.955E-07	1.100E-04	1.289E-04	✓
A02	10	2.861E-06	2.934E-07	1.100E-04	1.278E-04	✓
A02	15	2.817E-06	2.912E-07	1.100E-04	1.268E-04	✓
A03	1.5	5.754E-06	2.082E-07	1.100E-04	1.365E-04	✓
A03	5	5.659E-06	2.070E-07	1.100E-04	1.352E-04	✓
A03	10	5.526E-06	2.053E-07	1.100E-04	1.339E-04	✓
A04	1.5	5.683E-05	2.642E-08	1.100E-04	1.330E-04	✓
A04	5	5.654E-05	2.651E-08	1.100E-04	1.330E-04	✓
A04	10	4.135E-05	1.558E-08	1.100E-04	1.489E-04	✓
A05	1.5	3.954E-06	1.411E-08	1.100E-04	1.275E-04	✓
A05	5	1.332E-06	6.144E-09	1.100E-04	1.281E-04	✓
A05	10	8.714E-07	5.820E-09	1.100E-04	1.286E-04	✓
A05	15	6.325E-07	5.712E-09	1.100E-04	1.287E-04	✓
A05	20	4.953E-07	5.784E-09	1.100E-04	1.285E-04	✓
A06	1.5	2.612E-06	1.399E-08	1.100E-04	1.198E-04	✓
A06	5	2.032E-06	1.324E-08	1.100E-04	1.203E-04	✓
A06	10	7.114E-07	6.408E-09	1.100E-04	1.207E-04	✓
A07	1.5	9.673E-06	6.192E-08	1.100E-04	1.371E-04	✓
A07	5	9.449E-06	6.131E-08	1.100E-04	1.397E-04	✓
A07	10	1.089E-05	1.298E-08	1.100E-04	1.511E-04	✓
A08	1.5	1.037E-05	6.206E-08	1.100E-04	1.337E-04	✓
A08	5	1.014E-05	6.145E-08	1.100E-04	1.357E-04	✓
A08	10	4.527E-05	1.686E-08	1.100E-04	1.451E-04	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Lead Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (50 µg/m3)
A02	1.5	7.204E-05	7.270E-06	4.600E-02	4.648E-02	✓
A02	5	7.122E-05	7.239E-06	4.600E-02	4.646E-02	✓
A02	10	7.008E-05	7.189E-06	4.600E-02	4.644E-02	✓
A02	15	6.898E-05	7.134E-06	4.600E-02	4.641E-02	✓
A03	1.5	1.409E-04	5.101E-06	4.600E-02	4.665E-02	✓
A03	5	1.386E-04	5.072E-06	4.600E-02	4.662E-02	✓
A03	10	1.354E-04	5.029E-06	4.600E-02	4.658E-02	✓
A04	1.5	1.392E-03	6.474E-07	4.600E-02	4.656E-02	✓
A04	5	1.385E-03	6.494E-07	4.600E-02	4.656E-02	✓
A04	10	1.013E-03	3.816E-07	4.600E-02	4.695E-02	✓
A05	1.5	9.683E-05	3.457E-07	4.600E-02	4.643E-02	✓
A05	5	3.262E-05	1.505E-07	4.600E-02	4.644E-02	✓
A05	10	2.134E-05	1.426E-07	4.600E-02	4.646E-02	✓
A05	15	1.549E-05	1.399E-07	4.600E-02	4.646E-02	✓
A05	20	1.213E-05	1.417E-07	4.600E-02	4.645E-02	✓
A06	1.5	6.397E-05	3.428E-07	4.600E-02	4.624E-02	✓
A06	5	4.978E-05	3.243E-07	4.600E-02	4.625E-02	✓
A06	10	1.742E-05	1.570E-07	4.600E-02	4.626E-02	✓
A07	1.5	2.369E-04	1.517E-06	4.600E-02	4.666E-02	✓
A07	5	2.314E-04	1.502E-06	4.600E-02	4.673E-02	✓
A07	10	2.667E-04	3.181E-07	4.600E-02	4.701E-02	✓
A08	1.5	2.539E-04	1.521E-06	4.600E-02	4.658E-02	✓
A08	5	2.483E-04	1.506E-06	4.600E-02	4.663E-02	✓
A08	10	1.109E-03	4.131E-07	4.600E-02	4.686E-02	✓

Remark
Worst affected level of each ASR is highlighted.

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Tsing Yi North Underground Quarry (Year 2028)

Annual Lead Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.5 μg/m3)
A02	1.5	6.069E-06	7.686E-06	1.097E-02	1.099E-02	✓
A02	5	5.929E-06	7.741E-06	1.097E-02	1.099E-02	✓
A02	10	6.038E-06	7.763E-06	1.097E-02	1.099E-02	✓
A02	15	6.315E-06	7.737E-06	1.097E-02	1.099E-02	✓
A04	10	2.550E-05	9.489E-06	1.097E-02	1.101E-02	✓
A05	1.5	1.066E-05	1.908E-06	1.097E-02	1.099E-02	✓
A05	5	9.731E-06	1.870E-06	1.097E-02	1.099E-02	✓
A05	10	8.789E-06	1.830E-06	1.097E-02	1.098E-02	✓
A05	15	8.054E-06	1.804E-06	1.097E-02	1.098E-02	✓
A05	20	7.418E-06	1.789E-06	1.097E-02	1.098E-02	✓
A06	1.5	5.249E-06	1.301E-06	1.097E-02	1.098E-02	✓
A06	5	4.841E-06	1.269E-06	1.097E-02	1.098E-02	✓
A06	10	4.414E-06	1.234E-06	1.097E-02	1.098E-02	✓
A07	1.5	1.722E-05	8.642E-06	1.097E-02	1.100E-02	✓
A07	5	1.934E-05	8.722E-06	1.097E-02	1.100E-02	✓
A07	10	3.003E-05	8.815E-06	1.097E-02	1.101E-02	✓
A08	1.5	1.734E-05	8.738E-06	1.097E-02	1.100E-02	✓
A08	5	1.939E-05	8.822E-06	1.097E-02	1.100E-02	✓
A08	10	2.965E-05	8.922E-06	1.097E-02	1.101E-02	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)

Annual Manganese Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.09 μg/m3)
A02	1.5	3.853E-05	4.881E-05	1.765E-02	1.773E-02	✓
A02	5	3.764E-05	4.916E-05	1.765E-02	1.773E-02	✓
A02	10	3.834E-05	4.930E-05	1.765E-02	1.774E-02	✓
A02	15	4.010E-05	4.913E-05	1.765E-02	1.774E-02	✓
A04	10	1.619E-04	6.026E-05	1.765E-02	1.787E-02	✓
A05	1.5	6.766E-05	1.211E-05	1.765E-02	1.773E-02	✓
A05	5	6.179E-05	1.187E-05	1.765E-02	1.772E-02	✓
A05	10	5.581E-05	1.162E-05	1.765E-02	1.771E-02	✓
A05	15	5.114E-05	1.146E-05	1.765E-02	1.771E-02	✓
A05	20	4.710E-05	1.136E-05	1.765E-02	1.771E-02	✓
A06	1.5	3.333E-05	8.262E-06	1.765E-02	1.769E-02	✓
A06	5	3.074E-05	8.056E-06	1.765E-02	1.769E-02	✓
A06	10	2.803E-05	7.837E-06	1.765E-02	1.768E-02	✓
A07	1.5	1.094E-04	5.488E-05	1.765E-02	1.781E-02	✓
A07	5	1.228E-04	5.538E-05	1.765E-02	1.783E-02	✓
A07	10	1.907E-04	5.598E-05	1.765E-02	1.789E-02	✓
A08	1.5	1.101E-04	5.549E-05	1.765E-02	1.781E-02	✓
A08	5	1.231E-04	5.602E-05	1.765E-02	1.783E-02	✓
A08	10	1.883E-04	5.666E-05	1.765E-02	1.789E-02	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Manganese Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.17 μg/m3)
A02	1.5	4.574E-04	4.617E-05	6.900E-02	7.207E-02	✓
A02	5	4.522E-04	4.597E-05	6.900E-02	7.194E-02	✓
A02	10	4.450E-04	4.565E-05	6.900E-02	7.177E-02	✓
A02	15	4.380E-04	4.531E-05	6.900E-02	7.161E-02	✓
A03	1.5	8.948E-04	3.239E-05	6.900E-02	7.311E-02	✓
A03	5	8.801E-04	3.221E-05	6.900E-02	7.292E-02	✓
A03	10	8.594E-04	3.194E-05	6.900E-02	7.271E-02	✓
A04	1.5	8.838E-03	4.111E-06	6.900E-02	7.257E-02	✓
A04	5	8.792E-03	4.124E-06	6.900E-02	7.257E-02	✓
A04	10	6.430E-03	2.423E-06	6.900E-02	7.504E-02	✓
A05	1.5	6.148E-04	2.196E-06	6.900E-02	7.171E-02	✓
A05	5	2.071E-04	9.559E-07	6.900E-02	7.182E-02	✓
A05	10	1.355E-04	9.055E-07	6.900E-02	7.189E-02	✓
A05	15	9.836E-05	8.887E-07	6.900E-02	7.191E-02	✓
A05	20	7.702E-05	8.999E-07	6.900E-02	7.188E-02	✓
A06	1.5	4.062E-04	2.177E-06	6.900E-02	7.053E-02	✓
A06	5	3.161E-04	2.059E-06	6.900E-02	7.061E-02	✓
A06	10	1.106E-04	9.970E-07	6.900E-02	7.067E-02	✓
A07	1.5	1.504E-03	9.634E-06	6.900E-02	7.321E-02	✓
A07	5	1.469E-03	9.539E-06	6.900E-02	7.362E-02	✓
A07	10	1.693E-03	2.020E-06	6.900E-02	7.540E-02	✓
A08	1.5	1.612E-03	9.656E-06	6.900E-02	7.268E-02	✓
A08	5	1.577E-03	9.561E-06	6.900E-02	7.300E-02	✓
A08	10	7.040E-03	2.623E-06	6.900E-02	7.446E-02	✓

Remark
Worst affected level of each ASR is highlighted.

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Mercury Concentration (μg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.6 μg/m3)
A02	1.5	3.695E-04	1.471E-07	1.900E-04	5.597E-04	✓
A02	5	3.521E-04	1.588E-07	1.900E-04	5.423E-04	✓
A02	10	3.325E-04	1.781E-07	1.900E-04	5.226E-04	✓
A02	15	3.177E-04	2.007E-07	1.900E-04	5.079E-04	✓
A03	1.5	5.073E-04	2.748E-07	1.900E-04	6.975E-04	✓
A03	5	4.827E-04	2.812E-07	1.900E-04	6.730E-04	✓
A03	10	4.523E-04	2.925E-07	1.900E-04	6.426E-04	✓
A04	1.5	5.715E-04	3.434E-07	1.900E-04	7.618E-04	✓
A04	5	5.630E-04	3.440E-07	1.900E-04	7.534E-04	✓
A04	10	6.523E-04	2.221E-07	1.900E-04	8.426E-04	✓
A05	1.5	3.362E-04	8.772E-08	1.900E-04	5.263E-04	✓
A05	5	3.447E-04	1.051E-07	1.900E-04	5.348E-04	✓
A05	10	3.684E-04	9.668E-08	1.900E-04	5.585E-04	✓
A05	15	3.771E-04	9.053E-08	1.900E-04	5.672E-04	✓
A05	20	3.752E-04	8.632E-08	1.900E-04	5.653E-04	✓
A06	1.5	2.279E-04	9.031E-08	1.900E-04	4.180E-04	✓
A06	5	2.338E-04	8.481E-08	1.900E-04	4.238E-04	✓
A06	10	2.352E-04	7.898E-08	1.900E-04	4.252E-04	✓
A07	1.5	1.094E-03	5.935E-09	1.900E-04	1.284E-03	✓
A07	5	1.140E-03	6.258E-09	1.900E-04	1.330E-03	✓
A07	10	1.137E-03	6.690E-09	1.900E-04	1.327E-03	✓
A08	1.5	8.493E-04	5.935E-09	1.900E-04	1.039E-03	✓
A08	5	8.883E-04	6.258E-09	1.900E-04	1.078E-03	✓
A08	10	8.967E-04	6.690E-09	1.900E-04	1.087E-03	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Mercury Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.06 µg/m3)
A02	1.5	2.642E-05	2.668E-06	1.900E-04	3.672E-04	✓
A02	5	2.612E-05	2.657E-06	1.900E-04	3.601E-04	✓
A02	10	2.570E-05	2.638E-06	1.900E-04	3.501E-04	✓
A02	15	2.530E-05	2.618E-06	1.900E-04	3.406E-04	✓
A03	1.5	5.169E-05	1.872E-06	1.900E-04	4.277E-04	✓
A03	5	5.084E-05	1.861E-06	1.900E-04	4.165E-04	✓
A03	10	4.965E-05	1.846E-06	1.900E-04	4.043E-04	✓
A04	1.5	5.105E-04	2.376E-07	1.900E-04	3.965E-04	✓
A04	5	5.079E-04	2.384E-07	1.900E-04	3.962E-04	✓
A04	10	3.714E-04	1.401E-07	1.900E-04	5.391E-04	✓
A05	1.5	3.552E-05	1.269E-07	1.900E-04	3.468E-04	✓
A05	5	1.196E-05	5.524E-08	1.900E-04	3.527E-04	✓
A05	10	7.828E-06	5.233E-08	1.900E-04	3.571E-04	✓
A05	15	5.682E-06	5.136E-08	1.900E-04	3.581E-04	✓
A05	20	4.449E-06	5.201E-08	1.900E-04	3.564E-04	✓
A06	1.5	2.346E-05	1.258E-07	1.900E-04	2.784E-04	✓
A06	5	1.826E-05	1.190E-07	1.900E-04	2.829E-04	✓
A06	10	6.390E-06	5.762E-08	1.900E-04	2.862E-04	✓
A07	1.5	8.690E-05	5.568E-07	1.900E-04	4.331E-04	✓
A07	5	8.488E-05	5.513E-07	1.900E-04	4.568E-04	✓
A07	10	9.781E-05	1.167E-07	1.900E-04	5.596E-04	✓
A08	1.5	9.314E-05	5.581E-07	1.900E-04	4.028E-04	✓
A08	5	9.107E-05	5.526E-07	1.900E-04	4.209E-04	✓
A08	10	4.066E-04	1.516E-07	1.900E-04	5.051E-04	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Mercury Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.03 µg/m3)
A02	1.5	2.226E-06	2.821E-06	1.708E-04	1.759E-04	✓
A02	5	2.175E-06	2.841E-06	1.708E-04	1.758E-04	✓
A02	10	2.215E-06	2.849E-06	1.708E-04	1.759E-04	✓
A02	15	2.316E-06	2.839E-06	1.708E-04	1.760E-04	✓
A04	10	9.354E-06	3.482E-06	1.708E-04	1.837E-04	✓
A05	1.5	3.909E-06	7.001E-07	1.708E-04	1.754E-04	✓
A05	5	3.569E-06	6.861E-07	1.708E-04	1.751E-04	✓
A05	10	3.224E-06	6.717E-07	1.708E-04	1.747E-04	✓
A05	15	2.954E-06	6.621E-07	1.708E-04	1.744E-04	✓
A05	20	2.721E-06	6.566E-07	1.708E-04	1.742E-04	✓
A06	1.5	1.925E-06	4.775E-07	1.708E-04	1.732E-04	✓
A06	5	1.776E-06	4.656E-07	1.708E-04	1.731E-04	✓
A06	10	1.619E-06	4.529E-07	1.708E-04	1.729E-04	✓
A07	1.5	6.317E-06	3.172E-06	1.708E-04	1.803E-04	✓
A07	5	7.092E-06	3.201E-06	1.708E-04	1.811E-04	✓
A07	10	1.101E-05	3.235E-06	1.708E-04	1.851E-04	✓
A08	1.5	6.361E-06	3.207E-06	1.708E-04	1.804E-04	✓
A08	5	7.112E-06	3.238E-06	1.708E-04	1.812E-04	✓
A08	10	1.088E-05	3.274E-06	1.708E-04	1.850E-04	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Nickel Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.2 µg/m3)
A02	1.5	1.628E-02	6.476E-06	9.300E-03	2.559E-02	✓
A02	5	1.552E-02	6.993E-06	9.300E-03	2.482E-02	✓
A02	10	1.465E-02	7.844E-06	9.300E-03	2.396E-02	✓
A02	15	1.400E-02	8.837E-06	9.300E-03	2.331E-02	✓
A03	1.5	2.235E-02	1.210E-05	9.300E-03	3.166E-02	✓
A03	5	2.127E-02	1.238E-05	9.300E-03	3.058E-02	✓
A03	10	1.993E-02	1.288E-05	9.300E-03	2.924E-02	✓
A04	1.5	2.518E-02	1.512E-05	9.300E-03	3.449E-02	✓
A04	5	2.481E-02	1.515E-05	9.300E-03	3.412E-02	✓
A04	10	2.874E-02	9.778E-06	9.300E-03	3.805E-02	✓
A05	1.5	1.481E-02	3.863E-06	9.300E-03	2.412E-02	✓
A05	5	1.519E-02	4.627E-06	9.300E-03	2.449E-02	✓
A05	10	1.623E-02	4.257E-06	9.300E-03	2.554E-02	✓
A05	15	1.661E-02	3.986E-06	9.300E-03	2.592E-02	✓
A05	20	1.653E-02	3.801E-06	9.300E-03	2.584E-02	✓
A06	1.5	1.004E-02	3.977E-06	9.300E-03	1.935E-02	✓
A06	5	1.030E-02	3.734E-06	9.300E-03	1.960E-02	✓
A06	10	1.036E-02	3.478E-06	9.300E-03	1.966E-02	✓
A07	1.5	4.819E-02	2.613E-07	9.300E-03	5.749E-02	✓
A07	5	5.025E-02	2.756E-07	9.300E-03	5.955E-02	✓
A07	10	5.009E-02	2.946E-07	9.300E-03	5.939E-02	✓
A08	1.5	3.742E-02	2.613E-07	9.300E-03	4.672E-02	✓
A08	5	3.914E-02	2.756E-07	9.300E-03	4.844E-02	✓
A08	10	3.951E-02	2.946E-07	9.300E-03	4.881E-02	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Nickel Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.06 µg/m3)
A02	1.5	1.164E-03	1.175E-04	9.300E-03	1.711E-02	✓
A02	5	1.151E-03	1.170E-04	9.300E-03	1.679E-02	✓
A02	10	1.133E-03	1.162E-04	9.300E-03	1.636E-02	✓
A02	15	1.115E-03	1.153E-04	9.300E-03	1.594E-02	✓
A03	1.5	2.277E-03	8.243E-05	9.300E-03	1.977E-02	✓
A03	5	2.240E-03	8.196E-05	9.300E-03	1.928E-02	✓
A03	10	2.187E-03	8.127E-05	9.300E-03	1.874E-02	✓
A04	1.5	2.249E-02	1.046E-05	9.300E-03	1.840E-02	✓
A04	5	2.238E-02	1.049E-05	9.300E-03	1.839E-02	✓
A04	10	1.637E-02	6.167E-06	9.300E-03	2.468E-02	✓
A05	1.5	1.565E-03	5.587E-06	9.300E-03	1.621E-02	✓
A05	5	5.271E-04	2.433E-06	9.300E-03	1.647E-02	✓
A05	10	3.449E-04	2.304E-06	9.300E-03	1.666E-02	✓
A05	15	2.503E-04	2.261E-06	9.300E-03	1.671E-02	✓
A05	20	1.960E-04	2.290E-06	9.300E-03	1.663E-02	✓
A06	1.5	1.034E-03	5.540E-06	9.300E-03	1.320E-02	✓
A06	5	8.045E-04	5.240E-06	9.300E-03	1.339E-02	✓
A06	10	2.816E-04	2.537E-06	9.300E-03	1.354E-02	✓
A07	1.5	3.829E-03	2.452E-05	9.300E-03	2.001E-02	✓
A07	5	3.740E-03	2.427E-05	9.300E-03	2.106E-02	✓
A07	10	4.310E-03	5.141E-06	9.300E-03	2.559E-02	✓
A08	1.5	4.104E-03	2.457E-05	9.300E-03	1.868E-02	✓
A08	5	4.013E-03	2.433E-05	9.300E-03	1.948E-02	✓
A08	10	1.792E-02	6.675E-06	9.300E-03	2.318E-02	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Nickel Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.02 µg/m3)
A02	1.5	9.808E-05	1.242E-04	3.804E-03	4.026E-03	✓
A02	5	9.581E-05	1.251E-04	3.804E-03	4.025E-03	✓
A02	10	9.758E-05	1.255E-04	3.804E-03	4.027E-03	✓
A02	15	1.021E-04	1.250E-04	3.804E-03	4.031E-03	✓
A04	10	4.122E-04	1.533E-04	3.804E-03	4.370E-03	✓
A05	1.5	1.722E-04	3.083E-05	3.804E-03	4.007E-03	✓
A05	5	1.573E-04	3.021E-05	3.804E-03	3.992E-03	✓
A05	10	1.420E-04	2.958E-05	3.804E-03	3.976E-03	✓
A05	15	1.302E-04	2.915E-05	3.804E-03	3.963E-03	✓
A05	20	1.199E-04	2.891E-05	3.804E-03	3.953E-03	✓
A06	1.5	8.483E-05	2.103E-05	3.804E-03	3.910E-03	✓
A06	5	7.824E-05	2.050E-05	3.804E-03	3.903E-03	✓
A06	10	7.134E-05	1.994E-05	3.804E-03	3.895E-03	✓
A07	1.5	2.783E-04	1.397E-04	3.804E-03	4.222E-03	✓
A07	5	3.125E-04	1.409E-04	3.804E-03	4.258E-03	✓
A07	10	4.853E-04	1.424E-04	3.804E-03	4.432E-03	✓
A08	1.5	2.803E-04	1.412E-04	3.804E-03	4.226E-03	✓
A08	5	3.133E-04	1.426E-04	3.804E-03	4.260E-03	✓
A08	10	4.792E-04	1.442E-04	3.804E-03	4.427E-03	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Selenium Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (20 µg/m3)
A02	1.5	3.196E-06	4.047E-06	6.352E-04	6.425E-04	✓
A02	5	3.122E-06	4.076E-06	6.352E-04	6.424E-04	✓
A02	10	3.180E-06	4.088E-06	6.352E-04	6.425E-04	✓
A02	15	3.326E-06	4.074E-06	6.352E-04	6.426E-04	✓
A04	10	1.343E-05	4.996E-06	6.352E-04	6.537E-04	✓
A05	1.5	5.612E-06	1.004E-06	6.352E-04	6.419E-04	✓
A05	5	5.125E-06	9.844E-07	6.352E-04	6.414E-04	✓
A05	10	4.629E-06	9.637E-07	6.352E-04	6.408E-04	✓
A05	15	4.241E-06	9.499E-07	6.352E-04	6.404E-04	✓
A05	20	3.907E-06	9.419E-07	6.352E-04	6.401E-04	✓
A06	1.5	2.764E-06	6.851E-07	6.352E-04	6.387E-04	✓
A06	5	2.549E-06	6.679E-07	6.352E-04	6.385E-04	✓
A06	10	2.325E-06	6.498E-07	6.352E-04	6.382E-04	✓
A07	1.5	9.070E-06	4.550E-06	6.352E-04	6.489E-04	✓
A07	5	1.018E-05	4.592E-06	6.352E-04	6.500E-04	✓
A07	10	1.581E-05	4.641E-06	6.352E-04	6.557E-04	✓
A08	1.5	9.133E-06	4.601E-06	6.352E-04	6.490E-04	✓
A08	5	1.021E-05	4.645E-06	6.352E-04	6.501E-04	✓
A08	10	1.562E-05	4.698E-06	6.352E-04	6.556E-04	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Selenium Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (200 µg/m3)
A02	1.5	3.794E-05	3.828E-06	2.200E-03	2.454E-03	✓
A02	5	3.750E-05	3.811E-06	2.200E-03	2.444E-03	✓
A02	10	3.690E-05	3.785E-06	2.200E-03	2.430E-03	✓
A02	15	3.633E-05	3.757E-06	2.200E-03	2.416E-03	✓
A03	1.5	7.421E-05	2.686E-06	2.200E-03	2.541E-03	✓
A03	5	7.299E-05	2.671E-06	2.200E-03	2.525E-03	✓
A03	10	7.128E-05	2.648E-06	2.200E-03	2.508E-03	✓
A04	1.5	7.330E-04	3.409E-07	2.200E-03	2.496E-03	✓
A04	5	7.292E-04	3.420E-07	2.200E-03	2.496E-03	✓
A04	10	5.333E-04	2.009E-07	2.200E-03	2.701E-03	✓
A05	1.5	5.099E-05	1.820E-07	2.200E-03	2.425E-03	✓
A05	5	1.718E-05	7.926E-08	2.200E-03	2.434E-03	✓
A05	10	1.124E-05	7.508E-08	2.200E-03	2.440E-03	✓
A05	15	8.158E-06	7.368E-08	2.200E-03	2.441E-03	✓
A05	20	6.388E-06	7.461E-08	2.200E-03	2.439E-03	✓
A06	1.5	3.369E-05	1.805E-07	2.200E-03	2.327E-03	✓
A06	5	2.621E-05	1.707E-07	2.200E-03	2.333E-03	✓
A06	10	9.175E-06	8.266E-08	2.200E-03	2.338E-03	✓
A07	1.5	1.248E-04	7.988E-07	2.200E-03	2.549E-03	✓
A07	5	1.219E-04	7.909E-07	2.200E-03	2.583E-03	✓
A07	10	1.404E-04	1.675E-07	2.200E-03	2.731E-03	✓
A08	1.5	1.337E-04	8.006E-07	2.200E-03	2.506E-03	✓
A08	5	1.308E-04	7.927E-07	2.200E-03	2.532E-03	✓
A08	10	5.839E-04	2.175E-07	2.200E-03	2.652E-03	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Zinc Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (5000 µg/m3)
A02	1.5	7.543E-04	7.612E-05	2.300E-01	2.351E-01	✓
A02	5	7.457E-04	7.579E-05	2.300E-01	2.349E-01	✓
A02	10	7.338E-04	7.526E-05	2.300E-01	2.346E-01	✓
A02	15	7.223E-04	7.469E-05	2.300E-01	2.343E-01	✓
A03	1.5	1.476E-03	5.341E-05	2.300E-01	2.368E-01	✓
A03	5	1.451E-03	5.310E-05	2.300E-01	2.365E-01	✓
A03	10	1.417E-03	5.265E-05	2.300E-01	2.361E-01	✓
A04	1.5	1.457E-02	6.778E-06	2.300E-01	2.359E-01	✓
A04	5	1.450E-02	6.799E-06	2.300E-01	2.359E-01	✓
A04	10	1.060E-02	3.995E-06	2.300E-01	2.400E-01	✓
A05	1.5	1.014E-03	3.620E-06	2.300E-01	2.345E-01	✓
A05	5	3.415E-04	1.576E-06	2.300E-01	2.346E-01	✓
A05	10	2.235E-04	1.493E-06	2.300E-01	2.348E-01	✓
A05	15	1.622E-04	1.465E-06	2.300E-01	2.348E-01	✓
A05	20	1.270E-04	1.484E-06	2.300E-01	2.348E-01	✓
A06	1.5	6.698E-04	3.589E-06	2.300E-01	2.325E-01	✓
A06	5	5.212E-04	3.395E-06	2.300E-01	2.327E-01	✓
A06	10	1.824E-04	1.644E-06	2.300E-01	2.327E-01	✓
A07	1.5	2.481E-03	1.588E-05	2.300E-01	2.369E-01	✓
A07	5	2.423E-03	1.573E-05	2.300E-01	2.376E-01	✓
A07	10	2.792E-03	3.330E-06	2.300E-01	2.406E-01	✓
A08	1.5	2.659E-03	1.592E-05	2.300E-01	2.361E-01	✓
A08	5	2.600E-03	1.576E-05	2.300E-01	2.366E-01	✓
A08	10	1.161E-02	4.325E-06	2.300E-01	2.390E-01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Daily Bitumen Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (7 µg/m3)
A02	1.5	2.645E-02	3.405E-05	0.000E+00	2.648E-02	✓
A02	5	2.540E-02	3.380E-05	0.000E+00	2.543E-02	✓
A02	10	2.624E-02	1.652E-05	0.000E+00	2.626E-02	✓
A02	15	3.206E-02	1.679E-05	0.000E+00	3.208E-02	✓
A03	1.5	3.664E-02	1.190E-05	0.000E+00	3.665E-02	✓
A03	5	3.500E-02	1.181E-05	0.000E+00	3.501E-02	✓
A03	10	3.570E-02	1.245E-05	0.000E+00	3.571E-02	✓
A04	1.5	3.728E-02	5.558E-05	0.000E+00	3.733E-02	✓
A04	5	3.950E-02	5.524E-05	0.000E+00	3.956E-02	✓
A04	10	5.621E-02	6.251E-05	0.000E+00	5.627E-02	✓
A05	1.5	2.506E-02	2.320E-05	0.000E+00	2.508E-02	✓
A05	5	2.431E-02	3.321E-05	0.000E+00	2.435E-02	✓
A05	10	2.483E-02	3.293E-05	0.000E+00	2.486E-02	✓
A05	15	2.487E-02	3.289E-05	0.000E+00	2.491E-02	✓
A05	20	2.454E-02	3.299E-05	0.000E+00	2.457E-02	✓
A06	1.5	1.369E-02	2.829E-05	0.000E+00	1.372E-02	✓
A06	5	1.351E-02	1.641E-05	0.000E+00	1.353E-02	✓
A06	10	1.403E-02	1.586E-05	0.000E+00	1.404E-02	✓
A07	1.5	4.113E-02	5.025E-06	0.000E+00	4.113E-02	✓
A07	5	4.577E-02	5.216E-06	0.000E+00	4.577E-02	✓
A07	10	7.134E-02	5.237E-06	0.000E+00	7.134E-02	✓
A08	1.5	4.508E-02	5.237E-06	0.000E+00	4.508E-02	✓
A08	5	4.985E-02	5.237E-06	0.000E+00	4.986E-02	✓
A08	10	7.340E-02	5.237E-06	0.000E+00	7.340E-02	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Acetaldehyde Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (470 µg/m3)
A02	1.5	2.741E-01	1.090E-04	1.200E+01	1.227E+01	✓
A02	5	2.613E-01	1.178E-04	1.200E+01	1.226E+01	✓
A02	10	2.467E-01	1.321E-04	1.200E+01	1.225E+01	✓
A02	15	2.357E-01	1.488E-04	1.200E+01	1.224E+01	✓
A03	1.5	3.763E-01	2.038E-04	1.200E+01	1.238E+01	✓
A03	5	3.581E-01	2.085E-04	1.200E+01	1.236E+01	✓
A03	10	3.355E-01	2.169E-04	1.200E+01	1.234E+01	✓
A04	1.5	4.240E-01	2.546E-04	1.200E+01	1.242E+01	✓
A04	5	4.177E-01	2.550E-04	1.200E+01	1.242E+01	✓
A04	10	4.840E-01	1.646E-04	1.200E+01	1.248E+01	✓
A05	1.5	2.495E-01	6.504E-05	1.200E+01	1.225E+01	✓
A05	5	2.557E-01	7.792E-05	1.200E+01	1.226E+01	✓
A05	10	2.733E-01	7.168E-05	1.200E+01	1.227E+01	✓
A05	15	2.798E-01	6.712E-05	1.200E+01	1.228E+01	✓
A05	20	2.784E-01	6.400E-05	1.200E+01	1.228E+01	✓
A06	1.5	1.691E-01	6.696E-05	1.200E+01	1.217E+01	✓
A06	5	1.734E-01	6.288E-05	1.200E+01	1.217E+01	✓
A06	10	1.745E-01	5.856E-05	1.200E+01	1.217E+01	✓
A07	1.5	8.115E-01	4.400E-06	1.200E+01	1.281E+01	✓
A07	5	8.461E-01	4.640E-06	1.200E+01	1.285E+01	✓
A07	10	8.433E-01	4.960E-06	1.200E+01	1.284E+01	✓
A08	1.5	6.301E-01	4.400E-06	1.200E+01	1.263E+01	✓
A08	5	6.590E-01	4.640E-06	1.200E+01	1.266E+01	✓
A08	10	6.653E-01	4.960E-06	1.200E+01	1.267E+01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Acetaldehyde Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (300 µg/m3)
A02	1.5	1.960E-02	1.978E-03	1.200E+01	1.213E+01	✓
A02	5	1.938E-02	1.970E-03	1.200E+01	1.213E+01	✓
A02	10	1.907E-02	1.956E-03	1.200E+01	1.212E+01	✓
A02	15	1.877E-02	1.941E-03	1.200E+01	1.211E+01	✓
A03	1.5	3.835E-02	1.388E-03	1.200E+01	1.218E+01	✓
A03	5	3.772E-02	1.380E-03	1.200E+01	1.217E+01	✓
A03	10	3.683E-02	1.368E-03	1.200E+01	1.216E+01	✓
A04	1.5	3.788E-01	1.762E-04	1.200E+01	1.215E+01	✓
A04	5	3.768E-01	1.767E-04	1.200E+01	1.215E+01	✓
A04	10	2.756E-01	1.038E-04	1.200E+01	1.226E+01	✓
A05	1.5	2.635E-02	9.408E-05	1.200E+01	1.212E+01	✓
A05	5	8.875E-03	4.096E-05	1.200E+01	1.212E+01	✓
A05	10	5.808E-03	3.880E-05	1.200E+01	1.212E+01	✓
A05	15	4.215E-03	3.808E-05	1.200E+01	1.212E+01	✓
A05	20	3.301E-03	3.856E-05	1.200E+01	1.212E+01	✓
A06	1.5	1.741E-02	9.328E-05	1.200E+01	1.207E+01	✓
A06	5	1.355E-02	8.824E-05	1.200E+01	1.207E+01	✓
A06	10	4.741E-03	4.272E-05	1.200E+01	1.207E+01	✓
A07	1.5	6.447E-02	4.128E-04	1.200E+01	1.218E+01	✓
A07	5	6.297E-02	4.087E-04	1.200E+01	1.220E+01	✓
A07	10	7.257E-02	8.656E-05	1.200E+01	1.227E+01	✓
A08	1.5	6.910E-02	4.138E-04	1.200E+01	1.216E+01	✓
A08	5	6.756E-02	4.097E-04	1.200E+01	1.217E+01	✓
A08	10	3.017E-01	1.124E-04	1.200E+01	1.223E+01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Acetaldehyde Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (9 µg/m3)
A02	1.5	1.651E-03	2.092E-03	4.407E+00	4.411E+00	✓
A02	5	1.613E-03	2.106E-03	4.407E+00	4.411E+00	✓
A02	10	1.643E-03	2.112E-03	4.407E+00	4.411E+00	✓
A02	15	1.718E-03	2.105E-03	4.407E+00	4.411E+00	✓
A04	10	6.940E-03	2.582E-03	4.407E+00	4.417E+00	✓
A05	1.5	2.900E-03	5.191E-04	4.407E+00	4.411E+00	✓
A05	5	2.648E-03	5.087E-04	4.407E+00	4.410E+00	✓
A05	10	2.392E-03	4.980E-04	4.407E+00	4.410E+00	✓
A05	15	2.192E-03	4.909E-04	4.407E+00	4.410E+00	✓
A05	20	2.019E-03	4.868E-04	4.407E+00	4.410E+00	✓
A06	1.5	1.428E-03	3.540E-04	4.407E+00	4.409E+00	✓
A06	5	1.317E-03	3.452E-04	4.407E+00	4.409E+00	✓
A06	10	1.201E-03	3.358E-04	4.407E+00	4.409E+00	✓
A07	1.5	4.686E-03	2.352E-03	4.407E+00	4.414E+00	✓
A07	5	5.262E-03	2.373E-03	4.407E+00	4.415E+00	✓
A07	10	8.171E-03	2.399E-03	4.407E+00	4.418E+00	✓
A08	1.5	4.719E-03	2.378E-03	4.407E+00	4.414E+00	✓
A08	5	5.276E-03	2.400E-03	4.407E+00	4.415E+00	✓
A08	10	8.069E-03	2.428E-03	4.407E+00	4.418E+00	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Benzene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (27 µg/m3)
A02	1.5	2.399E-01	9.541E-05	1.800E+00	2.040E+00	✓
A02	5	2.286E-01	1.030E-04	1.800E+00	2.029E+00	✓
A02	10	2.158E-01	1.156E-04	1.800E+00	2.016E+00	✓
A02	15	2.063E-01	1.302E-04	1.800E+00	2.006E+00	✓
A03	1.5	3.293E-01	1.783E-04	1.800E+00	2.129E+00	✓
A03	5	3.134E-01	1.824E-04	1.800E+00	2.114E+00	✓
A03	10	2.936E-01	1.898E-04	1.800E+00	2.094E+00	✓
A04	1.5	3.710E-01	2.228E-04	1.800E+00	2.171E+00	✓
A04	5	3.655E-01	2.232E-04	1.800E+00	2.166E+00	✓
A04	10	4.235E-01	1.441E-04	1.800E+00	2.224E+00	✓
A05	1.5	8.731E-02	5.691E-05	1.800E+00	1.887E+00	✓
A05	5	8.951E-02	6.818E-05	1.800E+00	1.890E+00	✓
A05	10	9.566E-02	6.272E-05	1.800E+00	1.896E+00	✓
A05	15	9.792E-02	5.873E-05	1.800E+00	1.898E+00	✓
A05	20	9.744E-02	5.600E-05	1.800E+00	1.897E+00	✓
A06	1.5	5.919E-02	5.859E-05	1.800E+00	1.859E+00	✓
A06	5	6.070E-02	5.502E-05	1.800E+00	1.861E+00	✓
A06	10	6.106E-02	5.124E-05	1.800E+00	1.861E+00	✓
A07	1.5	7.101E-01	3.850E-06	1.800E+00	2.510E+00	✓
A07	5	7.404E-01	4.060E-06	1.800E+00	2.540E+00	✓
A07	10	7.380E-01	4.340E-06	1.800E+00	2.538E+00	✓
A08	1.5	5.514E-01	3.850E-06	1.800E+00	2.351E+00	✓
A08	5	5.767E-01	4.060E-06	1.800E+00	2.377E+00	✓
A08	10	5.821E-01	4.340E-06	1.800E+00	2.382E+00	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Benzene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (3 µg/m3)
A02	1.5	1.715E-02	1.731E-03	1.800E+00	1.915E+00	✓
A02	5	1.696E-02	1.724E-03	1.800E+00	1.910E+00	✓
A02	10	1.669E-02	1.712E-03	1.800E+00	1.904E+00	✓
A02	15	1.643E-02	1.699E-03	1.800E+00	1.898E+00	✓
A03	1.5	3.355E-02	1.215E-03	1.800E+00	1.954E+00	✓
A03	5	3.300E-02	1.208E-03	1.800E+00	1.947E+00	✓
A03	10	3.223E-02	1.197E-03	1.800E+00	1.939E+00	✓
A04	1.5	3.314E-01	1.541E-04	1.800E+00	1.934E+00	✓
A04	5	3.297E-01	1.546E-04	1.800E+00	1.934E+00	✓
A04	10	2.411E-01	9.086E-05	1.800E+00	2.027E+00	✓
A05	1.5	2.306E-02	8.232E-05	1.800E+00	1.902E+00	✓
A05	5	7.766E-03	3.584E-05	1.800E+00	1.906E+00	✓
A05	10	5.082E-03	3.395E-05	1.800E+00	1.908E+00	✓
A05	15	3.689E-03	3.332E-05	1.800E+00	1.909E+00	✓
A05	20	2.889E-03	3.374E-05	1.800E+00	1.908E+00	✓
A06	1.5	1.523E-02	8.162E-05	1.800E+00	1.857E+00	✓
A06	5	1.185E-02	7.721E-05	1.800E+00	1.860E+00	✓
A06	10	4.149E-03	3.738E-05	1.800E+00	1.862E+00	✓
A07	1.5	5.642E-02	3.612E-04	1.800E+00	1.958E+00	✓
A07	5	5.510E-02	3.576E-04	1.800E+00	1.973E+00	✓
A07	10	6.350E-02	7.574E-05	1.800E+00	2.040E+00	✓
A08	1.5	6.047E-02	3.620E-04	1.800E+00	1.938E+00	✓
A08	5	5.912E-02	3.585E-04	1.800E+00	1.950E+00	✓
A08	10	2.640E-01	9.835E-05	1.800E+00	2.005E+00	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Benzene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (3 µg/m3)
A02	1.5	1.445E-03	1.830E-03	8.021E-01	8.054E-01	✓
A02	5	1.412E-03	1.843E-03	8.021E-01	8.053E-01	✓
A02	10	1.438E-03	1.848E-03	8.021E-01	8.054E-01	✓
A02	15	1.504E-03	1.842E-03	8.021E-01	8.054E-01	✓
A04	10	6.073E-03	2.259E-03	8.021E-01	8.104E-01	✓
A05	1.5	2.537E-03	4.542E-04	8.021E-01	8.051E-01	✓
A05	5	2.317E-03	4.451E-04	8.021E-01	8.048E-01	✓
A05	10	2.093E-03	4.358E-04	8.021E-01	8.046E-01	✓
A05	15	1.918E-03	4.295E-04	8.021E-01	8.044E-01	✓
A05	20	1.766E-03	4.259E-04	8.021E-01	8.043E-01	✓
A06	1.5	1.250E-03	3.098E-04	8.021E-01	8.036E-01	✓
A06	5	1.153E-03	3.020E-04	8.021E-01	8.035E-01	✓
A06	10	1.051E-03	2.938E-04	8.021E-01	8.034E-01	✓
A07	1.5	4.101E-03	2.058E-03	8.021E-01	8.082E-01	✓
A07	5	4.604E-03	2.077E-03	8.021E-01	8.088E-01	✓
A07	10	7.150E-03	2.099E-03	8.021E-01	8.113E-01	✓
A08	1.5	4.130E-03	2.081E-03	8.021E-01	8.083E-01	✓
A08	5	4.617E-03	2.100E-03	8.021E-01	8.088E-01	✓
A08	10	7.061E-03	2.124E-03	8.021E-01	8.113E-01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Ethylbenzene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (1000 µg/m3)
A02	1.5	1.135E-02	1.438E-02	4.430E+00	4.456E+00	✓
A02	5	1.109E-02	1.448E-02	4.430E+00	4.456E+00	✓
A02	10	1.130E-02	1.452E-02	4.430E+00	4.456E+00	✓
A02	15	1.182E-02	1.447E-02	4.430E+00	4.456E+00	✓
A04	10	4.772E-02	1.775E-02	4.430E+00	4.495E+00	✓
A05	1.5	1.994E-02	3.569E-03	4.430E+00	4.454E+00	✓
A05	5	1.821E-02	3.497E-03	4.430E+00	4.452E+00	✓
A05	10	1.644E-02	3.424E-03	4.430E+00	4.450E+00	✓
A05	15	1.507E-02	3.375E-03	4.430E+00	4.448E+00	✓
A05	20	1.388E-02	3.347E-03	4.430E+00	4.447E+00	✓
A06	1.5	9.821E-03	2.434E-03	4.430E+00	4.442E+00	✓
A06	5	9.058E-03	2.373E-03	4.430E+00	4.441E+00	✓
A06	10	8.260E-03	2.309E-03	4.430E+00	4.441E+00	✓
A07	1.5	3.222E-02	1.617E-02	4.430E+00	4.478E+00	✓
A07	5	3.618E-02	1.632E-02	4.430E+00	4.482E+00	✓
A07	10	5.618E-02	1.649E-02	4.430E+00	4.503E+00	✓
A08	1.5	3.245E-02	1.635E-02	4.430E+00	4.479E+00	✓
A08	5	3.628E-02	1.650E-02	4.430E+00	4.483E+00	✓
A08	10	5.548E-02	1.669E-02	4.430E+00	4.502E+00	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 30-mins & 1-hour Formaldehyde Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total 1-hour Formaldehyde Concentration (µg/m3)	Coverted Maximum 30-min Formaldehyde Concentration (µg/m3) [1]	Compliance with corresponding concentration limit (98.1 µg/m3 for 1-hour Formaldehyde Concentration)	Compliance with corresponding concentration limit (100 µg/m3 for 30-mins Formaldehyde Concentration)
A02	1.5	6.341E-01	2.522E-04	1.400E+01	1.463E+01	2.063E+01	✓	✓
A02	5	6.042E-01	2.723E-04	1.400E+01	1.460E+01	2.059E+01	✓	✓
A02	10	5.705E-01	3.054E-04	1.400E+01	1.457E+01	2.054E+01	✓	✓
A02	15	5.452E-01	3.441E-04	1.400E+01	1.455E+01	2.051E+01	✓	✓
A03	1.5	8.704E-01	4.712E-04	1.400E+01	1.487E+01	2.097E+01	✓	✓
A03	5	8.282E-01	4.821E-04	1.400E+01	1.483E+01	2.091E+01	✓	✓
A03	10	7.761E-01	5.015E-04	1.400E+01	1.478E+01	2.083E+01	✓	✓
A04	1.5	9.806E-01	5.889E-04	1.400E+01	1.498E+01	2.112E+01	✓	✓
A04	5	9.661E-01	5.898E-04	1.400E+01	1.497E+01	2.110E+01	✓	✓
A04	10	1.119E+00	3.807E-04	1.400E+01	1.512E+01	2.132E+01	✓	✓
A05	1.5	5.769E-01	1.504E-04	1.400E+01	1.458E+01	2.055E+01	✓	✓
A05	5	5.915E-01	1.802E-04	1.400E+01	1.459E+01	2.057E+01	✓	✓
A05	10	6.321E-01	1.658E-04	1.400E+01	1.463E+01	2.063E+01	✓	✓
A05	15	6.470E-01	1.552E-04	1.400E+01	1.465E+01	2.065E+01	✓	✓
A05	20	6.439E-01	1.480E-04	1.400E+01	1.464E+01	2.065E+01	✓	✓
A06	1.5	3.911E-01	1.548E-04	1.400E+01	1.439E+01	2.029E+01	✓	✓
A06	5	4.011E-01	1.454E-04	1.400E+01	1.440E+01	2.031E+01	✓	✓
A06	10	4.035E-01	1.354E-04	1.400E+01	1.440E+01	2.031E+01	✓	✓
A07	1.5	1.877E+00	1.018E-05	1.400E+01	1.588E+01	2.239E+01	✓	✓
A07	5	1.957E+00	1.073E-05	1.400E+01	1.596E+01	2.250E+01	✓	✓
A07	10	1.951E+00	1.147E-05	1.400E+01	1.595E+01	2.249E+01	✓	✓
A08	1.5	1.457E+00	1.018E-05	1.400E+01	1.546E+01	2.179E+01	✓	✓
A08	5	1.524E+00	1.073E-05	1.400E+01	1.552E+01	2.189E+01	✓	✓
A08	10	1.539E+00	1.147E-05	1.400E+01	1.554E+01	2.191E+01	✓	✓

Remark
[1] The predicted maximum 1-hour average formaldehyde concentration at each ASRs was converted to 30-minute average using the highest conversion factor of 1.41,as presented in Table 4.19

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Formaldehyde Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (9 µg/m3)
A02	1.5	3.820E-03	4.837E-03	6.464E+00	6.472E+00	✓
A02	5	3.731E-03	4.871E-03	6.464E+00	6.472E+00	✓
A02	10	3.800E-03	4.885E-03	6.464E+00	6.472E+00	✓
A02	15	3.975E-03	4.868E-03	6.464E+00	6.472E+00	✓
A04	10	1.605E-02	5.971E-03	6.464E+00	6.486E+00	✓
A05	1.5	6.707E-03	1.200E-03	6.464E+00	6.472E+00	✓
A05	5	6.125E-03	1.176E-03	6.464E+00	6.471E+00	✓
A05	10	5.532E-03	1.152E-03	6.464E+00	6.470E+00	✓
A05	15	5.069E-03	1.135E-03	6.464E+00	6.470E+00	✓
A05	20	4.669E-03	1.126E-03	6.464E+00	6.469E+00	✓
A06	1.5	3.304E-03	8.187E-04	6.464E+00	6.468E+00	✓
A06	5	3.047E-03	7.982E-04	6.464E+00	6.467E+00	✓
A06	10	2.778E-03	7.766E-04	6.464E+00	6.467E+00	✓
A07	1.5	1.084E-02	5.438E-03	6.464E+00	6.480E+00	✓
A07	5	1.217E-02	5.488E-03	6.464E+00	6.481E+00	✓
A07	10	1.890E-02	5.547E-03	6.464E+00	6.488E+00	✓
A08	1.5	1.091E-02	5.499E-03	6.464E+00	6.480E+00	✓
A08	5	1.220E-02	5.551E-03	6.464E+00	6.481E+00	✓
A08	10	1.866E-02	5.614E-03	6.464E+00	6.488E+00	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Quinone Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (440 µg/m3)
A02	1.5	1.654E-02	1.669E-03	0.000E+00	1.110E-01	✓
A02	5	1.635E-02	1.662E-03	0.000E+00	1.065E-01	✓
A02	10	1.609E-02	1.651E-03	0.000E+00	1.002E-01	✓
A02	15	1.584E-02	1.638E-03	0.000E+00	9.427E-02	✓
A03	1.5	3.236E-02	1.171E-03	0.000E+00	1.488E-01	✓
A03	5	3.182E-02	1.165E-03	0.000E+00	1.418E-01	✓
A03	10	3.108E-02	1.155E-03	0.000E+00	1.341E-01	✓
A04	1.5	3.196E-01	1.486E-04	0.000E+00	1.293E-01	✓
A04	5	3.179E-01	1.491E-04	0.000E+00	1.291E-01	✓
A04	10	2.325E-01	8.762E-05	0.000E+00	2.186E-01	✓
A05	1.5	2.223E-02	7.938E-05	0.000E+00	9.815E-02	✓
A05	5	7.489E-03	3.456E-05	0.000E+00	1.018E-01	✓
A05	10	4.901E-03	3.274E-05	0.000E+00	1.046E-01	✓
A05	15	3.557E-03	3.213E-05	0.000E+00	1.052E-01	✓
A05	20	2.785E-03	3.254E-05	0.000E+00	1.042E-01	✓
A06	1.5	1.469E-02	7.871E-05	0.000E+00	5.536E-02	✓
A06	5	1.143E-02	7.445E-05	0.000E+00	5.813E-02	✓
A06	10	4.000E-03	3.605E-05	0.000E+00	6.025E-02	✓
A07	1.5	5.440E-02	3.483E-04	0.000E+00	1.522E-01	✓
A07	5	5.314E-02	3.449E-04	0.000E+00	1.670E-01	✓
A07	10	6.123E-02	7.304E-05	0.000E+00	2.314E-01	✓
A08	1.5	5.830E-02	3.491E-04	0.000E+00	1.332E-01	✓
A08	5	5.701E-02	3.457E-04	0.000E+00	1.446E-01	✓
A08	10	2.546E-01	9.484E-05	0.000E+00	1.973E-01	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Toluene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (5000 µg/m3)
A02	1.5	8.568E-01	3.408E-04	1.300E+01	1.386E+01	✓
A02	5	8.165E-01	3.680E-04	1.300E+01	1.382E+01	✓
A02	10	7.709E-01	4.128E-04	1.300E+01	1.377E+01	✓
A02	15	7.367E-01	4.650E-04	1.300E+01	1.374E+01	✓
A03	1.5	1.176E+00	6.368E-04	1.300E+01	1.418E+01	✓
A03	5	1.119E+00	6.515E-04	1.300E+01	1.412E+01	✓
A03	10	1.049E+00	6.778E-04	1.300E+01	1.405E+01	✓
A04	1.5	1.325E+00	7.958E-04	1.300E+01	1.433E+01	✓
A04	5	1.305E+00	7.970E-04	1.300E+01	1.431E+01	✓
A04	10	1.513E+00	5.145E-04	1.300E+01	1.451E+01	✓
A05	1.5	7.796E-01	2.033E-04	1.300E+01	1.378E+01	✓
A05	5	7.993E-01	2.435E-04	1.300E+01	1.380E+01	✓
A05	10	8.541E-01	2.240E-04	1.300E+01	1.385E+01	✓
A05	15	8.743E-01	2.098E-04	1.300E+01	1.387E+01	✓
A05	20	8.700E-01	2.000E-04	1.300E+01	1.387E+01	✓
A06	1.5	5.285E-01	2.093E-04	1.300E+01	1.353E+01	✓
A06	5	5.420E-01	1.965E-04	1.300E+01	1.354E+01	✓
A06	10	5.452E-01	1.830E-04	1.300E+01	1.355E+01	✓
A07	1.5	2.536E+00	1.375E-05	1.300E+01	1.554E+01	✓
A07	5	2.644E+00	1.450E-05	1.300E+01	1.564E+01	✓
A07	10	2.636E+00	1.550E-05	1.300E+01	1.564E+01	✓
A08	1.5	1.969E+00	1.375E-05	1.300E+01	1.497E+01	✓
A08	5	2.060E+00	1.450E-05	1.300E+01	1.506E+01	✓
A08	10	2.079E+00	1.550E-05	1.300E+01	1.508E+01	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Toluene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (830 µg/m3)
A02	1.5	6.127E-02	6.182E-03	3.100E+01	3.141E+01	✓
A02	5	6.057E-02	6.156E-03	3.100E+01	3.139E+01	✓
A02	10	5.960E-02	6.113E-03	3.100E+01	3.137E+01	✓
A02	15	5.867E-02	6.067E-03	3.100E+01	3.135E+01	✓
A03	1.5	1.198E-01	4.338E-03	3.100E+01	3.155E+01	✓
A03	5	1.179E-01	4.313E-03	3.100E+01	3.153E+01	✓
A03	10	1.151E-01	4.276E-03	3.100E+01	3.150E+01	✓
A04	1.5	1.184E+00	5.505E-04	3.100E+01	3.148E+01	✓
A04	5	1.178E+00	5.523E-04	3.100E+01	3.148E+01	✓
A04	10	8.612E-01	3.245E-04	3.100E+01	3.181E+01	✓
A05	1.5	8.235E-02	2.940E-04	3.100E+01	3.136E+01	✓
A05	5	2.774E-02	1.280E-04	3.100E+01	3.138E+01	✓
A05	10	1.815E-02	1.213E-04	3.100E+01	3.139E+01	✓
A05	15	1.317E-02	1.190E-04	3.100E+01	3.139E+01	✓
A05	20	1.032E-02	1.205E-04	3.100E+01	3.139E+01	✓
A06	1.5	5.440E-02	2.915E-04	3.100E+01	3.121E+01	✓
A06	5	4.233E-02	2.758E-04	3.100E+01	3.122E+01	✓
A06	10	1.482E-02	1.335E-04	3.100E+01	3.122E+01	✓
A07	1.5	2.015E-01	1.290E-03	3.100E+01	3.156E+01	✓
A07	5	1.968E-01	1.277E-03	3.100E+01	3.162E+01	✓
A07	10	2.268E-01	2.705E-04	3.100E+01	3.186E+01	✓
A08	1.5	2.160E-01	1.293E-03	3.100E+01	3.149E+01	✓
A08	5	2.112E-01	1.280E-03	3.100E+01	3.154E+01	✓
A08	10	9.428E-01	3.513E-04	3.100E+01	3.173E+01	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Toluene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (420 µg/m3)
A02	1.5	5.161E-03	6.536E-03	5.214E+00	5.225E+00	✓
A02	5	5.042E-03	6.583E-03	5.214E+00	5.225E+00	✓
A02	10	5.135E-03	6.601E-03	5.214E+00	5.226E+00	✓
A02	15	5.371E-03	6.579E-03	5.214E+00	5.226E+00	✓
A04	10	2.169E-02	8.069E-03	5.214E+00	5.244E+00	✓
A05	1.5	9.063E-03	1.622E-03	5.214E+00	5.224E+00	✓
A05	5	8.276E-03	1.590E-03	5.214E+00	5.224E+00	✓
A05	10	7.475E-03	1.556E-03	5.214E+00	5.223E+00	✓
A05	15	6.849E-03	1.534E-03	5.214E+00	5.222E+00	✓
A05	20	6.309E-03	1.521E-03	5.214E+00	5.222E+00	✓
A06	1.5	4.464E-03	1.106E-03	5.214E+00	5.219E+00	✓
A06	5	4.117E-03	1.079E-03	5.214E+00	5.219E+00	✓
A06	10	3.754E-03	1.049E-03	5.214E+00	5.219E+00	✓
A07	1.5	1.465E-02	7.349E-03	5.214E+00	5.236E+00	✓
A07	5	1.644E-02	7.416E-03	5.214E+00	5.238E+00	✓
A07	10	2.554E-02	7.496E-03	5.214E+00	5.247E+00	✓
A08	1.5	1.475E-02	7.431E-03	5.214E+00	5.236E+00	✓
A08	5	1.649E-02	7.501E-03	5.214E+00	5.238E+00	✓
A08	10	2.522E-02	7.587E-03	5.214E+00	5.247E+00	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Xylene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (22000 µg/m3)
A02	1.5	2.313E+00	9.200E-04	3.950E+01	4.181E+01	✓
A02	5	2.204E+00	9.936E-04	3.950E+01	4.171E+01	✓
A02	10	2.081E+00	1.114E-03	3.950E+01	4.158E+01	✓
A02	15	1.989E+00	1.256E-03	3.950E+01	4.149E+01	✓
A03	1.5	3.176E+00	1.719E-03	3.950E+01	4.268E+01	✓
A03	5	3.022E+00	1.759E-03	3.950E+01	4.252E+01	✓
A03	10	2.831E+00	1.830E-03	3.950E+01	4.233E+01	✓
A04	1.5	3.577E+00	2.149E-03	3.950E+01	4.308E+01	✓
A04	5	3.525E+00	2.152E-03	3.950E+01	4.303E+01	✓
A04	10	4.084E+00	1.389E-03	3.950E+01	4.359E+01	✓
A05	1.5	2.105E+00	5.488E-04	3.950E+01	4.161E+01	✓
A05	5	2.158E+00	6.575E-04	3.950E+01	4.166E+01	✓
A05	10	2.306E+00	6.048E-04	3.950E+01	4.181E+01	✓
A05	15	2.361E+00	5.663E-04	3.950E+01	4.186E+01	✓
A05	20	2.349E+00	5.400E-04	3.950E+01	4.185E+01	✓
A06	1.5	1.427E+00	5.650E-04	3.950E+01	4.093E+01	✓
A06	5	1.463E+00	5.306E-04	3.950E+01	4.096E+01	✓
A06	10	1.472E+00	4.941E-04	3.950E+01	4.097E+01	✓
A07	1.5	6.847E+00	3.713E-05	3.950E+01	4.635E+01	✓
A07	5	7.139E+00	3.915E-05	3.950E+01	4.664E+01	✓
A07	10	7.116E+00	4.185E-05	3.950E+01	4.662E+01	✓
A08	1.5	5.317E+00	3.713E-05	3.950E+01	4.482E+01	✓
A08	5	5.561E+00	3.915E-05	3.950E+01	4.506E+01	✓
A08	10	5.613E+00	4.185E-05	3.950E+01	4.511E+01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Xylene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (22000 µg/m3)
A02	1.5	2.313E+00	9.200E-04	4.700E+01	4.931E+01	✓
A02	5	2.204E+00	9.936E-04	4.700E+01	4.921E+01	✓
A02	10	2.081E+00	1.114E-03	4.700E+01	4.908E+01	✓
A02	15	1.989E+00	1.256E-03	4.700E+01	4.899E+01	✓
A03	1.5	3.176E+00	1.719E-03	4.700E+01	5.018E+01	✓
A03	5	3.022E+00	1.759E-03	4.700E+01	5.002E+01	✓
A03	10	2.831E+00	1.830E-03	4.700E+01	4.983E+01	✓
A04	1.5	3.577E+00	2.149E-03	4.700E+01	5.058E+01	✓
A04	5	3.525E+00	2.152E-03	4.700E+01	5.053E+01	✓
A04	10	4.084E+00	1.389E-03	4.700E+01	5.109E+01	✓
A05	1.5	2.105E+00	5.488E-04	4.700E+01	4.911E+01	✓
A05	5	2.158E+00	6.575E-04	4.700E+01	4.916E+01	✓
A05	10	2.306E+00	6.048E-04	4.700E+01	4.931E+01	✓
A05	15	2.361E+00	5.663E-04	4.700E+01	4.936E+01	✓
A05	20	2.349E+00	5.400E-04	4.700E+01	4.935E+01	✓
A06	1.5	1.427E+00	5.650E-04	4.700E+01	4.843E+01	✓
A06	5	1.463E+00	5.306E-04	4.700E+01	4.846E+01	✓
A06	10	1.472E+00	4.941E-04	4.700E+01	4.847E+01	✓
A07	1.5	6.847E+00	3.713E-05	4.700E+01	5.385E+01	✓
A07	5	7.139E+00	3.915E-05	4.700E+01	5.414E+01	✓
A07	10	7.116E+00	4.185E-05	4.700E+01	5.412E+01	✓
A08	1.5	5.317E+00	3.713E-05	4.700E+01	5.232E+01	✓
A08	5	5.561E+00	3.915E-05	4.700E+01	5.256E+01	✓
A08	10	5.613E+00	4.185E-05	4.700E+01	5.261E+01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Xylene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (435000 µg/m3)
A02	1.5	1.654E-01	1.669E-02	4.700E+01	4.718E+01	✓
A02	5	1.635E-01	1.662E-02	4.700E+01	4.718E+01	✓
A02	10	1.609E-01	1.651E-02	4.700E+01	4.718E+01	✓
A02	15	1.584E-01	1.638E-02	4.700E+01	4.717E+01	✓
A03	1.5	3.236E-01	1.171E-02	4.700E+01	4.734E+01	✓
A03	5	3.182E-01	1.165E-02	4.700E+01	4.733E+01	✓
A03	10	3.108E-01	1.155E-02	4.700E+01	4.732E+01	✓
A04	1.5	3.196E+00	1.486E-03	4.700E+01	5.020E+01	✓
A04	5	3.179E+00	1.491E-03	4.700E+01	5.018E+01	✓
A04	10	2.325E+00	8.762E-04	4.700E+01	4.933E+01	✓
A05	1.5	2.223E-01	7.938E-04	4.700E+01	4.722E+01	✓
A05	5	7.489E-02	3.456E-04	4.700E+01	4.708E+01	✓
A05	10	4.901E-02	3.274E-04	4.700E+01	4.705E+01	✓
A05	15	3.557E-02	3.213E-04	4.700E+01	4.704E+01	✓
A05	20	2.785E-02	3.254E-04	4.700E+01	4.703E+01	✓
A06	1.5	1.469E-01	7.871E-04	4.700E+01	4.715E+01	✓
A06	5	1.143E-01	7.445E-04	4.700E+01	4.712E+01	✓
A06	10	4.000E-02	3.605E-04	4.700E+01	4.704E+01	✓
A07	1.5	5.440E-01	3.483E-03	4.700E+01	4.755E+01	✓
A07	5	5.314E-01	3.449E-03	4.700E+01	4.753E+01	✓
A07	10	6.123E-01	7.304E-04	4.700E+01	4.761E+01	✓
A08	1.5	5.830E-01	3.491E-03	4.700E+01	4.759E+01	✓
A08	5	5.701E-01	3.457E-03	4.700E+01	4.757E+01	✓
A08	10	2.546E+00	9.484E-04	4.700E+01	4.955E+01	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Xylene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (100 µg/m3)
A02	1.5	1.393E-02	1.765E-02	2.178E+01	2.181E+01	✓
A02	5	1.361E-02	1.777E-02	2.178E+01	2.181E+01	✓
A02	10	1.386E-02	1.782E-02	2.178E+01	2.181E+01	✓
A02	15	1.450E-02	1.776E-02	2.178E+01	2.181E+01	✓
A04	10	5.856E-02	2.179E-02	2.178E+01	2.186E+01	✓
A05	1.5	2.447E-02	4.380E-03	2.178E+01	2.181E+01	✓
A05	5	2.234E-02	4.292E-03	2.178E+01	2.180E+01	✓
A05	10	2.018E-02	4.202E-03	2.178E+01	2.180E+01	✓
A05	15	1.849E-02	4.142E-03	2.178E+01	2.180E+01	✓
A05	20	1.703E-02	4.107E-03	2.178E+01	2.180E+01	✓
A06	1.5	1.205E-02	2.987E-03	2.178E+01	2.179E+01	✓
A06	5	1.112E-02	2.913E-03	2.178E+01	2.179E+01	✓
A06	10	1.014E-02	2.833E-03	2.178E+01	2.179E+01	✓
A07	1.5	3.954E-02	1.984E-02	2.178E+01	2.184E+01	✓
A07	5	4.440E-02	2.002E-02	2.178E+01	2.184E+01	✓
A07	10	6.895E-02	2.024E-02	2.178E+01	2.187E+01	✓
A08	1.5	3.982E-02	2.006E-02	2.178E+01	2.184E+01	✓
A08	5	4.452E-02	2.025E-02	2.178E+01	2.184E+01	✓
A08	10	6.808E-02	2.048E-02	2.178E+01	2.187E+01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Xylene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (22000 µg/m3)
A02	1.5	2.313E+00	9.200E-04	3.200E+01	3.431E+01	✓
A02	5	2.204E+00	9.936E-04	3.200E+01	3.421E+01	✓
A02	10	2.081E+00	1.114E-03	3.200E+01	3.408E+01	✓
A02	15	1.989E+00	1.256E-03	3.200E+01	3.399E+01	✓
A03	1.5	3.176E+00	1.719E-03	3.200E+01	3.518E+01	✓
A03	5	3.022E+00	1.759E-03	3.200E+01	3.502E+01	✓
A03	10	2.831E+00	1.830E-03	3.200E+01	3.483E+01	✓
A04	1.5	3.577E+00	2.149E-03	3.200E+01	3.558E+01	✓
A04	5	3.525E+00	2.152E-03	3.200E+01	3.553E+01	✓
A04	10	4.084E+00	1.389E-03	3.200E+01	3.609E+01	✓
A05	1.5	2.105E+00	5.488E-04	3.200E+01	3.411E+01	✓
A05	5	2.158E+00	6.575E-04	3.200E+01	3.416E+01	✓
A05	10	2.306E+00	6.048E-04	3.200E+01	3.431E+01	✓
A05	15	2.361E+00	5.663E-04	3.200E+01	3.436E+01	✓
A05	20	2.349E+00	5.400E-04	3.200E+01	3.435E+01	✓
A06	1.5	1.427E+00	5.650E-04	3.200E+01	3.343E+01	✓
A06	5	1.463E+00	5.306E-04	3.200E+01	3.346E+01	✓
A06	10	1.472E+00	4.941E-04	3.200E+01	3.347E+01	✓
A07	1.5	6.847E+00	3.713E-05	3.200E+01	3.885E+01	✓
A07	5	7.139E+00	3.915E-05	3.200E+01	3.914E+01	✓
A07	10	7.116E+00	4.185E-05	3.200E+01	3.912E+01	✓
A08	1.5	5.317E+00	3.713E-05	3.200E+01	3.732E+01	✓
A08	5	5.561E+00	3.915E-05	3.200E+01	3.756E+01	✓
A08	10	5.613E+00	4.185E-05	3.200E+01	3.761E+01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Hourly Benzo(a)pyrene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.387 µg/m3)
A02	1.5	2.656E-07	1.056E-10	2.600E-04	2.603E-04	✓
A02	5	2.531E-07	1.141E-10	2.600E-04	2.603E-04	✓
A02	10	2.390E-07	1.280E-10	2.600E-04	2.602E-04	✓
A02	15	2.284E-07	1.442E-10	2.600E-04	2.602E-04	✓
A03	1.5	3.646E-07	1.974E-10	2.600E-04	2.604E-04	✓
A03	5	3.469E-07	2.020E-10	2.600E-04	2.603E-04	✓
A03	10	3.251E-07	2.101E-10	2.600E-04	2.603E-04	✓
A04	1.5	4.108E-07	2.467E-10	2.600E-04	2.604E-04	✓
A04	5	4.047E-07	2.471E-10	2.600E-04	2.604E-04	✓
A04	10	4.689E-07	1.595E-10	2.600E-04	2.605E-04	✓
A05	1.5	2.417E-07	6.301E-11	2.600E-04	2.602E-04	✓
A05	5	2.478E-07	7.549E-11	2.600E-04	2.602E-04	✓
A05	10	2.648E-07	6.944E-11	2.600E-04	2.603E-04	✓
A05	15	2.710E-07	6.502E-11	2.600E-04	2.603E-04	✓
A05	20	2.697E-07	6.200E-11	2.600E-04	2.603E-04	✓
A06	1.5	1.638E-07	6.487E-11	2.600E-04	2.602E-04	✓
A06	5	1.680E-07	6.092E-11	2.600E-04	2.602E-04	✓
A06	10	1.690E-07	5.673E-11	2.600E-04	2.602E-04	✓
A07	1.5	7.862E-07	4.263E-12	2.600E-04	2.608E-04	✓
A07	5	8.197E-07	4.495E-12	2.600E-04	2.608E-04	✓
A07	10	8.171E-07	4.805E-12	2.600E-04	2.608E-04	✓
A08	1.5	6.104E-07	4.263E-12	2.600E-04	2.606E-04	✓
A08	5	6.385E-07	4.495E-12	2.600E-04	2.606E-04	✓
A08	10	6.445E-07	4.805E-12	2.600E-04	2.606E-04	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest Daily Benzo(a)pyrene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.000873 µg/m3)
A02	1.5	4.405E-08	1.845E-09	2.600E-04	2.600E-04	✓
A02	5	4.230E-08	1.835E-09	2.600E-04	2.600E-04	✓
A02	10	4.370E-08	8.931E-10	2.600E-04	2.600E-04	✓
A02	15	5.340E-08	9.015E-10	2.600E-04	2.601E-04	✓
A03	1.5	6.102E-08	6.402E-10	2.600E-04	2.601E-04	✓
A03	5	5.829E-08	6.368E-10	2.600E-04	2.601E-04	✓
A03	10	5.945E-08	6.728E-10	2.600E-04	2.601E-04	✓
A04	1.5	6.209E-08	3.020E-09	2.600E-04	2.601E-04	✓
A04	5	6.579E-08	3.003E-09	2.600E-04	2.601E-04	✓
A04	10	9.361E-08	3.408E-09	2.600E-04	2.601E-04	✓
A05	1.5	4.174E-08	1.235E-09	2.600E-04	2.600E-04	✓
A05	5	4.049E-08	1.792E-09	2.600E-04	2.600E-04	✓
A05	10	4.136E-08	1.781E-09	2.600E-04	2.600E-04	✓
A05	15	4.143E-08	1.779E-09	2.600E-04	2.600E-04	✓
A05	20	4.086E-08	1.787E-09	2.600E-04	2.600E-04	✓
A06	1.5	2.280E-08	1.521E-09	2.600E-04	2.600E-04	✓
A06	5	2.226E-08	1.489E-09	2.600E-04	2.600E-04	✓
A06	10	2.336E-08	8.450E-10	2.600E-04	2.600E-04	✓
A07	1.5	6.850E-08	2.709E-10	2.600E-04	2.601E-04	✓
A07	5	7.623E-08	2.796E-10	2.600E-04	2.601E-04	✓
A07	10	1.188E-07	2.790E-10	2.600E-04	2.601E-04	✓
A08	1.5	7.507E-08	2.809E-10	2.600E-04	2.601E-04	✓
A08	5	8.303E-08	2.802E-10	2.600E-04	2.601E-04	✓
A08	10	1.222E-07	2.795E-10	2.600E-04	2.601E-04	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Benzo(a)pyrene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (0.002 µg/m3)
A02	1.5	1.600E-09	2.026E-09	6.636E-05	6.637E-05	✓
A02	5	1.563E-09	2.041E-09	6.636E-05	6.637E-05	✓
A02	10	1.592E-09	2.046E-09	6.636E-05	6.637E-05	✓
A02	15	1.665E-09	2.039E-09	6.636E-05	6.637E-05	✓
A04	10	6.724E-09	2.501E-09	6.636E-05	6.637E-05	✓
A05	1.5	2.809E-09	5.029E-10	6.636E-05	6.637E-05	✓
A05	5	2.566E-09	4.928E-10	6.636E-05	6.637E-05	✓
A05	10	2.317E-09	4.825E-10	6.636E-05	6.637E-05	✓
A05	15	2.123E-09	4.755E-10	6.636E-05	6.637E-05	✓
A05	20	1.956E-09	4.716E-10	6.636E-05	6.637E-05	✓
A06	1.5	1.384E-09	3.430E-10	6.636E-05	6.637E-05	✓
A06	5	1.276E-09	3.344E-10	6.636E-05	6.637E-05	✓
A06	10	1.164E-09	3.253E-10	6.636E-05	6.637E-05	✓
A07	1.5	4.540E-09	2.278E-09	6.636E-05	6.637E-05	✓
A07	5	5.098E-09	2.299E-09	6.636E-05	6.637E-05	✓
A07	10	7.917E-09	2.324E-09	6.636E-05	6.637E-05	✓
A08	1.5	4.572E-09	2.304E-09	6.636E-05	6.637E-05	✓
A08	5	5.112E-09	2.325E-09	6.636E-05	6.637E-05	✓
A08	10	7.817E-09	2.352E-09	6.636E-05	6.637E-05	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Naphthalene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (50000 µg/m3)
A02	1.5	2.205E-03	2.226E-04	4.482E-01	4.630E-01	✓
A02	5	2.180E-03	2.216E-04	4.482E-01	4.624E-01	✓
A02	10	2.145E-03	2.201E-04	4.482E-01	4.616E-01	✓
A02	15	2.112E-03	2.184E-04	4.482E-01	4.608E-01	✓
A03	1.5	4.314E-03	1.562E-04	4.482E-01	4.681E-01	✓
A03	5	4.243E-03	1.553E-04	4.482E-01	4.671E-01	✓
A03	10	4.144E-03	1.539E-04	4.482E-01	4.661E-01	✓
A04	1.5	4.261E-02	1.982E-05	4.482E-01	4.655E-01	✓
A04	5	4.239E-02	1.988E-05	4.482E-01	4.654E-01	✓
A04	10	3.100E-02	1.168E-05	4.482E-01	4.774E-01	✓
A05	1.5	2.964E-03	1.058E-05	4.482E-01	4.613E-01	✓
A05	5	9.985E-04	4.608E-06	4.482E-01	4.618E-01	✓
A05	10	6.534E-04	4.365E-06	4.482E-01	4.622E-01	✓
A05	15	4.742E-04	4.284E-06	4.482E-01	4.622E-01	✓
A05	20	3.714E-04	4.338E-06	4.482E-01	4.621E-01	✓
A06	1.5	1.958E-03	1.049E-05	4.482E-01	4.556E-01	✓
A06	5	1.524E-03	9.927E-06	4.482E-01	4.560E-01	✓
A06	10	5.334E-04	4.806E-06	4.482E-01	4.563E-01	✓
A07	1.5	7.253E-03	4.644E-05	4.482E-01	4.685E-01	✓
A07	5	7.085E-03	4.598E-05	4.482E-01	4.705E-01	✓
A07	10	8.164E-03	9.738E-06	4.482E-01	4.791E-01	✓
A08	1.5	7.774E-03	4.655E-05	4.482E-01	4.660E-01	✓
A08	5	7.601E-03	4.609E-05	4.482E-01	4.675E-01	✓
A08	10	3.394E-02	1.265E-05	4.482E-01	4.745E-01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Annual Naphthalene Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (10 µg/m3)
A02	1.5	1.858E-04	2.353E-04	2.920E-01	2.924E-01	✓
A02	5	1.815E-04	2.370E-04	2.920E-01	2.924E-01	✓
A02	10	1.849E-04	2.376E-04	2.920E-01	2.924E-01	✓
A02	15	1.933E-04	2.368E-04	2.920E-01	2.924E-01	✓
A04	10	7.808E-04	2.905E-04	2.920E-01	2.930E-01	✓
A05	1.5	3.262E-04	5.840E-05	2.920E-01	2.923E-01	✓
A05	5	2.979E-04	5.723E-05	2.920E-01	2.923E-01	✓
A05	10	2.691E-04	5.603E-05	2.920E-01	2.923E-01	✓
A05	15	2.466E-04	5.522E-05	2.920E-01	2.923E-01	✓
A05	20	2.271E-04	5.476E-05	2.920E-01	2.922E-01	✓
A06	1.5	1.607E-04	3.983E-05	2.920E-01	2.922E-01	✓
A06	5	1.482E-04	3.883E-05	2.920E-01	2.921E-01	✓
A06	10	1.351E-04	3.778E-05	2.920E-01	2.921E-01	✓
A07	1.5	5.273E-04	2.646E-04	2.920E-01	2.927E-01	✓
A07	5	5.920E-04	2.670E-04	2.920E-01	2.928E-01	✓
A07	10	9.193E-04	2.698E-04	2.920E-01	2.931E-01	✓
A08	1.5	5.309E-04	2.675E-04	2.920E-01	2.927E-01	✓
A08	5	5.936E-04	2.700E-04	2.920E-01	2.928E-01	✓
A08	10	9.078E-04	2.731E-04	2.920E-01	2.931E-01	✓

Remark
Worst affected level of each ASR is highlighted.

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Appendix 4.9 Detailed Prediction Results (Operation Phase, Year 2028)

Tsing Yi North Underground Quarry (Year 2028)

Highest 8-Hour Crotonaldehyde Concentration (µg/m3)

ASR	Height (mAG)	Asphalt Production	Adjacent Industrial Source	Background	Total	Compliance with corresponding concentration limit (860 µg/m3)
A02	1.5	1.777E-03	1.793E-04	7.000E-02	8.192E-02	✓
A02	5	1.756E-03	1.785E-04	7.000E-02	8.144E-02	✓
A02	10	1.728E-03	1.773E-04	7.000E-02	8.077E-02	✓
A02	15	1.701E-03	1.759E-04	7.000E-02	8.013E-02	✓
A03	1.5	3.475E-03	1.258E-04	7.000E-02	8.598E-02	✓
A03	5	3.418E-03	1.251E-04	7.000E-02	8.523E-02	✓
A03	10	3.338E-03	1.240E-04	7.000E-02	8.441E-02	✓
A04	1.5	3.433E-02	1.596E-05	7.000E-02	8.388E-02	✓
A04	5	3.415E-02	1.602E-05	7.000E-02	8.387E-02	✓
A04	10	2.498E-02	9.411E-06	7.000E-02	9.348E-02	✓
A05	1.5	2.388E-03	8.526E-06	7.000E-02	8.054E-02	✓
A05	5	8.044E-04	3.712E-06	7.000E-02	8.094E-02	✓
A05	10	5.264E-04	3.516E-06	7.000E-02	8.123E-02	✓
A05	15	3.820E-04	3.451E-06	7.000E-02	8.130E-02	✓
A05	20	2.992E-04	3.495E-06	7.000E-02	8.119E-02	✓
A06	1.5	1.578E-03	8.454E-06	7.000E-02	7.595E-02	✓
A06	5	1.228E-03	7.997E-06	7.000E-02	7.624E-02	✓
A06	10	4.297E-04	3.872E-06	7.000E-02	7.647E-02	✓
A07	1.5	5.843E-03	3.741E-05	7.000E-02	8.635E-02	✓
A07	5	5.707E-03	3.704E-05	7.000E-02	8.794E-02	✓
A07	10	6.577E-03	7.845E-06	7.000E-02	9.485E-02	✓
A08	1.5	6.263E-03	3.750E-05	7.000E-02	8.431E-02	✓
A08	5	6.123E-03	3.713E-05	7.000E-02	8.553E-02	✓
A08	10	2.734E-02	1.019E-05	7.000E-02	9.119E-02	✓

Remark
Worst affected level of each ASR is highlighted.

Appendix 4.10

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel Type in MTIA and AQM

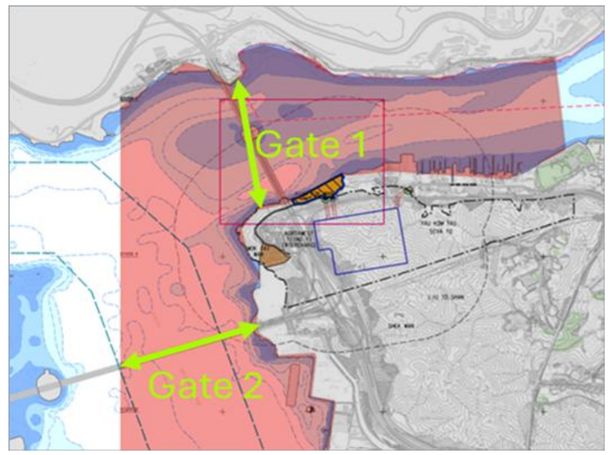
No.	Marine Traffic TYPE		LOA (m)	EPD TYPE (OG)	EPD TYPE (RT)
1	OGV	Ocean Going Vessel	>100	Chemical Carrier/Tanker Conventional Cargo Vessel Cruise/Ferry Dry Bulk Carrier Fully Cellular Container Vessel Gas Carrier/Tanker Oil Tanker Roll On/Roll Off Semi-container Vessel	
2	RTV	Rivertrade Vessel	<100		Chemical Carrier/Tanker Conventional Cargo Vessel Dry Bulk Carrier Fishing/Fish Processing Vessel Fully Cellular Container Vessel Gas Carrier/Tanker Lighter/Barge/Cargo Junk Oil Tanker Pleasure Vessel Roll On/Roll Off Semi-container Vessel
3	TT	Tug and Tow			
4	FF / CBF	Fast Ferry or Cross Boundary Ferry			Cruise/Ferry
5	LF	Local Ferry or Domestic Ferry			
6	FL	Fast Launch			
7	SC	Small Craft			

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

2043 Hourly Traffic Profile (No. of Moves per Day during Each Hour)

		Hour per Day																							
Gate No.	ShipType	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Total
1	OG	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
1	RT	1.8	2.4	2.2	1.5	1.9	2.0	2.5	4.2	4.3	3.0	3.3	3.8	3.8	3.2	3.1	3.3	3.4	3.6	3.5	2.1	2.2	2.0	1.9	2.0	67
1	TT	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.0	0.1	0.0	0.1	0.2	2
1	FF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
1	LF	0.0	0.0	0.0	0.0	0.0	0.0	0.6	9.2	1.9	0.5	2.1	0.2	0.3	2.5	0.3	0.6	2.7	0.7	8.5	3.2	1.4	1.3	0.0	0.0	36
1	FL	0.0	0.0	0.0	0.8	0.0	0.0	1.7	0.9	0.9	0.9	0.9	1.7	0.9	0.9	0.0	0.0	0.0	0.0	0.8	0.8	0.0	0.0	0.8	0.0	12
1	SC	1.3	1.8	1.2	1.0	0.7	3.5	4.9	15.1	6.2	5.4	4.9	8.1	5.5	4.4	6.2	6.0	4.9	7.9	15.1	4.2	1.5	1.8	2.7	2.7	117
																										234

		Hour per Day																							
Gate No.	ShipType	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Daily Total
2	OG	1.8	1.8	1.5	1.7	1.3	1.8	1.6	1.8	1.8	1.9	2.0	2.0	2.0	2.0	2.4	1.4	1.9	2.0	1.7	1.6	1.5	1.6	1.3	1.6	42
2	RT	2.3	2.2	1.7	2.0	2.0	3.7	2.6	3.6	4.6	3.3	4.0	4.4	3.9	4.0	4.5	4.4	5.0	5.1	4.5	3.8	3.8	3.7	2.3	2.6	84
2	TT	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	1.0	1.0	0.5	0.5	0.5	0.0	0.5	0.5	1.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	10
2	FF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	2.9	2.2	1.8	2.7	1.3	0.1	2.2	1.8	4.3	1.6	3.0	1.7	0.6	0.0	0.0	0.0	27
2	LF	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.7	1.1	1.5	1.1	0.5	0.7	0.9	0.7	0.6	1.0	0.8	2.0	2.0	1.2	1.1	0.6	0.4	19
2	FL	0.0	0.0	0.0	0.3	0.0	0.0	0.7	0.3	0.7	0.7	0.4	0.4	0.7	1.4	0.4	0.4	0.4	0.3	0.3	0.3	0.0	0.0	0.3	0.0	8
2	SC	2.5	2.8	2.8	2.5	2.4	5.0	3.2	19.3	10.2	8.6	10.8	10.0	7.4	5.9	7.8	9.0	8.4	11.1	13.0	5.6	3.1	3.4	3.8	3.4	162
																										352



Notes:
The marine traffic is provided by Marine Traffic Consultant

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Average Speed

Gate #	Ship Type	Average Speed (Knots)
1	RT	6
1	TT	4
1	LF	14
1	FL	10
1	SC	7

Gate #	Ship Type	Average Speed (Knots)
2	OG	12
2	RT	6
2	TT	3
2	FF	30
2	LF	18
2	FL	10
2	SC	7

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Across Ting Kau Bridge, RTV)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	*Vessel Type [1][2]*	*Main Engine (ME) Type [3]*	*Fuel [4]*	*GRT Sub-group [5]*	*Main Engine Power (kW) [6]*	*SO_2 Emission Factors_ME (g/kWh) [7]*	*NOx Emission Factors_ME (g/kWh) [7]*	*RSP Emission Factors_ME (g/kWh) [7]*	*FSP Emission Factor_ME (g/kWh) [7]*
TKBR01	Fully Cellular Container Vessel	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	704	0.21	10.0	0.17	0.16
TKBR02	Conventional Cargo Vessel	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	654	0.21	10.0	0.17	0.16
TKBR03	Dry Bulk Carrier	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	744	0.21	10.0	0.17	0.16
TKBR04	Semi-container Vessel	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	626	0.21	10.0	0.17	0.16
TKBR05	Gas Carrier/Tanker	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	1565	0.21	13.2	0.17	0.16
TKBR06	Chemical Carrier/Tanker	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	1565	0.21	13.2	0.17	0.16
TKBR07	Oil Tanker	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	1565	0.21	13.2	0.17	0.16
TKBR08	Lighter/Barge/Cargo Junk	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	727	0.21	10.0	0.17	0.16

Calculation of ME Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot) [8]*	*Operation Mode^*	*Maximum Length of Sailing Route (nautical miles) [8]*	*Time-in-mode (hr) [8]*	*Load Factor [9]*	*SO2 Emission Rate_ME (g/s-trip) [10]*	*NOx Emission Rate_ME (g/s-trip) [10]*	*RSP Emission Rate_ME (g/s-trip) [10]*	*FSP Emission Rate_ME (g/s-trip) [10]*
TKBR01	Fully Cellular Container Vessel	6	Maneuvering	0.851	0.1318	0.3	1.610E-03	7.731E-02	1.286E-03	1.247E-03
TKBR02	Conventional Cargo Vessel	6	Maneuvering	0.851	0.1318	0.3	1.495E-03	7.182E-02	1.195E-03	1.159E-03
TKBR03	Dry Bulk Carrier	6	Maneuvering	0.851	0.1318	0.3	1.701E-03	8.171E-02	1.359E-03	1.318E-03
TKBR04	Semi-container Vessel	6	Maneuvering	0.851	0.1318	0.3	1.431E-03	6.875E-02	1.144E-03	1.109E-03
TKBR05	Gas Carrier/Tanker	6	Maneuvering	0.851	0.1318	0.3	3.579E-03	2.269E-01	2.859E-03	2.773E-03
TKBR06	Chemical Carrier/Tanker	6	Maneuvering	0.851	0.1318	0.3	3.579E-03	2.269E-01	2.859E-03	2.773E-03
TKBR07	Oil Tanker	6	Maneuvering	0.851	0.1318	0.3	3.579E-03	2.269E-01	2.859E-03	2.773E-03
TKBR08	Lighter/Barge/Cargo Junk	6	Maneuvering	0.851	0.1318	0.3	1.662E-03	7.984E-02	1.328E-03	1.288E-03

Notes:

* Unless specified otherwise, references were made to Study on Marine Vessels Emission Inventory (MVEIS)

^ Operation mode refers to Table 3-24 of MVEIS.

[1] No breakdown of RTV types are available in the traffic data. Therefore, vessel types catalogized by the Marine Department is adopted to breakdown the marine traffic data. (https://www.mardep.gov.hk/filemanager/en/share/fact/pdf/portstat_2_y_a2.pdf)

[2] According to data from marine consultants, tugs and cross boundary ferry are classified as an independent vessel type and are consequently excluded from calculation of marine emission of RTV.

[3] The Main Engine type refers to S4.2.6 of MVEIS

[4] According to the Air Pollution Control (Marine Light Diesel) Regulation, the sulphur content of locally supplied marine light diesel is capped at 0.05%; Locally supplied marine light diesel oil are assumed to be used for refueling RTVs in Hong Kong.

[5] The GRT sub-group refers to Table 4-5; the highest GRT for each vessel type is adopted as a conservative approach.

[6] The average ME Power refers Table 4-5 of MVEIS

[7] — The SO2 emission factor is calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The emission factors for NOx refer to Table 4-16 of MVEIS.
— The RSP emission factors for Main Engine were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[8] The average speed and sailing route are provided by marine traffic consultant. The time-in-mode is calculated as: Time-in-mode (hr) = Maximun Length of Sailing Route within Assessment Boundary (nautical miles) / Average speed (knot)

[9] The ME Load Factor refers to Table 4-7 of MVEIS

[10] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessel Type*	*GRT Sub-group*	*Auxiliary Engine Power (kW) [1]*	*SO2 Emission Factors_AE (g/kWh) [2]*	*NOx Emission Factors_AE (g/kWh) [2]*	*RSP Emission Factors_AE (g/kWh) [2]*	*FSP Emission Factor_AE (g/kWh) [2]*
TKBR01	Fully Cellular Container Vessel	GRT >= 1000	115	0.21	10	0.17	0.16
TKBR02	Conventional Cargo Vessel	GRT >= 1000	115	0.21	10	0.17	0.16
TKBR03	Dry Bulk Carrier	GRT >= 1000	115	0.21	10	0.17	0.16
TKBR04	Semi-container Vessel	GRT >= 1000	115	0.21	10	0.17	0.16
TKBR05	Gas Carrier/Tanker	GRT >= 1000	375	0.21	10	0.17	0.16
TKBR06	Chemical Carrier/Tanker	GRT >= 1000	375	0.21	10	0.17	0.16
TKBR07	Oil Tanker	GRT >= 1000	375	0.21	10	0.17	0.16
TKBR08	Lighter/Barge/Cargo Junk	GRT >= 1000	116	0.21	10	0.17	0.16

Calculation of AE Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [3]*	*SO2 Emission Rate_AE (g/s-trip) [4]*	*NOx Emission Rate_AE (g/s-trip) [4]*	*RSP Emission Rate_AE (g/s-trip) [4]*	*FSP Emission Rate_AE (g/s-trip) [4]*
TKBR01	Fully Cellular Container Vessel	6	Maneuvering	0.851	0.1318	0.43	3.769E-04	1.810E-02	3.011E-04	2.921E-04
TKBR02	Conventional Cargo Vessel	6	Maneuvering	0.851	0.1318	0.43	3.769E-04	1.810E-02	3.011E-04	2.921E-04
TKBR03	Dry Bulk Carrier	6	Maneuvering	0.851	0.1318	0.43	3.769E-04	1.810E-02	3.011E-04	2.921E-04
TKBR04	Semi-container Vessel	6	Maneuvering	0.851	0.1318	0.43	3.769E-04	1.810E-02	3.011E-04	2.921E-04
TKBR05	Gas Carrier/Tanker	6	Maneuvering	0.851	0.1318	0.43	1.229E-03	5.903E-02	9.819E-04	9.525E-04
TKBR06	Chemical Carrier/Tanker	6	Maneuvering	0.851	0.1318	0.43	1.229E-03	5.903E-02	9.819E-04	9.525E-04
TKBR07	Oil Tanker	6	Maneuvering	0.851	0.1318	0.43	1.229E-03	5.903E-02	9.819E-04	9.525E-04
TKBR08	Lighter/Barge/Cargo Junk	6	Maneuvering	0.851	0.1318	0.43	3.802E-04	1.826E-02	3.037E-04	2.946E-04

Notes

[1] The AE Power refers to Table 4-6 of MVEIS

[2] — The SO2 emission factor is calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The emission factors for NOx refer to Table 4-16 of MVEIS.
— The RSP emission factors for Main Engine were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[3] The AE Load Factors refer to Table 4-10 of MVEIS

[4] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Total Emission Rate

Vessel ID	*Total SO2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*
TKBR01	1.987E-03	9.542E-02	1.587E-03	1.540E-03
TKBR02	1.872E-03	8.993E-02	1.496E-03	1.451E-03
TKBR03	2.078E-03	9.981E-02	1.660E-03	1.610E-03
TKBR04	1.808E-03	8.685E-02	1.445E-03	1.401E-03
TKBR05	4.808E-03	2.859E-01	3.841E-03	3.726E-03
TKBR06	4.808E-03	2.859E-01	3.841E-03	3.726E-03
TKBR07	4.808E-03	2.859E-01	3.841E-03	3.726E-03
TKBR08	2.043E-03	9.810E-02	1.632E-03	1.583E-03

Notes

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Proportion of Arrivals for Each Vessel Type

Vessel ID	*Vessal Type*	*Number of Arrivals in 2025 [1]*	*Proportion of Arrivals by vessel type*
TKBR01	Fully Cellular Container Vessel	21550	52.0%
TKBR02	Conventional Cargo Vessel	2209	5.3%
TKBR03	Dry Bulk Carrier	7695	18.6%
TKBR04	Semi-container Vessel	9100	22.0%
TKBR05	Gas Carrier/Tanker	149	0.4%
TKBR06	Chemical Carrier/Tanker	217	0.5%
TKBR07	Oil Tanker	265	0.6%
TKBR08	Lighter/Barge/Cargo Junk	224	0.5%

Notes:

[15] The number of arrivals in 2025 refers to statistics published by Marine Department (https://www.mardep.gov.hk/filemanager/en/share/fact/pdf/portstat_1_y_a2.pdf).

Hourly Traffic Volume

	Hourly Traffic Volume of Each Vessel Type in Year 2043 [1][2]							
Hour per Day	TKBR01	TKBR02	TKBR03	TKBR04	TKBR05	TKBR06	TKBR07	TKBR08
0	0.937	0.096	0.334	0.396	0.006	0.009	0.012	0.010
1	1.249	0.128	0.446	0.527	0.009	0.013	0.015	0.013
2	1.145	0.117	0.409	0.483	0.008	0.012	0.014	0.012
3	0.781	0.080	0.279	0.330	0.005	0.008	0.010	0.008
4	0.989	0.101	0.353	0.418	0.007	0.010	0.012	0.010
5	1.041	0.107	0.372	0.440	0.007	0.010	0.013	0.011
6	1.301	0.133	0.465	0.549	0.009	0.013	0.016	0.014
7	2.186	0.224	0.780	0.923	0.015	0.022	0.027	0.023
8	2.238	0.229	0.799	0.945	0.015	0.023	0.028	0.023
9	1.561	0.160	0.557	0.659	0.011	0.016	0.019	0.016
10	1.717	0.176	0.613	0.725	0.012	0.017	0.021	0.018
11	1.978	0.203	0.706	0.835	0.014	0.020	0.024	0.021
12	1.978	0.203	0.706	0.835	0.014	0.020	0.024	0.021
13	1.665	0.171	0.595	0.703	0.012	0.017	0.020	0.017
14	1.613	0.165	0.576	0.681	0.011	0.016	0.020	0.017
15	1.717	0.176	0.613	0.725	0.012	0.017	0.021	0.018
16	1.769	0.181	0.632	0.747	0.012	0.018	0.022	0.018
17	1.874	0.192	0.669	0.791	0.013	0.019	0.023	0.019
18	1.821	0.187	0.650	0.769	0.013	0.018	0.022	0.019
19	1.093	0.112	0.390	0.461	0.008	0.011	0.013	0.011
20	1.145	0.117	0.409	0.483	0.008	0.012	0.014	0.012
21	1.041	0.107	0.372	0.440	0.007	0.010	0.013	0.011
22	0.989	0.101	0.353	0.418	0.007	0.010	0.012	0.010
23	1.041	0.107	0.372	0.440	0.007	0.010	0.013	0.011

Notes:

[1] The hourly traffic volume is provided by marine traffic consultant and agreed by Marine Department. The highest traffic flow within 15 years after commencement is adopted as a conservative assumption.

[2] No breakdown of RTV types are available in the traffic data. Therefore, the hourly traffic volume of each vessel type is calculated by the following equation: Hourly traffic volume of RTV (provided by marine traffic consultant) * Proportion of Arrivals by vessel type

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Across Ting Kau Bridge, Local Ferry)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	*Vessel Type*	*Main Engine (ME) Type*	*Fuel*	*Main Engine Power (kW) [3]*	*SO_2 Emission Factors_ME (g/kWh) [4]*	*NOx Emission Factors_ME (g/kWh) [4]*	*RSP Emission Factors_ME (g/kWh) [5]*	*FSP Emission Factor_ME (g/kWh) [5][6]*
TKBL01	Local Ferry (Park Island <=> Central)	Diesel Engine [1]	Marine Light Diesel (Sulphur Content <= 0.05%) [2]	2686	0.21	13.2	0.17	0.16

Calculation of ME Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot) [7]*	*Operation Mode^*	*Maximum Length of Sailing Route (nautical miles) [7]*	*Time-in-mode (hr) [7]*	*Load Factor [8]*	*SO_2 Emission Rate_ME (g/s-trip) [9]*	*NOx Emission Rate_ME (g/s-trip) [9]*	*RSP Emission Rate_ME (g/s-trip) [9]*	*FSP Emission Rate_ME (g/s-trip) [9]*
TKBL01	Local Ferry (Park Island <=> Central)	14	Fairway Cruise	0.851	0.0606	0.8	1.505E-02	9.541E-01	1.202E-02	1.166E-02

Notes:

* Unless specified otherwise, references were made to Study on Marine Vessels Emission Inventory (MVEIS)

^ Operation mode refers to Table 3-24 of MVEIS.

[1] The main engine type is based on desktop review. (http://www.barcaferry.com/photo/photo_shipyards/marintekink/marintekink_cpv38_date.html)

[2] According to the Air Pollution Control (Marine Light Diesel) Regulation, local vessel in Hong Kong should be using marine light diesel with sulphur content of 0.05%.

[3] There are two fleets for Park Island Ferry. The ferry model having higher main engine power is adopted as a worst-case scenario. Also, the vessels are installed with two main engines, each rated at 1343 kW; and the total engine power (2686 kW) is presented and adopted. (http://www.barcaferry.com/photo/photo_shipyards/marintekink/marintekink_cpv38_date.html)

[4] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The NOx emission rate for Main Engine was adopted based on Table 4-17 of MVEIS.

[5] The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for Ferry is 213 and Fuel Sulphur Fraction is 0.0005.

[6] According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[7] The average speed and sailing route are provided by marine traffic consultant. Based on the operation needs, the ferries could get a Speed Restriction Exemption Permits (SREPs) from the Marine Department. The vessel with the license is allowed to proceed at a speed exceeding the maximum permitted speed within Zone A or

[8] The Main Engine Load Factor of Park Island Ferry is based on Table 4-9 of MVEIS.

[9] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = No. of Engine * Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh), where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessel Type*	*Auxiliary Engine Power (kW) [1]*	*SO_2 Emission Factors_AE (g/kWh) [2]*	*NOx Emission Factors_AE (g/kWh) [2]*	*RSP Emission Factors_AE (g/kWh) [3]*	*FSP Emission Factor_AE (g/kWh) [3]*
TKBL01	Local Ferry (Park Island <=> Central)	326	0.21	10	0.17	0.16

Calculation of AE Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [4]*	*SO_2 Emission Rate_AE (g/s-trip) [5]*	*NOx Emission Rate_AE (g/s-trip) [5]*	*RSP Emission Rate_AE (g/s-trip) [5]*	*FSP Emission Rate_AE (g/s-trip) [5]*
TKBL01	Local Ferry (Park Island <=> Central)	14	Fairway Cruise	0.851	0.0606	0.45	5.138E-04	2.467E-02	4.104E-04	3.981E-04

Notes

[1] According to Paragraph 4.2.12 of MVEIS, the auxiliary engine power of a Macau ferry ranges from 120-326 kW. As a worst-case scenario, 326 kW is adopted for AE power calculation.

[2] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The NOx emission rate for Auxiliary Engine was adopted based on Table 4-17 of MVEIS

[3] The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for Ferry is 213 and Fuel Sulphur Fraction is 0.0005. According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[4] The Auxiliary Engine Load Factors of Park Island Ferry is based on Table 4-10 of MVEIS.

[5] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = No. of Engine * Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh), where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Total Emission Rate

Vessel ID	*Total SO_2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*
TKBL01	1.556E-02	9.788E-01	1.243E-02	1.206E-02

Notes

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Hourly Traffic Volume

Hour per Day	*Hourly Traffic Volume [1]*
	TKBL01
0	0.000
1	0.000
2	0.000
3	0.000
4	0.000
5	0.000
6	0.600
7	9.200
8	1.900
9	0.500
10	2.100
11	0.200
12	0.300
13	2.500
14	0.300
15	0.600
16	2.700
17	0.700
18	8.500
19	3.200
20	1.400
21	1.300
22	0.000
23	0.000

Notes:

[1] The hourly traffic volume is provided by marine traffic consultant, agreed by Marine Department.

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Across Ting Kau Bridge, Tugs, Fast Launches and Small Crafts)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	*Vessal Type*	*Vessel Type (MVEIS) [1]*	*Main Engine (ME) Type [2]*	*Fuel [3]*	*Main Engine Power (kW) [4]*	*SO_2 Emission Factors_ME (g/kWh) [5]*	*NOx Emission Factors_ME (g/kWh) [5]*	*RSP Emission Factors_ME (g/kWh) [5]*	*FSP Emission Factor_ME (g/kWh) [5]*
TKBT01	Tug	Tug (GRT>=1000)	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	2371	0.21	13.2	0.17	0.16
TKBF01	Fast Launch	Others (GRT >= 1000)	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	707	0.21	10	0.17	0.16
TKBS01	Small Craft (Pleasure Vessel)	Others (GRT >= 1000)	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	707	0.21	10	0.17	0.16

Calculation of ME Emission Rate

Vessel ID	*Vessal Type*	*Average Speed (Knot) [6]*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles) [6]*	*Time-in-mode (hr) [6]*	*Load Factor [7]*	*SO_2 Emission Rate_ME (g/s-trip) [8]*	*NOx Emission Rate_ME (g/s-trip) [8]*	*RSP Emission Rate_ME (g/s-trip) [8]*	*FSP Emission Rate_ME (g/s-trip) [8]*
TKBT01	Tug	4.1	Maneuvering	0.851	0.2056	0.3	8.460E-03	5.363E-01	6.759E-03	6.556E-03
TKBF01	Fast Launch	10.4	Slow Cruise	0.851	0.0819	0.3	1.004E-03	4.823E-02	8.023E-04	7.782E-04
TKBS01	Small Craft (Pleasure Vessel)	6.8	Maneuvering	0.851	0.1259	0.45	2.317E-03	1.113E-01	1.851E-03	1.796E-03

Notes:

* Unless specified otherwise, references are made to Study on Marine Vessels Emission Inventory (MVEIS)

[1] Classification of vessel type refer Table 4-1 of MVEIS, Small Craft and Fast Launch are classifed as "Others (GRT >= 1000)" as a conservative estimation

[2] The main engine type refers to S4.2.6 of MVEIS

[3] According to the Air Pollution Control (Marine Light Diesel) Regulation, local vessel in Hong Kong should be using marine light diesel with sulphur content of 0.05%.

[4] The average ME Power refer to Table 4-5 of MVEIS

[5] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The NOx emission factors for refer to Table 4.16.
— The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[6] The average speed and sailing route provided by Marine Traffic Consultant. Moreover, the time-in-mode is calculated as: Time-in-mode (hr) = Maximun Length of Sailing Route within Assessment Boundary (nautical miles) / Average speed (knot)

[7] The load factors are determined from Table 4-7 of MVEIS.

[8] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kWh) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessal Type*	*Vessel Type (MVEIS)*	*Auxiliary Engine Power (kW) [1]*	*SO_2 Emission Factors_AE (g/kWh) [2]*	*NOx Emission Factors_AE (g/kWh) [2]*	*RSP Emission Factors_AE (g/kWh) [2]*	*FSP Emission Factor_AE (g/kWh) [2]*
TKBT01	Tug	Tug (GRT>=1000)	220	0.21	10.0	0.17	0.16
TKBF01	Fast Launch	Others (GRT >= 1000)	115	0.21	10.0	0.17	0.16
TKBS01	Small Craft (Pleasure Vessel)	Others (GRT >= 1000)	115	0.21	10.0	0.17	0.16

Calculation of AE Emission Rate

Vessel ID	*Vessal Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [3]*	*SO_2 Emission Rate_AE (g/s-trip) [4]*	*NOx Emission Rate_AE (g/s-trip) [4]*	*RSP Emission Rate_AE (g/s-trip) [4]*	*FSP Emission Rate_AE (g/s-trip) [4]*
TKBT01	Tug	4	Maneuvering	0.851	0.2056	0.43	1.125E-03	5.404E-02	8.989E-04	8.719E-04
TKBF01	Fast Launch	10	Slow Cruise	0.851	0.0819	0.43	2.341E-04	1.124E-02	1.870E-04	1.814E-04
TKBS01	Small Craft (Pleasure Vessel)	7	Maneuvering	0.851	0.1259	0.43	3.602E-04	1.730E-02	2.878E-04	2.791E-04

Notes

[1] The AE Power refer Table 4-6 of MVEIS

[2] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The Emission Factors refer to Table 4-16 of MVEIS.
— The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[3] The AE Load Factors of Others (GRT >= 1000) and Tug refer to Table 4-10 of MVEIS

[4] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kWh) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Total Emission Rate

Vessel ID	*Total SO_2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*
TKBT01	9.585E-03	5.904E-01	7.658E-03	7.428E-03
TKBF01	1.238E-03	5.947E-02	9.893E-04	9.596E-04
TKBS01	2.678E-03	1.286E-01	2.139E-03	2.075E-03

Note:

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Hourly Traffic Volume

	Average Traffic Flow of Each Vessel ID [1]		
Hour per Day	TKBT01	TKBF01	TKBS01
0	0.00	0.00	1.30
1	0.10	0.00	1.80
2	0.00	0.00	1.20
3	0.00	0.80	1.00
4	0.00	0.00	0.70
5	0.00	0.00	3.50
6	0.00	1.70	4.90
7	0.10	0.90	15.10
8	0.20	0.90	6.20
9	0.10	0.90	5.40
10	0.20	0.90	4.90
11	0.10	1.70	8.10
12	0.10	0.90	5.50
13	0.10	0.90	4.40
14	0.10	0.00	6.20
15	0.10	0.00	6.00
16	0.10	0.00	4.90
17	0.20	0.00	7.90
18	0.10	0.80	15.10
19	0.00	0.80	4.20
20	0.10	0.00	1.50
21	0.00	0.00	1.80
22	0.10	0.80	2.70
23	0.20	0.00	2.70

Note

[1] The hourly traffic volume is provided by marine traffic consultant.

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Modeling Parameters (Across Ting Kau Bridge)

Vessel ID	Source ID	X	Y	Source Type	Total SO_2 Emission	Total NOx Emission	Total RSP Emission	Total FSP Emission	Number of Point Sources	SO_2 Emission / Point Source	NOx Emission / Point Source	RSP Emission / Point Source	FSP Emission / Point Source	Base Elevation	Release Height	Exit Temperature	Exit Velocity	Internal Diameter
		(m)	(m)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)	mPD	mAG	K	m/s	m
TKBR01	TKBR01_01	825716.99	824499.73	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_02	825762.61	824520.20	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_03	825808.23	824540.66	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_04	825851.85	824561.13	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_05	825899.47	824581.60	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_06	825945.09	824602.07	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_07	825990.70	824622.54	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_08	826036.32	824643.01	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_09	826081.94	824663.47	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_10	826127.56	824683.94	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_11	826173.81	824702.91	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_12	826220.28	824721.36	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_13	826266.76	824739.81	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_14	826313.23	824758.26	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_15	826359.70	824776.71	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_16	826406.17	824795.15	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_17	826452.64	824813.60	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_18	826499.12	824832.05	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_19	826545.59	824850.50	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_20	826592.06	824868.95	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_21	826640.72	824880.40	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_22	826689.42	824891.75	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_23	826738.11	824903.09	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_24	826786.81	824914.44	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_25	826835.51	824925.79	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_26	826884.20	824937.13	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_27	826932.90	824948.48	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_28	826981.59	824959.83	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_29	827030.29	824971.17	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_30	827079.44	824979.13	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_31	827129.40	824981.21	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_32	827179.36	824983.29	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_33	827229.31	824985.37	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_34	827279.27	824987.45	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_35	827329.23	824989.53	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_36	827379.18	824991.61	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_37	827429.14	824993.69	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_38	827479.10	824995.77	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_39	827529.05	824997.86	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_40	827579.01	824999.94	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_41	827628.97	825002.02	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_42	827678.92	825004.10	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR01	TKBR01_43	827728.88	825006.18	POINT	1.98E-03	9.54E-02	1.58E-03	1.54E-03	43	4.62E-05	2.21E-03	3.69E-05	3.58E-05	1.3	42	503.15	24.6	1.9
TKBR02	TKBR02_01	825716.99	824499.73	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_02	825762.61	824520.20	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_03	825808.23	824540.66	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_04	825851.85	824561.13	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_05	825899.47	824581.60	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_06	825945.09	824602.07	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_07	825990.70	824622.54	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_08	826036.32	824643.01	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_09	826081.94	824663.47	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_10	826127.56	824683.94	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_11	826173.81	824702.91	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_12	826220.28	824721.36	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_13	826266.76	824739.81	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_14	826313.23	824758.26	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_15	826359.70	824776.71	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_16	826406.17	824795.15	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_17	826452.64	824813.60	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_18	826499.12	824832.05	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_19	826545.59	824850.50	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_20	826592.06	824868.95	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_21	826640.72	824880.40	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_22	826689.42	824891.75	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_23	826738.11	824903.09	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_24	826786.81	824914.44	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_25	826835.51	824925.79	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_26	826884.20	824937.13	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_27	826932.90	824948.48	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_28	826981.59	824959.83	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_29	827030.29	824971.17	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_30	827079.44	824979.13	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Modeling Parameters (Across Ting Kau Bridge)

Vessel ID	Source ID	X	Y	Source Type	Total SO_2 Emission	Total NOx Emission	Total RSP Emission	Total FSP Emission	Number of Point Sources	SO_2 Emission / Point Source	NOx Emission / Point Source	RSP Emission / Point Source	FSP Emission / Point Source	Base Elevation	Release Height	Exit Temperature	Exit Velocity	Internal Diameter
		(m)	(m)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)	mPD	mAG	K	m/s	m
TKBR02	TKBR02_31	827129.40	824981.21	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_32	827179.36	824983.29	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_33	827229.31	824985.37	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_34	827279.27	824987.45	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_35	827329.23	824989.53	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_36	827379.18	824991.61	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_37	827429.14	824993.69	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_38	827479.10	824995.77	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_39	827529.05	824997.86	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_40	827579.01	824999.94	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_41	827628.97	825002.02	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_42	827678.92	825004.10	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR02	TKBR02_43	827728.88	825006.18	POINT	1.87E-03	8.99E-02	1.49E-03	1.45E-03	43	4.35E-05	2.09E-03	3.47E-05	3.37E-05	1.3	15	503.15	25	0.8
TKBR03	TKBR03_01	825716.99	824499.73	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_02	825762.61	824520.20	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_03	825808.23	824540.66	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_04	825853.85	824561.13	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_05	825899.47	824581.60	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_06	825945.09	824602.07	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_07	825990.70	824622.54	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_08	826036.32	824643.01	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_09	826081.94	824663.47	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_10	826127.56	824683.94	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_11	826173.81	824702.91	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_12	826220.28	824721.36	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_13	826266.76	824739.81	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_14	826313.23	824758.26	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_15	826359.70	824776.71	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_16	826406.17	824795.15	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_17	826452.64	824813.60	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_18	826499.12	824832.05	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_19	826545.59	824850.50	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_20	826592.06	824868.95	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_21	826640.72	824880.40	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_22	826689.42	824891.75	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_23	826738.11	824903.09	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3	27	503.15	25	0.8
TKBR03	TKBR03_24	826786.81	824914.44	POINT	2.07E-03	9.98E-02	1.66E-03	1.61E-03	43	4.83E-05	2.32E-03	3.86E-05	3.74E-05	1.3

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Modeling Parameters (Across Ting Kau Bridge)

Vessel ID	Source ID	X	Y	Source Type	Total SO_2 Emission	Total NOx Emission	Total RSP Emission	Total FSP Emission	Number of Point Sources	SO_2 Emission / Point Source	NOx Emission / Point Source	RSP Emission / Point Source	FSP Emission / Point Source	Base Elevation	Release Height	Exit Temperature	Exit Velocity	Internal Diameter
		(m)	(m)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)	mPD	mAG	K	m/s	m
TKBR07	TKBR07_35	827329.23	824989.53	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_36	827379.18	824991.61	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_37	827429.14	824993.69	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_38	827479.10	824995.77	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_39	827529.05	824997.86	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_40	827579.01	824999.94	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_41	827628.97	825002.02	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_42	827678.92	825004.10	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR07	TKBR07_43	827728.88	825006.18	POINT	4.80E-03	2.859E-01	3.841E-03	3.726E-03	43	1.118E-04	6.649E-03	8.932E-05	8.664E-05	1.3	20	503.15	25	0.8
TKBR08	TKBR08_01	825716.99	824499.73	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_02	825762.61	824520.20	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_03	825808.23	824540.66	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_04	825853.85	824561.13	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_05	825899.47	824581.60	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_06	825945.09	824602.07	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_07	825990.70	824622.54	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_08	826036.32	824643.01	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_09	826081.94	824663.47	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_10	826127.56	824683.94	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_11	826173.81	824702.91	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_12	826220.28	824721.36	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_13	826266.76	824739.81	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_14	826313.23	824758.26	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_15	826359.70	824776.71	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_16	826406.17	824795.15	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_17	826452.64	824813.60	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_18	826499.12	824832.05	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_19	826545.59	824850.50	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_20	826592.06	824868.95	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_21	826640.72	824880.40	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_22	826689.42	824891.75	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_23	826738.11	824903.09	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_24	826786.81	824914.44	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_25	826835.51	824925.79	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_26	826884.20	824937.13	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_27	826932.90	824948.48	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_28	826981.59	824959.83	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_29	827030.29	824971.17	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_30	827079.44	824979.13	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_31	827129.40	824981.21	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_32	827179.36	824983.29	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_33	827229.31	824985.37	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_34	827279.27	824987.45	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_35	827329.23	824989.53	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_36	827379.18	824991.61	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_37	827429.14	824993.69	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_38	827479.10	824995.77	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_39	827529.05	824997.86	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_40	827579.01	824999.94	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_41	827628.97	825002.02	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_42	827678.92	825004.10	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBR08	TKBR08_43	827728.88	825006.18	POINT	2.043E-03	9.810E-02	1.632E-03	1.583E-03	43	4.750E-05	2.281E-03	3.795E-05	3.681E-05	1.3	8	503.15	8	0.2
TKBL01	TKBL01_01	825716.99	824499.73	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_02	825762.61	824520.20	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_03	825808.23	824540.66	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_04	825853.85	824561.13	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_05	825899.47	824581.60	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_06	825945.09	824602.07	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_07	825990.70	824622.54	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_08	826036.32	824643.01	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_09	826081.94	824663.47	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_10	826127.56	824683.94	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_11	826173.81	824702.91	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_12	826220.28	824721.36	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_13	826266.76	824739.81	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_14	826313.23	824758.26	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_15	826359.70	824776.71	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_16	826406.17	824795.15	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_17	826452.64	824813.60	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_18	826499.12	824832.05	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_19	826545.59	824850.50	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_20	826592.06	824868.95	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_21	826640.72	824880.40	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Modeling Parameters (Across Ting Kau Bridge)

Vessel ID	Source ID	X	Y	Source Type	Total SO_2 Emission	Total NOx Emission	Total RSP Emission	Total FSP Emission	Number of Point Sources	SO_2 Emission / Point Source	NOx Emission / Point Source	RSP Emission / Point Source	FSP Emission / Point Source	Base Elevation	Release Height	Exit Temperature	Exit Velocity	Internal Diameter
		(m)	(m)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)		(g/s-trip)	(g/s-trip)	(g/s-trip)	(g/s-trip)	mPD	mAG	K	m/s	m
TKBL01	TKBL01_22	826689.42	824891.75	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_23	826738.11	824903.09	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_24	826786.81	824914.44	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_25	826835.51	824925.79	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_26	826884.20	824937.13	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_27	826932.90	824948.48	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_28	826981.59	824959.83	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_29	827030.29	824971.17	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_30	827079.44	824979.13	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_31	827129.40	824981.21	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_32	827179.36	824983.29	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_33	827229.31	824985.37	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_34	827279.27	824987.45	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_35	827329.23	824989.53	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_36	827379.18	824991.61	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_37	827429.14	824993.69	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_38	827479.10	824995.77	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_39	827529.05	824997.86	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_40	827579.01	824999.94	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_41	827628.97	825002.02	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_42	827678.92	825004.10	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBL01	TKBL01_43	827728.88	825006.18	POINTHOR	1.556E-02	9.788E-01	1.243E-02	1.206E-02	43	3.620E-04	2.276E-02	2.892E-04	2.805E-04	1.3	0	313	8	0.7
TKBT01	TKBT01_01	825716.99	824499.73	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_02	825762.61	824520.20	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_03	825808.23	824540.66	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_04	825853.85	824561.13	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_05	825899.47	824581.60	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_06	825945.09	824602.07	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_07	825990.70	824622.54	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_08	826036.32	824643.01	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_09	826081.94	824663.47	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_10	826127.56	824683.94	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_11	826173.81	824702.91	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_12	826220.28	824721.36	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_13	826266.76	824739.81	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_14	826313.23	824758.26	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_15	826359.70	824776.71	POINT	9.585E-03	5.904E-01	7.658E-03	7.428E-03	43	2.229E-04	1.373E-02	1.781E-04	1.727E-04	1.3	5	503.15	8	0.3
TKBT01	TKBT01_16	826406.

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Hourly Traffic Profile

	Hour per Day																						
Vessel ID	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
TKBR01	0.94	1.25	1.14	0.78	0.99	1.04	1.30	2.19	2.24	1.56	1.72	1.98	1.98	1.67	1.61	1.72	1.77	1.87	1.82	1.09	1.14	1.04	0.99	1.04
TKBR02	0.10	0.13	0.12	0.08	0.10	0.11	0.13	0.22	0.23	0.16	0.18	0.20	0.20	0.17	0.17	0.18	0.18	0.19	0.19	0.11	0.12	0.11	0.10	0.11
TKBR03	0.33	0.45	0.41	0.28	0.35	0.37	0.46	0.78	0.80	0.56	0.61	0.71	0.71	0.59	0.58	0.61	0.63	0.67	0.65	0.39	0.41	0.37	0.35	0.37
TKBR04	0.40	0.53	0.48	0.33	0.42	0.44	0.55	0.92	0.94	0.66	0.73	0.84	0.84	0.70	0.68	0.73	0.75	0.79	0.77	0.46	0.48	0.44	0.42	0.44
TKBR05	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
TKBR06	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
TKBR07	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
TKBR08	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
TKBL01	0.00	0.00	0.00	0.00	0.00	0.00	0.60	9.20	1.90	0.50	2.10	0.20	0.30	2.50	0.30	0.60	2.70	0.70	8.50	3.20	1.40	1.30	0.00	0.00
TKBT01	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.10	0.20	0.10	0.20	0.10	0.10	0.10	0.10	0.10	0.10	0.20	0.10	0.00	0.10	0.00	0.10	0.20
TKBF01	0.00	0.00	0.00	0.80	0.00	0.00	1.70	0.90	0.90	0.90	0.90	1.70	0.90	0.90	0.00	0.00	0.00	0.00	0.80	0.80	0.00	0.00	0.80	0.00
TKBS01	1.30	1.80	1.20	1.00	0.70	3.50	4.90	15.10	6.20	5.40	4.90	8.10	5.50	4.40	6.20	6.00	4.90	7.90	15.10	4.20	1.50	1.80	2.70	2.70

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, OGV)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	Vessl Type [1]	Main Engine Type [2]	Proportion of each main engine type [3]	DWT / PAX Sub-Group [4]	Fuel [5]	Main Engine Power (kW) [6]	Baseline Specific Fuel Consumption (g/kWh) [7]	SO_2 Emission Factors_ME (g/kWh) [8]	NOx Emission Factors_ME (g/kWh) [8]	RSP Emission Factors_ME (g/kWh) [9]	FSP Emission Factor_ME (g/kWh) [10]	SO_2 Composite Emission Factors (g/kWh) [11]	NOx Composite Emission Factors (g/kWh) [11]	RSP Composite Emission Factors_ME (g/kWh) [11]	FSP Composite Emission Factor_ME (g/kWh) [11]
MO01	Fully Cellular Container Vessel (FCCV)	SSD	67.1%	DWT >= 100000	MDO at 0.5% Suphlur	64780	205	1.81	17.00	0.31	0.29	1.87	14.91	0.32	0.29
		MSD	8.8%				215	1.98	13.00	0.32	0.29				
		HSD	24.0%				225	1.98	9.80	0.32	0.30				
		ST	0.1%				340	2.83	2.10	0.37	0.34				
MO02	Conventional Cargo Vessel	SSD	12.2%	DWT >= 30000	MDO at 0.5% Suphlur	2313	205	1.81	17.00	0.31	0.29	1.96	13.45	0.32	0.29
		MSD	86.7%				215	1.98	13.00	0.32	0.29				
		HSD	0.9%				225	1.98	9.80	0.32	0.30				
		ST	0.1%				340	2.83	2.10	0.37	0.34				
MO03	Dry Bulk Carrier	SSD	89.9%	DWT >= 100000	MDO at 0.5% Suphlur	7555	205	1.81	17.00	0.31	0.29	1.83	16.51	0.31	0.29
		MSD	7.3%				215	1.98	13.00	0.32	0.29				
		HSD	2.8%				225	1.98	9.80	0.32	0.30				
MO04	Semi-container Vessel	SSD	15.8%	N.A	MDO at 0.5% Suphlur	3404	205	1.81	17.00	0.31	0.29	1.95	13.63	0.32	0.29
		MSD	84.2%				215	1.98	13.00	0.32	0.29				
MO05	Gas Carrier/Tanker	SSD	16.1%	DWT >= 40000	MDO at 0.5% Suphlur	3364	205	1.81	17.00	0.31	0.29	1.96	13.52	0.32	0.29
		MSD	80.7%				215	1.98	13.00	0.32	0.29				
		HSD	2.9%				225	1.98	9.80	0.32	0.30				
		ST	0.3%				340	2.83	2.10	0.37	0.34				
MO06	Chemical Carrier/Tanker	SSD	26.3%	DWT >= 40000	MDO at 0.5% Suphlur	3515	205	1.81	17.00	0.31	0.29	1.94	13.91	0.32	0.29
		MSD	69.2%				215	1.98	13.00	0.32	0.29				
		HSD	4.4%				225	1.98	9.80	0.32	0.30				
MO07	Oil Tanker	SSD	48.7%	DWT >= 120000	MDO at 0.5% Suphlur	5652	205	1.81	17.00	0.31	0.29	1.90	14.78	0.32	0.29
		MSD	46.1%				215	1.98	13.00	0.32	0.29				
		HSD	5.2%				225	1.98	9.80	0.32	0.30				
MO08	Cruise/Ferry	SSD	0.1%	PAX>=2600	MDO at 0.5% Suphlur	15184	205	1.81	17.00	0.31	0.29	1.98	13.00	0.32	0.29
		MSD	99.9%				215	1.98	13.00	0.32	0.29				

Calculation of ME Emission Rate

Vessel ID	*Vessal Type*	*Average Speed (Knot) [12]*	*Operation Mode [13]*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr) [14]*	*Load Factor [15]*	*Low -Load Adjustment Factor (SO_2) [16]*	*Low -Load Adjustment Factor (NOx) [16]*	*Low-Load Adjustment Factor (RSP) [16]*	*Low-Load Adjustment Factor (FSP) [16]*	*SO_2 Emission Rate_ME (g/s-trip) [17]*	*NOx Emission Rate_ME (g/s-trip) [17]*	*RSP Emission Rate_ME (g/s-trip) [17]*	*FSP Emission Rate_ME (g/s-trip) [17]*
MO01	FCCV	12	Fairway Cruise	0.851	0.0692	0.473	1.000	1.00	1.00	1.00	1.100E+00	8.781E+00	1.863E-01	1.714E-01
MO02	Conventional Cargo Vessel	12	Fairway Cruise	0.851	0.0692	0.800	1.000	1.00	1.00	1.00	6.974E-02	4.784E-01	1.130E-02	1.039E-02
MO03	Dry Bulk Carrier	12	Fairway Cruise	0.851	0.0692	0.800	1.000	1.00	1.00	1.00	2.123E-01	1.918E+00	3.653E-02	3.361E-02
MO04	Semi-container Vessel	12	Fairway Cruise	0.851	0.0692	0.800	1.000	1.00	1.00	1.00	1.023E-01	7.137E-01	1.661E-02	1.528E-02
MO05	Gas Carrier/Tanker	12	Fairway Cruise	0.851	0.0692	0.800	1.000	1.00	1.00	1.00	1.012E-01	6.994E-01	1.643E-02	1.512E-02
MO06	Chemical Carrier/Tanker	12	Fairway Cruise	0.851	0.0692	0.800	1.000	1.00	1.00	1.00	1.046E-01	7.521E-01	1.714E-02	1.577E-02
MO07	Oil Tanker	12	Fairway Cruise	0.851	0.0692	0.800	1.000	1.00	1.00	1.00	1.649E-01	1.285E+00	2.749E-02	2.529E-02
MO08	Cruise/Ferry	12	Fairway Cruise	0.851	0.0692	0.422	1.000	1.00	1.00	1.00	2.439E-01	1.602E+00	3.917E-02	3.604E-02

Notes

* Unless specified otherwise, references are made to Study on Marine Vessels Emission Inventory (MVEIS)

[1] No breakdown of OGV types are available in the traffic data. Therefore, vessel types catalogized by the Marine Department is adopted to breakdown the marine traffic data.

[2] SSD, MSD, HSD and ST denote slow speed diesel, medium speed diesel, high speed diesel and steam turbine engine, respectively.

[3] Proportion of main engine type refers to Table 3-17 of MVEIS

[4] DWT / PAX Sub-Group refers to Table 3-18 of MVEIS; the highest DWT/PAX is adopted as a conservative approach

[5] All vessels are required to use compliant fuels (sulphur content <= 0.5%) under the Air Pollution Control (Fuel for Vessels) Regulations. Therefore, it is assumed that all vessels use MDO with a sulphur content of 0.5%.

[6] The average ME Power of FCCV refers to Table 3-16 of MVEIS. And the other vessel types refer to Table 3-15 of MVEIS.

[7] The Baseline Specific Fuel Consumption (SFC_BASE) refers to Table 19 of IMO Fourth Greenhouse Gas Study 2020. SFC_BASE for ships built in Years 1984-2000 is adopted as a balanced assumption.

[8] — The SO_2 emission factor refer to Table 3-27 of the MEVIS

— The NOx emission factor for HSD, MSD and SSD refer to Table 23 of IMO Fourth Greenhouse Gas Study 2020; The NOx emission factor for ST refers to Table 49 of IMO Fourth Greenhouse Gas Study 2020.

[9] The RSP emission factors were calculated by Equation 17 of IMO Fourth Greenhouse Gas Study 2020: 0.23 + SFC_i * 7 * 0.02247 * (Fuel Sulphur Fraction - 0.0024), where Fuel Sulphur Fraction is 0.005, and i denotes the specifc engine/boiler system (i.e., Engine/Boiler Type and Fuel Type) for each vessel type.

[10] According to the Forth IMO Greenhouse Gas Study, the RSP to FSP conversion factor used is 0.92

[11] The composite emission factors are calcualed by the following equation: SUM(Percentage distribution of each main engine type * Emssion Factors of each main engine type)

[12] The average speed and actual sailing route are provided by Marine Traffic Consultant. The time-in-mode is calculated as: Time-in-mode (hr) = Maximun Length of Sailing Route within Assessment Boundary (nautical miles) / Average speed (knot)

[13] The operation mode refers to Table 3-24 of MVEIS.

[14] The ME Load Factors for FCCV and Criuse refers to Table 3-18 of MVEIS; The ME load Factors for other vessel types refer to *"Emission estimate methodology for maritime navigation" (https://www3.epa.gov/ttnchie1/conference/ei19/session10/trozzi.pdf)* , the load factor of "Cruise" phase is adopted

[15] The Low Load Adjustment Factor refers to Table 3.30 of MVEIS

[16] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Low Load Adjustment Factor (if ME Load Factor < 0.2) * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, OGV)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessal Type*	*Fuel*	*Operation Mode*	*AE to ME Power Ratio [1]*	*Auxiliary Engine Power / Auxiliary Engine Load Defaults (kW) [2]*	*Auxiliary Engines Specific Fuel Consumption (g/kWh) [3]*	SO_2 Emission Factors_ME (g/kWh) [4]	*NOx Emission Factors_AE (g/kWh) [4]*	*RSP Emission Factors_AE (g/kWh) [5]*	*FSP Emission Factor_AE (g/kWh) [5]*
MO01	FCCV	MDO at 0.5% Suphlur	Fairway Cruise	Not Used [6]	1560	225	2.12	11.2	0.32	0.30
MO02	Conventional Cargo Vessel	MDO at 0.5% Suphlur	Fairway Cruise	0.191	442	225	2.12	11.2	0.32	0.30
MO03	Dry Bulk Carrier	MDO at 0.5% Suphlur	Fairway Cruise	0.222	1677	225	2.12	11.2	0.32	0.30
MO04	Semi-container Vessel	MDO at 0.5% Suphlur	Fairway Cruise	0.191	650	225	2.12	11.2	0.32	0.30
MO05	Gas Carrier/Tanker	MDO at 0.5% Suphlur	Fairway Cruise	0.211	710	225	2.12	11.2	0.32	0.30
MO06	Chemical Carrier/Tanker	MDO at 0.5% Suphlur	Fairway Cruise	0.211	742	225	2.12	11.2	0.32	0.30
MO07	Oil Tanker	MDO at 0.5% Suphlur	Fairway Cruise	0.211	1193	225	2.12	11.2	0.32	0.30
MO08	Cruise/Ferry	MDO at 0.5% Suphlur	Fairway Cruise	0.278	4221	225	2.12	11.2	0.32	0.30

Calculation of AE Emission Rate

Vessel ID	*Vessal Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [7]*	*SO_2 Emission Rate_AE (g/s-trip) [8]*	*NOx Emission Rate_AE (g/s-trip) [8]*	*RSP Emission Rate_AE (g/s-trip) [8]*	*FSP Emission Rate_AE (g/s-trip) [8]*
MO01	FCCV	12	Fairway Cruise	0.851	0.069	Not Used [6]	6.358E-02	3.359E-01	9.659E-03	8.886E-03
MO02	Conventional Cargo Vessel	12	Fairway Cruise	0.851	0.069	0.300	1.801E-02	2.854E-02	8.206E-04	7.550E-04
MO03	Dry Bulk Carrier	12	Fairway Cruise	0.851	0.069	0.300	6.836E-02	1.083E-01	3.115E-03	2.866E-03
MO04	Semi-container Vessel	12	Fairway Cruise	0.851	0.069	0.300	2.650E-02	4.200E-02	1.208E-03	1.111E-03
MO05	Gas Carrier/Tanker	12	Fairway Cruise	0.851	0.069	0.300	2.893E-02	4.585E-02	1.318E-03	1.213E-03
MO06	Chemical Carrier/Tanker	12	Fairway Cruise	0.851	0.069	0.300	3.023E-02	4.791E-02	1.378E-03	1.267E-03
MO07	Oil Tanker	12	Fairway Cruise	0.851	0.069	0.300	4.861E-02	7.704E-02	2.215E-03	2.038E-03
MO08	Cruise/Ferry	12	Fairway Cruise	0.851	0.069	0.416	1.721E-01	3.781E-01	1.087E-02	1.000E-02

Notes:

[1] AE to ME Power Ratio refer to Table 3-20 of MVEIS

[2] The AE Power is calculated by the following equation: AE Power = ME Power * AE to ME Power Ratio

[3] According to Page 71 of IMO Fourth Greenhouse Gas Study, it is assumed the Auxiliary Engines Specific Fuel Consumption Specific Fuel Consumption = Baseline Specific Fuel Consumption of AE. The baseline specific fuel consumption of AE refer to Table 19 of IMO Fourth Greenhouse Gas Study 2020

[4] — The SO_2 emission factor refer to Table 3-29 of the MEVIS
— The NOx emission factors for NOx refer to Table 49 of IMO Fourth Greenhouse Gas Study 2020 Annexes

[5] The RSP emission factors were calculated by Equation 17 of IMO Fourth Greenhouse Gas Study 2020: 0.23 + SFC_i * 7 * 0.02247 * (Fuel Sulphur Fraction - 0.0024), where Fuel Sulphur Fraction is 0.005, and i denotes the specifc engine/boiler system (i.e., Engine/Boiler Type and Fuel Type) for each vessel type. According to the Forth IMO Greenhouse Gas Study, the RSP to FSP conversion factor used is 0.92

[6] The Auxiliary Engine Load Defaults (Auxiliary Engine Load * Auxiliary Engine Power) for FCCV is adopted and presented (Table 3-22). Therefore, AE to ME power ratio and AE load factor are not used for FCCV

[7] The NOx emission factors for NOx refer to Table 49 of IMO Fourth Greenhouse Gas Study 2020 Annexes

[8] The AE Load Factors of all vessel types, expect FCCV and Cruise/Ferry, refer to *"Emission estimate methodology for maritime navigation"* (https://www3.epa.gov/ttnchie1/conference/ei19/session10/trozzi.pdf), the load factor of "Cruise" phase is adopted. The AE load Factor of Crusie/Ferry refer to Table 3-21 of MVEIS

[9] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, OGV)

Vessel-Specific Parameters - Auxiliary Boiler (AB)

Vessel ID	*Vessal Type*	*Fuel*	*Operation Mode*	*Auxiliary Boiler Energy Defaults (kW) [1]*	*Auxiliary boilers specific fuel consumption (g/kWh) [2]*	*SO_2 Emission Factor_AB (g/s-trip) [3]*	*NOx Emission Factors_AB (g/kWh) [4]*	*RSP Emission Factors_AB (g/kWh) [5]*	*FSP Emission Factor_AB (g/kWh) [5]*
MO01	FCCV	MDO at 0.5% Suphlur	Fairway Cruise	586	340	2.83	2.1	0.37	0.34
MO02	Conventional Cargo Vessel	MDO at 0.5% Suphlur	Fairway Cruise	252	340	2.83	2.1	0.37	0.34
MO03	Dry Bulk Carrier	MDO at 0.5% Suphlur	Fairway Cruise	403	340	2.83	2.1	0.37	0.34
MO04	Semi-container Vessel	MDO at 0.5% Suphlur	Fairway Cruise	252	340	2.83	2.1	0.37	0.34
MO05	Gas Carrier/Tanker	MDO at 0.5% Suphlur	Fairway Cruise	371	340	2.83	2.1	0.37	0.34
MO06	Chemical Carrier/Tanker	MDO at 0.5% Suphlur	Fairway Cruise	371	340	2.83	2.1	0.37	0.34
MO07	Oil Tanker	MDO at 0.5% Suphlur	Fairway Cruise	371	340	2.83	2.1	0.37	0.34
MO08	Cruise/Ferry	MDO at 0.5% Suphlur	Fairway Cruise	1000	340	2.83	2.1	0.37	0.34

Calculation of AB Emission Rate

Vessel ID	*Vessal Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*SO_2 Emission Rate_AB (g/s-trip) [6]*	*NOx Emission Rate_AB (g/s-trip) [6]*	*RSP Emission Rate_AB (g/s-trip) [6]*	*FSP Emission Rate_AB (g/s-trip) [6]*
MO01	FCCV	12	Fairway Cruise	0.851	0.069	3.188E-02	2.366E-02	4.158E-03	3.826E-03
MO02	Conventional Cargo Vessel	12	Fairway Cruise	0.851	0.069	1.371E-02	1.017E-02	1.788E-03	1.645E-03
MO03	Dry Bulk Carrier	12	Fairway Cruise	0.851	0.069	2.193E-02	1.627E-02	2.860E-03	2.631E-03
MO04	Semi-container Vessel	12	Fairway Cruise	0.851	0.069	1.371E-02	1.017E-02	1.788E-03	1.645E-03
MO05	Gas Carrier/Tanker	12	Fairway Cruise	0.851	0.069	2.019E-02	1.498E-02	2.633E-03	2.422E-03
MO06	Chemical Carrier/Tanker	12	Fairway Cruise	0.851	0.069	2.019E-02	1.498E-02	2.633E-03	2.422E-03
MO07	Oil Tanker	12	Fairway Cruise	0.851	0.069	2.019E-02	1.498E-02	2.633E-03	2.422E-03
MO08	Cruise/Ferry	12	Fairway Cruise	0.851	0.069	5.441E-02	4.037E-02	7.096E-03	6.529E-03

Notes:

[1] The auxiliary boiler energy defaults refer to Table 3-23 of MVEIS.

[2] According to Page 71 of IMO Fourth Greenhouse Gas Study, it is assumed the Auxiliary Boiler Specific Fuel Consumption Specific Fuel Consumption = Baseline Specific Fuel Consumption of AB. The baseline specific fuel consumption of AB refer to Table 19 of IMO Fourth Greenhouse Gas Study 2020

[3] The SO_2 emission factor refer to Table 3-29 of the MEVIS

[4] The NOx emission factors for NOx refer to Table 49 of IMO Fourth Greenhouse Gas Study 2020 Annexes

[5] The RSP emission factors were calculated by Equation 17 of IMO Fourth Greenhouse Gas Study 2020: 0.23 + SFC_i * 7 * 0.02247 * (Fuel Sulphur Fraction - 0.0024), where Fuel Sulphur Fraction is 0.005, and i denotes the specifc engine/boiler system (i.e., Engine/Boiler Type and Fuel Type) for each vessel type. According to the Forth IMO Greenhouse Gas Study, the RSP to FSP conversion factor used is 0.92

[6] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Auxiliary Boiler Energy Defaults (kW) * Time-in-mode per hour * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Total Emission Rate

Vessel ID	*Vessal Type*	*Total SO_2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*
MO01	FCCV	1.195E+00	9.140E+00	2.001E-01	1.841E-01
MO02	Conventional Cargo Vessel	1.015E-01	5.171E-01	1.391E-02	1.279E-02
MO03	Dry Bulk Carrier	3.026E-01	2.043E+00	4.251E-02	3.911E-02
MO04	Semi-container Vessel	1.425E-01	7.659E-01	1.961E-02	1.804E-02
MO05	Gas Carrier/Tanker	1.503E-01	7.603E-01	2.038E-02	1.875E-02
MO06	Chemical Carrier/Tanker	1.550E-01	8.150E-01	2.115E-02	1.946E-02
MO07	Oil Tanker	2.337E-01	1.377E+00	3.233E-02	2.975E-02
MO08	Cruise/Ferry	4.704E-01	2.020E+00	5.714E-02	5.257E-02

Notes:

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate + AB Emission Rate

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, OGV)

Proportion of Arrivals for Each Vessel Type

Vessel ID	*Vessal Type*	*Number of Arrivals in 2025 [28]*	*Proportion of Arrivals by vessel type*
MO01	FCCV	10733	58.8%
MO02	Conventional Cargo Vessel	1923	10.5%
MO03	Dry Bulk Carrier	3496	19.2%
MO04	Semi-container Vessel	225	1.2%
MO05	Gas Carrier/Tanker	400	2.2%
MO06	Chemical Carrier/Tanker	537	2.9%
MO07	Oil Tanker	746	4.1%
MO08	Cruise/Ferry	187	1.0%

Notes:

[28] The number of arrivals in 2025 refers to statistics published by Marine Department (https://www.mardep.gov.hk/filemanager/en/share/fact/pdf/portstat_1_y_a2.pdf).

Hourly Traffic Volume

	Hourly Traffic Volume of Each Vessel Type in Year 2043 [1][2]							
Hour per Day	MO01	MO02	MO03	MO04	MO05	MO06	MO07	MO08
0	0.353	0.063	0.115	0.007	0.013	0.018	0.025	0.006
1	0.353	0.063	0.115	0.007	0.013	0.018	0.025	0.006
2	0.294	0.053	0.096	0.006	0.011	0.015	0.020	0.005
3	0.333	0.060	0.109	0.007	0.012	0.017	0.023	0.006
4	0.255	0.046	0.083	0.005	0.009	0.013	0.018	0.004
5	0.353	0.063	0.115	0.007	0.013	0.018	0.025	0.006
6	0.314	0.056	0.102	0.007	0.012	0.016	0.022	0.005
7	0.353	0.063	0.115	0.007	0.013	0.018	0.025	0.006
8	0.353	0.063	0.115	0.007	0.013	0.018	0.025	0.006
9	0.373	0.067	0.121	0.008	0.014	0.019	0.026	0.006
10	0.392	0.070	0.128	0.008	0.015	0.020	0.027	0.007
11	0.392	0.070	0.128	0.008	0.015	0.020	0.027	0.007
12	0.392	0.070	0.128	0.008	0.015	0.020	0.027	0.007
13	0.392	0.070	0.128	0.008	0.015	0.020	0.027	0.007
14	0.471	0.084	0.153	0.010	0.018	0.024	0.033	0.008
15	0.274	0.049	0.089	0.006	0.010	0.014	0.019	0.005
16	0.373	0.067	0.121	0.008	0.014	0.019	0.026	0.006
17	0.392	0.070	0.128	0.008	0.015	0.020	0.027	0.007
18	0.333	0.060	0.109	0.007	0.012	0.017	0.023	0.006
19	0.314	0.056	0.102	0.007	0.012	0.016	0.022	0.005
20	0.294	0.053	0.096	0.006	0.011	0.015	0.020	0.005
21	0.314	0.056	0.102	0.007	0.012	0.016	0.022	0.005
22	0.255	0.046	0.083	0.005	0.009	0.013	0.018	0.004
23	0.314	0.056	0.102	0.007	0.012	0.016	0.022	0.005

Notes:

[1] The hourly traffic volume is provided by marine traffic consultant and agreed by Marine Department. The highest traffic flow within 15 years after commencement is adopted as a conservative assumption. Moreover, it is noted that not all vessels passing the gate navigate within the 500 m assessment boundary. As such, the marine traffic flow has been divided into three routes , with reference to the approved EIA for the Tsing Yi–Lantau Link, in which three principal navigation routes are defined within the fairway.

[2] No breakdown of OGV types are available in the traffic data. Therefore, the hourly traffic volume of each vessel type is calculated by the following equation: Hourly traffic volume of OGV * Proportion of Arrivals by vessel type

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, RTV)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	*Vessel Type [1][2]*	*Main Engine (ME) Type [3]*	*Fuel [4]*	*GRT Sub-group [5]*	*Main Engine Power (kW) [6]*	*SO_2 Emission Factors_ME (g/kWh) [7]*	*NOx Emission Factors_ME (g/kWh) [7]*	*RSP Emission Factors_ME (g/kWh) [7]*	*FSP Emission Factor_ME (g/kWh) [7]*
MR01	Fully Cellular Container Vessel	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	704	0.21	10.0	0.17	0.16
MR02	Conventional Cargo Vessel	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	654	0.21	10.0	0.17	0.16
MR03	Dry Bulk Carrier	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	744	0.21	10.0	0.17	0.16
MR04	Semi-container Vessel	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	626	0.21	10.0	0.17	0.16
MR05	Gas Carrier/Tanker	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	1565	0.21	13.2	0.17	0.16
MR06	Chemical Carrier/Tanker	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	1565	0.21	13.2	0.17	0.16
MR07	Oil Tanker	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	1565	0.21	13.2	0.17	0.16
MR08	Lighter/Barge/Cargo Junk	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	GRT >= 1000	727	0.21	10.0	0.17	0.16

Calculation of ME Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot) [8]*	*Operation Mode^*	*Maximum Length of Sailing Route (nautical miles) [8]*	*Time-in-mode (hr) [8]*	*Load Factor [9]*	*SO2 Emission Rate_ME (g/s-trip) [10]*	*NOx Emission Rate_ME (g/s-trip) [10]*	*RSP Emission Rate_ME (g/s-trip) [10]*	*FSP Emission Rate_ME (g/s-trip) [10]*
MR01	Fully Cellular Container Vessel	6	Maneuvering	0.851	0.1314	0.3	1.605E-03	7.708E-02	1.282E-03	1.244E-03
MR02	Conventional Cargo Vessel	6	Maneuvering	0.851	0.1314	0.3	1.491E-03	7.160E-02	1.191E-03	1.155E-03
MR03	Dry Bulk Carrier	6	Maneuvering	0.851	0.1314	0.3	1.696E-03	8.145E-02	1.355E-03	1.314E-03
MR04	Semi-container Vessel	6	Maneuvering	0.851	0.1314	0.3	1.427E-03	6.854E-02	1.140E-03	1.106E-03
MR05	Gas Carrier/Tanker	6	Maneuvering	0.851	0.1314	0.3	3.568E-03	2.262E-01	2.850E-03	2.765E-03
MR06	Chemical Carrier/Tanker	6	Maneuvering	0.851	0.1314	0.3	3.568E-03	2.262E-01	2.850E-03	2.765E-03
MR07	Oil Tanker	6	Maneuvering	0.851	0.1314	0.3	3.568E-03	2.262E-01	2.850E-03	2.765E-03
MR08	Lighter/Barge/Cargo Junk	6	Maneuvering	0.851	0.1314	0.3	1.657E-03	7.959E-02	1.324E-03	1.284E-03

Notes:

* Unless specified otherwise, references were made to Study on Marine Vessels Emission Inventory (MVEIS)

^ Operation mode refers to Table 3-24 of MVEIS.

[1] No breakdown of RTV types are available in the traffic data. Therefore, vessel types catalogized by the Marine Department is adopted to breakdown the marine traffic data. (https://www.mardep.gov.hk/filemanager/en/share/fact/pdf/portstat_2_y_a2.pdf)

[2] According to data from marine consultants, tugs and cross boundary ferry are classified as an independent vessel type and are consequently excluded from calculation of marine emission of RTV.

[3] The Main Engine type refers to S4.2.6 of MVEIS

[4] According to the Air Pollution Control (Marine Light Diesel) Regulation, the sulphur content of locally supplied marine light diesel is capped at 0.05%; Locally supplied marine light diesel oil are assumed to be used for refueling RTVs in Hong Kong.

[5] The GRT sub-group refers to Table 4-5; the highest GRT for each vessel type is adopted as a conservative approach.

[6] The average ME Power refers Table 4-5 of MVEIS

[7] — The SO2 emission factor is calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The emission factors for NOx refer to Table 4-16 of MVEIS.
— The RSP emission factors for Main Engine were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[8] The average speed and sailing route are provided by marine traffic consultant. The time-in-mode is calculated as: Time-in-mode (hr) = Maximun Length of Sailing Route within Assessment Boundary (nautical miles) / Average speed (knot)

[9] The ME Load Factor refers to Table 4-7 of MVEIS

[10] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessel Type*	*GRT Sub-group*	*Auxiliary Engine Power (kW) [1]*	*SO2 Emission Factors_AE (g/kWh) [2]*	*NOx Emission Factors_AE (g/kWh) [2]*	*RSP Emission Factors_AE (g/kWh) [2]*	*FSP Emission Factor_AE (g/kWh) [2]*
MR01	Fully Cellular Container Vessel	GRT >= 1000	115	0.21	10	0.17	0.16
MR02	Conventional Cargo Vessel	GRT >= 1000	115	0.21	10	0.17	0.16
MR03	Dry Bulk Carrier	GRT >= 1000	115	0.21	10	0.17	0.16
MR04	Semi-container Vessel	GRT >= 1000	115	0.21	10	0.17	0.16
MR05	Gas Carrier/Tanker	GRT >= 1000	375	0.21	10	0.17	0.16
MR06	Chemical Carrier/Tanker	GRT >= 1000	375	0.21	10	0.17	0.16
MR07	Oil Tanker	GRT >= 1000	375	0.21	10	0.17	0.16
MR08	Lighter/Barge/Cargo Junk	GRT >= 1000	116	0.21	10	0.17	0.16

Calculation of AE Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [3]*	*SO2 Emission Rate_AE (g/s-trip) [4]*	*NOx Emission Rate_AE (g/s-trip) [4]*	*RSP Emission Rate_AE (g/s-trip) [4]*	*FSP Emission Rate_AE (g/s-trip) [4]*
MR01	Fully Cellular Container Vessel	6	Maneuvering	0.851	0.1314	0.43	3.757E-04	1.805E-02	3.002E-04	2.912E-04
MR02	Conventional Cargo Vessel	6	Maneuvering	0.851	0.1314	0.43	3.757E-04	1.805E-02	3.002E-04	2.912E-04
MR03	Dry Bulk Carrier	6	Maneuvering	0.851	0.1314	0.43	3.757E-04	1.805E-02	3.002E-04	2.912E-04
MR04	Semi-container Vessel	6	Maneuvering	0.851	0.1314	0.43	3.757E-04	1.805E-02	3.002E-04	2.912E-04
MR05	Gas Carrier/Tanker	6	Maneuvering	0.851	0.1314	0.43	1.225E-03	5.885E-02	9.789E-04	9.495E-04
MR06	Chemical Carrier/Tanker	6	Maneuvering	0.851	0.1314	0.43	1.225E-03	5.885E-02	9.789E-04	9.495E-04
MR07	Oil Tanker	6	Maneuvering	0.851	0.1314	0.43	1.225E-03	5.885E-02	9.789E-04	9.495E-04
MR08	Lighter/Barge/Cargo Junk	6	Maneuvering	0.851	0.1314	0.43	3.790E-04	1.820E-02	3.028E-04	2.937E-04

Notes

[1] The AE Power refers to Table 4-6 of MVEIS

[2] — The SO2 emission factor is calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The emission factors for NOx refer to Table 4-16 of MVEIS.
— The RSP emission factors for Main Engine were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[3] The AE Load Factors refer to Table 4-10 of MVEIS

[4] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Total Emission Rate

Vessel ID	*Total SO2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*
MR01	1.981E-03	9.512E-02	1.582E-03	1.535E-03
MR02	1.867E-03	8.965E-02	1.491E-03	1.447E-03
MR03	2.072E-03	9.950E-02	1.655E-03	1.605E-03
MR04	1.803E-03	8.658E-02	1.440E-03	1.397E-03
MR05	4.793E-03	2.850E-01	3.829E-03	3.714E-03
MR06	4.793E-03	2.850E-01	3.829E-03	3.714E-03
MR07	4.793E-03	2.850E-01	3.829E-03	3.714E-03
MR08	2.036E-03	9.780E-02	1.627E-03	1.578E-03

Notes

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Proportion of Arrivals for Each Vessel Type

Vessel ID	*Vessal Type*	*Number of Arrivals in 2025 [1]*	*Proportion of Arrivals by vessel type*
MR01	Fully Cellular Container Vessel	21550	52.0%
MR02	Conventional Cargo Vessel	2209	5.3%
MR03	Dry Bulk Carrier	7695	18.6%
MR04	Semi-container Vessel	9100	22.0%
MR05	Gas Carrier/Tanker	149	0.4%
MR06	Chemical Carrier/Tanker	217	0.5%
MR07	Oil Tanker	265	0.6%
MR08	Lighter/Barge/Cargo Junk	224	0.5%

Notes:

[15] The number of arrivals in 2025 refers to statistics published by Marine Department (https://www.mardep.gov.hk/filemanager/en/share/fact/pdf/portstat_1_y_a2.pdf).

Hourly Traffic Volume

	Hourly Traffic Volume of Each Vessel Type in Year 2043 [1][2]							
Hour per Day	MR01	MR02	MR03	MR04	MR05	MR06	MR07	MR08
0	0.399	0.041	0.142	0.168	0.003	0.004	0.005	0.004
1	0.382	0.039	0.136	0.161	0.003	0.004	0.005	0.004
2	0.295	0.030	0.105	0.125	0.002	0.003	0.004	0.003
3	0.347	0.036	0.124	0.147	0.002	0.003	0.004	0.004
4	0.347	0.036	0.124	0.147	0.002	0.003	0.004	0.004
5	0.642	0.066	0.229	0.271	0.004	0.006	0.008	0.007
6	0.451	0.046	0.161	0.190	0.003	0.005	0.006	0.005
7	0.625	0.064	0.223	0.264	0.004	0.006	0.008	0.006
8	0.798	0.082	0.285	0.337	0.006	0.008	0.010	0.008
9	0.572	0.059	0.204	0.242	0.004	0.006	0.007	0.006
10	0.694	0.071	0.248	0.293	0.005	0.007	0.009	0.007
11	0.763	0.078	0.273	0.322	0.005	0.008	0.009	0.008
12	0.677	0.069	0.242	0.286	0.005	0.007	0.008	0.007
13	0.694	0.071	0.248	0.293	0.005	0.007	0.009	0.007
14	0.781	0.080	0.279	0.330	0.005	0.008	0.010	0.008
15	0.763	0.078	0.273	0.322	0.005	0.008	0.009	0.008
16	0.867	0.089	0.310	0.366	0.006	0.009	0.011	0.009
17	0.885	0.091	0.316	0.374	0.006	0.009	0.011	0.009
18	0.781	0.080	0.279	0.330	0.005	0.008	0.010	0.008
19	0.659	0.068	0.235	0.278	0.005	0.007	0.008	0.007
20	0.659	0.068	0.235	0.278	0.005	0.007	0.008	0.007
21	0.642	0.066	0.229	0.271	0.004	0.006	0.008	0.007
22	0.399	0.041	0.142	0.168	0.003	0.004	0.005	0.004
23	0.451	0.046	0.161	0.190	0.003	0.005	0.006	0.005

Notes:

[1] The hourly traffic volume is provided by marine traffic consultant and agreed by Marine Department. Moreover, it is noted that not all vessels passing the gate navigate within the 500 m assessment boundary. As such, the marine traffic flow has been divided into three routes , with reference to the approved EIA for the Tsing Yi–Lantau Link, in which three principal navigation routes are defined within the fairway.

[2] No breakdown of RTV types are available in the traffic data. Therefore, the hourly traffic volume of each vessel type is calculated by the following equation: Hourly traffic volume of RTV * Proportion of Arrivals by vessel type

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, Local Ferry)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	*Vessel Type*	*Main Engine (ME) Type*	*Fuel*	*Main Engine Power (kW) [3]*	*SO_2 Emission Factors_ME (g/kWh) [4]*	*NOx Emission Factors_ME (g/kWh) [4]*	*RSP Emission Factors_ME (g/kWh) [5]*	*FSP Emission Factor_ME (g/kWh) [5][6]*
ML01	Local Ferry (Park Island <=> Central)	Diesel Engine [1]	Marine Light Diesel (Sulphur Content <= 0.05%) [2]	2686	0.21	13.2	0.17	0.16

Calculation of ME Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot) [7]*	*Operation Mode^*	*Maximum Length of Sailing Route (nautical miles) [7]*	*Time-in-mode (hr) [7]*	*Load Factor [8]*	*SO_2 Emission Rate_ME (g/s-trip) [9]*	*NOx Emission Rate_ME (g/s-trip) [9]*	*RSP Emission Rate_ME (g/s-trip) [9]*	*FSP Emission Rate_ME (g/s-trip) [9]*
ML01	Local Ferry (Park Island <=> Central)	18	Fairway Cruise	0.851	0.0463	0.8	1.150E-02	7.291E-01	9.188E-03	8.912E-03

Notes:

* Unless specified otherwise, references were made to Study on Marine Vessels Emission Inventory (MVEIS)

^ Operation mode refers to Table 3-24 of MVEIS.

[1] The main engine type is based on desktop review. (http://www.barcaferry.com/photo/photo_shipyards/marintekink/marintekink_cpv38_date.html)

[2] According to the Air Pollution Control (Marine Light Diesel) Regulation, local vessel in Hong Kong should be using marine light diesel with sulphur content of 0.05%.

[3] There are two fleets for Park Island Ferry. The ferry model having higher main engine power is adopted as a worst-case scenario. Also, the vessels are installed with two main engines, each rated at 1343 kW; and the total engine power (2686 kW) is presented and adopted. (http://www.barcaferry.com/photo/photo_shipyards/marintekink/marintekink_cpv38_date.html)

[4] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The NOx emission rate for Main Engine was adopted based on Table 4-17 of MVEIS.

[5] The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for Ferry is 213 and Fuel Sulphur Fraction is 0.0005.

[6] According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[7] The average speed and sailing route are provided by marine traffic consultant. Based on the operation needs, the ferries could get a Speed Restriction Exemption Permits (SREPs) from the Marine Department. The vessel with the license is allowed to proceed at a speed exceeding the maximum permitted speed within Zone A or

[8] The Main Engine Load Factor of Park Island Ferry is based on Table 4-9 of MVEIS.

[9] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = No. of Engine * Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh), where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessel Type*	*Auxiliary Engine Power (kW) [1]*	*SO_2 Emission Factors_AE (g/kWh) [2]*	*NOx Emission Factors_AE (g/kWh) [2]*	*RSP Emission Factors_AE (g/kWh) [3]*	*FSP Emission Factor_AE (g/kWh) [3]*
ML01	Local Ferry (Park Island <=> Central)	326	0.21	10	0.17	0.16

Calculation of AE Emission Rate

Vessel ID	*Vessel Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [4]*	*SO_2 Emission Rate_AE (g/s-trip) [5]*	*NOx Emission Rate_AE (g/s-trip) [5]*	*RSP Emission Rate_AE (g/s-trip) [5]*	*FSP Emission Rate_AE (g/s-trip) [5]*
ML01	Local Ferry (Park Island <=> Central)	18	Fairway Cruise	0.851	0.0463	0.45	3.926E-04	1.885E-02	3.136E-04	3.042E-04

Notes

[1] According to Paragraph 4.2.12 of MVEIS, the auxiliary engine power of a Macau ferry ranges from 120-326 kW. As a worst-case scenario, 326 kW is adopted for AE power calculation.

[2] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The NOx emission rate for Auxiliary Engine was adopted based on Table 4-17 of MVEIS

[3] The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for Ferry is 213 and Fuel Sulphur Fraction is 0.0005. According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[4] The Auxiliary Engine Load Factors of Park Island Ferry is based on Table 4-10 of MVEIS.

[5] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = No. of Engine * Engine Power (kW) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh), where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Total Emission Rate

Vessel ID	*Total SO_2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*
ML01	1.189E-02	7.479E-01	9.502E-03	9.216E-03

Notes

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Hourly Traffic Volume

Hour per Day	*Hourly Traffic Volume [1]*
	ML01
0	0.000
1	0.000
2	0.000
3	0.000
4	0.000
5	0.000
6	0.714
7	4.143
8	4.857
9	4.857
10	3.429
11	2.000
12	2.000
13	2.000
14	2.000
15	2.000
16	2.000
17	2.714
18	3.429
19	3.429
20	3.429
21	2.714
22	2.000
23	2.000

Notes:

[1] The hourly traffic volume refer to Park Island ferry schedule (http://www.pitcl.com.hk/attachment/ferry/pdf/168655763467Rqf.pdf). The average hourly traffic flow is determined by the following equation: [5 * Hourly traffic volume (Mon - Fri) + 2 * Hourly traffic volume (Sat/Sun/Public Holiday)] / 7. Moreover, it is noted that not all vessels passing the gate navigate within the 500 m assessment boundary. As such, the marine traffic flow has been divided into three routes , with reference to the approved EIA for the Tsing Yi–Lantau Link, in which three principal navigation routes are defined within the fairway.

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, Cross Boundary Ferries)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	*Vessal Type*	*Route ^*	*Vessel Type (MVEIS)*	*Main Engine (ME) Type [1]*	*Fuel [2]*	*Average Main Engine Power (kW) [3]*	*Brake Specific Fuel Consumption (BSFC) [4]*	*SO_2 Emission Factors_ME (g/kWh) [5]*	*NOx Emission Factors_ME (g/kWh) [5]*	*RSP Emission Factors_ME (g/kWh) [5]*	*FSP Emission Factor_ME (g/kWh) [5]*
MC01	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Shekou	PRD Ferry	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	2184.6	213	0.21	13.2	0.17	0.16
	Cross Boundary Ferry	China Ferry Terminal <=> Nansha	PRD Ferry	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	3150.0	213	0.21	13.2	0.17	0.16
	Cross Boundary Ferry	China Ferry Terminal <=> Zhongshan	PRD Ferry	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	3840.0	213	0.21	13.2	0.17	0.16
	Cross Boundary Ferry	China Ferry Terminal <=> Zhuhai	PRD Ferry	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	4822.9	213	0.21	13.2	0.17	0.16
	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Zhuhai	PRD Ferry	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	4822.9	213	0.21	13.2	0.17	0.16

Calculation of ME Emission Rate

Vessel ID	*Vessal Type*	*Route*	*Average Speed (Knot) [6]*	*Operation Mode [7]*	*Maximum Length of Sailing Route (nautical miles) [6]*	*Time-in-mode (hr) [6]*	*Load Factor [8]*	*SO2 Emission Rate_ME (g/s-trip) [9]*	*NOx Emission Rate_ME (g/s-trip) [9]*	*RSP Emission Rate_ME (g/s-trip) [9]*	*FSP Emission Rate_ME (g/s-trip) [9]*
MC01	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Shekou	30	Fairway Cruise	0.851	0.028	0.8	2.861E-03	1.814E-01	2.286E-03	2.217E-03
	Cross Boundary Ferry	China Ferry Terminal <=> Nansha	30	Fairway Cruise	0.851	0.028	0.8	4.125E-03	2.615E-01	3.296E-03	3.197E-03
	Cross Boundary Ferry	China Ferry Terminal <=> Zhongshan	30	Fairway Cruise	0.851	0.028	0.8	5.029E-03	3.188E-01	4.017E-03	3.897E-03
	Cross Boundary Ferry	China Ferry Terminal <=> Zhuhai	30	Fairway Cruise	0.851	0.028	0.8	6.316E-03	4.004E-01	5.046E-03	4.894E-03
	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Zhuhai	30	Fairway Cruise	0.851	0.028	0.8	6.316E-03	4.004E-01	5.046E-03	4.894E-03

Notes:

* Unless specified otherwise, references are made to Study on Marine Vessels Emission Inventory (MVEIS)

^ The routes are advised by Marine Traffic Consultant

[1] The engine types are based on destop reseach, and the detailed sources are presented in the next section "List of PRD Ferries and References"

[2] According to the Air Pollution Control (Marine Light Diesel) Regulation, local vessel in Hong Kong should be using marine light diesel with sulphur content of 0.05%.

[3] The engine power for each ferry in the fleet is based on destop reseach; and the detailed sources are presented in the next section "List of PRD Ferries and References". The average engine power is derived from the following equation: Total engine power installed in the ferry fleet/number of ferries in the fleet

[4] Brake Specific Fuel Consumption (BSFC) for PRD ferry refers to Table 4-17 of MVEIS

[5] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where Fuel Sulphur Fraction is 0.0005.
— The emission factors for NOx of PRD ferry refer to Table 4-17 of MVEIS
— The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where Fuel Sulphur Fraction is 0.0005. According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[6] The average speed and sailing routes are provided by Marine Traffic Consultant; Based on the operation needs, CBF could get a Speed Restriction Exemption Permits (SREPs) from the Marine Department. The vessel with the license is allowed to proceed at a speed exceeding the maximum permitted speed within Zone A or B of Hong Kong Water. Moreover, the time-in-mode is calculated as: Time-in-mode (hr) = Maximun Length of Sailing Route within Assessment Boundary (nautical miles) / Average speed (knot)

[7] Operation mode refers to Table 3-24 of MVEIS.

[8] The ME Load Factors of PRD Ferry refer to Table 4-9

[9] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kWh) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessal Type*	*Route*	*Vessel Type (MVEIS)*	*Auxiliary Engine Power (kW) [1]*	*SO_2 Emission Factors_AE (g/kWh) [2]*	*NOx Emission Factors_AE (g/kWh) [2]*	*RSP Emission Factors_AE (g/kWh) [2]*	*FSP Emission Factor_AE (g/kWh) [2]*
MC01	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Shekou	PRD Ferry	188	0.21	10	0.17	0.16
	Cross Boundary Ferry	China Ferry Terminal <=> Nansha	PRD Ferry	188	0.21	10	0.17	0.16
	Cross Boundary Ferry	China Ferry Terminal <=> Zhongshan	PRD Ferry	188	0.21	10	0.17	0.16
	Cross Boundary Ferry	China Ferry Terminal <=> Zhuhai	PRD Ferry	188	0.21	10	0.17	0.16
	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Zhuhai	PRD Ferry	188	0.21	10	0.17	0.16

Calculation of AE Emission Rate

Vessel ID	*Vessal Type*	*Route*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [3]*	*SO_2 Emission Rate_ME (g/s-trip) [4]*	*NOx Emission Rate_ME (g/s-trip) [4]*	*RSP Emission Rate_ME (g/s-trip) [4]*	*FSP Emission Rate_ME (g/s-trip) [4]*
MC01	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Shekou	30	Fairway Cruise	0.851	0.028	0.45	1.411E-04	6.651E-03	1.098E-04	1.065E-04
	Cross Boundary Ferry	China Ferry Terminal <=> Nansha	30	Fairway Cruise	0.851	0.028	0.45	1.411E-04	6.651E-03	1.098E-04	1.065E-04
	Cross Boundary Ferry	China Ferry Terminal <=> Zhongshan	30	Fairway Cruise	0.851	0.028	0.45	1.411E-04	6.651E-03	1.098E-04	1.065E-04
	Cross Boundary Ferry	China Ferry Terminal <=> Zhuhai	30	Fairway Cruise	0.851	0.028	0.45	1.411E-04	6.651E-03	1.098E-04	1.065E-04
	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Zhuhai	30	Fairway Cruise	0.851	0.028	0.45	1.411E-04	6.651E-03	1.098E-04	1.065E-04

Notes:

[1] The AE Power of PRD Ferry refer to Section 4.2.13 of MVEIS

[2] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for AE (DE) is 217 Fuel Sulphur Fraction is 0.0005.
— The NOx Emission Factors refer to Table 4-17 of MVEIS
— The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC for AE (DE) is 217 Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[3] The AE Load Factors of PRD Ferry refer to Table 4-10 of MVEIS

[4] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kWh) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Total Emission Rate

Vessel ID	*Vessal Type*	*Route*	*Total SO_2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*	*Number of Trips / Week [2]*	*Composite total SO_2 Emission Rate (g/s-trip) [3]*	*Composite total NOx Emission Rate (g/s-trip) [3]*	*Composite total RSP Emission Rate (g/s-trip) [3]*	*Composite total FSP Emission Rate (g/s-trip) [3]*
MC01	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Shekou	3.002E-03	1.880E-01	2.395E-03	2.324E-03	70	5.420E-03	3.413E-01	4.327E-03	4.197E-03
	Cross Boundary Ferry	China Ferry Terminal <=> Nansha	4.266E-03	2.682E-01	3.405E-03	3.303E-03	32				
	Cross Boundary Ferry	China Ferry Terminal <=> Zhongshan	5.170E-03	3.254E-01	4.127E-03	4.003E-03	84				
	Cross Boundary Ferry	China Ferry Terminal <=> Zhuhai	6.457E-03	4.070E-01	5.156E-03	5.001E-03	104				
	Cross Boundary Ferry	Hong Kong - Macau Ferry Terminal <=> Zhuhai	6.457E-03	4.070E-01	5.156E-03	5.001E-03	115				

Notes:

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate

[2] Number of trips per week were derived based on operators' published schedules

[3] Composite Total Emission Rate is calculated as follows, SUM(Total Emission Rate of route i * Number of trips of route i per week) / Total trips per week

Hourly Traffic Volume

	Hourly Traffic Volume [1]
Hour per Day	MC01
0	0.000
1	0.000
2	0.000
3	0.000
4	0.000
5	0.000
6	0.000
7	0.267
8	0.967
9	0.733
10	0.600
11	0.900
12	0.433
13	0.033
14	0.733
15	0.600
16	1.433
17	0.533
18	1.000
19	0.567
20	0.200
21	0.000
22	0.000
23	0.000

Notes:

[1] The hourly traffic volume is provided by marine traffic consultant. Moreover, it is noted that not all vessels passing the gate navigate within the 500 m assessment boundary. As such, the marine traffic flow has been divided into three routes , with reference to the approved EIA for the Tsing Yi–Lantau Link, in which three principal navigation routes are defined within the fairway.

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

List of PRD Ferries and References

Route	Operator	Vessel Name	Main engine	Main Engine Power	Reference (Vessel in the fleet and Operator)	Reference (Main Engine Parameters)
Hong Kong - Macau Ferry Terminal <=> Shekou	迅隆船務/深圳船務	迅隆壹號	2 x MTU 12V 183 TE 92 diesel engines	2 x 735kW	http://www.barcaferry.com/timetable/china/route_hksk.htm	http://www.barcaferry.com/photo/photo_shipyards/rosendal/admiral_36m.html
		迅隆貳號	2 x MTU 12V 2000 MTO diesel engines	2 x 788kW		http://www.barcaferry.com/photo/photo_shipyards/batservice/batservice_38m_date.html
		迅隆3	2 x MTU 16V 2000 M70 diesel engines	2 x 1,050kW		http://www.barcaferry.com/photo/photo_shipyards/wangtak/wangtak_33m_xunlong3_date.html
		迅隆4	2 x MTU 16V 2000 M70 diesel engines	2 x 1,050kW		http://www.barcaferry.com/photo/photo_shipyards/wangtak/wangtak_33m_xunlong3_date.html
		迅隆5	2 x MTU 16V 2000 M70 diesel engines	2 x 1,050kW		http://www.barcaferry.com/photo/photo_shipyards/incat_crowther/incat_crowther_34m_date.html
		迅隆6	2 x MTU 16V 2000 M70 diesel engines	2 x 1,050kW		http://www.barcaferry.com/photo/photo_shipyards/incat_crowther/incat_crowther_34m_date.html
		迅隆7	2 x MTU 16V2000 M72 diesel engines	2 x 1,050kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc300_date.html
		迅隆8	2 x MTU 16V2000 M72 diesel engines	2 x 1,440kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc300_date.html
		迅隆9	2 x MTU 16V2000M72 diesel engines	2 x 1,440kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc268_date.html
		鵬星1	2 x MTU 16V2000 M72 diesel engines	2 x 1,440kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc300_date.html
		鵬星2	2 x MTU 16V2000 M72 diesel engines	2 x 1,440kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc300_date.html
		鵬星11	2 x MTU 16V 2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/wangtak/wangtak_33m_pengxing11_date.html
		鵬星12	2 x MTU 16V 2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/wangtak/wangtak_33m_pengxing11_date.html
		鵬星15	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc200_date.html
		鵬星16	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc200_date.html
		鵬星18	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc200_date.html
		鵬星19	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc200_date.html
		鵬星20	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc200_date.html
		鵬星21	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc199_date.html
		鵬星22	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc199_date.html
		鵬星23	2 x MTU 12V2000 M72 diesel engines	2 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc199_date.html
		恆星	2 x Cummins KTA 38-M2	2 x 895 kW		https://www.cheoylee.com/product/detail/24/
		瑞星	2 x Cummins KTA 38-M2	2 x 895 kW		https://www.cheoylee.com/product/detail/24/
China Ferry Terminal <=> Nansha	番禺蓮花山港客運有限公司	銀珠湖	2 x MTU 16V 2000 M72 diesel engines	2 x 1440 kW	http://www.barcaferry.com/timetable/china/route_cks_lianhua.htm	http://www.barcaferry.com/photo/photo_shipyards/brodrene_aa/40.8m_date.html
		鎂珠湖	2 x MTU 16V 2000 M72 diesel engines	2 x 1440 kW		http://www.barcaferry.com/photo/photo_shipyards/brodrene_aa/40.8m_date.html
		鈦珠湖	2 x MTU 16V 2000 M72 diesel engines	2 x 1440 kW		http://www.barcaferry.com/photo/photo_shipyards/brodrene_aa/40.8m_date.html
		太建	2 x MTU 16V 396 T E74L	2 x 1,980 kW		https://www.austal.com/sites/default/files/data-sheet/H120-121%20datasheet%20low%20res_0.pdf
China Ferry Terminal <=> Zhongshan	中港客運聯營有限公司	中山6	4 x MTU 12V2000 M72 marine diesel engines	4 x 1,080kW	http://www.barcaferry.com/timetable/china/route_cks_klnzhongshan.htm	http://www.barcaferry.com/photo/photo_shipyards/brodrene_aa/44m_date.html
		中山20	4 x MTU 12V2000 M72 marine diesel engines	4 x 1,080kW		http://www.barcaferry.com/photo/photo_shipyards/brodrene_aa/44m_date.html
		中山26	2 x MTU 16V2000 M72 marine diesel engines	2 x 1,440kW		http://www.barcaferry.com/photo/photo_shipyards/brodrene_aa/42m_date.html
China Ferry Terminal <=> Zhuhai	珠海高速客輪有限公司	海琴	2 x MTU 16V4000 M70 diesel engines	2 x 2240kW	http://www.barcaferry.com/timetable/china/route_cks_klnjiuzhou.htm	http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc288_date.html
		海琛	2 x MTU 16V4000 M70 diesel engines	2 x 2240kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc288_date.html
		新海山	2 x MTU 16V4000 M70 diesels engine	2 x 2240kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc300_xinhaishan_date.html
		新海威	2 x MTU 16V4000 M70 diesels engine	2 x 2240kW		https://www.made-in-china.com/showroom/8e8af849f86a9b43/product-detailCxMRHbyDnzkI/China-42m-High-Speed-Passenger-Catamaran-for-Sale.html
		南沙68	4 x MTU 16V 396 TE 74L	4 x 1980kW		http://www.barcaferry.com/photo/photo_shipyards/newtech/newtech_42m_date.html
		海弛	2 x MTU 16V 396TE 74L diesels engine	2 x 1,980kW		http://www.barcaferry.com/photo/photo_shipyards/austal/austal_40m_11m_nanhuaclass_date.html
		海洋	2 x MTU 16V 396 TE 74L diesels engine	2 x 1,980kW		http://www.barcaferry.com/photo/photo_shipyards/austal/austal_40m_11m_nanhuaclass_date.html
Hong Kong - Macau Ferry Terminal <=> Zhuhai	珠海高速客輪有限公司	海琴	2 x MTU 16V4000 M70 diesel engines	2 x 2240kW	http://www.barcaferry.com/timetable/china/route_cks_klnjiuzhou.htm	http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc288_date.html
		海琛	2 x MTU 16V4000 M70 diesel engines	2 x 2240kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc288_date.html
		新海山	2 x MTU 16V4000 M70 diesels engine	2 x 2240kW		http://www.barcaferry.com/photo/photo_shipyards/coco_yachts/cc300_xinhaishan_date.html
		新海威	2 x MTU 16V4000 M70 diesels engine	2 x 2240kW		https://www.made-in-china.com/showroom/8e8af849f86a9b43/product-detailCxMRHbyDnzkI/China-42m-High-Speed-Passenger-Catamaran-for-Sale.html
		南沙68	4 x MTU 16V 396 TE 74L	4 x 1980kW		http://www.barcaferry.com/photo/photo_shipyards/newtech/newtech_42m_date.html
		海弛	2 x MTU 16V 396TE 74L diesels engine	2 x 1,980kW		http://www.barcaferry.com/photo/photo_shipyards/austal/austal_40m_11m_nanhuaclass_date.html
		海洋	2 x MTU 16V 396 TE 74L diesels engine	2 x 1,980kW		http://www.barcaferry.com/photo/photo_shipyards/austal/austal_40m_11m_nanhuaclass_date.html

Notes:

[1] The engine type and engine power of "海珠湖" and "海珠灣" refer to the parameters of "鎂珠湖" because the LOA of these vessels are similar and designed by the same company - Brødrene Aa

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Calculation of Marine Emission (Ma Wan Fairway, Gate 2, Tugs, Fast Launches and Small Crafts)

Vessel-Specific Parameters - Main Engine (ME)

Vessel ID	*Vessal Type*	*Vessel Type (MVEIS) [1]*	*Main Engine (ME) Type [2]*	*Fuel [3]*	*Main Engine Power (kW) [4]*	*SO_2 Emission Factors_ME (g/kWh) [5]*	*NOx Emission Factors_ME (g/kWh) [5]*	*RSP Emission Factors_ME (g/kWh) [5]*	*FSP Emission Factor_ME (g/kWh) [5]*
MT01	Tug	Tug (GRT>=1000)	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	2371	0.21	13.2	0.17	0.16
MF01	Fast Launch	Others (GRT >= 1000)	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	707	0.21	10	0.17	0.16
MS01	Small Craft (Pleasure Vessel)	Others (GRT >= 1000)	Diesel Engine	Marine Light Diesel (Sulphur Content <= 0.05%)	707	0.21	10	0.17	0.16

Calculation of ME Emission Rate

Vessel ID	*Vessal Type*	*Average Speed (Knot) [6]*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles) [6]*	*Time-in-mode (hr) [6]*	*Load Factor [7]*	*SO_2 Emission Rate_ME (g/s-trip) [8]*	*NOx Emission Rate_ME (g/s-trip) [8]*	*RSP Emission Rate_ME (g/s-trip) [8]*	*FSP Emission Rate_ME (g/s-trip) [8]*
MT01	Tug	2.5	Maneuvering	0.851	0.3378	0.3	1.390E-02	8.811E-01	1.110E-02	1.077E-02
MF01	Fast Launch	10.0	Slow Cruise	0.851	0.0848	0.3	1.040E-03	4.996E-02	8.310E-04	8.061E-04
MS01	Small Craft (Pleasure Vessel)	6.6	Maneuvering	0.851	0.1282	0.45	2.359E-03	1.133E-01	1.885E-03	1.828E-03

Notes:

* Unless specified otherwise, references are made to Study on Marine Vessels Emission Inventory (MVEIS)

[1] Classification of vessel type refer Table 4-1 of MVEIS, Small Craft and Fast Launch are classifed as "Others (GRT >= 1000)" as a conservative estimation

[2] The main engine type refers to S4.2.6 of MVEIS

[3] According to the Air Pollution Control (Marine Light Diesel) Regulation, local vessel in Hong Kong should be using marine light diesel with sulphur content of 0.05%.

[4] The average ME Power refer to Table 4-5 of MVEIS

[5] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The NOx emission factors for refer to Table 4.16.
— The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[6] The average speed and sailing route provided by Marine Traffic Consultant. Moreover, the time-in-mode is calculated as: Time-in-mode (hr) = Maximun Length of Sailing Route within Assessment Boundary (nautical miles) / Average speed (knot)

[7] The load factors are determined from Table 4-7 of MVEIS.

[8] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kWh) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Vessel-Specific Parameters - Auxiliary Engine (AE)

Vessel ID	*Vessal Type*	*Vessel Type (MVEIS)*	*Auxiliary Engine Power (kW) [1]*	*SO_2 Emission Factors_AE (g/kWh) [2]*	*NOx Emission Factors_AE (g/kWh) [2]*	*RSP Emission Factors_AE (g/kWh) [2]*	*FSP Emission Factor_AE (g/kWh) [2]*
MT01	Tug	Tug (GRT>=1000)	220	0.21	10.0	0.17	0.16
MF01	Fast Launch	Others (GRT >= 1000)	115	0.21	10.0	0.17	0.16
MS01	Small Craft (Pleasure Vessel)	Others (GRT >= 1000)	115	0.21	10.0	0.17	0.16

Calculation of AE Emission Rate

Vessel ID	*Vessal Type*	*Average Speed (Knot)*	*Operation Mode*	*Maximum Length of Sailing Route (nautical miles)*	*Time-in-mode (hr)*	*Load Factor [3]*	*SO_2 Emission Rate_AE (g/s-trip) [4]*	*NOx Emission Rate_AE (g/s-trip) [4]*	*RSP Emission Rate_AE (g/s-trip) [4]*	*FSP Emission Rate_AE (g/s-trip) [4]*
MT01	Tug	3	Maneuvering	0.851	0.3378	0.43	1.848E-03	8.877E-02	1.477E-03	1.432E-03
MF01	Fast Launch	10	Slow Cruise	0.851	0.0848	0.43	2.425E-04	1.165E-02	1.937E-04	1.879E-04
MS01	Small Craft (Pleasure Vessel)	7	Maneuvering	0.851	0.1282	0.43	3.667E-04	1.761E-02	2.930E-04	2.842E-04

Notes

[1] The AE Power refer Table 4-6 of MVEIS

[2] — The SO2 emission factors were calcaulted based on the formula stated in Paragraph 4.2.31 of MVEIS: BSFC x 2 x 0.97753 x Fuel Sulphur Fraction, where BSFC for main engine installed in RTV is 213 and Fuel Sulphur Fraction is 0.0005.
— The Emission Factors refer to Table 4-16 of MVEIS.
— The RSP emission factors were adjusted based on the formula stated in Paragraph 4.2.31 of MVEIS: The formula of RSP Emission Factor is 0.23+ BSFC x 7 x 0.02247 x (Fuel Sulphur Fraction - 0.0024), where BSFC is 213 and Fuel Sulphur Fraction is 0.0005.
— According to Paragraph 4.2.32 of MVEIS, the RSP to FSP conversion factor is 0.97.

[3] The AE Load Factors of Others (GRT >= 1000) and Tug refer to Table 4-10 of MVEIS

[4] The calculations of emission rates refer to the following equation: Emission Rate (g/s) = Engine Power (kWh) * Time-in-mode per hour * Engine Load Factor * Emission Factor (g/kWh) / 3600 , where Time-in-mode per hour refers to the duration ratio of a vessel operating in a specific mode within a one-hour period (i.e., Time-in-mode (hr) / 1 hour)

Total Emission Rate

Vessel ID	*Total SO_2 Emission Rate (g/s-trip) [1]*	*Total NOx Emission Rate (g/s-trip) [1]*	*Total RSP Emission Rate (g/s-trip) [1]*	*Total FSP Emission Rate (g/s-trip) [1]*
MT01	1.575E-02	9.699E-01	1.258E-02	1.220E-02
MF01	1.283E-03	6.161E-02	1.025E-03	9.940E-04
MS01	2.726E-03	1.309E-01	2.178E-03	2.112E-03

Note:

[1] Total Emission Rate is determined by this equation : ME Emission Rate + AE Emission Rate

Appendix 4.10 Calculation of Marine Emission (in Ma Wan Fairway and nearby Channel)

Hourly Traffic Volume

	Average Traffic Flow of Each Vessel ID [1]		
Hour per Day	MT01	MF01	MS01
0	0.0	0.0	0.0
1	0.2	0.2	0.2
2	0.0	0.0	0.0
3	0.0	0.0	0.0
4	0.0	0.0	0.0
5	0.0	0.0	0.0
6	0.0	0.0	0.0
7	0.2	0.2	0.2
8	0.3	0.3	0.3
9	0.3	0.3	0.3
10	0.2	0.2	0.2
11	0.2	0.2	0.2
12	0.2	0.2	0.2
13	0.0	0.0	0.0
14	0.2	0.2	0.2
15	0.2	0.2	0.2
16	0.5	0.5	0.5
17	0.2	0.2	0.2
18	0.2	0.2	0.2
19	0.2	0.2	0.2
20	0.2	0.2	0.2
21	0.2	0.2	0.2
22	0.2	0.2	0.2
23	0.0	0.0	0.0

Note

[1] The hourly traffic volume is provided by marine traffic consultant. Moreover, it is noted that not all vessels passing the gate navigate within the 500 m assessment boundary. As such, the marine traffic flow has been divided into three routes , with reference to the approved EIA for the Tsing Yi–Lantau Link, in which three principal navigation routes are defined within the fairway.



N

Locations of Marine Emission Sources (in Ma Wan Fairway and across Ting Kau Bridge)

0 0.1 0.2 0.4 Kilometers

Appendix 4.11

Appendix 4.11 Analysis of Particulates Emission by Proposed Asphalt Production.pdf

Proposed Asphalt Production in Option 1 [1]

Source ID	Source	Working Hour	Annual Production Factor	RSP Emission Rate (g/s)	FSP Emission Rate (g/s)
AP01	Cold Aggregate Hopper	00:00 - 24:00	0.4	3.067E-05	7.184E-06
AP02	Dust Emission System	00:00 - 24:00	0.4	9.013E-03	7.830E-03
AP03	Dust Collector at RAP Storage	00:00 - 24:00	0.4	6.667E-03	3.030E-03
AP04	Aggregate Reject Bin	00:00 - 24:00	0.4	5.843E-04	1.369E-04
AP05	Foul Batch Hopper	00:00 - 24:00	0.4	5.983E-05	5.983E-05
AP31	Dump Truck	00:00 - 24:00	0.4	1.173E-05	2.748E-06
AP32	Dump Truck	00:00 - 24:00	0.4	1.173E-05	2.748E-06
AP33	Dump Truck	00:00 - 24:00	0.4	1.173E-05	2.748E-06
AP34	Dump Truck	00:00 - 24:00	0.4	1.173E-05	2.748E-06
Sub-total				*1.640E-02*	*1.108E-02*

Total Emission Inventory from Proposed Asphalt Production (Option 1)

	RSP (g)	FSP (g)
Hourly Emission [2]	5.905E+01	3.987E+01
Annual Emission [3]	2.069E+05	1.397E+05

Remarks

[1] The emission rates and operation details refer to Appendix 4.2

[2] Hourly Emission (g) = Total Emission Rate (g/s) * 3600

[3] Annual Emission (g) = Hourly Emission * 24 * 365 * Annual Production Factor

Proposed Concrete Batching Operation per 1 production Line in Option 1 (Mixer-A, EP28 as an example)

Dust Collectors on the Silos and Mixer [1]

Source ID	Source	Working Hour	Annual Production Factor	RSP Emission Rate (g/s)	FSP Emission Rate (g/s)
CBP23	Silica Fume Silo	07:00 - 19:00	0.9	2.667E-03	1.212E-03
CBP20	PFA Silo	07:00 - 19:00	0.9	2.667E-03	1.212E-03
CBP17	GGBS Silo	07:00 - 19:00	0.9	2.667E-03	1.212E-03
CBP11	Cement Silo	07:00 - 19:00	0.9	1.700E-03	7.727E-04
CBP12	Cement Silo	07:00 - 19:00	0.9	1.700E-03	7.727E-04
CBP26	Mixer	07:00 - 19:00	0.9	9.130E-03	4.150E-03
Sub-total				*2.053E-02*	*9.332E-03*

Unloading Aggregate to Hopper [2]

Source ID	Source	Working Hour	Annual Production Factor	Area (m^2)	RSP Emission Factor ($g/s \cdot m^2$)	FSP Emission Factor ($g/s \cdot m^2$)	RSP Emission Rate (g/s)	FSP Emission Rate (g/s)
CBP31	Unloading Aggregate to Hopper	07:00 - 19:00	0.9	25	1.407E-04	3.297E-05	3.518E-03	8.242E-04
CBP32	Unloading Aggregate to Hopper	07:00 - 19:00	0.9	25	2.908E-04	6.813E-05	7.271E-03	1.703E-03
Sub-total					*4.316E-04*	*1.011E-04*	*1.079E-02*	*2.527E-03*

Total Emission Inventory from proposed concrete batching operation (per 1 production Line)

	RSP (g)	FSP (g)
Hourly Emission [4]	1.128E+02	4.269E+01
Annual Emission [5]	4.445E+05	1.683E+05

Remarks

[1] The emission rates and operation details , except working hour, refer to Appendix 4.2.

[2] As there are 5 production lines in the CBP, the emission rate is divided by 5

[3] Emission Rate (g/s) = Emission Factor ($g/s \cdot m^2$) * Area (m^2)

[4] Hourly Emission (g) = Total Emission Rate (g/s) * 3600

[5] Annual Emission (g) = Hourly Emission * 12 * 365 * Annual Production Factor

Equivalent Production Rate of a CBP Production Line based on Particulate Emission Inventories

	In terms of 1 CBP Production Line of 100 m^3/hr		Equivalent to CBP Production Rate (m^3/hr)
	Based on RSP	Based on FSP	
Hourly	0.52	0.93	52.4
Annual	0.47	0.83	46.5

[1] Ratio of Emission Inventory of Asphalt Production to Concrete Batching Operation = Emission Inventory of Asphalt Production / Emission Inventory of Concrete Batching Production.

[2] The working hours of the equivalent CBP production line operates from 00:00 – 24:00, following the operation hours of the Asphalt Production

Appendix 4.12

Predicted Pollutant Concentrations at the Fresh Air Intakes of Tsing Ma Administrative Building

				Year 2028		Year 2030	
Fresh Air Intake	Assessment Height (mAG)	Fresh Air Intake Locations	The area to which the fresh air is supplied	Annual FSP Conc. ($\mu g/m^3$)	Annual NO2 Conc. ($\mu g/m^3$)	Annual FSP Conc. ($\mu g/m^3$)	Annual NO2 Conc. ($\mu g/m^3$)
FAI01	10.1	2/F	2/F	14.58	37.62	13.25	34.04
FAI01	14.1	2/F	2/F	14.33	34.48	13.04	31.54
FAI02	26	5/F	3/F	13.95	30.17	12.72	28.14
FAI02	30	5/F	3/F	13.86	29.45	12.63	27.56
FAI03	26	5/F	4/F	13.95	30.16	12.72	28.13
FAI03	30	5/F	4/F	13.86	29.44	12.63	27.54
FAI04	1.5	G/F	G/F	15.07	44.19	13.67	39.58
FAI04	3	G/F	G/F	15.01	43.10	13.62	38.55
FAI04	5.6	G/F	G/F	14.86	41.19	13.50	36.95
FAI05	10.1	2/F	1/F	14.52	37.17	13.20	33.76
FAI05	14.1	2/F	1/F	14.31	34.57	13.03	31.69

Remarks

[1] The locations and heighs are determined based on the floor plan of the Tsing Ma Administrative Building

FAI01

FAI02

FAI03

FAI04

FAI05

Legend

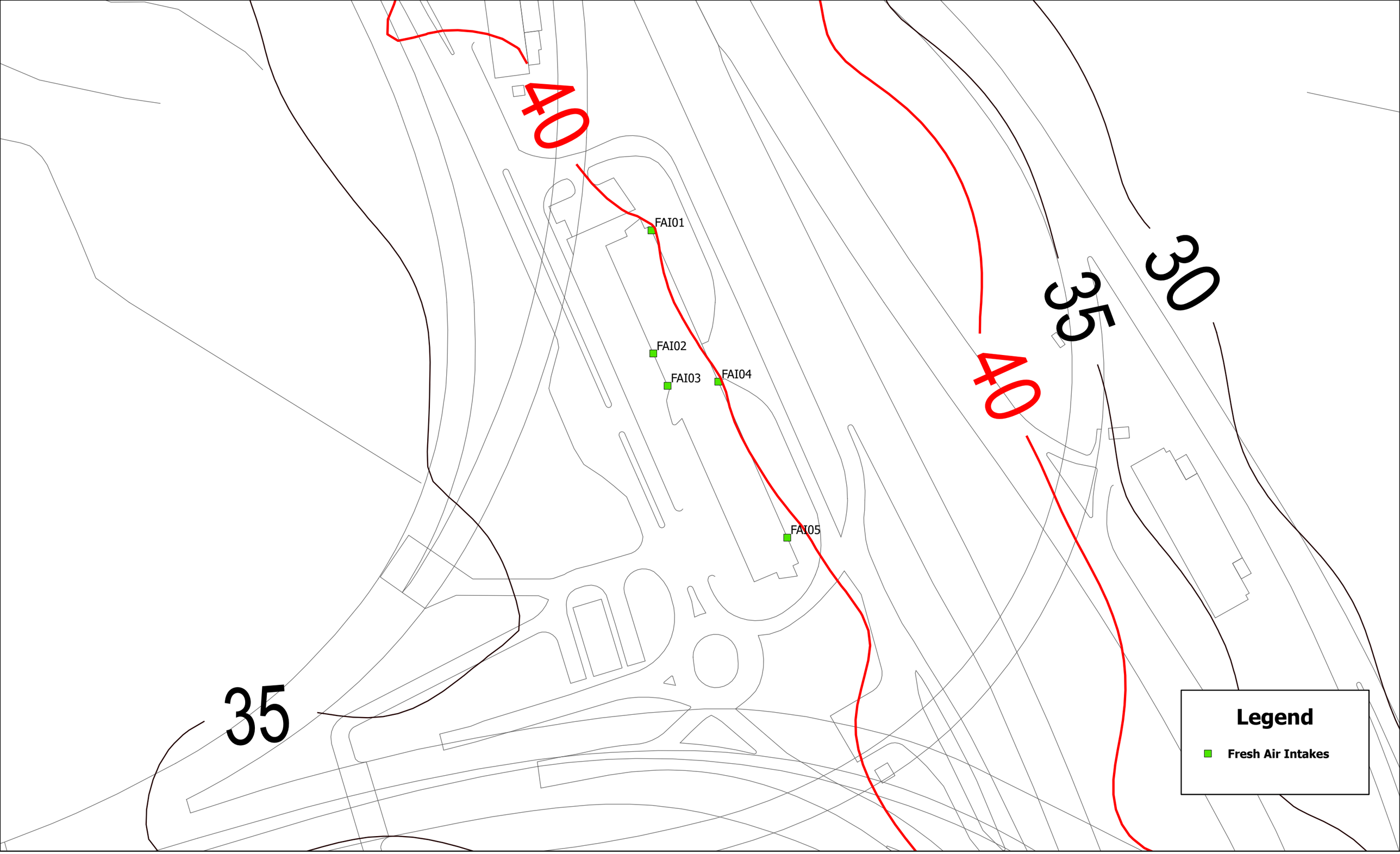
- Fresh Air Intakes

The locations of Fresh Air Intakes are determined based on Floor Plan of Tsing Ma Administrative Building

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Location of Fresh Air Intakes for Tsing Ma Administrative Building

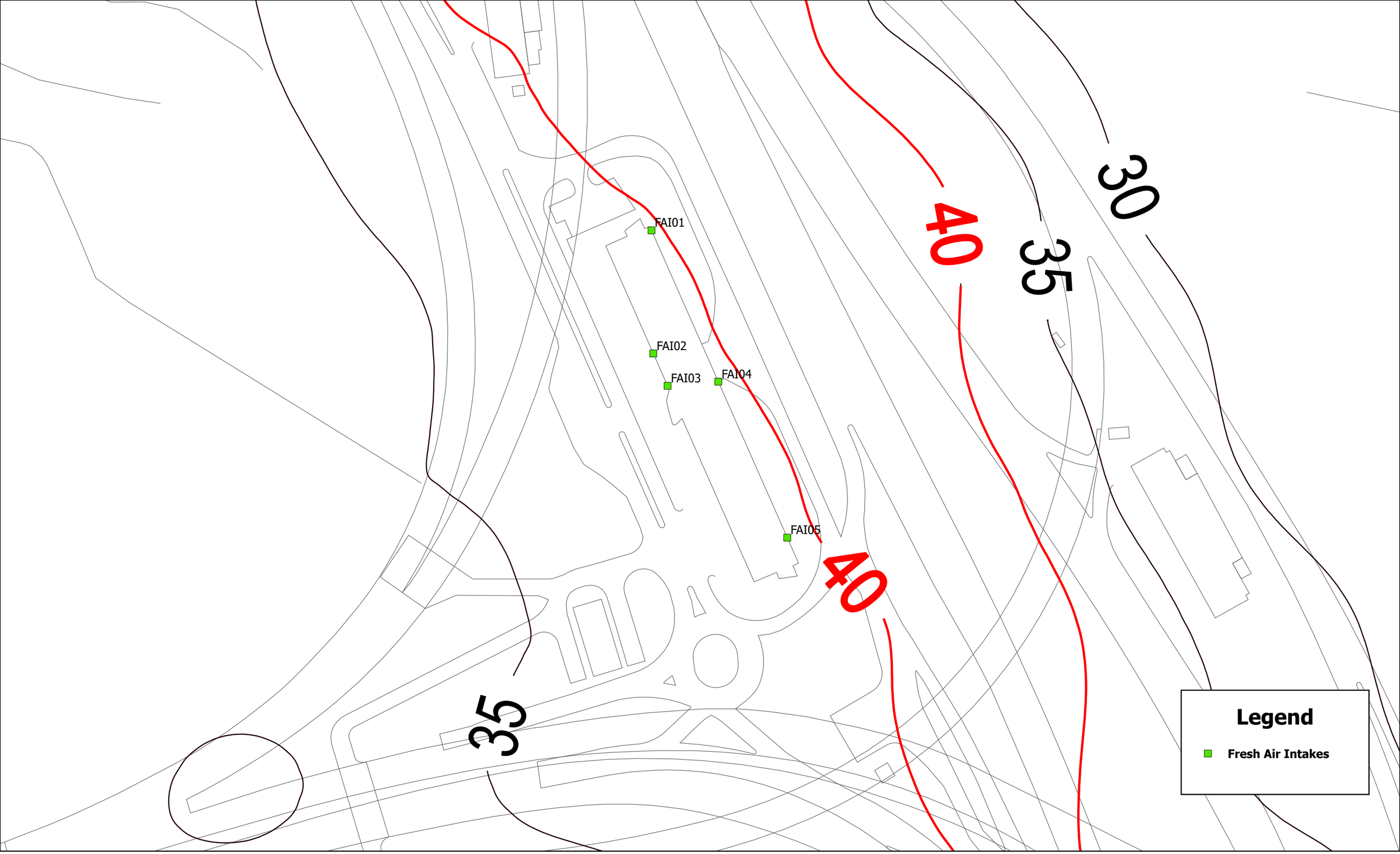
0 0.01 0.02 0.04 Kilometers



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Contour Plot of Annual NO2 Concentration at 1.5 mAG (Year 2030)

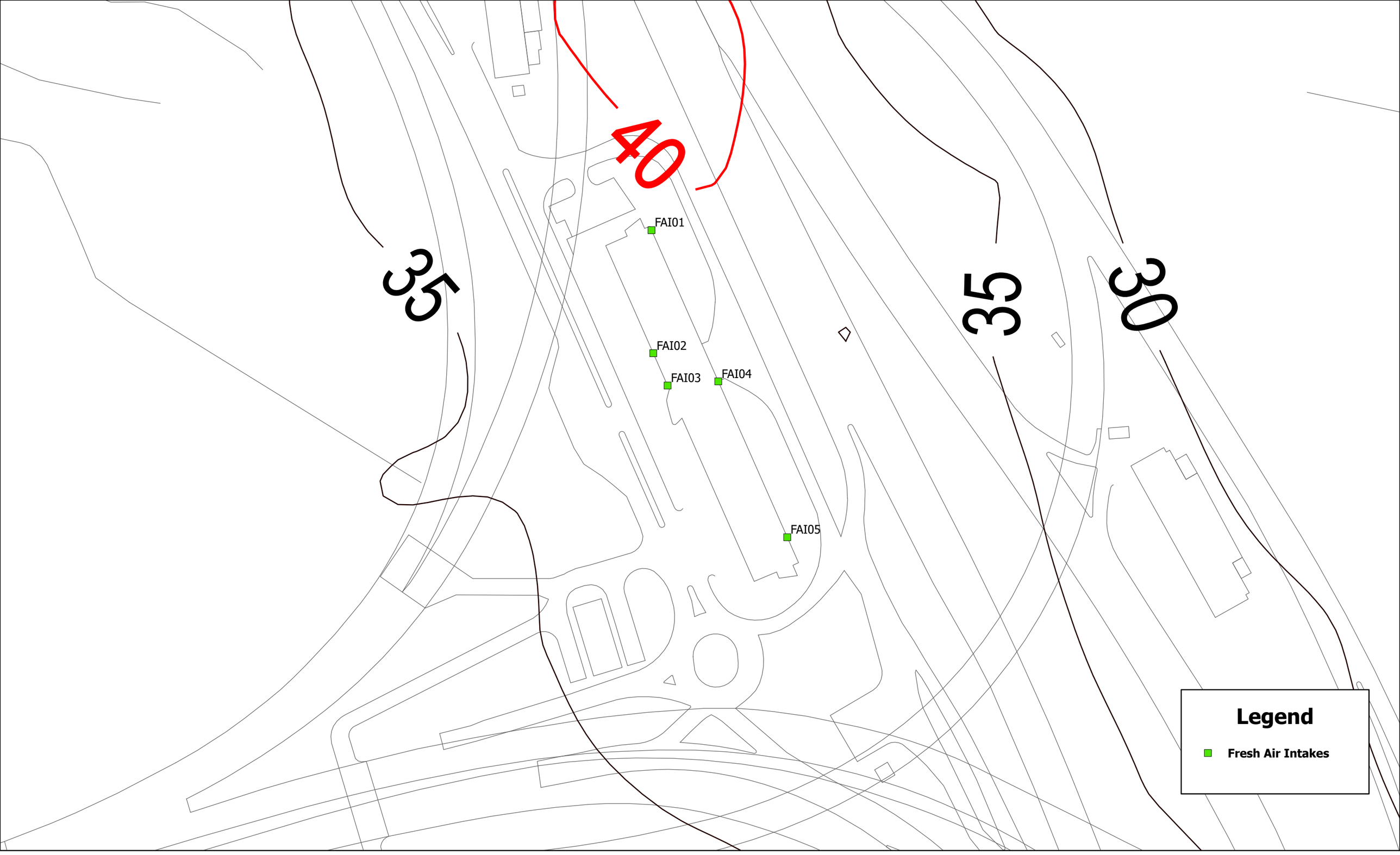
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Contour Plot of Annual NO2 Concentration at 3 mAG (Year 2030)

0 0.02 0.04 0.08 Kilometers



N

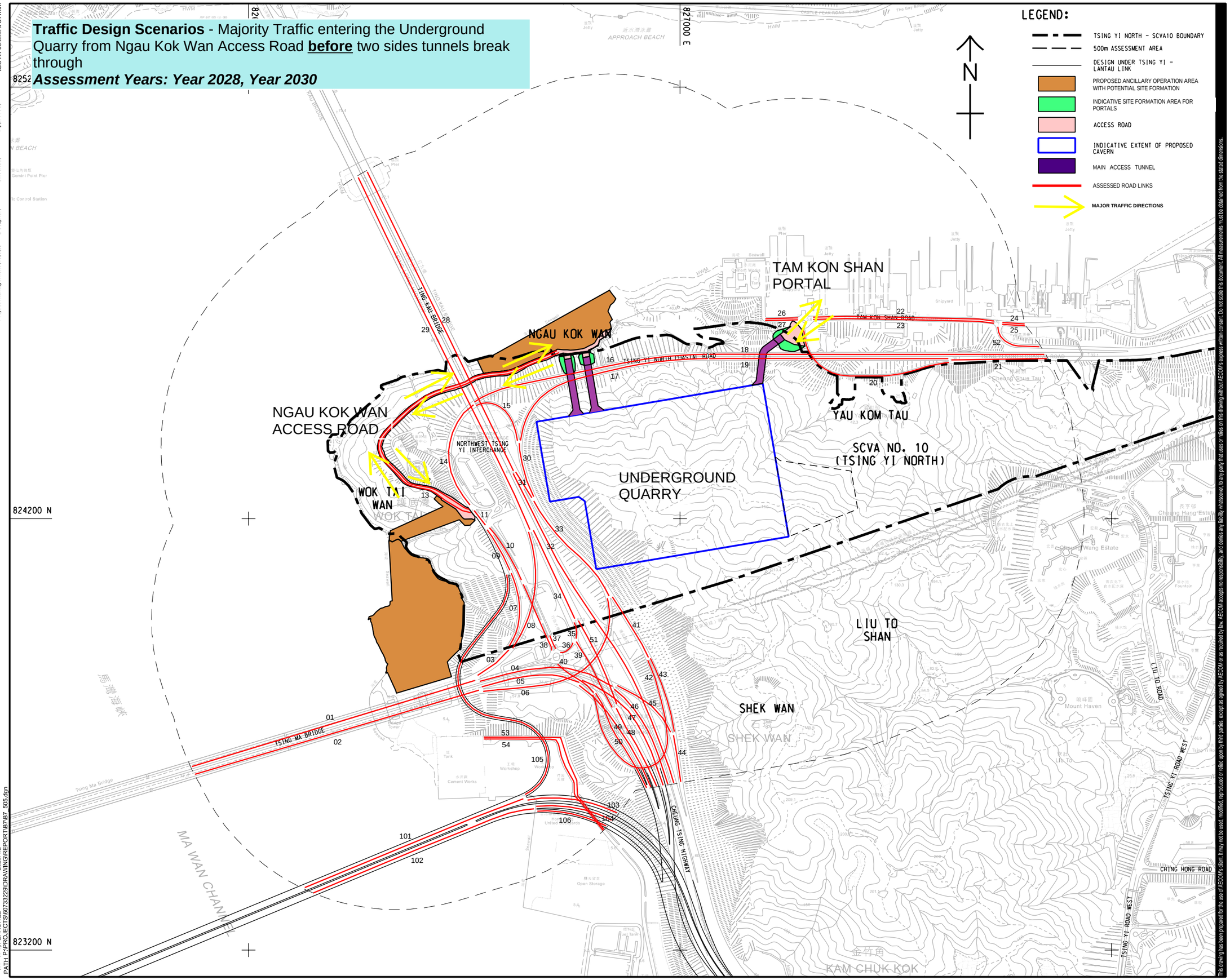
Contour Plot of Annual NO2 Concentration at 5.6 mAG (Year 2030)

0 0.02 0.04 0.08 Kilometers

Appendix 4.13

Traffic Design Scenarios - Majority Traffic entering the Underground Quarry from Ngau Kok Wan Access Road **before** two sides tunnels break through

Assessment Years: Year 2028, Year 2030



ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
土程顧問公司

AECOM Asia Company Ltd.
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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 修改摘要	CHK. 校核

STATUS
階段

SCALE 比例
A3 1 : 8000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

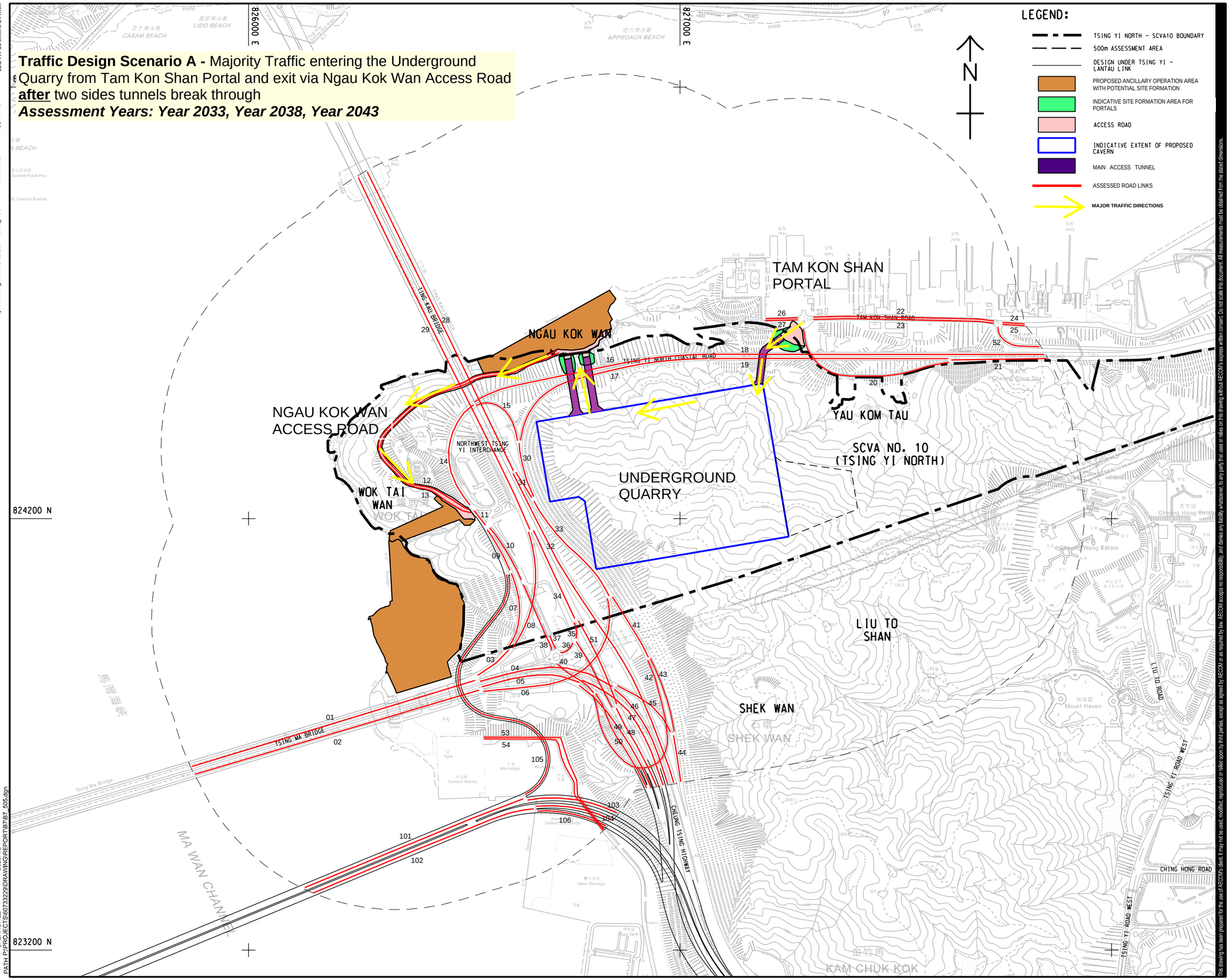
AGREEMENT NO. 合約編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SHEET NUMBER
圖紙編號

Traffic Design Scenario A - Majority Traffic entering the Underground Quarry from Tam Kon Shan Portal and exit via Ngau Kok Wan Access Road **after** two sides tunnels break through

Assessment Years: Year 2033, Year 2038, Year 2043



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Plot File by: ZHAOHG2
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ISO A1 594mm x 841mm
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Designer:
Project Management Initials:

AECOM

PROJECT
項目
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主
CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
土程顧問公司
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ISSUE/REVISION
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I/R 修訂	DATE 日期	DESCRIPTION 修訂說明	CHK. 核核

STATUS
階段

SCALE 比例
A3 1 : 8000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 合約編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SHEET NUMBER
圖紙編號

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Project Management Initials:

Traffic Design Scenario B - Majority Traffic entering the Underground Quarry from Ngau Kok Wan Access Road **after** two sides tunnels break through

Assessment Years: Year 2033, Year 2038, Year 2043

825200 N

824200 N

823200 N

826000 E

827000 E

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- 500m ASSESSMENT AREA
- DESIGN UNDER TSING YI - LANTAU LINK
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- MAIN ACCESS TUNNEL
- ASSESSED ROAD LINKS
- MAJOR TRAFFIC DIRECTIONS

N

TAM KON SHAN PORTAL

NGAU KOK WAN

NGAU KOK WAN ACCESS ROAD

WOK TAI WAN

UNDERGROUND QUARRY

YAU KOM TAU

SCVA NO. 10 (TSING YI NORTH)

LIU TO SHAN

SHEK WAN

TSING MA BRIDGE

TSING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

NORTHWEST TSING YI INTERCHANGE

CHEUNG TSING HIGHWAY

TSING YI ROAD WEST

LIU TO ROAD

CHING HONG ROAD

MA WAN CHANNEL

TAM KON SHAN ROAD

KAM CHUK KOK

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業主

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STATUS
階段

SCALE 比例: A3 1 : 8000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

SHEET NUMBER
圖紙編號

Appendix 8.1

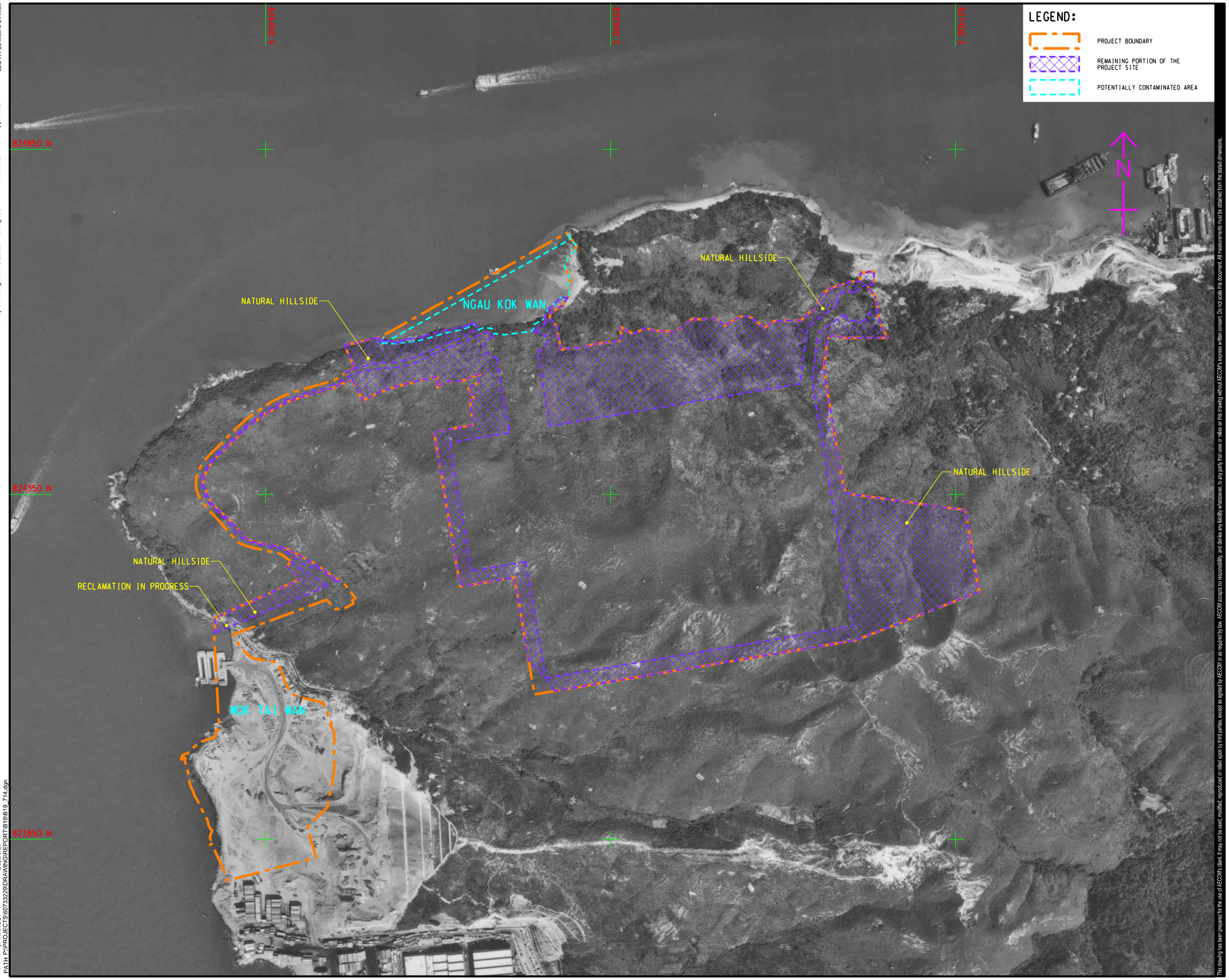
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Project Management Initials:



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SCALE
比例

A3 1 : 5000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

AERIAL PHOTOGRAPH 1991

SHEET NUMBER
圖紙編號

60733229/B19/AP1

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826400 E

826900 E

827400 E

824850 N

824350 N

823850 N

N

LEGEND:

PROJECT BOUNDARY

REMAINING PORTION OF THE PROJECT SITE

POTENTIALLY CONTAMINATED AREA



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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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STATUS
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SCALE
比例

A3 1 : 5000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

AERIAL PHOTOGRAPH 2002

SHEET NUMBER
圖紙編號

60733229/B19/AP2

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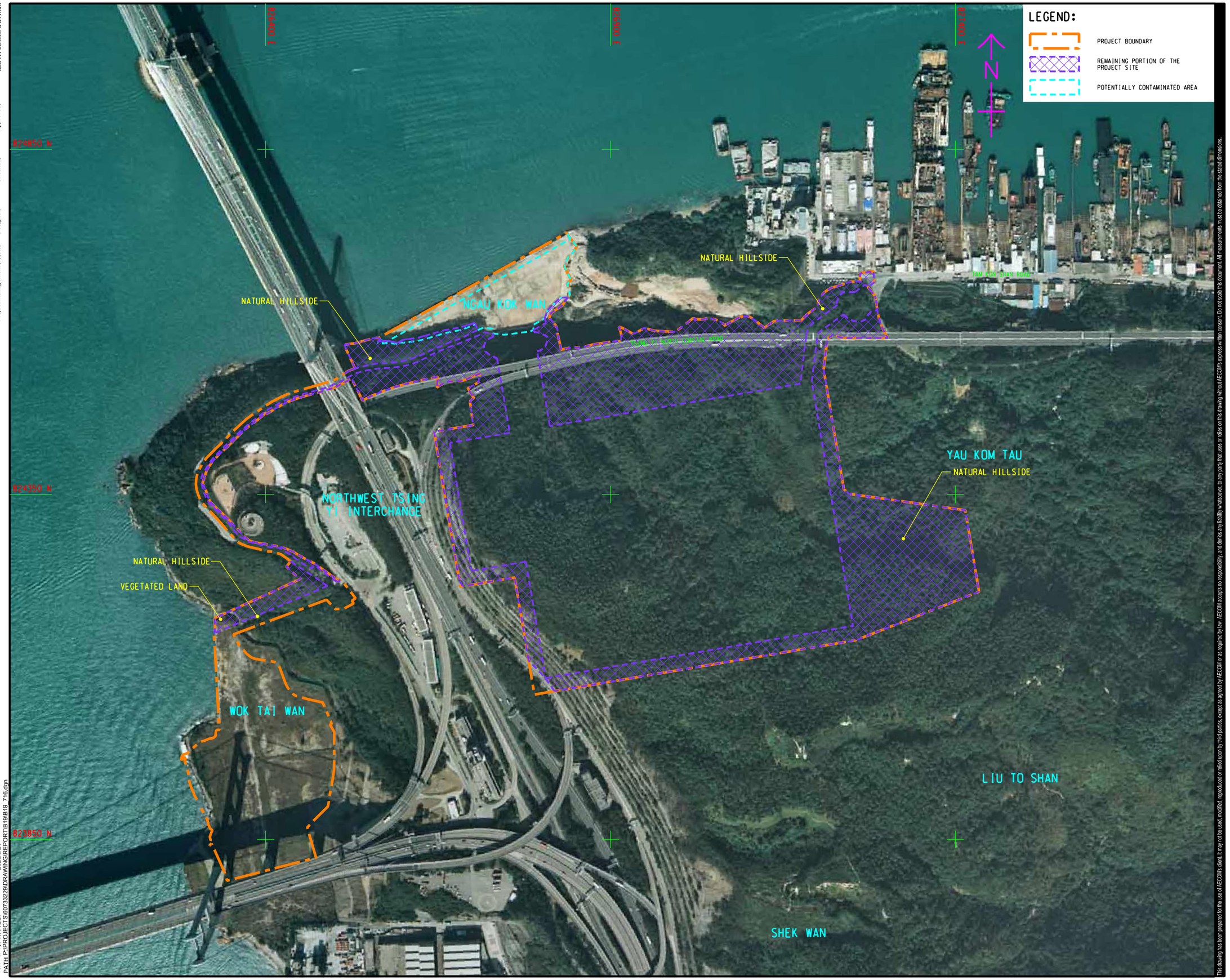
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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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階段

SCALE
比例

A3 1 : 5000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

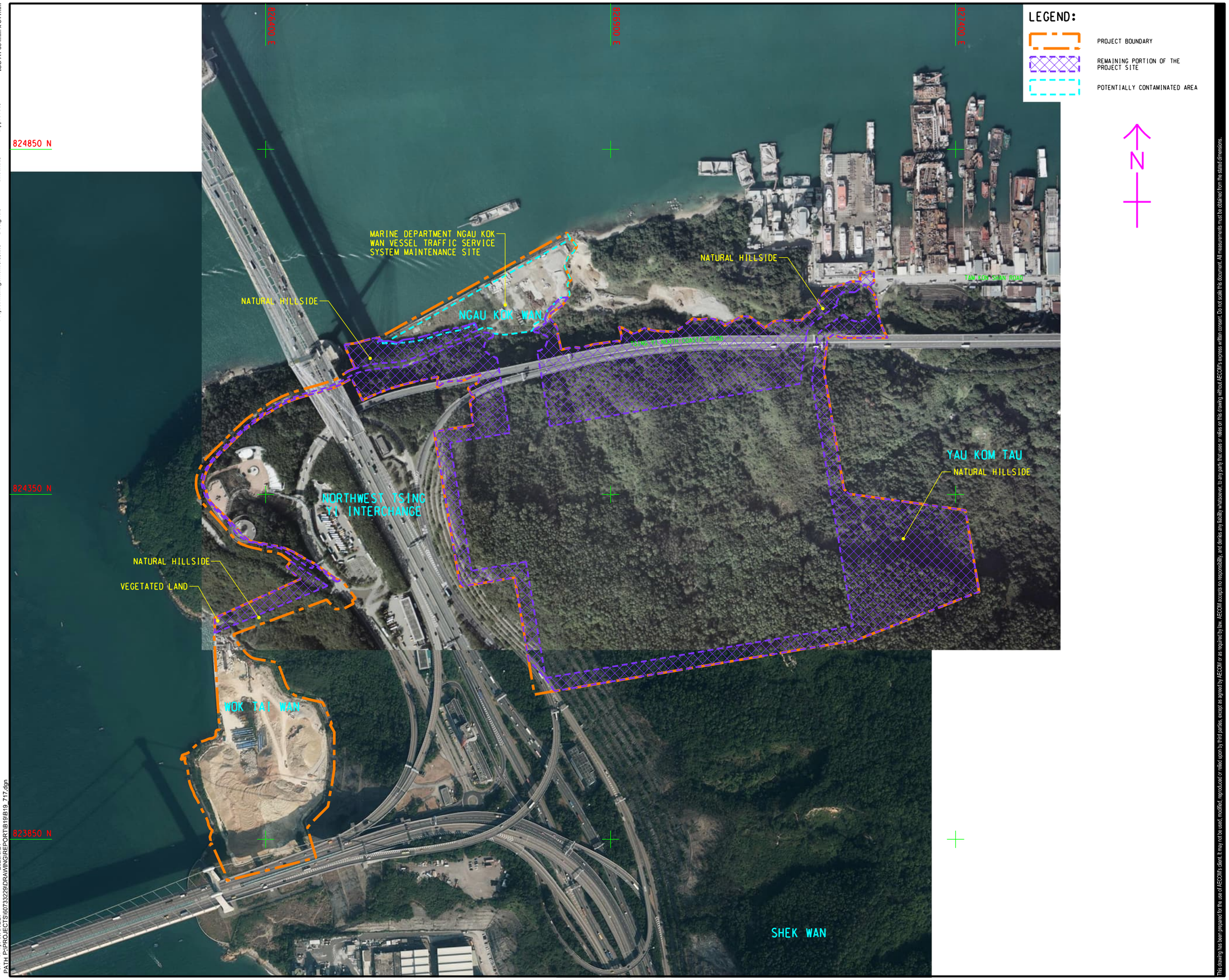
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

AERIAL PHOTOGRAPH 2011

SHEET NUMBER
圖紙編號

60733229/B19/AP3



ISO A1 594mm x 841mm

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STATUS 階段

SCALE 比例
A3 1 : 5000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE 圖紙名稱
AERIAL PHOTOGRAPH 2016

SHEET NUMBER 圖紙編號
60733229/B19/AP4

826400 E

826900 E

827400 E

824850 N

824350 N

823850 N

VACANT LAND

NATURAL HILLSIDE

NGAU KOK WAN

VEGETATED LAND / NATURAL HILLSIDE

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

NATURAL HILLSIDE

VEGETATED LAND

NATURAL HILLSIDE

WOK TAI WAN

LEGEND:

PROJECT BOUNDARY

ASSESSMENT AREA UNDER PREVIOUS PRELIMINARY ENVIRONMENTAL REVIEW UNDER CE 57/2018(GE)

POTENTIALLY CONTAMINATED AREA

N

AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例 — **DIMENSION UNIT** 尺寸單位

A3 1 : 5000 — METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號 — **AGREEMENT NO.** 協議編號

60733229 — CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

AERIAL PHOTOGRAPH 2021

SHEET NUMBER
圖紙編號

60733229/B19/AP5

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Project Management Initials:

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826400 E

826900 E

827400 E

824850 N

824350 N

823850 N



LEGEND:

- PROJECT BOUNDARY
- ASSESSMENT AREA UNDER PREVIOUS PRELIMINARY ENVIRONMENTAL REVIEW UNDER CE 57/2018(GE)
- POTENTIALLY CONTAMINATED AREA

N

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PROJECT
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例	DIMENSION UNIT 尺寸單位
A3 1 : 5000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

AERIAL PHOTOGRAPH 2023

SHEET NUMBER
圖紙編號

60733229/B19/AP6

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Appendix 8.2

Annex C1
Site Walkover Checklist

DATE OF INSPECTION 8 April 2025

GENERAL SITE DETAILS

~~SITE OWNER~~/CLIENT Civil Engineering and Development Department (CEDD)

PROPERTY ADDRESS Drainage Services Department (DSD) Stockpiling Area and Rock Crushing and Screening Facilities, Ngau Kok Wan, Tsing Yi (Works Area WA3 of Contract No.: DC/2020/05) (GLA-TKT 1940)

PERSON CONDUCTING THE QUESTIONNAIRE

NAME Ms. Ariel Tam / Mr. Alex Fan

POSITION Assistant / Graduate Environmental Consultant

AUTHORIZED OWNER/CLIENT REPRESENTATIVE (IF APPLICABLE)

NAME Mr. Lam

POSITION Construction Team Leader

TELEPHONE [redacted]

SITE ACTIVITIES

Briefly describe activities carried out on site, including types of products/chemicals/materials handled. **Obtain a flow schematic if possible.**

Number of employees:	Full-time:	33
	Part-time:	/
	Temporary/Seasonal:	/
Maximum no. of people on site at any time:		33
Typical hours of operation:		7 am – 11 pm
Number of shifts:		2
Days per week:		7
Weeks per year:		52
Scheduled plant shut-down:		N/A

Detail the main sources of energy at the site:

Gas	~~Yes~~/No	
Electricity	Yes/~~No~~	
Coal	~~Yes~~/No	
Oil	Yes/~~No~~	(Diesel)
Other	~~Yes~~/No	

SITE DESCRIPTION

This section is intended to gather information on site setting and environmental receptors on, adjacent or close to the site.

What is the total site area: Approx. 2.6 hectares

What area of the site is covered by buildings (%): 2%

Please list all current and previous owners/occupiers if possible. DSD, AECOM (consultant), China State – Alchmex Joint Venture (contractor), Sheung Ying (contractor)

Is a site plan available? If yes, please attach. Yes/~~No~~ Refer to **Figure 8.01** in PER

Are there any other parties on site as tenants or sub-tenants? ~~Yes~~/No

If yes, identify those parties: N/A

Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.

North: Open water

South: Natural hillside, Tsing Yi North Coastal Road

East: Private sand factory (Industrial), Natural hillside

West: Natural hillside, Tsing Long Highway

Annex C1
Site Walkover Checklist

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).

The Site is situated on reclaimed land with stockpile of rocks next to open water.

State the size and location of the nearest residential communities.

Aztec Lodge (approx. 900 m of northwest of the Site, area of about 930 sq. m).

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest?

No.

Questionnaire with Existing/Previous Site Owner or Occupier

	Yes/No	Notes
1. What are the main activities/operations at the above address?	--	Temporary stockpiling area, rock crushing and screening facilities for rocks excavated from the cavern at Nui Po Shan of A Kung Kok
2. How long have you been occupying the site?	--	2 years, since end of 2022
3. Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy.)	No	
4. Prior to your occupancy, who occupied the site?	--	Vacant land
5. What were the main activities/operations during their occupancy?	--	Vacant land
6. Have there been any major changes in operations carried out at the site in the last 10 years?	No	
7. Have any polluting activities been carried out in the vicinity of the site in the past?	No	
8. To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	No	
9. Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	Yes	
10. Do you have any registered hazardous installations as defined under relevant ordinances? (If yes, please provide details.)	No	
11. Are any chemicals used in your daily operations? (If yes, please provide details.)	Yes	Gear oil, hydraulic oil, grease, lubricating oil, engine oil and fuel (diesel)
• Where do you store these chemicals?	--	Material store in the south of the site.
12. Material inventory lists, including quantities and locations available? (If yes, how often are these inventories updated?)	Yes	The material inventory list is updated weekly.
13. Has the facility produced a separate hazardous substance inventory?	No	
14. Have there ever been any incidents or accidents (e.g. spills, fires, injuries, etc.) involving any of these materials? (If yes, please provide details.)	No	

	Yes/No	Notes
15. How are materials received (e.g. rail, truck, etc.) and stored on site (e.g. drums, tanks, carboys, bags, silos, cisterns, vaults and cylinders)?	--	The materials are received by trucks. The rocks are stockpiled on site and chemicals are stored in buckets or drums on site.
16. Do you have any underground storage tanks? (If yes, please provide details.)	No	
• How many underground storage tanks do you have on site?	N/A	
• What are the tanks constructed of?	N/A	
• What are the contents of these tanks?	N/A	
• Are the pipelines above or below ground?	N/A	
• If the pipelines are below ground, has any leak and integrity testing been performed?	N/A	
• Have there been any spills associated with these tanks?	N/A	
17. Are there any disused underground storage tanks?	No	
18. Do you have regular check for any spillage and monitoring of chemicals handled? (If yes, please provide details.)	Yes	Weekly Environmental Team's (ET's) and Independent Environmental Checker's (IEC's) inspection is conducted.
19. How are the wastes disposed of?	--	The wastes are transported by refuse trucks for disposal.
20. Have you ever received any notices of violation of environmental regulations or received public complaints? (If yes, please provide details.)	Yes	Dust-related complaints were received.
21. Have any spills occurred on site? (If yes, please provide details.)	No	
• When did the spill occur?	N/A	
• What were the substances spilled?	N/A	
• What was the quantity of material spilled?	N/A	
• Did you notify the relevant departments of the spill?	N/A	
• What were the actions taken to clean up the spill?	N/A	
• What were the areas affected?	N/A	
22. Do you have any records of major renovation of your site or re-arrangement of underground utilities, pipe work/underground tanks (If yes, please provide details.)	No	
23. Have disused underground tanks been removed or otherwise secured (e.g. concrete, sand, etc.)?	No	
24. Are there any known contaminations on site? (If yes, please provide details.)	No	
25. Has the site ever been remediated? (If yes, please provide details.)	No	

Annex C1
Site Walkover Checklist

Observations

	Yes/No	Notes
1. Are chemical storage areas provided with secondary containment (i.e. bund walls and floors)?	No	The chemicals are stored directly on concrete paved floor.
2. What are the conditions of the bund walls and floors?	--	The concrete paved floor is in good condition.
3. Are any surface water drains located near to drum storage and unloading areas?	No	
4. Are any solid or liquid waste (other than wastewater) generated at the site? (If yes, please provide details.)	No	
5. Is there a storage site for the wastes?	Yes	Refuse skips are observed.
6. Is there an on-site landfill?	No	
7. Were any stressed vegetation noted on site during the site reconnaissance? (If yes, please indicate location and approximate size.)	No	
8. Were any stained surfaces noted on-site during the site reconnaissance? (If yes, please provide details.)	No	
9. Are there any potential off-site sources of contamination?	No	
10. Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No	
11. Are there any sumps, effluent pits, interceptors or lagoons on site?	No	
12. Any noticeable odours during site walkover?	No	
13. Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservatives and polyurethane foam?	Yes	Hydraulic oil, lubricating oil, and fuel (diesel)

Annex C1
Site Walkover Checklist

DATE OF INSPECTION 8 April 2025

GENERAL SITE DETAILS

~~SITE OWNER~~/CLIENT Civil Engineering and Development Department (CEDD)

PROPERTY ADDRESS CEDD Works Area at Tam Kon Shan Road (Contract No. GE/2022/08)

PERSON CONDUCTING THE QUESTIONNAIRE

NAME Ms. Ariel Tam / Mr. Alex Fan

POSITION Assistant / Graduate Environmental Consultant

AUTHORIZED OWNER/CLIENT REPRESENTATIVE (IF APPLICABLE)

NAME Mr. Hui

POSITION Sub-agent

TELEPHONE [redacted]

SITE ACTIVITIES

Briefly describe activities carried out on site, including types of products/chemicals/materials handled. **Obtain a flow schematic if possible.**

Number of employees: Full-time: 7

Part-time: /

Temporary/Seasonal: /

Maximum no. of people on site at any time: 7

Typical hours of operation: 8 am – 6 pm

Number of shifts: /

Days per week: 6

Weeks per year: 52

Scheduled plant shut-down: N/A

Detail the main sources of energy at the site:

Gas	~~Yes~~/No	
Electricity	~~Yes~~/No	
Coal	~~Yes~~/No	
Oil	Yes/~~No~~	(Diesel)
Other	~~Yes~~/No	

SITE DESCRIPTION

This section is intended to gather information on site setting and environmental receptors on, adjacent or close to the site.

What is the total site area: Approx. 850 sq. m

What area of the site is covered by buildings (%): 0%

Please list all current and previous owners/occupiers if possible. CEDD, Driltech (Contractor)

Is a site plan available? If yes, please attach. Yes/~~No~~ Refer to **Figure 8.01** in PER

Are there any other parties on site as tenants or sub-tenants? ~~Yes~~/No

If yes, identify those parties: N/A

Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.

North: Tam Kon Shan Road, The Hong Kong Shipyard Ltd (Industrial)

South: Natural hillside

East: Tam Kon Shan Road, Tsing Yi North Coastal Road

West: Natural hillside

Annex C1
Site Walkover Checklist

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).

Generally flat terrain in the northeast of the site and mountain in the southwest of the site.

State the size and location of the nearest residential communities.

Cheung Wang Estate (approx. 730 m of southeast of the Site, area of about 5.1 ha).

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest?

No.

Questionnaire with Existing/Previous Site Owner or Occupier

	Yes/No	Notes
1. What are the main activities/operations at the above address?	--	Ground investigation works
2. How long have you been occupying the site?	--	2 months, since February 2025
3. Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy.)	Yes	
4. Prior to your occupancy, who occupied the site?	--	Vegetated / vacant land
5. What were the main activities/operations during their occupancy?	--	
6. Have there been any major changes in operations carried out at the site in the last 10 years?	No	
7. Have any polluting activities been carried out in the vicinity of the site in the past?	No	
8. To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	No	
9. Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	Yes	
10. Do you have any registered hazardous installations as defined under relevant ordinances? (If yes, please provide details.)	No	
11. Are any chemicals used in your daily operations? (If yes, please provide details.)	Yes	Diesel, lubricating oil and compressed nitrogen cylinder
• Where do you store these chemicals?	--	Diesel is stored in chemical storage cabinets, lubricating oil is stored on elevated working platform and compressed nitrogen cylinder is stored inside the changing room.
12. Material inventory lists, including quantities and locations available? (If yes, how often are these inventories updated?)	No	
13. Has the facility produced a separate hazardous substance inventory?	No	
14. Have there ever been any incidents or accidents (e.g. spills, fires, injuries, etc.) involving any of these materials? (If yes, please provide details.)	No	

	Yes/No	Notes
15. How are materials received (e.g. rail, truck, etc.) and stored on site (e.g. drums, tanks, carboys, bags, silos, cisterns, vaults and cylinders)?	--	The materials are received by truck and stored in drums.
16. Do you have any underground storage tanks? (If yes, please provide details.)	No	
• How many underground storage tanks do you have on site?	N/A	
• What are the tanks constructed of?	N/A	
• What are the contents of these tanks?	N/A	
• Are the pipelines above or below ground?	N/A	
• If the pipelines are below ground, has any leak and integrity testing been performed?	N/A	
• Have there been any spills associated with these tanks?	N/A	
17. Are there any disused underground storage tanks?	No	
18. Do you have regular check for any spillage and monitoring of chemicals handled? (If yes, please provide details.)	Yes	Weekly inspection is conducted.
19. How are the wastes disposed of?	--	The wastes are sorted are transported to offsite warehouse for disposal.
20. Have you ever received any notices of violation of environmental regulations or received public complaints? (If yes, please provide details.)	No	
21. Have any spills occurred on site? (If yes, please provide details.)	No	
• When did the spill occur?	N/A	
• What were the substances spilled?	N/A	
• What was the quantity of material spilled?	N/A	
• Did you notify the relevant departments of the spill?	N/A	
• What were the actions taken to clean up the spill?	N/A	
• What were the areas affected?	N/A	
22. Do you have any records of major renovation of your site or re-arrangement of underground utilities, pipe work/underground tanks (If yes, please provide details.)	No	
23. Have disused underground tanks been removed or otherwise secured (e.g. concrete, sand, etc.)?	No	
24. Are there any known contaminations on site? (If yes, please provide details.)	No	
25. Has the site ever been remediated? (If yes, please provide details.)	No	

Annex C1
Site Walkover Checklist

Observations

	Yes/No	Notes
1. Are chemical storage areas provided with secondary containment (i.e. bund walls and floors)?	Yes	The diesel oil is stored in the chemical storage cabinets with drip trays. The lubricating oil is placed directly above wooden plank on the elevated working platform with wooden sideboards installed around the elevated working platform. The compressed nitrogen cylinder is stored directly above timber floorboard.
2. What are the conditions of the bund walls and floors?	--	The chemical storage cabinets, wooden plank and timber floorboard are in good condition.
3. Are any surface water drains located near to drum storage and unloading areas?	No	
4. Are any solid or liquid waste (other than wastewater) generated at the site? (If yes, please provide details.)	No	
5. Is there a storage site for the wastes?	Yes	Bins for chemical waste, construction waste, recyclables and general refuse are provided.
6. Is there an on-site landfill?	No	
7. Were any stressed vegetation noted on site during the site reconnaissance? (If yes, please indicate location and approximate size.)	No	
8. Were any stained surfaces noted on-site during the site reconnaissance? (If yes, please provide details.)	No	
9. Are there any potential off-site sources of contamination?	No	
10. Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No	
11. Are there any sumps, effluent pits, interceptors or lagoons on site?	No	
12. Any noticeable odours during site walkover?	No	
13. Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservatives and polyurethane foam?	Yes	Lubricating oil and fuel (diesel)

Annex C1
Site Walkover Checklist

DATE OF INSPECTION 20 October 2025

GENERAL SITE DETAILS

~~SITE OWNER~~/CLIENT Civil Engineering and Development Department (CEDD)

PROPERTY ADDRESS Drainage Services Department (DSD) Rock Storage Area
Wok Tai Wan, Tsing Yi
(Works Area WA4 of Contract No.: DC/2020/05) (GLA-TKT 1939)

PERSON CONDUCTING THE QUESTIONNAIRE

NAME Mr. Alex Fan / Ms. Ariel Tam

POSITION Assistant Environmental Consultant / Environmental Consultant, AECOM

AUTHORIZED OWNER/~~CLIENT~~ REPRESENTATIVE (IF APPLICABLE)

NAME Mr. Chow

POSITION Resident Engineer, AECOM

TELEPHONE [redacted]

SITE ACTIVITIES

Briefly describe activities carried out on site, including types of products/chemicals/materials handled. **Obtain a flow schematic if possible.**

Number of employees: Full-time: 15

Part-time: N/A

Temporary/Seasonal: N/A

Maximum no. of people on site at any time: 15

Typical hours of operation: 7:00 – 19:00

Number of shifts: -

Days per week: 6

Weeks per year: 52

Scheduled plant shut-down: N/A

Detail the main sources of energy at the site:

Gas	~~Yes~~/No
Electricity	Yes/~~No~~
Coal	~~Yes~~/No
Oil	~~Yes~~/No
Other	~~Yes~~/No

SITE DESCRIPTION

This section is intended to gather information on site setting and environmental receptors on, adjacent or close to the site.

What is the total site area: approx. 5.0 hectares

What area of the site is covered by buildings (%): 0 %

Please list all current and previous owners/occupiers if possible. DSD, AECOM (Consultant), China State - Alchmex Joint Venture (Contractor)

Is a site plan available? If yes, please attach. Yes/~~No~~ Refer to **Figure 8.01** in PER

Are there any other parties on site as tenants or sub-tenants? Yes/~~No~~

If yes, identify those parties: DSD, AECOM (Consultant), China State - Alchmex Joint Venture (Contractor)

Describe surrounding land use (residential, industrial, rural, etc.) and identify neighbouring facilities and types of industry.

North: Vegetated land, Lantau Link Viewing Platform Car Park

South: Lantau Link, Sai Tso Wan Concrete Plant (Industrial)

East: Vegetated land, North West Tsing Yi Interchange

West: Open Water

Annex C1
Site Walkover Checklist

Describe the topography of the area (flat terrain, rolling hills, mountains, by a large body of water, vegetation, etc.).

Partially reclaimed land with stockpile of rocks next to open water.

State the size and location of the nearest residential communities.

Cheung Wan Estate (approx.1.33 km east, area of about 4.4 ha)

Are there any sensitive habitats nearby, such as nature reserves, parks, wetlands or sites of special scientific interest?

No.

Questionnaire with Existing/~~Previous~~ Site Owner or Occupier

	Yes/No	Notes
1. What are the main activities/operations at the above address?	--	Storage site for excavated rocks from Sha Tin Cavern.
2. How long have you been occupying the site?	--	Three and half year, since early 2022
3. Were you the first occupant on site? (If yes, what was the usage of the site prior to occupancy.)	No	
4. Prior to your occupancy, who occupied the site?	N/A	Unknown
5. What were the main activities/operations during their occupancy?	N/A	Unknown
6. Have there been any major changes in operations carried out at the site in the last 10 years?	N/A	Unknown
7. Have any polluting activities been carried out in the vicinity of the site in the past?	N/A	Unknown
8. To the best of your knowledge, has the site ever been used as a petrol filling station/car service garage?	N/A	Unknown
9. Are there any boreholes/wells or natural springs either on the site or in the surrounding area?	No	
10. Do you have any registered hazardous installations as defined under relevant ordinances? (If yes, please provide details.)	No	
11. Are any chemicals used in your daily operations? (If yes, please provide details.)	Yes	Diesel
• Where do you store these chemicals?	--	Diesel is stored in drum at the north of the site for emergency use only
12. Material inventory lists, including quantities and locations available? (If yes, how often are these inventories updated?)	No	
13. Has the facility produced a separate hazardous substance inventory?	No	
14. Have there ever been any incidents or accidents (e.g. spills, fires, injuries, etc.) involving any of these materials? (If yes, please provide details.)	No	

	Yes/No	Notes
15. How are materials received (e.g. rail, truck, etc.) and stored on site (e.g. drums, tanks, carboys, bags, silos, cisterns, vaults and cylinders)?	--	The rocks are received by barge and stored on site temporarily. The diesel oil is received by oil tanker and refueled directly to the excavators as needed. The diesel oil drum is received by barge and stored on site for emergency use only.
16. Do you have any underground storage tanks? (If yes, please provide details.)	No	
• How many underground storage tanks do you have on site?	N/A	
• What are the tanks constructed of?	N/A	
• What are the contents of these tanks?	N/A	
• Are the pipelines above or below ground?	N/A	
• If the pipelines are below ground, has any leak and integrity testing been performed?	N/A	
• Have there been any spills associated with these tanks?	N/A	
17. Are there any disused underground storage tanks?	No	
18. Do you have regular check for any spillage and monitoring of chemicals handled? (If yes, please provide details.)	Yes	Daily inspection by resident site staff and weekly inspection by Environmental Team and Independent Environmental Checker are conducted.
19. How are the wastes disposed of?	Yes	The general refuse is collected and transferred to Ngau Kok Wan.
20. Have you ever received any notices of violation of environmental regulations or received public complaints? (If yes, please provide details.)	No	
21. Have any spills occurred on site? (If yes, please provide details.)	No	
• When did the spill occur?	N/A	
• What were the substances spilled?	N/A	
• What was the quantity of material spilled?	N/A	
• Did you notify the relevant departments of the spill?	N/A	
• What were the actions taken to clean up the spill?	N/A	
• What were the areas affected?	N/A	
22. Do you have any records of major renovation of your site or re-arrangement of underground utilities, pipe work/underground tanks (If yes, please provide details.)	No	
23. Have disused underground tanks been removed or otherwise secured (e.g. concrete, sand, etc.)?	No	Unknown
24. Are there any known contaminations on site? (If yes, please provide details.)	No	
25. Has the site ever been remediated? (If yes, please provide details.)	No	

Annex C1
Site Walkover Checklist

Observations

	Yes/No	Notes
1. Are chemical storage areas provided with secondary containment (i.e. bund walls and floors)?	--	The diesel oil is stored in drum with drip tray placed on unpaved ground.
2. What are the conditions of the bund walls and floors?	--	
3. Are any surface water drains located near to drum storage and unloading areas?	No	
4. Are any solid or liquid waste (other than wastewater) generated at the site? (If yes, please provide details.)	Yes	General refuse
5. Is there a storage site for the wastes?	Yes	
6. Is there an on-site landfill?	No	
7. Were any stressed vegetation noted on site during the site reconnaissance? (If yes, please indicate location and approximate size.)	No	
8. Were any stained surfaces noted on-site during the site reconnaissance? (If yes, please provide details.)	No	
9. Are there any potential off-site sources of contamination?	No	
10. Does the site have any equipment which might contain polychlorinated biphenyls (PCBs)?	No	
11. Are there any sumps, effluent pits, interceptors or lagoons on site?	No	
12. Any noticeable odours during site walkover?	No	
13. Are any of the following chemicals used on site: fuels, lubricating oils, hydraulic fluids, cleaning solvents, used chemical solutions, acids, anti-corrosive paints, thinners, coal, ash, oily tanks and bilge sludge, metal wastes, wood preservatives and polyurethane foam?	Yes	Fuel (diesel oil)

Appendix 8.3

AECOM
12/F Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong
香港新界沙田鄉事會路 138 號
新城市中央廣場 2 座 12 樓
www.aecom.com

+852 3922 9000 tel
+852 3922 9797 fax

Our Ref: GDCB:JYCT:kbs:60733229/2.5/2024004049G

26 August 2024

By Email and By Hand

Mr. POON Tsz Ming (Prin Env Protection Offr(Regional W))
Environmental Protection Department
Regional Office (West)
8/F, Tsuen Wan Government Offices
38 Sai Lau Kok Road, Tsuen Wan
New Territories

Dear Sir,

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Request for Information of Chemical Waste Producer and Chemical Spillage Accident

We are the Consultants commissioned by the Civil Engineering and Development Department (CEDD) to undertake the captioned consultancy Assignment. A copy of the memo from GEO ref. CEDD MIN-30-2020-26-1 dated on 12 June 2024 regarding the appointment is attached for your reference. Figure 1.1 showing the boundary of the project site is enclosed.

As part of the land contamination assessment and following the *Practice Guide for Investigation and Remediation of Contaminated Land* issued by EPD, we have to collect historical information regarding the past and present activities of the site. In order to facilitate our assessment, we would like to request for the following information regarding the captioned Concerned Area:

1. Current and past (as early as the records are available) registered Chemical Waste Producer(s) within the Concerned Area (preferably with the registration date, status (moved out or active), nature and quantity of the chemical waste); and

2. Reported accidents of spillage / leakage of chemicals within the Concerned Area.

We would be grateful if you can reply to the above on or before 6 September 2024. Should you have any inquiries or require any further information, please do not hesitate to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted].

Yours faithfully,
AECOM Asia Co. Ltd.

Guy Bridges
Project Director

Encl.

c.c. CEDD/GEO/Mines - Attn: Mr. LIU Jun Chang (Geo Engr / Mines 5) (Fax No.: 2714 0193) (w/o)

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- PORTALS AND SURFACE LAND
- POTENTIAL SITE FORMATION AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED ACCESS TUNNEL

NGAU KOK WAN

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

SCVA 10

TAM KON SHAN ROAD

WOK TAI WAN

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

MA WAN CHANNEL

TING KAU BEACH

CASAM BEACH

LIDO BEACH

APPROACH BEACH

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

Project Management Initials:
Designer:
Checked:
Approved:
ISO A1 594mm x 841mm

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Plot Date: 23/8/2024
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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容簡要	CHK. 複核

STATUS
項目

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 N.T.S

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LAYOUT PLAN FOR UNDERGROUND QUARRYING AT TSING YI NORTH

SHEET NUMBER
圖紙編號

60733229/5.8/FIGURE 1.1

Fw: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

heidihycheung@epd.gov.hk [redacted]
Wed 4/9/24 7:03 PM

To:Yan, Jonathan [redacted]
Cc:Ng, Chloe [redacted];Fan, Alex [redacted]
"SI[RW]41"@Not_For_Reply_From_Internet.hksarg.hk <"SI[RW]41"@Not_For_Reply_From_Internet.hksarg.hk>;
"SI[RW]46"@Not_For_Reply_From_Internet.hksarg.hk <"SI[RW]46"@Not_For_Reply_From_Internet.hksarg.hk>

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This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Dear Mr. Yan,

According to our record, there is no reported chemical spillage / leakage incident within the concerned area. If you have any question, please let me know. Thanks.

Regards,
Heidi Cheung / E(RW)41
Tel: 2417 6067

----- Forwarded by Heidi HY CHEUNG/EPD/HKSARG on 04/09/2024 19:00 -----

From: Heidi HY CHEUNG/EPD/HKSARG E[RW]41
To: [redacted]
Cc: "Ng, Chloe" [redacted], "Fan, Alex" [redacted], CI[RW]4, I[TC]51
Date: 29/08/2024 17:46
Subject: Fw: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

Dear Mr. Yan,

Thank you for your email. While this office is checking for records of accidents of spillage / leakage of chemicals within the Concerned Area, you may contact Mr. K.H. LO at [redacted] for making an appointment to view the records of Chemical Waste Producers (CWPs) at the Territory Control Office.

We will get back to you for the records of accidents of spillage / leakage of chemicals.
Thank you.

Regards,
Heidi Cheung / E(RW)41
Regional Office (West)

Tel: 2417 6067

----- Forwarded by Heidi HY CHEUNG/EPD/HKSARG on 29/08/2024 16:36 -----

----- Forwarded by TM POON/EPD/HKSARG on 28-08-24 04:32 PM -----

From: "Yan, Jonathan" [redacted]

To: [redacted]

Cc: [redacted], "Bridges, Guy" [redacted], "Fong, Matthew" [redacted], "Lee, Chevonne" [redacted], "Ng, Chloe" [redacted], "Fan, Alex" [redacted], "Chu, Isaac" [redacted], CE79/2023_TYNUQ [redacted]

Date: 28-08-24 04:29 PM

Subject: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

---

Dear Sir,

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Request for Information of Chemical Waste Producer and Chemical Spillage Accident

We are the Consultants commissioned by the Civil Engineering and Development Department (CEDD) to undertake the captioned consultancy Assignment. A copy of the memo from GEO ref. CEDD MIN-30-2020-26-1 dated on 12 June 2024 regarding the appointment is attached for your reference. Figure 1.1 showing the boundary of the project site is enclosed. A hard copy is being delivered to your office.

As part of the land contamination assessment and following the Practice Guide for Investigation and Remediation of Contaminated Land issued by EPD, we have to collect historical information regarding the past and present activities of the site. In order to facilitate our assessment, we would like to request for the following information regarding the captioned Concerned Area:

1. Current and past (as early as the records are available) registered Chemical Waste Producer(s) within the Concerned Area (preferably with the registration date, status (moved out or active), nature and quantity of the chemical waste); and

2. Reported accidents of spillage / leakage of chemicals within the Concerned Area.

We would be grateful if you can reply to the above on or before 6 September 2024. Should you have any inquiries or require any further information, please do not hesitate to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted]

Regards,

Jonathan Yan FGS CGeol MIMMM CEng RoGEP NECReg
Associate, Geotechnical, Hong Kong
[redacted]

AECOM
9/F, Tower 2, Grand Central Plaza, 138 Shatin Rural Committee Road,
Shatin, New Territories, Hong Kong
[redacted]
aecom.com

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(See attached file: 2024004049G.pdf)

Outlook

Re: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

From heidihycheung@epd.gov.hk [redacted]
Date Tue 22/4/25 10:27 AM
To Fan, Alex [redacted]
Cc Ng, Chloe [redacted]; Chu, Isaac [redacted]; Tso, Lawrence Shiu Heng [redacted]; "CI[RW]4"@Not_For_Reply_From_Internet.hksarg.hk <"CI[RW]4"@Not_For_Reply_From_Internet.hksarg.hk>; "I[TC]51"@Not_For_Reply_From_Internet.hksarg.hk <"I[TC]51"@Not_For_Reply_From_Internet.hksarg.hk>

This Message Is From an External Sender
This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Dear Mr. Fan,

Re. Item 1 in your email below, you may contact Mr. K.H. LO at [redacted] for making an appointment to view the records of Chemical Waste Producers (CWPs) at the Territory Control Office.

Re. Item 2- According to this office's record, there is no reported chemical spillage / leakage incident within the concerned area / project site.

Thank you.

Regards,
Heidi Cheung / E(RW)41
Tel: [redacted]

From: "Fan, Alex" [redacted]
To: [redacted]
Cc: "Tso, Lawrence Shiu Heng" [redacted], "Ng, Chloe" [redacted], "Chu, Isaac" [redacted]
Date: 02/04/2025 10:36
Subject: Re: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

Dear Dr Cheung,

I refer to your email reply dated 4 September 2024, regarding our captioned information request. We would like to request for the following information regarding the updated boundary of the project site as indicated in **Figure 1.3** as attached:

1. Current and past (as early as the records are available) registered Chemical Waste Producer(s) within the updated boundary of the project site (preferably with the registration date, status (moved out or active), nature and quantity of the chemical waste); and
2. Reported accidents of spillage / leakage of chemicals within the updated boundary of the project site.

Due to tight study programme, grateful if you could provide the information by 11 April 2025.

Please feel free to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted] should you have any queries.

Thank you very much for your kind assistance.

Best regards,

Alex Fan

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- SCVA BOUNDARY
- PORTALS AND SURFACE LAND
- POTENTIAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF CAVERN
- PROPOSED ACCESS TUNNEL

NGAU KOK WAN

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

PROPOSED WOK TAI WAN WORKS AREA

YAU KOM TAU SCVA 10

TAM KON SHAN ROAD

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

MA WAN CHANNEL

TING KAU BRIDGE

TSING LONG HIGHWAY

CHEUNG TSING HIGHWAY

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27-Mar-25
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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
土程顧問公司

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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 N.T.S

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LAYOUT PLAN FOR UNDERGROUND QUARRYING AT TSING YI NORTH

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 1.3

Outlook

Fw: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

From: [redacted]
Sent: Wednesday, October 22, 2025 2:35 PM
To: Fan, Alex [redacted]
Cc: Tam, Ariel [redacted]; Lau, Charlotte [redacted]; Ng, Chloe [redacted]; Chu, Isaac [redacted]; Tso, Lawrence Shiu Heng [redacted]; [redacted]
Subject: Re: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

This Message Is From an External Sender
This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Dear Mr. Fan,

Re. Item 1 in your email below, you may contact Mr. K.H. LO at [redacted] for making an appointment to view the records of Chemical Waste Producers (CWPs) at the Territory Control Office.

Re. Item 2- According to this office's record, there is no reported chemical spillage / leakage incident within the concerned area / project site.

Thank you.

Regards,
Heidi Cheung / E(RW)41
Tel: [redacted]

From: "Fan, Alex" [redacted]
To: [redacted]
Cc: "Tso, Lawrence Shiu Heng" [redacted], "Ng, Chloe" [redacted] "Tam, Ariel" [redacted] "Chu, Isaac" [redacted], "Lau, Charlotte" [redacted]

Date: 15/10/2025 15:26
Subject: Re: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

Dear Dr. Cheung,

I refer to your email reply dated 22 April 2025, regarding our captioned information request. We would like to request for the following information regarding the updated boundary of the project site as indicated in **Figure 2.01** as attached:

1. Current and past (as early as the records are available) registered Chemical Waste Producer(s) within the updated boundary of the project site (preferably with the registration date, status (moved out or active), nature and quantity of the chemical waste); and
2. Reported accidents of spillage / leakage of chemicals within the updated boundary of the project site.

Due to tight study programme, grateful if you could provide the information by 22 October 2025.

Please feel free to contact our Ms. Ariel Tam at [redacted] or Mr. Alex Fan at [redacted] should you have any queries.
Thank you very much for your kind assistance.

Best regards,

Alex Fan
Assistant Environmental Consultant, Environment, Hong Kong
[redacted]
AECOM
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From: [redacted]
Sent: Tuesday, April 22, 2025 10:23 AM
To: Fan, Alex [redacted]
Cc: Ng, Chloe [redacted]; Chu, Isaac [redacted]; Tso, Lawrence Shiu Heng [redacted]; "CI[RW]4"@Not_For_Reply_From_Internet.hksarg.hk <"CI[RW]4"@Not_For_Reply_From_Internet.hksarg.hk>; "I[TC]51"@Not_For_Reply_From_Internet.hksarg.hk <"I[TC]51"@Not_For_Reply_From_Internet.hksarg.hk>
Subject: Re: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

Dear Mr. Fan,

Re. Item 1 in your email below, you may contact Mr. K.H. LO at [redacted] for making an appointment to view the records of Chemical Waste Producers (CWPs) at the Territory Control Office.

Re. Item 2- According to this office's record, there is no reported chemical spillage / leakage incident within the concerned area / project site.

Thank you.

Regards,
Heidi Cheung / E(RW)41
Tel: [redacted]

From: "Fan, Alex" [redacted]
To: [redacted]
Cc: "Tso, Lawrence Shiu Heng" [redacted], "Ng, Chloe" [redacted], "Chu, Isaac" [redacted]
Date: 02/04/2025 10:36
Subject: Re: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

---

Dear Dr Cheung,
I refer to your email reply dated 4 September 2024, regarding our captioned information request. We would like to request for the following information regarding the updated boundary of the project site as indicated in **Figure 1.3** as attached:

1. Current and past (as early as the records are available) registered Chemical Waste Producer(s) within the updated boundary of the project site (preferably with the registration date, status (moved out or active), nature and quantity of the chemical waste); and
2. Reported accidents of spillage / leakage of chemicals within the updated boundary of the project site.

Due to tight study programme, grateful if you could provide the information by 11 April 2025.

Please feel free to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted] should you have any queries.
Thank you very much for your kind assistance.
Best regards,

Alex Fan
Graduate Environmental Consultant, Environment, Hong Kong
[redacted]
[redacted]
AECOM
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From: [redacted]
Sent: Wednesday, September 4, 2024 7:00 PM
To: Yan, Jonathan
Cc: Ng, Chloe; Fan, Alex; "SI[RW]41"@Not_For_Reply_From_Internet.hksarg.hk; "SI[RW]46"@Not_For_Reply_From_Internet.hksarg.hk
Subject: Fw: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

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This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Dear Mr. Yan,

According to our record, there is no reported chemical spillage / leakage incident within the concerned area. If you have any question, please let me know. Thanks.

Regards,
Heidi Cheung / E(RW)41
Tel: [redacted]

----- Forwarded by Heidi HY CHEUNG/EPD/HKSARG on 04/09/2024 19:00 -----

From: Heidi HY CHEUNG/EPD/HKSARG E[RW]41
To: [redacted]
Cc: "Ng, Chloe" [redacted], "Fan, Alex" [redacted], CI[RW]4, I[TC]51
Date: 29/08/2024 17:46
Subject: Fw: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

Dear Mr. Yan,

Thank you for your email. While this office is checking for records of accidents of spillage / leakage of chemicals within the Concerned Area, you may contact Mr. K.H. LO at [redacted] for making an appointment to view the records of Chemical Waste Producers (CWPs) at the Territory Control Office.

We will get back to you for the records of accidents of spillage / leakage of chemicals. Thank you.

Regards,
Heidi Cheung / E(RW)41
Regional Office (West)
Tel: [redacted]

----- Forwarded by Heidi HY CHEUNG/EPD/HKSARG on 29/08/2024 16:36 -----

----- Forwarded by TM POON/EPD/HKSARG on 28-08-24 04:32 PM -----

From: "Yan, Jonathan" [redacted]

To: "tmpoon@epd.gov.hk"[redacted]

Cc: [redacted], "Bridges, Guy" [redacted], "Fong, Matthew" [redacted] "Lee, Chevonne" [redacted] "Ng, Chloe" [redacted], "Fan, Alex" [redacted] "Chu, Isaac" [redacted], CE79/2023_TYNUQ [redacted]

Date: 28-08-24 04:29 PM

Subject: CE 79/2023 (GE) TYNUQ - Request for Information of Chemical Waste Producer and Chemical Spillage Accident

---

Dear Sir,

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Request for Information of Chemical Waste Producer and Chemical Spillage Accident

We are the Consultants commissioned by the Civil Engineering and Development Department (CEDD) to undertake the captioned consultancy Assignment. A copy of the memo from GEO ref. CEDD MIN-30-2020-26-1 dated on 12 June 2024 regarding the appointment is attached for your reference. Figure 1.1 showing the boundary of the project site is enclosed. A hard copy is being delivered to your office.

As part of the land contamination assessment and following the Practice Guide for Investigation and Remediation of Contaminated Land issued by EPD, we have to collect historical information regarding the past and present activities of the site. In order to facilitate our assessment, we would like to request for the following information regarding the captioned Concerned Area:

1. Current and past (as early as the records are available) registered Chemical Waste Producer(s) within the Concerned Area (preferably with the registration date, status (moved out or active), nature and quantity of the chemical waste); and

2. Reported accidents of spillage / leakage of chemicals within the Concerned Area.

We would be grateful if you can reply to the above on or before 6 September 2024. Should you have any inquiries or require any further information, please do not hesitate to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted].

Regards,

Jonathan Yan FGS CGeol MIMMM CEng RoGEP NECReg
Associate, Geotechnical, Hong Kong
[redacted]
AECOM

9/F, Tower 2, Grand Central Plaza, 138 Shatin Rural Committee Road,
Shatin, New Territories, Hong Kong
[redacted]
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(See attached file: 2024004049G.pdf)
[attachment "Figure 1.3.pdf" deleted by Heidi HY CHEUNG/EPD/HKSARG]
[attachment "Figure 2.01.pdf" deleted by Heidi HY CHEUNG/EPD/HKSARG]

ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- POTENTIAL PROJECT BOUNDARY

NGAU KOK WAN PORTAL

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

CHEUNG ON ESTATE

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
土木工程顧問公司

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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容/摘要	CHK. 核核

STATUS
狀況

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATION OF THE PROJECT

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 2.01

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltPlot File by: LauJ15 10/14/2025PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_701.dgn

AECOM
12/F Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, Hong Kong
香港新界沙田鄉事會路 138 號
新城市中央廣場 2 座 12 樓
www.aecom.com

+852 3922 9000 tel
+852 3922 9797 fax

Our Ref: GDCB:JYCT:kbs:60733229/2.5/2024004048G

26 August 2024

By Email and By Hand

Mr. TANG Wing Wah (Assistant Director (Licensing & Certification))
Fire Services Department
Licensing and Certification Command
5/F, South Wing, Fire Services Headquarters Building,
1 Hong Chong Road,
Kowloon

Dear Sir,

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Request for Information about Dangerous Goods Store and Incidents Records

We are the Consultants commissioned by the Civil Engineering and Development Department (CEDD) to undertake the captioned consultancy Assignment. A copy of the memo from GEO ref. CEDD MIN-30-2020-26-1 dated on 12 June 2024 regarding the appointment is attached for your reference. Figure 1.1 showing the boundary of the project site is enclosed.

As a part of the land contamination assessment and following the *Practice Guide for Investigation and Remediation of Contaminated Land* issued by EPD, we have to collect historical information regarding the past and present activities of the site. In order to facilitate our assessment, we would like to request for the following information regarding the captioned Concerned Area:

1. Records of current and past (as early as the records are available) registration of Dangerous Goods storage (with type of dangerous goods, storage method, quantity, licence no., date of issue and storage location) within the Concerned Area;

2. Any records of reported accidents of spillage/leakage of dangerous goods stored within the Concerned Area; and

3. Any records of fire incidents within the Concerned Area.

We would be grateful if you can reply to the above on or before 6 September 2024. Should you have any inquiries or require any further information, please do not hesitate to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted].

Yours faithfully,
AECOM Asia Co. Ltd.

Guy Bridges
Project Director

Encl.

c.c. CEDD/GEO/Mines - Attn: Mr. LIU Jun Chang (Geo Engr / Mines 5) (Fax No.: 2714 0193) (w/o)

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

LEGEND:

- PORTALS AND SURFACE LAND
- POTENTIAL SITE FORMATION AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED ACCESS TUNNEL

N

NGAU KOK WAN

TAM KON SHAN ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

SCVA 10

WOK TAI WAN

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

MA WAN CHANNEL

TING KAU BEACH

CASAM BEACH

LIDO BEACH

APPROACH BEACH

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

V:\BAK\US95-BAK\Workspace\System\ptcfg\CSWP-PDF_COLOR_HS.ptcfg
Plot File by: WangG2
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\5.8\5.8_302.dgn
23/8/2024

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT
工程顧問公司

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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容簡要	CHK. 複核

STATUS
項目

SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN N.T.S
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LAYOUT PLAN FOR UNDERGROUND QUARRYING AT TSING YI NORTH

SHEET NUMBER
圖紙編號

60733229/5.8/FIGURE 1.1

消 防 處
香港九龍尖沙咀東部康莊道 1 號
消防處總部大廈

FIRE SERVICES DEPARTMENT
FIRE SERVICES HEADQUARTERS BUILDING,
No.1 Hong Chong Road,
Tsim Sha Tsui East, Kowloon,
Hong Kong.

本處檔號 **OUR REF.** : (61) in FSD GR 6-5/4 R Pt. 55
來函檔號 **YOUR REF.** : GDCB:JYCT:kbs:60733229/2.5/2024004048G
電子郵件 **E-mail** : hkfsdenq@hkfsd.gov.hk
圖文傳真 **FAX NO.** : 2988 1196
電 話 **TEL NO.** : 2733 7896

26 September 2024

AECOM Asia Co. Ltd
12/F, Grand Central Plaza, Tower 2,
138 Shatin Rural Committee Road,
Shatin, Hong Kong.
(Attn: Mr. Guy BRIDGES, Project Director)

Dear Mr. BRIDGES,

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North –
Investigation, Design and Construction
Request for Information of Dangerous Goods & Incident Records

I refer to your letter of 26.8.2024 regarding the captioned request and reply below in response to your questions:-

1. No Dangerous Goods Licence was issued in respect of the captioned address.

2. A total of 2 incident records were found at the subject location. Please refer to **Appendix A** for details.

If you have further questions, please feel free to contact the undersigned.

Yours sincerely,

(AU Ting-hin)
for Director of Fire Services

Agreement No. CE 79/2023 (GE)
Underground Quarrying at Tsing Yi North –
Investigation, Design and Construction
Request for Information of Dangerous Goods & Incident Records

No.	Date	Type of Incident	Address
1	6/3/2023	Mountain Rescue	Hillsides near UT JK997754 of Tsing Yi Nature Trail
2.	10/6/2024	Mountain Rescue	Hillsides near UT KK000755 of TYI Nature Trails

Outlook

Re: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

From [redacted]
on behalf of
[redacted]
Date Tue 6/5/25 7:56 PM
To Fan, Alex [redacted]
Cc OE8 CS/FSD [redacted]

2 attachments (180 KB)
(18)_Pt 58_ MC-incident_appendix A.pdf; (18)_Pt 58_ MC-incident_appendix A.pdf;

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Report Suspicious

Our reference: (18) in FSD GR 6-5/4 R Pt. 58
Your reference: GDCB:JYCT:kbs:60733229/2.5/2024004048G

Dear Mr. FAN,

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
Request for Information of Dangerous Goods & Incident Records

I refer to your email of 2.4.2025 regarding the captioned request and reply below in response to your questions:-

1. No Dangerous Goods Licence was issued in respect of the captioned address.

2. A total of 2 incident records were found at the subject location. Please refer to Appendix A for details.
(File-Checksum-00000001)

If you have further questions, please feel free to contact the undersigned.

Best regards,

CHOW Yin-hei
Assistant Divisional Officer (Legal Affairs)
Corporate Services Division

Fire Services Department

Tel.: [redacted]

Remark:
Lift incidents are excluded unless otherwise required.

Disclaimer:
**Fire Services Department uses its best endeavor to ensure the accuracy and reliability of the information provided, but cannot guarantee its accuracy and reliability and accepts no liability of any nature for any loss or damage arising from any inaccuracies or omissions that may from the information provided.*

From: yin_hei CHOW [redacted] on behalf of ADO LEA CS [redacted]
Sent: Wednesday, April 2, 2025 19:16
To: Fan, Alex
Cc: OE8 CS/FSD
Subject: Re: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Our reference: (18) in FSD GR 6-5/4 R Pt. 58
Your reference: GDCB:JYCT:kbs:60733229/2.5/2024004048G

Dear Mr. FAN,

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
Request for Information of Dangerous Goods & Incident Records

I refer to your email of 2.4.2025 regarding the captioned subject.

Your case is being handled, and a reply will be furnished to you as soon as possible. Please be advised that due to time lapse, this Department can only provide the following information for your requested information:

(i) Dangerous Goods Licence Record: from the year of 1990 to present moment.

(ii) Incident Record: Past three years of fire and special services incidents. Lift trapping incidents will be excluded unless otherwise required.

Should you have further questions, please feel free to contact the undersigned.

Best regards,

CHOW Yin-hei
Assistant Divisional Officer (Legal Affairs)
Corporate Services Division
Fire Services Department

Tel.: [redacted]

----- Forwarded by FSD Enquiry/FSD/HKSARG on 02/04/2025 12:24 -----

Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

02/04/2025 11:09

From: "Fan, Alex" [redacted]

To: [redacted]

Cc: "Tso, Lawrence Shiu Heng" <[redacted]>, "Ng, Chloe" <[redacted]>, "Chu, Isaac" <[redacted]>

Dear Mr Au,

I refer to your reply with ref.: (61) in FSD GR 6-5/4 R Pt. 55 dated 26 September 2024, regarding our captioned information request. We would like to request for the following information regarding the updated boundary of the project site as indicated in **Figure 1.3** as attached:

1. Records of current and past (as early as the records are available) registration of Dangerous Goods storage (with type of dangerous goods, storage method, quantity, licence no., date of issue and storage location) within the updated boundary of the project site;
2. Any records of reported accidents of spillage/leakage of dangerous goods stored within the updated boundary of the project site; and
3. Any records of fire incidents within the updated boundary of the project site.

Attached the letter for your reference. Due to tight study programme, grateful if you could provide the information by 11 April 2025.

Please feel free to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted] should you have any queries.

Thank you very much for your kind assistance.

Best regards,

Alex Fan

Graduate Environmental Consultant, Environment, Hong Kong

[redacted]

[redacted]

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[attachment "Figure 1.3.pdf" deleted by yin_hei CHOW/FSD/HKSARG] [attachment "FSD Reply_20240926.pdf" deleted by yin_hei CHOW/FSD/HKSARG]

[attachment "(18)_Pt 58_ MC-incident_appendix A.pdf" deleted by yin_hei CHOW/FSD/HKSARG] *(File-Checksum-00000002)*

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- SCVA BOUNDARY
- PORTALS AND SURFACE LAND
- POTENTIAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF CAVERN
- PROPOSED ACCESS TUNNEL

NGAU KOK WAN

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

PROPOSED WOK TAI WAN WORKS AREA

YAU KOM TAU SCVA 10

TAM KON SHAN ROAD

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

MA WAN CHANNEL

TING KAU BRIDGE

TSING LONG HIGHWAY

CHEUNG TSING HIGHWAY

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pit file\new\CSWP-75(color).pltb
Plot File by: ZhengS1
27-Mar-25
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_303.dgn

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
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Civil Engineering and Development Department

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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對

STATUS
階段

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 N.T.S

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 合約編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LAYOUT PLAN FOR UNDERGROUND QUARRYING AT TSING YI NORTH

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 1.3

Appendix A

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Request for Information of Dangerous Goods & Incident Records

No.	Date	Type of Incident	Address
1	10/6/2024	Special service (Mountain Rescue)	Hillside \UT KK000755 of Tsing Yi Nature Trail
2	6/3/2023	Special service (Mountain Rescue)	Near Hillside \UT JK997754 of Tsing Yi Nature Trail

Outlook

Re: Fw: Fw: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

From [redacted]
Date Wed 22/10/25 3:57 PM
To Fan, Alex [redacted]
Cc OE8 CS/FSD [redacted]

This Message Is From an External Sender
This message came from outside your organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Report Suspicious

Dear Mr. FAN,

Please be informed that the captioned case did not involved any DG / chemicals.

Best regards,

LEE Yeung, Darwin
Assistant Divisional Officer (Legal Affairs) (Acting)
National Security and Legal Affairs Group
Corporate Services Division
Fire Services Department
Tel. [redacted]

From: "Fan, Alex" [redacted]
To: [redacted]
Cc: "OE8 CS/FSD" <[redacted]>, "Tso, Lawrence Shiu Heng" <[redacted]>, "Tam, Ariel" <[redacted]>, "Chu, Isaac" <[redacted]>, "Lau, Charlotte" <[redacted]>
Date: 2025/10/22 下午 03:10
Subject: Re: Fw: Fw: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Dear Mr. Lee,

I refer to your email reply below with reference (4) in FSD GR 6-5/4 R Pt.61. Refer to the incident below, could you provide us the following information as italic?

No.	Date	Address / Lamp Post No.	Type of Incident	Enquiry
1.	9/7/2025	Near Lamppost AC1725, Near Tam Kon Shan Road	Electrical Fire	*Would like to confirm if any DG / chemicals was involved in the accident*

Please feel free to contact us should you have any queries. Thank you.

Best regards,

Alex Fan
Assistant Environmental Consultant, Environment, Hong Kong
[redacted]
[redacted]
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From: [redacted]
Sent: Wednesday, October 22, 2025 2:18 PM
To: Fan, Alex [redacted]
Cc: OE8 CS/FSD [redacted]
Subject: Re: Fw: Fw: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Our reference: (4) in FSD GR 6-5/4 R Pt. 61 Your reference: - Dear Mr. FAN, Underground Quarrying at Tsing Yi North – Investigation, Design and Construction Request for Information – Dangerous Goods Record and Records of accidents of spillage/leakage

Our reference: (4) in FSD GR 6-5/4 R Pt. 61
Your reference: -

Dear Mr. FAN,

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
Request for Information – Dangerous Goods Record and Records of accidents of spillage/leakage

I refer to your email of 15.10.2025 regarding the captioned request and reply below in response to your questions:-

1. No Dangerous Goods Licence was issued in respect of the captioned address.

2. A total of 6 incident records were found at the subject location. Please refer to Appendix A for details.

If you have further questions, please feel free to contact the undersigned.

Best regards,

LEE Yeung, Darwin
Assistant Divisional Officer (Legal Affairs) (Acting)
Corporate Services Division
Fire Services Department

Tel.: [redacted]

Remark:
Lift incidents are excluded unless otherwise required.

Disclaimer:
**Fire Services Department uses its best endeavor to ensure the accuracy and reliability of the information provided, but cannot guarantee its accuracy and reliability and accepts no liability of any nature for any loss or damage arising from any inaccuracies or omissions that may from the information provided.*

From: Fan, Alex [redacted]
Sent: Friday, October 17, 2025 15:04
To: ADO LEA CS/FSD
Cc: OE8 CS/FSD; Tso, Lawrence Shiu Heng; Tam, Ariel; Chu, Isaac; Lau, Charlotte
Subject: Re: Fw: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Dear Mr. Lee,

I refer to your email reply below with reference (4) in FSD GR 6-5/4 R Pt. 61. Please find attached a copy of memo from GEO regarding the appointment for your reference. Please feel free to contact us should you have any queries. Thank you.

Best regards,

Alex Fan
Assistant Environmental Consultant, Environment, Hong Kong
[redacted]
[redacted]
AECOM
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From: [redacted]
Sent: Friday, October 17, 2025 2:33 PM
To: Fan, Alex [redacted]
Cc: OE8 CS/FSD [redacted]
Subject: Re: Fw: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Our reference: (4) in FSD GR 6-5/4 R Pt. 61 Your reference: - Dear Mr. FAN, Underground Quarrying at Tsing Yi North – Investigation, Design and Construction Request for Information – Dangerous Goods Record and Records of accidents of spillage/leakage

Our reference: (4) in FSD GR 6-5/4 R Pt. 61
Your reference: -

Dear Mr. FAN,

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
Request for Information – Dangerous Goods Record and Records of accidents of spillage/leakage

I refer to your email on 15.10.2025 regarding the captioned subject.

Your case is being handled, and a reply will be furnished to you as soon as possible. Please be advised that due to time lapse, this Department can only provide the following information for your requested information:

(i) Dangerous Goods Licence Record: from the year of 1990 to present moment.

(ii) Incident Record: Past three years of fire and special services incidents. Lift incidents will be excluded unless otherwise required.

Please also submit the appointment letter from your client for record.

Should you have further questions, please feel free to contact the undersigned.

Best regards,

LEE Yeung, Darwin
Assistant Divisional Officer (Legal Affairs)(Acting)
Corporate Services Division
Fire Services Department

Tel.: [redacted]

From: Fan, Alex [redacted]
Sent: Wednesday, October 15, 2025 15:43
To: ADO LEA CS/FSD
Cc: OE8 CS/FSD; Tso, Lawrence Shiu Heng; Ng, Chloe; Tam, Ariel; Chu, Isaac; Lau, Charlotte
Subject: Re: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Dear Mr Chow,

I refer to your email reply dated 6 May 2025, regarding our captioned information request. We would like to request for the following information regarding the updated boundary of the project site as indicated in **Figure 2.01** as attached:

1. Records of current and past (as early as the records are available) registration of Dangerous Goods storage (with type of dangerous goods, storage method, quantity, licence no., date of issue and storage location) within the updated boundary of the project site;
2. Any records of reported accidents of spillage/leakage of dangerous goods stored within the updated boundary of the project site; and
3. Any records of fire incidents within the updated boundary of the project site.

Due to tight study programme, grateful if you could provide the information by 22 October 2025.

Please feel free to contact our Ms. Ariel Tam at [redacted] or Mr. Alex Fan at [redacted] should you have any queries.
Thank you very much for your kind assistance.

Best regards,

Alex Fan
Assistant Environmental Consultant, Environment, Hong Kong
[redacted]
[redacted]
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From: [redacted] on behalf of [redacted]
Sent: Tuesday, May 6, 2025 7:55 PM
To: Fan, Alex [redacted]
Cc: OE8 CS/FSD [redacted]
Subject: Re: Fw: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Our reference: (18) in FSD GR 6-5/4 R Pt. 58 Your reference: GDCB:JYCT:kbs:60733229/2.5/2024004048G Dear Mr. FAN, Underground Quarrying at Tsing Yi North – Investigation, Design and Construction Request for Information of Dangerous Goods &

Our reference: (18) in FSD GR 6-5/4 R Pt. 58
Your reference: GDCB:JYCT:kbs:60733229/2.5/2024004048G

Dear Mr. FAN,

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
Request for Information of Dangerous Goods & Incident Records

I refer to your email of 2.4.2025 regarding the captioned request and reply below in response to your questions:-

1. No Dangerous Goods Licence was issued in respect of the captioned address.

2. A total of 2 incident records were found at the subject location. Please refer to Appendix A for details.

If you have further questions, please feel free to contact the undersigned.

Best regards,

CHOW Yin-hei
Assistant Divisional Officer (Legal Affairs)
Corporate Services Division
Fire Services Department

Tel.: [redacted]

Remark:
Lift incidents are excluded unless otherwise required.

Disclaimer:
**Fire Services Department uses its best endeavor to ensure the accuracy and reliability of the information provided, but cannot guarantee its accuracy and reliability and accepts no liability of any nature for any loss or damage arising from any inaccuracies or omissions that may from the information provided.*

From: yin_hei CHOW [redacted] on behalf of ADO LEA CS [redacted]
Sent: Wednesday, April 2, 2025 19:16
To: Fan, Alex
Cc: OE8 CS/FSD
Subject: Re: Fw: Agreement No. CE 79/2023 (GE) Underground Quarrying at Tsing Yi North – IDC – Request for Information of DG and Incident Records - Further Enquiries

Our reference: (18) in FSD GR 6-5/4 R Pt. 58
Your reference: GDCB:JYCT:kbs:60733229/2.5/2024004048G

Dear Mr. FAN,

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction
Request for Information of Dangerous Goods & Incident Records

I refer to your email of 2.4.2025 regarding the captioned subject.

Your case is being handled, and a reply will be furnished to you as soon as possible. Please be advised that due to time lapse, this Department can only provide the following information for your requested information:

(i) Dangerous Goods Licence Record: from the year of 1990 to present moment.

(ii) Incident Record: Past three years of fire and special services incidents. Lift trapping incidents will be excluded unless otherwise required.

Should you have further questions, please feel free to contact the undersigned.

Best regards,

CHOW Yin-hei
Assistant Divisional Officer (Legal Affairs)
Corporate Services Division
Fire Services Department

Tel.: [redacted]

----- Forwarded by FSD Enquiry/FSD/HKSARG on 02/04/2025 12:24 -----

02/04/2025 11:09

From: "Fan, Alex" <alex.fan@aecom.com>

To: "hkfsdenq@hkfsd.gov.hk" <hkfsdenq@hkfsd.gov.hk>

Cc: "Tso, Lawrence Shiu Heng" [redacted], "Ng, Chloe" [redacted], "Chu, Isaac" [redacted]

Dear Mr Au,

I refer to your reply with ref.: (61) in FSD GR 6-5/4 R Pt. 55 dated 26 September 2024, regarding our captioned information request. We would like to request for the following information regarding the updated boundary of the project site as indicated in **Figure 1.3** as attached:

1. Records of current and past (as early as the records are available) registration of Dangerous Goods storage (with type of dangerous goods, storage method, quantity, licence no., date of issue and storage location) within the updated boundary of the project site;
2. Any records of reported accidents of spillage/leakage of dangerous goods stored within the updated boundary of the project site; and
3. Any records of fire incidents within the updated boundary of the project site.

Attached the letter for your reference. Due to tight study programme, grateful if you could provide the information by 11 April 2025.

Please feel free to contact our Ms. Chloe Ng at [redacted] or Mr. Alex Fan at [redacted] should you have any queries.

Thank you very much for your kind assistance.

Best regards,

Alex Fan

Graduate Environmental Consultant, Environment, Hong Kong

[redacted]

[redacted]

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[attachment "Figure 1.3.pdf" deleted by yin_hei CHOW/FSD/HKSARG] [attachment "FSD Reply_20240926.pdf" deleted by yin_hei CHOW/FSD/HKSARG]

[attachment "(18)_Pt 58_ MC-incident_appendix A.pdf" deleted by yin_hei CHOW/FSD/HKSARG]

ISO A1 594mm x 841mm

Project Management Initials: Designer: Checked: Approved:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- POTENTIAL PROJECT BOUNDARY

NGAU KOK WAN PORTAL

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

CHEUNG ON ESTATE

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN WORKS AREA

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
土木工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容/摘要	CHK. 核核

STATUS
狀況

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LOCATION OF THE PROJECT

SHEET NUMBER
圖紙編號

60733229/B19/FIGURE 2.01

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltPlot File by: LauJ15 10/14/2025PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_701.dgn

Appendix A

Underground Quarrying at Tsing Yi North – Investigation, Design and Construction

Request for Information of Dangerous Goods & Incident Records

No.	Date	Type of Incident	Address
1	9/7/2025	Electrical Fire	Near Lamppost AC1725, Near Tam Kon Shan Road
2	14/9/2024	Mountain Rescue	Kiosk 5, UTM Grid Reference KK001751, Tsing Yi Nature Trail
3	10/6/2024	Mountain Rescue	Hillside, UTM Grid Reference KK000755, Tsing Yi Nature Trail
4	19/4/2024	No. 2 Alarm Fire	No. 80-82, Tam Kon Shan Road
5	5/8/2023	No. 1 Alarm Fire	Man Shun Shipyard, Tam Kon Shan Road
6	6/3/2023	Mountain Rescue	Hillside, UTM Grid Reference JK997754, Near Tsing Yi Nature Trail

Appendix 9.1

Appendix 9.1 Flora Species Recorded within the Assessment Area

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Acacia auriculiformis	Ear-leaved Acacia	tree	exotic	Widely cultivated in Hong Kong	IUCN Red List: Least Concern	++		+			
Acacia confusa	Taiwan Acacia	tree	exotic	Widely cultivated in Hong Kong	IUCN Red List: Least Concern	+++		+++			+
Acacia mangium	Big-leaved Acacia	tree	exotic	Widely cultivated in Hong Kong	IUCN Red List: Least Concern	++	+	++			
Adiantum flabellulatum	Fan-leaved Maidenhair	herb	native	-	-	++	+	+			
Adiantum malesianum	Walking Maidenhair Fern	herb	native	-	-			+			
Adina pilulifera	Chinese Buttonbush	shrub or tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+					
Adinandra millettii	Millett's Adinandra	shrub or small tree	native	Hong Kong Island, Sai Kung, Tai Mong Tsai, Ma On Shan, Fanling, Tai Lam Chung, Lantau Island	-	+					
Allamanda schottii	Small Allamanda	shrub	exotic	Commonly cultivated	-		+				
Alocasia macrorrhizos	Giant Alocasia	perennial herb	native	Common in Hong Kong	-	+	+	+	+		+
Aloe vera	Chinese Aloe	perennial herb	exotic	Cultivated	-			+			
Alpinia zerumbet	Shell Ginger	perennial herb	native	Common in Hong Kong	IUCN Red List: Data Deficient	+		+	+		
Aporosa dioica	Aporosa	tree	native	Common in Hong Kong	-	+					
Aquilaria sinensis	**Incense Tree**	**tree**	**native**	**Common in Hong Kong**	**List of Wild Plants under State Protection: Category II; Protected under Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586); Rare and Precious Plants of Hong Kong (Status of China): Category 2 & 3 (Near Threatened); Listed in Wild Plants under State Protection: Category II; China Plant Red Data Book: Vulnerable; Rare and Endangered Plants and National Key Protected Plants in Guangdong: Near Threatened; Illustration of Rare and Endangered Plants in Guangdong Province; Threatened Species List of China's Higher Plants: Vulnerable; IUCN Red List: Vulnerable**	**+**	**+**	**+**			
Aralia chinensis	**-**	**tree**	**native**	**Common in Hong Kong**	**IUCN Red List: Vulnerable**	**+**		**+**			
Archidendron clypearia	Monkey-pod	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+					
Archidendron lucidum	Chinese Apea Ear-ring	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+				+	
Archontophoenix alexandrae	Alexandra Palm	tree palm	exotic	Commonly cultivated	IUCN Red List: Least Concern		+				+
Ardisia crenata	Hilo Holly	shrub	native	Common in Hong Kong	-	+					
Artocarpus heterophyllus	Jackfruit	tree	exotic	Cultivated	-			+			
Asparagus cochinchinensis	Wild Asparagus	climbing herb	native	Common in Hong Kong	IUCN Red List: Data Deficient	+					
Asparagus setaceus	Asparagus Fern	-	exotic	-	-						+
Asystasia micrantha	-	perennial ascending herbs	exotic	Cultivated or naturalized	-	+		+			
Atalantia buxifolia	Box-leaved Atalantia	shrub	native	Hong Kong Island, Kowloon, Sai Kung, Lantau Island	IUCN Red List: Least Concern			+			
Averrhoa carambola	Carambola	small tree	exotic	Cultivated	-	+					

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Baeckea frutescens	Dwarf Mountain Pine	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern		+				
Bambusa textilis	Weaver's Bamboo	clumped tree bamboo	exotic	Tai Po Kau, Kwun Yam Shan, Sheung Shui (cultivated)	-	+					
Bauhinia glauca	Climbing Bauhinia	climber: vine	native	Common in Hong Kong	IUCN Red List: Least Concern	+		+			
Bauhinia purpurea	Purple Camel's Foot	tree	exotic	Cultivated	IUCN Red List: Least Concern						+
Bauhinia variegata var. *candida*	White Bauhinia	tree	exotic	Cultivated	IUCN Red List: Least Concern						+
Bauhinia x *blakeana*	Hong Kong Orchid Tree	shrub or tree	native	Cultivated	-			+			+
Bidens alba	-	herb	exotic	Naturalized and widely distributed in Hong Kong	-	+		+	+	+	++
Blechnum orientale	Oriental Blechnum	herb	native	-	-	++	++	+		+	
Bombax ceiba	Tree Cotton	tree	exotic	Cultivated	IUCN Red List: Least Concern	+		+			+
Bougainvillea spectabilis	Brazil Bougainvillea	climbing shrub	exotic	Cultivated in gardens or as a pot plant	-	+	+	+			+
Breynia fruticosa	Waxy Leaf	shrub	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+				
Bridelia tomentosa	Pop-gun Seed	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	+	+		+
Brucea javanica	False Sumac	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+		+			
Calliandra haematocephala	Pink Powder Puff	shrub	exotic	Cultivated	-	+		+		+	+
Carallia brachiata	India Carallia	tree	native	Common in Hong Kong	-		+				
Carica papaya	Papaya	tree	exotic	Cultivated	IUCN Red List: Data Deficient			+			
Cassytha filiformis	Cassytha	parasitic climber: twining herb	native	Common in Hong Kong	-	+					
Castanopsis fissa	Castanopsis	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	++				+	
Casuarina equisetifolia	Horsetail Tree	tree	exotic	Cultivated	IUCN Red List: Least Concern	++	+	++			+
Catharanthus roseus	Periwinkle	herb	exotic	Cultivated	-		+	+			
Cayratia corniculata	Corniculate Cayratia	herbaceous vine	native	Common in Hong Kong	-	+				+	
Celosia argentea	Wild Coxcomb	herb	native	Kowloon, Sha Tin, Fanling, Sheung Shui, Lantau Island	IUCN Red List: Least Concern				+		+
Celtis biondii	Biond's Hackberry	tree	native	Hong Kong Island, Peng Chau	IUCN Red List: Least Concern	+					
Celtis sinensis	Chinese Hackberry	tree	native	Common in Hong Kong and widely planted	IUCN Red List: Least Concern				+		+
Centella asiatica	Moneywort	procumbent herb	native	Common in Hong Kong	IUCN Red List: Least Concern					+	
Centotheca lappacea	Common Centotheca	perennial herb	native	Common in Hong Kong	-	+		+		++	
Cheilosoria tenuifolia	Narrow-leaved Lip-fern	herb	native	-	-	+					
Chloranthus spicatus	Pearl-orchid	-	exotic	Cultivated	-					+	
Chloris barbata	Peacock-plume Grass	herb	native	Common in Hong Kong	-						+
Chukrasia tabularis	Chittagong Chickrassy	tree	exotic	Cultivated	IUCN Red List: Least Concern	+					
Cinnamomum burmannii	Batavia Cinnamon	large shrub or tree	native	Common in Hong Kong	-	+		+			
Cinnamomum camphora	Camphor Tree	large tree	native	Common in Hong Kong. Also widely cultivated	IUCN Red List: Least Concern		+				
Citrus maxima	Pummelo	tree	exotic	Cultivated	IUCN Red List: Least Concern			+			
Clausena lansium	Wampi	small tree	exotic	Cultivated	IUCN Red List: Least Concern			+			
Clerodendrum fortunatum	Glorybower	shrub	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	+			
Cocculus orbiculatus	Snail Seed	climber: vine	native	Common in Hong Kong	-			+	+		+
Commelina diffusa	Diffuse Day-flower	herb	native	Common in Hong Kong	IUCN Red List: Least Concern					+	
Corchorus aestuans	Mock Jute	herb	native	Sha Tin, Sai Kung, Tai Long Sai Wan, Tsing Yi, Lantau Island	-						+
Cordyline fruticosa	Iron Plant	shrub	exotic	Cultivated	IUCN Red List: Least Concern		+	+			
Costus speciosus	Crape Ginger	herb	native	Mount Gough, Tai Hang Rd., Lantau Peak	-	+					

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Cratoxylum cochinchinense	Yellow Cow Wood	shrub or tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	++			
Cuscuta campestris	-	herb	native	Common in Hong Kong	-		+				
Cyclea hypoglauca	-	climber	native	Pok Fu Lam, Wong Nai Chung, Tai Tam, Victoria Peak, Mount Nicholson, Shing Mun, Ma On Shan, Tsing Yi	-	+					
Cyclosorus parasiticus	Wood-fern	herb	native	-	-	+	+	+	+	++	+
Cyrtococcum patens	Broad-leaved Bowgrass	herb	native	Common in Hong Kong	-	++			+		
Dalbergia benthamii	Bentham's Rosewood	climber: vine	native	Common in Hong Kong	IUCN Red List: Least Concern	+		+			
Daphniphyllum calycinum	-	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	+			
Delonix regia	Flame Tree	tree	exotic	Cultivated	IUCN Red List: Least Concern						+
Deparia japonica subsp. *japonica*	Japanese Lady-fern	herb	native	-	-	+					
Desmos chinensis	Desmos	woody vine	native	Common in Hong Kong	-	+		+			
Dianella ensifolia	Dianella	herb	native	Common in Hong Kong	-	+	+	+			
Dicranopteris pedata	Dichotomy Forked Fern	herb	native	very common	-		+++	+			
Dimocarpus longan[3]	Longan	tree	exotic	Cultivated	List of Wild Plants under State Protection: Category II; Threatened Species List of China's Higher Plants: Vulnerable; Rare and Endangered Plants and National Key Protected Plants in Guangdong: Near Threatened; IUCN Red List: Near Threatened	+		+			
Dioscorea bulbifera	Air Potato	climber: vine	native	Hong Kong Island, Tai Po Kau, Lam Tsuen, Sham Tseng, Ta Kwu Ling	-	+					
Diospyros vaccinioides	**Small Persimmon**	**shrub**	**native**	**Common in Hong Kong**	**Threatened Species List of China's Higher Plants: Endangered; IUCN Red List: Critically Endangered**	**+**		**+**			
Diploclisia glaucescens	Glaucescent Diploclisia	woody vine	native	Mount Parker, Cape D'Aguilar, Wan Chai, Tai Po Kau, Lantau Island	-	+					
Dracaena fragrans	Fragrant Dragon Tree	shrub	exotic	Cultivated	IUCN Red List: Least Concern	+	+	+			
Dracaena marginata	Madagascar Dragon Tree	shrub	exotic	-	-		+				
Duranta erecta	Golden Dewdrops	climbing shrub	exotic	Cultivated	IUCN Red List: Least Concern	+		+			
Embelia laeta	Twig-hanging Embelia	climber: vine	native	Widely distributed in Hong Kong	-	+	+				
Emilia sonchifolia	Tassel Flower	herb	native	Common in Hong Kong	-			+			
Epipremnum aureum	Ivy-arum	tall climbing plant	exotic	-	-	+		+			
Epipremnum pinnatum	Taro Vine	liana	exotic	New Territories	-					++	
Eriobotrya japonica	Loquat	small tree	exotic	Cultivated	-			+			+
Eucalyptus robusta	Swamp Mahogany	tree	exotic	Cultivated	IUCN Red List: Near Threatened	++		+			
Eucalyptus spp.	-	tree	exotic	cultivated; common	-	+++	+	+++			
Euonymus nitidus	Chinese Euonymus	shrub	native	Common in Hong Kong	IUCN Red List: Least Concern	+					
Euphorbia hirta	Garden Spurge	herb	exotic	Naturalized	-						+

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Euphorbia thymifolia	Thyme-leaved Spurge	herb	native	Stubbs Rd., Tai Hang Rd., Victoria Park, Sheung Pak Nai,Yuen Long, Tsing Yi	-						+
Eurya nitida	Shining Eurya	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	++				
Ficus elastica	India-rubber Tree	tree	exotic	Cultivated	-						+
Ficus fistulosa	Common Yellow Steg-fig	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+				+	
Ficus hirta	Hairy Fig	shrub or small tree	native	Common in Hong Kong	-	+	+		+		
Ficus hispida	Opposite-leaved Fig	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern		+	+	++	+	+
Ficus microcarpa	Chinese Banyan	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+					+
Ficus pumila	Creeping Fig	climbing woody vine	native	Common in Hong Kong	-			+			
Ficus variegata	Common Red-stem Fig	tree	native	Common in Hong Kong	IUCN Red List: Least Concern			+			
Ficus virens	Big-leaved Fig	tree	native	Cultivated	IUCN Red List: Least Concern			+			+
Flueggea virosa	Snow Berry	shrub	native	Tai Tam, Ngau Chi Wan, Fanling, Po Leng, Tai Po, Butterfly Hill	IUCN Red List: Least Concern			+			
Gahnia tristis	Triste Gahnia	herb	native	Common in Hong Kong	-	+	+				
Gardenia jasminoides	Cape Jasmine	shrub	native	Common in Hong Kong	-	+	+	+			
Glochidion eriocarpum	Hairy-fruited Abacus Plant	shrub	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+			+	
Glochidion lanceolarium	Large-leaved Abcaus Plant	shrub or tree	native	Common in Hong Kong	-	+	+	+			
Glochidion zeylanicum	Hong Kong Abacus Plant	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+		+		
Gnetum luofuense	Luofushan Joint-fir	woody vine	native	Common in Hong Kong	IUCN Red List: Near Threatened	+					
Hedyotis acutangula	Angle-stemmed Hedyotis	herb	native	Common in Hong Kong	-		+				
Hedyotis corymbosa	Corymbose Hedyotis	herb	native	Common in Hong Kong	-						+
Hedyotis hedyotidea	White Ox Creeper	climbing subshrub	native	Common in Hong Kong	-	+					
Helicteres angustifolia	Narrow-leaved Screwtree	subshrub	native	Common in Hong Kong	-		+				
Heterosmilax japonica	Heterosmilax	climbing shrub	native	Pok Fu Lam	-	+	+				
Hibiscus rosa-sinensis	Chinese Hibiscus	shrub	exotic	Commonly cultivated in Hong Kong gardens	-	+	+	+		+	
Hibiscus tiliaceus	Cuban Bast	shrub or tree	native	Hong Kong Island, Shek O, Ma Liu Shui, Mai Po, Leung Shuen Wan Chau (Tall Island)	IUCN Red List: Least Concern	+		+	+		
Hymenocallis littoralis	American Hymenocallis	herb	exotic	Cultivated	-						+
Ilex asprella	Rough-leaved Holly	shrub	native	very common	-	++		+			
Ilex pubescens	Downy Holly	shrub	native	Common in Hong Kong	-	+	+				
Indocalamus sinicus	Chinese Cane	running shrubby bamboo	native	Common in Hong Kong	-	+		+		++	
Ipomoea cairica	Gairo Morning Glory	climber: twining herb	exotic	Common in Hong Kong	IUCN Red List: Least Concern			+			+
Ixora chinensis	Chinese Ixora	shrub	native	To Fung Shan, Man Kam To, Sai Kung, Ha Pak Nai, also widely cultivated	-		+				

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Kyllinga polyphylla	Aromatic Kyllinga	herb	exotic	Victoria Park, Tsiu Hang, Tai Po Kau	-			+			
Lagerstroemia speciosa	Queen Crape Myrtle	large tree	exotic	Cultivated	Protected under Forests and Countryside Ordinance (Cap. 96)						+
Lantana camara	Lantana	shrub	exotic	Naturalized in Hong Kong	-			+	+		+
Leucaena leucocephala	White Popinac	small tree	exotic	Cultivated and naturalized	-	+		+	++		+++
Ligustrum sinense	Chinese Privet	shrub or small tree	exotic	Common in Hong Kong and widely cultivated	-	+					
Lindsaea ensifolia	Sword-leaved Lindsaea	herb	native	-	-	+		+			
Lindsaea heterophylla	Heterophyllous Lindsaea	herb	native	-	-	+	+				
Lindsaea orbiculata	Orbicular Lindsaea	herb	native	-	-	+	+				
Liquidambar formosana	Sweet Gum	tree	native	Common in Hong Kong. Also widely planted	IUCN Red List: Least Concern	++					
Liriope spicata	Lily Turf	perennial herb	native	Common in Hong Kong	-	++		+		+	
Litsea glutinosa	Pond Spice	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+					+
Litsea monopetala	Persimmon-leaved Litsea	small tree	native	Hong Kong Island, Sai Kung, Lantau Island	IUCN Red List: Least Concern	+					
Litsea rotundifolia var. *oblongifolia*	Oblong-leaved Litsea	shrub	native	Common in Hong Kong	-	+	+				
Livistona chinensis	Chinese Fan-palm	tree palm	exotic	Cultivated	Threatened Species List of China's Higher Plants: Vulnerable	+		++			+
Lophatherum gracile	Common Lophantherum	perennial herb	native	Common in Hong Kong	-	++	+	+	+	++	
Loropetalum chinense f. *rubrum*	Red Strap Flower	shrub or small tree	exotic	-	-		+				
Lygodium flexuosum	Flexuose Climbing Fern	climbing herb	native	-	-	+					
Lygodium japonicum	Climbing Fern	climbing herb	native	-	-	+	+	+			+
Lygodium scandens	Scansorial Climbing Fern	climbing herb	native	-	-	+	+	+		+	
Macaranga tanarius var. *tomentosa*	Elephant's Ear	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+		+	+	+	+
Machilus spp.	-	-	native	-	-	+					
Macrothelypteris torresiana	Mariana Maiden Fern	herb	native	-	-			+			
Mallotus paniculatus	Turn-in-the-wind	shrub or tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+		+			+
Mangifera indica	Mango	tree	exotic	Cultivated	IUCN Red List: Data Deficient			+			
Manihot esculenta	Tapioca Plant	shrub	exotic	Cultivated	-			+			+
Melaleuca cajuputi subsp. *cumingiana*	Paper-bark Tree	tree	exotic	Cultivated	IUCN Red List: Least Concern			++			
Melastoma malabathricum	Common Melastoma	shrub	native	Common in Hong Kong	-			+			
Melastoma sanguineum	Blood-red Melastoma	shrub	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	+		+	
Melicope pteleifolia	Thin Evodia	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+				
Melinis repens	Redtop	perennial herb	exotic	Common in Hong Kong (naturalized)	-						+
Microcos nervosa	Microcos	shrub or small tree	native	Common in Hong Kong	-	+		++	+		+
Mikania micrantha	Mile-a-minute Weed	climbing herb	exotic	Naturalized and widely distributed in Hong Kong	-	+		+	++		++
Millettia nitida	Glittering-leaved Millettia	climbing shrub	native	Common in Hong Kong	IUCN Red List: Least Concern	+					

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Mimosa pudica	Sensitive Plant	herb	exotic	Naturalized in Hong Kong	IUCN Red List: Least Concern			+			
Miscanthus floridulus	Many-flowered Silvergrass	perennial herb	native	Common in Hong Kong	-		+	+	++		+
Morinda parvifolia	Little-leaved Indian-mulberry	climbing shrub	native	Common in Hong Kong	-					+	
Morus alba	White Mulberry	shrub or tree	native	Common in Hong Kong. Also cultivated	IUCN Red List: Least Concern						+
Murraya paniculata	Orange-jessamine	small tree	exotic	Cultivated or naturalized	-			+			
Musa x *paradisiaca*	Common Banana	perennial herb	exotic	Cultivated	IUCN Red List: Least Concern		+	+	+	+	
Mussaenda pubescens	Splash-of-white	climbing shrub	native	Common in Hong Kong	-	+					
Nephrolepis hirsutula	Rough Sword Fern	herb	native	-	-			+			
Oxalis corniculata	Sorrel	perennial herb	native	Common in Hong Kong	-						+
Oxalis debilis subsp. *corymbosa*	Lavender Sorrel	perennial herb	exotic	A common weed in Hong Kong	-					+	
Paederia scandens	Chinese Fevervine	climber: vine	native	Common in Hong Kong	-	+			+		+
Pandanus austrosinensis	-	herb	native	Tai Mo Shan	-					+	
Panicum maximum	Guinea Grass	perennial herb	exotic	Cultivated for forage	-	+	+	+	+		+
Parthenocissus dalzielii	Diverse-leaved Creeper	woody vine	exotic	Cultivated	-						+
Passiflora foetida	Passion Flower	herbaceous vine	exotic	Common in Hong Kong. Naturalized	-				+		+
Passiflora suberosa	Triangular Passion Flower	herbaceous vine	exotic	-	-			+			
Peltophorum tonkinense	-	tree	exotic	Cultivated	-						+
Persicaria chinensis	Chinese Knotweed	herb	native	Common in Hong Kong	-					+	
Phoenix loureiroi	Spiny Date Palm	shrub or tree palm	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+				
Phoenix roebelenii	Dwarf Date Palm	small tree palm	exotic	Cultivated	-						+
Phyllanthus cochinchinensis	Vietnam Leaf-flower	shrub	native	Common in Hong Kong	-	+	+			+	+
Phyllanthus emblica	Myrobalan	shrub or tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	+		+	+
Pinus elliottii	Slash Pine	tree	exotic	Widely planted in countryside	IUCN Red List: Least Concern		+				
Platycladus orientalis	Chinese Arborvitae	tree	exotic	Cultivated in gardens	IUCN Red List: Near Threatened	+					+
Plumeria rubra	Frangipani	tree	exotic	Commonly cultivated in Hong Kong	IUCN Red List: Least Concern			+			+
Podocarpus macrophyllus[3]	Buddhist Pine	tree	native	Coastal hillslopes on eastern seashores. It is also cultivated in urban parks and gardens	List of Wild Plants under State Protection: Category II; Threatened Species List of China's Higher Plants: Vulnerable; IUCN Red List: Least Concern	+					
Polyscias guilfoylei	Panax	shrub	exotic	-	-		+				
Polyspora axillaris	Hong Kong Gordonia	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	+			
Praxelis clematidea	-	perennial herb	exotic	Naturalized and widely distributed in Hong Kong	-	+	+				
Psychotria asiatica	Wild Coffee	shrub or tree	native	Common in Hong Kong	IUCN Red List: Least Concern	++	+	+		++	
Psychotria serpens	Creeping Psychotria	semi-woody climber: vine	native	Common in Hong Kong	-	+		+			
Pteridium aquilinum var. *latiusculum*	Bracken Fern	herb	native	-	-	+					

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Pteris ensiformis	Sword Brake	herb	native	-	-	+		+		+	
Pteris linearis	Lineate Brake	herb	native	-	-			+			
Pteris semipinnata	Semi-pinnated Brake	herb	native	-	-	++					
Pteris vittata	Ladder Brake	herb	native	-	IUCN Red List: Least Concern			+	+		
Pueraria lobata var. *montana*	Montane Kudzu	climber: vine	native	Common in Hong Kong	-	+		+	+	+	+
Pueraria spp.	Kudzu	climber: vine	-	-	-						+
Pyrrosia adnascens	Tongue-fern	herb	native	-	-	+					
Reevesia thyrsoidea	Reevesia	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+					
Rhaphiolepis indica	Hong Kong Hawthorn	shrub or small tree	native	Common in Hong Kong	-	+	+	+			
Rhododendron pulchrum var. *phoeniceum*[3]	Purple Azalea	shrub	exotic	-	Protected under Forests and Countryside Ordinance (Cap. 96)						+
Rhodomyrtus tomentosa	Rose Myrtle	shrub	native	Common in Hong Kong	IUCN Red List: Least Concern		++	+			
Rhus chinensis	Sumac	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern		+				+
Rhus hypoleuca	Sumac	shrub or small tree	native	Common in Hong Kong	-			+			
Rhus succedanea	Wax Tree	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern		+	+			
Roystonea regia	Royal Palm	tree palm	exotic	Cultivated	IUCN Red List: Least Concern						+
Rubus reflexus	Rusty-haired Raspberry	climbing shrub	native	Common in Hong Kong	-	+	+				
Ruellia coerulea	-	herb	exotic	Cultivated	-		+				
Sansevieria trifasciata	Snake Plant	perennial herb	exotic	Cultivated	-	+					
Sapium discolor	Mountain Tallow Tree	small tree	native	Common in Hong Kong. Also planted	-	+	+	+			+
Sapium sebiferum	Chinese Tallow Tree	tree	native	Common in Hong Kong. Also planted	-	+					
Schefflera actinophylla	Umbrella Tree	tree	exotic	-	IUCN Red List: Least Concern			+			
Schefflera arboricola	Miniature Umbrella Plant	climbing shrub	exotic	-	-	+		+			
Schefflera heptaphylla	Ivy Tree	tree	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+	+		+	+
Scleria spp.	-	-	-	-	-	+				+	
Senna siamea	Kassod Tree	tree	exotic	Cultivated	IUCN Red List: Least Concern			+			+
Senna surattensis	Sunshine Tree	shrub or small tree	exotic	Cultivated	IUCN Red List: Least Concern						+
Sesbania cannabina	Dhaincha	subshrub	exotic	Cultivated or naturalized	IUCN Red List: Least Concern				+		
Solena amplexicaulis	Clasping-stem Solena	climbing herbaceous vine	native	Common in Hong Kong	-	+					
Stephania longa	Long Stephania	climber: vine	native	Aberdeen, Tai Po Kau, Ma On Shan, Sheung Shui, Tai Mong Tsai	-	+					
Sterculia lanceolata	Lance-leaved Sterculia	semi-deciduous tree	native	Common in Hong Kong	IUCN Red List: Least Concern	++		++	+		
Strophanthus divaricatus	Goat Horns	woody vine	native	Common in Hong Kong	-		+	+			
Syzygium jambos	Rose Apple	tree	exotic	Cultivated & naturalized	IUCN Red List: Least Concern	+	+				
Tadehagi triquetrum	Triquetrous Tadehagi	subshrub or shrub	native	Common in Hong Kong	IUCN Red List: Least Concern		+	+			
Tectaria subtriphylla	-	herb	native	-	-	+					
Tetracera asiatica	Sandpaper Vine	woody vine	native	Common in Hong Kong	-	+				+	
Thevetia peruviana	Yellow Oleander	shrub or small tree	exotic	Commonly cultivated in Hong Kong	IUCN Red List: Vulnerable			+			
Trema tomentosa	India-charcoal Trema	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern			+			
Tridax procumbens	Tridax	perennial herb	exotic	Naturalized and widely distributed in Hong Kong	-			+			+

Scientific Name	Common Name	Growth Form	Native / Exotic to Hong Kong	Distribution in Hong Kong[1]	Protection / Conservation Status[2]	MWL	SL	PL	MWC	NWC	DA
Vernonia cinerea	Iron-weed	herb	native	Common in Hong Kong	-			+			
Vitex negundo	Yellow Bramble	shrub or small tree	native	Common in Hong Kong	IUCN Red List: Least Concern						+
Wedelia trilobata	-	perennial herb	exotic	Naturalized and widely cultivated	-	+	+	+++		+	
Wikstroemia indica	Indian Wikstroemia	shrub	native	Common in Hong Kong	-			+			
Wodyetia bifurcata	-	tree	exotic	-	-						+
Zanthoxylum avicennae	Prickly Ash	tree	native	Common in Hong Kong	-	+		+			
Zanthoxylum nitidum	Shiny-leaved Prickly Ash	climbing shrub	native	Common in Hong Kong	IUCN Red List: Least Concern	+	+				

Notes:

(1) Distribution in Hong Kong follows:

Flora of Hong Kong Volume 1-4. (2007-2011).

Wu, S.-H. & Lee, T.-C.W. (2000). Pteridophytes of Hong Kong. *Memoirs of the Hong Kong Natural History Society* **23**:5-20.

Xing, F.-W., Ng, S.C. & Chau, L.K.-C. (2000). Gymnosperms and Angiosperms of Hong Kong. *Memoirs of the Hong Kong Natural History Society* **23**:21-136.

Siu, L.-P.G. (2000). Orchidaceae of Hong Kong. *Memoirs of the Hong Kong Natural History Society* **23**:137-148.

(2) Protection statuses follow:

Protected under the Forests and Countryside Ordinance (Cap. 96)

Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586)

Hu, Q.M., Wu, T.L., Xia, N.H., Xing F.W., Lai, C.C.P. & Yip, K.W. (2003). Rare and Precious Plants of Hong Kong. Agriculture, Fisheries and Conservation Department, HKSAR, Hong Kong. 234pp.

List of Wild Plants Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021)

Fu, K.L. (1992). China Plant Red Data Book. Vol. 1 - Rare and Endangered Plants. Science Press, Beijing. 736pp. (In Chinese only).

Qin, *et al.* (2017). Threatened Species List of China's Higher Plants. *Biodiversity Science* **25(7)**:696-747

International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species. Version 2024.02.

Feng, Z.-J., Li, Z.-K., Li, B.-T., Xue, C.-G., Liu, J.-B. & He, Y.-Q. (2002). Study on Rare and Endangered Plants and National Key Protected Plants in Guangdong. *Journal of South China Agricultural University* **3**:24-27.

Wu, D.L. & Hu, C.X. (1988). Illustrations of Rare and Endangered Plants in Guangdong Province. China Environmental Science Press, Beijing. 46pp. (In Chinese only).

(3) The species is artificially introduced to the habitat, thus it is not considered as species of conservation importance.

Abbreviation for Habitats: MWL = Mixed Woodland; SL = Shrubland; PL = Plantation; MWC = Modified Watercourse; NWC = Natural Watercourse; and DA = Developed Area

Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce

Species of conservation importance is in **bold** type face

Appendix 9.2

Appendix 9.2 Fauna Species Recorded within the Assessment Area
Avifauna

Common Name	Scientific Name	Distribution in Hong Kong[3]	Principal Status[4]	Level of Concern[5]	Protection Status in China[6]	China Red Data Book[7]	Red List of China's Vertebrates[8]	Redlist of China's Biodiversity[9]	IUCN Red List[10]	MWL	SL	PL	DA	IF
Black Kite[2][11]	***Milvus migrans***	**Common resident and winter visitor. Widely distributed in Hong Kong**	**W,R**	**(RC)**	**Class II**	**-**	**Least Concern**	**Least Concern**	**Least Concern**					**+**
Black-collared Starling	*Gracupica nigricollis*	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern				+	
Black-throated Laughingthrush	***Pterorhinus chinensis***	**Common resident. Widely distributed in woodland and shrubland throughout Hong Kong.**	**R**	**-**	**Class II**	**-**	**Least Concern**	**Least Concern**	**Least Concern**	**+**				
Blue Whistling Thrush	*Myophonus caeruleus*	Common resident. Widely distributed in shrubland and woodland throughout Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+				
Chestnut Bulbul	*Hemixos castanonotus*	Common resident and winter visitor. Widely distributed in woodland throughout Hong Kong.	R,W	-	-	-	Least Concern	Least Concern	Least Concern	+				
Chinese Bulbul	*Pycnonotus sinensis*	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+	+	+		
Cinereous Tit	*Parus cinereus*	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+		+		
Collared Scops Owl[2]	***Otus lettia***	**Common resident. Widely distributed in shrubland throughout Hong Kong.**	**R**	**-**	**Class II**	**-**	**Least Concern**	**Least Concern**	**Least Concern**	**+**				
Common Tailorbird	*Orthotomus sutorius*	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+	+		+	
Crested Goshawk[2]	***Accipiter trivirgatus***	**Common resident. Widely distributed in woodlands and shrublands throughout Hong Kong.**	**R**	**-**	**Class II**	**Rare**	**Near Threatened**	**Near Threatened**	**Least Concern**					**+**
Daurian Redstart	*Phoenicurus auroreus*	Common winter visitor. Widely distributed in Hong Kong.	W	-	-	-	Least Concern	Least Concern	Least Concern			+		
Eurasian Tree Sparrow	*Passer montanus*	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern				+	
Grey-backed Thrush	*Turdus hortulorum*	Common winter visitor and migrant. Widely distributed in woodland throughout Hong Kong.	W	-	-	-	Least Concern	Least Concern	Least Concern	+				
Large-billed Crow	*Corvus macrorhynchos*	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+	+	+		
Little Egret[11]	***Egretta garzetta***	**Common resident, migrant and winter visitor. Widely distributed in coastal area throughout Hong Kong.**	**P**	**PRC (RC)**	**-**	**-**	**Least Concern**	**Least Concern**	**Least Concern**					**+**
Olive-backed Pipit	*Anthus hodgsoni*	Common passage migrant and winter visitor. Widely distributed in Hong Kong.	W	-	-	-	Least Concern	Least Concern	Least Concern	+				
Pallas's Leaf Warbler	*Phylloscopus proregulus*	Common winter visitor and migrant. Found in woodland throughout Hong Kong.	W	-	-	-	Least Concern	Least Concern	Least Concern			+		
Red-billed Blue Magpie	*Urocissa erythroryncha*	Common resident. Widely distributed in woodland edges throught Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+			+	
Red-whiskered Bulbul	*Pycnonotus jocosus*	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+	+	+	+	
Rufous-tailed Robin	*Larvivora sibilans*	Common winter visitor and passage migrant. Widely distributed in woodland throughout Hong Kong.	W,SpM	-	-	-	Least Concern	Least Concern	Least Concern			+		
Scaly-breasted Munia	*Lonchura punctulata*	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern				+	

Avifauna

Common Name	Scientific Name	Distribution in Hong Kong[3]	Principal Status[4]	Level of Concern[5]	Protection Status in China[6]	China Red Data Book[7]	Red List of China's Vertebrates[8]	Redlist of China's Biodiversity[9]	IUCN Red List[10]	MWL	SL	PL	DA	IF
Scarlet Minivet	*Pericrocotus speciosus*	Common resident. Found in Tai Po Kau, the Peak, Lam Tsuen, Cape D'Aguilar Road, Shing Mun.	R	-	-	-	Least Concern	-	Least Concern	+				
Scarlet-backed Flowerpecker	*Dicaeum cruentatum*	Common resident. Widely distributed in wooded area throughout Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+		+		
Spotted Dove	*Spilopelia chinensis*	Abundant resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern	+		+	+	
Swinhoe's White-eye	*Zosterops simplex*	Abundant resident. Widely distributed in Hong Kong.	R,?W	-	-	-	Least Concern	Least Concern	Least Concern	+++++	+	++++	+	
White Wagtail	*Motacilla alba*	Resident, common passage migrant and winter visitor. Widely distributed in Hong Kong.	W,R	-	-	-	Least Concern	Least Concern	Least Concern				+	
Yellow-bellied Prinia	*Prinia flaviventris*	Common resident. Widely distributed in Hong Kong.	R	-	-	-	Least Concern	Least Concern	Least Concern				+	
Yellow-browed Warbler	*Phylloscopus inornatus*	Abundant winter visitor and migrant. Widely distributed in woodland throughout Hong Kong.	W	-	-	-	Least Concern	Least Concern	Least Concern	+	+	+		

Notes:
(1) All wild birds are Protected under Wild Animals Protection Ordinance (Cap. 170).
(2) Protected under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586).
(3) AFCD (2025). Hong Kong Biodiversity Information Hub.
(4) Carey, G.J., Chalmers, M.L., Diskin, D.A., Leader, P.J., Leven, M.R., Lewthwaite, M.R., Melville, D.S., Turnbull, M. & Young, L. (2001). The Avifauna of Hong Kong. Hong Kong Bird Watcing Society, Hong Kong. R=resident; W=winter visitor; Sp = spring; M=migrant; P=present all year, exact composition unknown; ?W=extent of migration in winter is unclear.

(5) Fellowes, J.R. *et al.* (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159. PRC=Potential Regional Concern, RC=Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.

(6) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).
(7) Zheng, G. M. & Wang, Q. S. (1998). China Red Data Book of Endangered Animals. Aves. Science Press, Beijing, China. 346pp. (In Chinese only).
(8) Jiang *et al*. (2016). Red List of China's Vertebrates. *Biodiversity Science* **24**(5): 500-551.
(9) Redlist of China's Biodiversity - Vertebrates (2020) (promugated by the Ministry of Ecology and Environment and Chinese Academy of Sciences)
(10) International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species. Version 2024-2.
(11) Wetland-dependent species (including wetland-dependent species and waterbirds).

Abbreviation for Habitats: MWL = Mixed Woodland; SL = Shrubland; PL = Plantation; DA = Developed Area; and IF = In Flight.
Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.
Species of conservation importance is in **bold** type face.

Appendix 9.2 Fauna Species Recorded within the Assessment Area
Mammal

Common Name	Scientific Name	Distribution in Hong Kong[2]	Level of Concern[3]	Protection Status in China[4]	China Red Data Book[5]	Red List of China's Vertebrates[6]	Redlist of China's Biodiversity[7]	IUCN Red List[8]	MWL	SL	PL	DA
Eurasian Wild Pig	*Sus scrofa*	Very widely distributed in countryside areas throughout Hong Kong	-	-	-	Least Concern	Least Concern	Least Concern	+			
Greater Bent-winged Bat[1]	***Miniopterus magnater***	**Data deficient**	**PRC (RC)**	**-**	**-**	**Near Threatened**	**Near Threatened**	**Least Concern**			**+**	
Indochinese Forest Rat	*Rattus andamanensis*	Widely distributed in countryside areas throughout Hong Kong	-	-	-	Least Concern	Least Concern	Least Concern			+	
Japanese Pipistrelle[1]	***Pipistrellus abramus***	**Widely distributed throughout Hong Kong.**	**-**	**-**	**-**	**Least Concern**	**Least Concern**	**Least Concern**	**+**	**+**	**+**	
Lesser Yellow Bat[1]	***Scotophilus kuhlii***	**Fairly widely distributed in countryside areas throughout Hong Kong.**	**(LC)**	**-**	**-**	**Least Concern**	**Least Concern**	**Least Concern**				**+**
Short-nosed Fruit Bat[1]	***Cynopterus sphinx***	**Very widely distributed in urban and countryside areas throughout Hong Kong.**	**-**	**-**	**Indeterminate**	**Near Threatened**	**Near Threatened**	**Least Concern**	**+**		**+**	
Unknown Vespertilionidae species 1[1]	-	-	-	-	-	-	-	**Least Concern**	**+**	**+**		**+**
Unknown Vespertilionidae species 2[1]	-	-	-	-	-	-	-	**Least Concern**	**+**	**+**	**+**	**+**

Notes:
(1) Protected under Wild Animals Protection Ordinance (Cap. 170).
(2) AFCD (2025). Hong Kong Biodiversity Information Hub.
(3) Fellowes, J.R. *et al.* (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159. LC=Local Concern; PRC=Potential Regional Concern, RC=Regional Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in nesting and/or roosting sites rather than in general occurrence.
(4) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).
(5) Wang, S. (1998). China Red Data Book of Endangered Animals. Mammalia. Science Press, Beijing, China. 417pp. (In Chinese only).
(6) Jiang *et al*. (2016). Red List of China's Vertebrates. *Biodiversity Science* **24**(5): 500-551.
(7) Redlist of China's Biodiversity - Vertebrates (2020) (promugated by the Ministry of Ecology and Environment and Chinese Academy of Sciences)
(8) International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species. Version 2024-2.

Abbreviation for Habitats: MWL = Mixed Woodland; SL = Shrubland; PL = Plantation; and DA = Developed Area.
Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.
Species of conservation importance is in **bold** type face.

Appendix 9.2 Fauna Species Recorded within the Assessment Area
Butterfly

Common Name	Scientific Name	Distribution in Hong Kong[1]	Level of Concern[2]	Protection Status in China[3]	Local Restrictedness and Species of Conservation Concern[4]	IUCN Red List[5]	MWL	SL	PL	MWC	DA
Blue-spotted Crow	*Euploea midamus*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+				
Chocolate Pansy	*Junonia iphita*	Wu Kau Tang, Shan Liu, Shui Long Wo, Tong Fuk, Pak Tam Chung	-	-	Common	-	+				
Common Mime	*Chilasa clytia*	Widely distributed throughout Hong Kong	-	-	Common	-	+				
Common Mormon	*Papilio polytes*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+				
Common Sailer	*Neptis hylas*	Tai Po Kau, Tai Mo Shan, Kadoorie Farm and Botanic Garden, Shing Mun	-	-	Very Common	-	+				+
Dark Evening Brown	*Melanitis phedima*	Widely distributed throughout Hong Kong	-	-	Uncommon	-	+				
Dark-brand Bush Brown	*Mycalesis mineus*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+		+		
Eurema sp.	*Eurema sp.*	-	-	-	-	-	+			+	
Forest Hopper	*Astictopterus jama*	Widely distributed throughout Hong Kong	-	-	Common	-	+				
Great Eggfly	*Hypolimnas bolina*	Kowloon Reservoir, Tseng Lan Shue, Tai Lam	-	-	Common	-			+		+
Great Mormon	*Papilio memnon*	Widely distributed throughout Hong Kong	-	-	Very Common	-			+		
Indian Cabbage White	*Pieris canidia*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+				
Large Faun	*Faunis eumeus*	New Territories	-	-	Common	-	+		+		
Lemon Emigrant	*Catopsilia pomona*	Widely distributed throughout Hong Kong	-	-	Common	-		+		+	+
Plum Judy	*Abisara echerius*	Tai Po Kau, Shing Mun Reservoir, Ngau Ngak Shan, Kwun Yam Shan, Sam A Chung, Cheung Sheung, Tai Lam, Tai Mo Shan	-	-	Very Common	-	+	+			
Red Helen	*Papilio helenus*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+				
Red-base Jezebel	*Delias pasithoe*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+	+	+		+
Rustic	*Cupha erymanthis*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+	+			
Southern Sullied Sailer	*Neptis clinia*	Widely distributed throughout Hong Kong	-	-	Common	-	+				
Spangle	*Papilio protenor*	Widely distributed throughout Hong Kong	-	-	Very Common	-	+				
Transparent 6-line Blue	*Nacaduba kurava*	Widely distributed throughout Hong Kong	-	-	Common	-			+		

Notes:
(1) AFCD (2025). Hong Kong Biodiversity Information Hub.
(2) Fellowes, J.R. *et al.* (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159.
(3) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).
(4) Chan, A, Cheung J., Sze, P., Wong, A., Wong, E. and Yau, E. (2011). A Review of the Local Restrictedness of Hong Kong Butterflies. *Hong Kong Biodiversity* **21**: 1-12.
(5) International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species. Version 2024-2.

Abbreviation for Habitats: MWL = Mixed Woodland; SL = Shrubland; PL = Plantation; MWC = Modified Watercourse; and DA = Developed Area.
Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.
Species of conservation importance is in **bold** type face.

Appendix 9.2 Fauna Species Recorded within the Assessment Area
Odonate

Common Name	Scientific Name	Distribution in Hong Kong[1]	Level of Concern[2]	Protection Status in China[3]	Distribution and Conservation Significance[4]	IUCN Red List[5]	MWL	SL	PL	NWC	DA
Common Blue Skimmer	*Orthetrum glaucum*	Widely distributed in streams, conduits, drainage channels, seepages and road gutters throughout Hong Kong; Very Widespread	-	-	Very Widespread	Least Concern	+	+	+	+	
Common Red Skimmer	*Orthetrum pruinosum neglectum*	Widely distributed in slow streams, ponds, rain puddles and irrigation conduits; Widespread	-	-	Widespread	Least Concern				+	
Giant River Hawker	*Tetracanthagyna waterhousei*	Widely distributed in forested areas throughout the New Territories; Sparse	-	-	Scattered	Least Concern				+	
Green Skimmer	*Orthetrum sabina sabina*	Widely distributed in all wetland habitats throughout Hong Kong; Widespread	-	-	Widespread	Least Concern					+
Indigo Dropwing	*Trithemis festiva*	Favours sluggish sections of streams with a strong current or the small rock pools inof mountain streams. Widespread in Hong Kong; Widespread	-	-	Widespread	Least Concern	+				

Notes:
(1) AFCD (2025). Hong Kong Biodiversity Information Hub.
(2) Fellowes, J.R. *et al.* (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159.
(3) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).
(4) Reels, G.T. (2019). An Annotated Check List of Hong Kong Dragonflies and Assessment of Their Local Conservation Significance. Faunistic Studies in South-east Asia and Pacific Island Odonata. *Journal of the International Dragonfly Fund* **30**: 1-49.
(5) International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species. Version 2024-2.

Abbreviation for Habitats: MWL = Mixed Woodland; SL = Shrubland; PL = Plantation; NWC = Natural Watercourse; and DA = Developed Area.
Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.
Species of conservation importance is in **bold** type face.

Appendix 9.2 Fauna Species Recorded within the Assessment Area
Herpetofauna

Common Name	Scientific Name	Distribution in Hong Kong[(1)]	Level of Concern[(2)]	Protection Status in China[(3)]	China Red Data Book[(4)]	Red List of China's Vertebrates[(5)]	Redlist of China's Biodiversity[(6)]	IUCN Red List[(7)]	MWL	SL	PL	DA
Asian Common Toad	*Duttaphrynus melanostictus*	Widely distributed in Hong Kong.	-	-	-	Least Concern	Least Concern	Least Concern	+		+	+
Bamboo Snake	*Cryptelytrops albolabris*	Very common and widespread in Hong Kong	-	-	-	Least Concern	-	Least Concern	+	+	+	
Brown Tree Frog	*Polypedates megacephalus*	Widely distributed throughout Hong Kong.	-	-	-	Least Concern	Least Concern	Least Concern	+	+		
Changeable Lizard	*Calotes versicolor*	Widely distributed throughout Hong Kong.	-	-	-	Least Concern	Least Concern	Least Concern	+			
Chinese Gecko	*Gekko chinensis*	Widely distributed throughout Hong Kong	-	-	-	Least Concern	Least Concern	Least Concern	+		+	
Four-clawed Gecko	***Gehyra mutilata***	**Widely distributed throughout Hong Kong**	**-**	**-**	**-**	**Vulnerable**	**Vulnerable**	**Least Concern**			**+**	
Garnot's Gecko	*Hemidactylus garnotii*	Distributed in Lantau Island, Hong Kong Island and Eastern New Territories	-	-	-	Least Concern	Least Concern	Least Concern	+	+	+	
Greenhouse Frog	*Eleutherodactylus planirostris*	Widely distributed throughout Hong Kong.	-	-	-	-	-	Least Concern	+		+	
Ornate Pigmy Frog	*Microhyla fissipes*	Widely distributed in Hong Kong.	-	-	-	Least Concern	Least Concern	Least Concern		+		

Notes:
(1) AFCD (2025). Hong Kong Biodiversity Information Hub.
(2) Fellowes, J.R. *et al.* (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159.
(3) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).
(4) Zhao, E. & Wang, S. (1998). China Red Data Book of Endangered Animals. Amphibia and Reptilia. Science Press. Beijing, China. 330pp. (In Chinese only).
(5) Jiang *et al*. (2016). Red List of China's Vertebrates. *Biodiversity Science* **24**(5): 500-551.
(6) Redlist of China's Biodiversity - Vertebrates (2020) (promugated by the Ministry of Ecology and Environment and Chinese Academy of Sciences)
(7) International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species. Version 2024-2.

Abbreviation for Habitats: MWL = Mixed Woodland; SL = Shrubland; PL = Plantation; and DA = Developed Area.
Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.
Species of conservation importance is in **bold** type face.

Appendix 9.2 Fauna Species Recorded within the Assessment Area
Freshwater Communities

Common Name	Scientific Name	Distribution in Hong Kong[1]	Level of Concern[2]	Protection Status in China[3]	China Red Data Book[4]	Red List of China's Vertebrates[5]	Redlist of China's Biodiversity[6]	IUCN Red List[7]	PL	MWC	NWC
-	*Macrobrachium sp.*	Very common	-	-	-	-	-	-		+	
-	*Rhinogobius duospilus*	Probably the commonest goby in Hong Kong and is widely distributed in upper and middle course of streams, sometimes occurs in lowland streams.	-	-	-	Data Deficient	Data Deficient	-			+
Backswimmer	*Enithares sp.*	Very common	-	-	-	-	-	-			+
Caddisfly (nymph)	*Unidentified Lepidostomatidae sp.*	-	-	-	-	-	-	-			+
Canton Bee Shrimp	*Caridina cantonensis*	Very common	-	-	-	-	-	Least Concern		++	+++++
Fishing Spider	*Unidentified sp. 1*	Common	-	-	-	-	-	-			+
Hong Kong Freshwater Crab	***Nanhaipotamon hongkongense***	**Presumably endemic to Hong Kong, but been recently discovered in Shenzhen; Common**	**PGC**	**-**	**-**	**-**	**-**	**Least Concern**	**+**		**+**
Large Stream Snail	*Sulcospira hainanensis*	Abundant and widespread; Very common	-	-	-	-	-	Least Concern			++
Waterskater/Water strider	*Unidentified sp. 1*	Common	-	-	-	-	-	-		+	

Notes:
(1) AFCD (2025). Hong Kong Biodiversity Information Hub.
Dudgeon D. (2003). Hong Kong Field Guides: Hillstreams.
Lee, L. F., Lam, K. S., Ng, K. Y., Chan, K. T. and Young, L. C. (2004). Field Guide to the Freshwater Fish of Hong Kong. Friends of the Country Parks.
(2) Fellowes, J.R. *et al.* (2002). Wild Animals to Watch: Terrestrial and Freshwater Fauna of Conservation Concern in Hong Kong. *Memoirs of the Hong Kong Natural History Society* **25**:123-159. PGC=Potential Global Concern.
(3) List of Wild Animals Under State Protection (promulgated by the National Forestry and Grassland Administration in 2021).
(4) Wang, S., Yue P. & Chen Y. (1998). China Red Data Book of Endangered Animals: Pisces. Science Press, Beijing, China. 247pp. (In Chinese only).
(5) Jiang *et al*. (2016). Red List of China's Vertebrates. *Biodiversity Science* **24**(5): 500-551.
(6) Redlist of China's Biodiversity - Vertebrates (2020) (promugated by the Ministry of Ecology and Environment and Chinese Academy of Sciences)
(7) International Union for the Conservation of Nature (IUCN) (2025). The IUCN Red List of Threatened Species. Version 2024-2.

Abbreviation for Habitats: PL = Plantation; MWC = Modified Watercourse; and NWC = Natural Watercourse.
Code for Abundance: +++++ = Dominant; ++++ = Abundant; +++ = Frequent; ++ = Occasional; + = Scarce.
Species of conservation importance is in **bold** type face.

Appendix 9.3



Tam Kon Shan Portal (Mixed Woodland)



Tam Kon Shan Portal (Plantation)



Ngau Kok Wan Portal (Mixed Woodland)



Ngau Kok Wan Portal (Plantation)

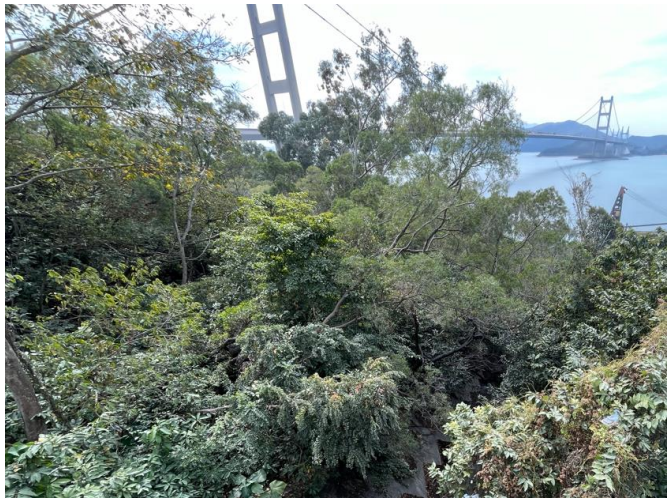


Ngau Kok Wan Portal (Modified Watercourse W1)



Ngau Kok Wan Portal (Developed Area)

AECOM	Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction	SCALE	N.T.S.	DATE	Oct-25
		CHECK	LAMCCG	DRAWN	WONGPL
	Representative Photographs of Habitats Recorded within the Assessment Area	JOB NO.	60733229	**Appendix No.** 9.3	**Rev** -



Wok Tai Wan Works Area (Mixed Woodland)



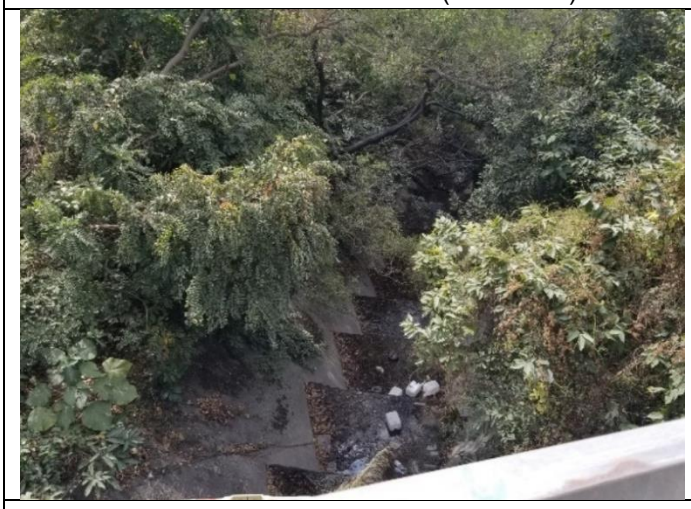
Wok Tai Wan Works Area (Shrubland)



Wok Tai Wan Works Area (Plantation)



Wok Tai Wan Works Area (Developed Area)



Wok Tai Wan Works Area (Modified Watercourse W3)



Wok Tai Wan Works Area (Natural Watercourse W6)

AECOM	Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction	SCALE	N.T.S.	DATE	Oct-25
		CHECK	LAMCCG	DRAWN	WONGPL
	Representative Photographs of Habitats Recorded within the Assessment Area	JOB NO.	60733229	**Appendix No.** 9.3	**Rev** -



Access Road west of Ngau Kok Wan Portal



Mixed Woodland



Shrubland



Plantation



Developed Area



Modified Watercourse: Drainage Channel (W1)

AECOM	Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction	SCALE	N.T.S.	DATE	Oct-25
		CHECK	LAMCCG	DRAWN	WONGPL
	Representative Photographs of Habitats Recorded within the Assessment Area	JOB NO.	60733229	**Appendix No.** 9.3	**Rev** -



Modified Watercourse: Drainage Channel (W2)



Modified Watercourse: Drainage Channel (W3)



Natural Watercourse (W1a)



Natural Watercourse (W4)



Natural Watercourse (W5)



Natural Watercourse (W6)

AECOM	Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction	SCALE	N.T.S.	DATE	Oct-25
		CHECK	LAMCCG	DRAWN	WONGPL
	Representative Photographs of Habitats Recorded within the Assessment Area	JOB NO.	60733229	**Appendix No.** 9.3	**Rev** -

Appendix 10.1

ISO A1 594mm x 841mm

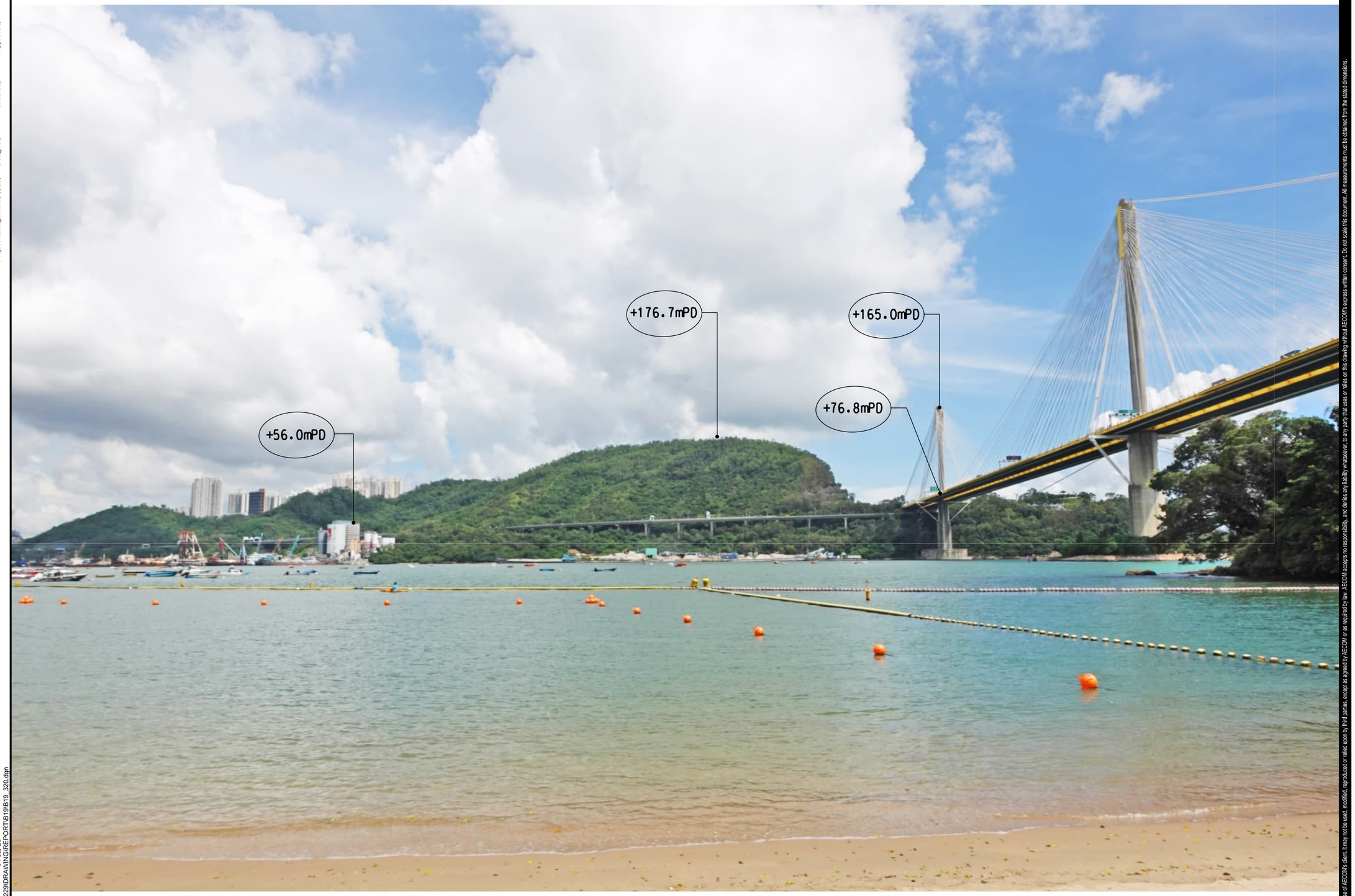
Approved:

Checked:

Designer:

Project Management Initials:

VIEWPOINT 1 - BASELINE SCENARIO



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階段

SCALE 比例 | **DIMENSION UNIT** 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 1)

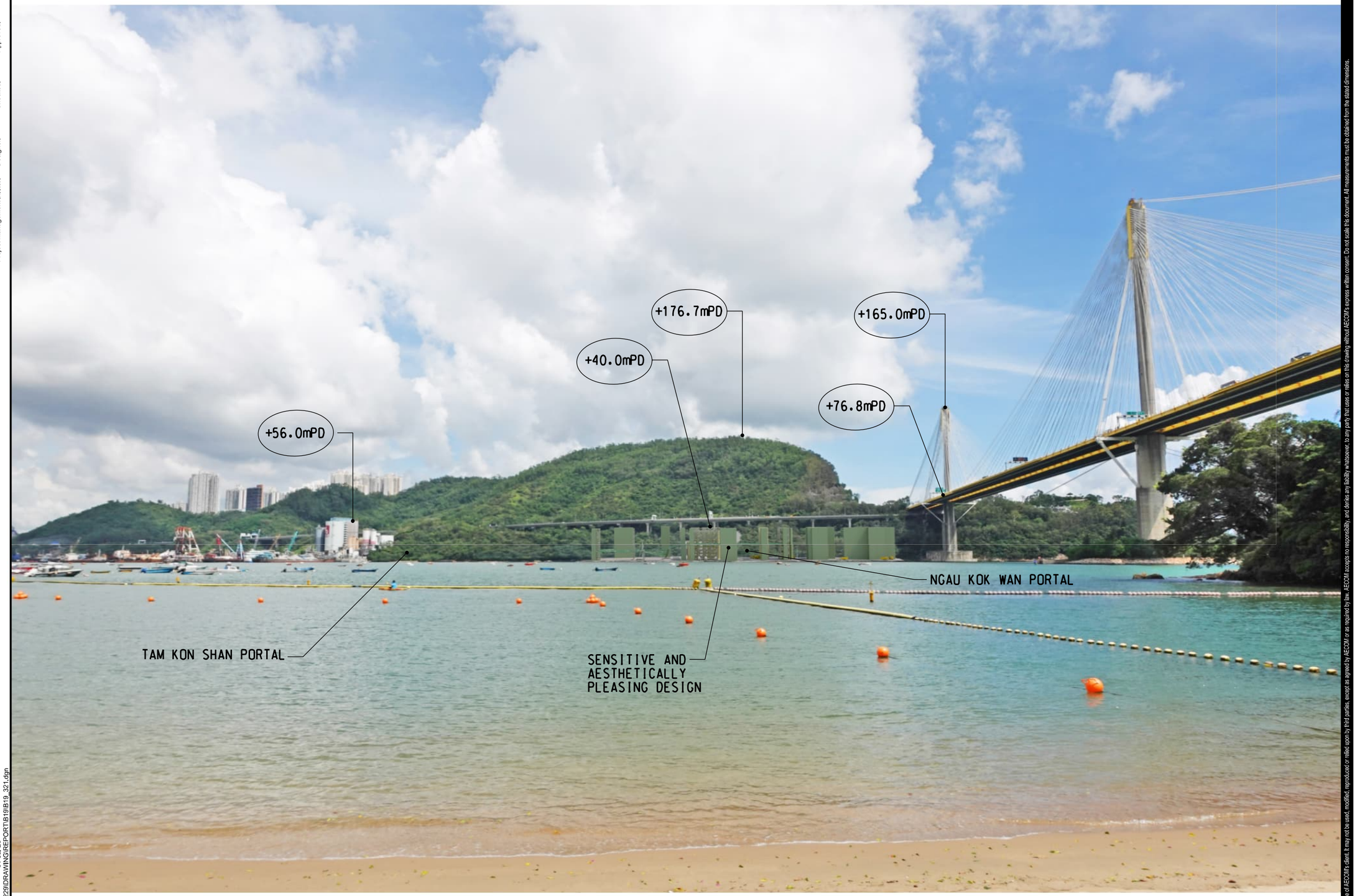
(SHEET 1 OF 14)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

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VIEWPOINT 1 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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項目

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STATUS
階段

SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
合約編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 1)

(SHEET 2 OF 14)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

ISO A1 594mm x 841mm
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01-Jul-26
Plot File by: Zhengs1
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ISO A1 594mm x 841mm

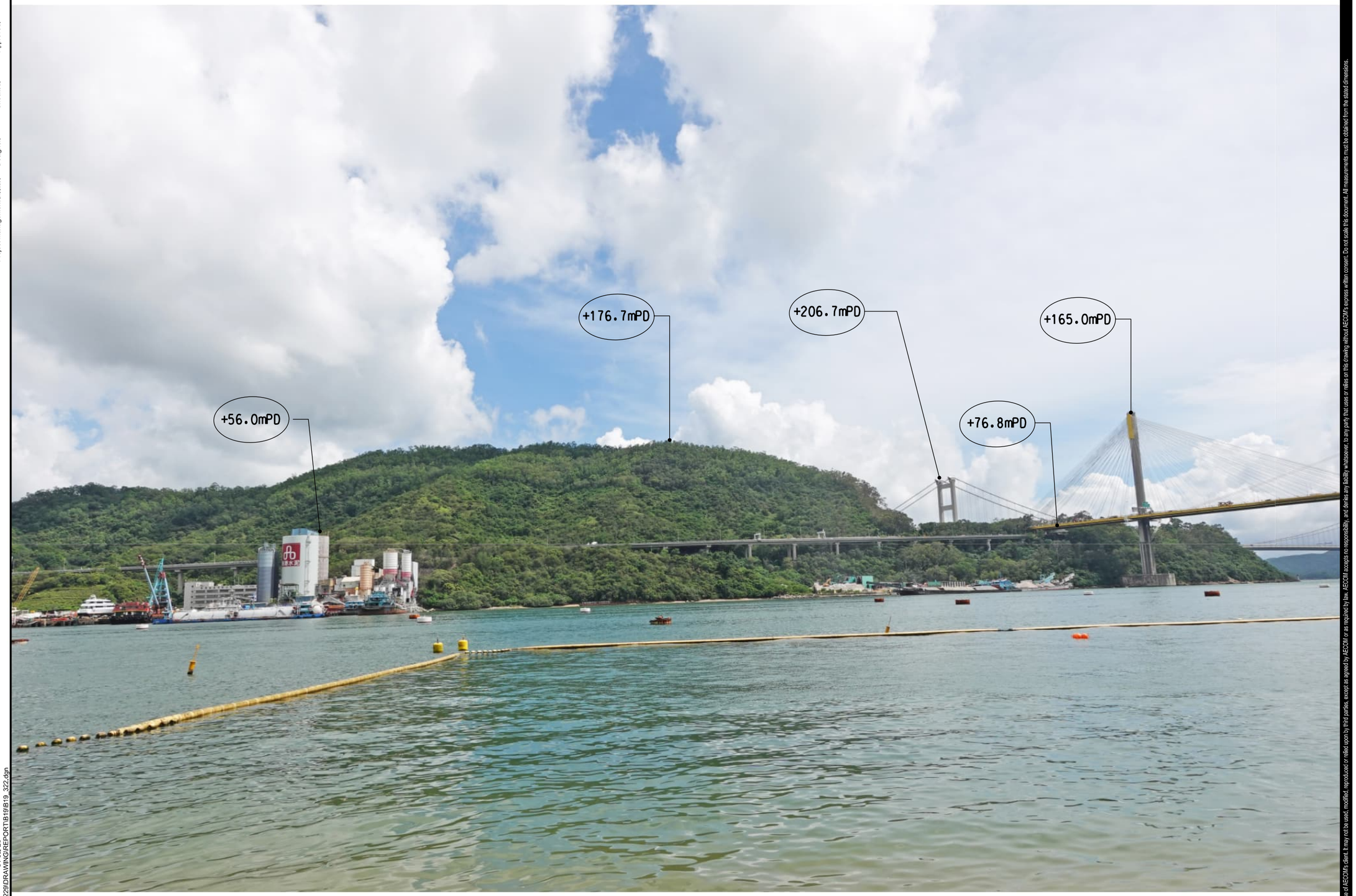
Approved:

Checked:

Designer:

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VIEWPOINT 2 - BASELINE SCENARIO



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SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

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SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 2)

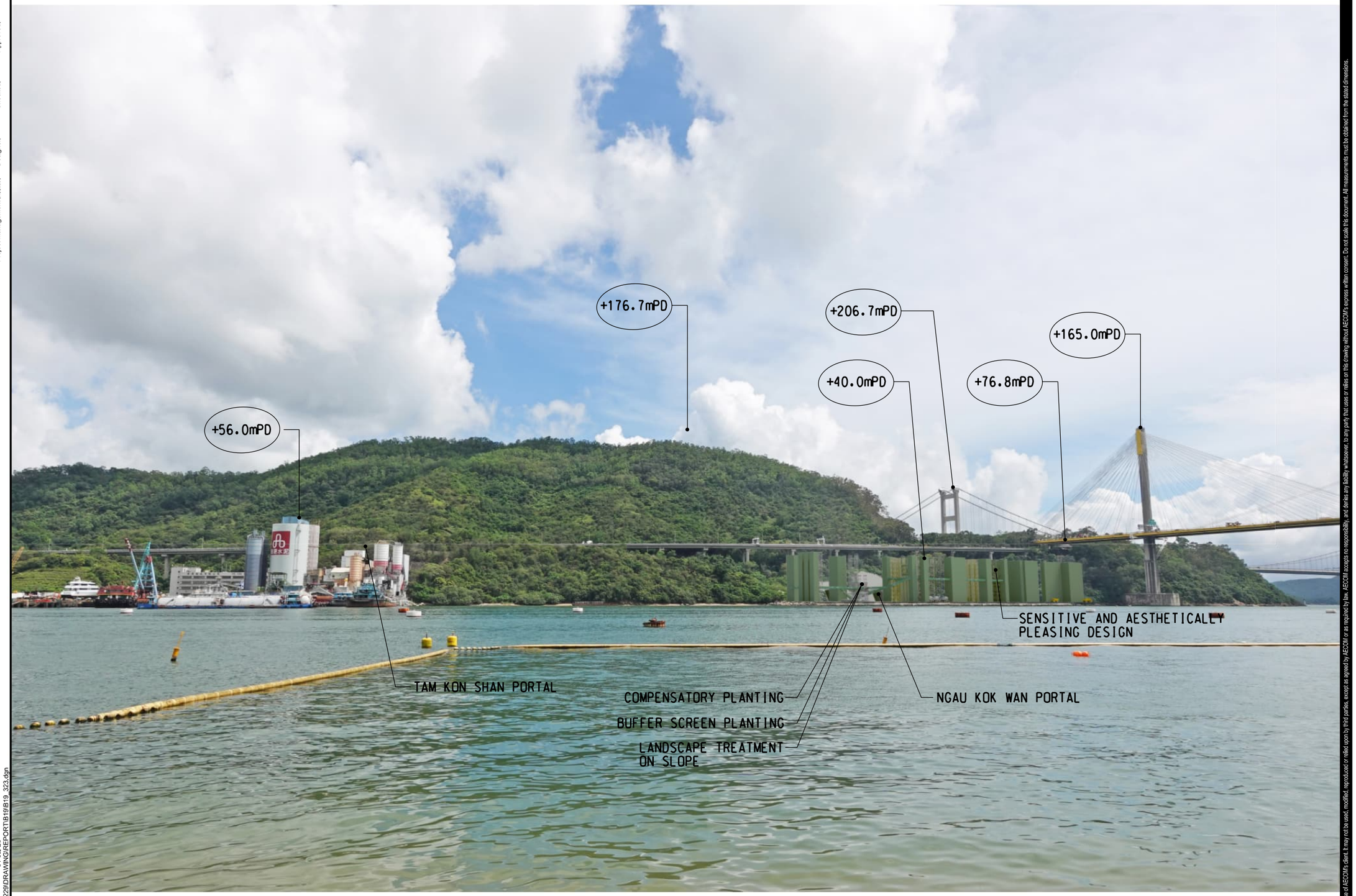
(SHEET 3 OF 14)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
01-Jul-26
Plot File by: ZhengS1
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VIEWPOINT 2 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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Plot File by: ZhengS1
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SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 2)

(SHEET 4 OF 14)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

ISO A1 594mm x 841mm

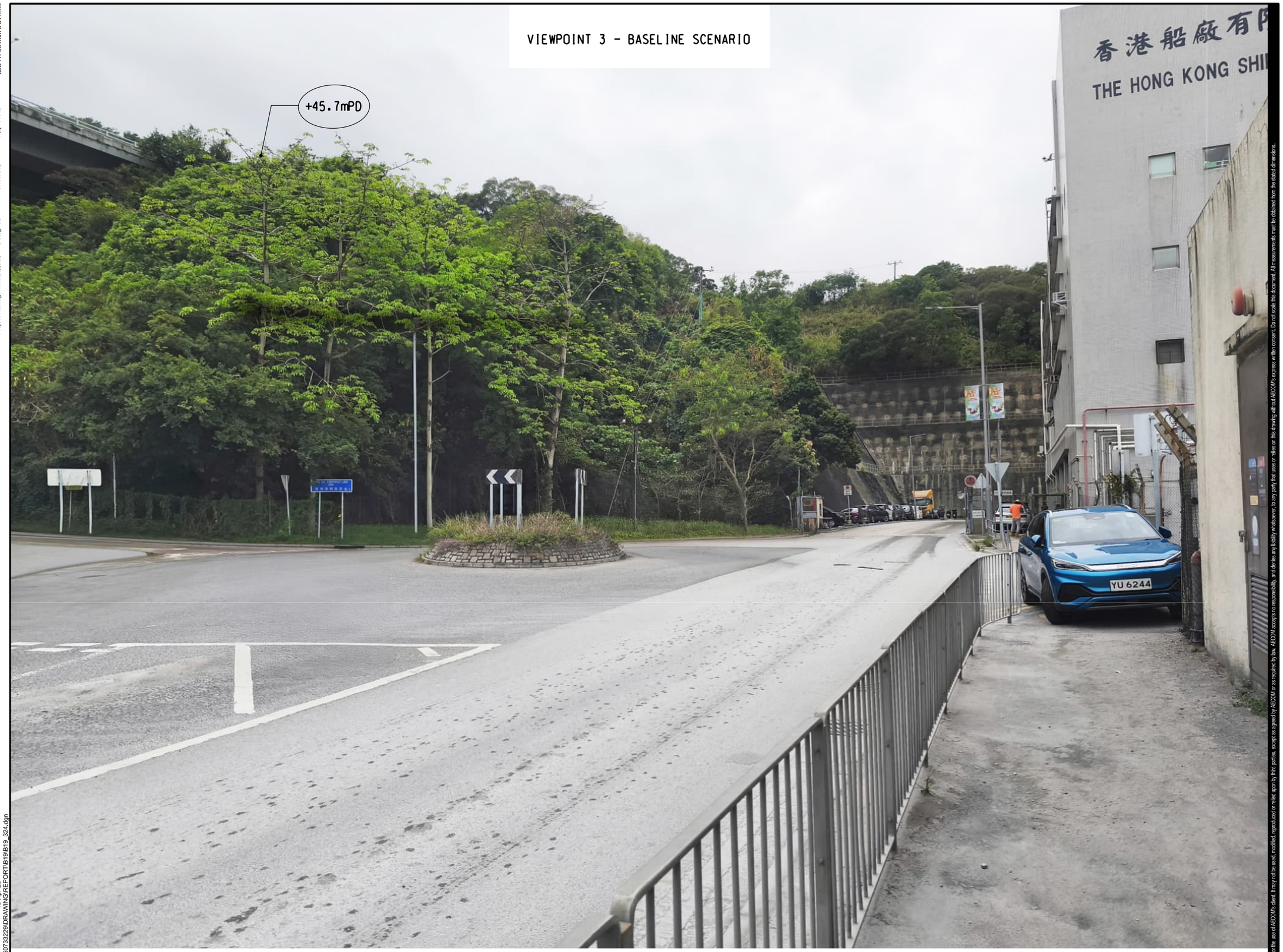
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VIEWPOINT 3 - BASELINE SCENARIO



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SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

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SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 3)

(SHEET 5 OF 14)

SHEET NUMBER
圖紙編號

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V:\BAK\US95-BAK\CSW\Plotdrv\Create Plt file\new\CSWP-75(color).plt
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PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_324.dgn
13-Apr-26

ISO A1 594mm x 841mm

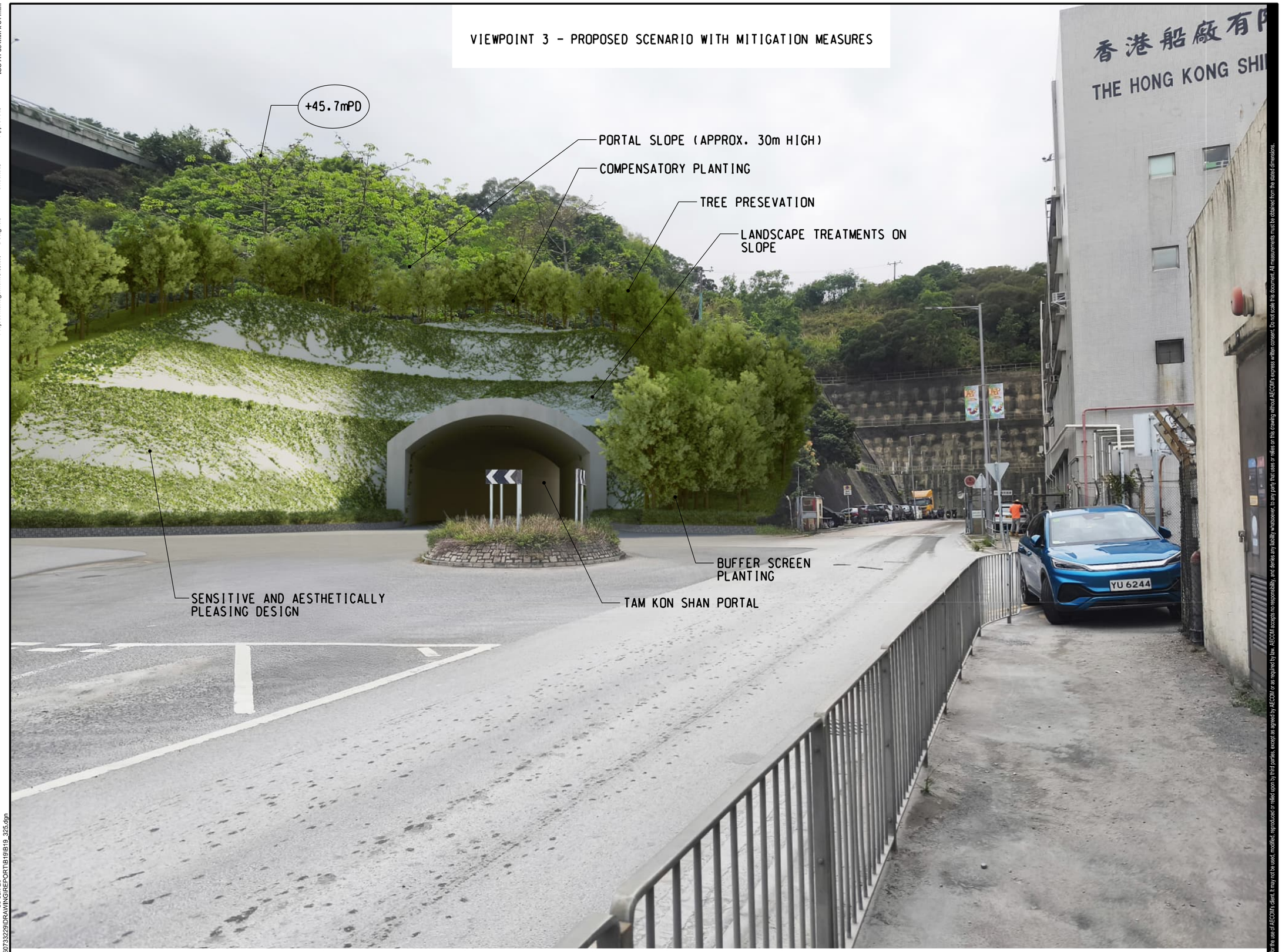
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VIEWPOINT 3 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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DIMENSION UNIT 尺寸單位

KEY PLAN
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SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
Plot File by: ZhengS1
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PATH P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_325.dgn

ISO A1 594mm x 841mm

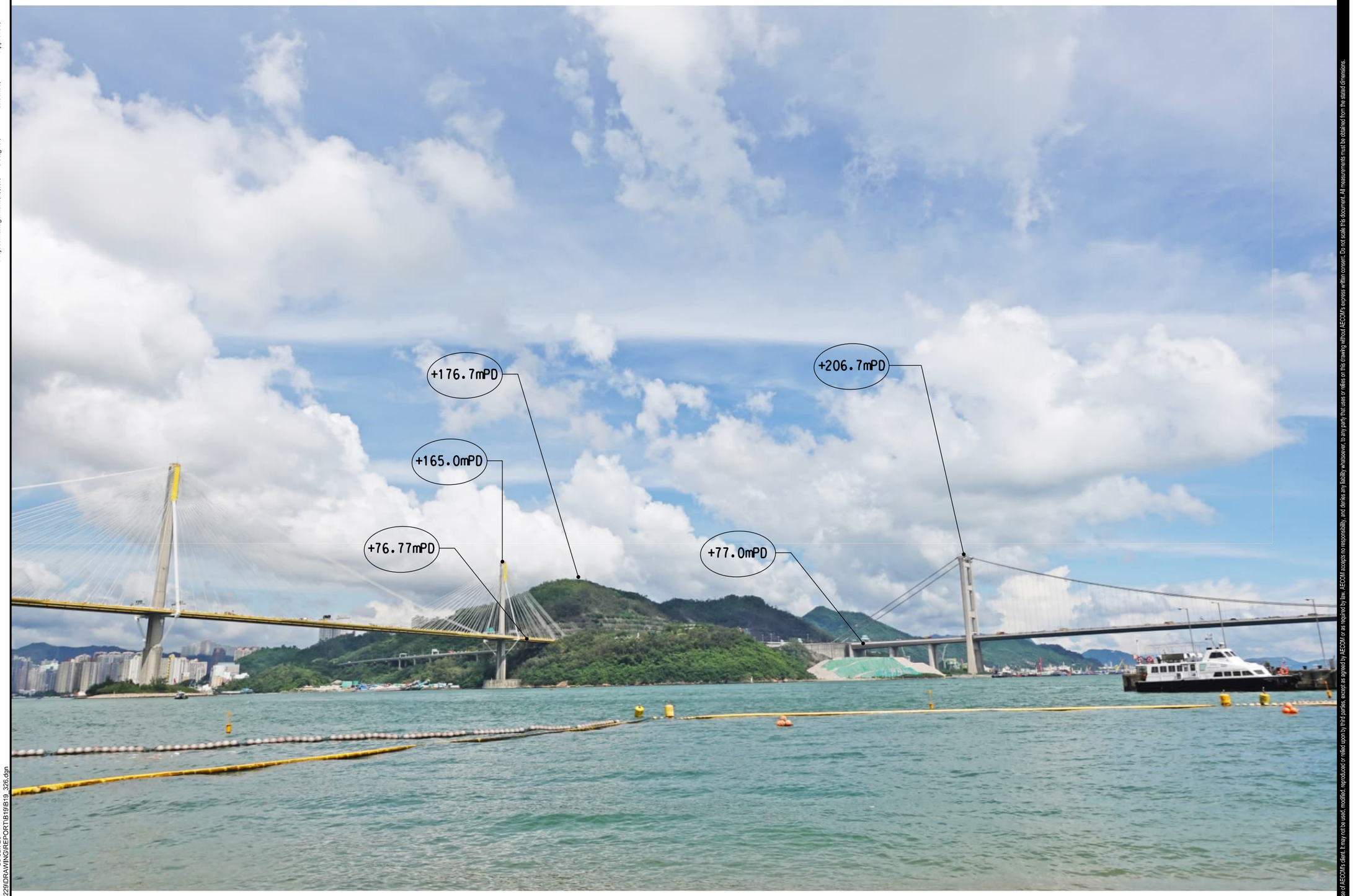
Approved:

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VIEWPOINT 4 - BASELINE SCENARIO



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尺寸單位

KEY PLAN
索引圖

PROJECT NO.
項目編號

AGREEMENT NO.
協議編號

60733229

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 4)

(SHEET 7 OF 14)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
30-Jun-26
Plot File by: ZhengS1
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_326.dgn

ISO A1 594mm x 841mm

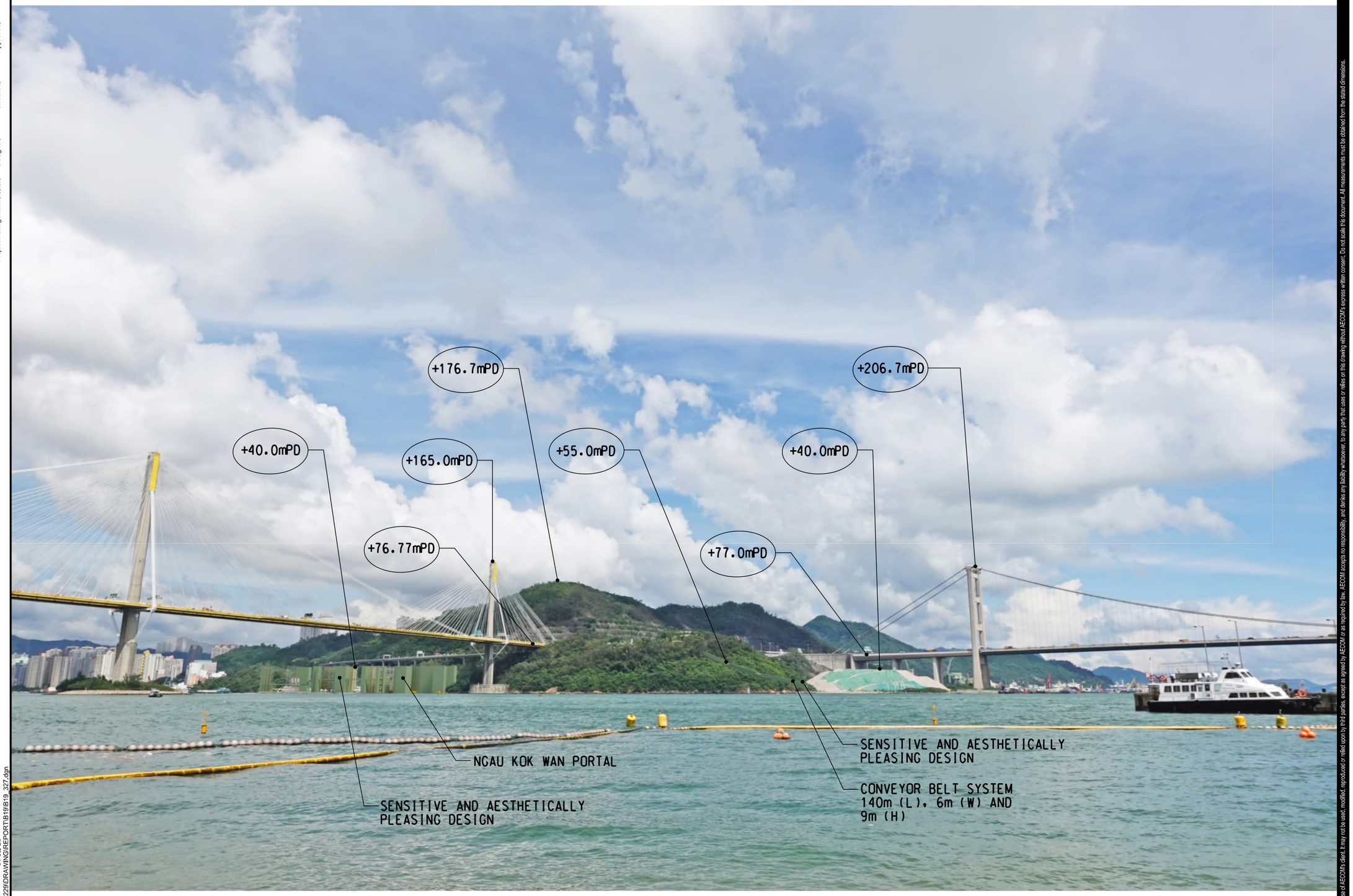
Approved:

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VIEWPOINT 4 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 4)

(SHEET 8 OF 14)

SHEET NUMBER
圖紙編號

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V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
01-Jul-26
Plot File by: ZhengS1
PATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_327.dgn

ISO A1 594mm x 841mm

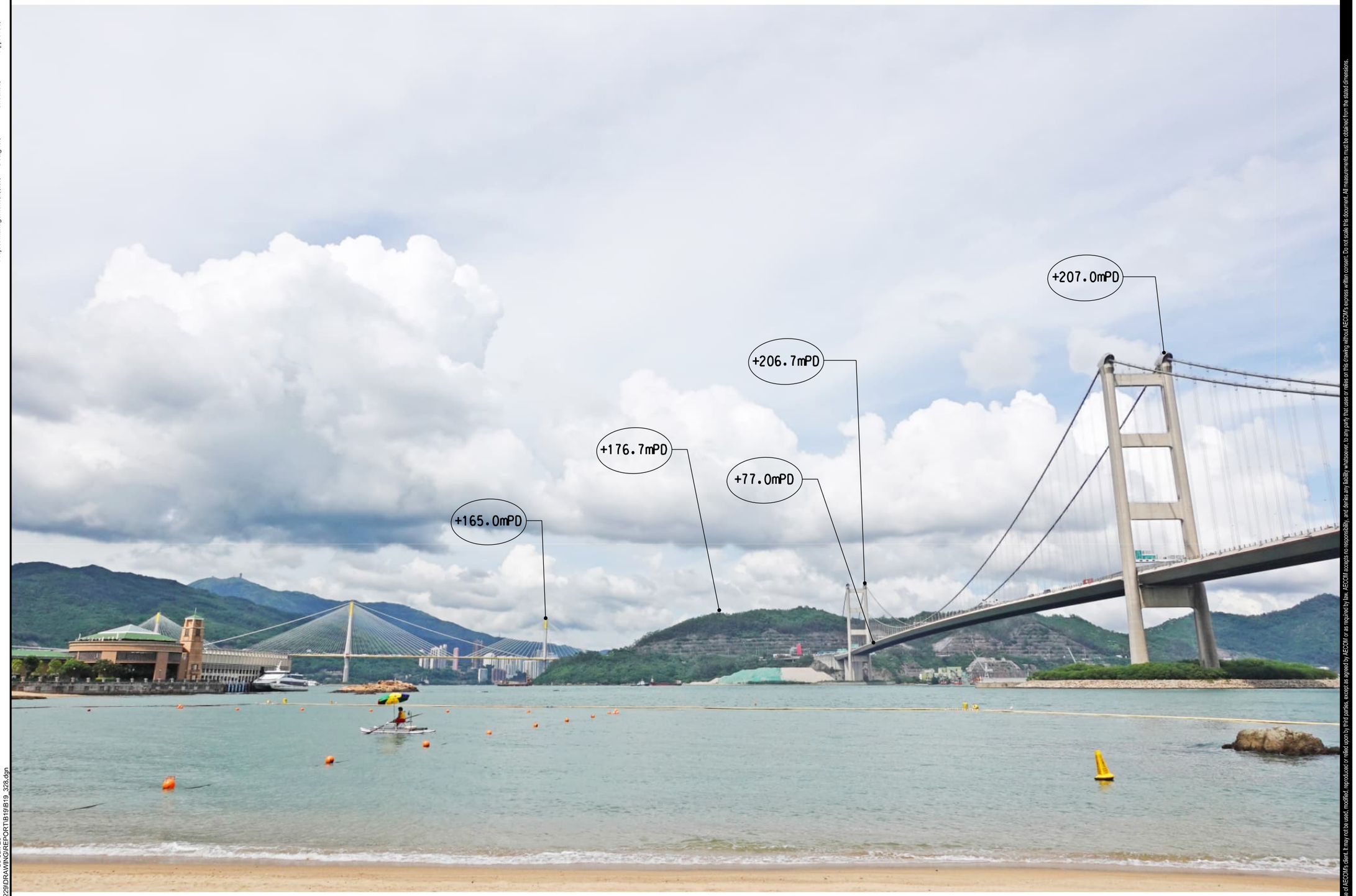
Approved:

Checked:

Designer:

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VIEWPOINT 5 - BASELINE SCENARIO



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SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 5)

(SHEET 9 OF 14)

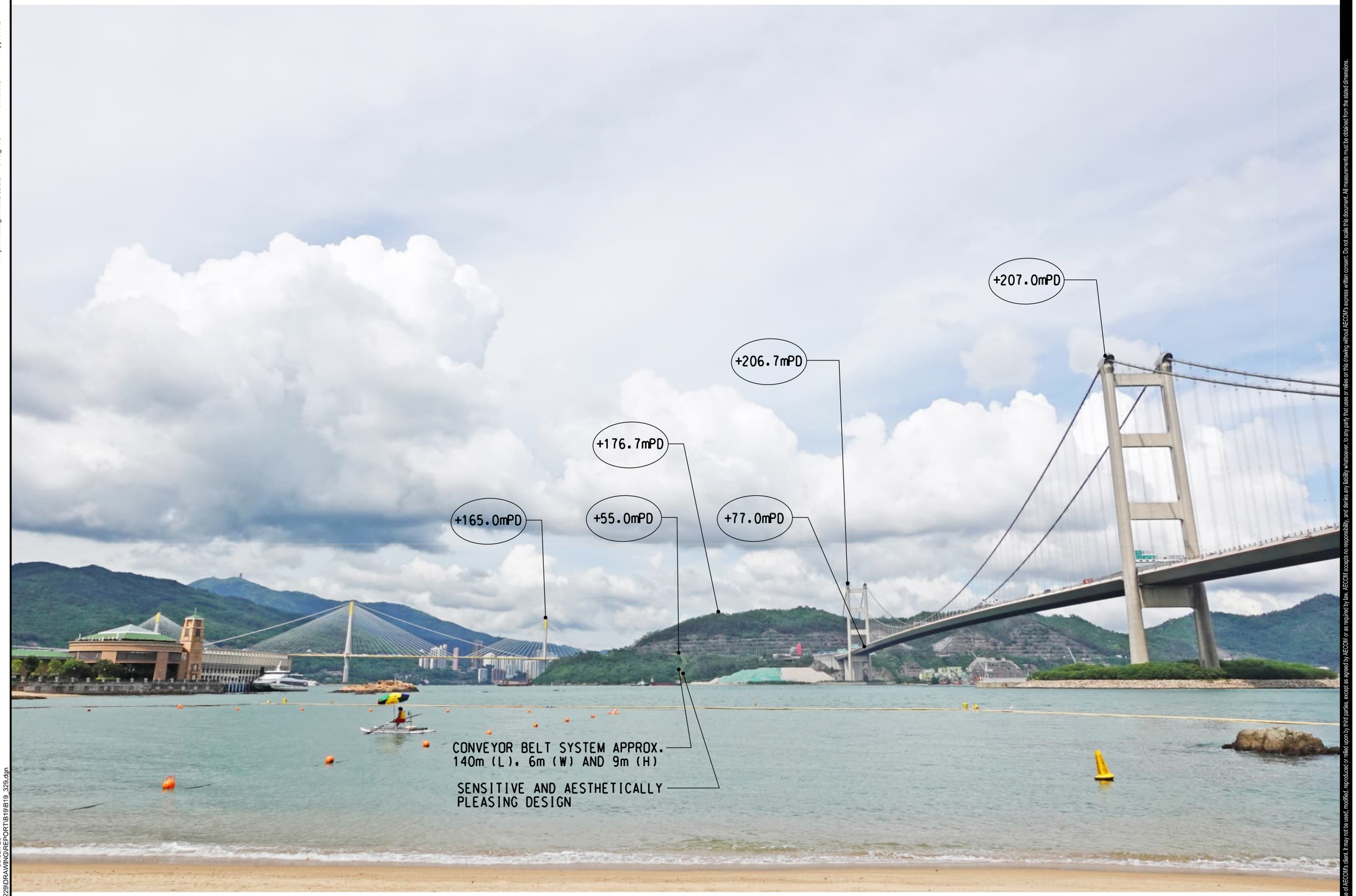
SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

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30-Jun-26
Plot File by: Zhengs1
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_328.dgn

Project Management Initials: Designer: Checked: Approved: ISO A1 594mm x 841mm

VIEWPOINT 5 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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SCALE 比例 | DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

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SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 5)

(SHEET 10 OF 14)

SHEET NUMBER
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30-Jun-26
Plot File by: Zhengs1
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ISO A1 594mm x 841mm

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Designer:

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VIEWPOINT 6 - BASELINE SCENARIO



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尺寸單位

KEY PLAN
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PROJECT NO.
項目編號

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AGREEMENT NO.
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SHEET TITLE
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PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 6)

(SHEET 11 OF 14)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

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ISO A1 594mm x 841mm

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Project Management Initials:

VIEWPOINT 6 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 6)

(SHEET 12 OF 14)

SHEET NUMBER
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V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).plt
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ISO A1 594mm x 841mm

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VIEWPOINT 7 - BASELINE SCENARIO



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SCALE 比例

DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號

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AGREEMENT NO. 協議編號

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SHEET TITLE
圖紙名稱

PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 7)

(SHEET 13 OF 14)

SHEET NUMBER
圖紙編號

60733229/B19/APPENDIX 10.1

V:\BAK\US95-BAK\CSWP\plotdrv\Create Pltfile\new\CSWP-75(color).plt
30-Jun-26
Plot File by: ZhengS1
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_332.dgn

VIEWPOINT 7 - PROPOSED SCENARIO WITH MITIGATION MEASURES



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V:\BAK\US95-BAK\CSWP\plotdrv\Create Pfl: file\new\CSWP-75(color).plt
30-Jun-26
Plot File by: ZhengS1
PATH: P:\PROJECTS\60733229\DRAWING\REPORT\B19\B19_333.dgn

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SCALE 比例 | DIMENSION UNIT 尺寸單位

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PHOTOMONTAGE OF PROPOSED DEVELOPMENT (VIEWPOINT 7)

(SHEET 14 OF 14)

SHEET NUMBER
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Appendix 12.1

Underground Quarrying at Tsing Yi North
Hazard Register (After unloading the explosives to the Contractor)

Item No.	Potential Hazard Item	Possible Consequence	Potential Causes	List of Recommended Control Measures
Operation Phase				
1	**Accidental Initiation of Explosives during Transport to Blast Faces**	Fatalities of off-site population due to blast and overpressure waves	⓿ Explosives load to be initiated when the load is engulfed by a non-crash fire of the explosive carrying vehicle for a period of time	♦ Use of secure, flame-resistant packaging / stowage of explosives (e.g., approved containers, flame-proof tarpaulins), with separation from vehicle heat sources (e.g., exhaust, batteries); prohibit mixing with other flammables, so that the explosives could not be detonated. No ferrous fixtures to be part of the explosive storage compartment.
			⓿ Explosives load to be initiated when the load is engulfed by a crash fire of the explosive carrying vehicle for a period of time	♦ Equip the explosives transport vehicle with fully charged, multi-purpose dry-chemical fire extinguishers, which should be readily accessible to the driver and inspected regularly, so that any fire incident can be extinguished as soon as practicable.
			⓿ The stability of the explosives load is affected by a significant mechanical impact during vehicle collision and initiate the explosion	♦ Implement speed limit within the construction sites, no significant collision is expected.
			⓿ Spontaneous explosion of "unsafe explosives" resulting from breach of regulations caused by badly packaged, maunfactured, and / or 'out-of-specification' explosives	♦ Only use explosives approved for use by Mines Division. Separate transport of detonators from explosives and require qualified personnel (e.g., Registered Shotfirers and Resident Explosive Supervisors) to handle acceptance, inspection, and documentation. No unauthorised personnel allowed within designated zone of loading and unloading locations
				♦ The explosives are supplied by the CEDD Mines Division. The conditions of explosives will have been duly checked before unloading from the Kau Shat Wan Explosive Depot. Return the detonators or surface connectors to CEDD Mines Division if there are any badly packaged, manufactured, and/or 'out-of-specification' explosives.
				♦ If a thunderstorm warning has been issued by the Hong Kong Observatory, the delivery of explosives may be delayed or cancelled by Mines Division. If explosives are delivered, an assessment of the risks involved in transporting the explosives to the blast face(s) and unloading of explosives from the delivery vehicles will be made by the BE, RSF and the Mines Division Explosive Officer. A Lightning Detector will be used to indicate the weather conditions.

Underground Quarrying at Tsing Yi North
Hazard Register (After unloading the explosives to the Contractor)

Item No.	Potential Hazard Item	Possible Consequence	Potential Causes	List of Recommended Control Measures
2	**More than the design MIC initiated during blasting**	Fatalities of off-site population due to blast and overpressure waves	⓿ Manufacturer defect of the detonators or the surface connectors	♦ Conduct thorough inspection upon receipt of detonator / explosive delivery: visually check packaging for damage, leaks, improper labeling / markings. Return the detonators or surface connectos to CEDD Mines Division if there are any manufacturer defects. Blast door at tunnel portal
		Stability of nearby building being affected by more than expected ground vibration, falling objects or building collapse resulted	⓿ Wrong design of time delay of a blast face	♦ Use blast design software to model timing sequences, relief rates, and interactions; review against site geology and vibration limits. Ensure sufficient delay time interval (e.g. 8ms) during the blast design. Independent check of time delay for each blasting interval and endorsed by the Blasting Competent Supervisor (BCS).
		Stability of nearby slopes being affected by more than expected ground vibration and resulted in landslide	⓿ Detonator put into wrong hole	♦ Clear demarcation on the rock face surface per blast hole. Primer assembly and Charging done by Qualified Shotfirers only using authorized methods under the supervision by RES. Independent check of time delay of each blast hole by Blasting Competent Supervisor before permission to blast is given.
		Stability of nearby terrains being affected by more than expected ground vibration and resulted in landslide or boulder fall	⓿ Connection of a Detonator to a Wrong Surface	♦ Follow connection method as per approved blast design. Hook-up is inspected by Blasting Engineer. Use standardized connection procedures with visual aids (e.g., diagrams, color-coded trunk lines/connectors). Mark up the boundaries of each surface sector by paint on the rock face
		Blasting induced flyrock / fragments / missiles	Use of a Wrong Surface Connector	Carry out pre-blast inventory check and reconciliation against design quantities/delays. Blast door at tunnel portal
			More bulk emulsion explosives loaded into a production hole than required	♦ Require loading logs with measured volumes per hole; cross-check against design powder factor. Supervision of loading of each blast hole by Resident Explosive Supervisor (RES)
			⓿ More cartridged sticks loaded into a production hole than required	♦ Calculate and mark exact number of cartridges per hole based on design; use counting during loading. Supervision of loading of each blast hole by Resident Explosive Supervisor (RES)
			⓿ Incorrect blasthole nos., length or diameter	♦ Use computer-controlled drilling jumbo and follow approved blast design for blast holes drilling. Blasthole length and diameter to be independently checked and confirmed as correct by Resident Explosive Supervisor before loading of explosives is permitted
				♦ Blast doors will be installed at the tunnel portals to prevent any flyrock hazard and air overpressure.
				♦ Inspection of critical sensitive receivers (e.g. building / utilities / slope) to be carried out after each blast to confirm the conditions are not affected by the blasting works.

Underground Quarrying at Tsing Yi North
Hazard Register (After unloading the explosives to the Contractor)

Item No.	Potential Hazard Item	Possible Consequence	Potential Causes	List of Recommended Control Measures
				♦ Carry out the pre-tender and Contractor's blasting assessment to identify sensitive receivers by a Blasting Competent Person. The blasting assessment and blasting method statement will be submitted to CEDD Mines Division for approval before obtaining the blasting permissions. Blasting operations to be closely supervised by the Chief Registered Shot Firer, Blasting Engineer (BE), Blasting Resident Explosive Supervisors (RES), and Blasting Competent Supervisors (BCS)

Appendix E

Drainage and Sewerage Impact Assessment Report

Agreement No. CE 79/2023 (GE)

**Underground Quarrying at Tsing Yi North –
Investigation, Design and Construction**

**Drainage and Sewerage Impact Assessment Report
(Final) (Ref. B21-02)**

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1 Introduction

1.1 Project Background

1.1.1 Rock, principally as aggregates in concrete, is the most predominately used construction material for buildings and infrastructure developments in Hong Kong. Local quarries, where rock is sourced for such uses, are strategically important to the construction industry in Hong Kong. Apart from extraction of virgin rock, surplus rock generated from local construction projects can be processed and recycled at quarries for beneficial reuse. In addition, the quarries are suitable sites for housing manufacturing plants of rock-derived construction materials such as ready-mixed concrete and asphalt. Historically, rock has been quarried in Hong Kong by way of surface quarrying – open/pit extraction at the ground surface. By doing this, the quarries have been operating as self-financing business entities rather than government-funded facilities.

1.1.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry, for which the current quarry contract is scheduled for completion in 2025. Recognising the importance of local quarries in minimizing the risk of irregularities in the supply of imported rock, the Government has been searching for suitable sites to set up new surface quarries in order to maintain local rock supply, with a view to have at least one new quarry to dovetail with the closure of Lam Tei Quarry.

1.1.3 Apart from rock materials, Hong Kong is also desperately in need of developable land to meet socio-economic needs. Creating spaces in underground rock caverns is one of the solutions in boosting land supply in the medium to long terms. To create land in this manner, the cavern formation will not only generate a large amount of good quality rock, but this process is also a source of rock materials which could be an integral part of the local rock supply in future. This is the underlying concept of the initiative of underground quarry-cum-cavern development, which is unprecedented in Hong Kong. There are, nevertheless, successful examples of this approach in other countries, e.g. Switzerland, Norway and the United States of America, where the entire operation combining quarrying and subsequent uses of the cavern spaces created (e.g. cold storage, data centres, warehousing and recreational complexes) is confirmed to be commercially viable.

1.1.4 Preliminary reviews under the Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

1.1.5 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan (CMP) jointly promulgated by CEDD and PlanD in 2017, was recommended to take forward.

1.1.6 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (“Pilot Study”) to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. The study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North. It is envisioned as an integral part of the long-term local quarry strategy. Shortage of rock import from the mainland China due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, it is timely to proceed with the scheme, along with other quarry related initiatives to maintain local rock supply.

1.1.7 Following the commencement of the IDC assignment for developing and designing the pilot underground quarry at Lam Tei, Tuen Mun in 2021, CEDD launched an IDC assignment for developing a new underground quarry at Tsing Yi North in 2023.

1.1.8 To implement the proposed underground quarry-cum-cavern development at Tsing Yi North, it is necessary to conduct a site-specific investigation and design for the scheme, building on the work completed under the Underground Quarry Study and the pilot study.

1.1.9 This Assignment aims to complete all the tasks necessary and sufficient to undertake the assignments including statutory procedures, public consultation, detailed technical assessments, broad design for potential facilities, formulation of implementation arrangement etc. at the investigation, design and early construction stages, in order to enable commencement of the underground quarrying tentatively targeted at 2027. These include various impact assessments, reference design of caverns and the underground quarrying-related activities (e.g. the materials processing/manufacturing plants and their operations) coordinated or implemented by the Government, business case analyses, implementation strategy and procurement arrangements. Consultation within the Government and with public and relevant stakeholders/industry players will also be carried out.

1.1.10 This Assignment will also look into any works potentially required by the quarry operators during the operation stage of the proposed underground quarrying. Given its pilot nature, the underground quarrying operation will be subject to the prevailing and/or new implementation mechanisms such as contract form, site supervision and any independent audits required. These will be examined and tailor-designed under this Assignment. Depending on the findings, it may call for works or tasks for which the Government may procure consultancy services separately during the operation stage.

1.1.11 AECOM Asia Co. Ltd. has been commissioned by the Civil Engineering and Development Department (CEDD) on 13 June 2024 to undertake Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction. It is targeted to commence the construction works in Year 2027.

1.2 Objectives of the Drainage and Sewerage Impact Assessment

1.2.1 According to Clause 6.16 of the Brief, a Drainage and Sewerage Impact Assessment (DSIA) shall be carried out for introducing a structural and systematic approach to identifying, assessing and mitigating potential adverse drainage and sewerage impacts which might arise from the operation of the underground quarry.

1.3 Nomenclature and Abbreviations

1.3.1 The following table lists the abbreviated titles of government bureaux, departments, offices, statutory bodies and public organisations mentioned in this Report.

Table 1.1 Abbreviations for Government Bodies

Abbreviations for Bureaux/Departments/ relevant organisations	Full title
CEDD	Civil Engineering and Development Department
DSD	Drainage Services Department
EPD	Environmental Protection Department
GEO	Geotechnical Engineering Office
PlanD	Planning Department

1.3.2 The following table lists the meanings of abbreviations for expressions adopted in this Report.

Table 1.2 Abbreviations Adopted in this Report

Abbreviations	Full Meaning
ADWF	Average Dry Weather Flow
DIA	Drainage Impact Assessment
GESF	Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning
LTQ	Lam Tei Quarry
SCVA	Strategic Cavern Area
SDM	Stormwater Drainage Manual
SIA	Sewerage Impact Assessment
TPEDM	Territorial Population and Employment Data Matrices
TSE	Treated Sewage Effluent
TYNUQ	Tsing Yi North Underground Quarry
TYPTW	Tsing Yi Preliminary Treatment Works
UFF	Unit Flow Factor
UQ	Underground Quarry
WENT	West New Territories
WTW	Water Treatment Works

2 Project Profile

2.1 Site Location

2.1.1 The proposed site is located in the northwestern area of Tsing Yi Island between the North West Tsing Yi Interchange to the west and Yau Kom Tau to the east. The proposed underground quarry will be undertaken in the Strategic Cavern Area (SCVA) No. 10, beneath the mountain of Shek Wan. The location plan of the Project is shown in **Figure 2.1**.

2.2 Proposed Development

2.2.1 For the purpose of underground quarrying, there is no permanent drainage and sewerage works in the project. All the proposed drainage and sewerage works, if any, are temporary works under the project. The drainage and sewerage assessment for the future land use and the corresponding permanent works shall be carried out by others under separate study.

Portals and Access Tunnels Leading to Underground Quarry

2.2.2 The formation of portals at Ngau Kok Wan and Tam Kon Shan Road will require soil and rock slope cutting works. It is envisaged that excavation in soil and rock is involved at the section of access tunnel near portal. After excavation of the Main Access Tunnels near portals, the remaining excavation is anticipated to be conducted in rock using drill and blast method.

Underground Quarry

2.2.3 Connection Tunnels will be built around the perimeter of the underground quarry. Subject to the need of the quarry operator, the underground quarry is allowed for housing rock processing facilities, stockpiling the excavated rocks / aggregates and storage of construction materials. To the southeast of the proposed cavern extent, an area of potential cavern expansion is identified.

Expansion of Surface Land at Ngau Kok Wan

2.2.4 To facilitate a more flexible site setup, it is proposed to carry out surface land expansion at the western side of the existing surface land of Ngau Kok Wan by means of site formation in order to enlarge the surface land area. The site formation will require soil and rock excavation by mechanical means with piling works to form a retaining structure.

Provision of Loading / Unloading Area with Conveyor Belt near Wok Tai Wan

2.2.5 To develop a connection by means of conveyor belt to Wok Tai Wan to enable a more flexible site setup by the future operator and enhance synergy between Wok Tai Wan and Ngau Kok Wan, it is proposed to create a loading / unloading point near the access road for transporting rock to/from Wok Tai Wan through a conveyor belt system along the hillside. To facilitate the rock storage needs of the project, Wok Tai Wan is identified as the stockpiling area.

2.3 Ancillary Facilities Area

2.3.1 Initially before any underground space is created, for the operation of the underground quarry, surface works area shall be provided to set up the following:

- Site office for staff
- Workshop for machinery
- Installation of blasting mitigation measures at portals
- Stockpiling area
- Tunnel ventilation facilities
- Setting up of ancillary operations

2.3.2 The Contractor will be responsible to develop their own arrangement of the site setup to suite their operational needs. With reference to the existing site set up of Lam Tei Quarry and Lam Tei Underground Quarry, the major activities for supporting the ancillary operations would include the following:

- Rock processing
- Raw material storage
- Stockpiling area for preliminary crushed rock and C&D material
- Concrete production
- Asphalt production

2.4 Construction Phase

2.4.1 After quarrying contract award and before any production is made, the quarry operator will need to carry out site set up works. During this construction phase, machineries and plants will be transported to surface land for installation. In parallel, initial site establishment and construction works including construction of portals and short portions of the main access tunnels will be conducted by mechanical means. No blasting, crushing, concrete or asphalt production will be carried out during the construction phase.

2.4.2 The construction phase will take approximately one to two years, including the period required for procurement, delivery, installation and license application for plants.

2.5 Operation Phase

2.5.1 Once the initial set up is ready, drill and blast method will be adopted for excavation of rock. Drill and blast operation involves drilling of rock, charging of explosives, blasting and removal of as-blasted rock. The as-blasted rock fragments are crushed on site down to suitable sizes for use as aggregates. Aggregates will go through further processing in concrete or asphalt batching facilities within the rock processing area of the quarry site before being delivered off site as products to construction sites.

2.5.2 The operational phase will commence after the construction phase and will continue until the rock reserves are depleted.

3 Drainage Impact Assessment

3.1 Objectives

3.1.1 The purpose of this Drainage Impact Assessment (DIA) is to assess the potential drainage impact to drainage catchments arising from the proposed site under the Project and recommend appropriate mitigation measures where adverse impacts are identified.

3.2 Methodology

3.2.1 The drainage impact assessment is conducted with reference to ETWB TCW No. 2/2006 and DSD Stormwater Drainage Manual (SDM) and DSD relevant technical circulars.

3.2.2 In the first place, the DSD drainage records or hydraulic models obtained from DSD shall be reviewed. Then the baseline or existing scenario shall be set up as a basis. Afterwards, the future scenario is set up based on the proposed land use plan. Impact arising from the proposed development to the existing drainage system shall be identified and assessed and all necessary measures to mitigate adverse drainage impacts arising from the development will be recommended.

3.2.3 For catchments, two types of runoff surfaces will be used in the assessment to respectively represent an impervious surface with the fixed runoff coefficient of 0.95 and a pervious surface with the fixed runoff coefficient of 0.5.

3.2.4 The hydrological and hydraulic parameters shall in general follow the requirements of the Stormwater Drainage Manual (SDM) of DSD.

3.2.5 The assessment is based on a 1 in 200-year rainstorm return period.

3.2.6 Existing and predicted flows have been estimated using the Rational Method and the surface runoff is calculated using the following equation:

$$Q_p = 0.278\, C\, i\, A$$

Where Q_p = peak runoff in m^3/s
C = runoff coefficient (dimensionless),
i = rainfall intensity in mm/hr, and
A = catchment area in km^2

3.2.7 The rainfall intensity is determined based on the equation as mentioned in Clause 4.3.3 of SDM (Corrigendum No. 1/2024) where storm constants (a, b, c) are given in Table 3a of SDM for the corresponding sites:

$$i = \frac{a}{(t_d + b)^c}$$

Where i = extreme mean intensity in mm/hr,
t_d = duration in minutes (td ≤ 240), and
a, b, c = storm constants given in SDM Tables 3a

3.2.8 The storm constants for 200-year return period are shown in the Table below:

Table 3.1 Storm Constants for 200 Years Return Periods

Return Period T	200 years
a	508.8
b	3.46
c	0.322

3.3 Existing Drainage System

3.3.1 The proposed TYNUQ is located at Shek Wan in the north-western region of Tsing Yi. Existing drainage system were identified in the vicinity of TYNUQ. The existing runoff from the northern and western slope of Shek Wan will be discharged to the existing Outfall 2 and 5 as shown on **Figure 3.1**.

3.3.2 6 nos. of outfalls were identified to discharge flows from catchments in the vicinity of TYNUQ and the proposed road. The catchments A1 to A11 and B1 to B6 are delineated according to the existing site topography, as shown on **Figure 3.1**.

Table 3.2 Summary of Existing Catchments

Catchment No.	Catchment Area (ha)	Outfall
A1	3.82	1
A2	1.62	2
A3	0.68	
A4	1.35	
A5	4.69	
A6	6.91	
A7	2.38	
A8	4.94	
A9	1.07	-*
A10	1.34	3
A11	0.49	4
B1	5.77	5
B2	4.34	-*
B3	2.68	6
B4	1.34	
B5	18.8	
B6	4.93	

Remarks:

* No outfall is identified for these catchments. The surface runoff from these catchments will follow the existing condition to discharge into the sea along their adjacent coastline.

Ngau Kok Wan

3.3.3 Based on the existing site topography, the nullahs to the northeast of TYNUQ near Ngau Kok Wan shall receive the surface run-off from the catchments above the site (**Figure 3.2** refers). Drainage from catchments of about 23 ha (Catchment No. A2 to A8) is discharged to the existing nullahs near Ngau Kok Wan and exit via the existing Outfall 2. The sizes of the nullahs are unknown as there is no as-built record of the infrastructures. With the change of the drainage characteristics after the proposed site formation, drainage system would be designed and constructed within the Ngau Kok Wan site.

Tam Kon Shan Road Portal

3.3.4 As shown in the as-built record in **Figures 3.3**, the existing drainage of 300 mm to 1200 mm (i.e. SMH4021973) located to the east of TYNUQ at Tam Kon Shan Road carries discharge to a 2 cell 2500 × 2000 box culvert. Surface runoff from the slopes and proposed site formation area surrounding Tam Kon Shan Road Portal is discharged to this existing drainage system, which consists of a catchment of about 0.5 ha (Catchment No. A11).

Wok Tai Wan

3.3.5 No as-built record of drainage is found within and in the vicinity of Wok Tai Wan. However, it is identified on the topological map that there is an existing nullah to the east of the Site which intercepts the surface runoff from catchments of about 28 ha (Catchment No. B3 to B6) to the

east of the site and exit via the existing Outfall 6 (**Figure 3.1** refers) or directly discharged to the sea. No drainage system is identified within the site area in Wok Tai Wan.

3.4 Drainage Flow Estimation

3.4.1 The proposed TYNUQ is located in the cavern beneath Shek Wan Hill. Albeit no change of the surface drainage characteristics is anticipated, groundwater seepage in cavern shall generate additional drainage flow. Estimation of the flow of seepage in construction phase and operation phase is listed in **Table 2.2** below.

Table 3.3 Groundwater Inflow of TYNUQ

		Construction and Operation Stage		
Discharge Point	**Tunnel / Cavern**	**Estimated Groundwater Inflow # (L/min/100m)**	**Approx. Length (m)**	**Estimated Groundwater Inflow (Total) (L/min)**
Ngau Kok Wan - East	**Cavern & Access Tunnel**	50	2450	1225
	Cavern (Potential Expansion)	50	770	385
Ngau Kok Wan - West	**Cavern & Access Tunnel**	50	3430	1715
	Total			3325 (Ngau Kok Wan)
Tam Kon Shan Road	**Access Tunnel**	50	150	75
	Total			75 (Tam Kon Shan Road)

Remarks:

The targeted residual inflow is estimated with reference to Tunnel Construction Guidelines 05 by Association of Geotechnical & Geoenvironmental Specialists (Hong Kong). Grouting works would be carried out during construction stage to limit the groundwater inflow.

3.4.2 The groundwater inflow will be conveyed from underground to the tunnel portal by gravity flow.

3.5 Assessment of Drainage Impacts

3.5.1 The potential drainage impact incurred by the proposed TYNUQ is that there would be an increase in drainage flow due to groundwater seepage inside the cavern.

3.5.2 As the proposed TYNUQ is located in a cavern, no change in surface drainage characteristics is anticipated and insignificant disruption to the existing drainage system is expected. Moreover, the access of TYNUQ at Ngau Kok Wan and the site area at Wok Tai Wan are located near the coast, the collected seepage and surface runoff could be discharged to the sea. As for the access at Tam Kon Shan Road, only insignificant amount of groundwater will be discharged to the existing drainage system. Discharge points for the collected seepage at the portals at Ngau Kok Wan and Tam Kon Shan Road were identified as shown on **Figure 3.6** and **Figure 3.7**.

3.5.3 Although the access of TYNUQ at Ngau Kok Wan is adjacent to the existing drainage system collecting the surface runoff generated from Catchment No. A2 to A8, the cavern and related ancillary activities will have minimal disruption to the existing drainage system. The existing nullah outside the portals at Ngau Kok Wan as shown in **Figure 3.2** will cross underneath the access to portals, which shall be protected for crossing over it during the construction and operation stage.

3.5.4 However, as site formation work is proposed at the western side of the Ngau Kok Wan site area, some reprovision of the drainage system is required, it is proposed to remove part of the existing nullah from the western side of Ngau Kok Wan. **Table 3.4** shows the reduction in the catchment area of Catchment No. A3 due to the proposed site formation works. As shown in **Figure 3.6**, new drainage channel will be constructed at the boundary of the site formation area to collect the runoff from catchment area A2 and A3, then discharge to the existing nullah.

Table 3.4 Summary of Change in Catchment A3

Catchment No.	Existing Catchment Area (ha)	Outfall	Proposed Catchment Area (ha)	Outfall
A3	0.68	2	0.26	2

3.5.5 To assess the drainage impact of the additional groundwater seepage from TYNUQ on the existing drainage system, the surface runoff from existing catchment to the drainage system has been calculated as shown in **Appendix A**. The estimated drainage impact due to the groundwater seepage from cavern is shown in **Table 3.5** below.

Table 3.5 Drainage Impact due to Groundwater Seepage

Portal Location	Source of Runoff Discharge (Catchment)	Runoff Collected by Existing Drainage System (m^3/s)	Additional Estimated Groundwater Inflow from Cavern (m^3/s)	Total Estimated Discharge (m^3/s)	Percentage Change
Ngau Kok Wan	A2 – A8	8.243	0.055	8.298	+ 0.67%
Tam Kon Shan Road	A11	0.196	0.0013	0.197	+ 0.66%

3.5.6 **Table 3.5** shows that the seepage flow has insignificant increase of less than 1% to the discharge compared to the surface runoff of the existing catchment. No drainage impact arising from the proposed TYNUQ is expected to incur on the existing drainage system at both Ngau Kok Wan and Tam Kon Shan Road.

3.5.7 Due to the proposed site formation works on the western side of Ngau Kok Wan, which will alter Catchment No. A3, as well as the proposed site formation at the Tam Kon Shan Road portal, the design flow and hydraulic checking of the proposed drainage channels are provided in **Appendix B**. The results are summarised in **Table 3.6** below. The results show that the proposed system is capable to handle the peak runoff from the catchment. Since the remaining portions of the existing nullah or drainage system are unaffected by the proposed site formation work, and with no additional source of runoff discharge, it is deemed there would be no impact to the existing nullah or drainage system.

Table 3.6 Summary of Hydraulic Checking of the Proposed Drainage Channel

Channel ID	Source of Runoff Discharge (Catchment)	Channel Size (mm)	Gradient	Capacity (m^3/s)	Design Flow	
					Peak Runoff (m^3/s)	% of Capacity
DC 1	A3	500	1 in 400	0.29	0.16	54.3%
DC 2	A2, A3	800	1 in 400	1.02	0.84	81.9%
UC 1	A11	400	1 in 200	0.21	0.19	88.9%

3.5.8 Following the existing site condition and without change of drainage characteristics, the surface runoff from the surface land at Ngau Kok Wan and Wok Tai Wan would discharge to the sea. No drainage impact is expected to incur on the existing drainage system.

3.6 Temporary Drainage System of Underground Quarry

3.6.1 Water will be generated from the underground quarry construction/operation. The majority of the construction / operation water to be discharged will be groundwater permeating through the excavated ground.

3.6.2 The contractor will be required to provide temporary site drainage in order to mitigate the risk of potential flooding of the works areas and excavations. Temporary drainage arrangements

will be implemented to ensure the safe discharge of construction water generated from the quarry construction/operation.

3.6.3 A specification will be developed to ensure the provision of adequate site drainage during construction/operation. Guidelines presented in the EPD ProPECC PN 2/23 – Construction Site Drainage will be included in the contract documents for the handling and disposal of construction site discharges with respect to minimising impacts on storm drainage and natural watercourses caused by construction site run-off.

3.6.4 In minimizing the groundwater infiltration during construction, probing ahead of excavation work and pre-grouting could be conducted. Where water inflow quantities are excessive, post-grouting will be conducted as far as practical to reduce the water inflow into the tunnels. Any uncontaminated groundwater from seepage or dewatering processes should be discharged to the storm water system via silt removal facilities.

3.6.5 Pollution control clauses governing discharges into the storm water drainage system and the removal of waste material will be incorporated into the contract.

3.6.6 Proposed construction drainage and measures to control construction runoff will include:

- Perimeter channels to intercept storm water run-off from outside the site will be constructed in advance of portal formation works and earthworks;
- Exposed soil surface will be covered as soon as possible to reduce the potential for soil erosion;
- Open stockpiles of construction materials on site will be covered during rainstorms;
- Surface run-off from the construction site will be directed into an existing stream channel via adequately designed sand / silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers will be provided on site to properly direct storm water to such silt removal facilities;
- Silt removal facilities, channels and manholes will be maintained and the deposited silt and grit will be removed regularly, and particularly after each rainstorm, to ensure that these facilities are functioning properly at all times;
- Construction works should be programmed to minimize soil excavation works in rainy seasons (April to September) as far as practical. If excavation in soil cannot be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary haul roads should be protected by crushed stone or gravel, as excavation proceeds.
- During excavation in the wet season, temporarily exposed soil surfaces will be covered, and temporary access roads will be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels will be provided, for example along the crest / edge of the excavation, to prevent storm runoff from washing across exposed soil surfaces. Arrangements will be in place to ensure that adequate surface protection measures can be safety carried out well before the arrival of a rainstorm; and
- Earthworks final surfaces will be well compacted and the subsequent permanent work or surface protection will be carried out as soon as practical after the final surface are formed to prevent erosion caused by rainstorms. Appropriate intercepting channels will be provided, where necessary. Rainwater pumped out from trenches excavations will be discharged into storm drains via silt removal facilities.

3.7 Maintenance Responsibilities

3.7.1 The quarry operator should be responsible for all maintenance works to the drainage system of TYNUQ site.

3.8 Conclusion of Drainage Impact Assessment

3.8.1 The latest information on the existing drainage network in the vicinity of the proposed TYNUQ has been collected and reviewed in the DIA Report.

3.8.2 The proposed TYNUQ would include site formation works at Ngau Kok Wan, Tam Kon Shan Road, Wok Tai Wan, and cavern excavation in Shek Wan Hill. However, these works would not interfere with the existing drainage system which collects the surface runoff from northern slopes of Shek Wan Hill.

3.8.3 In general, the flow path and catchments after development of TYNUQ will be similar to those before development. The catchment areas and drainage characteristics of the concerned drawing catchments have no change. Albeit no change of the surface drainage characteristics is anticipated, groundwater seepage in cavern shall generate additional drainage flow.

3.8.4 Due to the coastal location of the TYNUQ, the majority of groundwater seepage from the cavern during construction and operation phase would be discharged to sea via the existing outfall through the existing nullah at Ngau Kok Wan, while some of the groundwater seepage would be discharged to the existing culvert at Tam Kon Shan Road.

3.8.5 Based on the assessment, the groundwater seepage to be discharged from the cavern during construction and operation phase is anticipated to be insignificant, with only <1% increase compared with the existing surface runoff from the catchment to the existing drainage system.

3.8.6 With the proposed drainage channels in place, no potential drainage impacts arising from the proposed TYNUQ are expected to incur on the existing drainage system.

4 Sewerage Impact Assessment

4.1 Objectives

4.1.1 The purpose of this Sewerage Impact Assessment (SIA) is to assess the potential sewerage impact to the existing system arising from the proposed site under the Project and recommend appropriate mitigation measures where adverse impacts are identified.

4.2 Methodology

4.2.1 The volume of sewage generated from the proposed Quarry Sites is estimated in accordance with the Guidelines for Estimating Sewage Flows for Sewage Infrastructure Planning (GESF) published by EPD.

4.2.2 The unit flow factors (UFF) shown in **Table 4.1** are based on the commercial UFFs in Table T-2 and T-3 of GESF. The peaking factors shown in **Table 4.2** are based on the recommended peaking factors in Table T-5 of GESF. A summary of the unit flow factors and the peaking factors used for different development types are shown below:

Table 4.1 Unit Flow Factors

Activity	Development Type	Unit Flow Factor (m^3/head/day)
-	Employee	0.080
Commercial	Commercial – Mining and Quarrying (J8)	-
Industrial	Industrial activities – Tsing Yi	1.500

Table 4.2 Peaking Factors

Population Range	Peaking Factor (including stormwater allowance) for facility with existing upstream sewerage	Peaking Factor (excluding stormwater allowance) for facility with new upstream sewerage
(a) For sewers		
<1,000	8	6
1,000 – 5,000	6	5
(b) Sewage Treatment Works, Preliminary Treatment Works and Pumping Stations		
<10,000	4	3

4.3 Existing Sewerage System

4.3.1 The DSD drainage record plans was reviewed. No existing sewerage system is available within and in the vicinity of the TYNUQ. The closest sewerage system is located at approximately 620m away to the east of the proposed TYNUQ on Tam Kon Shan Road.

4.3.2 The existing sewerage layout is shown on **Figure 4.1**. In general, an existing sewerage system ranging from dia. 225 mm to 1050 mm pipes conveys sewage from the northwest of Tsing Yi to the Tsing Yi Sewage Pumping Station (TYSPS) at Tsing Yi Heung Sze Wui Road/ Fung Shue Wan Road, then connected to Tsing Yi Preliminary Treatment Works (TYPTW) via pipes ranging from dia. 1200 mm to 1500 mm pipes, before being discharged to Stonecutters Island Sewerage Treatment Works via HATS tunnel.

4.3.3 The design capacity and design maximum flow capacity of TYSPS are 30,240 m^3/day and 1.05 m^3/s respectively. During the period from Jan 2016 to Dec 2017, TYSPS has a recorded maximum average daily flow of 33,733 m^3/d.

4.3.4 The TYPTW is located at Tsing Yi Road to the north of Hong Kong International Terminal. The design capacity and design maximum flow capacity of TYPTW are 87,943 m^3/day and 2.01 m^3/s respectively. During the period from Jan 2016 to Dec 2017, TYPTW has a recorded maximum average daily flow of 58,675 m^3/d.

4.4 Development Population and Sewage Flow Estimation

4.4.1 With reference to an existing local quarry of similar scale, the maximum number of employees working on site in the quarry is estimated to be 100 during construction and operation phase.

4.4.2 The unit flow factor under the category of "J8 Mining and Quarrying" in Table T-2 of EPD's GESF is adopted as described in **Section 4.2**. The total unit flow generated from an employee in a particular trade is the sum of the UFF of the employee and the UFF of commercial activities of a particular trade under consideration.

4.4.3 From the licensed flow data, there were very low or no licensed flows for job types J5 (Import/Export), J7 (Agriculture and Fishing), J8 (Mining and Quarrying) and J12 (Public Administration). The flows from the commercial activities of these job types are either small or incorporated in the unit flow of employees. The activity UFF of these job types is recommended to be zero and thus, the UFF of only a commercial employee of 0.08m^3/head/day can be adopted for estimating the total sewage flow of the quarry activity.

4.4.4 In addition, the concrete batching and asphalt production will be carried out to produce fresh concrete and asphalt within the proposed Quarry Site, and they are categorised as industrial flow. With reference to Table T-3 of EPD's GESF, the catchment-wide UFF for a concrete batching and asphalt production employee in the Tsing Yi area is 1.500m^3/head/day.

4.4.5 The Average Dry Weather Flow (ADWF) is obtained by multiplying the number of employees by the UFF. The ADWF of the proposed quarry development is summarized in **Table 4.3**.

Table 4.3 Estimated Sewage Flow

Activities	Type of Sewage	No. of Employees	UFF (m^3/head/day)	ADWF (m^3/day)
Quarrying	Commercial Flows	70	0	0
	Domestic Sewage		0.08	5.6
Concrete Batching and Asphalt Production	Industrial Wastewater	30	1.50	45.0
	Domestic Sewage		0.08	2.4
Total:	-	100	-	53.0

4.4.6 During the operation stage of the proposed quarry development, works mainly involve quarrying, rock processing, concrete and asphalt production. The sewage generated from the Quarry Site is estimated to be a total of 53.0 m^3/d (ADWF), which is minimal.

4.4.7 The Peak Wet Weather Flow (PWWF) is obtained by multiplying the ADWF by the peaking factor of 8 as stated in Table T-5 of the EPD's GESF. The PWWF of the proposed Quarry Site is 0.005 m^3/s.

4.5 Identification of Potential Sewerage Impacts

4.5.1 The sewage generated by the proposed Quarry Site would not be discharged to the existing sewerage network. Sewage will be treated by the on-site sewage treatment facility with discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO), or tanked away by registered waste collector, which will be described in **Section 4.6**. No impact to the existing sewerage system is thus anticipated.

4.6 Proposed Sewerage Arrangement and Mitigation Measures

4.6.1 The sewage generated from the proposed quarry development can be generally classified into domestic sewage generated by employees and industrial wastewater generated from the concrete batching.

Domestic sewage generated by employees

4.6.2 It is anticipated that the domestic sewage would be collected by proposed chemical toilets and holding tanks, and transferred off site by a registered waste collector. As shown in **Table 4.3**, the domestic sewage generated by employees is about 8 m^3/d. Assuming the holding tank is

to be emptied by the registered waste collector every three days, the required volume of holding tank is about 24 m^3. The dimensions of the proposed holding tank will be 4 m (L) x 4 m (W) x 1.8 m (D), providing storage capacity of 28.8 m^3. Then, sewage will be transported to sewage treatment works for further treatment. The destination will be decided by the Water Pollution Control Ordinance (WPCO) license holder, ideally, Tsing Yi Preliminary Treatment Works.

Industrial wastewater generated from the concrete and asphalt production

4.6.3 The wastewater and slurry generated from the concrete batching will be collected to an on-site wastewater/slurry treatment system. The collected wastewater or slurry containing fine particles is further treated by the facilities of reclaimer and filter press system. Recycled water can be used for dust control measures at the quarry site and recycled aggregates from the concrete batching can be re-used for concrete production. If necessary, discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO) shall be obtained.

4.6.4 Due to special nature of asphalt production, products are produced under high temperature. No wastewater is anticipated to be generated from asphalt production.

4.7 Conclusions of Sewerage Impact Assessment

4.7.1 During the operation phase, the average daily sewage generated from the proposed Quarry Site is minimal.

4.7.2 Domestic sewage will be tanked away by registered waste collector. Industrial wastewater from concrete production will be treated by the on-site wastewater treatment plant and then reuse for production. If necessary, discharge license for the discharge of effluent from the site under the Water Pollution Control Ordinance (WPCO) shall be obtained.

4.7.3 Based on the assessment, no adverse sewerage impact is anticipated from the proposed TYNUQ.

Figures

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- MAIN ACCESS TUNNEL
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- POTENTIAL CAVERN EXPANSION

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTAL

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN

WOK TAI WAN WORKS AREA

SCVA 10

FUNG SHUE WO

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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業主

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STATUS
狀況

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PROJECT LOCATING PLAN

SHEET NUMBER
圖紙編號

60733229/B21/FIGURE 2.1

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION

826400 E

826800 E

827200 E

824400 N

824000 N

TSING LONG HIGHWAY

TAM KON SHAN ROAD

OUTFALL 1

OUTFALL 2

OUTFALL 3

OUTFALL 4 (CONNECT TO EXISTING DRAINAGE SYSTEM)

OUTFALL 5

OUTFALL 6

AREA A1

AREA A2

AREA A3

AREA A4

AREA A5

AREA A6

AREA A7

AREA A8

AREA A9

AREA A10

AREA A11

AREA B1

AREA B2

AREA B3

AREA B4

AREA B5

AREA B6

WOK TAI WAN

CATCHMENT NO.	AREA (m^2)	OUTFALL
A1	38175	1
A2	16239	2
A3	6755	
A4	13448	
A5	46919	
A6	69124	
A7	23805	
A8	49353	
SUBTOTAL:	225643	
A9	10678	-
A10	13406	3
A11	4888	4 (EXISTING)
B1	57707	5
B2	43421	-
B3	26815	6
B4	13430	
B5	187992	
B6	49251	
SUBTOTAL:	277488	

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE
比例

A3 1 : 4000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

DRAINAGE CATCHMENT PLAN (EXISTING SCENARIO)

SHEET NUMBER
圖紙編號

60733229/B21/FIGURE 3.1

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- EXISTING NULLAH

826500 E

826700 E

826900 E

824600 N

824400 N

824200 N

EXISTING NULLAH

EXISTING NULLAH

TING KAU BRIDGE

TSING LONG HIGHWAY

青龍公路

TSING YI NORTH COASTAL

青衣北岸公路

NORTH WEST TSING YI INTERCHANGE

青衣西北交匯處

WOK TAI WAN

鑊底灣

CUT LINE A-A

SEE DRAWING NO. 60733229/B21/FIGURE 3.3

CUT LINE B-B

SEE DRAWING NO. 60733229/B21/FIGURE 3.4

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階段

SCALE 比例
A3 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

EXISTING DRAINAGE LAYOUT PLAN

SHEET 1 OF 3

SHEET NUMBER
圖紙編號

60733229/B21/FIGURE 3.2

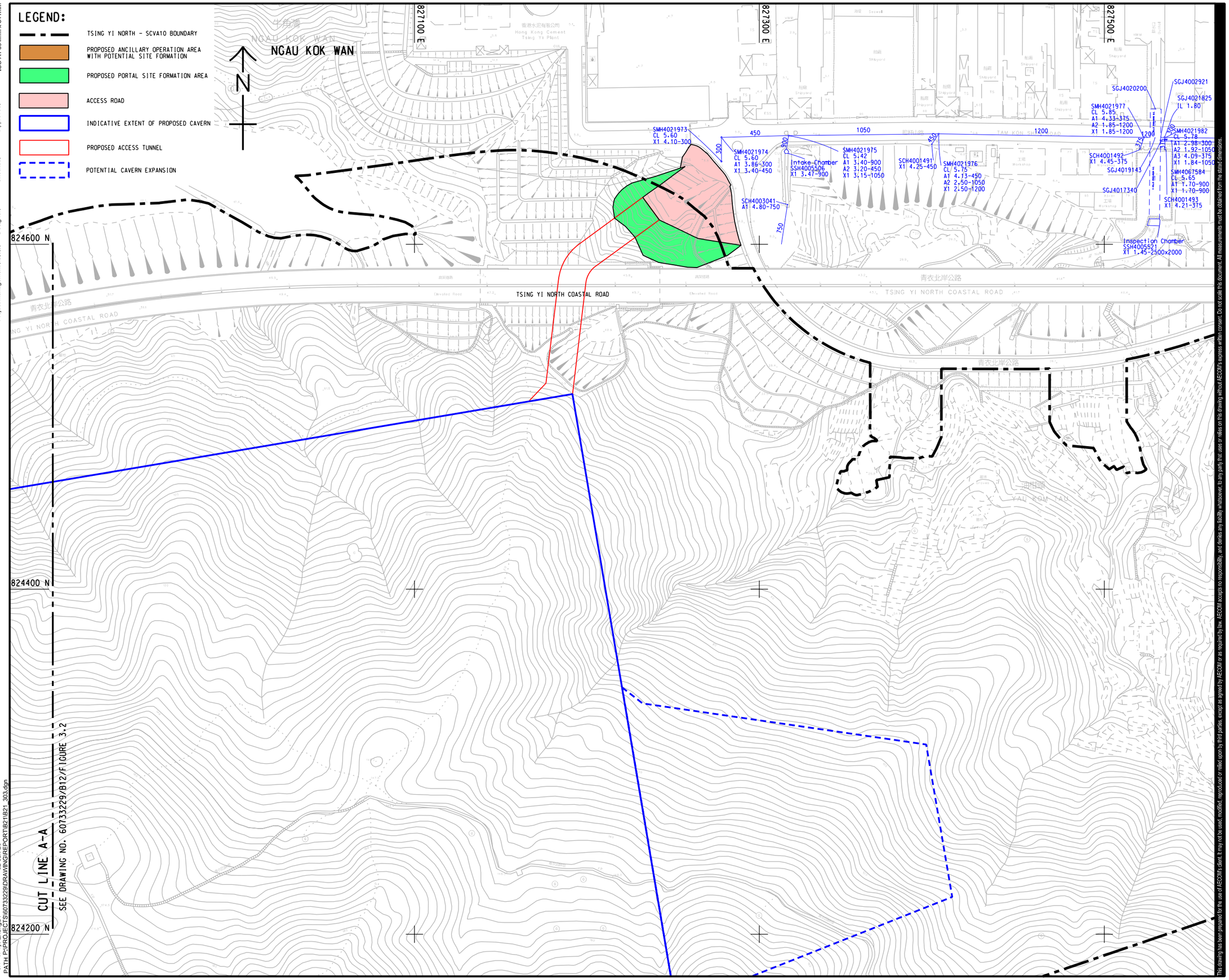
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



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DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
EXISTING DRAINAGE LAYOUT PLAN

SHEET NUMBER
圖紙編號
60733229/B21/FIGURE 3.3

826300 E
826500 E
826700 E
824300 N
824100 N
823900 N
CUT LINE B-B
SEE DRAWING NO.
60733229/B21/FIGURE 3.2
N
WOK TAI WAN
EXISTING NULLAH
EXISTING NULLAH
NORTH WEST TSING YI INTERCHANGE
Elevated Road
Tsing Yi Administration Building
Cheung Tsing Tunnel / Airport Express
Cheung Tsing Line / Airport Express
Tsing Yi Police Station

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- EXISTING NULLAH

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

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地位

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DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 合約編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
EXISTING DRAINAGE LAYOUT PLAN

SHEET 3 OF 3

SHEET NUMBER
圖紙編號
60733229/B21/FIGURE 3.4

ISO A1 594mm x 841mm

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Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION

826400 E

826800 E

827200 E

824400 N

824000 N

TSING LONG HIGHWAY

TAM KON SHAN ROAD

OUTFALL 1

OUTFALL 2

OUTFALL 3

OUTFALL 4 (CONNECT TO EXISTING DRAINAGE SYSTEM)

OUTFALL 5

OUTFALL 6

AREA A1

AREA A2

AREA A3

AREA A4

AREA A5

AREA A6

AREA A7

AREA A8

AREA A9

AREA A10

AREA A11

AREA B1

AREA B2

AREA B3

AREA B4

AREA B5

AREA B6

WOK TAI WAN

CATCHMENT NO.	AREA (m^2)	OUTFALL
A1	38175	1
A2	16239	2
A3	2647	
A4	13448	
A5	46919	
A6	69124	
A7	23805	
A8	53461	
SUBTOTAL:	225643	
A9	10678	-
A10	13406	3
A11	4888	4 (EXISTING)
B1	57707	5
B2	43421	-
B3	26815	6
B4	13430	
B5	187992	
B6	49251	
SUBTOTAL:	277488	

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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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I/R 修訂	DATE 日期	DESCRIPTION 內容/摘要	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 4000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

DRAINAGE CATCHMENT PLAN (FUTURE SCENARIO)

SHEET NUMBER
圖紙編號

60733229/B21/FIGURE 3.5

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- 600RC(1:300) — PROPOSED RECTANGULAR CHANNEL WITH MIN. FALL
- CP — PROPOSED CATCHPIT
- CUL — PROPOSED CULVERT
- EXISTING NULLAH
- EXISTING NULLAN TO BE REMOVED
- GROUNDWATER INFLOW FROM CAVERN

N

826500 E

826700 E

824500 N

824300 N

EXISTING NULLAH

EXISTING NULLAH

DC1 500RC (1:400)

DC1 800RC (1:400)

CUL

CP

CP

1715 L/min

1610 L/min

FLOW TO BE DISCHARGED INTO EXISTING OUTFALL 2

TING KAU BRIDGE

TSING LONG HIGHWAY

青龍公路

TSING YI NORTH COASTAL ROAD

青衣北岸公路

NORTH WEST TSING YI INTERCHANGE

青衣西北交匯處

Elevated Road

Viewing Platform

WOK TAI WAN

CUT LINE A-A

SEE DRAWING NO. 60733229/B21/FIGURE 3.7

CUT LINE B-B

SEE DRAWING NO. 60733229/B21/FIGURE 3.8

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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SCALE 比例 — A3 1 : 2000

DIMENSION UNIT 尺寸單位 — METRES

KEY PLAN
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PROJECT NO. 項目編號 — 60733229

AGREEMENT NO. 協議編號 — CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PROPOSED DRAINAGE LAYOUT PLAN

SHEET 1 OF 3

SHEET NUMBER
圖紙編號

60733229/B21/FIGURE 3.6

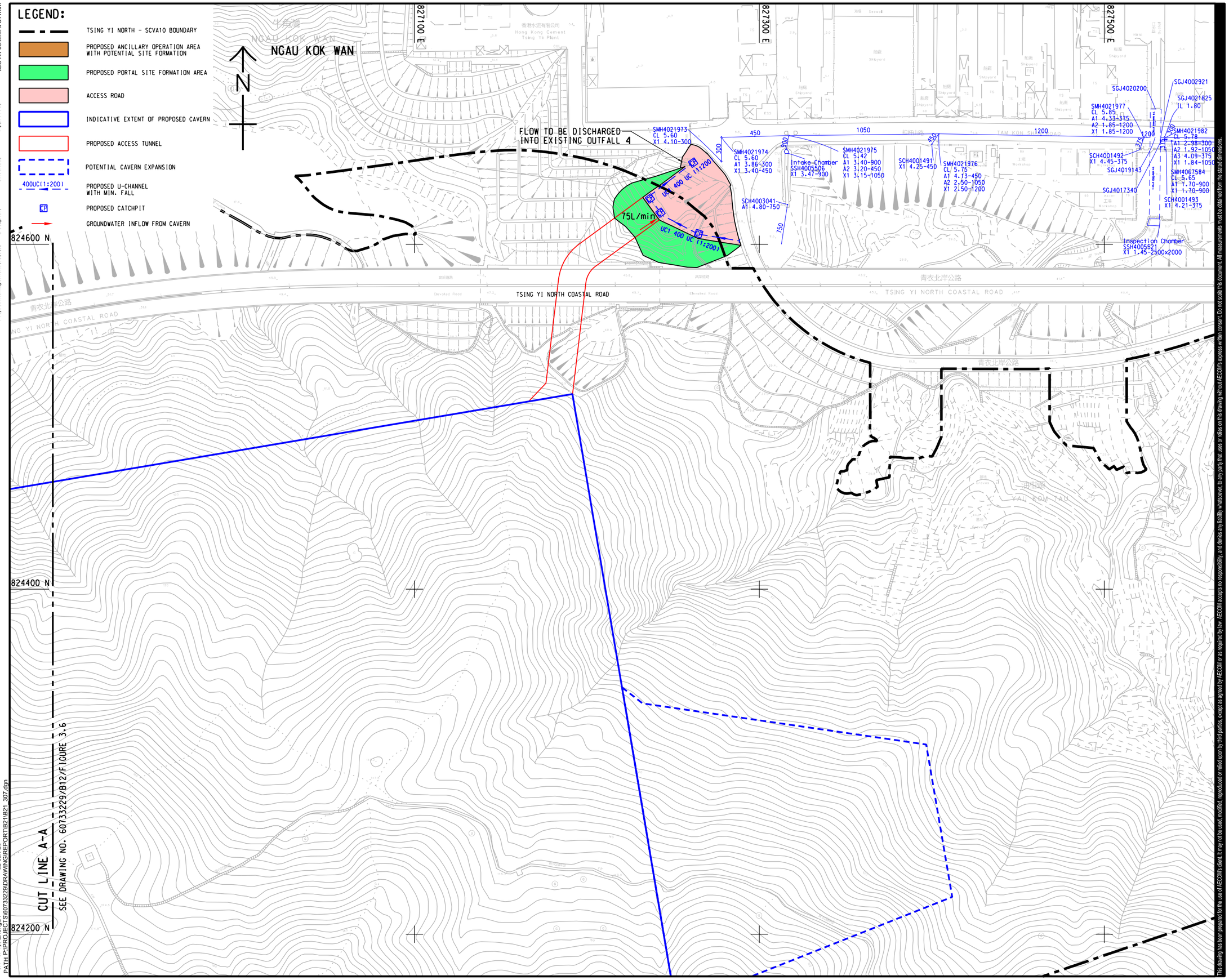
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A3 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PROPOSED DRAINAGE LAYOUT PLAN

SHEET 2 OF 3

SHEET NUMBER
圖紙編號
60733229/B21/FIGURE 3.7

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826300 E

826500 E

826700 E

CUT LINE B-B

SEE DRAWING NO.
60733229/B21/FIGURE 3.6

824300 N

824100 N

823900 N

N

WOK TAI WAN

WOK TAI WAN

NORTH WEST TSING YI INTERCHANGE

EXISTING NULLAH

FLOW TO BE DISCHARGED INTO
EXISTING OUTFALL 6

EXISTING NULLAH

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- EXISTING NULLAH

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DIMENSION UNIT
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PROJECT NO.
項目編號

60733229

AGREEMENT NO.
合約編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PROPOSED DRAINAGE LAYOUT PLAN

SHEET 3 OF 3

SHEET NUMBER
圖紙編號

60733229/B21/FIGURE 3.8

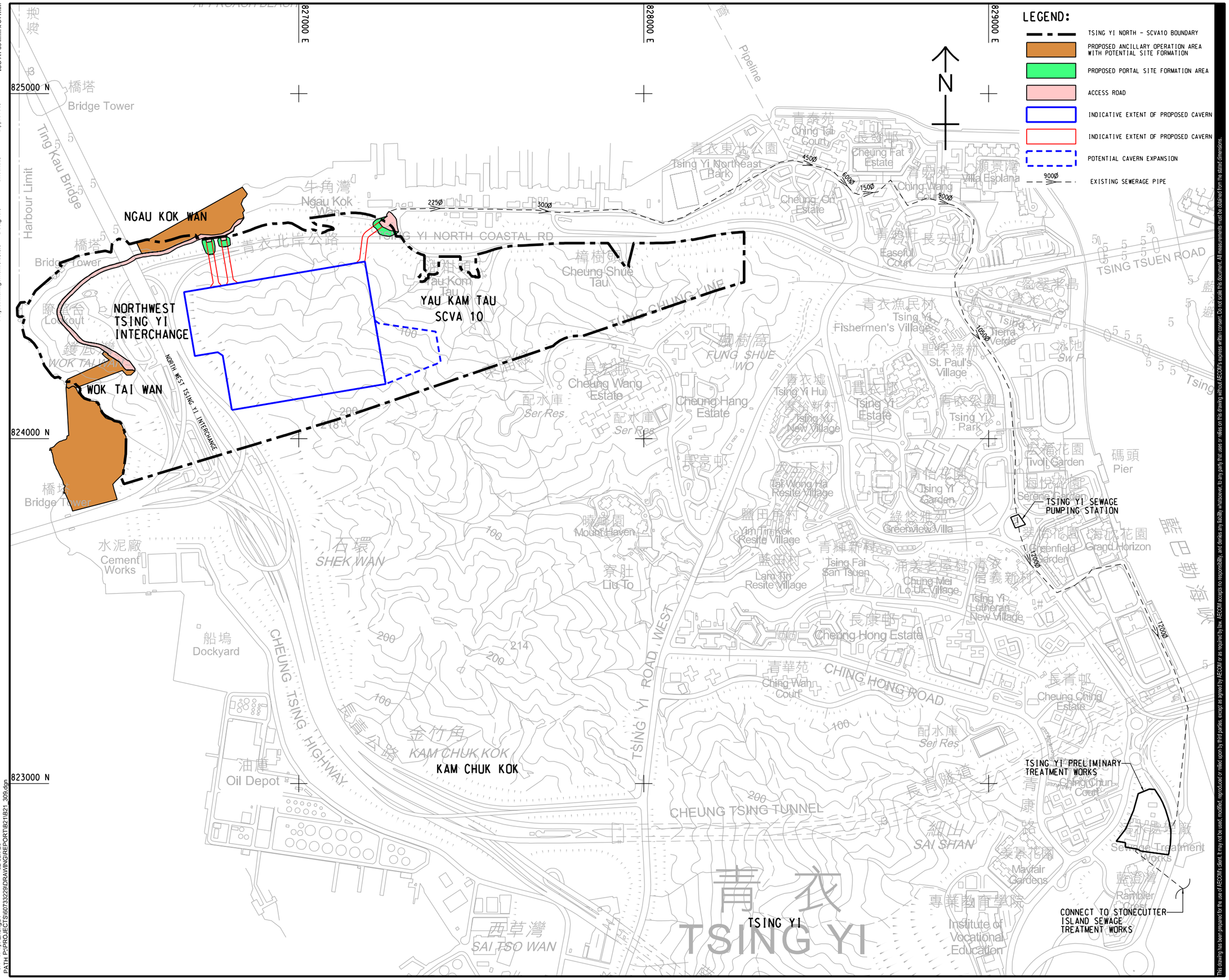
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A3 1 : 10000

DIMENSION UNIT 尺寸單位
METERS

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PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

EXISTING SEWERAGE LAYOUT PLAN

SHEET NUMBER
圖紙編號

60733229/B21/FIGURE 4.1

Appendix A
Estimation of the Existing Catchment Runoff

Runoff Coefficient, C = 0.5 (unpaved) 0.95 (paved)

a = 508.8
b = 3.46
c = 0.322

Catchment No.	Existing Catchment Area (m^2)	Outfall	Unpaved	Paved	Cumul. CA (m^2)	Length (m)	Height (m)	Gradient	Time of Concentration (min)	Intensity (mm/hr)	Runoff (m^3/s)
A1	38175	1	38175	0	19087.5	121	90	0.744	2.574	285.226	1.514
A2	16239	2	13683	2556	9269.7	80	42.5	0.531	1.983	294.856	0.760
A3	6755		5499	1256	3942.7	40	16.7	0.418	1.136	311.364	0.341
A4	13448		13448	0	6724	260	122	0.469	6.732	240.928	0.450
A5	46919		46919	0	23459.5	283	125	0.442	6.546	242.365	1.581
A6	69124		68008	1116	35064.2	433	142	0.328	10.225	219.115	2.136
A7	23805		21238	2567	13057.65	125	44.5	0.356	3.231	275.898	1.002
A8	49353		44223	5130	26985	200	125	0.625	4.294	263.102	1.974
Subtotal	225643	2									8.243
A9	10678	-	10678	0	5316.5	60	40	0.667	1.482	304.166	0.450
A10	13406	3	13406	0	6611	60	45	0.750	1.415	305.508	0.561
A11	4888	4	4888	0	2444	85	44	0.518	2.388	288.120	0.196
B1	57707	5	57707	0	28853.5	393	51	0.130	11.375	213.497	1.713
B2	43421	-	43421	0	21710.5	105	57	0.543	2.349	288.747	1.743
B3	26815	6	26815	0	13407.5	132	59	0.447	3.221	276.024	1.029
B4	13430		13430	0	6715	110	56	0.509	2.802	281.835	0.526
B5	187992		187992	0	93996	700	215	0.307	15.154	198.453	5.186
B6	49251		49251	0	24625.5	90	0.3	0.003	5.505	251.090	1.719
Subtotal	277488	6									8.460

Appendix B
Hydraulic Checking of the Proposed Drainage System

Hydraulic Checking of Channels

a = 508.8
b = 3.46
c = 0.322

Runoff Coefficient, C = 0.5 (unpaved) 0.95 (paved) n = 0.013

	Catchment Parameter					Channel Parameters								Capacity Checking					
Name of Channel	Catchment	Area (m^2)	Unpaved area (m2)	Paved area (m2)	Cumul. CA (m^2)	Length (m)	Size (mm)	Gradient		R (m)	A (m^2)	Velocity (m/s)	Capacity (m^3/s)	Time of Entry (min)	Time of Flow (min)	Time of Concentration (min)	Intensity (mm/hr)	Runoff (m^3/s)	% of Channel Capacity
DC 1	A3	2647	1391	1256	1888.7	35	500	1 in 400	0.0025	0.17	0.25	1.16	0.29	1.136	0.501	1.637	301.165	0.158	54.30%
DC 2	A2 + A3	18886	15074	3812	11158.4	170	800	1 in 400	0.0025	0.27	0.64	1.59	1.02	1.983	1.778	3.761	269.203	0.835	81.89%
UC 1	A11	4888	4888	0	2444	95	400	1 in 200	0.0050	0.14	0.14	1.46	0.21	2.388	1.085	3.473	272.750	0.185	88.94%

Appendix F

Waterworks Impact Assessment Report

Agreement No. CE 79/2023 (GE)

**Underground Quarrying at Tsing Yi North –
Investigation, Design and Construction**

**Waterworks Impact Assessment Report
(Final) (Ref. B22a-04)**

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Appendix A Existing Utilities Record
Appendix B Schematic Flow Diagram of Proposed Water Supply Arrangement
Appendix C Hydraulic Analysis of Head Loss and Residual Head

1 Introduction

1.1 Project Background

1.1.1 Rock, principally as aggregates in concrete, is the most predominately used construction material for buildings and infrastructure developments in Hong Kong. Local quarries, where rock is sourced for such uses, are strategically important to the construction industry in Hong Kong. Apart from extraction of virgin rock, surplus rock generated from local construction projects can be processed and recycled at quarries for beneficial reuse. In addition, the quarries are suitable sites for housing manufacturing plants of rock-derived construction materials such as ready-mixed concrete and asphalt. Historically, rock has been quarried in Hong Kong by way of surface quarrying – open/pit extraction at the ground surface. By doing this, the quarries have been operating as self-financing business entities rather than government-funded facilities.

1.1.2 Currently, Lam Tei Quarry (LTQ) at Tuen Mun is the only active local quarry, for which the current quarry contract is scheduled for completion in 2025. Recognising the importance of local quarries in minimizing the risk of irregularities in the supply of imported rock, the Government has been searching for suitable sites to set up new surface quarries in order to maintain local rock supply, with a view to have at least one new quarry to dovetail with the closure of Lam Tei Quarry.

1.1.3 Apart from rock materials, Hong Kong is also desperately in need of developable land to meet socio-economic needs. Creating spaces in underground rock caverns is one of the solutions in boosting land supply in the medium to long terms. To create land in this manner, the cavern formation will not only generate a large amount of good quality rock, but this process is also a source of rock materials which could be an integral part of the local rock supply in future. This is the underlying concept of the initiative of underground quarry-cum-cavern development, which is unprecedented in Hong Kong. There are, nevertheless, successful examples of this approach in other countries, e.g. Switzerland, Norway and the United States of America, where the entire operation combining quarrying and subsequent uses of the cavern spaces created (e.g. cold storage, data centres, warehousing and recreational complexes) is confirmed to be commercially viable.

1.1.4 Preliminary reviews under the Strategic Cavern Study identified the prospect of this concept and thereby proposed it as one of the initiatives under the long-term strategy for cavern developments in Hong Kong. Accordingly, in November 2018, when formulating the local quarry strategy for maintaining the local rock supply, the Government also recognized this initiative as a potential long-term solution that is complementary to new surface quarries. In other words, underground quarrying in Hong Kong is being pursued as a dual-benefit policy initiative contributing to enhanced land supply and sustainable use of local rock resources.

1.1.5 In 2017, CEDD commissioned the Underground Quarry Study to evaluate the feasibility of this initiative, covering various aspects including technical acceptability, statutory and regulatory requirements, business model analyses and implementation mechanisms. Based on the results of a systematic territory-wide site search, the hillside at Tsing Yi North, which is one of the 48 Strategic Cavern Areas (SCVAs) as delineated in the Cavern Master Plan (CMP) jointly promulgated by CEDD and PlanD in 2017, was recommended to take forward.

1.1.6 In 2019, the CEDD and PlanD jointly commissioned the Pilot Planning and Engineering Study on Development of Selected Strategic Cavern Areas – Feasibility Study (“Pilot Study”) to enable the Government to earmark sites for cavern development and to facilitate the implementation of cavern development. The study findings concluded that it is worthwhile launching a scheme of underground quarrying at Tsing Yi North. It is envisioned as an integral part of the long-term local quarry strategy. Shortage of rock import from the mainland China due to lockdown arising from COVID-19 outbreak in early 2020 caused substantial impacts across the construction industry in Hong Kong, heightening the importance of local quarries in the supply chain. To enhance crisis preparedness, it is timely to proceed with the scheme, along with other quarry related initiatives to maintain local rock supply.

1.1.7 Following the commencement of the IDC assignment for developing and designing the pilot underground quarry at Lam Tei, Tuen Mun in 2021, CEDD launched an IDC assignment for developing a new underground quarry at Tsing Yi North in 2023.

1.1.8 To implement the proposed underground quarry-cum-cavern development at Tsing Yi North, it is necessary to conduct a site-specific investigation and design for the scheme, building on the work completed under the Underground Quarry Study and the pilot study.

1.1.9 This Assignment aims to complete all the tasks necessary and sufficient to undertake the assignments including statutory procedures, public consultation, detailed technical assessments, broad design for potential facilities, formulation of implementation arrangement etc. at the investigation, design and early construction stages, in order to enable commencement of the underground quarrying tentatively targeted at 2027. These include various impact assessments, reference design of caverns and the underground quarrying-related activities (e.g. the materials processing/manufacturing plants and their operations) coordinated or implemented by the Government, business case analyses, implementation strategy and procurement arrangements. Consultation within the Government and with public and relevant stakeholders/industry players will also be carried out.

1.1.10 This Assignment will also look into any works potentially required by the quarry operators during the operation stage of the proposed underground quarrying. Given its pilot nature, the underground quarrying operation will be subject to the prevailing and/or new implementation mechanisms such as contract form, site supervision and any independent audits required. These will be examined and tailor-designed under this Assignment. Depending on the findings, it may call for works or tasks for which the Government may procure consultancy services separately during the operation stage.

1.1.11 AECOM Asia Co. Ltd. has been commissioned by the Civil Engineering and Development Department (CEDD) on 13 June 2024 to undertake Agreement No. CE 79/2023 (GE) – Underground Quarrying at Tsing Yi North – Investigation, Design and Construction. It is targeted to commence the construction works in Year 2027.

1.1.12 The location plan with the proposed TYNUQ is shown in **Figure 1.1**.

1.2 Scope of this Report

1.2.1 According to Clause 6.17 of the Brief, The Consultants shall liaise and obtain consent of the Water Supplies Department (WSD) to the operation of underground quarry which are within the water gathering grounds, waterworks reserves and WSD tunnel reserves or will affect the existing and planned waterworks installations. The Consultants shall also liaise with various utilities owners to ensure the underground quarry will not adversely affect the utilities nearby and propose diversion / relocation or mitigation / protection measures to the utilities.

1.2.2 The objectives of the report are as follows:

(a) to assess the water demands for the proposed underground quarry development;

(b) to take cognisance of the existing and proposed Projects which may have a bearing on the WIA;

(c) to identify needs for provision of any new waterworks, reserves, utilities and other improvement works to cope with the proposed underground quarry development;

(d) to assess the short-term and long-term impacts on the existing and planned water supply systems / utilities arising from the proposed underground quarry development;

(e) to identify need of any mitigation and protective measures such as diversion, reprovisioning and modification of waterworks installations and utilities to cope with the proposed quarry development;

(f) to protect waterworks installations and utilities and keep minimum disturbance to their normal operation during construction and in operation stage of the proposed quarry development;

(g) to enable an agreement in principle to be reached between WSD in respect of waterworks improvement works, mitigation and protection schemes, diversion schemes, re-provisioning works and/or modifications of waterworks installations, connection point for incorporation in design and during operation stages of the proposed underground quarry development;

(h) to preliminary assess and identify the needs for provision of any new waterworks, reserves, utilities and other improvement works for the future formed cavern space, in which such provision during the operation of underground quarrying stage would be beneficial to the future formed cavern.

1.3 Nomenclature and Abbreviations

1.3.1 The following table lists the abbreviated titles of government bureaux, departments, offices, statutory bodies and public organisations mentioned in this Report.

Table 1.1 Abbreviations for Government Bodies

Abbreviations for Bureaux/Departments/ relevant organisations	Full title
CEDD	Civil Engineering and Development Department
EMSD	Electrical and Mechanical Services Department
GEO	Geotechnical Engineering Office
HyD	Highways Department
PlanD	Planning Department
WSD	Water Supplies Department

1.3.2 The following table lists the meanings of abbreviations for expressions adopted in this Report.

Table 1.2 Abbreviations Adopted in this Report

Abbreviations	Full Meaning
FWSR	Fresh Water Service Reservoir
GESF	EPD's Guidelines for Estimating Sewage Flows
LTQ	Lam Tei Quarry
MDD	Mean Daily Demand
MIC	Maximum Instantaneous Chargeweight
PPV	Peak Particle Velocity
PWD	Peak Water Demand
SCVA	Strategic Cavern Area
TMF	Temporary Mains-water for Flushing
TSE	Treated Sewage Effluent
TYNUQ	Tsing Yi North Underground Quarry
UFF	Unit Flow Factor
UIA	Utilities Impact Assessment
WIA	Waterworks Impact Assessment

2 Project Profile

2.1 Site Location

2.1.1 The proposed site is located in the northwestern area of Tsing Yi Island between the North West Tsing Yi Interchange to the west and Yau Kom Tau to the east. The proposed underground quarry will be undertaken in the Strategic Cavern Area (SCVA) No. 10, beneath the mountain of Shek Wan. The location plan of the Project is shown in **Figure 1.1**.

2.2 Proposed Development

2.2.1 For the purpose of underground quarrying, the project site is classified as a construction site throughout the construction and operation phases. All the proposed waterworks, except the section of realigned 40GIL (DN40) water main at Tam Kon Shan Road, are temporary works under the project. These temporary works will be removed from the site upon completion of the contract. The waterworks assessment for the future land use and the corresponding permanent works shall be carried out by others under separate study.

Portals and Access Tunnels Leading to Underground Quarry

2.2.2 The formation of portals at Ngau Kok Wan and Tam Kon Shan Road will require soil and rock slope cutting works. It is envisaged that excavation in soil and rock is involved at the section of access tunnel near portal. After excavation of the Main Access Tunnels near portals, the remaining excavation is anticipated to be conducted in rock using drill and blast method.

Underground Quarry

2.2.3 Connection Tunnels will be built around the perimeter of the underground quarry. Subject to the need of the quarry operator, the underground quarry is allowed for housing rock processing facilities, stockpiling the excavated rocks / aggregates and storage of construction materials. To the southeast of the proposed cavern extent, an area of potential cavern expansion is identified.

Expansion of Surface Land at Ngau Kok Wan

2.2.4 To facilitate a more flexible site setup, it is proposed to carry out surface land expansion at the western side of the existing surface land of Ngau Kok Wan by means of site formation in order to enlarge the surface land area. The site formation will require soil and rock excavation by mechanical means with piling works to form a retaining structure.

Provision of Loading / Unloading Area with Conveyor Belt near Wok Tai Wan

2.2.5 To develop a connection by means of conveyor belt to Wok Tai Wan to enable a more flexible site setup by the future operator and enhance synergy between Wok Tai Wan and Ngau Kok Wan, it is proposed to create a loading / unloading point near the access road for transporting rock to/from Wok Tai Wan through a conveyor belt system along the hillside. To facilitate the rock storage needs of the project, Wok Tai Wan is identified as the stockpiling area.

2.3 Ancillary Facilities Area

2.3.1 Initially before any underground space is created, for the operation of the underground quarry, surface works area shall be provided to set up the following:

- Site office for staff
- Workshop for machinery
- Installation of blasting mitigation measures at portals
- Stockpiling area
- Tunnel ventilation facilities
- Set up of ancillary activities

2.3.2 The Contractor will be responsible to develop their own arrangement of the site setup to suite their operational needs. With reference to the existing site set up of Lam Tei Quarry and Lam Tei Underground Quarry, the major activities for supporting the ancillary operations would include the followings:

- Rock processing

- Raw material storage
- Stockpiling area for preliminary crushed rock and C&D material
- Concrete production
- Asphalt production

2.4 Construction Phase

2.4.1 After quarrying contract award and before any production is made, the quarry operator will need to carry out site set up works. During this construction phase, machineries and plants will be transported to surface land for installation. In parallel, initial site establishment and construction works including construction of portals and short portions of the main access tunnels will be conducted by mechanical means. No blasting, crushing, concrete or asphalt production will be carried out during the construction phase.

2.4.2 The construction phase will take approximately one to two years, including the period required for procurement, delivery, installation and license application.

2.5 Operation Phase

2.5.1 Once the initial set up is ready, drill and blast method will be adopted for excavation of rock. Drill and blast operation involves drilling of rock, charging of explosives, blasting and removal of as-blasted rock. The as-blasted rock fragments are crushed on site down to suitable sizes for use as aggregates. Aggregates will go through further process for concrete and asphalt production within the rock processing area of the quarry site before being delivered off site as products to construction sites.

2.5.2 The operational phase will commence after the construction phase and will continue until the rock reserves are depleted.

3 WATERWORKS IMPACT ASSESSMENT

3.1 Objectives

3.1.1 The purpose of this Waterworks Impact Assessment (WIA) is to identify and assess any adverse impacts on the existing and committed fresh and saltwater supply systems, if any, arising from the proposed TYNUQ. Mitigation measures will then be proposed to mitigate any identified adverse impact.

3.2 Assessment Methodology

3.2.1 The proposed quarry development will require certain demands of fresh water.

3.2.2 The following approaches are involved in carrying out the Waterworks Impact Assessment:

- Identify the existing waterworks facilities.
- Assess the water demands and capacities for development.
- Investigate the impact on existing facilities.
- Recommend suitable mitigation measures and diversion scheme to protect existing waterworks.

3.2.3 The water mains record plan information depicted in this Report is an extract of available information provided by WSD as shown in **Appendix A**. The locations and alignments of water mains as shown on drawings are indicative only.

3.3 Existing Waterworks Facilities

Fresh Water Supply System

3.3.1 TYNUQ is located at Tsing Yi's Ngau Kok Wan. DN40 (40GIL) water mains are found in the vicinity of the proposed TYNUQ for direct connection. The DN40 water mains connect Ngau Kok Wan to the DN400 water mains located to the east of TYNUQ on Tam Kon Shan Road. Fresh water supply in the vicinity of TYNUQ is currently provided by Tsing Yi North High Level Fresh Water Service Reservoir (T.W.L. +125 mPD, Capacity 9,306 m^3) (hereinafter, TYNHLFWSR) and Tsing Yi North Low Level Fresh Water Service Reservoir (T.W.L. +75.04 mPD, Capacity 17,072 m^3) (hereinafter, TYNLLFWSR).

3.3.2 It is noted that the TYNUQ is located at the most downstream waterworks network of Tsing Yi fresh water supply zone. The DN400 water mains located to the east of TYNUQ on Tam Kon Shan Road are supplied by the TYNLLFWSR, while the DN250 water mains located to the south of TYNUQ along Cheung Tsing Highway are supplied by TYNHLFWSR. The existing fresh water layout is as shown in **Figure 2.1**.

Flushing Water Supply System

3.3.3 Reuse of Treated Sewage Effluent (TSE) is proposed as the source of water supply for toilet flushing. Since the quarry operation and its ancillary activities form part of a temporary works of a construction site with limited number of staff, TSE is considered sufficient to fulfil the anticipated flushing water demand. Details related to TSE are elaborated in **Section 3.7**. In case the flushing water demand exceeded that of the TSE supply, Contractor may apply for salt water flushing through further liaison with WSD or consider adopting alternative sources of flushing water (such as seawater from waterfront etc.) to meet the actual need.

3.4 Water Demand Estimation

Water Use in Quarry Site

3.4.1 The maximum number of staff working regularly in the Quarry Site is anticipated to be about 100. Potable water and flushing water will be the main water consumption by these staff.

3.4.2 During quarry operation, as a dust suppression control measure, water will be sprayed over exposed ground or concerned areas, mainly at Ngau Kok Wan and Wok Tai Wan, and at operation such as rock crushing. Water will also be used for drilling activity for underground quarry excavation works.

3.4.3 Concrete and asphalt production will be carried out within the surface land area at Ngau Kok Wan. A significant amount of water will be used for concrete production. Asphalt production will consume insignificant water occasionally for cleaning purpose. No water is required in asphalt production.

Unit Demands for Workers

3.4.4 As quarry activity is not classified in any of the categories specified in WSD's DI No. 1309, EPD's GESF for Sewage Infrastructure Planning is adopted when estimating the water demands. Fresh water demand is assumed to be equal to sewage flow produced from the quarry activity. According to GESF Table T-2, UFF under the catalogue of "J8 Mining and Quarrying" is zero. The total unit flow generated from an employee in proposed quarry development is the sum of the unit flow factor of employee (0.08 m^3/day per employee) and the unit flow factor of commercial activities (0 m^3/day per employee). For fresh water and flushing water demand, 0.03 m^3/day per employee and 0.05 m^3/day per employee are adopted respectively as established in GESF Appendix III Sections (4)(d) and (3)(a). **Table 3.1** provides the WSD's consumer classifications, fresh water and flushing water unit demands assumed for the estimation of water demands by the proposed quarry development.

Table 3.1 Proposed Unit Demands for Fresh and Flushing Water Supply

Unit Demand (m^3/head/day)	
Fresh Water	**Flushing Water**
0.03	0.05

Notes:
(1) Adopt UFF under catalogue J8 (0.08 m^3/day per employee) in GESF Table T-2
(2) UFF is split into value of 0.03 m^3/head/day and 0.05 m^3/head/day for fresh water and flushing water respectively as established in GESF Appendix III (3)(a) and (4)(d)

Fresh Water Demand for Concrete Production

3.4.5 For water demand in concrete production, the peak daily demand (PWD) is 1116 m^3/day, which has include the water used for concrete production related operation, for example, dust suppression sprinkler, washing of mixer, washing of concrete trucks and testing equipment.

Fresh Water Demand for Asphalt Production

3.4.6 No water is required during the asphalt production process. Nevertheless, with reference to asphalt production activity in the industry, they consume about 19.2 m^3/day water for cleaning purposes during production.

Water Demand for Dust Suppression in Quarry Site

3.4.7 Preliminary Environmental Review revealed that dust suppression measure is needed to mitigate air quality impact. Watering with an intensity of 1.37 L/m^2 once per hour on active open works areas (heavy construction and blasting activities), rock crushing and its stockpile areas is anticipated to reduce dust emissions effectively.

3.4.8 The haul road area requires dust suppression is approx. 0.5 ha. The water demand for dust suppression is estimated as 82.2 m^3/day. The remaining areas that requires dust suppression by water would be served by recycled water of the site.

Water Demand for Carrying Out Underground Quarry Excavation Works

3.4.9 As Drill-and-Blast method is adopted for the majority of excavation works to be carried out during the operation of the underground quarry, water is used during the drilling activity relevant to the excavation and support installation works. The maximum water consumption and peak daily demand (PWD) for the excavation works is approximately 108 m^3/day, derived from the maximum water demand of typical drilling machinery.

Water Demand for Fire Fighting

3.4.10 Similar to the existing quarry site, TYNUQ site is considered as a temporary construction site. FSD Circular Letter No. 2/2008 - Fire Protection measures in Construction Sites would be followed. The facilities shall be capable of relaying water with a minimum flow of 900 L/min.

Fresh Water Demand for Future Concrete Batching Plant at Tam Kon Shan Road (by others)

3.4.11 It is noted that a new concrete plant will be established at the area of Tam Kon Shan Road. From the planning application available on Town Planning Board for application A/TY/150, a daily concrete production of 4200m^3 is anticipated. The water demand could therefore be estimated as 776 m^3/day PWD for concrete production.

3.4.12 For the planned expansion development for a nearby concrete batching plant at Tam Kon Shan Road. There is no information regarding the scale of expansion available from the public domain and government department. Due to limited space available for expansion as observed at the existing site, it is assumed that such expansion will involve 1 more production line with 100m^3/hr design production capacity for our assessment purpose. As such, the water demand from this expansion is estimated to be 222m^3/day PWD for concrete production.

3.4.13 Therefore, the total additional water demand from the future concrete batching plant development by others at the area of Tam Kon Shan Road is assumed to be 998m^3/day PWD.

Peak Factors for Estimation

3.4.14 In line with the guidelines specified in WSD's DI 1309, the following peak demand factors are adopted for estimation. The peak flow rates in distribution mains are listed as follows:

a) Peak flow rates in fresh water distribution mains = 3 x MDD.

b) Peak flow rates in salt water distribution mains = 2 x MDD.

3.4.15 As discussed in Section 3.3.3, all water consumption will be supplied by fresh water distribution mains. So, a peak factor of 3 is adopted for fresh water for workers while 2 is adopted for for flushing.

3.4.16 However, since the water demand for concrete production, asphalt production and tunnel/cavern works were considered based on the maximum production capacity or maximum usage, no peak factor is adopted for these water usages.

Residual Heads for Water Supply

3.4.17 The fresh water and flushing water supply systems for the proposed quarry development will be designed to provide minimum residual heads at the extremity of the system according to WSD Circular Letter No. 1/2007. The details are as follows:

a) Fresh water: 20m

Estimation of Total Water Demand

3.4.18 To estimate water demand, the following equation is used:

Estimated Water Demand = Number of Employees x Unit Water Demand

3.4.19 The water demands, including fresh water and flushing water, for the proposed quarry development are summarized in **Table 3.2**.

Table 3.2 Summary of Estimated Fresh and Flushing Water Demand for Regular Operation

Water Usage	No. of Employees	Unit Water Demand (m^3/head/day)	MDD (m^3/day)	Peak Factor	PWD (m^3/day)
Workers' Use	100	0.03	3	3	9
Flushing	100	0.05	5	2	10
Concrete Production	-	-	1116	-	1116
Asphalt Production	-	-	19.2	-	19.2
Dust Suppression	-	-	82.2	-	82.2
Underground Quarry Excavation	-	-	108	-	108
		Total:	1334	-	1345

3.4.20 According to **Table 3.3**, the proposed quarry development will require a total fresh demand of 1334 m^3/day and 1345 m^3/day under the condition of MDD and PWD respectively in the normal scenario.

3.4.21 For the assessment of the potential impact on freshwater supply network, both the water demand from the proposed quarry development and future nearby concrete batching plant development by others are considered. As such, the total water demand would be 2332 m^3/day and 2343 m^3/day under the condition of MDD and PWD respectively.

Table 3.3 Total Water Demands

Total Demand	MDD (m^3/day)	PWD (m^3/day)
Normal Scenario	1334	1345
Future nearby Concrete Batching Plant development (by others)	998	998
Total	2332	2343

3.5 Potential Impact on Fresh Waterworks Installations

Fresh Water Main

3.5.1 The DN40 (40GIL) fresh water mains near the TYNUQ site at Ngau Kok Wan do not have sufficient capacity to meet the water demand during both the construction and operation of TYNUQ. New connection to the fresh water supply system is considered necessary.

3.5.2 Two networks are available for connection. TYNUQ is located downstream to two fresh water supply system, i.e. DN400 fresh water mains on Tam Kon Shan Road to the east of TYNUQ from TYNLLFWSR, and DN250 fresh water mains on Cheung Tsing Highway located to the south of TYNUQ supplied by TYNHLFWSR.

3.5.3 The terrain between Tam Kon Shan Road and Ngau Kok Wan may present difficulties for laying water mains during the early stages of the project. Although the connection from the existing DN250 fresh water mains on Cheung Tsing Highway involves comparatively less construction works as compared to connection to the DN400 fresh water mains on Tam Kon Shan Road, the existing DN250 fresh water mains on Cheung Tsing Highway are maintained by Tsing Ma Control Area. Therefore, connection to the existing DN400 fresh water mains on Tam Kon Shan Road is more preferable.

3.5.4 It is proposed that the temporary waterworks connecting to the proposed TYNUQ site from the existing network will be undertaken by the quarry operator as part of the temporary works under the contract. The waterworks include temporary water main connecting directly to the site office, concrete production and other ancillary activities at Ngau Kok Wan. These temporary waterworks will be constructed and maintained by the Contractor throughout the contract period and will be removed from the site upon completion of the contract.

3.5.5 It is also identified that there is an existing 40GIL water main located within the proposed Tam Kon Shan portal site formation area. It connects water form Tam Kon Shan Road to Ngau Kok Wan. As presented in **Figure 2.2** and **2.3**, it is proposed to realign this section of 40GIL within the portal site formation footprint along the proposed portal slope and connect with the remaining section of the existing 40GIL to suit the proposed site formation works at the portal. The proposed realignment work will be constructed and maintained by the Contractor throughout the contract period. This section of the realigned 40GIL will be handed over to WSD upon completion of contract.

3.6 Potential Impact on Fresh Water Supply Network

3.6.1 The fresh water MDD of TYNUQ, i.e. 1345 m3/day, accounts for 7.9% TYNLLFWSR's capacity. It is recommended to connect to the DN400 freshwater mains as shown in **Figure 2.2** and **2.3** with 2 proposed schemes. It should be noted that these two proposed schemes are served as reference design to facilitate WIA purpose. The contractor is not required to follow these schemes and they could propose alternative schemes subject to the approval of relevant authorities as part of the contractor's temporary works design.

3.6.2 There are 2 proposed schemes for the connection route:

Scheme 1 – Underground connection route

3.6.3 Following the breakthrough of the connection tunnel between Ngau Kok Wan and Tam Kon Shan, the contractor may install temporary water pipe within the tunnel to supply water from Tam Kon Shan to Ngau Kok Wan for ancillary activities. However, as water is essential for ancillary activities such as concrete production, the ancillary activities can only commence after the tunnel breakthrough with water pipe installed, which may occur several years after contract commencement.

Scheme 2 – Aboveground connection route

3.6.4 After discussion with LandsD and HyD, an aboveground connection route is developed at the slope area under the Tsing Yi North Coastal Road viaduct. Temporary water pipe could be installed by the contractor along the existing maintenance access of slope for water supply from Tam Kon Shan to Ngau Kok Wan so as to facilitate early commencement of ancillary activities without the need to wait for tunnel breakthrough.

3.6.5 As shown in **Table 3.4** , the proposed quarry development will occupy 7.8% and 7.9% of the nominal capacity of TYNLLFWSR under the condition of MDD and PWD respectively. When the additional water demand of the future nearby concrete batching plant is also incorporated, the combined increase in demand would account for approximately 13.7% of the reservoir's nominal capacity.

Table 3.4 Estimated Total Fresh Water Demands to Existing Waterworks Installations

Waterworks Installations	Capacity (m^3/day)	% of Water Demands over Capacity				Emergency Supply for Fire Fighting
		Normal Scenario		Future nearby Concrete Batching Plant development (by others)		
		MDD	PWD	MDD	PWD	
TYNLLFWSR	17,072	7.8%	7.9%	13.7%	13.7%	7.6%

3.6.6 With reference to the daily flow record of TYNLLFWSR from the period from January 2024 to August 2025 provided by WSD/NTW(SD), the average daily flow is 14,040 m³. Therefore, the estimated total water demand including the future nearby concrete batching plant would be 16,383m^3, accounting for 96.0% of the TYNLLFWSR (17,072m^3) which is sufficient.

3.6.7 In terms of hydraulic impact on the existing system, the impact on the head loss of a pipe main with larger diameter is less than that on a pipe main with smaller diameter. Assuming a maximum flow velocity 2 m/s for DN400 (0.251m^3/s), the PWD of 1345 m^3/day (0.016m^3/s) accounts for approximate 6.4% capacity of the DN400. Since the T.W.L. and I.L. of TYNLLFWSR is at +75.04 mPD and +69.04 mPD respectively (75% water depth at +73.54 mPD), and the proposed site formation level of the TYNUQ site at Ngau Kok Wan is +5 mPD, the minimum residual head of 20 m is allowed at the system extremity. Under the fire-fighting scenario, the resultant residual water pressure at the system extremity is assessed to be not less than 17 m head, which complies with the fire-fighting requirement stipulated in WSD DI No. 1309.

3.6.8 For Scheme 1, one DN200 pipe arrangements are proposed. The hydraulic analysis of Scheme 1 estimating the head loss and residual head is enclosed in **Appendix C1**.

3.6.9 For Scheme 2, the proposed waterworks route runs along the site formation and slope of Tam Kon Shan Portal, reaching a maximum elevation of +52 mPD. The pressure head available from the existing freshwater system is insufficient to overcome this elevation difference. Therefore, a temporary pump well will be installed on-site to boost the supply and provide a minimum pressure head of +52 mPD. One DN200 pipe from the existing DN400 to the pump well and three DN100 pipes from the pump well to the site are proposed under Scheme 2. The calculated head losses and residual pressure heads for the proposed Scheme 2 route under both normal and fire-fighting conditions are provided in **Appendix C2**.

Requirements and Standards

3.6.10 Guidance and standards set out for the protection of WSD facilities under "Conditions of Working in the Vicinity of Waterworks Installations" is referred.

3.6.11 The allowable PPVs and vibration amplitudes for WSD facilities are provided in **Table 3.5**. An allowable PPV limit of 25mm/s is assigned to the associated pipeline.

Table 3.5 Typical Allowable PPV Values for WSD Utilities and Structures

Utility	Installation	Maximum Allowable Peak Particle Velocity (mm/s)	Maximum Allowable Vibrational Amplitude (mm)
Water Supplies Department	Water Mains	25	0.2

3.6.12 A section of existing 40GIL pipe is identified near the proposed excavation works for tunnel and site formation. As shown in **Table 3.6**, an allowable differential settlement limit of 1 in 200 is assigned to the associated pipeline.

Table 3.6 Maximum Acceptable Differential Settlement of WSD Existing Pipe

Pipe material	GI
Maximum acceptable differential settlement	1 in 200

Potential Impact from Blasting Works and Protection / Mitigation Schemes

3.6.13 The blasting works in the proposed quarry development will induce ground vibration and disturb the utility facilities with an anticipated Maximum Instantaneous Charge (MIC) of 10kg per delay. The quarry operator shall control the PPV induced from the underground quarry development below the allowable limit. The vibration impact to the existing waterworks shall be within acceptable level.

3.6.14 To protect the utilities from the impact of blasting, the quarry operator shall identify all utilities within the blasting influence zone and liaise with corresponding utility undertakers for consulting the latest vibration limit. The design of blasting shall be timely reviewed to ensure the blasting induced vibration to the utilities is within the limit. The quarry operator shall provide all necessary protection for the utilities within blasting influence zone as per advice from the utility owners.

3.6.15 Allowable chargeweight of blasting works adopted in Underground Quarry Site should be restricted in order to reduce the PPV induced to existing waterworks to an acceptable level. After lowering down the allowable chargeweight adopted in particular portion of Underground Quarry Site, the vibration impact induced from the proposed blasting works would be controlled to within manageable level.

3.6.16 Vibration monitoring at the utilities would be carried out during the blasting operation if they are within the influence zone of that particular blast. The purpose of vibration monitoring is to reveal the adverse construction impact to the waterworks. Quarry operator shall take immediate action to strengthen the protection of waterworks when monitoring result exceed the Alert, Alarm and Action (AAA) Level. A proposed waterworks monitoring layout plan is shown in **Figure 3.1**, the monitoring plans shall be prepared by the quarry operator in construction / operation phase and agreed with Mines Division and WSD. Structure settlement markers would also be installed at the waterworks to provide settlement monitoring data for taking necessary protection strengthening measures when AAA Level exceedance is observed.

Proposed AAA Levels

3.6.17 The proposed AAA levels for ground vibration are shown in **Table 3.7**.

Table 3.7 Alert, Alarm and Action (AAA) Levels for Ground Vibration

Control Level	Triggering level
Alert (90% of 25mm/s)	22.5mm/s
Alarm (95% of 25mm/s)	23.7mm/s
Action (100% of 25mm/s)	25mm/s

3.6.18 The proposed AAA levels for differential settlement of WSD existing are shown in **Table 3.8**.

Table 3.8 Alert, Action and Alarm (AAA) levels for Differential Settlement of WSD Existing Pipe

Control Level	Triggering level
Alert	1:400
Alarm	1:300
Action	1:200

3.7 Conservation of Portable water

Reuse of Treated Sewage Effluent (TSE)

3.7.1 Due to the precious water resources in Hong Kong, it is worthwhile to consider the reuse of Treated Sewage Effluent (TSE) as it has the advantage of reducing wastewater discharge in receiving waterbodies thereby reducing the pollution load to the environment. Wastewater generated from the concrete batching and surface run-off in the site will be collected, treated and recycled by sedimentation tank. The treated water will be stored on site as a supplementing water supply source to support non-production and non-portable use. TSE would be mainly applied on flushing and dust control within the Site. On the other hand, TSE would also be used for washing and cleaning process and irrigation purposed to reduce the water demand. However, with an unstable generation rate of wastewater, the treated water can only be supplementing the fresh water supply and not regarded as an independent supply source. The application of treated effluent can be referred to **Appendix B**.

3.8 Conclusion of Waterworks Impact Assessment

3.8.1 The proposed TYNUQ is located near Ngau Kok Wan at the most downstream water mains network of Tsing Yi water supply zone. Two fresh water service reservoirs, namely TYNLLFWSR and TYNHLFWSR, are available for the fresh water supply to the proposed TYNUQ. After considering the system supply capacity and the convenience of connection to the two water supply systems, connection to the water mains to the east of the TYNUQ supplied by TYNLLFWSR is proposed.

3.8.2 Since the quarry operation and its ancillary activities form part of a temporary works of a construction site, similar to other existing quarry and planned underground quarry site, Temporary Mains-water for Flushing (TMF) is proposed to be adopted as source of water supply for toilet flushing.

3.8.3 It is proposed that the temporary waterworks connecting to the proposed TYNUQ site from the existing network will be undertaken by the quarry operator as part of the contract. The details of the new connection and its alignment are subject to further discussion with WSD by the Contractor (quarry operator), so that the actual water demand and the alignment of the new water main could fulfil the Contractor's operation requirements. These temporary waterworks will be constructed and maintained by the Contractor throughout the contract period and will be removed from the site upon completion of the contract.

3.8.4 It is also proposed to realign a section of 40GIL within the Tam Kon Shan portal site formation footprint along the proposed portal slope and connect with the remaining section of the existing 40GIL to suit the proposed site formation works. The details of the connection and its alignment are subject to further discussion with WSD by the Contractor (quarry operator), so that the alignment could fulfil the Contractor's site formation design. The proposed realignment work will be constructed and maintained by the Contractor throughout the contract period. This section of the realigned 40GIL will be handed over to WSD upon completion of contract.

3.8.5 Based on the assessment results, the proposed TYNUQ would require an additional water demand which is approximately 7.9% of and does not exceed the capacity of the TYNLLFWSR. It is envisaged that the water supply impact arising from the proposed development on the existing water supply system is acceptable, subject to further comments from relevant authorities.

Figures

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

825200 N

824200 N

823200 N

N

LEGEND:

- TSING YI NORTH – SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA WITH POTENTIAL SITE FORMATION
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- MAIN ACCESS TUNNEL
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN

TAM KON SHAN PORTAL

TAM KON SHAN ROAD

NGAU KOK WAN PORTAL

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

SCVA 10

FUNG SHUE WO

WOK TAI WAN

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG TSING HIGHWAY

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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STATUS
狀況

SCALE 比例
A3 1 : 10000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PROJECT LOCATION PLAN

SHEET NUMBER
圖紙編號
60733229/B22a/FIGURE 1.1

826800 E

827800 E

828800 E

824800 N

823800 N

822800 N

CONNECT TO
YAU KOM TAU WTW

DN 800

DN400 DN 400

CONNECT TO TSING YI NORTH LOW LEVEL
FRESH WATER SERVICE RESERVOIR

DN400 DN 400

DN 450

TSING YI NORTH HIGH LEVEL FRESH WATER
SERVICE RESERVOIR (T.W.L. +125mPD,
CAPACITY 9,306m³)

TSING YI NORTH LOW LEVEL FRESH WATER
SERVICE RESERVOIR (T.W.L. +75.04mPD,
CAPACITY 17,072m³)

NORTH WEST TSING YI INTERCHANGE

DN 250

DN 600

DN 400

DN 375

DN 300

DN 250

CONNECT TO TSING YI
NORTH HIGH LEVEL
FRESH WATER SERVICE
RESERVOIR

WOK TAI WAN

SHEK WAN

KAM CHUK KOK

SAI TSO WAN

FUNG SHUE WO

SHENG KUNG HAU

SHA SHAN

CHEUNG TSING HIGHWAY

TSING TSUEN BRIDGE

TSING YI SWIMMING POOL

TSING YI PUBLIC PIER

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- EXISTING FRESH WATER PIPE

N

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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Civil Engineering and Development Department

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修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE
比例

A3 1 : 10000

DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60733229

AGREEMENT NO.
協議編號

CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

EXISTING FRESH WATER LAYOUT PLAN

SHEET NUMBER
圖紙編號

60733229/B22a/FIGURE 2.1

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826900 E

827100 E

827300 E

824800 N

824600 N

824400 N

N

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- EXISTING FRESH WATER PIPE
- EXISTING FRESH WATER PIPE TO BE REALIGNED
- PROPOSED REALIGNMENT OF FRESH WATER PIPE
- PROPOSED TEMPORARY FRESH WATER MAIN

NGAU KOK WAN

CONNECT TO TSING YI NORTH UNDERGROUND QUARRY SITE AT NGAU KOK WAN

TSING YI NORTH COASTAL ROAD

PROPOSED Ø200 TEMPORARY FW MAIN (INDICATIVE)

V:\BAK\US95-BAK\CSWP\plotdrv\Create Plt file\new\CSWP-75(color).pltPlot File by: ZhengS1
12-Feb-26
PATH P:\PROJECTS\60733229\DRAWING\REPORT\B22a\B22a_302.dgn

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PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例
A3 1 : 2000

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號
60733229

AGREEMENT NO. 協議編號
CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
PROPOSED FRESH WATERWORKS LAYOUT PLAN (SCHEME 1)

SHEET NUMBER
圖紙編號
60733229/B22a/FIGURE 2.2

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826900 E

827100 E

824800 N

824600 N

824400 N

NGAU KOK WAN

牛角灣

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- EXISTING FRESH WATER PIPE
- EXISTING FRESH WATER PIPE TO BE REALIGNED
- PROPOSED REALIGNMENT OF FRESH WATER PIPE
- PROPOSED TEMPORARY FRESH WATER MAIN

PROPOSED PUMP WELL (INDICATIVE)

CONNECT TO TSING YI NORTH UNDERGROUND QUARRY SITE AT NGAU KOK WAN

PROPOSED 3 x Ø100 TEMPORARY FW MAIN (INDICATIVE)

TSING YI NORTH COASTAL ROAD

青衣北岸公路

香港船廠有限公司
The Hong Kong Shipyard Ltd

香港水泥有限公司
Hong Kong Cement Tsing Yi Plant

担杆山路

DN200

300DI02 (MAINTAINED BY TMCA)

100DI02 (MAINTAINED BY TMCA)

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12-Feb-26
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UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

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STATUS
階段

SCALE 比例: A3 1 : 2000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PROPOSED FRESH WATERWORKS LAYOUT PLAN (SCHEME 2)

SHEET NUMBER
圖紙編號

60733229/B22a/FIGURE 2.3

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826400 E

826800 E

827200 E

827600 E

824800 N

824400 N

824000 N

TSING LONG HIGHWAY

青朗公路

TING KAU BRIDGE

十九橋

NORTH WEST TSING YI INTERCHANGE

NORTH WEST TSING YI INTERCHANGE

WOK TAI WAN

鍍底灣

Seawall

海堤

HWM

Cement Works

水泥廠

Tank

缸

Pier

碼頭

Jetty

渡頭

Shipyard

船廠

船排

DN 400

TAI KON SHA ROAD

DN 250

Viewing Platform

青衣西北交匯處

青衣北岸連接路

港鐵(機場快線及東涌線)

油柑頭

N

LEGEND:

- TSING YI NORTH - SCVA10 BOUNDARY
- PROPOSED ANCILLARY OPERATION AREA
- PROPOSED PORTAL SITE FORMATION AREA
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN
- PROPOSED ACCESS TUNNEL
- POTENTIAL CAVERN EXPANSION
- EXISTING FRESH WATER PIPE TO BE REALIGNED
- PROPOSED REALIGNMENT OF FRESH WATER PIPE
- EXISTING FRESH WATER PIPE
- PROPOSED UTILITIES SETTLEMENT MARKER
- PROPOSED BLAST VIBRATION AND ADP MONITORING POINT
- EXISTING SALT WATER PIPE
- 25mm/s PPV CONTOUR

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Civil Engineering and Development Department

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I/R 修訂	DATE 日期	DESCRIPTION 修訂內容	CHK. 核對

STATUS
階段

SCALE 比例: A3 1 : 4000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

WATERWORKS MONITORING LAYOUT PLAN

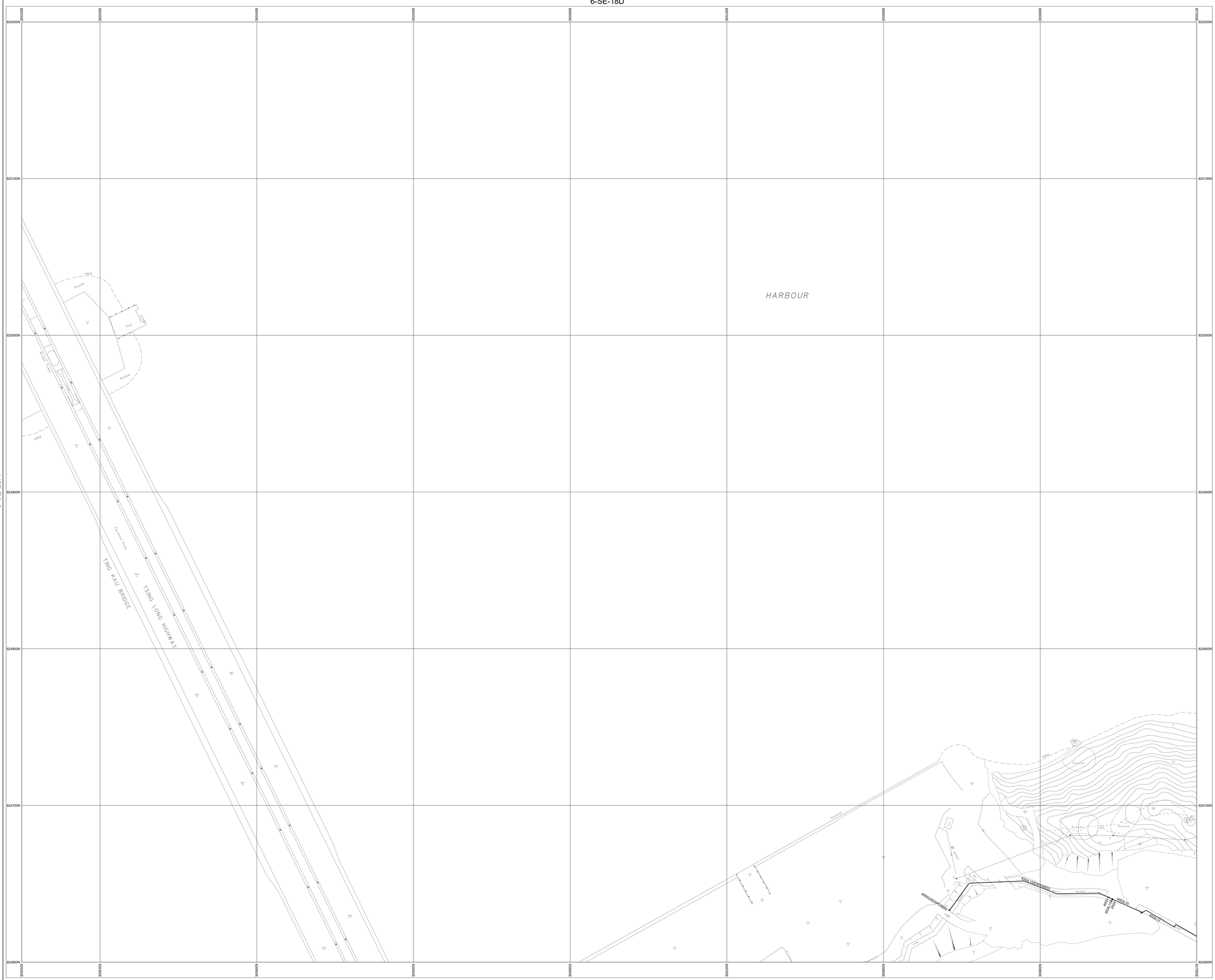
SHEET NUMBER
圖紙編號

60733229/B22a/FIGURE 3.1

Appendix A
Existing Utilities Record

INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

6-SE-18D



6-SE-23A

6-SE-24A

6-SE-23D

NOTES:

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2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

FRESH WATER MAINS RECORD PLAN

NGAU KOK WAN, TSING YI

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DATE REVISED : 05/02/2024

SIGNED K.H. WONG
CE/NTW

DATE: 29/02/2012

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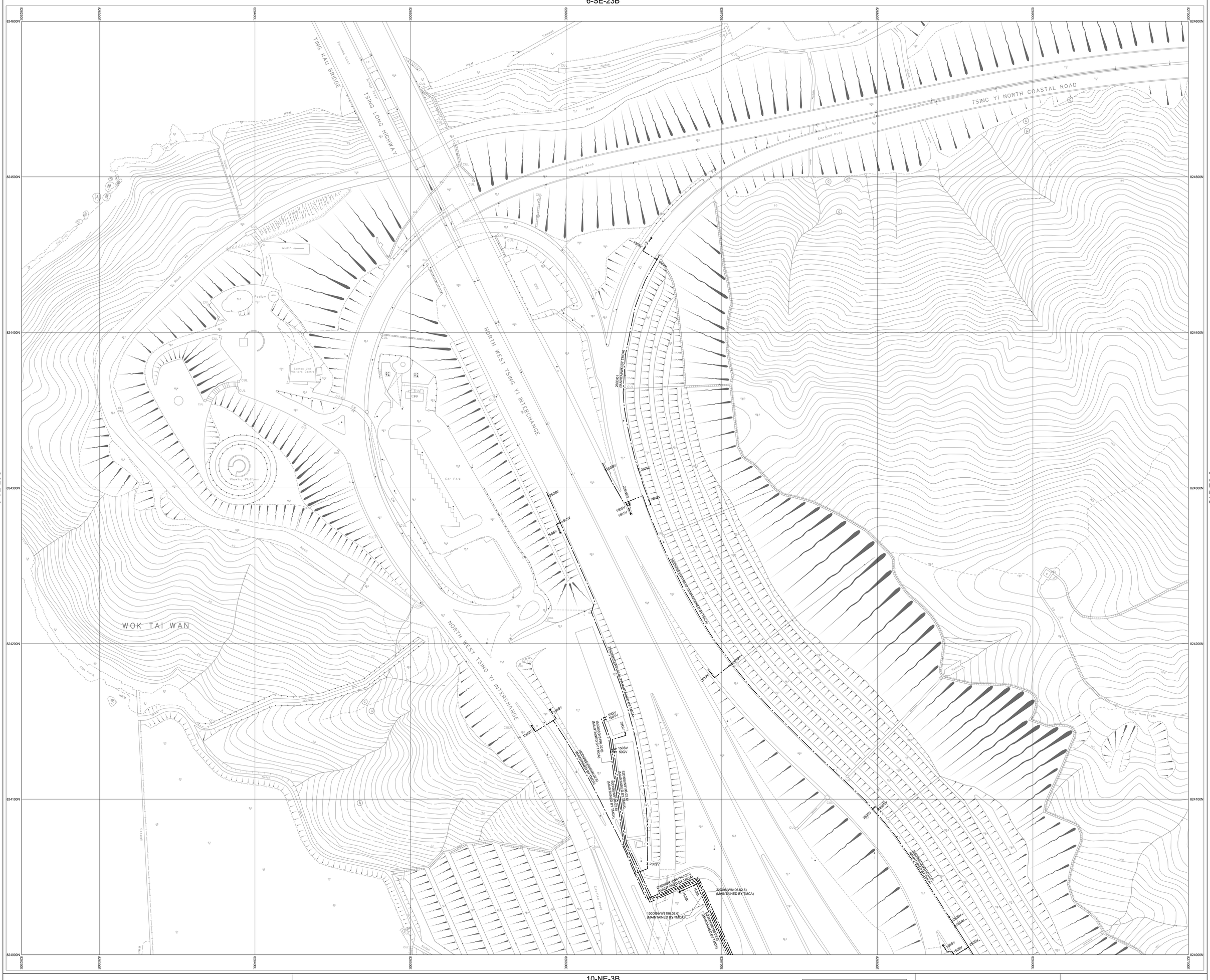
W67880/ 6-SE-23B

Water Supplies Department
HONG KONG

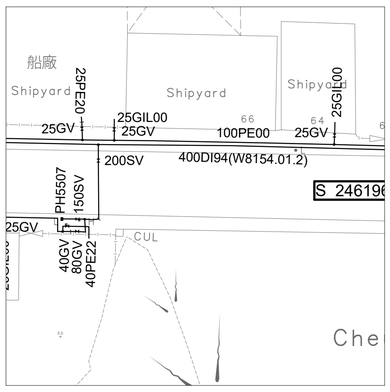
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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

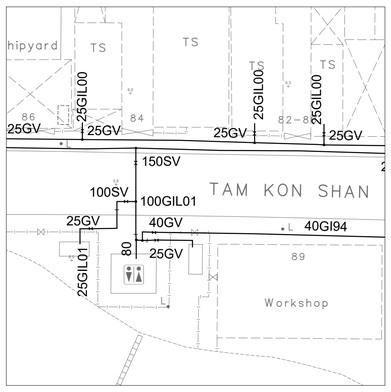
6-SE-23B


TING KAU BRIDGE
TSING LONG HIGHWAY
TSING YI NORTH COASTAL ROAD
NORTH WEST TSING YI INTERCHANGE
WOK TAI WAN
Lantau Link Visitors Centre
Viewing Platform
Car Park
Podium
Elevated Road
Nullah
Footbridge
Subway
Bridge Tower
Fish Ponds
Fish Culture Pond
Sewage Treatment Plant
Ching Hom Path
Slope
Road
CUL
HWM
2500V
1650V
1500V
1150V
1900V
3200V
500V
250V
150V
2500V1 (MAINTAINED BY TMCA)
2500V2 (MAINTAINED BY TMCA)
150DI/W(W196.02.6) (MAINTAINED BY TMCA)
150DI/E(W196.02.6) (MAINTAINED BY TMCA)
300DI/W(W196.02.6) (MAINTAINED BY TMCA)
300DI/E(W196.02.6) (MAINTAINED BY TMCA)
300DI/W(W196.02.6) (MAINTAINED BY TMCA)
300DI/E(W196.02.6) (MAINTAINED BY TMCA)
300DI/E(W196.02.6) (MAINTAINED BY TMCA)
300DI/W

INSET 'A'



INSET 'B'



INSET 'C'

INSET 'D'

INSET 'E'

INSET 'F'

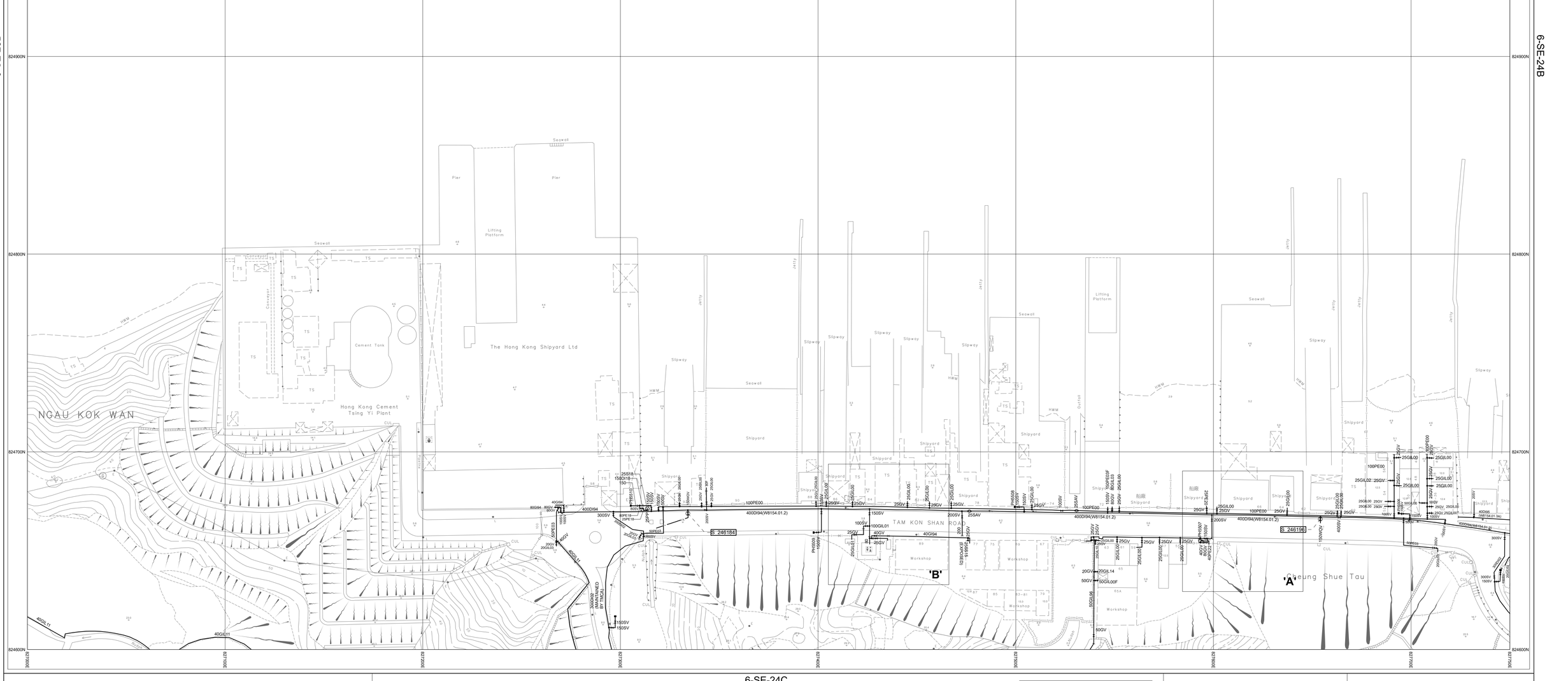
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Scale 1:500

6-SE-19C

6-SE-23B

6-SE-24B



6-SE-24C

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3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

FRESH WATER MAINS RECORD PLAN

TAM KON SHAN ROAD, TSING YI

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DATE REVISED : 01/03/2024

SIGNED

K.T. CHU
CE/MSW

DATE: 07/10/1999

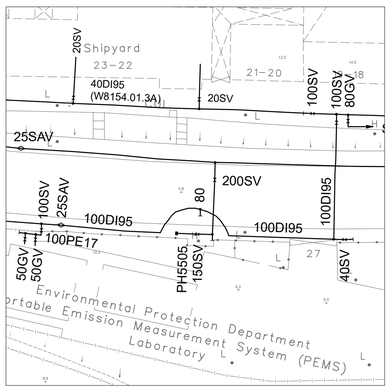
DRAWING NO.

W67880/ 6-SE-24A

Water Supplies Department
HONG KONG

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'



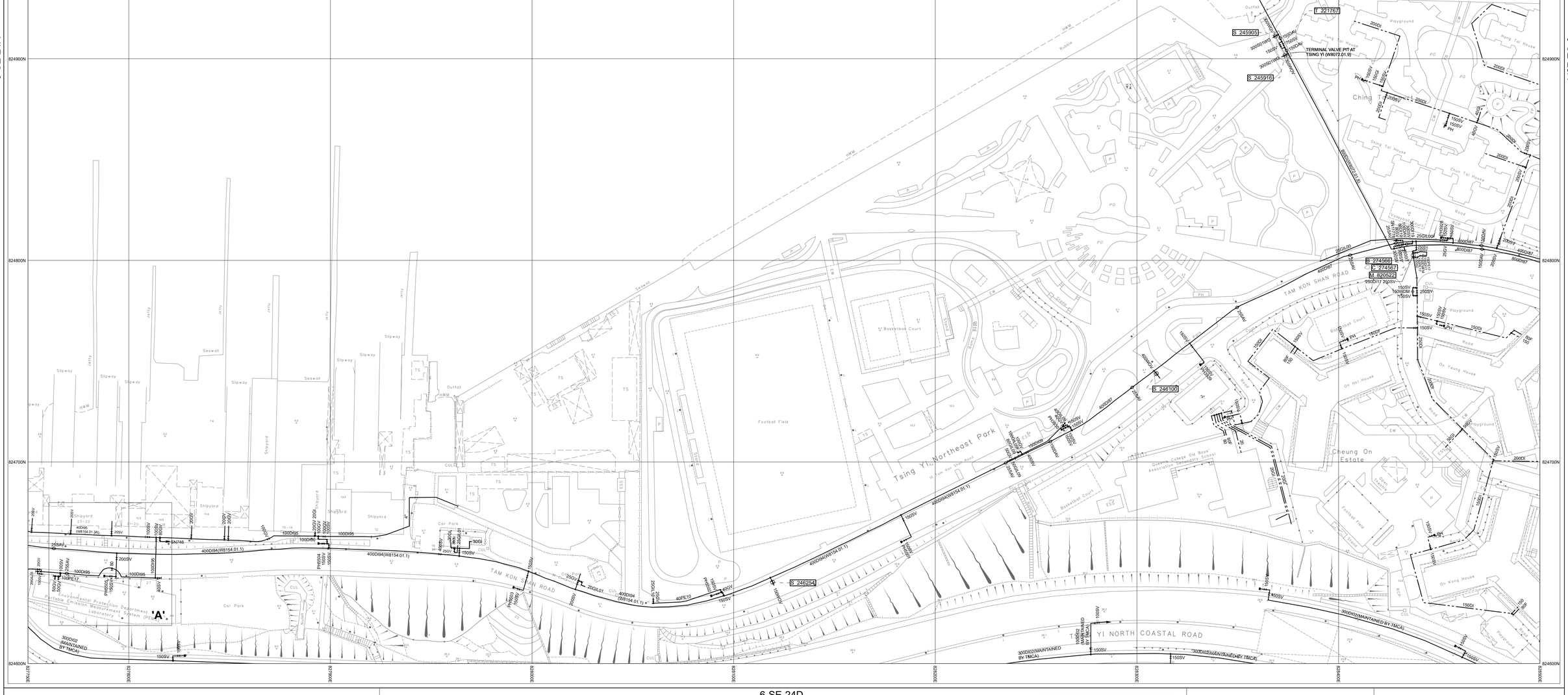
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6-SE-19D

6-SE-24A

6-SE-25A

6-SE-24D



NOTES:

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3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

FRESH WATER MAINS RECORD PLAN

CHEUNG ON ESTATE, TSING YI

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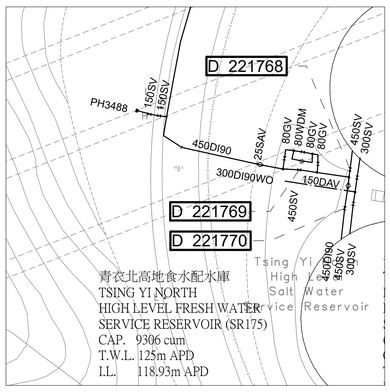
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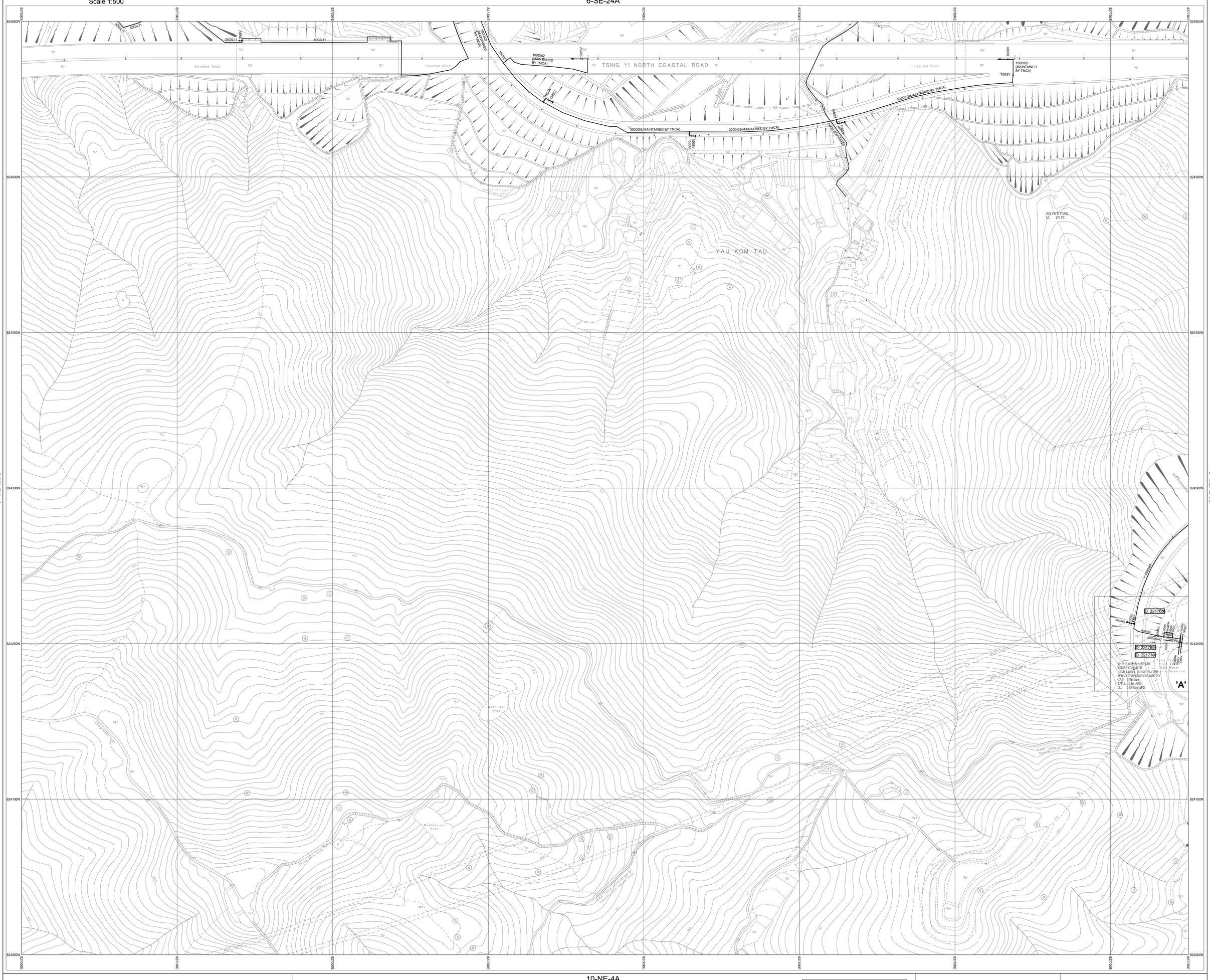
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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'



Scale 1:500

6-SE-24A


824600N
824500N
824400N
824300N
824200N
824100N
824000N
827000E
827100E
827200E
827300E
827400E
827500E
827600E
827700E
827800E
827900E
6-SE-23D
6-SE-24D
TSING YI NORTH COASTAL ROAD
YAU KOM TAU
Elevated Road
CUT
FILL
300DI02(MAINTAINED BY TMCA)
100DI02 (MAINTAINED BY TMCA)
100SV
300SV
450SV
25GIL11
40GIL11
300DI11
450DI11
SERVICE TANK I.L. 292 FT.
D 221768
D 221769
D 221770
PH3488
150SV
450DI90
225SAV
80GV
80WDM
80GV
80GV
450SV
300SV
300DI90WO
150DAV
450SV
450DI90
450SV
300SV
Tsing Yi (N)
High Level
Salt Water
Service Reservoir
青衣北高地食水配水庫
TSING YI NORTH
HIGH LEVEL FRESH WATER
SERVICE RESERVOIR (SR175)
CAP. 9306 cum
T.W.L. 125m APD
I.L. 118.93m APD
'A'
Wash-out Area
Chung Yiu Path
Kwai Tsing Conservation Area Trail
Kwai Tsing Conservation Area Trail
Kwai Tsing Conservation Area Trail

INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

6-SE-24B



10-NE-4B

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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FRESH WATER MAINS RECORD PLAN

TSING YI NORTH L.L. F.W. S/R

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K.T. CHU
CE/MSW
DATE: 07/10/1999

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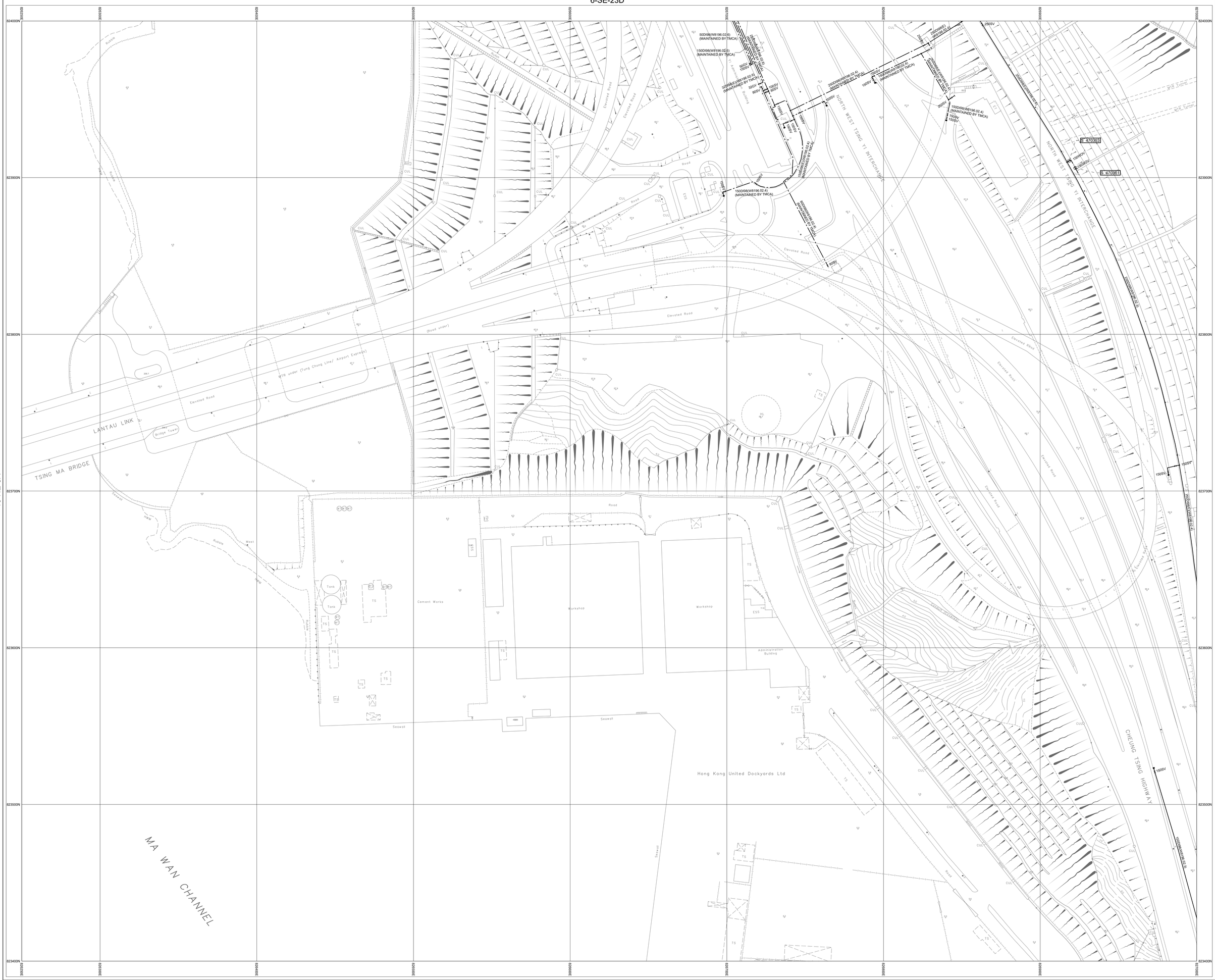
W67880/ 6-SE-24D

Water Supplies Department
HONG KONG

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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

6-SE-23D



10-NE-3D

NOTES:

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Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

FRESH WATER MAINS RECORD PLAN

NORTH WEST TSING YI

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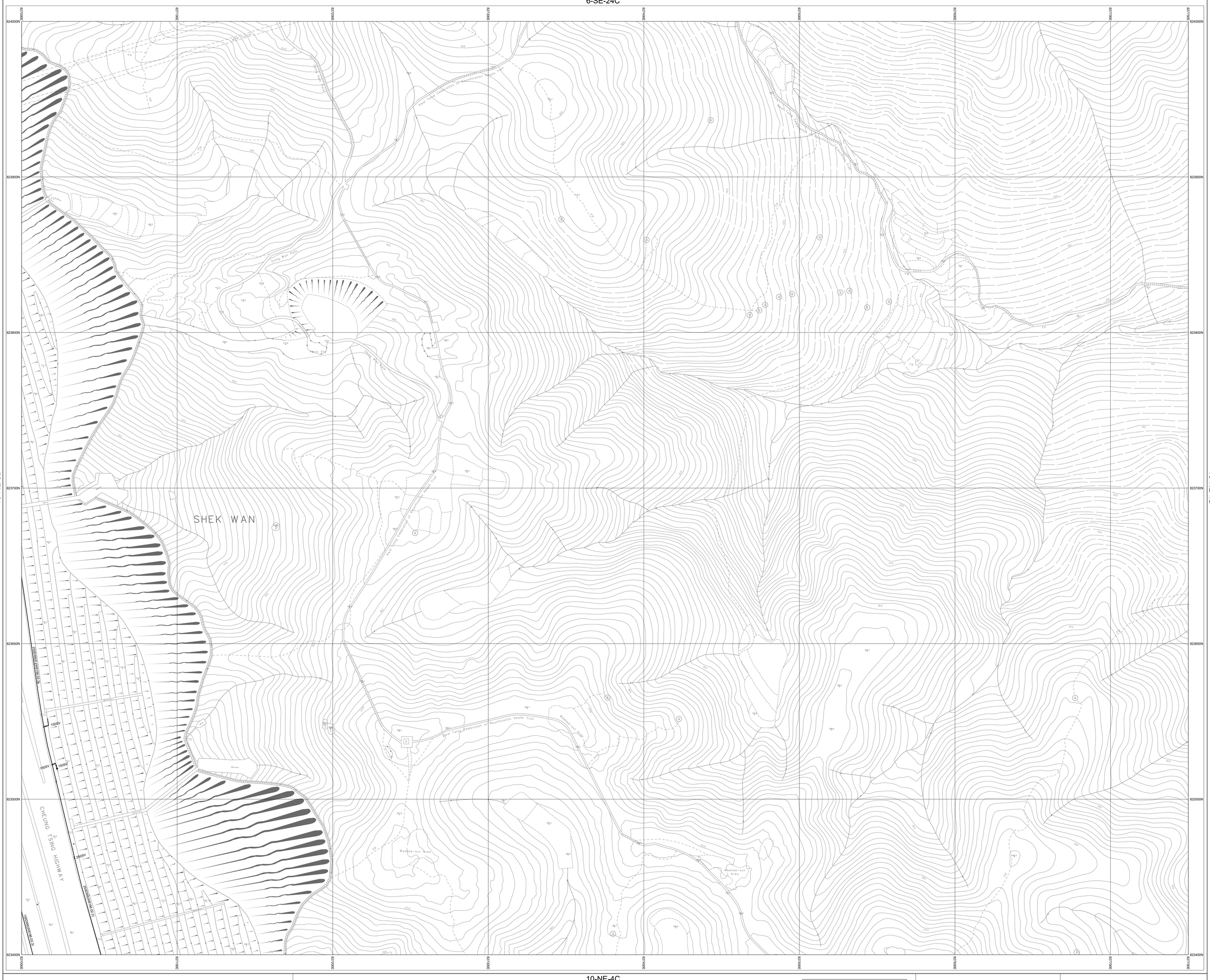
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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

6-SE-24C



NOTES:

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3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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FRESH WATER MAINS RECORD PLAN

NORTH WEST TSING YI

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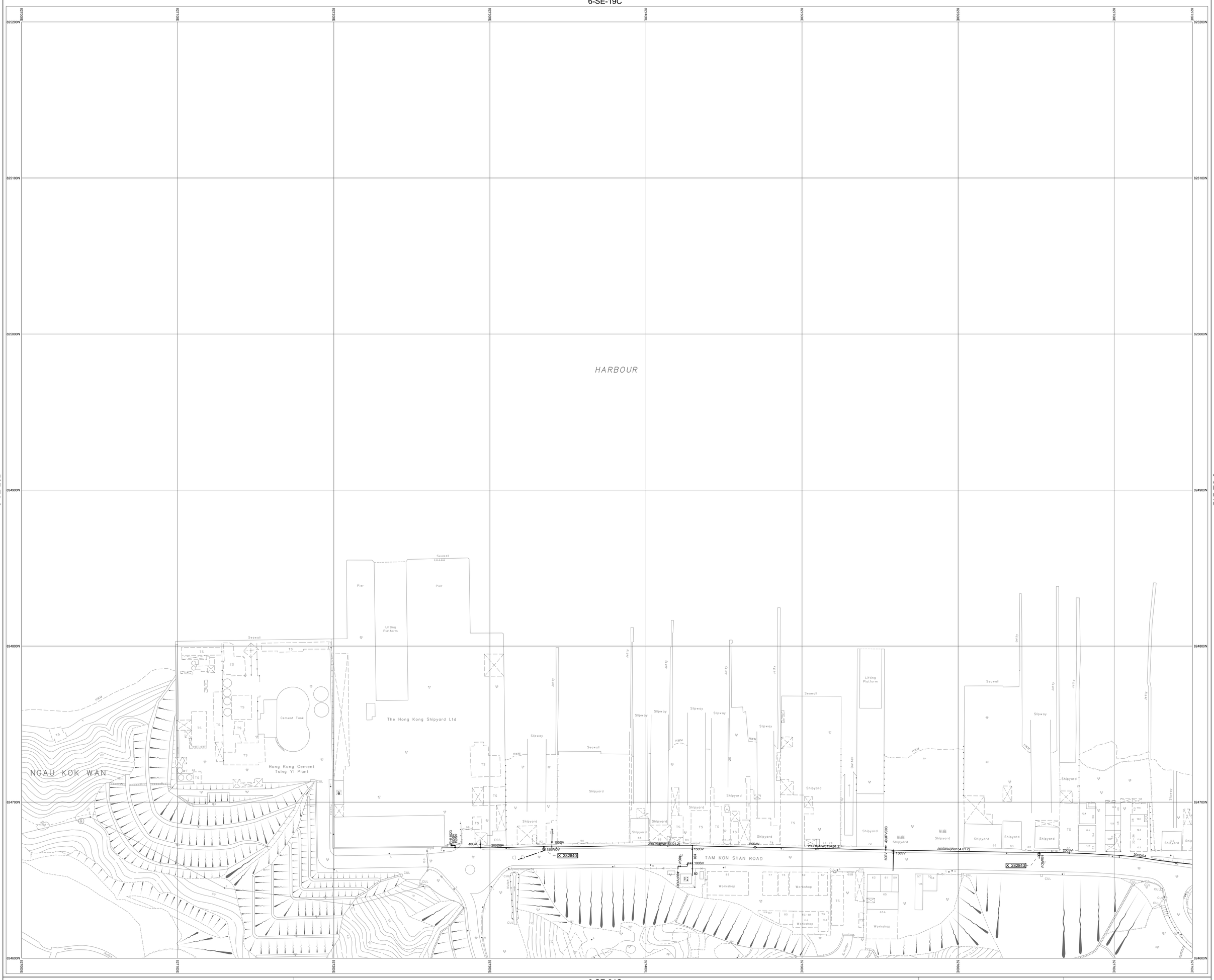
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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

6-SE-19C

6-SE-23B

6-SE-24B



6-SE-24C

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
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SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

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SALT WATER MAINS RECORD PLAN

TAM KON SHAN ROAD, TSING YI

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DATE: 09/10/1999

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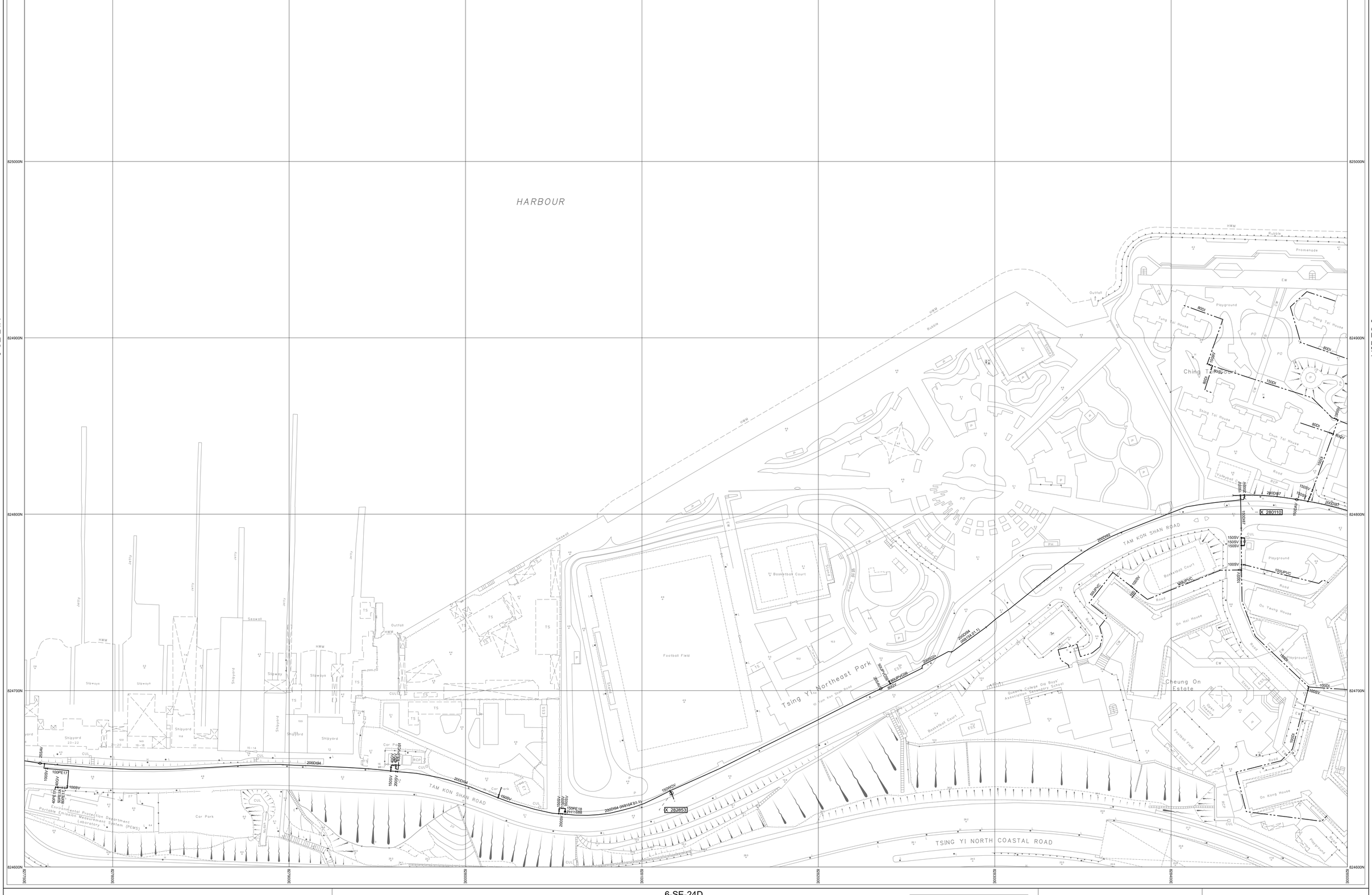
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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'

6-SE-19D

6-SE-24A

6-SE-25A



6-SE-24D

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

SALT WATER MAINS RECORD PLAN

CHEUNG ON ESTATE, TSING YI

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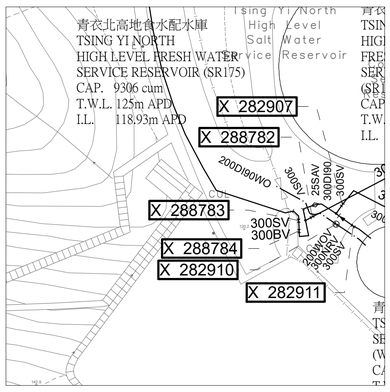
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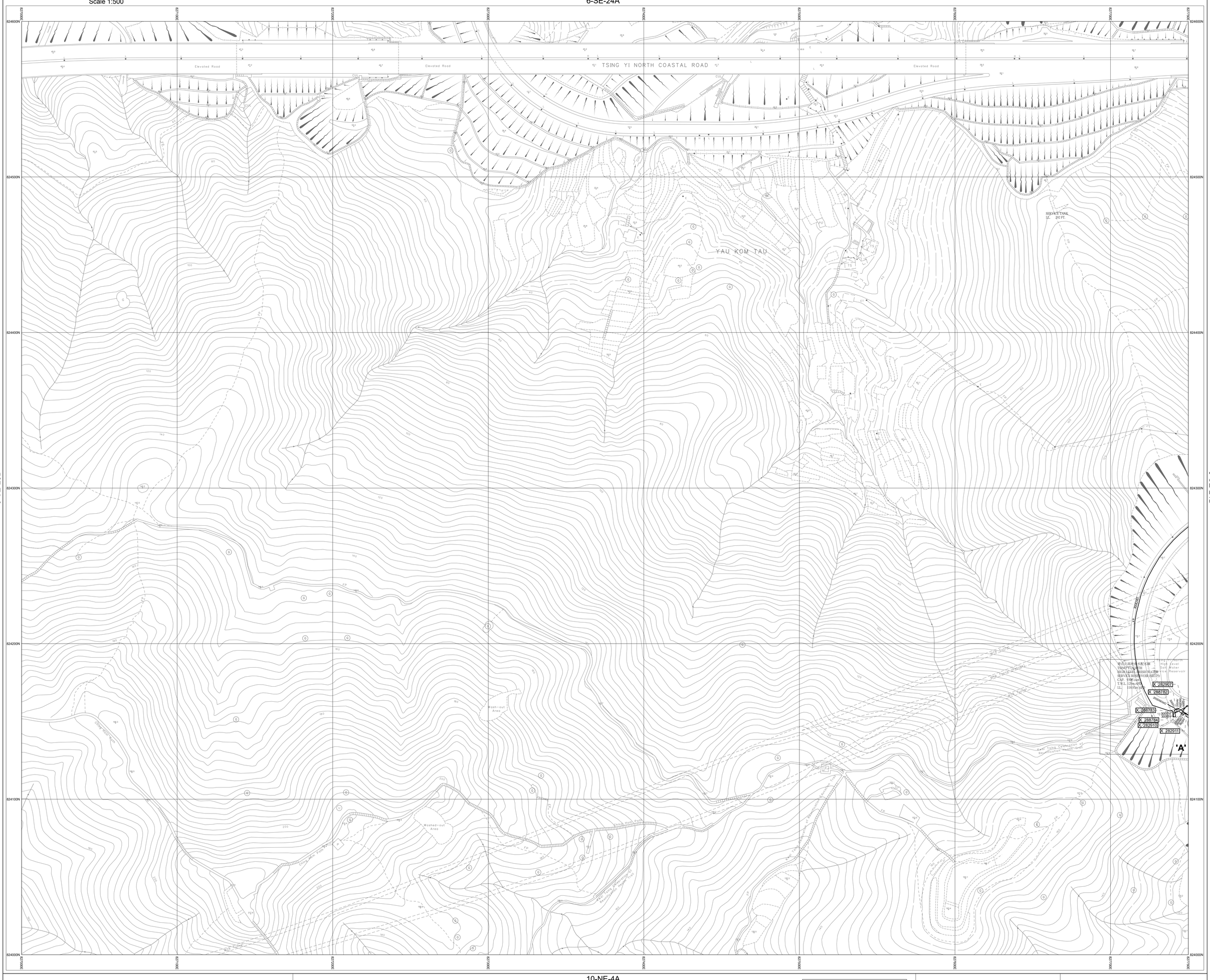
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INSET 'A'	INSET 'B'	INSET 'C'	INSET 'D'	INSET 'E'	INSET 'F'



Scale 1:500

6-SE-24A



10-NE-4A

NOTES:

1. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO.3988.
2. DIMENSIONS OF MAINS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

SCALE 1:1 000

METRES 20 10 0 20 40 60 80 100 METRES

SALT WATER MAINS RECORD PLAN

TSING YI NORTH H.L. F.W. S/R

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DATE REVISED : 20/04/2022

SIGNED

K.T. CHU
CE/MSW

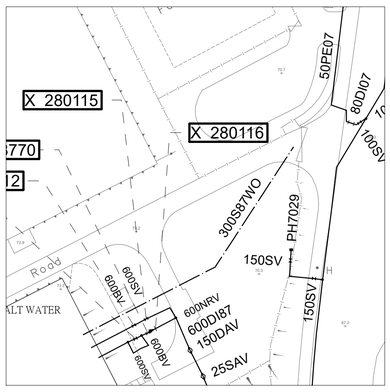
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6-SE-24B



10-NE-4B

NOTES:

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3. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.

Basemap Date Updated On: 30/04/2019

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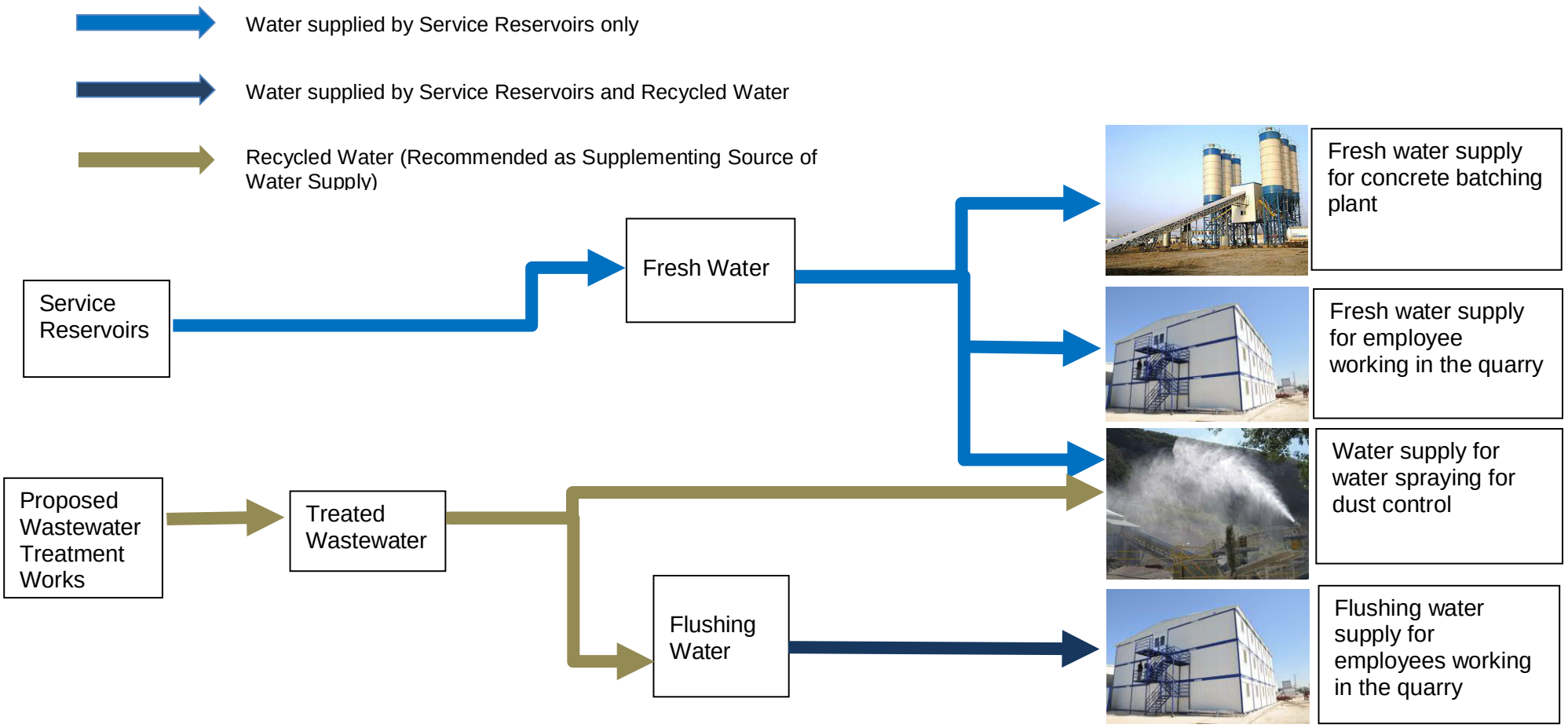
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SALT WATER MAINS RECORD PLAN

TSING YI NORTH L.L. F.W. S/R

Appendix B
Schematic Flow Diagram of Proposed Water Supply Arrangement



Schematic Flow of Proposed Water Supply Arrangement

Appendix C
Hydraulic Analysis of Head Loss and Residual Head

Appendix C1

Estimation of Hydraulic Gradient and Headloss
by using Hazen-Williams Equation

$V = 0.85\ C_{hw}\ R^{0.63}\ S_f^{0.54}$

Location : Tsing Yi Underground Quarry
Water Type : Fresh Water
Scheme 1 (Normal Scenario)

From TYNLLFWSR to Tsing Yi Underground Quarry

Parameters	Unit	Watermain Section			
		DN600	DN450	DN400	DN200
Nominal Pipe Diameter, DN	mm	600	450	400	200
Assumed Velocity Under Peak Flow Condition, V	m/s	2.5	2.0	2.0	1.0 *
Hydraulic Radius, R	m	0.15	0.1125	0.1	0.05
Hazen-Williams Coef, C_{hw}		120	110	110	110
Hydraulic Gradient, Sf		0.0095	0.0103	0.0119	0.0073
or 1 in		105	97	84	138
Travel Distance	m	1,130	240	1,600	830
Estimated Headloss	m	10.8	2.5	19.0	6.0

* Peak Velocity for 1345 m^3/12 hr flow

Frictional Loss	m	38.3
Minor Loss*	m	7.7
Total Head loss	m	45.9

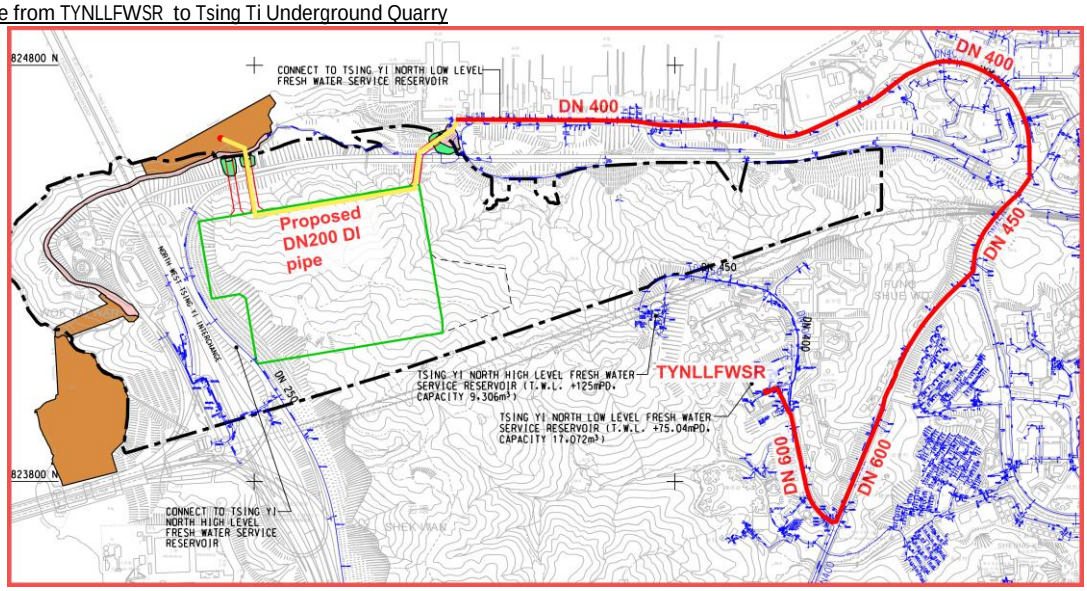
* Assumed as 20% of Length Factor and Frictional Loss

Top Water Level of Service Reservoir	mPD	75.0
Invert Level of Service Reservoir	mPD	69.0
Delivery Head at Service Reservoir (75% of the full depth)	mPD	73.5
Water Head at Tee-off Location	mPD	27.6
Residual Head	m	22.6

Note:
For conservative , assume the maximum flow velocity of DI 1309 for hydraulic assessment.

Pipe Diameter (mm)	Flow Velocity (m/s)
> DN700	3.0
DN700 - DN525	2.5
DN450 - DN375	2.0
<= DN300	1.5

Route from TYNLLFWSR to Tsing Ti Underground Quarry



Estimation of Hydraulic Gradient and Headloss
by using Hazen-Williams Equation

$V = 0.85\, C_{hw}\, R^{0.63}\, S_f^{0.54}$

Location : Tsing Yi Underground Quarry
Water Type : Fresh Water
Scheme 1 (Firefighting Scenario)

From TYNLLFWSR to Tsing Yi Underground Quarry

Parameters	Unit	Watermain Section			
		DN600	DN450	DN400	DN200
Nominal Pipe Diameter, DN	mm	600	450	400	200
Assumed Velocity Under Peak Flow Condition, V	m/s	2.5	2.0	2.0	0.5 *
Hydraulic Radius, R	m	0.15	0.1125	0.1	0.05
Hazen-Williams Coef, C_{hw}		120	110	110	110
Hydraulic Gradient, Sf		0.0095	0.0103	0.0119	0.0019
or 1 in		105	97	84	533
Travel Distance	m	1,130	240	1,600	830
Estimated Headloss	m	10.8	2.5	19.0	1.6

* Peak Velocity for 900 L/min flow, assume the whole site would be suspended during a fire that firefighting water demand is the only water demand

no restriction on flow velocity under fire flow condition provided that the required firefighting pressure at fire hydrants can be maintained.

Frictional Loss	m	33.8
Minor Loss*	m	6.8
Total Head loss	m	40.5

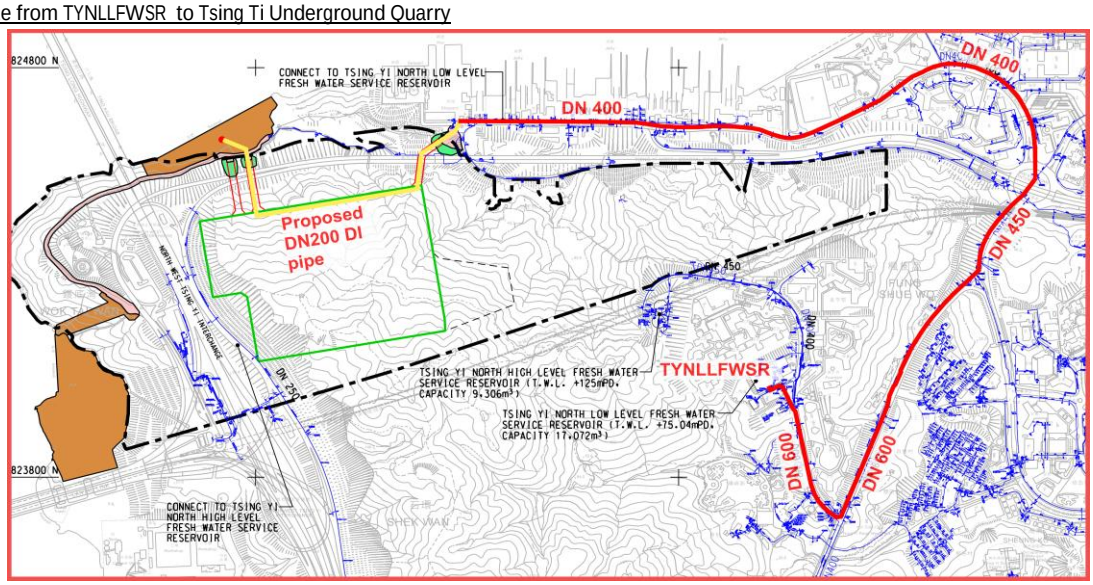
* Assumed as 20% of Length Factor and Frictional Loss

Top Water Level of Service Reservoir	mPD	75.0
Invert Level of Service Reservoir	mPD	69.0
Delivery Head at Service Reservoir (75% of the full depth)	mPD	73.5
Water Head at Tee-off Location	mPD	33.0
Residual Head	m	28.0

Note:
For conservative , assume the maximum flow velocity of DI 1309 for hydraulic assessment.

Pipe Diameter (mm)	Flow Velocity (m/s)
> DN700	3.0
DN700 - DN525	2.5
DN450 - DN375	2.0
<= DN300	1.5

Route from TYNLLFWSR to Tsing Ti Underground Quarry



Appendix C2

Estimation of Hydraulic Gradient and Headloss
by using Hazen-Williams Equation

$V = 0.85\, C_{hw}\, R^{0.63}\, S_f^{0.54}$

Location : Tsing Yi Underground Quarry
Water Type : Fresh Water
Scheme 2 (Normal Scenario)

From TYNLLFWSR to Tsing Yi Underground Quarry

Parameters	Unit	Watermain Section				After Pump
		DN600	DN450	DN400	DN200	DN100*3
Nominal Pipe Diameter, DN	mm	600	450	400	200	100
Assumed Velocity Under Peak Flow Condition, V	m/s	2.5	2.0	2.0	1.0 *	1.3 *
Hydraulic Radius, R	m	0.15	0.1125	0.1	0.05	0.025
Hazen-Williams Coef, C_{hw}		120	110	110	110	135
Hydraulic Gradient, Sf		0.0095	0.0103	0.0119	0.0073	0.0190
or 1 in		105	97	84	138	53
Travel Distance	m	1,130	240	1,600	30	520
Estimated Headloss	m	10.8	2.5	19.0	0.2	9.9

* Peak Velocity for 1345 m^3/12 hr flow

Frictional Loss	m	32.4
Minor Loss*	m	6.5
Total Head loss	m	38.9

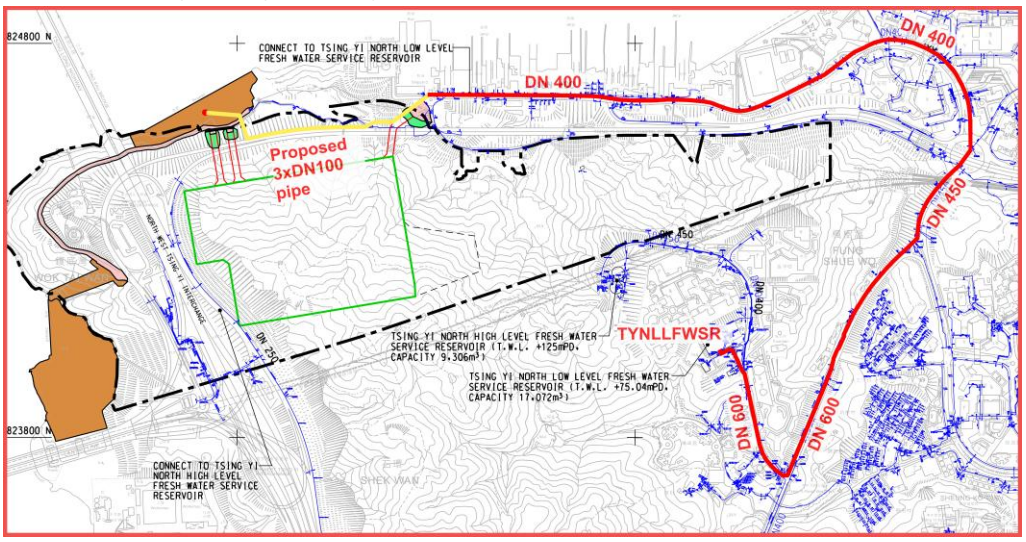
* Assumed as 20% of Length Factor and Frictional Loss

Top Water Level of Service Reservoir	mPD	75.0
Invert Level of Service Reservoir	mPD	69.0
Delivery Head at Service Reservoir (75% of the full depth)	mPD	73.5
Water Head at Tee-off Location	mPD	34.6
Residual Head before Pump	m	29.6
Pump pressure	mPD	52.0
Water Head at Tee-off Location	mPD	42.1
Residual Head at site	m	37.1

Note:
For conservative , assume the maximum flow velocity of DI 1309 for hydraulic assessment.

Pipe Diameter (mm)	Flow Velocity (m/s)
> DN700	3.0
DN700 - DN525	2.5
DN450 - DN375	2.0
<= DN300	1.5

Route from TYNLLFWSR to Tsing Ti Underground Quarry



Estimation of Hydraulic Gradient and Headloss
by using Hazen-Williams Equation

$V = 0.85\, C_{hw}\, R^{0.63}\, S_f^{0.54}$

Location : Tsing Yi Underground Quarry
Water Type : Fresh Water
Scheme 2 (Firefighting Scenario)

From TYNLLFWSR to Tsing Yi Underground Quarry

Parameters	Unit	Watermain Section				After Pump
		DN600	DN450	DN400	DN200	DN100*3
Nominal Pipe Diameter, DN	mm	600	450	400	200	100
Assumed Velocity Under Peak Flow Condition, V	m/s	2.5	2.0	2.0	0.5 *	0.6 *
Hydraulic Radius, R	m	0.15	0.1125	0.1	0.05	0.025
Hazen-Williams Coef, C_{hw}		120	110	110	110	135
Hydraulic Gradient, Sf		0.0095	0.0103	0.0119	0.0019	0.0049
or 1 in		105	97	84	533	203
Travel Distance	m	1,130	240	1,600	30	520
Estimated Headloss	m	10.8	2.5	19.0	0.1	2.6

* Peak Velocity for 900 L/min flow, / Asuume the whole site would be suspended during a fire that firefighting water demand is the only water demand, no restriction on flow velocity under fire flow condition provided that the required firefighting pressure at fire hydrants can be maintained.

Frictional Loss	m	32.3
Minor Loss*	m	6.5
Total Head loss	m	38.7

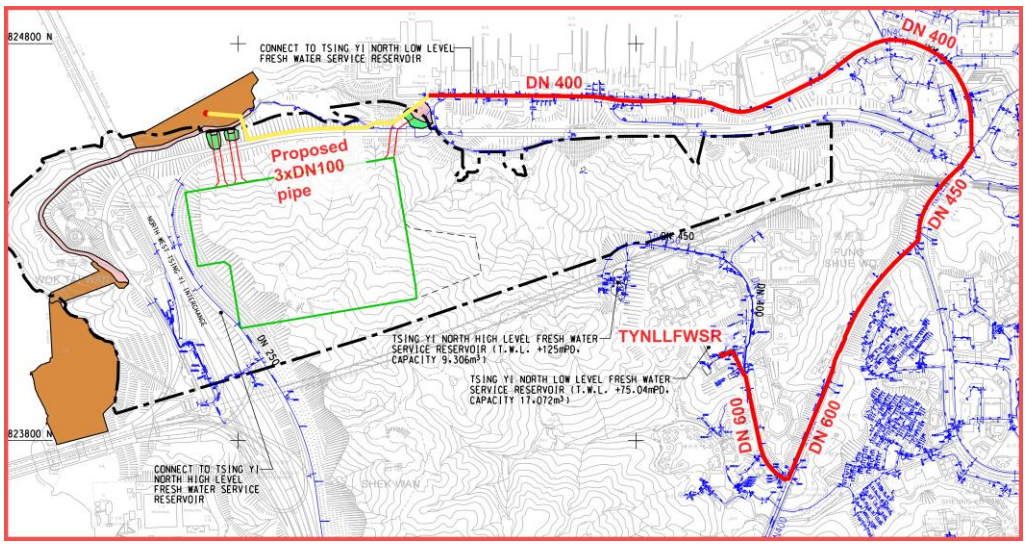
* Assumed as 20% of Length Factor and Frictional Loss

Top Water Level of Service Reservoir	mPD	75.0
Invert Level of Service Reservoir	mPD	69.0
Delivery Head at Service Reservoir (75% of the full depth)	mPD	73.5
Water Head at Tee-off Location	mPD	34.8
Residual Head before Pump	m	29.8
Pump pressure	mPD	52.0
Water Head at Tee-off Location	mPD	49.4
Residual Head at site	m	44.4

Note:
For conservative , assume the maximum flow velocity of DI 1309 for hydraulic assessment.

Pipe Diameter (mm)	Flow Velocity (m/s)
> DN700	3.0
DN700 - DN525	2.5
DN450 - DN375	2.0
<= DN300	1.5

Route from TYNLLFWSR to Tsing Ti Underground Quarry



Appendix G

Landscape Assessment

1.1 Introduction

1.1.1 This Appendix identifies and assesses the potential landscape impacts arising from the Project. Preliminary landscape mitigation measures are proposed to alleviate any potential impacts.

1.2 Environmental Legislation, Standards and Guidelines

1.2.1 Legislation and standards that are relevant to the consideration of preliminary landscape impacts under this assessment include the following:

- Application for Permission Under Section 16 of the Town Planning Ordinance (Cap. 131) Guidance Notes;
- Chapters 4, 10 and 11 of Hong Kong Planning Standards and Guidelines;
- DEVB TC(W) No. 4/2020 – Tree Preservation;
- DEVB TC(W) No. 5/2020 – Registration and Preservation of Old and Valuable Trees;
- ETWB TC(W) No. 5/2005 – Protection of Natural Streams/Rivers from Adverse Impacts Arising from Construction Works;
- GEO Publication No. 1/2011 – Technical Guidelines on Landscape Treatment for Slopes;
- Tree Management Practice Note No. 1 – Tree Preservation during Construction; and
- Study on Landscape Value Mapping of Hong Kong.

1.3 Assessment Methodology and Area

1.3.1 Identification of the baseline landscape resources (LRs) and landscape character areas (LCAs) within the assessment area was carried out by a desktop study of topographical maps, information databases, and aerial photographs, as well as undertaking site visits.

1.3.2 The assessment area for the preliminary landscape assessment is proposed as 500m from the Project Boundary. The assessment area is shown in **60733229/LIA/Figure 1**.

1.3.3 The methodology for the preliminary landscape assessment during the construction and operation phases includes:

- Broad identification of the baseline LRs and LCAs that would be potentially affected by the Project;
- Broad assessment of the degree of sensitivity of the LRs and LCAs identified;
- Broad identification of selected sources of landscape impacts;
- Broad identification of the magnitude of landscape impacts;
- Broad recommendation of selected landscape mitigation measures; and
- Broad prediction of the significance of residual landscape impacts with mitigation measures.

1.3.4 The sensitivity of each LR and LCA is classified as follows:

- High: Important landscape or landscape resource of particularly distinctive character or high importance, sensitive to relatively small changes;

- Medium: Landscape or landscape resource of moderately valued landscape characteristics reasonably tolerant to change; and
- Low: Landscape or landscape resource, the nature of which is largely tolerant to change.

1.3.5 The magnitude of change on LR and LCA is classified as follows:

- Substantial: The landscape or landscape resource would have a major change;
- Moderate: The landscape or landscape resources would have a moderate change.
- Slight: The landscape or landscape resources would have slight or barely perceptible changes; and
- Negligible: The landscape or landscape resource would have no discernible change.

1.3.6 The significant thresholds of landscape impacts are categorized as follows:

- Substantial: Adverse/ beneficial impact where the proposal would cause significant deterioration or improvement in existing landscape quality;
- Moderate: Adverse/ beneficial impact where the proposal would cause a noticeable deterioration or improvement in existing landscape quality;
- Slight: Adverse/ beneficial impact where the proposal would cause a barely perceptible deterioration or improvement in existing landscape quality; and
- Negligible: No discernible change in the existing landscape quality.

1.3.7 The following **Table 1** shows the rationale in assessing the potential significance of landscape impacts.

Table 1 – Relationship between Landscape Sensitivity and Impact Magnitude in Defining Impact Significance

		Sensitivity of LRs / LCAs		
		Low	**Medium**	**High**
Magnitude of Change	**Substantial**	Moderate	Moderate / Substantial	Substantial
	Moderate	Slight / Moderate	Moderate	Moderate / Substantial
	Slight	Slight	Slight / Moderate	Moderate
	Negligible	Negligible	Negligible	Negligible

1.4 Review of Planning Control Framework

1.4.1 A review of the existing and planned development framework for the proposed works and for the surroundings was considered. It aims to gain an insight into the outlook of the area affected, identify potential resources and sensitive receivers, and evaluate the compatibility between the Project and the existing and planned land use setting.

1.4.2 The Project Site is covered by the Approved Tsing Yi OZP No. S/TY/32 (**60733229/LIA/Figure 2** refers). The land use zones to be potentially affected by the Project and the future outlook of the area are discussed in **Table 2**.

Table 2 – Summary of the Review of Planning and Development Control Framework

OZP Plan Title and No.	Land Use Zoning	Approx. Area within 500m Assessment Area (ha)	Approx. Area Affected (ha) (Approximate % of Zoning Affected)
Approved Tsing Yi OZP No. S/TY/32	Green Belt ("GB")	104.7	30.7 (29%)
	Area shown as "Road"	26.6	1.4 (5%)
	Other Specified Uses ("OU") annotated "Recreation and Tourism Related Uses" ("OU(RTRU)")	10.9	6.9 (63%)
	Other Specified Uses ("OU") annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)")	10.2	0.2 (2%)
	Industrial ("I")	7.5	0 (0%)
	Residential (Group A)	3.3	0 (0%)
	Other Specified Uses ("OU") annotated Viewing Platform	1.9	0 (0%)
	Government, Institution or Community ("G/IC")	1.5	0 (0%)
	Other Specified Uses ("OU") annotated Cement Plant	0.9	0 (0%)
	Green Belt ("GB")	0.2	0 (0%)

1.4.3 The proposed portal structures and potential site formation area will fall within "Green Belt", 'Other Specified Uses" ("OU") annotated "Recreation and Tourism Related Uses" ("OU(RTRU)") and "OU" annotated "Boatyard and Marine-oriented Industrial Uses" ("OU(BMIU)") on the approved Tsing Yi Outline Zoning Plan.

1.4.4 In general, the majority of the affected areas within the Approved Tsing Yi OZP No. S/TY/32 includes the area within the OU Zone and GB Zone. A small portion of the area within the OU Zone will be taken up for the construction of the portals, while a small portion of the area within the GB Zone will potentially be changed due to the site formation works for the portal and conveyor belt system. Since the proposed underground quarry is administered and managed by CEDD and such development is considered as Government Use, trees will be compensated, where feasible.

1.5 Baseline Findings

Existing Trees

1.5.1 Approx. 16,700 m^2 of existing hillside vegetation, including green belt, will be inevitably affected by the portal construction and associated development. There are approximately 1,230 nos. of existing trees surveyed and approximately 765 nos. of trees proposed to be

removed within the proposed works area as shown in **60733229/LIA/Figure 3**. None of these are Registered Old and Valuable Trees on the records of Greening, Landscape and Tree Management Section of DEVB. No mature tree was found on the site, i.e. trees with individual trunk(s) over 750mm diameter at breast height. Tree species to be removed included *Acacia confusa, Acacia mangium, Adina pilulifera, Celtis sinensis, Cinnamomum burmannii, Corymbia citriodora*, *Cratoxylum cochinchinense*, *Eucalyptus exserta*, *Ilex rotunda*, *Liquidambar formosana*, and *Schefflera heptaphylla,* etc.

1.5.2 Transplanting should be considered as far as possible unless the trees affected are of low conservation and amenity value, or have a low chance of surviving or recovering to their normal form after transplanting. Among the trees to be affected by the proposed works, trees are selected for transplanting as far as practicable to reduce the impact on existing trees. However, since most of the affected individual trees are located either on natural terrain or engineered slopes, their survival rate after transplanting is low and not feasible for transplanting. Therefore, tree felling is proposed with compensatory planting. The tree treatment proposal should be submitted under a separate Tree Preservation and Removal Proposal in accordance with DEVB TC(W) No. 4/2020.

1.5.3 The compensatory planting strategy of the proposal is as follows:

- Compensatory planting for trees to be removed due to non-slope works will be of a ratio not less than 1:1 in terms of number, as far as practicable. The size of the proposed compensatory tree is appropriate to the location and function;
- For slope works, the ratio of 1:1 by number requirement may not apply due to site constraints; and the planting of shrubs, climber mix and woodland shrub mix could potentially be more appropriate;
- Apart from the above compensatory planting requirements, quality greenery will be considered, such as themed planting, enhancing the landscape amenity value and maximizing greening opportunity, etc.

Landscape Resources (LRs)

1.5.4 The preliminary findings of baseline LRs, which will be potentially affected by the Project, together with their sensitivity, are discussed in **Table 3**. The locations of these baseline LRs are mapped in **60733229/LIA/Figure 1**.

Table 3 – Baseline LRs and their Sensitivity

LRs	Description	Sensitivity
LR1	Hillside vegetation along Tsing Yi North Coastal Road Hillside vegetation along the Tsing Yi North Coastal Road is the key LR and is a common LR. The quality of this LR is high and the ability to accommodate change is low. Therefore, the sensitivity of this LR is considered as high.	High
LR2	Rambler Channel Sea Waterbody The sea waterbody comprises Rambler Channel and Ma Wan Channel, which is a valuable LR contributing to the unique waterfront setting of the Ting Kau area. In view of the physical characteristics of the channels, the sensitivity of this LR is high.	High
LR3	Coastal Landscape along Wok Tai Wan and Cheung Shue Tau Natural rocky shore, trees and scattered shrubland along the coastal area of Wok Tai Wan and Cheung Shue Tau are the dominant LR and is a common LR. The quality of this LR is medium. The ability to accommodate changes and the sensitivity of this LR are considered as medium.	Medium

Landscape Character Areas (LCAs)

1.5.5 The preliminary findings of baseline LCAs, which will be potentially affected by the Project, together with their sensitivity, are discussed in **Table 4.** The locations of these baseline LCAs are mapped in **60733229/LIA/Figure 1**.

Table 4 – Baseline LCAs and their Sensitivity

LCAs	Description	Sensitivity
LCA1	Strait Landscape This LCA is an inshore coastal water enclosed by significant landforms of north Tsing Yi and Ting Kau, creating a distinct sense of enclosure on the two sides. It is characterized by the surrounding landforms and the muted hues and horizontality of their coastal waters comprised of passing vessels, shipping traffic, and waterborne recreational activity. The quality of this LCA is high, with low ability to accommodate change and the sensitivity of this LCA is considered as medium.	Medium
LCA2	Transportation Corridor Landscape This LCA comprises the major highway corridor in the North West Tsing Yi Interchange, the Ting Kau Bridge and the Lantau Link Visitors Centre. Major features include bridges, flyovers, signage gantries, interchange, and associated roadside buffer planting areas. This type of LCA is common in Hong Kong. It has high ability to accommodate change. The sensitivity is therefore considered as low.	Low
LCA3	Industrial Urban Landscape This is found on the low-lying areas of the reclaimed land along the coast of north Tsing Yi. It mainly comprises the cement plants and shipyards within the assessment area and the adjoining vacant lands on the peripheries. The quality of this LCA is low, with high ability to accommodate change, and the sensitivity of this LCA is considered as low.	Low
LCA4	Upland and Hillside Landscape Woodland is a significant landscape element of this LCA and is of good quality with low ability to accommodate change. The sensitivity of this LCA is high.	High

1.6 Preliminary Landscape Impact Assessment

Sources of Landscape Impact

1.6.1 The sources of landscape impact due to the Project would create various levels of landscape impact during the construction and operation phases of the Project. Potential impacts would result from the temporary and permanent works during the construction phase and non-permanent aboveground structure elements during the operation phase.

1.6.2 The sources of landscape impact in the construction phase for Ngau Kok Wan Portal, Tam Kon Shan Portal and Wok Tai Wan Works Area would include:

- Site formation works;
- Slope cutting and stabilisation works;
- Installation and establishment for ancillary operations and conveyor belt system;
- Road modification works; and

- Loss of existing trees and other vegetation due to construction works.

1.6.3 The sources of landscape impact in the operation phase for Ngau Kok Wan Portal, Tam Kon Shan Portal and Wok Tai Wan Works Area would include:

- Operation of the quarry and the ancillary activities; and
- Decommissioning of ancillary activities and conveyor belt system.

Existing Trees

1.6.4 Among the approx. 765 trees to be removed, including approx. 40 undesirable species, tree felling within the Ngau Kok Wan Portals and Tam Kon Shan Portal, accounting for 330 nos. of trees, is unavoidable as they are located at the portal locations. Subject to the detailed design by the Contractor, the rest of the trees within the Ngau Kok Wan Surface Land and Wok Tai Wan Works Area could be omitted if the Contractor eventually considers that expansions are not required to facilitate its ancillary operation. A detailed breakdown of the total number of trees is presented in **Table 5**.

Table 5 – Summary of Trees proposed to be removed by the proposed works area

Works Area	Approx. No. of trees to be removed	Remarks
Ngau Kok Wan Portals	399	-
Tam Kon Shan Portal	165	-
Ngau Kok Wan Surface Land	145	It is optional for the Contractor. It may be omitted if the Contractor decides not to expand the surface land at Ngau Kok Wan
Wok Tai Wan Works Area	56	It is optional for the Contractor. It may be omitted if the Contractor decides not to construct the Conveyor Belt System
Total	**765**	

Landscape Resources (LRs)

1.6.5 The magnitude of unmitigated impacts on LRs associated with the construction phase and operation phase of the Project was assessed and described in **Table 6**:

Table 6 – Magnitude of Changes on Landscape Resources during Construction and Operation

LR	Landscape Resources	Potential Source and Description of Change	Magnitude of Change (Substantial/ Moderate/ Slight/ Negligible)	
			Construction	Operation
LR1	Hillside vegetation along Tsing Yi North Coastal Road	Approx. 2,200 sqm. of existing hillside vegetation, including green belt with around 165 nos. of existing non-mature trees, will be inevitably affected by the portal construction and associated development.	Slight	Slight
LR2	Rambler Channel Sea Waterbody	No construction or development will be carried out in this LR.	Negligible	Negligible
LR3	Coastal Landscape along Wok Tai Wan and Cheung Shue Tau	Approx. 14,500 sqm. of existing natural rocky landscape including green belt with around 600 nos. of non-mature existing trees will be affected by the portal construction and associated structures.	Moderate	Moderate

Landscape Character Areas (LCAs)

1.6.6 The magnitude of unmitigated impacts on LCAs associated with the construction phase and operation phase of the Project was assessed and described in **Table 7**:

Table 7 – Magnitude of Changes on Landscape Character Areas during Construction and Operation

LCA	Landscape Character Area	Potential Source and Description of Changes	Magnitude of Change (Substantial/ Moderate/ Slight/ Negligible)	
			Construction	Operation
LCA1	Strait Landscape	No construction or development will be carried out in this LCA.	Negligible	Negligible

LCA	Landscape Character Area	Potential Source and Description of Changes	Magnitude of Change (Substantial/ Moderate/ Slight/ Negligible)	
			Construction	Operation
LCA2	Transportation Corridor Landscape	Approx. 14,500 sqm. of existing natural rocky landscape with around 600 nos. of existing trees and approx. 2,200 sqm. of hillside vegetation with around 165 nos. of existing trees will be affected by the portal development and associated structures. However, the changes on this LCA due to the Project are relatively small in scale and localized. Therefore, the magnitude of change during both construction and operation phases is considered as slight.	Slight	Slight
LCA3	Industrial Urban Landscape	No construction or development is carried out in this LCA.	Negligible	Negligible
LCA4	Upland and Hillside Landscape	No aboveground construction or development will be carried out in this LCA.	Negligible	Negligible

1.7 Preliminary Landscape Mitigation Measures

Compensatory Planting

1.7.1 Compensatory planting will be provided as far as practicable to mitigate the loss of existing trees arising from the development.

1.7.2 The availability of land for compensatory planting within the Project Site is highly constrained. The Site is predominantly surrounded by steep natural terrain and man-made slopes with very limited flat ground. The few areas of surface land are located at Ngau Kok Wan Surface Land, Tam Kon Shan Portal, and Wok Tai Wan Surface Land.

1.7.3 The Ngau Kok Wan Surface Land and Wok Tai Wan Works Area will be primarily used to support ancillary operations during the quarrying works. As the underground spaces to be formed by this project are intended to serve as a future Government land bank for potential after-use facilities (yet to be determined), the surface land outside the portal is expected to be required to support such future uses. Given the current uncertainty over future land allocation or occupation by other stakeholders, compensatory planting at Ngau Kok Wan Surface Land and Wok Tai Wan Works Area is not recommended, with consideration of the potential abortive work and proper use of public funds.

1.7.4 The surface land at the Tam Kon Shan Portal is very limited. A haul road will traverse the natural slope during construction for portal formation works. During the operation phase, the portal will function as a major access point from Tsing Yi North Coastal Road to the underground quarry, accommodating intensive vehicular movement and essential utilities supporting quarry operations. The small surface land at the Tam Kon Shan Portal will remain as the major access point to the cavern space for after-use facilities. Due to the restricted area and operational demands, compensatory planting on this surface land is not

recommended.

1.7.5 Planting trees on these limited flat surface areas at this stage may necessitate their removal in the future to accommodate planned developments. This would result in redundant works and unnecessary expenditure, as resources would need to be repeatedly allocated for planting, maintenance, and eventual clearance. Such inefficiencies would diminish the intended environmental benefits and impose avoidable indirect costs on the Government. Instead, off-site tree compensation is recommended. It is agreed that off-site tree compensation of not less than 75 nos. of trees will be carried out at Ma Wan, in the area designated by Tsing Ma Control Area (TMCA) of HyD.

1.7.6 Currently, on-site compensatory planting will also be implemented on the Ngau Kok Wan Portals and Tam Kon Shan Portal for compensation, reinstatement, and ecological enhancement. As the portal slopes exceed 30 degrees in gradient, tree planting is not recommended in accordance with GEO Publication No. 1/2011. A woodland compensatory planting mix suitable for sloping terrain will be adopted, with consideration of feasibility and biodiversity.

1.7.7 Following the principles of “right tree for the right place”, a schematic, realistic, practicable and sustainable on-site compensatory planting with a holistic consideration to balance the quantity and quality of planting is proposed and presented in **60733229/LIA/Figure 4** and **60733229/LIA/Figure 5**.

1.7.8 Summary of on-site compensatory planting schedule is shown in **Table 8**. Species selection follows the guidance in GEO Publication No. 1/2011. Each species will be planted in groups of 15–30, randomly distributed across designated woodland planting areas in a staggered pattern. This proposed schematic planting schedule is subject to the detailed design based on actual site conditions and the approval of works departments.

Table 8 – Schematic Compensatory Planting Schedule at Ngau Kok Wan and Tam Kon Shan Portals

Code	Botanical Name	Chinese Name	Size(mm): Height(H) x Spread (S)	Spacing (mm)	No./m^2	% mix	Approx. Quantity
Shrubs and Climber Mix							
A	*Lonicera japonica*	忍冬	300(H) x 300(S)	2000	0.29	20	113
B	*Rhaphiolepis indica*	車輪梅	400 (H) x 400 (S)	2000	0.29	20	113
C	*Melastoma candidum*	野牡丹	450(H) x 450(S)	2000	0.29	20	113
D	*Malastoma sanguineum*	毛蕊	300(H) x 450(S)	2000	0.29	20	114
E	*Rhodomyrtus tomentosa*	桃金孃	300(H) x 400(S)	2000	0.29	20	114
Woodland Mix							
F	*Bridelia tomentosa*	土蜜樹	700 (H) x 500 (S)	1000	1.67	25	60
G	*Polyspora axillaris*	大頭茶	700 (H) x 500 (S)	1000	1.67	25	60
H	*Melicope pteleifolia*	蜜茱萸	700 (H) x 500 (S)	1000	1.67	25	60
I	*Phyllanthus emblica*	餘甘子	700 (H) x 500 (S)	1000	1.67	25	60

1.7.9 Summary of off-site compensatory tree planting schedule is shown in **Table 9**. The tree species selection follows the recommendations from HyD (TMCA) with operational considerations, (i.e. trees with a mature height and spread of less than 8m). This proposed schematic planting schedule is subject to the detailed design based on actual site conditions and the approval of works departments.

Table 9 – Schematic Compensatory Planting Schedule at Ma Wan within TMCA

Code	Species Name	Chinese Name	DBH (mm)	Height (m)	Crown Spread (m)	Approx. Spacing (m)	Approx. Quantity
GAR.SUB.	*Garcinia subelliptica*	菲島福木	45	3	1.5	4-5	37
POL.AXL.	*Polyspora axillaris*	大頭茶	45	3	1.5	4-5	38

1.7.10 Based on the schematic landscape design, Ngau Kok Wan Portals include approximately 45-degree cut slopes where grass hydroseeding with pit planting of shrubs in woodland mix planting will be applied. At the Tam Kon Shan Portal, with cut slopes of approximately 65 degrees, woodland mix planting will be implemented in toewall and berm planters beneath the shotcreted slopes. In such conditions, shrub and climber mixes offer better adaptability, contribute to slope greening, and enhance biodiversity. All planting will be selected to minimize maintenance requirements. Watering will be required during establishment and regular horticultural operations such as weeding, fertilizing and pruning.

1.7.11 Planting will be of several different types but generally native species will be selected in order to blend with the surrounding existing vegetation and enhance the surrounding landscape and ecological value in the long term. Exotic species will be selected for specific tasks where native species are unsuitable. The selection of plant species shall be in accordance with the Greening Master Plan (GMP) promulgated by CEDD, the Street Tree Selection Guide (STSG) and the Guiding Principles on Use of Native Plant Species in Public Works Projects issued by DEVB.

Hard Landscape Design

1.7.12 The hard landscape design process shall adopt a balanced approach considering the factors, including sustainability, aesthetic effect, compatibility with the environment, cost-effectiveness, maintenance consideration, etc.

1.7.13 Proposed Hard Landscape Works shall be selected using the following guidelines:

- Durable – utilizing long-lasting or permanent materials and finishes;
- Low maintenance – easy to clean and repair;
- Reasonable cost – reasonable cost range providing the greatest value for expense;
- Visual compatibility with existing developments and blend with existing development; and
- Recyclable and environmentally friendly materials – utilizing recyclable and environmentally friendly materials where possible.

1.7.14 A clean and contemporary hard landscape strategy shall apply to make sure the design matches the landscape theme and, at the same time, blends in with the architecture. Solid materials such as recycled aggregate pavers will be the main paving materials. Materiality is based on stone and rockworks such as stone cladding and landscape features made of stone.

1.7.15 The following hard landscape materials are proposed:

- Sensitive and aesthetically pleasing design of aboveground structures with regard to the form, material and finishes shall be incorporated to the proposed portals and entrance area in order to blend the structures with the adjacent landscape context. The colour code of any painting used shall be “Antique” to BS 5252F:1976 Colour Code 10B25.
- Screen hoarding should be erected around the construction site during the construction to reduce the visual impact caused by the construction work. Greening measures, such

as colour variations or graphic patterns of the hoarding, should be adopted to improve the visual appearance.

Soft Landscape Design

1.7.16 The soft landscape design process shall adopt a balanced approach considering the factors, including sustainability, aesthetic effect, compatibility with the environment, cost-effectiveness, maintenance consideration, etc.

1.7.17 Proposed Soft Landscape Works shall be selected using the following guidelines:

- Adaptive – able to relatively quickly provide the desired landscape design;
- Intent as appropriate to the area;
- Wind tolerance – able to withstand windy conditions at exposed areas;
- Seasonal interest – providing a seasonal variety of flowers, fruit, or foliage colour;
- Native species – use of native species to achieve ecological functions;
- Low maintenance and self-sustainability – easy to grow without special
- treatments or maintenance operations; and
- Non-toxic – relatively safe and non-poisonous materials and/or biodegradable; Poisonous plants should not be planted in areas accessible to the public.

1.7.18 Selection of species for the site shall echo the species at the adjacent area/ district. Planting materials shall be hardy, vigorous, and require low maintenance. Planter beds should preferably be continuous with an optimum internal width for the intended plantings.

1.7.19 The overall planting design will embrace native species and enhance ecological value and biodiversity, to enhance streetscape visual interest, and to provide a harmonious transition with the adjacent existing landscape.

Summary

1.7.20 Based on the potential landscape impacts identified, a series of mitigation measures during construction and operation phases is recommended to mitigate any adverse impacts and is summarized in the **Table 10** and **Table 11** below and illustrated in **60733229/LIA/Figure 6**.

Table 10 – Preliminary Landscape and Visual Mitigation Measures for Construction Phase

ID No.	Preliminary Landscape and Visual Mitigation Measures	Implementation Agency
CM1	<u>Tree Preservation</u> All existing trees to be retained should be carefully protected during the works. Tree protection works should be in accordance with DEVB *TC(W) No. 4/2020 – Tree Preservation* and *Tree Management Practice Note No. 1 – Tree Preservation during Construction*.	CEDD (Quarry Operator)

ID No.	Preliminary Landscape and Visual Mitigation Measures	Implementation Agency
CM2	Erection of Decorative Screen Hoarding Screen hoarding should be erected around the construction site during the construction / operation to reduce the visual impact caused by the works. Greening measures, such as colour variations or graphic patterns of the hoarding, should be adopted to improve the visual appearance.	CEDD (Quarry Operator)
CM3	Management of Construction Activities and Facilities Construction activities and temporary site facilities shall be properly managed to minimize landscape and visual impacts. All works areas, plant, machinery, storage areas and temporary structures shall be confined within designated site boundaries and arranged in an orderly manner. Temporary facilities shall adopt subdued, non-reflective colours to reduce visual intrusion. Good site housekeeping practices shall be implemented, including regular removal of waste materials, proper covering of stockpiles, and avoidance of unnecessary disturbance to retained vegetation.	CEDD (Quarry Operator)
CM4	Reinstatement of the affected landscaped area Upon completion of the construction works, all temporarily affected landscape areas shall be reinstated to conditions comparable to or better than the original state. Affected vegetations shall be replanted with similar or suitable native species where practicable. An establishment period shall be provided to ensure proper plant establishment and replacement of any failed planting.	CEDD (Quarry Operator)

Table 11 – Preliminary Landscape and Visual Mitigation Measures for Operation Phase

ID No.	Preliminary Landscape and Visual Mitigation Measures	Implementation Agency
OM1	Sensitive and Aesthetically Pleasing Design Sensitive and aesthetically pleasing design should be incorporated in the proposed development to help blend the structures with the adjacent landscape and visual context.	CEDD (Quarry Operator)

ID No.	Preliminary Landscape and Visual Mitigation Measures	Implementation Agency
OM2	Compensatory Planting Preservation for compensation of vegetation. Whip trees, woodland shrubs and/or climber mix at a spacing from around 500mm to 2,500mm will be compensated. The compensatory planting will follow the guidelines of DEVB *TC(W) No. 4/2020* on tree preservation. The proposed planting species should be with reference to the *Guiding Principles on Use of Native Plant Species in Public Works Projects* issued by DEVB, where possible.	CEDD (Quarry Operator)
OM3	Buffer Screen Planting Buffer screen planting shall be provided along the boundaries and in areas facing sensitive receivers to reduce visual impacts arising from the proposed development. The buffer planting shall be of sufficient density and height at maturity to provide long-term screening and visual integration with the adjacent environment.	CEDD (Quarry Operator)
OM4	Landscape Treatments on Slope or Retaining Structure Landscape treatment shall be applied to exposed slopes and retaining structures to minimise visual impact and integrate them with the surrounding landscape. Measures may include hydroseeding, shrub planting, and climber planting.	CEDD (Quarry Operator)
CM1	Tree Preservation All existing trees to be retained should be carefully protected during construction. Tree protection works should be in accordance with DEVB *TC(W) No. 4/2020 – Tree Preservation* and *Tree Management Practice Note No. 1 – Tree Preservation during Construction*.	CEDD (Quarry Operator)
CM2	Erection of Decorative Screen Hoarding Screen hoarding should be erected around the construction site during the construction / operation to reduce the visual impact caused by the works. Greening measures, such as colour variations or graphic patterns of the hoarding, should be adopted to improve the visual appearance.	CEDD (Quarry Operator)

1.7.21 The mitigation measures for the construction phase listed above should be implemented as early as possible in order to minimize the landscape impacts in the construction phase. The mitigation measures for the operation phase listed above should be adopted during the detailed design and be built as part of the construction works at the last phase of the construction period so that they are in place at the date of commissioning of the quarry operation. Certain construction-phase mitigation measures (e.g. CM1 and CM2) remain applicable during the operation phase and are therefore also included in **Table 10** for completeness.

1.8 Preliminary Evaluation of Residual Impacts

Landscape Impact

1.8.1 The potential significance of the impacts on LRs and LCAs during the construction and operation phases, before and after mitigation, is provided in **Table 12**. The assessment followed the proposed methodology and assumed that the appropriate mitigation measures identified in **Table 10** and **Table 11** would be implemented, and the full effect of the soft landscape mitigation measures would be realized after ten years.

1.8.2 Under the proposed construction for ancillary operations and associated site formation work, the Project will have a predicted impact on the hillside vegetation (LR1) and scattered shrubland along the coastal area of LR3. Approximately 2,200 sqm. of hillside vegetation with around 165 nos. of existing trees along Tsing Yi North Coastal Road (LR1) and approximately 14,500 sqm. of coastal landscape with around 600 nos. of existing trees along Wok Tai Wan and Cheung Shue Tau (LR3) will be affected by the proposed works. The change is considered localized and the magnitude of change for LR1 and LR3 is considered as slight and moderate, respectively. The sensitivity of LR1 is high, and the resultant unmitigated landscape impact is moderate, while the sensitivity of LR3 is medium and the resultant unmitigated landscape impact is moderate. With the implementation of proposed mitigation measures, including tree compensation by woodland planting mix, the residual impact for both LR1 and LR3 will be reduced from moderate to slight for the proposed scenario and will further be reduced to negligible when the compensatory planting on the soil cut slopes and berm planter becomes mature in year 10 of operation.

1.8.3 There would be localized impact on the transportation corridor landscape (LCA2). There is approximately 14,500 sqm. of existing natural rocky landscape with around 600 nos. of existing trees and approximately 2,200 sqm. of hillside vegetation with around 165 nos. of existing trees will be affected by the portal development and associated site formation works in LCA2. The magnitude of change is considered as slight. The sensitivity of LCA2 is low. The resultant unmitigated landscape impact is considered as slight. With the implementation of proposed mitigation measures, it is anticipated that there would be slight residual impact for the proposed scenario and will be further reduced to negligible when the proposed planting becomes mature in year 10 of operation.

1.8.4 Considering there would be no construction works and associated developments / aboveground works in the waterbody of Rambler Channel Sea Waterbody (LR2), Strait Landscape (LCA1), Industrial Urban Landscape (LCA3) and Upland and Hillside Landscape (LCA4), it is predicted that there would be no impact to these LR and LCAs. The sensitivity of these LR and LCAs is low to high. The resultant magnitude of change is considered as negligible.

Table 12 – Significance of Landscape Impacts during Construction and Operation Phases

ID No.	Landscape Resource / Character Areas	Sensitivity (Low/ Medium/ High)		Magnitude of Change (Negligible/ Slight/ Moderate/ Substantial)		Impact Significance BEFORE Mitigation (Negligible/ Slight/ Moderate/ Substantial)		Recommended Mitigation Measures	Significance of Residual Impact AFTER Mitigation (Negligible/ Slight/ Moderate/ Substantial)	
		Construction	Operation	Construction	Operation	Construction	Operation		Construction	Operation
Landscape Resources										
LR1	Natural Hillside vegetation	High	High	Slight	Slight	Moderate	Moderate	CM1 & CM3 & CM4 & OM2 & OM3 & OM4	Moderate	Negligible
LR2	Rambler Channel Sea Waterbody	High	High	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible
LR3	Coastal Landscape along Wok Tai Wan and Cheung Shue Tau	Medium	Medium	Moderate	Moderate	Moderate	Moderate	CM1 & CM2 & CM3 & CM4 & OM1 & OM2 & OM3 & OM4	Moderate	Negligible
Landscape Character Areas										
LCA1	Strait Landscape	Medium	Medium	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible
LCA2	Transportation Corridor Landscape	Low	Low	Slight	Slight	Slight	Slight	CM1 & CM2 & CM3 & CM4 & OM1 & OM2 & OM3 & OM4	Slight	Negligible
LCA3	Industrial Urban Landscape	Low	Low	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible
LCA4	Upland and Hillside Landscape	High	High	Negligible	Negligible	Negligible	Negligible	-	Negligible	Negligible

826100 E

827100 E

828100 E

N

825200 N

824200 N

823200 N

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

NGAU KOK WAN WORKS AREA

TAM KON SHAN SURFACE LAND

TAM KON SHAN ROAD

TAM KON SHAN PORTAL

YAU KOM TAU

NORTHWEST TSING YI INTERCHANGE

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

LIU TO SHAN

SHEK WAN

CHEUNG WANG ESTATE

FUNG SHUE WO

KAM CHUK KOK

TSING MA BRIDGE

TSING YI NORTH COASTAL ROAD

CHEUNG TSING HIGHWAY

LEGEND:

- 500m ASSESSMENT AREA
- PORTALS AND SURFACE LAND WITH POTENTIAL SITE FORMATION
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL

LANDSCAPE RESOURCES

- HILLSIDE VEGETATION ALONG TSING YI NORTH COASTAL ROAD
- RAMBLER CHANNEL SEA WATERBODY
- COASTAL LANDSCAPE ALONG WOK TAI WAN AND CHEUNG SHUE TAU

LANDSCAPE CHARACTER AREAS

- STRAIT LANDSCAPE
- TRANSPORTATION CORRIDOR LANDSCAPE
- INDUSTRIAL URBAN LANDSCAPE
- UPLAND AND HILLSIDE LANDSCAPE

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

LANDSCAPE RESOURCES & LANDSCAPE CHARACTER AREAS

SHEET NUMBER
圖紙編號

60733229/LIA/FIGURE 1

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4/2/2026
Plot File by: WANGZP
PATH: P:\PROJECTS\60733229\DRAWINGS\REPORT\B19\B19_305.dgn

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

825500 E

826500 E

825200 N

824200 N

823200 N

N

LEGEND:

- PROPOSED MAIN ACCESS TUNNEL
- SURFACE WORKS AREA (INCLUDING PORTALS, SURFACE LAND AND POTENTIAL SITE FORMATION AREA)
- ACCESS ROAD
- POTENTIAL CAVERN EXPANSION
- PROJECT BOUNDARY
- 500m ASSESSMENT AREA
- BOUNDARY OF EXISTING OUTLINE ZONING PLAN
- PROPOSED ANCILLARY OPERATION AREA
- INDICATIVE EXTENT OF SLOPE WORKS
- ACCESS ROAD
- INDICATIVE EXTENT OF NATURAL TERRAIN HAZARD MITIGATION MEASURES
- INDICATIVE EXTENT OF CAVERN
- +5mPD — PROPOSED FORMATION LEVEL
- OU — OTHER SPECIFIED USES
- AREA SHOWN AS ROAD
- CDA — COMPREHENSIVE DEVELOPMENT AREA
- O — OPEN SPACE
- V — VILLAGE TYPE DEVELOPMENT
- G/IC — GOVERNMENT, INSTITUTION OR COMMUNITY
- GB — GREEN BELT
- R(A) — RESIDENTIAL (GROUP A)
- R(C) — RESIDENTIAL (GROUP C)
- R(B) — RESIDENTIAL (GROUP B)
- I — INDUSTRIAL

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

+5mPD

OU (CEMENT PLANT)

OU (BMIU)

OU (RTRU)

GB

TAM KON SHAN SURFACE LAND

+6mPD

TAM KON SHAN ROAD

TAM KON SHAN PORTAL

ACCESS ROAD

NORTHWEST TSING YI INTERCHANGE

OU (VP)

YAU KOM TAU

WOK TAI WAN WORKS AREA

WOK TAI WAN SURFACE LAND

OU (VENTILATION BUILDING)

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING MA BRIDGE

CHEUNG ON ESTATE

CHEUNG WANG ESTATE

FUNG SHUE WO

SHENG KUNG HUI

OU (TBA FOR TSING YI VILLAGER)

G/IC

O

V

R(A)

R(B)

I

AECOM

PROJECT
UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
AECOM Asia Company Ltd.
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ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE: A3 1 : 10000

DIMENSION UNIT: METRES

KEY PLAN N.T.S

PROJECT NO.: 60733229

AGREEMENT NO.: CE 79/2023 (GE)

SHEET TITLE
EXISTING OUTLINE ZONING PLAN

SHEET NUMBER
60733229/LIA/FIGURE 2

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ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

826800 E

827200 E

824400 N

824000 N

+5mPD

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTAL

+6mPD

TAM KON SHAN PORTAL

TSING LONG HIGHWAY

TING KAU BRIDGE

TSING YI NORTH COASTAL ROAD

TAM KON SHAN ROAD

NORTHWEST TSING YI INTERCHANGE

YAU KOM TAU

WOK TAI WAN

WOK TAI WAN WORKS AREA

Seawall

HWM

Pier

Jetty

Cement Works

Shipyard

Viewing Platform

N

LEGEND:

- MAIN ACCESS TUNNEL (UNDERGROUND)
- ACCESS ROAD
- INDICATIVE EXTENT OF PROPOSED CAVERN (UNDERGROUND)
- PROJECT BOUNDARY
- TREE SURVEY EXTENT - INDIVIDUAL
- TREE SURVEY EXTENT - GROUP
- +5mPD — PROPOSED FORMATION LEVEL
- TREE GROUP TO BE REMOVED
- TREE GROUP TO BE RETAINED
- TREE TO BE REMOVED
- TREE TO BE RETAINED

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AECOM

PROJECT
項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT
業主

CEDD 土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
階段

SCALE 比例: A3 1 : 4000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

TREE TREATMENT PLAN

SHEET NUMBER
圖紙編號

60733229/LIA/FIGURE 3

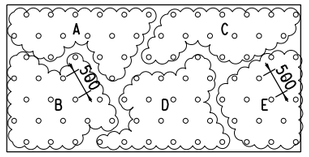
ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:



INDICATIVE LAYOUT OF PLANTING MATRIX FOR SHRUB AND CLIMBER MIX PLANTING
N.T.S.

NOTES:
1. PLANT EACH SPECIES IN GROUPS OF 15 TO 30 IN RANDOM. PLANT ALL SPECIES IN STAGGER PATTERN.
2. SEE PLANTING SCHEDULE.

LEGEND:
- ○ SHRUB AND CLIMBER

PLANTING SCHEDULE:

CODE	BOTANICAL NAME	CHINESE NAME	SIZE (mm) HEIGHT(H) x SPREAD(S)	SPACING (mm)	NO./m²	% MIX.
SHRUBS AND CLIMBER MIX						
A	*LONICERA JAPONICA*	忍冬	300(H) x 300(S)	2000	0.29	20
B	*RHAPHIOLEPIS INDICA*	車輪梅	400(H) x 400(S)	2000	0.29	20
C	*MELASTOMA CANDIDUM*	野牡丹	450(H) x 450(S)	2000	0.29	20
D	*MELASTOMA SANGUINEUM*	毛苳	300(H) x 450(S)	2000	0.29	20
E	*RHODOMYRTUS TOMENTOSA*	桃金孃	300(H) x 400(S)	2000	0.29	20

REMARKS:
1. SPECIES SELECTION WITH REFERNECE TO GEO PUBLICATION NO.1/2011.
2. PLANT EACH SPECIES IN GROUPS OF 15 TO 30 AT RANDOM THROUGH OUT DESIGNATED FOR SHRUBS AND CLIMBER MIX PLANTING.
3. PLANT ALL SPECIES IN A STAGGERED PATTERN.

NOTES:
1. THE PROPOSED SITE FORMATION, INCLUDING CUT SLOPE DESIGN, IS INDICATIVE ONLY AND SUBJECT TO DETAILED DESIGN BY THE CONTRACTOR BASED ON THE ACTUAL GROUND CONDITIONS.
2. THE ASSOCIATED LANDSCAPE DESIGN AT SLOPES IS SUBJECT TO REFINEMENT BASED ON THE FINAL SITE FORMATION DESIGN.
3. THE PROPOSED PLANTING SCHEDULE IS SUBJECTED TO THE DETAILED DESIGN AND THE APPROVAL OF WORKS DEPARTMENTS.

LEGEND:
- INDICATIVE SITE FORMATION AREA FOR PORTALS
- MAIN ACCESS TUNNEL (UNDERGROUND)
- 45° SOIL CUT SLOPE WITH SOIL NAILS
- TREE TO BE RETAINED
- GRASS HYDROSEEDING AND PIT PLANTING WITH NON-BIODEGRADABLE EROSION CONTROL MAT AND WIRE MESH
- PROJECT BOUNDARY
- +5mPD PROPOSED FORMATION LEVEL

PARTICULAR NOTES FOR LANDSCAPE WORKS
1. SCHEDULE OF HYDROSEEDING SEED MIX.:

GRASS (APRIL TO AUGUST)	-
BERMUDA (CYNODON DACTYLON) / 狗牙根	13-15g/m²
BAHIA (PASPALUM NOTATUM) / 百喜草	8-10g/m²
RHODES (CHLORIS GAYANA) / 非洲虎尾草	1-4g/m²
	25g/m² (MIN.)

GRASS (SEPTEMBER TO MARCH)	-
BERMUDA (CYNODON DACTYLON) / 狗牙根	15g/m²
BAHIA (PASPALUM NOTATUM) / 百喜草	10g/m²
RYE (LOLIUM PERENNE) / 黑麥草	5g/m²
	30g/m² (MIN.)

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PROJECT 項目

UNDERGROUND QUARRYING AT TSING YI NORTH – INVESTIGATION, DESIGN AND CONSTRUCTION

CLIENT 業主

土木工程拓展署 Civil Engineering and Development Department

CONSULTANT 工程顧問公司

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ISSUE/REVISION 修訂

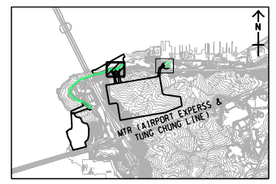
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STATUS 階段

SCALE 比例 A3 1 : 500

DIMENSION UNIT 尺寸單位 METRES

KEY PLAN 索引圖



PROJECT NO. 項目編號 60733229

AGREEMENT NO. 協議編號 CE 79/2023 (GE)

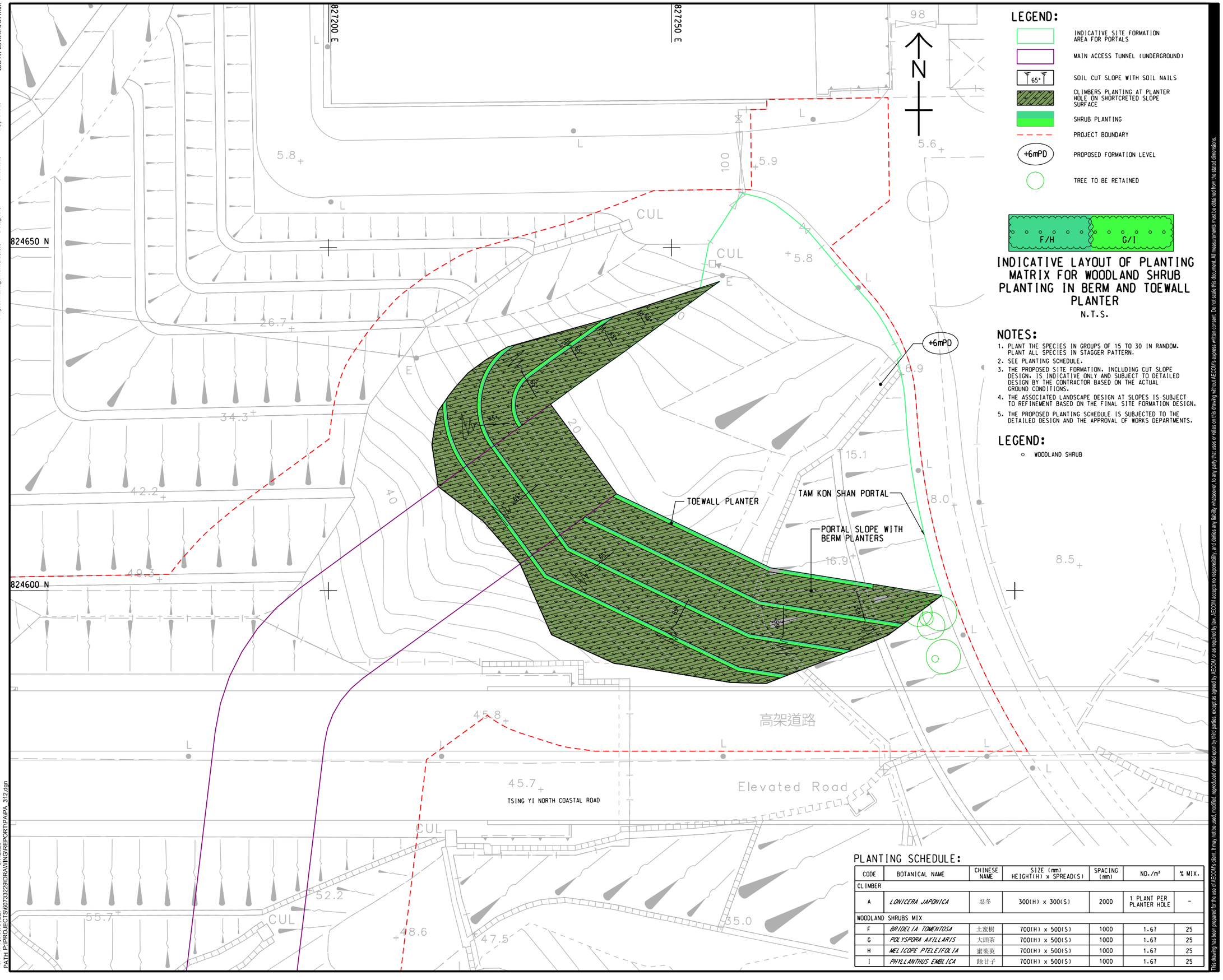
SHEET TITLE 圖紙名稱

SCHEMATIC LANDSCAPE PLAN

(SHEET 1 OF 2)

SHEET NUMBER 圖紙編號

60733229/LIA/FIGURE 4



LEGEND:

- INDICATIVE SITE FORMATION AREA FOR PORTALS
- MAIN ACCESS TUNNEL (UNDERGROUND)
- 65° — SOIL CUT SLOPE WITH SOIL NAILS
- CLIMBERS PLANTING AT PLANTER HOLE ON SHORTCRETED SLOPE SURFACE
- SHRUB PLANTING
- PROJECT BOUNDARY
- +6mPD — PROPOSED FORMATION LEVEL
- TREE TO BE RETAINED

F/H G/I

INDICATIVE LAYOUT OF PLANTING MATRIX FOR WOODLAND SHRUB PLANTING IN BERM AND TOEWALL PLANTER

N.T.S.

NOTES:

1. PLANT THE SPECIES IN GROUPS OF 15 TO 30 IN RANDOM. PLANT ALL SPECIES IN STAGGER PATTERN.
2. SEE PLANTING SCHEDULE.
3. THE PROPOSED SITE FORMATION, INCLUDING CUT SLOPE DESIGN, IS INDICATIVE ONLY AND SUBJECT TO DETAILED DESIGN BY THE CONTRACTOR BASED ON THE ACTUAL GROUND CONDITIONS.
4. THE ASSOCIATED LANDSCAPE DESIGN AT SLOPES IS SUBJECT TO REFINEMENT BASED ON THE FINAL SITE FORMATION DESIGN.
5. THE PROPOSED PLANTING SCHEDULE IS SUBJECTED TO THE DETAILED DESIGN AND THE APPROVAL OF WORKS DEPARTMENTS.

LEGEND:

- ○ WOODLAND SHRUB

PLANTING SCHEDULE:

CODE	BOTANICAL NAME	CHINESE NAME	SIZE (mm) HEIGHT(H) x SPREAD(S)	SPACING (mm)	NO./m²	% MIX.
CLIMBER						
A	*LONICERA JAPONICA*	忍冬	300(H) x 300(S)	2000	1 PLANT PER PLANTER HOLE	-
WOODLAND SHRUBS MIX						
F	*BRIDELIA TOMENTOSA*	土蜜樹	700(H) x 500(S)	1000	1.67	25
G	*POLYSPORA AXILLARIS*	大頭茶	700(H) x 500(S)	1000	1.67	25
H	*MELICOPE PTELEIFOLIA*	蜜茱萸	700(H) x 500(S)	1000	1.67	25
I	*PHYLLANTHUS EMBLICA*	餘甘子	700(H) x 500(S)	1000	1.67	25

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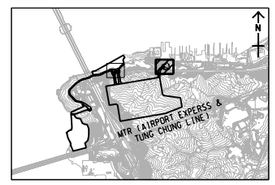
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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核准

STATUS
狀況

SCALE 比例: A3 1 : 500
DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖



PROJECT NO. 項目編號: 60733229
AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱
SCHEMATIC LANDSCAPE PLAN

(SHEET 2 OF 2)

SHEET NUMBER
圖紙編號
60733229/LIA/FIGURE 5

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ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:

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Approved:

Checked:

Designer:

Project Management Initials:

826100 E

827100 E

828100 E

N

825200 N

824200 N

823200 N

LEGEND:

- PORTALS AND SURFACE LAND
- POTENTIAL PORTAL SITE FORMATION AREA
- ACCESS ROAD
- SURFACE WORKS AREA
- INDICATIVE EXTENT OF CAVERN
- PROPOSED MAIN ACCESS TUNNEL

PROPOSED LANDSCAPE MITIGATION MEASURES:

CM1	TREE PRESERVATION DURING CONSTRUCTION
CM2	ERECTION OF DECORATIVE SCREEN HOARDING
CM3	MANAGEMENT OF CONSTRUCTION ACTIVITIES AND FACILITIES
CM4	REINSTATEMENT OF THE AFFECTED LANDSCAPED AREA
OM1	SENSITIVE AND AESTHETICALLY PLEASING DESIGN
OM2	COMPENSATORY PLANTING
OM3	BUFFER SCREEN PLANTING
OM4	LANDSCAPE TREATMENTS ON SLOPE OR RETAINING STRUCTURE

NGAU KOK WAN SURFACE LAND

NGAU KOK WAN PORTALS

OM1

CM2

CM4

CM1

CM3

OM3

OM4

OM2

TAM KON SHAN SURFACE LAND

OM3

CM1

OM1

CM3

CM2

CM4

OM2

TAM KON SHAN PORTAL

OM4

TAM KON SHAN ROAD

TSING YI NORTH COASTAL ROAD

YAU KOM TAU

OM1

WOK TAI WAN WORKS AREA

CM1

WOK TAI WAN SURFACE LAND

FUNG SHUE WO

CHEUNG WANG ESTATE

LIU TO SHAN

SHEK WAN

KAM CHUK KOK

TSING YI NORTH COASTAL ROAD

TSING TONG HIGHWAY

TSING MA BRIDGE

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STATUS
狀態

SCALE 比例: A3 1 : 10000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60733229

AGREEMENT NO. 協議編號: CE 79/2023 (GE)

SHEET TITLE
圖紙名稱

PROPOSED LANDSCAPE MITIGATION MEASURES

SHEET NUMBER
圖紙編號

60733229/LIA/FIGURE 6

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